PAX 8504 -0032

United States
Environmental Protection
Agency

Region 3
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

May 1983

EPA

Final Environmental Impact Statement

West Ocean City Wastewater Treatment Facilities Worcester County, MD

Supplement to North Central Ocean Basin EIS dated December 1978

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

APR - 5 1983

TO ALL INTERESTED AGENCIES, PUBLIC GROUPS AND CITIZENS:

Enclosed is a copy of the Final Environmental Impact Statement (EIS) prepared by the U.S. Environmental Protection Agency (EPA) in conjunction with the Worcester County Sanitary Commission's wastewater management Facilites Plan for West Ocean City, Worcester County, Maryland.

This Final EIS was prepared pursuant to the National Environmental Policy Act of 1969, the Clean Water Act of 1977, and regulations promulgated by this Agency (40 CFR Part 6, November 6, 1979 and 40 CFR Part 35, September 27, 1978 and May 12, 1982). Comments or questions concerning this Final EIS should be submitted to Mr. Thomas A. Slenkamp at the above address by no later than June 20, 1983.

EPA recommends as part of this Final EIS that the wastewater treatment alternative selected in the Facilities Plan be implemented as soon as possible, along with a mitigation plan to protect environmentally sensitive resources which is outlined in Chapter IV. This recommendation does not necessarily constitute approval of the WCSC's full Facilities Plan, which is still subject to State and EPA administrative review.

I wish to thank all of you who participated in the EIS process for your time and effort, especially members of the EIS Coordination Committee which provided a cross-section of opinions and ideas on all of the major issues. I encourage all of the West Ocean City area's residents and landowners to work cooperatively with local and State officials to ensure that the recommended project and mitigation plan are fully implemented.

A public meeting on the Final EIS will be held on June 9, 1983 at the Ocean City Elementary School beginning at 7:30 p.m. All are encouraged to attend.

Sincerely yours,

Peter N. Bibko
Regional Administrator

Enclosure

FINAL ENVIRONMENTAL IMPACT STATEMENT

ON

WEST OCEAN CITY

WASTEWATER TREATMENT FACILITIES,

WORCESTER COUNTY, MARYLAND

Prepared by:

U.S. Environmental Protection Agency
Region III
Philadelphia, Pennsylvania

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With Assistance from:

ESEI, inc.
Rockaway, New Jersey

Lanny Katz, Project Manager

Type of Action.

Legislative ( )
Administrative (x)

Supplement to
North Central Ocean Basin EIS
dated December 1978

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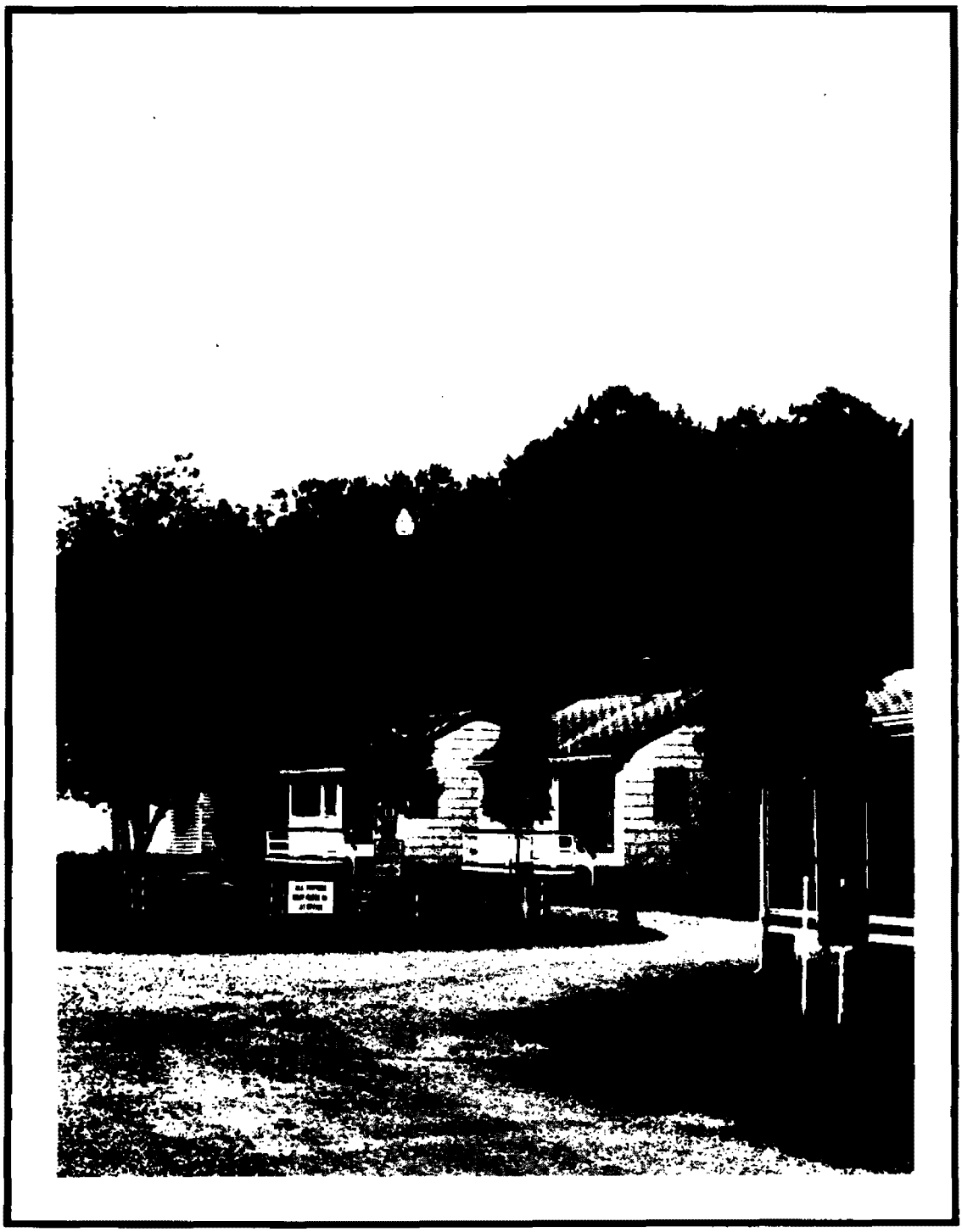


ECUTIVE SUMMARY

This Final Environmental Impact Statement (FEIS) has been prepared by the Region III (Philadelphia) Office of the U.S. Environmental Protection Agency (EPA). It concerns wastewater treatment facilities for the area of West Ocean City, in Worcester County, Maryland. It was prepared in accordance with the National Environmental Policy Act (NEPA), which requires all Federal agencies to prepare EIS's when major Federal actions (e.g. funding of wastewater treatment facilities) could significantly affect the quality of the environment.

Purpose and Background

The primary purpose of the Final EIS is to address salient comments received on the Draft EIS, which was issued in September, 1982 and to present EPA's conclusions regarding wastewater treatment service for West Ocean City. (For a complete summary of the Draft EIS, please refer to Appendix A.) This EIS was prepared as a Supplement to an earlier full EIS prepared by this office on the Worcester County Sanitary Commission's (WCSC) North Central Ocean Basin Facilities Plan. The West Ocean City Sanitary District represents a small portion (2,300 acres) of the total area (63,712 acres) covered by the North Central Ocean Basin Facilities Plan and EIS. The specific needs of West Ocean City were examined through a Facilities Plan Amendment prepared for the WCSC by George, Miles, and Buhr, Incorporated. A report covering this Amendment was issued in March, 1982 with minor revisions involving collector sewers and cost estimates occurring in August, 1982.

Draft EIS Findings

In the West Ocean City Draft EIS, EPA evaluated several wastewater collection and treatment alternatives developed in the Facilities Plan Amendment. The Draft EIS tentatively agreed with the Amendment's recommendation of a gravity collection system with pumpover to Ocean City for treatment (Figure IV-1) as the most cost-effective solution, provided that connection restrictions to properties in environmentally sensitive areas were implemented, and provided that the cost of the system to individual users was shown to be acceptable to area residents.

Public Comments

EPA received many written and verbal comments on the Draft EIS during a formal public comment period from September 17, 1982 to November 1, 1982. In addition, oral testimony on the Draft EIS and Draft Facilities Plan Amendment was recorded at a Public Hearing held at the Ocean City Elementary School on October 27, 1982. Comments on the Draft EIS were in the form of questions, new information, suggestions for improving the document, and opinions as to which wastewater treatment alternative should be selected and how sensitive environmental resources should be protected. From EPA's perspective, all comments made were beneficial in assisting the Agency to refine the Draft EIS analyses and in formulating solid and thorough recommendations in the Final EIS. The full set of written comments received is reprinted in Appendix B.

From all the comments received, the following issues were most frequently raised and/or considered of greatest importance to future project decisions:

- methods to be used to ensure that sewer service to flood prone and wetlands areas will be controlled

- the need to protect wetlands and coastal bays from sedimentation impacts

- o the potential impact of constructing a force main across Sinepuxent Bay

- o the effect of the West Ocean City project on the need to expand the Ocean City STP

- o the feasibility of continued on-site system use

- o the financial impact of the project on local residents

EPA's responses to all of the substantive comments received are presented in Chapter III of this document.

Final EIS Recommendations

In preparing the Final EIS, EPA carefully reviewed all letters and comments received on the Draft EIS and reconsidered the alternatives and preliminary conclusions reached in the Draft EIS. With respect to wastewater treatment alternatives, the great majority of commentors expressed support for the system recommended in the Draft EIS and Facilities Plan Amendment. No new information or analyses have shown that there is any more suitable technical alternative which will eliminate the hazards to groundwater and public health associated with the area's numerous failing septic tanks.

Recommended Alternative

Therefore, subject to the restrictions on sewer serice described below, EPA continues to support the system of gravity sewer collection, force main conveyance, and Ocean City treatment and discharge recommended in the Draft EIS and Facilities Plan Amendment. (see Figure IV-1). This alternative consists of a gravity collection system for West Ocean City, with laterals and 8" to 10" gravity sewer lines, six lift stations, and a pump station (Figure II-2); a 16" diameter force main connecting the West Ocean City collection system into the Ocean City collection system at 15th Street, including a 2500 foot segment which will cross Sinepuxent Bay near the Route 50 bridge; and treatment at the Ocean City treatment plant with discharge through the Ocean City outfall.

Project Cost

The total estimated cost of the recommended alternative is broken down below:

Present Worth Cost of the Recommended Alternative

Component	Const. Year	Capital	Salvage Value	O & M	Total Present Worth
Collection					
Gravity sewer system (Includes six lift stations and one pump station)	1983	$7,545,300	- $842,000	+ $505,900	= $7,209,000

(continued on next page)

Component	Const. Year	Capital	Salvage Value	O & M	Total Present Worth
Treatment and Disposal					
16" Force Main	1983	$1,907,300	1	1	1
Ocean City Treatment Plant Expansion	1985	$1,732,500[2]	-$427,000	+ $1,190,400	= $4,110,100

1 The Salvage Value, Operations and Maintenance costs, and total present worth for the force main are included in the cost figures for the Ocean City Treatment Plant Expansion.

2 Assumes that West Ocean City will pay 10.5% of the $13,200,000 cost to expand the Ocean City plant by 9.5 mgd, plus $346,500 to cover engineering and administration fees.

The above figures reflect a reduction in the capital cost for collection based on WCSC's elimination of approximately 5280 feet of Federal grant-ineligible sewer lines in order to reduce the local share of costs.

Cost to Users

In addition to eliminating certain sewer lines, WCSC examined several other ways to reduce overall costs and the local share thereby reducing the costs to system users. These included assuming 25 percent, rather than 30 percent of project construction costs, for engineering, legal, and administrative fees; assuming an 8 percent rather than 12 percent inflation rate; installing laterals only to existing lots of record at the time of construction; and obtaining additional sources of funding from the state of Maryland. Additional State financial assistance being sought includes an $800,000 grant for constructing the collection system under the State's Failing Septic Tank Program; and securing a total of $1,000,000 in State loans at an 8 percent interest rate to reduce annual debt service payments.

The combined effect of all of the above cost reduction measures would be a reduction in the local share from $3,739,200 to $1,988,000; and a corresponding reduction in user charges. Using these reduced cost figures and potential additional sources of funding the WCSC prepared and distributed a letter in late October, 1982 to all property owners describing the most probable financing scheme and costs to individual sewer system users (see Appendix D). These cost figures were based on the WCSC's previously developed financing scheme 3, simply using the revised cost assumptions. These costs are presented in the following table. The figures assume no State or Federal funding for the cost of the Ocean City treatment plant expansion. They also do not include a collection system hookup charge of $600-$800 for new lots, the $500-$1500 cost for service line installation, or a $150 plumbing permit fee, all of which must be borne by individual users.

Annual User Charges Under Recommended Alternative

	1983	1985	1990	2000
Front Foot Rate	$ 1.41/ft	$ 2.91/ft	$ 2.91/ft	$ 2.91/ft
Multiplied by Lot width				
50 ft.	$ 71	$146	$146	$146
100 ft.	$141	$291	$291	$291
200 ft.	$282	$582	$582	$582
300 ft.	$423	$873	$873	$873
Plus				
Operation and Maintenance (O & M) Costs for one residence	$80/yr	$80/yr	$69/yr	$68/yr
Equals				
Total Cost by Lot Width				
50 ft.	$151	$226	$215	$214
100 ft.	$221	$371	$360	$359
200 ft.	$362	$662	$651	$650
300 ft.	$503	$953	$942	$941

Affordability

Depending on lot widths and the cost assumptions utilized, the estimates of user charges in some cases may represent a cost burden to individual home or property owners, especially for those whose lots are wider than 100 feet. However, it is difficult to establish how much the average resident/property owner can afford to pay. Results of WCSC's October 29, 1982 letter to all property owners soliciting public opinion showed that a slight majority were in favor of the project. EPA is of the opinion that if after public review of this EIS the project as described is approved by local officials, and then the state, that the issue of user costs above will not prevent a construction grant award.

Mitigation Plan for Sensitive Areas

Any Federally-funded sewer system and the area it serves must comply with Federal and State regulations and policies to protect environmental resources from direct damage and indirect loss through development. EPA and the State provided the following guidance on limitations which must be placed on West Ocean City's sewer service areas if Federal funding is to be sought.

Flood-prone areas - sewer service can be extended only to lots platted as of May 1977. The sewage capacity per lot would also be limited to one equivalent dwelling unit (i.e. no future subdivisions).

Wetlands - no sewer service could be planned for these areas.

Prime agricultural lands - sewer service could be planned for residentially-zoned areas (most of West Ocean) even if they were classified as prime farmland but not for agriculturally-zoned areas. This is consistent with Worcester County's Comprehensive Plan.

Non-sensitive areas - sewer service could be provided in a manner consistent with local zoning and population projections.

Sensitive areas which were excluded from sewer service - these areas could be developed with the use of on-site/alternative systems, but not connect to the Federally-funded sewer system.

While the EIS clearly described the expected environmental impacts of the selected alternative, and outlined the above constraints necessary to protect environmentally sensitive areas, it did not specify the institutional framework and procedures by which the protective measures would be carried out. As part of the Final EIS, EPA, in conjuntion with the Maryland Department of Health and Mental Hygiene and the EIS Coordination Committee, developed a specific implementation plan for the necessary mitigation measures (see Chapter IV).

The implementation plan calls for actions at the Federal, State and local (County) levels of government. It consists of two primary institutional mechanisms, a local-State Consent Order, and a condition to the EPA Construction Grant award, each of which in turn requires a number of individual actions. Although the final language has yet to be specified, the Consent Order and grant condition together will contain the following basic elements:

1. Require the Worcester County Sanitary Commission to provide the State and EPA with a set of maps which clearly delineate within the study area all wetland areas as defined by the U.S. Fish and Wildlife Service, and all lands within the 100 year floodplain as defined by the Federal Emergency Management Agency (FEMA). The maps will also delineate all specific vacant parcels of land which lie partially or wholly within the above floodplain or wetland boundaries, and will indicate which parcels within the floodplain boundaries were platted as building lots prior to June 1, 1977 and which had been developed prior to the issuance of the Final EIS.

2. Require the WCSC to prohibit any connections to the sewerage system from structures located on any parcel of land subject to development restrictions based on the above maps, i.e. any parcel of land not platted as a building lot prior to June 1, 1977 which lies partially or wholly within a floodplain area, or any parcel of land which regardless of when platted lies wholly or partially within a wetland area.

3. Require WCSC to incorporate the maps and connection restrictions in floodplains and wetland into the County Comprehensive Water and Sewerage Plan.

4. Designate the County Environmental Health Officer as the responsible party for deciding whether or not a lot is allowed sewer service.

5. Require WCSC to establish a new permitting process, or modify its existing plumbing permit process, to require an undeveloped lot owner to obtain a permit for connection to the sewer system prior to or concurrently with his application for a construction permit. An owner of a developed lot would only be required to obtain the connection and/or plumbing permit(s).

6. Require WCSC to amend its administrative procedures, and obtain additional resources, if necessary, to assure compliance with the above provisions.

When executed, these actions will provide a protective framework which, combined with the existing controls, will adequately mitigate any potentially adverse environmental impacts from West Ocean City's proposed wastewater facilities.

Next Steps

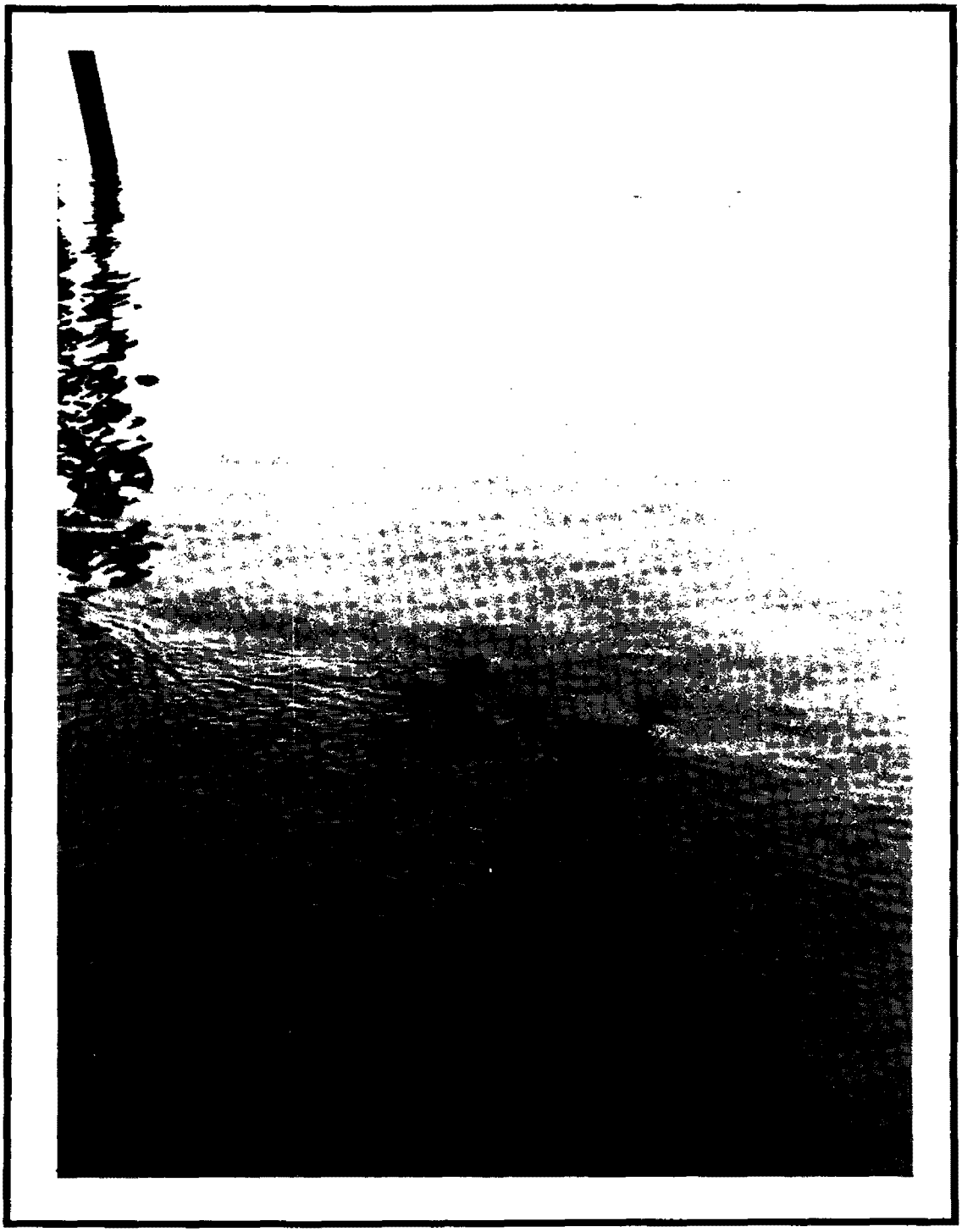
Following the close of a 30-day public comment period after issuance of the Final EIS, and a detailed review and approval of the Final Facilities Plan Amendment, the State and EPA will be in a position to consider a construction grant award. The Worcester County Sanitary Commission and County commissioners must decide whether they will agree to the EIS recommended alternative and mitigation plan, and if so, work with the State and EPA to finalize the Consent Order and grant condition agreements. The WCSC must also work with the State to ensure that all construction grant requirements have been satisfied, and work with the Corps of Engineers to satisfy any Federal dredge/fill activity requirements prior to the affected construction.

Later this year, EPA will issue a Record of Decision, formally closing the NEPA review process. The Record will summarize the conclusions of the EIS, report any modifications made to the Final EIS based on comments received, and disclose any funding decisions made by the State and EPA.

A final public meeting to discuss the Final EIS recommendations will be held in June as specified in the cover letter of this document.

Chapter I.

Introduction and Purpose



CHAPTER I. INTRODUCTION

NEPA

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies evaluate the potential environmental impacts of any Federally funded or permitted project. When the potential for adverse impacts on the natural, human, and/or economic environment is significant, an Environmental Impact Statement (EIS) is prepared. The intent of the EIS process is to identify all possible impacts and to recommend a plan which minimizes adverse impacts and provides mitigative measures for those which are unavoidable.

Draft and Final EISs on the North Central Ocean Basin (NCOB) Facilities Plan were issued by EPA in 1977 and 1978, respectively. A Draft EIS on West Ocean City was issued in September 1982, as a supplement to the NCOB EISs in order to reflect the large reduction in scope of the project, major changes in alternatives, and environmental concerns which have arisen since 1978. This Final EIS on wastewater treatment facilities for West Ocean City was prepared to address the public hearing testimony and written comments received following distribution of the Draft EIS.

Statutory Authority

The proposed action involves Federal financial assistance under the statutory authority of Title II, Section 201(g)(1) of the Clean Water Act. This authority enables the U. S. Environmental Protection Agency's (EPA) Administrator to make grants to any state, municipality, or intermunicipal or interstate agency for the planning, design and construction of publicly owned water pollution control facilities. EPA regulations for administering the program appear in 40 CFR 35, Subpart I, Grants for Construction of Treatment Works, which were published on May 12, 1982 as Interim Final rules to replace 40 CFR 35, Subpart E.

Construction Grants Program

Under the Construction Grants Program, EPA has and will through October 1, 1984 provide up to 75% of the cost of conventional wastewater treatment systems (sewage treatment plants and gravity sewers, for example). After October 1, 1984, several major changes to the program enacted by Congress in December 1981 become effective. First, sewage collection systems such as that proposed for West Ocean City will become ineligible for Federal funding. Grants for sewage treatment plants will be based on the needs of the existing population. Treatment plant expansion to serve future growth will no longer be grant eligible. In addition, the Federal share of the cost of constructing treatment plants will be reduced to 55%. Construction Grants for individual projects have and will continue to be awarded from State allocations according to an EPA-approved State priority system. This State priority system ranks projects according to the severity of pollution problems, the need to preserve water quality, and other factors. In Maryland, the lead State agency is the Maryland Department of Health and Mental Hygiene. The availability of a grant for the West Ocean City project will be contingent upon the amount of money allocated to the State of Maryland as part of the Federal budget process and the project's relative position on the State's priority list.

EIS Issues

The West Ocean City Sanitary District has a lengthy history of problems with failing septic systems due to unsuitable soils and a high groundwater table. At the same time, the area has been under strong pressure for development due to its proximity to Ocean City.

Much of West Ocean City is covered by environmentally sensitive lands including flood-prone areas, wetlands, and prime agricultural lands. Issues on which the West Ocean City EIS has focused include:

1. The population growth and development that would be caused by availability of a sewer system;

2. The effects of increased development on flood-prone areas, wetlands, and prime agricultural lands;

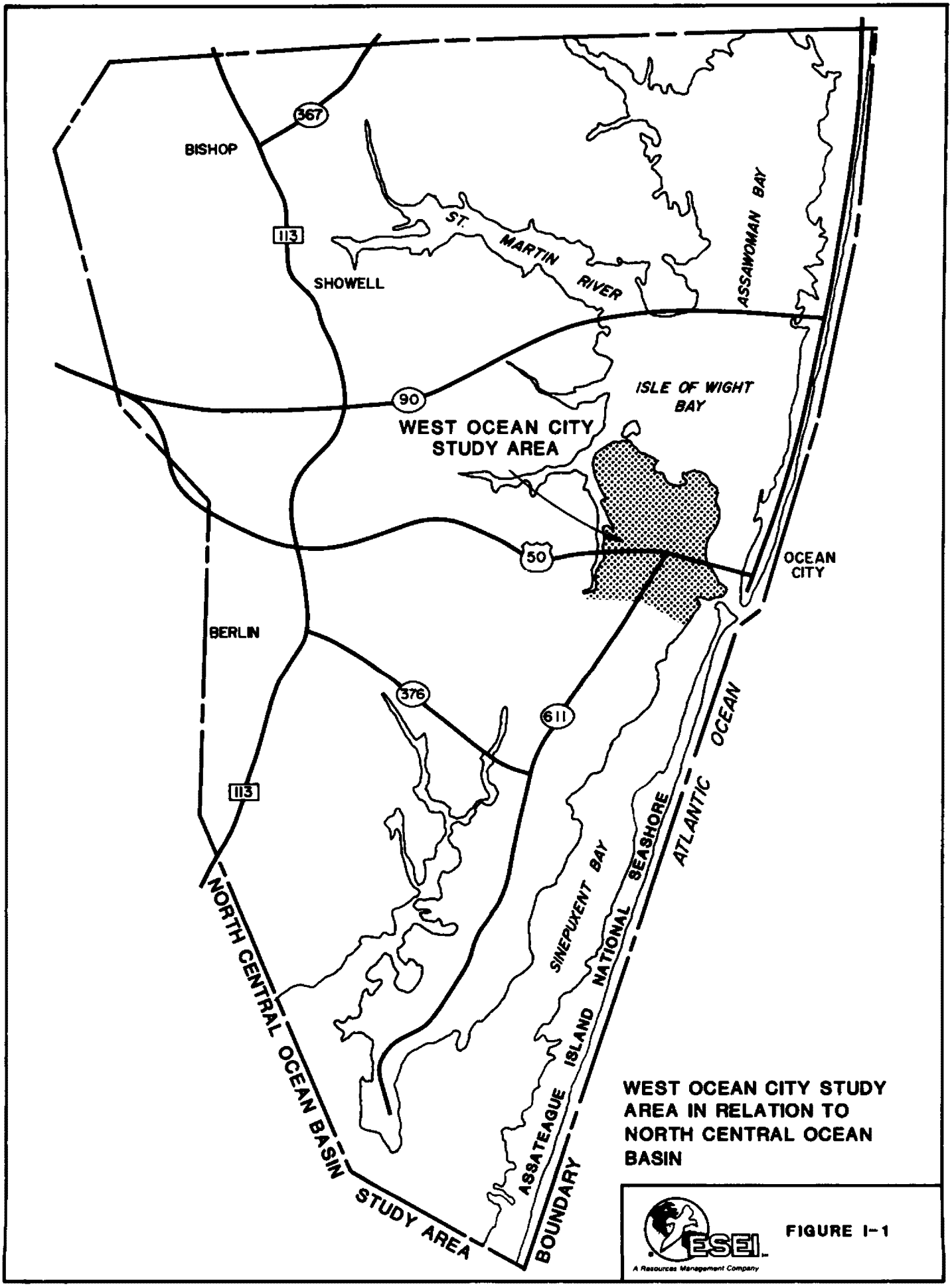
3. The effects of increasing urbanization on the water quality of surrounding bays;

4. Methods to minimize adverse impacts on the area's environmental resources; and

5. The financial impacts of constructing and operating a sewer system on area residents.

General Setting

The West Ocean City Sanitary District is located in southeastern Maryland, approximately 110 miles southeast of Baltimore and 10 miles south of the Maryland-Delaware border. West Ocean City is located on the mainland adjacent to the resort community of Ocean City. The Assateague Island National Seashore is southeast of West Ocean City. As an unincorporated area of Worcester County, wastewater management planning efforts are under the jurisdiction of the Worcester County Sanitary Commission (WCSC). West Ocean City encompasses 2,300 acres (3.6 square miles) of the 63,712 acres (99.5 square miles) covered by WCSC's original wastewater management Facilities Plan for the North Central Ocean Basin (Figure 1-1).



WEST OCEAN CITY STUDY AREA IN RELATION TO NORTH CENTRAL OCEAN BASIN

ESEI
A Resources Management Company

FIGURE I-1

Chapter II.

Project Alternatives

CHAPTER II. PROJECT ALTERNATIVES

The Facilities Plan Amendment considers various alternatives to meet West Ocean City's wastewater treatment needs through the year 2000. George, Miles and Buhr, Inc., engineering consultant to WSCS, examined the alternatives on the basis of engineering feasibility and cost. These alternatives included several which were environmentally acceptable and eligible for Federal funding and one which could not receive Federal funding but would also not be as limited by Federal environmental regulations. EPA, through the EIS process, has reviewed the alternatives and examined their environmental, social and economic impacts. The alternatives proposed by WCSC addressed four basic questions:

- Where will sewer service be provided and how will environmentally sensitive areas be protected from construction-related damage and loss through future development?

- How will the wastewater be treated?
  1. Pumped to the existing Ocean City plant with effluent discharge through Ocean City's existing outfall.
  2. At a new treatment plant to be constructed on the mainland and then pumped to Ocean City for effluent discharge through Ocean City's existing outfall.
  3. At a new treatment plant to be constructed on the mainland with disposal of effluent by land application at a site on the mainland within five miles of West Ocean City.

- How will the wastewater be collected?
  1. By a conventional gravity sewer system.
  2. By a pressure sewer system.
  3. By a vacuum sewer system.

- How will the project be funded?
  1. With a 75% Federal grant under EPA's Construction Grants Program and the remaining portion paid for by the State and local residents.
  2. Totally by local residents with a potentially substantial direct assessment against property owners benefiting from the system.

Of the alternatives, wastewater collection by gravity sewers and treatment and disposal at the Ocean City plant offered the least expensive alternative on a 20-year basis. This alternative, given as the Selected Plan in the Facilities Plan, is discussed in greater detail in Chapter IV. Chapter II contains an overview of each alternative and its environmental impacts. Environmental impacts considered include direct impacts (those resulting from construction and operation) and secondary impacts (those caused by the availability of sewer service, such as increased development).

No-Action

The EIS process must consider the effects of taking no Federal action, in this case the effects of EPA providing no financial assistance for construction of wastewater facilities in West Ocean City. Under the no-action alternative, the Worcester County Sanitary Commission (WCSC) could elect to (1) construct a system which would be paid for totally by local residents or (2) take no action to provide sewer service to the West Ocean City area.

A locally funded alternative was considered in the Facilities Plan for implementation by the WCSC; this alternative is described below. Under the locally funded alternative, sewer service would not be

limited by certain Federal policies and regulations, described in Chapter III, which require environmentally sensitive areas to be protected whenever Federal dollars are used. The service area could expand from 1,287 to 2,087 acres and the year 2000 population from 13,920 to 17,700 persons. However, even if no Federal grant is used to construct a centralized system, a number of Federal and State policies and regulations, such as the Coastal Zone Management Act, the Section 404/10 Dredge/Fill Permit Program, and the Maryland Wetlands Act of 1970, would still discourage development of environmentally sensitive areas.

No Federal Action-Locally Funded Alternative

The impacts from a locally funded alternative would include at least those which will be reviewed for the grant funded alternatives presented later in this chapter. The most significant additional impacts would occur in the 800 additional acres served, including primarily floodplains, agriculturally-zoned property and some wetlands. As with the other alternatives, groundwater quality would no longer be affected by seepage from septic tank drainfields, a beneficial effect which would reduce potential public health problems. As growth proceeded, the local tax base would increase; since growth exceeding that forecast for the selected alternative is forecast in the Facilities Plan to occur in the period from 1990 to 2000, the additional tax advantages of the locally funded alternative would occur in that period. Public service costs would also increase, and could easily exceed the increases in tax revenue. A one-time payment of $4,400 per acre would be required of all property owners to finance capital costs. An assessment of this level could exceed the financial capability of many area property owners.

No Federal Action-No Additional Service

If the WCSC chose to provide no additional wastewater service to the area, growth would be severely curtailed. Year 2000 dwelling units are estimated at 1,467 and population at 5,868 under this course of action, versus 3,480 units and 13,920 persons with the selected alternative. Under this option, the amount of growth in wetlands, prime agricultural lands and floodplains would be governed by State and local controls. Little additional wetland development would occur; limited floodplain development would continue, mainly in existing subdivisions. Since most prime agricultural soils in West Ocean City are not protected locally, and most of these soils are also suited to septic tank drainfields, much of the residential growth in the service area would center on these areas. Water pollution problems caused by failing septic tank drainfields would continue. Special tax reductions are available for parcels which have been denied septic tank permits; the number of these reductions would increase, lowering the local tax base somewhat. No significant increases in public service costs would occur. If no solution to septic tank problems appeared likely in the foreseeable future, the value of undeveloped properties in the area would begin to stabilize and could decline. If septic system malfunctions increase, a building moratorium might be imposed on West Ocean City. Homes and businesses with a severe public health hazard might be forced to install expensive on-site systems or face condemnation. While no user charges for wastewater treatment would be levied, costs to individual residents for septic tank maintenance and repair would remain.

Service Area

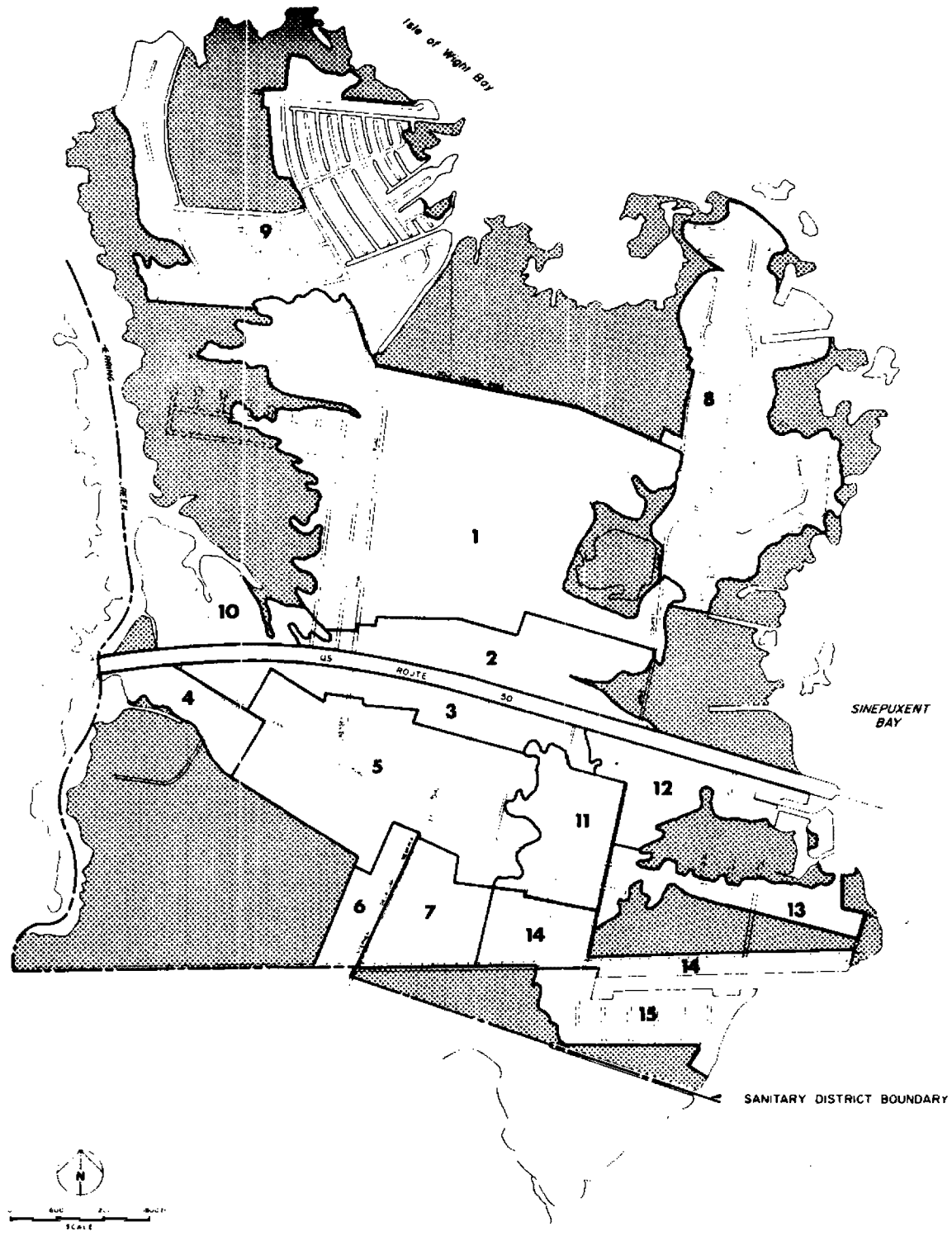
Concern over sewer-induced growth and it impact on environmentally sensitive areas has been the central issue of the West Ocean City EIS. To be eligible for Federal and State financial assistance, wastewater projects must conform with Federal and State policies regarding wetlands, floodplains, and prime agricultural land. The regulatory basis which requires EPA to take positive action to

prevent damage to environmentally sensitive areas is described in Chapter III. Early in the Facilities Planning/EIS process, EPA and the State of Maryland issued guidance to the Worcester County Sanitary Commission (WCSC) on how the Federal Executive Orders, Policies and regulations would apply to the West Ocean City project. WCSC incorporated this guidance into the sewer service area used to plan alternatives which could be eligible for Federal funding. The shaded areas in Figure II-1 represent areas which could not receive sewer service (wetlands, agriculturally-zoned lands, and flood-prone areas not platted prior to May 1977). The numbered subareas (Areas 1 through 15) were identified as potential sewer service areas. WCSC planned sewer service for Areas 1 through 7 in a manner consistent with local zoning requirements and acceptable population projections. Areas 8 through 15 are located in the 100-year floodplains; sewer service in these areas was planned in accordance with EPA/State guidance on the extent of development in flood-prone areas which could be supported by a Federally-funded sewer system. Estimates of the existing and future population in the 15 subareas are presented in Chapter IV of the Final EIS.

Wastewater Collection and Conveyance Alternative

Sewage collection systems are used to transfer wastewater from homes, commercial buildings and other structures to a central pumping station; conveyance systems transfer wastewater to treatment and disposal sites. Three types of collection systems were evaluated in the West Ocean City Facilities Plan: gravity, pressure and vacuum sewers (Figures II-2 through II-4). The proposed alignments are nearly the same for all three systems; most sewers are planned to follow existing roadways and railroad rights-of-way. Because the alignments would be in areas which have already been disturbed by construction, no significant adverse impacts are anticipated on wetlands, floodplains, prime agricultural lands or potential archeological sites. Each proposed system would require six lift stations and one pumping station. None of the six required lift stations would involve significant adverse impacts during construction. Lift stations #1 and #4 are located in residential areas; additional landscaping and shrubbery may be appropriate to make them more harmonious with their surroundings. The proposed location for lift station #5 is adjacent to wetlands. Careful site planning, design and construction practices must be used to prevent wetlands damage. Because the collection system would be constructed along State and local roads, WCSC should maintain continued coordination during design and construction with State and local highway officials. Disruption of traffic and business access along Route 50 and near the marina could be minimized by scheduling construction during the off-tourist season.

Principal differences between the three systems are caused by construction and excavation requirements and overall costs for operation and maintenance. The gravity system would require deeper trenches and hence longer and more costly construction. The gravity system would also be the most likely of the three systems to develop cracks or ruptures which would permit groundwater to enter the sewer system to be unnecessarily treated as sewage. The pressure and vacuum systems utilize shallow trenches which are less costly and time-consuming to excavate. Construction related erosion and sedimentation would be greater for a gravity system because of the need for extensive dewatering during trench construction. However, long-term energy costs and operation and maintenance requirements and expenditures would also be lowest for a gravity system. The Facilities Plan recommends that a gravity system be installed in West Ocean City because it is the least costly of the three systems over a 20-year period and also because



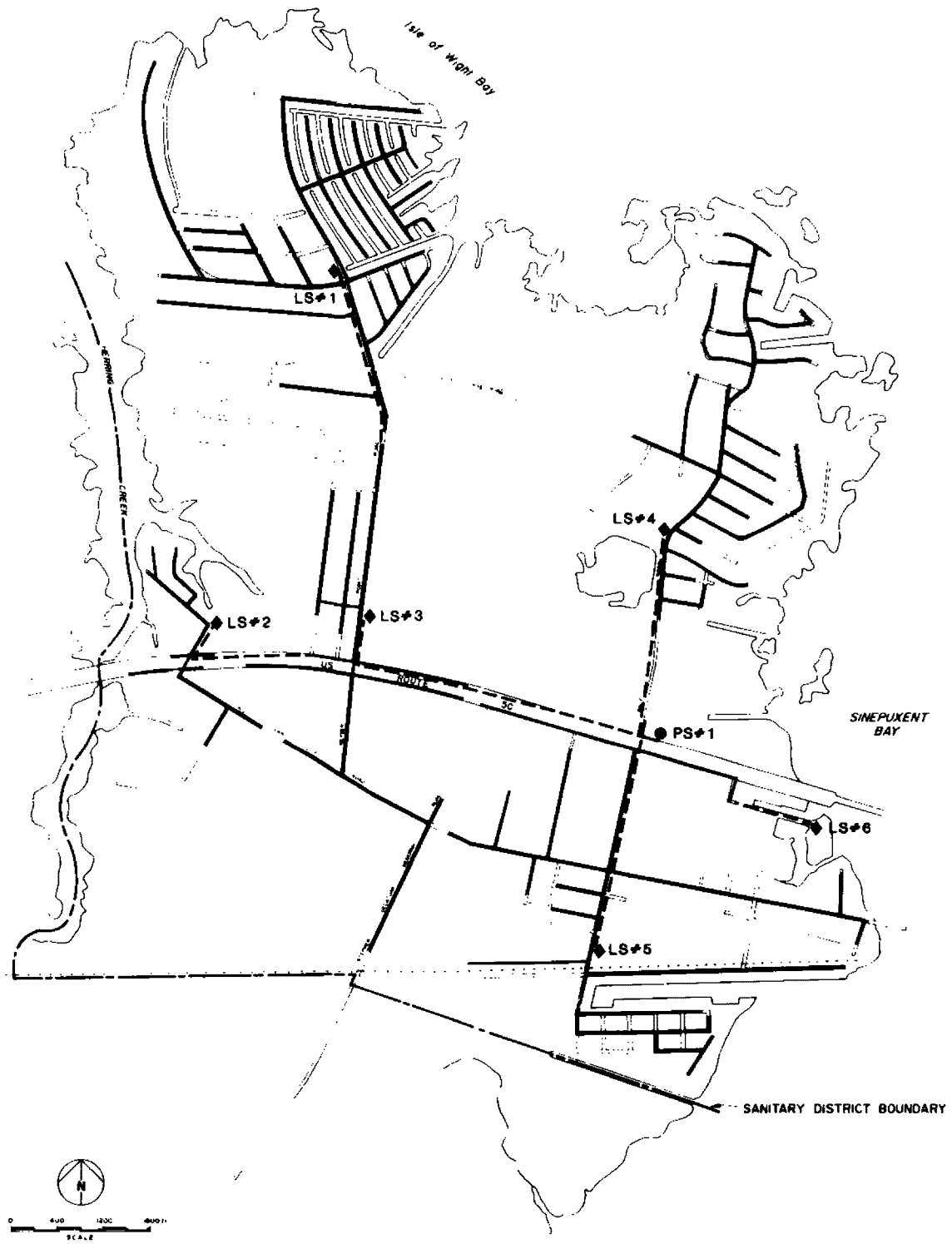
LEGEND

6 SERVICE AREAS

AREAS EXCLUDED DUE TO ENVIRONMENTAL SENSITIVITY

Facilities Planning Service Areas

FIGURE II-1



LEGEND

——— GRAVITY SEWER

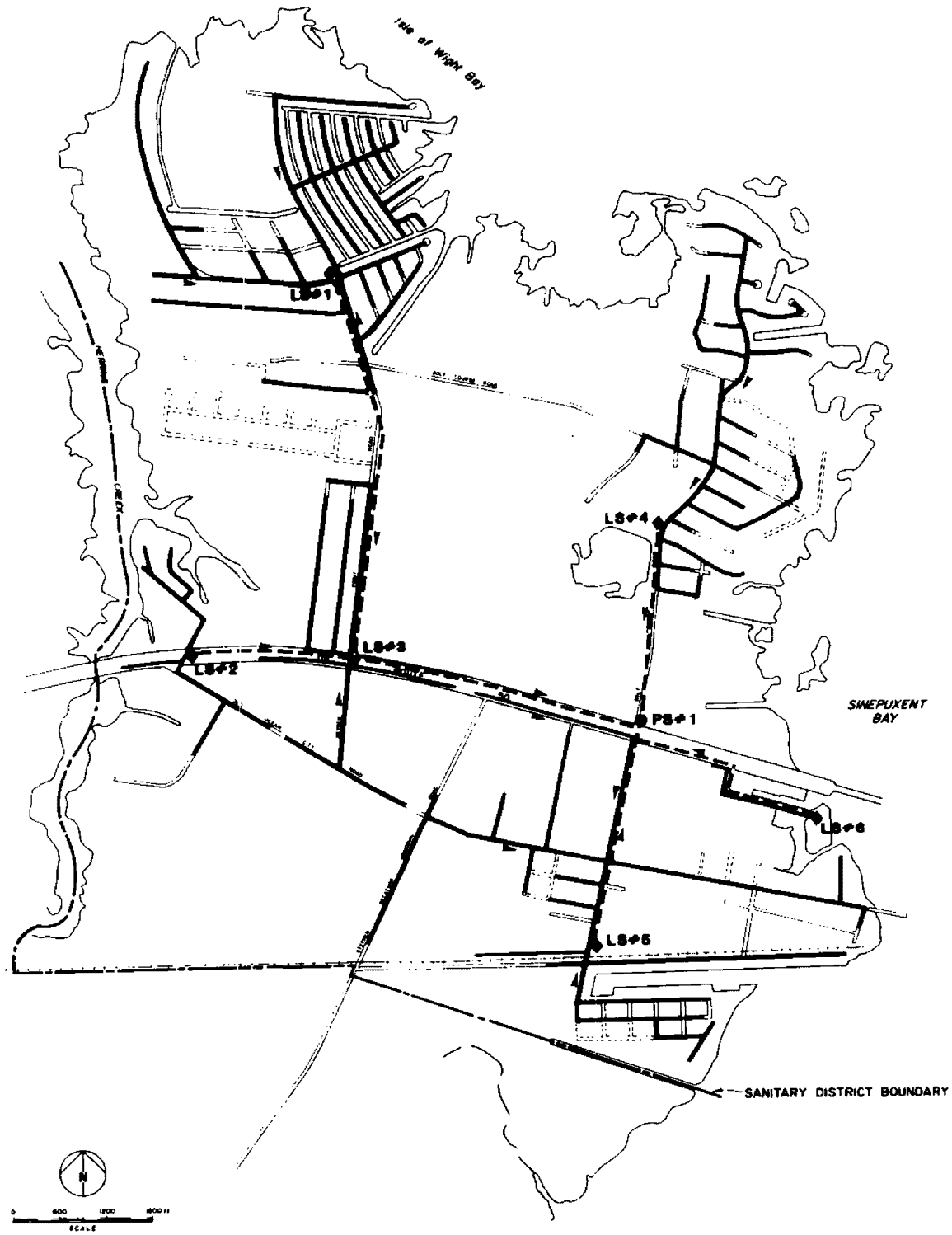
– – – FORCE MAIN

● PUMP STATION (PS)

◆ LIFT STATION (LS)

Gravity Sewer System

FIGURE II-2



LEGEND

—— PRESSURE SEWER

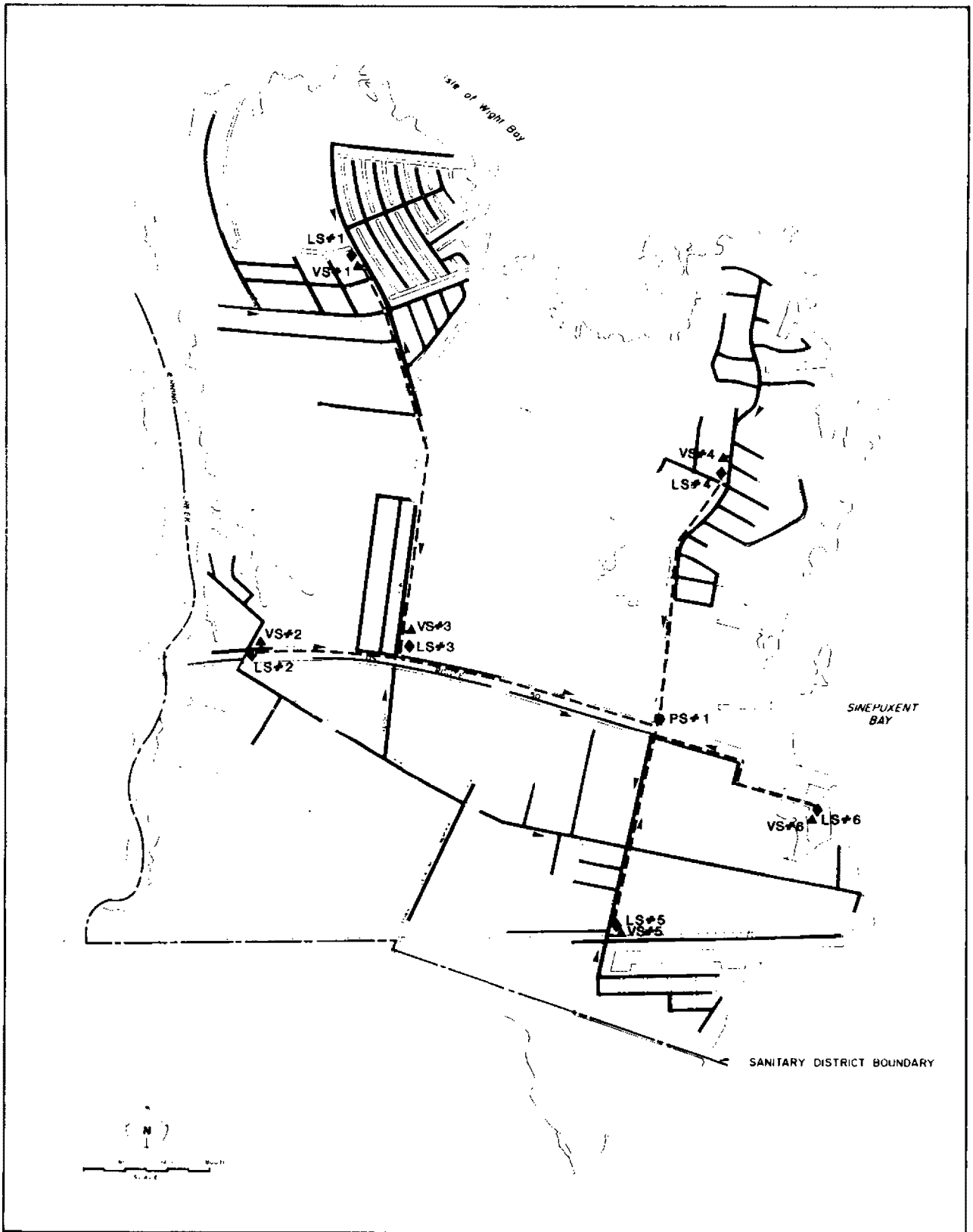
- — - FORCE MAIN

● PUMP STATION (PS)

◆ LIFT STATION (LS)

Pressure Sewer System

FIGURE II-3



LEGEND

- VACUUM SEWER
- FORCE MAIN
- PUMP STATION (PS)
- LIFT STATION (LS)
- VACUUM STATION (VS)

Vacuum Sewer System

FIGURE II-4

the Sanitary Commission already operates two such systems. Additional details on the three systems evaluated are presented in the following sections.

Gravity Sewer System

Gravity sewer systems transport wastewater from buildings to convenient low points utilizing differences in elevation to achieve flows. Because the area is relatively flat, a minimum of seven low points would be required. At six of these seven points, wastewater would be collected in lift stations. These stations would then pump wastewater uphill by way of force mains, discharging to the upper elevations of gravity interceptors, or directly to a final pumping station. Eventually, the wastewater would be pumped to the location(s) chosen for treatment and disposal. Federal funding is available for installing collection sewers to serve areas which were substantially developed by 1972. Consequently, not all collection sewers in the area can qualify for Federal funding. A potential alignment for a Federally-funded gravity collection system to serve the study area is illustrated in Figure II-2.

Because of the need to maintain a minimum grade for gravity flow, and the requirement of a manhole every 200 to 300 feet of sewer length, both the depth of required trenches and the duration of construction would be greater under this approach than for either the pressure or vacuum sewer alternatives. Trenches would range from approximately 3 feet to 15 feet in depth. Erosion and sedimentation controls would be necessary in areas of high groundwater; dewatering of trenches would occur during construction, increasing sedimentation somewhat.

Pressure Sewer System

The pressure sewer system evaluated for the West Ocean City Study area would use on-site grinder pumps to pump wastewater from buildings into a network of small diameter, shallow force mains. In using a pressure sewer system, the small diameter pressurized sewers are buried just beneath the frost penetration depth; this can reduce sewer line construction costs and potential infiltration of groundwater. It is assumed that, whenever possible, one on-site grinder pump unit will serve two single family residences. For multi-family residences, one pump unit could serve up to eight dwelling units. Wastewater flows in the pressure sewer system are conveyed to six lift stations and a final pumping station, identical to those utilized in the gravity sewer system. The final pumping station would convey the wastewater to the location(s) chosen for treatment and disposal. A potential alignment for a pressure sewer system to serve the study area is illustrated in Figure II-3.

Pressure sewers would be installed in shallow, narrow trenches at a uniform depth of approximately 3 feet to prevent freezing of pipes during winter. The shallow trenches would require less excavation and shorter construction time than necessary for conventional gravity sewers, thereby exposing less soil to erosion. The shallow trenches and reduced excavation would also minimize the need for dewatering of trenches in areas of high groundwater, thus reducing sedimentation impacts on surface waters.

Vacuum Sewer System

Vacuum sewer systems depend on a central vaccum source which constantly maintains partial vacuum on small diameter collection mains. Household wastes flow by gravity to an on-site holding tank. Adjacent to the tank is a gravity/vacuum interface valve which opens when a sufficient volume of sewage has accumulated, thus allowing a volume of sewage to enter the main and move to a central vacuum station. From this point the sewage is pumped via a force main to a primary transmission line. Wastewater flows in

the vacuum sewer system would be conveyed by six central vacuum stations with locations identical to the six lift stations in the gravity and pressure sewer systems. In addition to the six vacuum stations, six lift stations and a final pumping station identical to those utilized in the gravity and pressure sewer systems would be needed. A potential alignment for a vacuum sewer system to serve the study area is illustrated in Figure II-4.

Because the alignments and construction methods for the vacuum sewer system would be similar to those for the pressure system, potential impacts would be common to those described for the pressure sewer alternative. The shallow trenches required for the vacuum sewers would result in minimal impacts from erosion and sedimentation. The combination vacuum and lift stations would be constructed at the same six sites common to the pressure sewer alternative.

Locally Financed Sewer System

If local funds were used to construct a sewer system in West Ocean City, the project would not be considered a Federal action. Consequently, the environmental constraints on sewer-induced growth needed to comply with the Executive Orders on Floodplains and Wetlands and the National Environmental Policy Act would not apply. The locally funded alternative developed by WCSC would also use gravity sewers and six pumping/lift stations. However, the extent and capacity of sewer service would be expanded. The sewer service area would be expanded from 1,287 acres to 2,087 acres. The wastewater flow would be increased from 974,400 gallons per day to 1,239,000 gallons per day. The projected year 2000 population would increase from 13,920 persons to 17,700 persons. A potential alignment for the locally-funded system is shown in Figure II-5.

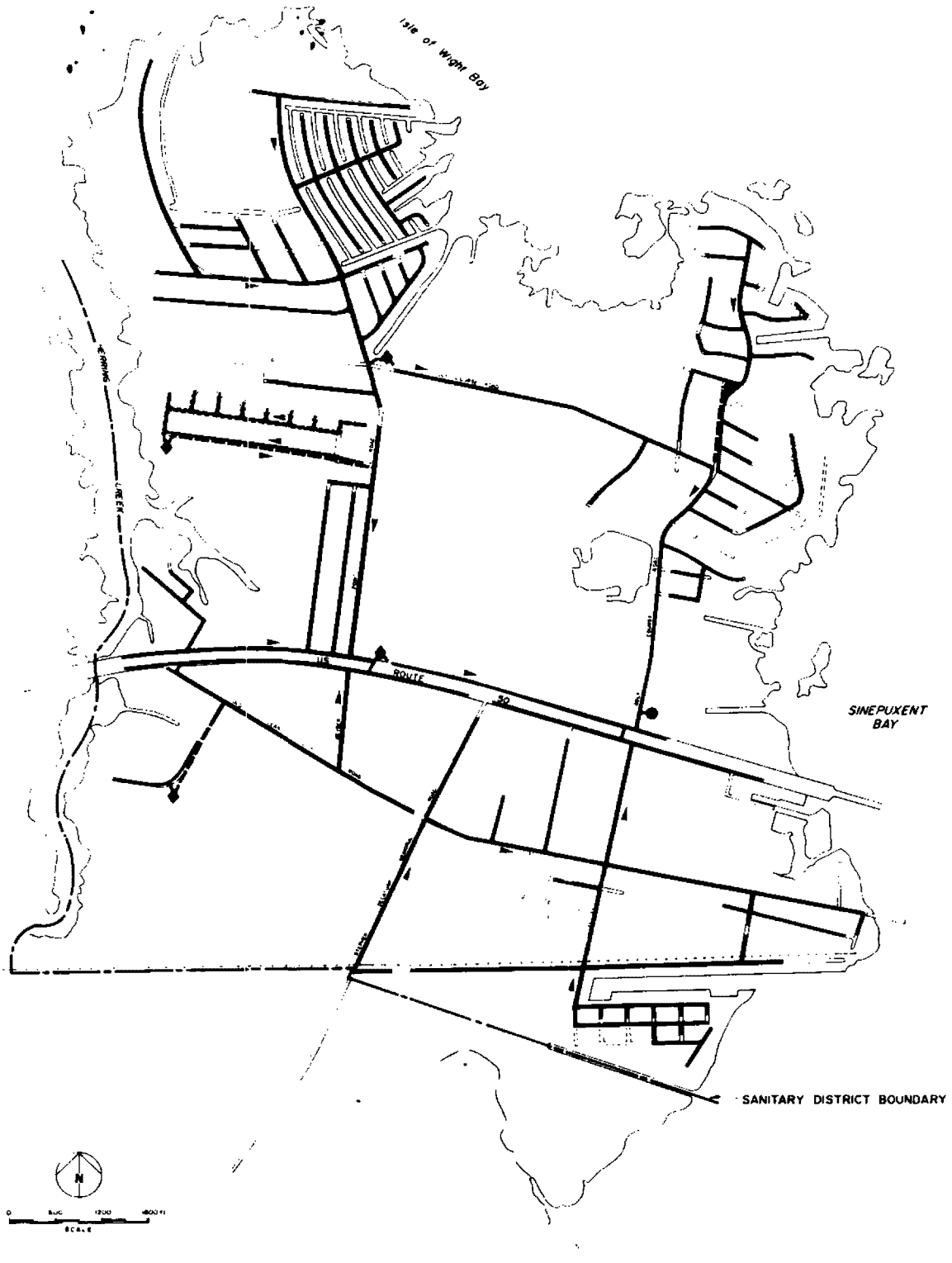
Wastewater Treatment and Disposal Alternatives

Alternatives for treating and disposing of wastewater collected from the West Ocean City study area included conveyance to the existing wastewater treatment facility at Ocean City, or treatment at a new facility in the planning area with subsequent disposal either through the existing outfall at Ocean City or land application to a site southwest of West Ocean City. Direct discharge of treated effluent to one of the surrounding bays is not a viable alternative for West Ocean City. The limited capacity of the surrounding bays to accommodate existing wastewater discharges has caused the State to prohibit consideration of any new discharges.

Treatment and Disposal at Ocean City

Raw sewage collected in the West Ocean City area would be pumped via a 16-inch force main to the Ocean City collection system at 15th Street. From this point the existing Ocean City collection system would convey the wastewater to the Ocean City facility for treatment and disposal. A force main would be installed under Sinepuxent Bay; this alternative is illustrated in Figure II-6.

The existing Ocean City secondary treatment plant has a capacity of 12.0 million gallons per day (mgd). Current peak summer day flows at this facility are about 9.5 mgd. The remaining capacity available for growth in Ocean City and service to West Ocean City is therefore 2.5 mgd. The existing 12.0 mgd treatment facility could accommodate the projected combined 1985 flows of 11.5 mgd for Ocean City and 0.49 mgd from West Ocean City. At that time, however, it would become necessary to expand the existing Ocean City treatment facility by 9.5 mgd to accommodate 1.0 mgd of projected year 2000 flow from West Ocean City and a projected 8.5 mgd flow increase from Ocean City by the year 2000. It is assumed that West Ocean City will bear a proportional share, 1.0/9.5 or 10.5 percent, of the capital cost of the 9.5 mgd expansion. In

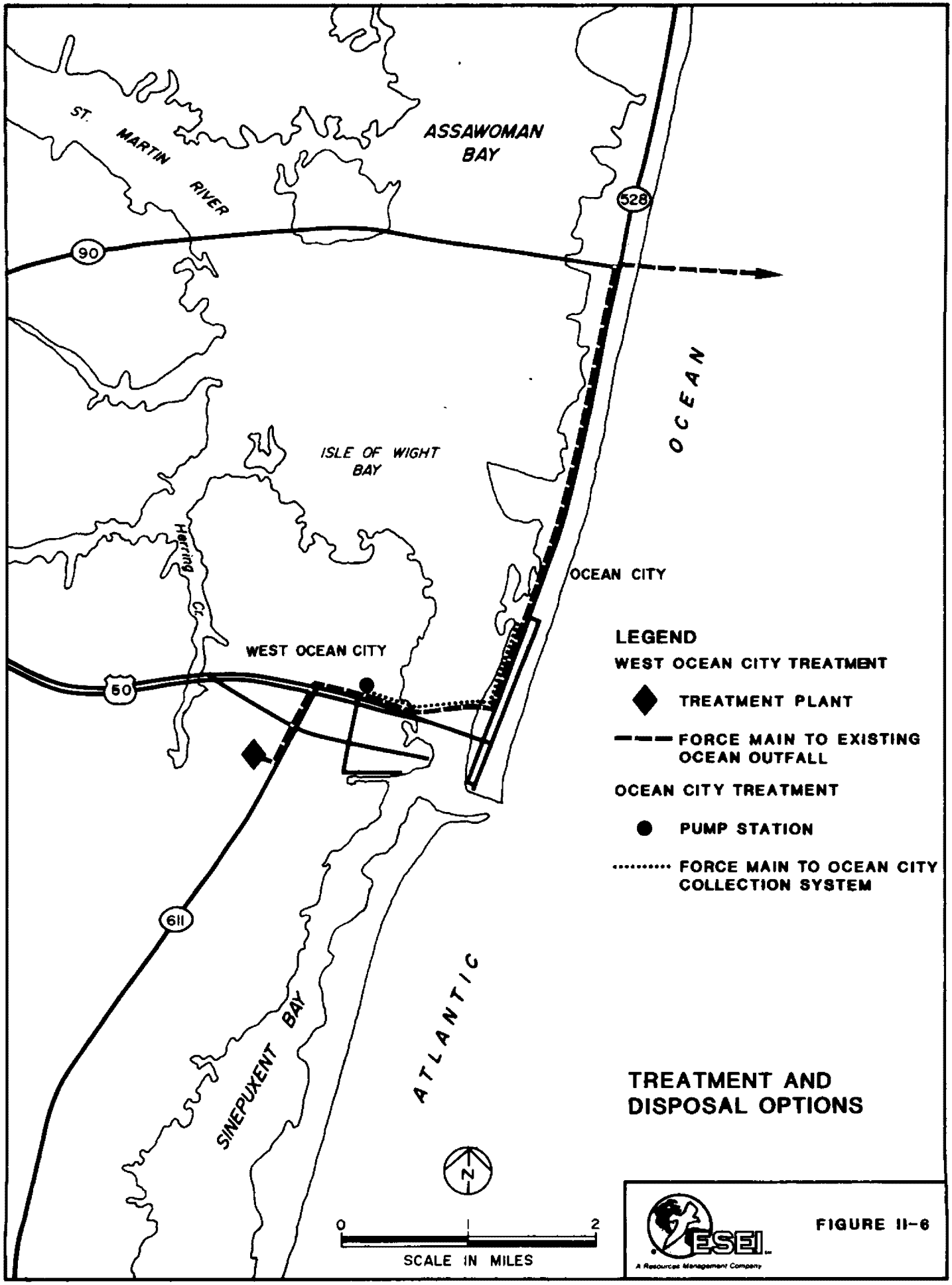


LEGEND

- GRAVITY SEWER
- FORCE MAIN
- PUMP STATION
- LIFT STATION

Locally Funded Gravity Collection System

FIGURE II-5


ST. MARTIN RIVER
ASSAWOMAN BAY
528
90
OCEAN
ISLE OF WIGHT BAY
Herring Cr.
OCEAN CITY
WEST OCEAN CITY
50
611
SINEPUXENT BAY
ATLANTIC
LEGEND
WEST OCEAN CITY TREATMENT
TREATMENT PLANT
FORCE MAIN TO EXISTING OCEAN OUTFALL
OCEAN CITY TREATMENT
PUMP STATION
FORCE MAIN TO OCEAN CITY COLLECTION SYSTEM
TREATMENT AND DISPOSAL OPTIONS
N
0
1
2
SCALE IN MILES
ESEI
A Resources Management Company
FIGURE II-6

addition to capital costs West Ocean City would, immediately upon connection, assume a proportionate share of operation and maintenance costs at the Ocean City facility.

The existing Ocean City outfall has a diffuser capacity of 12.0 mgd (the outfall pipe has an approximate capacity of 25 mgd). As discussed above, combined flows from Ocean City and West Ocean City would reach this level in 1985; an expansion of the outfall pipe diffuser may be necessary at that time.

Direct Impacts from Treatment and Disposal at Ocean City

One important beneficial impact of this option is that groundwater quality would no longer be affected by seepage from septic tank drainfields, reducing potential public health problems.

Construction of approximately 3,500 feet of 16 inch force main across the Sinepuxent Bay would result in temporary suspension of bottom sediments. This action would require a Section 404 and Section 10 permits from the U. S. Army Corps of Engineers. Most of the suspended sediments would be chemically inert, inorganic particles including clay, silt, sand and gravel derived from soil and bedrock. Organic materials and toxic substances (heavy metals and pesticides) included in the sediment would also be released during construction. However, these would tend to be adsorbed onto aggregate particles and returned to the sediment without significant effect on the overlying water column. The ability of the water column to transport sediments is dependent upon the wet density of the material and on water currents and turbulence. Larger particles are quickly redeposited, while finer particles and low density organic material may remain in suspension for longer periods. Flow patterns in the bay are influenced by strong tidal currents which enter through the Ocean City Inlet and through a 20 to 30 foot dredged channel along the eastern shore of the bay. Tidal currents in the bay near the Route 50 bridge are approximately 1.5 feet per second. Given this relatively low velocity of current, and the shallow water depth at the force main crossing, transport of sediment would not be significant. Nonetheless, a detailed evaluation will be necessary as part of the project evaluation by the U. S. Army Corps of Engineers. Construction of the force main to the Ocean City sewage collection system from the point of crossing the bay will result in adverse impacts from disruption of traffic and business access. The proposed alignment was selected so as to minimize these impacts by avoiding narrow roadways. Impacts can be further mitigated by scheduling construction during the non-tourist season.

Carter and Regier (1978) reported no detectable impacts attributable to the Ocean City outfall on any aspect of the marine environment in the vicinity of existing discharge. Based on the fact that the outfall will be diffusing secondary treated effluent rather than the primary treated effluent being discharged at the time of the 1978 study, it is anticipated that the ultimate disposal of West Ocean City wastewater flows via the Ocean City outfall will have no significant impact on water quality. However, it may be necessary to reevaluate the impact of Ocean City wastewater discharges when plant expansion is again considered.

Treatment near West Ocean City with Disposal through Ocean City Plant Outfall

The collected raw sewage would be treated at a new plant in West Ocean City, with the effluent pumped via force main to the existing Ocean City ocean outfall. The treatment plant would be sized for a flow of 1.0 mgd and would provide secondary treatment and disinfection. The effluent force main would cross Sinepuxent Bay to Ocean City; construction of the force main would require Section 404 and Section 10 permits from the U. S. Army Corps of Engineers.

Once in Ocean City the force main would follow a route along St. Louis Avenue and Philadelphia Avenue to the existing 64th Street outfall. A potential treatment site and effluent conveyance system to the existing Ocean City plant outfall is illustrated in Figure II-6.

Direct Impacts from Treatment near West Ocean City with Disposal through Ocean City Plant Outfall

One important beneficial impact of this option is that groundwater quality will no longer be affected by seepage from septic tank drainfields, reducing potential public health problems.

The proposed 3.5 acre site for a 1.0 mgd wastewater treatment plant in the West Ocean City planning area is situated in a swampy wooded area near the juncture of Route 611 and the railroad tracks at the south boundary of the Sanitary District. Although not identified as a wetland on the State map, the area is identified as swamp land on the USGS topographic quadrangle map and probably considered wetland under Federal jurisdiction. Construction would require careful siting and mitigative measures to reduce erosion and sedimentation impacts. The site would receive a detailed review in accord with the 404 permit program administered by the U. S. Army Corps of Engineers.

Construction of the force main in Ocean City from the bay crossing to the existing 64th Street outfall would result in disruption of traffic and business access on St. Louis Avenue and Philadelphia Avenue. The alignment was chosen to avoid narrow streets. Impacts can be acceptably mitigated by scheduling construction during the non-tourist season when traffic and business activity are substantially reduced.

Carter and Regier (1978) reported no detectable impacts attributable to the Ocean City outfall on any aspect of the marine environment in the vicinity of existing discharge. Based on the fact that the outfall will be diffusing secondary-treated effluent rather than the primary-treated effluent which was being discharged at the time of the 1978 study, it is anticipated that the ultimate disposal of West Ocean City wastewater flows via the Ocean City outfall will have no significant impact on water quality. However, it may be necessary to reevaluate the impact of Ocean City wastewater flows when plant expansion is again being considered.

Treatment with Disposal by Land Application near West Ocean City

This alternative would treat the collected raw sewage at a new plant in West Ocean City and use spray irrigation near West Ocean City as an ultimate disposal method for treated effluent. The collected raw sewage would be treated using aerated lagoons before spray irrigation; storage ponds which provide system backup and flow equalization would be sized to provide 60 days holding capacity.

During project planning a distance of five miles was estimated as the maximum distance over which effluent could be transmitted at a reasonable project cost. Land within this radius was, therefore, considered during facilities planning. The land area required for spary irrigation was estimated using 39 weeks of application per year at a rate of 1.5 inches per week. A total of 510 acres would be required for spray irrigation, buffer areas, storage and treatment.

The primary site selection procedure was to establish soil suitability on remaining land areas after deleting all areas of high or moderate density habitation. In reviewing suitable land areas, it was evident that the more acceptable soils for spray irrigation were located near the outer perimeter of the five mile

evaluation area. Also, after considering the length of pipeline, parcel ownership, geologic location and the criteria of avoidance of pipelines crossing environmentally sensitive areas, parcels north of Ocean Pines were excluded in favor of those south and west of West Ocean City.

The analysis focused on locating large parcels in close proximity, which would total at least 500 acres. A group of parcels between the confluence of Ayer and Trappe Creek on Route 376 were selected as the most likely spray irrigation site. However, on-site evaluation by the Division of Residential Sanitation, of the Maryland Department of Health and Mental Hygiene concluded that this site was unacceptable due to the high seasonal groundwater table. Because this site was typical of better soils in the area, spray irrigation was no longer considered feasible. Nevertheless, a cost analysis was prepared utilizing the unsuitable site. The high cost of land application at the unsuitable site indicated that examining more suitable sites farther from West Ocean City would not be economically feasible.

Direct Impacts from Land Application Alternative

The land application alternative, if feasible, would have committed approximately 500 acres of agricultural land to restricted use for the principal purpose of effluent disposal. The use of the land for this purpose would limit the type of crop and the ultimate use of the corp which would be planted and harvested in the area. For public health reasons, certain food crops are not recommended to be grown in conjunction with land application of wastewater.

Because the closest feasible sites to the planning area were determined to have seasonally high groundwater conditions, their use for land application of effluent could result in contamination of groundwater. The land application alternative would also require a conveyance system with a pipeline approximately five miles in length, resulting in adverse impacts from soil erosion and sedimentation during construciton, and possible impacts on environmentally sensitive areas depending upon the alignment selected.

Locally Financed Treatment and Disposal Alternative

In the event that the WSCS decides against Federal funding the costs incurred for sewage collection, conveyance, treatment and ultimate disposal would be borne solely by the residents of the study ara. In that case, collected wastewater would be conveyed to the existing Ocean City facility for treatment and disposal. Under this approach, the force main beneath Sinepuxent Bay would be 20 inches in diameter, traversing the same route as the one which is under consideration for Federal funding (Figure II-6). Treatment and disposal at the Ocean City plant was shown to be the least costly approach independent of how the system was financed.

Cost Comparison

EPA requires that the costs of all alternatives be calculated on a basis which allows fair comparisons of those that are expensive to construct but inexpensive to maintain with those that have low construction costs but high operating expenses. The present worth analysis is used to compare the total capital, salvage, operation and maintenance cost of the alternatives. Present worth can be defined as the amount of money that must be invested, at a specific interest rate, at the start of the project to provide enough funds to meet construction costs and annual expenditures for the design life of the facilities.

The cost analysis of alternatives in the Facility Plan was based on the present worth concept. Table II-1 summarizes the present worth of collection systems and treatment/disposal alternatives. Nine different combinations of the three collection and three

treatment/disposal options are possible. In deriving the present worth, the Facilities Plan made the following assumptions:

- All costs shown were in 1982 dollars.
- Discount rate used was 6 3/8%.
- Twenty years was used as the planning period.
- Salvage values of collection systems and treatment/disposal facilities were based on their anticipated life.
- No land purchase costs were included.

The alternative descriptions given earlier in this chapter note the absence of a cost for the project area's share of expanding the Ocean City outfall diffuser. The cost for expanding the Ocean City outfall diffuser was estimated in the original 1977 NCOB Facilities Plan at $1,800,000. Updating this cost using a construction inflation index for the area yields an estimated 1982 cost of $2,448,000. Applying the 15% inflation factor used in the facilities plan for shifting costs from 1982 to 1983, this estimate increases to $2,815,000. Assuming the 10.5 percent West Ocean City share used for plant expansion in the facilities plan, the additional 1985 costs not enumerated in the plan are estimated at $295,575. Using an amortization over 30 years at 10% interest (also from the plan), an additional annual cost of $31,500 can be computed for the period 1985-2000.

For the locally-funded alternative, the Facilities Plan estimated the initial capital cost to be $11,162,400 with an additional capital expense in 1985 of $2,135,400. Annual operation and maintenance costs were estimated to be $132,100 in 1985 and $217,400 in 1995.

Table II-1. Present Worth (in 1982 Dollars) of Wastewater Collection, Treatment and Disposal [1]

Alternatives	Capital	Capital Improvement	Salvage	Operation and Maintenance	Total Present Worth
Gravity sewer system	7,543,300		842,200	505,900	7,209,000
Pressure sewer system	6,882,900	1,603,900[2]	528,200	1,186,200	9,144,800
Vacuum sewer system	6,395,000	663,700[3]	397,700	1,878,300	8,544,300
Treatment and disposal at Ocean City	3,346,700		427,000	1,190,400	4,110,100
Treatment in West Ocean City/Disposal at Ocean City	9,378,000		741,000	2,096,500	9,373,000
Treatment and disposal by land application near West Ocean City	8,107,500		757,600	1,678,100	9,028,000

[1]Costs are presented in the West Ocean City Facilities prepared by George, Miles, and Buhr issued in March 1982, revised in August 1982.
[2]Cost of annual capital improvement for purchase of additional grinder pumps for new development.
[3]Cost of annual capital improvement for future interface valve and holding tank construction for new development.

Chapter III.

Comments and Responses

CHAPTER III. COMMENTS RECEIVED ON THE DRAFT EIS AND EPA'S RESPONSES

Throughout the preparation of the Environmental Impact Statement (EIS), EPA has continuously sought participation from local, regional, State and Federal agencies; citizens; and interested environmental groups. EPA has considered suggestions, criticisms, and opinions from the public in documenting the need for wastewater treatment facilities, in developing wastewater management strategies, and in assessing potential impacts. EIS newsletters, advertisements, and meetings with the public have been used to ensure that all concerned parties were involved in the EIS decision-making process.

Draft EIS Comments

In accordance with the National Environmental Policy Act and EPA procedures for the preparation of Environmental Impact Statements, the public as well as Federal, State and local agencies were requested to comment on the Draft EIS from September 8, 1982 through November 10, 1982. In addition, oral testimony on the Draft EIS was received at a Public Hearing held in West Ocean City on October 27, 1982.

In total, EPA received written responses from 9 Federal agencies, 2 State agencies, 2 environmental groups, and 3 citizens. Oral testimony at the Public Hearing was presented by representatives of 1 State agency, 13 environmental groups, and 4 citizens.

Key Issues

From EPA's perspective, all comments are helpful in formulating a decision which has a sound basis. From all the comments received, the following concerns are considered by EPA to be among the most important:

- mechanisms to be used to ensure that development in flood-prone areas and wetlands will actually be limited if a sewer system is constructed
- the need to protect wetlands and the coastal bays from sedimentation
- the potential impact of constructing a force main across Sinepuxent Bay
- the feasibility of continued use of on-site systems
- the financial impact of the project on local residents.

Comments and Responses Format

The remainder of this chapter presents a summary of the comments received on the Draft EIS and EPA's responses. The summary of comments is presented first, and includes both a synopsis of written comments, in the order in which they were received, and a summary of the public hearing testimony. The full set of written comment letters is presented in Appendix B, while the full transcript of the public hearing proceedings is available for inspection at the offices of the Worcester County Sanitary Commission. Following the summary of comments, EPA's responses are provided to the most prominent issues raised in the various comment letters.

Synopsis of Written Comments

	Response/ Addressed on Page
Letter Number: 1 Organization/Individual: Frank Harrington	
o Is in favor of the gravity sewer system. o Notes that his property will be useless if sewer service is not provided.	Comment Noted
Letter Number: 2 Organization/Individual: F. Bryan Gatch, Maryland State Clearinghouse	
o Clearinghouse review of the Draft EIS has begun.	Comment Noted
Letter Number: 3 Organization/Individual: Risque W. Plummer	
o Is in favor of the Facilities Plan's selected alternative.	Comment Noted
Letter Number: 4 Organization/Individual: Donald E. Einolf	
o Is strongly in favor of sewer service for Cape Isle of Wight.	Comment Noted
Letter Number: 5 Organization/Individual: George D. Bond, U.S. Department of Transportation	
o No comments on the Draft EIS. o Final EIS should mention continued coordination during design and construction with State and local highway officials.	Comment Noted Page 55
Letter Number: 6 Organization/Individual: Frank S. Lisella, Ph.D., U.S. Department of Health and Human Services, Public Health Service	
o The Final EIS should address the use of water-saving devices to reduce per capita water consumption.	Page 86
Letter Number: 7 Organization/Individual: William E. Trieschman, Jr, U.S. Department of the Army, Corps of Engineers	
o The Draft EIS provides sufficient and adequate information concerning floodplain related matters.	Comment Noted
o Permits will be required pursuant to Section 10 of the Harbor and River Act of 1899 and Section 404 of the Clean Water Act.	Comment Noted
o The Corps presently maintains a navigation channel and a jetty project in the area; the proposed West Ocean City project would not adversely impact these projects.	Comment Noted

	Response/ Addressed on Page
Letter Number: 8 Organization/Individual: Walter P. Pierson, Federal Emergency Management Agency	
o The floodplain policies developed as part of the EIS process represent a reasonable balance between the mandates of the Construction Grants Program and the Executive Order.	Comment Noted
o Essentially in agreement with the decision to serve lots that were individually platted prior to May 1977.	Comment Noted
o Believe that the date of Directive GS-6 (January 1976) would be more reasonable as the date of "existing need". EO 11988 should not be construed to have a "grandfathering" provision.	Page 37
o The Final EIS should provide specific details on how the limitations on sewer service should be implemented.	Page 77
o A funding agreement between EPA and the Sanitary District should spell out implementation procedures to be performed by the Sanitary District.	Page 77
Letter Number: 9 Organization/Individual: Jane Benesch, Chairman, The Maryland Wetlands Committee	
o Concerned about the proposal to dredge/fill wetlands adjacent to the Ocean City treatment plant and also the impacts of nutrient loading and sedimentation on aquatic vegetation.	Page 41, 48
o Question the need to expand the Ocean City Treatment Plant.	Page 47
Letter Number: 10 Organization/Individual: Joyce N. Wood/Ruth O. Rehfus, U.S. Department of Commerce National Oceanic and Atmospheric Administration/National Marine Fisheries Service	
o The selected plan would not result in significant adverse impacts on marine resources or habitat in the short-term.	Comment Noted
o The Final EIS should discuss the Sanitary Commission's proposal to dredge and fill wetlands adjacent to the Ocean City sewage treatment plant.	Page 48
o The relationship between the request to expand the Ocean City plant and the connection with the West Ocean City project should be clarified. The Ocean City plant's current and potential operating capacities should be defined. The Final EIS should identify whether the West Ocean City project is directly responsible for the proposed expansion of the Ocean City plant and its associated adverse environmental impacts.	Page 47

	Response/ Addressed on Page
o The Final EIS should address the biological impacts of crossing Sinepuxent Bay with a submerged sewage pipeline.	Page 45
o Alternative attachment of the proposed pipeline to the Route 50 bridge should be considered.	Page 45

Letter Number: 11
Organization/Individual: Ilia Fehrer, Co-chairman
Worcester Environmental Trust

o Concerned that West Ocean City residents will have to pay 10.5% of the cost of expanding the Ocean City plant.	Comment Noted
o Questioned the need for the capacity proposed for the Ocean City plant.	Page 47
o Request clarification on the septic tank failure statistics which appeared in the Draft EIS.	Page 43
o Question the statement that floodplains have been historically attractive population centers.	Page 30
o The potential for salt water intrusion and the costs of providing a potable water supply for West Ocean City should be examined.	Page 54
o Figure III-1 of the Draft EIS showing property lines as of 1976 could be misinterpreted to illustrate developable property.	Page 51
o The effects of rising sea levels encroaching on low "upland areas" should be considered.	Page 30
o Construction techniques should minimize runoff.	Page 43
o A detailed study of the proposed route of the force main to transport West Ocean City's sewage to Ocean City should be performed.	Page 45
o The Carter-Regier study of 1978 should be clarified.	Page 48
o The lack of major sources of air pollution in Worcester County, specifically Berlin, should be verified.	Page 55
o Less costly alternatives to alleviate failing septic tanks should be examined.	Page 36
o The acreage requirements and potential impacts of land application should be justified.	Page 45
o The proposed seafood industrial park should not be used to justify an increased demand for low income housing. The water and sewer needs for the proposed facility should be substantiated.	Page 51
o Tidal as well as non-tidal wetlands should be protected.	Page 75
o Development of flood-prone areas platted prior to 1977 should be limited.	Page 75
o Construction in flood-prone areas should adhere to the Federal Flood Insurance Act adopted by Worcester County in 1979. A larger county enforcement staff may be required.	Comment Noted
o Worcester County has no building code.	Comment Noted
o The coastal bays should be protected from run-off and sedimentation. Sediment control facilities should be required.	Page 64
o The diameter of the proposed force main under Sinepuxent Bay seems oversized.	Page 45

	Response/ Addressed on Page
o The Worcester County should revise its Comprehensive Plan to reflect the intent of Executive Orders 11988 and 11990.	Page 77
o EPA and Maryland's Environmental Health Administration should review the "referendum ballot" sent to West Ocean City property owners by the Worcester County Sanitary Commission.	Page 62

Letter Number: 12
Organization/Individual: William P. Patterson
U.S. Department of the Interior Office of Environmental Project Review

o The Draft EIS provides a good discussion of Federal floodplain and wetland policies and the need for Corps of Engineers permits.	Comment Noted
o The restriction of sewer service to lots platted prior to 1977 and the selection of treatment and disposal at the Ocean City facility are environmentally acceptable and consistent with EO 11988 and EO 11990.	Comment Noted
o The Final EIS should depict the Assateague National Park System.	Page 3
o The fish processing plant proposed for the area should be examined with regard to potential impact on treatment facility plans and the Assategue National Park.	Page 53
o Potential impacts on threatened and endangered species should be discussed. If no impacts are anticipated, a statement to that effect with supporting evidence should be made.	Page 55
o Federal policies and regulations which would influence development even if no Federal funds were used to construct a sewage collection system should be clarified.	Page 51
o The impacts of stormwater runoff and associated toxic materials should be examined with regard to wetland-dependent fish and wildlife resources. The Final EIS should determine if additional action is warranted.	Page 41
o The Department commends the efforts of the EIS Coordination Committee to minimize development in floodplains and wetlands while still addressing the need for sewer service in the West Ocean area.	Comment Noted

		Response/ Addressed On Page
Letter Number: 13 Organization/Individual:	Thomas J. Gola U.S. Department of Housing and Urban Development	
o Provide more information on the Federal and State guidance on development in flood-prone areas, including the documentation and legal basis. Define the term "building lots which had a selling capability prior to May 1977." Define how the policy of limited development would be implemented and its permanence assured.		Pages 30-54 and Page 77
o Present, if possible, 1980 population and dwelling unit estimates for individual subareas as delineated by the Facilities Plan for the year 2000 estimates.		Page 49
o Substantiate the adequacy of fire protection, police, ambulance service, and education to meet the needs of the projected population.		Page 56
o Discuss the impact of population growth on solid waste disposal facilities.		Page 56
o Discuss the adequacy of roads serving the subdivisions north of Route 50.		Page 55
Letter Number: 14 Organization/Individual:	Don L. Klima Advisory Council on Historic Preservation	
o Noted that the Maryland State Historic Preservation Officer (SHPO) has been consulted and that EPA will comply with the National Historic Preservation Act and the Advisory Council's Regulations (36 CFR Part 800).		Comment Noted
o Have no substantive comments at this time.		Comment Noted
Letter Number: 15 Organization/Individual:	F. Bryan Gatch Maryland State Clearinghouse	
o The Maryland Department of Agriculture, Department of Economic and Community Development, Office of Environmental Programs, Department of Transportation, University of Maryland Center for Environmental and Estuarine Studies, and Ocean City noted that the Draft EIS appears to adequately cover their concerns.		Comment Noted
o The Maryland Department of State Planning suggests West Ocean City's purchase of existing capacity at the Ocean City treatment plant with Ocean City taking the responsibility for the cost of any future expansions.		Page 48
o State Planning also notes that certain State Development Policies, coastal zone policies, and Federal requirements would apply to development in West Ocean City, regardless of the source of funding for a sewer system.		Comment Noted

		Response/ Addressed on Page
Letter Number: 16 Organization/Individual:	Earl S. Quance, Program Administrator Construction Grants and Permits Program Office of Environmental Programs Maryland Department of Health and Mental Hygiene	
o The financial capability analysis contained in the Draft EIS does not incorporate the use of $800,000 of Failing Septic Tank Grant Funds now being considered. However, the resulting change in user charges would not significantly alter the outcome of the analysis. The project would still have a small margin of safety relative to affordability and local officials should proceed with caution. Public opinion should play a major role in the decision-making process on affordability.		Comment Noted
o The EIS proposes various measures to mitigate short and long-term adverse impacts associated with this project. There are existing provisions within the statutory framework of the Sanitary District which would ensure implementation of many of the proposed measures; however, there is currently no active institutional mechanism by which to enforce the guidance for limiting sewer service in the 100-year flood plain and for avoiding the sewering of wetland areas. The Worcester County Sanitary Commission should be required, as a condition of any future grant action, to develop and institute adequate measures to ensure that Federal and State guidance on floodplain and wetlands be put into practice. The Commission should be required, as a minimum, to incorporate the guidance into the County's 10-year Water and Sewer Plan and to implement this guidance, and any other measures necessary for the desired assurance, prior to the date the project is advertized for bidding.		Page 77
Summary of Public Hearing Testimony	Organization/Individual: Angelo Bianca Construction Grants and Permits Program, Maryland Office of Environmental Programs	
o The Facilities Plan for West Ocean City is essentially complete with the exception of sections dealing with environmental issues and public participation.		Comment Noted
o Upon completion of the EIS process and acceptance by the Sanitary Commission and the public, the Facilities Plan must pass a final detailed review before the Sanitary Commission can apply for a construction grant.		Comment Noted

	Response Addressed on Page
o Although the project is now slightly outside of the fundable range on the State's priority list, the project may become eligible for funding prior to September 30, 1983.	Comment Noted
o The Draft EIS presents a fair analysis of the primary and secondary environmental impacts associated with constructing the project.	Comment Noted

Organization/Individual: Tim Lindon
Arnold and Porter on behalf of the Natural Resources Defense Council, Committee to Preserve Assateague Island, Federated Garden Clubs of Maryland, Maryland Wetlands Committee, Audubon Naturalist Society, Worcester Environmental Trust, Maryland Conservation Council, Maryland Wildlife Federation, Sierra Club, Defenders of Wildlife, Environmental Defense Fund, Environmental Policy Center, and Chesapeake Audubon Society.

o Support the proposals in the Draft EIS to solve sewage problems while protecting environmentally sensitive areas; hope that the proposals can be implemented immediately without placing undue financial burdens on local residents.	Comment Noted
o Concur with the environmental constraints on near service described in the Draft EIS; request that the Final EIS contain specific plans to implement these restrictions; note that actions are required at the Federal, County, and local levels to assure proper implementation.	Page 77
o EPA should expressly condition its grant on compliance with the restrictions contained in the Draft EIS. The Sanitary Commission should be required to file lot maps identifying all lots which will be eligible for sewerage. Noted the EPA has imposed similar conditions on Cape May, New Jersey.	Page 77
o Prior to receipt of an EPA grant, Worcester County should amend its Comprehensive Plan, Subdivision Regulations, and other County ordinance to assure compliance with the grant conditions. The Worcester County Sanitary Commission (WCSC) should develop procedures and regulations to assure day-to-day compliance with the grant restrictions. WCSC should also revise its plumbing code accordingly and require plumbing permit applicants to secure affadavits demonstrating that their property is eligible for hookup under the grant restrictions.	Page 77
o The Draft EIS does not address the need to expand the Ocean City treatment plant. The Sanitary Commission has applied for a license to fill 8.4 acres of wetlands adjacent to the existing plant. This application is	Page 48

	Response/ Addressed on Page
inconsistent with the Coastal Zone Management Plan. There is an alternative site immediately to the north of the proposed site. The Final EIS should assure that any expansion of the Ocean City plant to treat West Ocean City sewage would not cause destruction of highly productive wetlands or filling of Assawoman Bay.	
o West Ocean City residents should not be required to pay for more than their fair share for sewage treatment at the Ocean City plant.	Comment Noted
Organization/Individual: Ilia Fehrer Worcester Environmental Trust	
o Question statistics in the Draft EIS on septic tank failures.	Page 43
o Periodic septic tank maintenance as a cheaper alternative should be explored.	Page 36
o Question the statement that floodplains have been historically attractive for population centers.	Page 30
o Question the need for almost doubling Ocean City's wastewater treatment capacity.	Page 47
o The cost of providing a potable public water supply to West Ocean City should be examined.	Page 54
o Figure 3-1 of the Draft EIS showing property lines as of 1976 unrealistically reflects developable properties.	Page 51
o Concerned about the impact of runoff during construction of sewer system and during preparation of ground to build new homes and streets.	Page 43
o A detailed study of the route of the proposed force main in Assawoman Bay is necessary.	Page 45
o Conditions should be made part of the West Ocean City wastewater treatment system.	Page 77
o Non-tidal as well as tidal wetlands should be protected.	Page 76
o Present agricultural zones should be perpetually used as open space.	Comment Noted
o Flood-prone areas platted prior to 1977 should be allowed minimal developments and adhere to conditions set forth in the Federal Flood Insurance Act adopted by Worcester County in 1977.	Page 77
o Coastal bays should be protected from runoff and sedimentation.	Page 43
o The diameter of the force main should be sized to reflect the anticipated 1 mgd capacity.	Page 45
o A supply of potable water should be guaranteed to West Ocean City.	Page 54
Organization/Individual: Hoss Harrington West Ocean City homeowner	
o Has spent $10,000 in the past five years in an effort to repair his failing septic system. The system still overflows regularly.	Comment Noted

	Response/ Addressed on Page
Organization/Individual: Vernon McCabe West Ocean City resident	
o Replacement of septic tank drainfields and other corrective measures should be considered as a less costly option.	Page 36, 43
o The seasonal test code for septic tank permits should be revised.	Comment Noted
o Revise population densities and future development to accommodate private system.	Page 36
Organization/Individual: Allen Sklar West Ocean City resident	
o The project will degrade the quality of life of the area.	Page 64
o On-site systems should be improved with the help of the Health department.	Comment Noted
o The Sanitary Commission letter to poll property owners on whether they wish to proceed with the project should be revised to reflect accurate costs.	Page 62
Organization/Individual: Bill Metz West Ocean City property owner	
o Has owned property in West Ocean City for 10 years on which he has been unable to build.	Comment Noted
o Believes that there are no simple solutions to the area's problems and that a sewer system is necessary.	Comment Noted

RESPONSES TO COMMENTS

Environmentally Sensitive Lands

Much of the West Ocean City project area is covered by environmentally sensitive lands including floodplains, wetlands, and prime agricultural lands. The area has a lengthy history of failing septic systems. At the same time, development pressures are strong due to nearby Ocean City. The Ocean City area's main attractions are the ocean and associated recreational facilities. Ocean City's population has increased by 230 percent over the past decade. Waterfront locations, although flood-prone, have been among the most desirable in this resort community. Figure III-1 depicts the boundary of the 100-year floodplains in West Ocean City as defined by the Federal Emergency Management Agency. Approximately 60 percent of West Ocean City's existing population resides in the 100-year floodplain. Consequently, much of the proposed collection system must be located in the floodplain. One commentor suggested that the effects of rising sea levels and the bay's encroachment on present lowlands be considered. Although this larger issue is not within the scope of the West Ocean City EIS, EPA has considered the potential impacts of flooding. Present and prospective property owners should, however, maintain an awareness that our nation's coastlines are dynamic and subject to change through time.

Regulatory Basis for Mitigation

Protection of environmentally sensitive lands clearly falls within the scope of the National Environmental Policy Act (NEPA), and the regulations on NEPA implementation issued by the Council on Environmental Quality (CEQ) and EPA. The NEPA regulations require EPA to minimize adverse environmental impacts in these areas and to issue a Record of Decision which describes methods of implementing mitigation requirements, including grant conditions if appropriate. However, specific details on the extent of "minimize" and the exact mechanism for implementation are not described in the regulations. These decisions are to be made on a case by case basis, with consideration of pertinent factors such as environmental values, community welfare, cost and available technology. The mitigation measures proposed for the West Ocean City area outline detailed guidance on the extent of development in floodplains and wetlands which may be supported by a Federally funded sewer system. Approximately 3000 persons or 60 percent of West Ocean City's population now reside in the 100-year floodplain. If the floodplain were developed to its saturation potential in accordance with allowed residential densities, the floodplain could ultimately contain 36,800 persons. This 1000 percent increase could only occur with the benefit of a centralized wastewater treatment system. WCSC has requested EPA to provide Federal financial assistance for such a system. In order to consider Federal funding, EPA must also examine methods to minimize the loss of environmental values through dramatic sewer-induced growth. The Federal regulations, Executive Orders, and guidelines which demonstrate EPA's mandate to do so are described below.

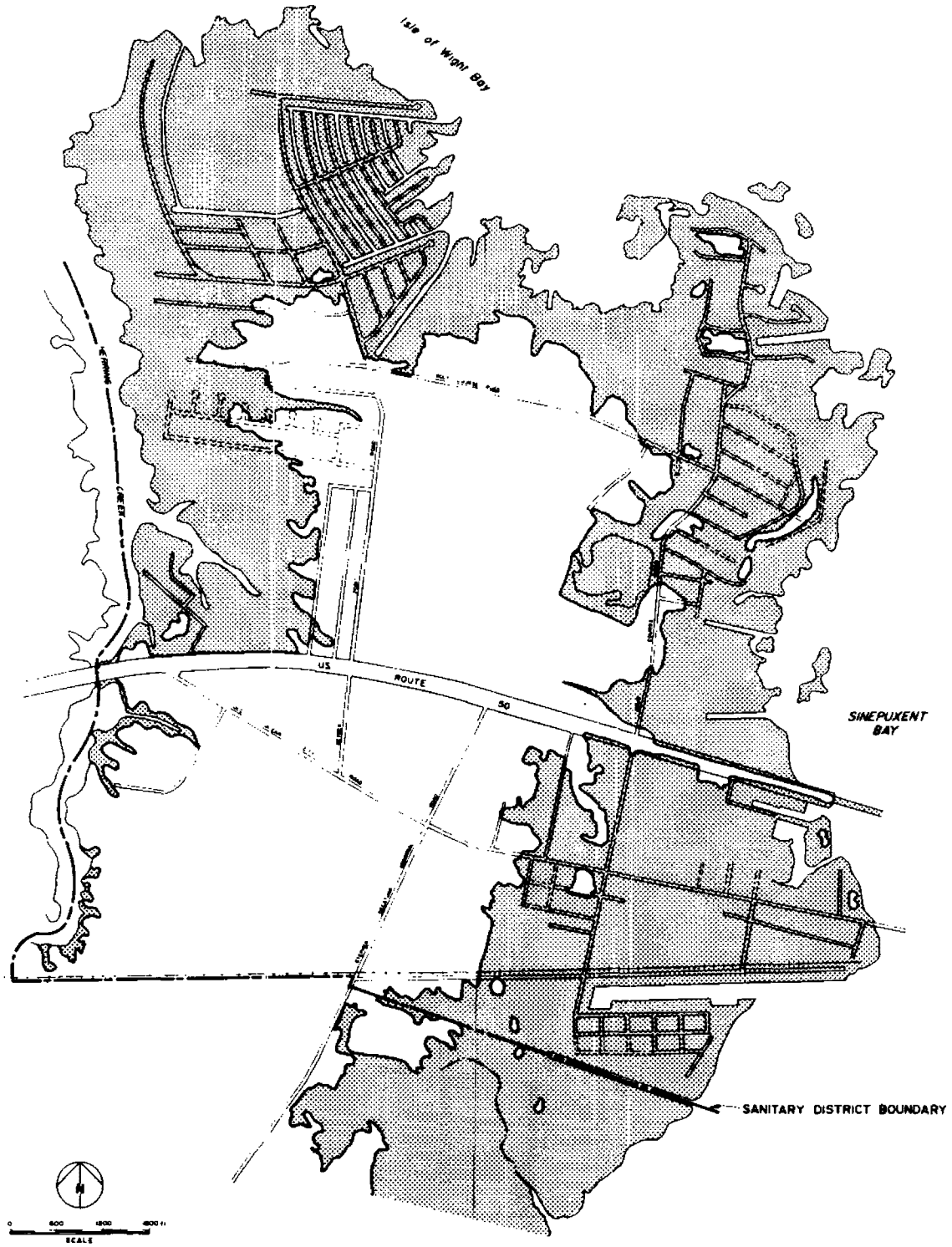
EPA's mandate to protect environmentally sensitive areas stems from a number of sources, icluding:

I. The National Environmental Policy Act of 1969 (NEPA; 42 USC 4321) addresses the need to preserve environmental features from a general, but far-reaching standpoint.

"it is the continuing responsibility of the Federal government to use all practical means (to):

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

2. assure for all Americans safe, healthful, productive, and



LEGEND

100-YEAR FLOODPLAIN

Flood Hazard Areas

FIGURE III-1

esthetically and culturally pleasing surroundings;

3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

4. preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

5. achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and..."

Consistent with our environmental mediation efforts on the West Ocean City project, NEPA authorizes Federal agencies to prepare Environmental Impact Statements and also to "...study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources...."

II. The Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508) were issued on November 29, 1978. The CEQ regulations outline the Agency's procedural and decision-making requirements for the EIS process. When an agency has prepared an EIS, the CEQ Regulations require that a public Record of Decision be issued which outlines effective and appropriate mitigation measures for anticipated environmental impacts.

"§ 1505.2 Record of decision in cases requiring environmental impact statements.

At the time of its decision (§ 1506.10) or, if appropriate, its recommendation to Congress, each agency shall prepare a concise public record of decision. The record, which may be integrated into any other record prepared by the agency, including that required by OMB Circular A-95 (Revised), part I, sections 6 (c) and (d), and part II, section 5(b)(4), shall:

(a) State what the decision was.

(b) Identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable. An agency may discuss preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions. An agency shall identify and discuss all such factors including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision.

(c) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

§ 1505.3 Implementing the decision

VII. EPA's Regulations on NEPA Implementation (40 CFR Part 6) issued on November 6, 1979. These regulations are being updated to reflect the changes in the Construction Grants Program. A proposed rule was recently published in the Federal Register (January 7, 1983). Only minor substantive revisions have been made to the 1979 version. Part 6 clearly outlines the requirement to evaluate impacts and develop mitigation measures concerning floodplains, wetlands, and prime agricultural lands. Like CEQ's regulations on NEPA implementation, EPA's regulations require that a Record of Decision be prepared following completion of a Final EIS and that appropriate steps be taken to ensure that the EIS recommendation be carried out. Wording of the newly proposed rule is as follows.

"§ 6.510 Record of decision and identification of mitigating measures.

(a) Record of decision. When a final EIS has been issued, the responsible official shall prepare a record of decision in accordance with 40 CFR 1505.2 prior to the submission of an application for grant assistance. The record of decision shall include identification of mitigation measures derived from the EIS process which are necessary to make the recommended alternative environmentally acceptable.

(b) Specific mitigation measures. Prior to the approval of grant assistance, the responsible official must ensure that effective mitigation measures identified in the FNSI, final EIS, or record of decision are implemented by the grantee. This should be done by revising the facilities plan, initiating other steps to mitigate adverse effects, or agreeing to conditions in grants requiring actions to minimize effects. Care should be exercised if a condition is to be imposed in a grant document to assure that the applicant possesses the authority to fulfill the conditions.

§ 6.511 Monitoring for compliance

(a) General. The responsible official shall ensure there is adequate monitoring of mitigation measures and other grant conditions which are identified in the FNSI, final ESEI, and record of decision.

(b) Enforcement. The responsible official may consider taking the following actions consistent with 40 CFR 35.965 and 30.430 if the grantee fails to comply with grant conditions:

1. Terminating or annulling the grant;

2. Disallowing project costs related to noncompliance;

3. Withholding project payments;

4. Finding the grantee to be nonresponsible or ineligible for future Federal assistance or for approval for future contract awards under EPA grants;

5. Seeking an injunction against the grantee; or

6. Instituting such other administrative or judicial action as may be legally available and appropriate."

VIII. EPA's Interim Final regulations for the Construction Grants Program (40 CFR part 35, Subpart I) issued on May 12, 1982 contain

slightly different language on protection of environmentally sensitive areas than that of the 1978 version (Subpart E). With regard to flood-prone areas, Subpart I lists "The cost of treatment works that would provide capacity for new habitations or other establishments to be located on environmentally sensitive land such as wetlands or floodplains" as an unallowable cost. The regulations state that the project must comply with EPA's Implementation of Procedures on the National Environmental Policy Act (40 CFR Part 6). The 1978 Construction Grant Regulations (Subpart E) stated that:

> "The collection system conforms with an approved WQM plan, other environmental laws in accordance with § 35.925-14, Executive Orders on Wetlands and Floodplains and Agency policy in wetlands and agricultural land; and
>
> (e) The system would not provide capacity for new habitations or other establishments to be located on environmentally sensitive land such as wetlands, floodplains, or prime agricultural lands. Appropriate and effective grant conditions (e.g. restricting sewer hook-up) should be used where necessary to protect these resources from new development."

The West Ocean City Mitigation Process

The main task of the EIS process was to develop a method of wastewater service for West Ocean City which was environmentally sound and economically viable. Efforts to develop a system which was consistent with environmental goals began in 1979 when EPA and the State of Maryland first agreed to take a second look at the West Ocean City project area. As stated earlier, most of the existing need to replace failing septic systems with sewer service and centralized treatment is already located within the 100-year floodplain. Unfortunately, many other landowners have also purchased lots in the floodplain; waterfront locations are very attractive locations in this resort community. Most landowners who attempted to build on their lots after 1976 were unable to do so, even though their neighbors had. This was principally because their lots would no longer pass percolation tests required for septic tank permits. In 1976, the State's Directive Policy GS-6 became effective in Worcester County, requiring seasonal testing in high groundwater areas; groundwater levels in West Ocean City reach within ten inches of the surface. The Cape Isle of Wight development in the northwestern corner of West Ocean City provides a good example of the problem. Cape Isle of Wight was initiated in the mid 1950's. Platted lots within this subdivision were purchased rapidly. This development contains approximately 650 lots. Approximately 210 are currently occupied. From 1976 to 1979, approximately 150 individuals requested building permits on remaining lots. Only 2 permits were granted; the remaining lots failed to pass the seasonal percolation testing required to obtain a septic tank permit. In response to a public meeting held in May 1982, EPA received 41 letters from property owners in Cape Isle of Wight who expressed their preference for the centralized wastewater treatment system required to make their properties developable. Because lot sizes in Cape Isle of Wight range only from 0.25 to 0.5 acres, acceptable alternative technologies to either replace failing systems or support new residences are very limited.

Provision of sewer service and centralized treatment to existing homes which create water quality problems due to failing septic systems is consistent with the goals of the Clean Water Act and Construction Grants Program, even though those homes may be located

in the floodplain. However, the existing problems cannot be solved at the expense of long-term environmental values. EPA is required to minimize adverse impacts on environmentally sensitive areas to the extent possible, using all practicable means. Approximately 3000 persons or 60 percent of West Ocean City's existing population reside in the floodplain. If the floodplain were developed to its saturation potential in accordance with planned residential densities, the floodplain could contain 36,800 persons. This 1000 percent increase could only occur with the benefit of centralized wastewater treatment. EPA cannot, within the spirit and intent of Executive Order (EO) 11988, provide Federal funds to support such large-scale sewer-induced growth in the floodplain. WCSC recognized that EPA would require limitations on floodplain development if Federal funds were used to construct a sewer system. As a result, the Facilities Plan prepared by WCSC examined two scenarios: (1) a Federally funded system which incorporated limitations on development in floodplains and wetlands in order to comply with executive Orders 11988 and 11990; and (2) a locally funded system in which development would not be limited to comply with the Executive Orders.

In December 1979, EPA in consultation with the State of Maryland issued guidance on how EO 11988 would be interpreted for the West Ocean City project. The guidance incorporated EO 11988's intent to minimize economic and safety risks, as well as to preserve the natural benefits of environmentally sensitive areas. The guidance stated that EPA would evaluate lands platted in West Ocean City prior to the May 1977 date of issuance of EO 11988 for conformance with other EPA construction grant regulations and Executive Orders. If it were not otherwise inconsistent, centralized treatment could be planned for these lands, even though they were contained in the 100-year floodplain. A platted lot was defined as a recorded parcel of land that has been subdivided into lots that have a selling capability. The subdivision was restricted by local zoning and required conformity with the Maryland directive Policy GS-6 to acquire a building permit. This meant that sewer service could not be planned for individual lots which had been created by subdivision after May 1977.

This was based on the fair and reasonable assumption that properties platted prior to that date were purchased by individuals who could have obtained building permits prior to January 1976, but were now restricted by more stringent septic system regulations. Properties platted after January 1976 were created in a more speculative nature since the likelihood of obtaining septic system and building permits was small. Development of these properties would most likely only occur with the benefit of centralized wastewater treatment; no potential to build existed at the time of platting. EPA chose to use May 1977 as the limit for eligibility of sewer service rather than January 1976. EPA does not intend to imply the EO 11988 contains a "grandfather clause." The May 1977 date was chosen to reflect the time when both EO 11988 required EPA to limit support of floodplain development and development in West Ocean City was limited by septic system requirements.

In March 1981, the State, with direction from EPA, issued additional guidance on how environmentally sensitive areas in West Ocean City would have to be protected from sewer-induced development if Federal funding was desired. The guidance affirmed that sewer service could only be extended to undeveloped lots in the floodplain if they were platted prior to May 1977. In addition, the sewage capacity for each undeveloped lot would be limited to that required for one dwelling unit. This would allow the individual

property owner to build, but would prevent the large-scale development that future subdivisions and multiple connections would allow. This ensured that EPA had taken all practicable steps to minimize floodplain development to the extent possible, as required by E011988, without penalizing the individual property owner and the welfare of the community.

The March 1981 guidance also addressed the issue of wetlands protection, as required by Executive Order 11990. The guidance stated that no wastewater service could be planned for West Ocean City's wetlands. There is no existing need for wastewater service in wetland areas to alleviate water quality problems. Any sewer service to these areas would be solely to promote new development. To promote new development in these areas would be totally inconsistent with the spirit and intent of Executive Order 11990, as well as other Federal and State policies concerning wetlands. The March 1981 guidance also considered EPA's Policy to Preserve Prime Agricultural Lands, The guidance stated that no sewer service should be planned for such lands zoned for agricultural use. This is consistent with Worcester County's policy to discourage development of agricultural lands and supported by the County zoning Ordinance.

Key Draft EIS Mitigation Comments

Several comments received on the West Ocean City Draft EIS addressed the floodplains/wetlands issue by:

1. Noting that our position was consistent with the intent of Executive Orders 11988 and 11990;

2. Requesting that detailed mitigation measures and mechanisms for their implementation appear in the Final EIS; and/or

3. Requesting that EPA condition the grant or take other measures to ensure mitigation of environmental impacts.

Relevant quotations from the comment letters are cited below.

Earl S. Quance, Construction Grants Program Administrator
Office of Environmental Programs
Maryland Department of Health and Mental Hygiene

"The EIS proposes various measures to mitigate short and long-term adverse impacts associated with this project. There are existing provisions within the statutory framework of the Sanitary District which would ensure implementation of many of the proposed measures; however, there is currently no active institutional mechanism by which to enforce the guidance for limiting sewer service in the 100-year floodplain and for avoiding the sewering of wetland areas. Consequently, we recommend the Worcester County Sanitary Commission be required, as a condition of any future grant action, to develop and institute adequate measures to ensure that Federal and State guidance on floodplain and wetlands be put into practice. We further recommend the Commission be required, as a minimum, to incorporate the guidance into the County's 10-year Water and Sewer Plan and to implement this guidance, and any other measures necessary for the desired assurance, prior to the date the project is advertized for bidding."

Walter P. Pierson, Chief
Natural and Technological Hazards Division
Federal Emergency Management Agency - Region III

"FEMA has always recognized that EPA in implementing the Executive Order is not released from its obligation to address water pollution problems in floodplain areas. The policies developed over the last several years appear to us to constitute a very reasonable approach to balancing the mandate of the Construction Grants Program and the Executive Order.

In previous correspndence (December 28, 1979) we indicated that we were essentially in agreement with the decision to limit service to those lots that were individually platted prior to May 1977. While we believe the date of Directive GS-6 (Janaury 1976) would have been a more appropriate date, since it can reasonably be argued that as of that date "existing need" was recognized, the actual difference in the number of lots to which service would be available is probably inconsequential. Again, however, we wish to point out that there is no "grandfathering: provision in the Executive Order as could be inferred from EPA's use of May 1977, the date of the Order's issuance, as a cut-off date for sewer service.

We believe it essential that the Final EIS detail how the limitations on service will be implemented. We believe the limitations should be spelled out in the funding agreement between EPA and the Sanitary District and the agreement should specify that the Sanitary District, based on the agreement, will deny permits except on the designated lots."

William P. Patterson
U.S. Department of the Interior
Office of Environmental Project Review

"This DEIS was written to concentrate on the issues of user affordability and primary and secondary impacts on floodplains, wetlands, and prime agricultural lands. The statement also provides a good discussion of federal floodplain and wetland policies and the need for required Corps of Engineers permits for this project.

This Department believes that the restriction of sewer service to lots platted prior to 1977 and the selection of treatment and disposal at the Ocean City facility are environmentally acceptable and consistent with Executive Orders 11988 and 11990...

This Department commends the efforts of the EIS Coordination Committee to minimize development in floodplains and wetlands while still addressing the need for sewer service in the West Ocean City area."

Timothy J. Lindon of Arnold and Porter, representing;
The Committee to Preserve Assateague Island
Natural Resources Defense Council
Chesapeake Bay Foundation
The Federated Garden Clubs of Maryland
Maryland Wetlands Committee
National Parks and Conservation Association
Maryland Wildlands Committee
Audubon Naturalists Society
Worcester Environmental Protection Fund
Worcester Environmental Trust
Marvland Conservation Council
Marvland Wildlife Federation
Sierra Club
Defenders of Wildlife
Environmental Defense Fund
Environmental Policy Center
Chesapeake Audubon Society

"Therefore, as proposed in the DEIS, sewer service will be limited to existing structures, and to those undeveloped lots which were platted as building lots prior to May 1977. Sewer service capacity for undeveloped lots platted prior to May 1977 will be limited to that required for one equivalent dwelling unit. No hookups will be permitted in wetlands or in prime agricultural zones.

While we support each of these restrictions, which are mandated by Federal and State law, we are concerned that the DEIS does not include any plans for assuring that development will be limited to the areas noted above. If the final EIS does not contain specific plans to implement these restrictions, it will be clearly deficient and the project will be ineligible for Federal and State funding.

Actions at the Federal, County, and local levels are required to assure proper implementation of the provisions necessary to protect environmentally sensitive areas.
First, it is essential that the Environmental Protection Agency (EPA) expressly condition it grant on compliance with the restrictions contained in the DEIS. We propose that the Worcester County Sanitary Commission (WCSC) be required to file lot maps identifying all lots which will be eligible for sewerage and the EPA condition its grant on restricting hookups to those areas so that the extent and location of development will be effectively fixed in advance. EPA has imposed similar grant conditions restricting hookups in environmentally sensitive floodplain areas in Cape May, New Jersey.

Second, prior to receipt of the EPA grant, Worcester County should amend its Comprehensive Plan, Subdivision Regulations, and, if necessary, other County ordinances to assure compliance with the grant conditions. Amendment of the sections of these plans and regulations which effect development in environmentally sensitive areas is essential if property owners are to receive adequate notice of environmental restrictions on development of their property.

Third, the WCSC will need to develop procedures and regulations for assuring day-to-day compliance with the grant restrictions. As stated above, the WCSC should prepare and file with EPA lot maps identifying West Ocean City properties which will be eligible for sewerage. These maps will serve as a basis for granting or denying plumbing permits. In order to provide better notice to property owners, the Sanitary Commission should consider amending its

plumbing code to include these restrictions. In addition, applicants for plumbing permits should be required to execute an affidavit stating that their property is eligible for hookup under the grant restrictions.

While we recognize that all of the measures necessary to implement the restrictions to protect environmentally sensitive areas cannot be implemented immediately, it is essential that implementation plans, including the imposition of EPA grant conditions, be discussed in the Final EIS. Otherwise, the proposals contained in the DEIS, which we strongly support, may be transformed into empty and unenforceable promises."

Ilia Fehrer, Co-chairman
Worcester Environmental Trust

"We request that certain conditions be made part of the grant for the West Ocean City Wastewater Treatment Facilities in order to protect environmentally sensitive areas:

1. Non-tidal as well as tidal wetlands must be preserved.

2. Present agriculturally zoned lands should not be allowed greater density (no zoning changes unless to downgrade).

3. Flood prone areas platted prior to 1977 should be allowed only minimal development and structures should adhere to conditions set forth in the Federal Flood Insurance Act adopted by Worcester County in 1979. This may require a larger county enforcement staff. The county has no building code.

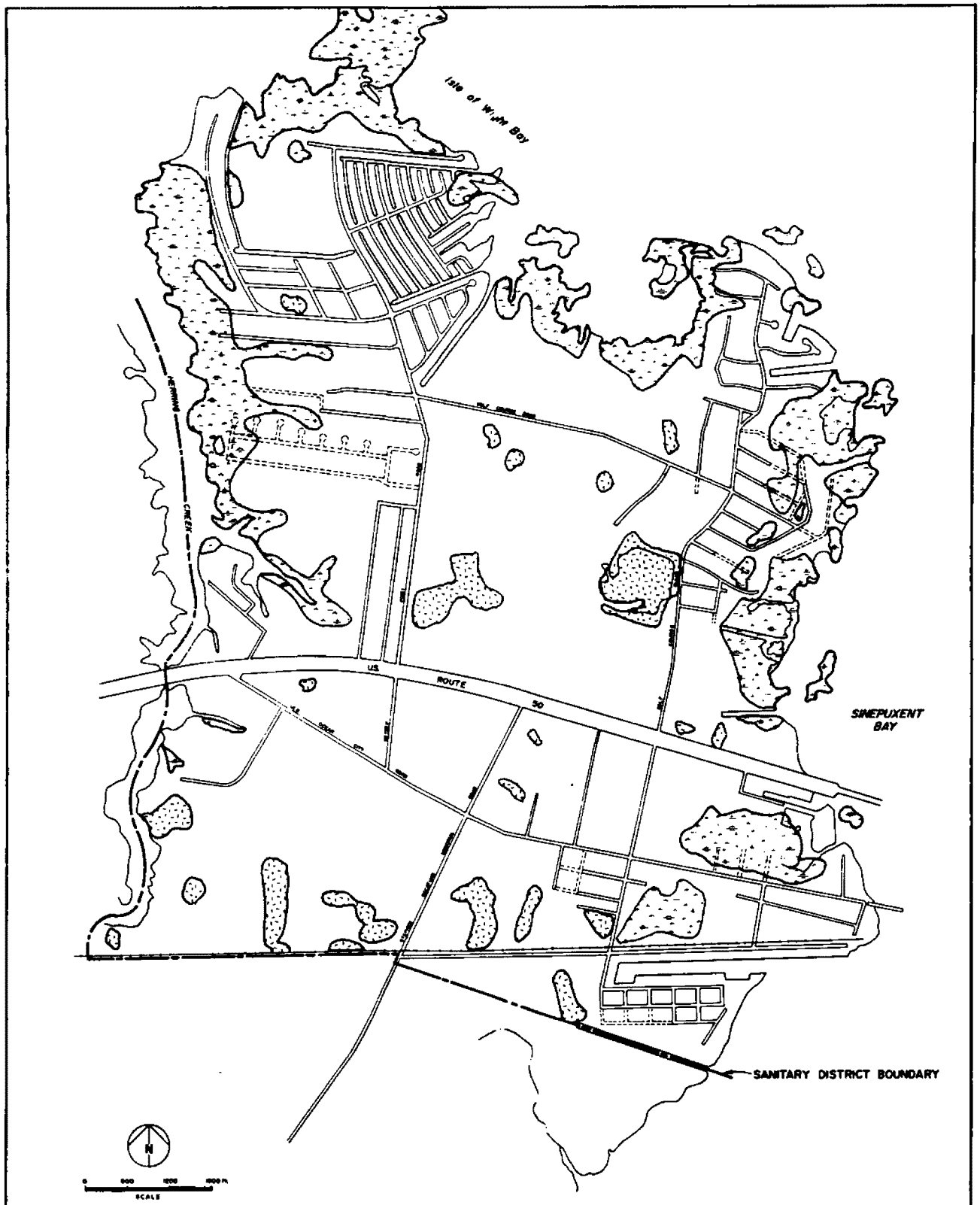
4. Protection of the coastal bays from runoff and sedimentation should be incorporated as a grant condition. Water quality of our coastal bays was a major reason for justifying the sewering of the West Ocean City area. Installation and maintenance of sediment control facilities should be made a condition of the project.

Wetlands Identification

The Fish and Wildlife Service of the U.S. Department of the Interior is in the process of mapping wetlands throughout the United States as part of the National Wetlands Inventory (NWI) Program. Since the West Ocean City Draft EIS was issued, EPA has obtained preliminary NWI maps for the West Ocean City area. Figure III-2 depicts tidal (estuarine) wetlands and non-tidal swamps, bogs, and fresh water marshes (palustrine) as classified by the U.S. Fish and Wildlife Service.

Wetland Impacts

In the management of water resources, increasing attention is being paid to the effects of non-point sources of pollution. As opposed to direct discharges from municipal and industrial facilities, non-point sources can originate through an entire watershed and enter a waterway along its entire shoreline. The quantity and quality of non-point source pollutant loads are highly variable. Controlling factors include the land use of the watershed, the length and intensity of individual storms, weather conditions preceding storm events, and other factors. Non-point pollution was examined for the West Ocean City project because it is known that changes in land use (such as those caused by sewer-induced growth) can produce changes in the quantity and quality of storm runoff. General knowledge available on non-point source pollution indicates that agricultural land contributes greater quantities of nutrients due to fertilizer use, while urban areas and highways contribute oil and chemicals deposited by traffic. The West Ocean City Draft



LEGEND

- ESTUARINE
- PALUSTRINE

Wetlands

FIGURE III-2

EIS contained a detailed comparison of non-point source pollutant loads from estimates of the existing land use and that projected for the year 2000. Published data which could be reasonably applied to the West Ocean City area were collected by Cerco et al (1978) during 1976 and 1977 from a series of small watersheds occupied by single land uses typical of Assawoman Bay, Isle of Wight Bay, and Sinepuxent Bay. The Cerco study provided accumulation rate factors for three pollutant types (total phosphorus, total nitrogen, and biochemical oxygen demand). One comment received on the Draft EIS requested that the analysis of non-point source pollutants be carried further to include estimates of oil and chemicals in runoff. Unfortunately, no accumulation rate factors which could reasonably apply to the West Ocean City area are available. Therefore, it is not possible to calculate the existing and future projected quantities of chemicals contained in runoff or their probable affects on wetlands. However, it is unlikely that increased residential development in West Ocean City will cause major changes in the existing conditions. Route 50, which bisects West Ocean City, is a major highway carrying seasonal visitors to Ocean City. Route 50 probably comprises the greatest source of traffic related non-point source pollution in West Ocean City. Given the projected increase in Ocean City's population over the next 20 years, it is lkely that this will continue, independent of whether the West Ocean City sewage collection system is constructed.

Erosion/ Sedimentation

Worcester County adopted an ordinance to control erosion and sedimentation in March 1971 which would apply to any sewer system constructed in West Ocean City due to the large amount of excavation required. The County requires a sediment and erosion control plan to be submitted to the Worcester Soil Conservation district for any construction project that disturbs at least 300 cubic yards of material. The plan must comply with State specifications on sediment and erosion control and be approved by the County Sediment and Erosion Control Officer. A one-year permit is issued after the Sediment Control Officer reports the acceptability of the plan to the Soil Conservation District supervisors. The permit is issued under a fee system providing funds to administer the program. The County performs on-site inspections as needed and forwards reports to the Soil Conservation District to insure that all work is being performed according to the approved plan (Bruce Nichols, USDA-Soil Conservation Service, 1982).

Septic System Failures

As stated in the Draft EIS, 73% of the land in West Ocean City is unsuitable for conventional on-lot systems due to the presence of a high or seasonally high water table; 11% of the land has slight limitations and could accommodate only low-density housing (USDA-Soil Conservation Service 1973). Approximately 15% of the land in West Ocean City consists of Made Land for which septic system use is severely limited due to both soil composition and the depth to groundwater. Most of the area's existing housing is located on soils that are unsuitable for on-site systems.

In 1976, the Worcester County Health Department adopted the State's Directive Policy GS-6 which required seasonal percolation testing in areas known to have a high groundwater table. CS-6 has severely limited new construction in West Ocean City. Two observation wells monitored by the County Health Department during the first six months of 1979 showed groundwater depths to be shallower than 10 inches and not more than 30 inches. The Health Department concluded that under these conditions it is unlikely that a conventional septic tank system could function properly throughout the year. The impact of a seasonally high water table has

increased as more homes in West Ocean City have been occupied on a year-round basis.

Unfortunately, most of the existing homes were constructed prior to the adoption of GS-6. Existing housing densities in some areas greatly exceed current requirements for adequate renovation of septic tank effluent. Many of the lots in the area were surveyed and recorded prior to the existence of Health Department Subdivision Regulations. Health Department records have noted that as of December 1980, 732 or 54% out of a total of 1348 on-site systems in West Ocean City has failed. Since then, 16 new failures were recorded and 16 new homes were built. (See Maugans 1979, 1980, and 1982 in Appendix D).

)n-Site Alternatives

EPA has encouraged the use of on-site systems with improved maintenance as an alternative to sewer systems in rural areas. Construction Grants have been awarded for on-site rehabilitation through EPA's Program Requirements Memorandum 79-8 on Small Wastewater Systems. The Facilities Plan and the Draft EIS evaluated the status of on-site systems in West Ocean City to determine whether their long-term use was a feasible alternative. However, the combined lack of suitable soils, high water table and high density of existing housing raise serious doubts as to the potential long-term success of on-site systems in West Ocean City. The options available to repair already known failures are severely limited by the fact that many lots on which homes are built are smaller than 0.25 acres. The presence of a seasonally high water table increases the potential public health hazard posed by surfacing of poorly treated septic tank effluent or contamination of the private wells used for water supply. EPA concurs with the Worcester County Health Department's conclusion that conventional septic systems are not feasible for use in West Ocean City on a year-round basis. However, greater efforts should be made to ensure that the area's on-site systems receive appropriate maintenance and repair.

ollection ystem

WCSC has chosen gravity sewers over pressure and vacuum sewers as the preferred method of sewage collection for West Ocean City. The deeper excavation required for gravity sewers (3 to 15 feet) and the shallow level of groundwater (less than 1 to 3 feet) will necessitate extensive dewatering during construction. Prior to construction, WCSC must prepare an erosion/sedimentation control plan for submission to and approval by the County Sediment Control Officer and the Soil Conservation district supervisors. Sediment control measures should be tailored to minimize the transport of sediment to wetlands and surface waters. Sedimentation basins should be constructed and maintained until a cover is fully reestablished on the area disturbed during construction.

Figure II-2 illustrates the proposed alignment for the gravity sewer system as presented in the Draft EIS. In an effort to reduce the local share of costs, WCSC has examined the financial benefit of eliminating approximately 5000 feet of sewer line from the proposed alignment for the gravity sewer system. The segments of sewer line under consideration are ineligible for Federal funding since they would not serve areas in which two-thirds of the wastewater flow would be contributed by residences in place as of 1972. The segments being considered for elimination include portions of the following streets:

Bonita Drive
Center Drive
Kent Road
Keyser Point Road

Lake Avenue
Marlowe Road
North Harbor Road
Ridge Avenue
Tudor Road
Unnamed Street
between Bay Shore Drive and Riggins Road
Waltham Road
Windsor

Figure III-3 illustrates the exact location of sewer segments under consideration. WCSC estimates that eliminating the 5000 feet of line would reduce the local share of costs by $165,500 and would reduce the front foot assessment by $.14/ft or our annual savings of $14 for a 100 foot lot. WCSC plans to delay its final decision on whether to eliminate these lines until actual construction bids are received.

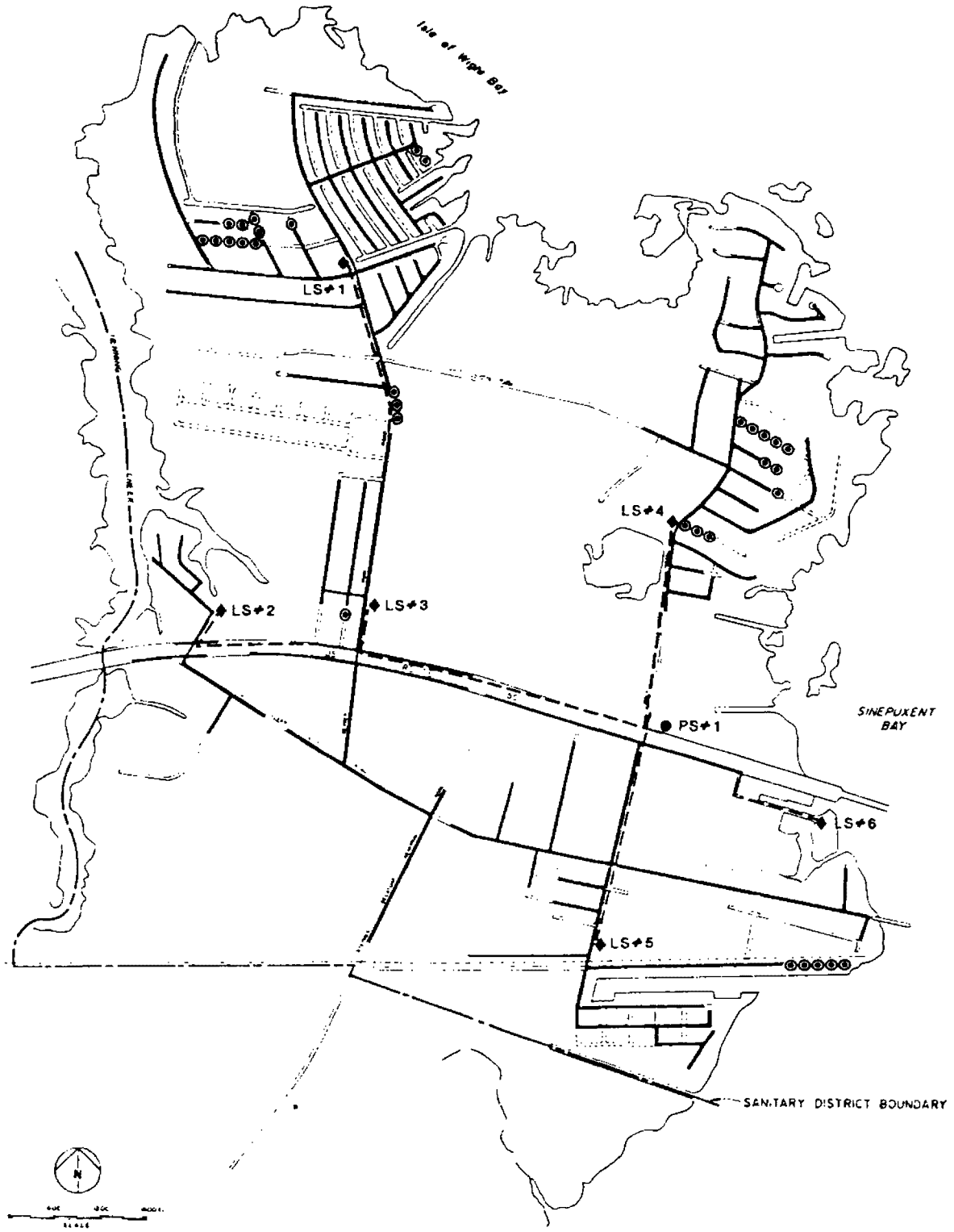
Land Application

The Facilities Planners examined potential land application sites within a five mile radius of West Ocean City. This distance was estimated as the maximum distance over which effluent could be transmitted at a reasonable cost. The land area required for effluent application was estimated to be 280 acres, based on spray irrigation over 39 weeks at a rate of 1.5 inches per week. This did not include the land required for buffer zones. Buffer zone requirements were calculated to separate the spray irrigation site by 500 feet from habitation and by 200 feet from property lines, waterways and roads. A group of parcels near the confluence of Ayer and Trappe Creeks was selected as the most likely spray irrigation site. These parcels were not contiguous and also adjoined streams. The total acreage requirement for application, buffer, storage, and treatment was calculated to be 510 acres. An on-site evaluation by the Division of Residential Sanitation of the Maryland Department of Health and Mental Hygiene showed that the sites were not usable. Hydrogeological testing showed that groundwater level was between 8 and 22 inches of the surface. The State's land application guidelines recommend at least 2 feet to seasonally high water table in that portion of the State to ensure adequate wastewater renovation. The height of the groundwater table at the proposed sites could have caused groundwater contamination if land application were performed.

The Draft EIS stated that for public health reasons, certain food crops are not recommended to be grown in conjunction with land application of wastewater. The Process Design Manual for Land Treatment of Municipal Wastewater (EPA 1981) notes that wastewater should not be used to irrigate crops that are eaten raw because of potential transmission of parasites and other pathogens. Land application systems in the United States are usually used for fiber, feed, fodder, and processed grain crops. Note that separate criteria apply to the land application of sewage sludge as a method of disposal and soil conditioning.

Conveyance Route/Force Main

Sewage collected in West Ocean City would be transported to Ocean City for treatment and disposal by means of a pumping station near the intersection of Golf Course Road and Route 50 and a 16 inch force main under Sinepaxent Bay. The fact that the Route 50 bridge to Ocean City is a drawbridge under frequent use eliminates possible attachment of the force main to the bridge as an alternative. Concern was expressed of the size of the force main to be used. Upon leaving the pumping station in West Ocean City, sewage would have to traverse 10,200 linear feet of force main before reaching the Ocean City collection system at 15th Street. On the basis of professional engineering judgement, the Facilities



LEGEND

- GRAVITY SEWER
- FORCE MAIN
- PUMP STATION (PS)
- LIFT STATION (LS)
- ELIMINATED SEGMENT

GRAVITY SEWER SYSTEM SHOWING SEGMENTS BEING CONSIDERED FOR ELIMINATION

FIGURE III-3

Planners calculated that a 16 inch diameter was required in order to ensure adequate transport since no intermediate pumping stations would provide an additional surge. Once detailed designs for the project are proposed, the size and location of the force main, along with other project components, will receive a thorough evaluation. In order for construction of the force main to proceed, permits must be received from the U.S. Army Corps of Engineers as required under Section 10 of the River and Harbor Act of 1899 and also under Section 404 of the Clean Water Act. At that time, the force main will be reviewed for less environmentally damaging construction and design and its overall potential to adversely affect aquatic resources. Any permits subsequently issued would require mitigation measures to reduce or eliminate impacts on aquatic biota. Some of the possible mitigation measures include the use of special construction techniques to minimize sediment transport and relocation of any shellfish beds identified along the force main route.

Ocean City Treatment Plant Expansion

Several commentors questioned WCSC's plans to expand the Ocean City treatment plant and the relationship of the proposed expansion to the West Ocean City project. The Ocean City treatment plant was recently expanded to a design capacity of 12 mgd with peak flow capability of 18 mgd. Average flows through the plant during the peak months of July and August 1982 were 8.59 mgd and 8.39 mgd, respectively (Connell 1982). The presence of at least 3 mgd of unused capacity during peak summer months indicates that plant expansion is not an immediate need as would be the case if the Ocean City plant were hydraulically overloaded. The West Ocean City Sanitary District is expected to contribute a wastewater flow of 1 mgd by the year 2000. Initial flows are expected to be in the range of 350,000 gallons per day. West Ocean city's initial contribution would clearly not cause the Ocean City plant to require expansion. If the year 2000 projected flow of 1 mgd from West Ocean City were sent to the Ocean City plant at the system's startup in 1983, almost 2 mgd of reserve capacity would remain for growth in Ocean City. The Sanitary Commission's plans to expand the Ocean City plant stem from the strong committment of Ocean City and Worcester County to develop Ocean City to its full economic potential. The North Central Ocean Basin Facilities Plan (1977) assumed that Ocean City's population would increase at approximately 3.5% per year, producing a maximum wastewater flow of 20.5 mgd in the year 2000 from a peak seasonal population of 205,000. This projection was based on a 1973 study by Morton and Hoffman and Company, Inc. on projected year-round and seasonal population in Worcester County under alternative development patterns over the period 1972-1990. Population projections for the Ocean City plant were not revised as part of the West Ocean City EIS. No Federal funds are under consideration for the Ocean City treatment plant at this time.

As stated earlier, EPA decided in 1979 not to endorse the NCOB Facilities Plan in its original form because of serious environmental concerns. Federal financial assistance for expansion of the Ocean City treatment plant is not under consideration at this time, either as a separate grant action or as part of the West Ocean City collection and conveyance system. Considering the recent changes in the Construction Grants Program regulations (40 CFR part 35, Subpart I), it is unlikely that expansion of the Ocean City treatment plant will be eligible for funding in 1985. Subpart I requires that grants for sewage treatment plants be based on the capacity necessary to serve the existing population; any additional costs to provide reserve capacity for future growth must be borne by the grant applicant. In addition, Subpart I cites the cost of

treatment works that would provide capacity for new development on environmentally sensitive lands (such as wetlands or floodplains) as unallowable for Construction Grants funding.

WCSC's Facilities Plan for West Ocean City assumes that the 20.5 mgd of year 2000 treatment capacity will still be required for Ocean City. West Ocean City wastewater flows were not contained in the NCOB Facilities Plan's flow projections for the Ocean City treatment plant. Therefore, WCSC increased the year 2000 wastewater flow to the Ocean City plant by 1.0 mgd, yielding a total treatment capacity requirement of 21.5 mgd. WCSC projected that the existing 12.0 mgd treatment plant could accommodate the combined 1985 flows of 11.5 mgd from Ocean City and 0.49 mgd from West Ocean City. At that time, however, it would become necessary to expand the Ocean City treatment plant by 9.5 mgd. The Facilities Plan assumed that West Ocean City would pay a percentage equal to 1.0 mgd/9.5 mgd or 10.5% of the capital cost of the 9.5 mgd expansion. West Ocean City would also assume a proportionate share of operation and maintenance costs for the Ocean City plant. It was suggested that West Ocean City purchase existing capacity at the Ocean City plant and that Ocean City bear the entire cost of any future expansion. Such an arrangement would be at the discretion of the Worcester County Sanitary Commission, as owner and operator of the Ocean City treatment facilities. The purchase of existing capacity would not be eligible for funding through EPA's Construction Grants Program since no new construction would be involved. EPA grant funds have already been used to expand the Ocean City plant to its present capacity of 11 mgd.

Dredge/Fill Request for Ocean City Expansion

The Worcester County Sanitary District had submitted a permit application to create land by filling existing wetlands to accommodate expansion of the Ocean City sewage treatment plant at some time in the future (reference Public Notice NABOP-F/S 83-0102). Federal financial assistance to promote expansion of the Ocean City plant is not under consideration by EPA at this time, either as a separate grant action or as part of the West Ocean City collection and conveyance system. The proposed action in Ocean City involves the dredging of 7.4 acres of shallow water hatitat to enable filling of an adjacent 8.5-acre vegetated area adjacent to the existing treatment plant.

The performance of any dredge/fill activity requires the applicant to secure a Section 404/10 permit from the U.S. Army Corps of Engineers. The permit request is evaluated by the Army Corps of Engineers and other cooperating agencies. In this case, EPA, the U.S. Fish and Wildlife Service, the National Marine Fisheries, as well as the Maryland Department of Natural Resources comprised the commenting 'board'. Permit authorization is contingent on the agencies' consideration of the project justification, the potential to adversely impact environmental resources, and the need for the activity. The Worcester County Sanitary District permit application has been subjected to this review, and, due to the unanimous recommendation of permit denial by EPA, F&WS and NMFS, their application was withdrawn on February 26, 1983.

Carter-Regier Study

The Carter-Regier Study was a special study released by the Chesapeake Bay Institute of Johns Hopkins University as a physical assessment of the Maryland coastal waters to receive wastewater. The purpose of the study was to identify and rank potential ocean outfall corridors along the Maryland seacoast for the disposal of approximately 30 mgd of sewage effluent. Four possible outfall routes were compared with respect to potential impact on the area's recreational and aquatic life resources. Criteria for comparison of the four routes included:

1. The potential for effluent trapping in Isle of Wight and Sinepuxent Bays via the Ocean City inlet;

2. The potential for interaction with the Ocean City treatment plant's existing outfall/diffuser at 64th Street; and

3. The availability of near-field currents, deep water, etc. to dilute sewage effluent.

Field studies were performed during July and August 1977 at three offshore locations. Currents, temperatures, and salinities were measured to compare the uniformity of nearshore waters north and south of the Ocean City inlet. Far-field dilutions were measured by pumping tracer dye through Ocean City's existing outfall for 1[illegible] days. Turbulent diffusion data were obtained by releasing single slugs of tracer dye through the existing outfall and at two locations south of Ocean City Inlet.

In 1976, the Chesapeake Bay Institute released results of a field study which focused on the effects of the Ocean City outfall (Carter 1976). At that time, the Ocean City outfall was being used to discharge a peak summertime flow of 7 mgd of primary-treated sewage. Since that time, the Ocean City plant has been upgraded to secondary treatment capability; peak summertime flows during 1982 averaged 9 mgd. Carter (1976) presents the results of a field program to collect baseline data on nutrients, suspended sediments, heavy metals, and other water quality parameters. The effectiveness of the diffuser was measured in terms of near-field dilutions of effluent. The study concluded that the diffuser was performing effectively. Baseline water quality parameters were within a range typical of coastal waters and no sludge buildup was occurring on the bottom anywhere along the outfall.

Population Projections

In order to estimate future population and wastewater flows, the Facilities Planners divided the land in West Ocean City into 15 subareas. (Figure II-1). The subarea boundaries were drawn according to local zoning districts, presence in the floodplain, subdivision and stream locations, and subjective judgement. The subarea boundaries do not correspond to census tracts, political units, or other categories for which population data are compiled. The Facilities Plan's population projections for the year 2000 assumed that:

1. Flood-prone areas (Subareas 8 through 15) would be fully developed by the year 2000 to the limits imposed by environmental constraints.

2. The remaining year 2000 population would be uniformly distributed among service areas 1 through 7.

3. Population densities and corresponding wastewater flows would be estimated at 4 persons per structure and a wastewater flow of 70 gallons per person per day.

It was suggested that the Final EIS contain data on the existing population in the subareas for comparison with future projections. Table III-1 lists dwelling unit counts by Facilities Planning subarea for 1980 and 2000. The 1980 figures were derived by counting the number of structures in each subarea and adding an estimate of known multi-family structures. As stated earlier, census data on the exact population existing within each subarea are unavailable.

Table III-1 - Comparison of Existing and Future Projections of Dwelling Units by Facilities Plan Subarea.

Facilities Plan Subarea	Number of Dwelling Units	
	1980	2000
1	69	428
2	10	341
3	83	237
4	106	82
5	148	316
6	8	104
7	52	19
8	164	322
9	201	629
10	50	158
11	105	179
12	162	178
13	48	97
14	19	121
15	94	269
TOTAL	1319	3480

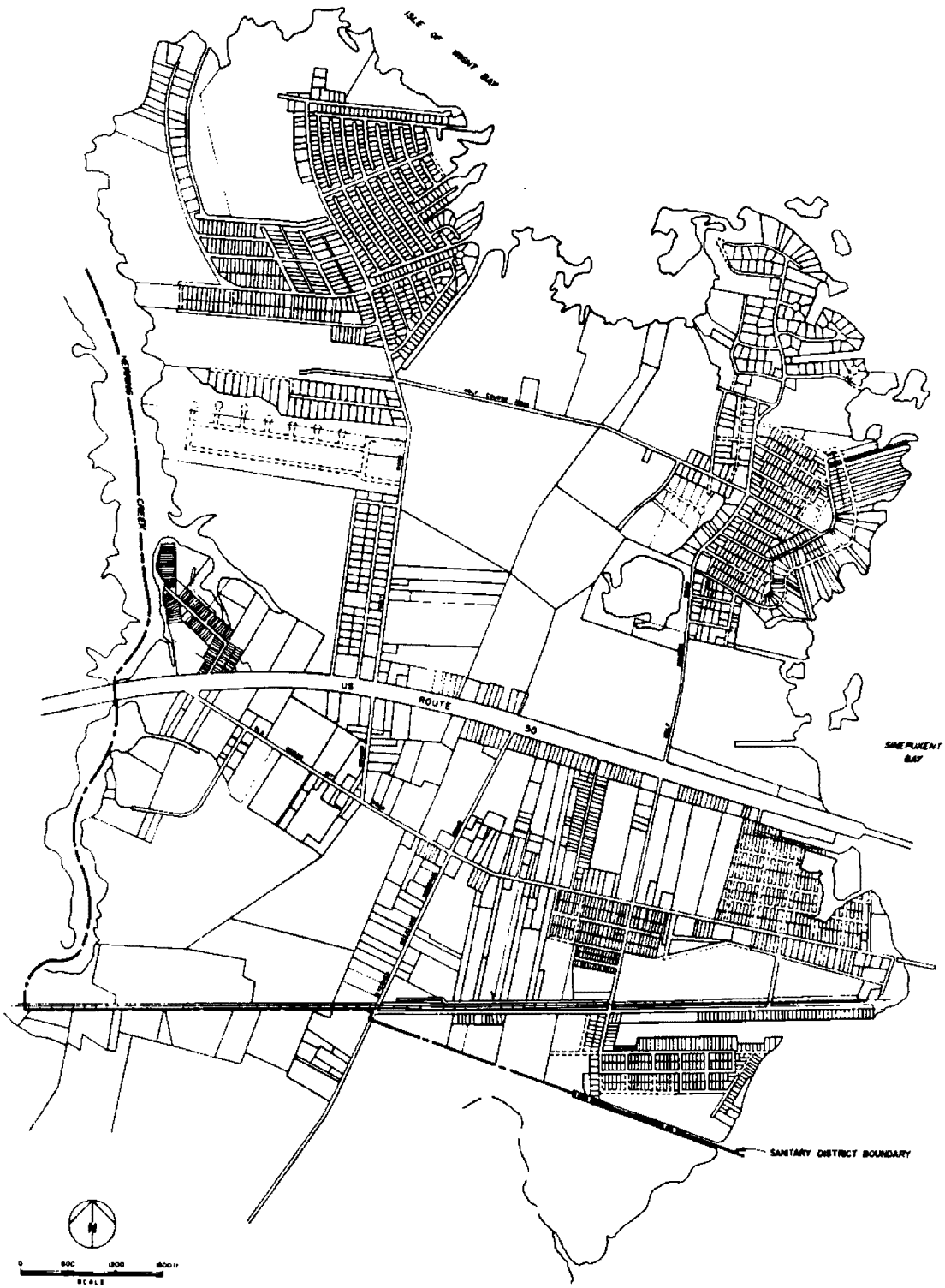
Developable Land

Figure III-4 (which appeared on p. 50 of the Draft EIS as Figure III-1) illustrates property lines in West Ocean City as of 1976. This information was compiled by the Facilities Planners from available subdivision plats and 1977 tax maps. Some existing structures in the area are known to occupy more than one lot. Some multiple lots under single ownership may appear as single lots. Figure III-4 should not be interpreted as an exact map of lots platted prior to May 31, 1977. The individual lots depicted in Figure III-4 should not be interpreted as developable according to local zoning criteria or environmental considerations. Figure III-5 (which appeared as figure II-7 on p. 33 of the Draft EIS) illustrates that many properties have already been developed. The ability of an individual lot owner to construct a residence or other structure on his property would be controlled by the availability of water and sewer service, compliance with local zoning criteria, and other factors. If a Federally-funded sewer system is constructed in West Ocean City, future development must comply with limitations on sewer service to flood-prone areas, wetlands, and agricultural zones described in the Final EIS. Even without a Federally-funded sewer system, development in West Ocean City must comply with State, Federal, and Coastal Zone policies which limit or discourage development in environmentally sensitive areas.

Proposed Seafood Processing Plant

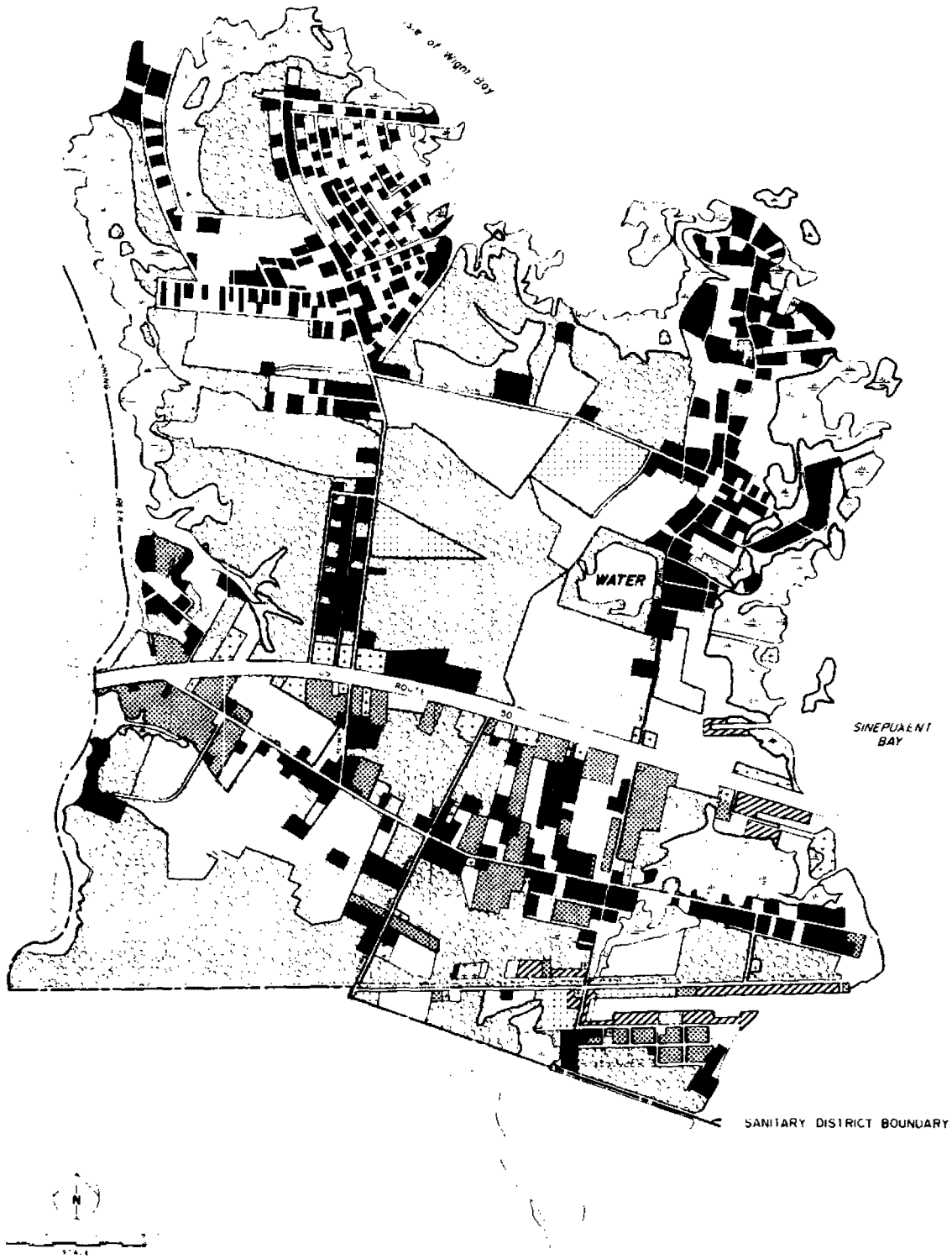
Associated Enterprise Development, Inc. has prepared conceptual plans for a thirty million dollar seafood processing port and industrial park in West Ocean City to be funded by private and public interests. The project would aim to provide centralized facilities for approximately 40 independent businesses on an 80-acre property north of the existing West Ocean City harbor. The project's promoters cite the potential to process 100 million pounds of seafood annually and to accommodate currently under-utilized species as benefits. Opponents of the project argue that the existing fishery is insufficient to support such large-scale processing facilities, citing the decline in recent years in local catches as evidence of diminished resources.

The seafood park would require extensive dredge/fill activities to create a second harbor and also to permit access of large commercial trawlers via the Ocean City Inlet. Because these activities would affect wetlands and navigable waters, detailed project review and permit authorization will be required before any construction can take place. Both State and Federal agencies have issued regulations designed to protect wetlands from unnecessary degradation. These regulations apply to all activities which may affect wetlands, including those which receive no Federal funding, such as construction of bulkheads, boat ramps and buildings by individual property owners. The State of Maryland (Wetlands Act of 1970) controls the alteration of wetlands for development through a system of licenses and permits. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers administers a permit program which regulates dredging and filling of wetlands. Under the program, each project is evaluated for its compliance with EPA's Section 404(b) guidelines published in the Federal Register in December 1980 (45 FR 249). The need for the activity, the availability of less environmentally damaging construction design and practical alternatives, and its overall potential to adversely impact aquatic resources are considered during project review. All activities which may affect wetlands in West Ocean city has and will continue to be controlled by Federal and State regulations, whether or not a sewer system is constructed. Because the Federal jurisdiction over dredge/fill activities is more extensive than that of the State, Federal regulations will be the limiting factor



Property Lines - 1976

FIGURE III-4



LEGEND

- LOW DENSITY RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- COMMERCIAL
- MARINE / INDUSTRIAL
- PUBLIC SERVICE
- AGRICULTURAL
- WOODLANDS
- WETLANDS
- OPEN FIELD

Existing Land Use

FIGURE III-5

on whether permits to construct the seafood port are issued. Because of the seafood park's proximity to the Assateague Island National Seashore, the U.S. Department of the Interior has noted that additional studies to assess potential impacts on Assateague should be instituted if the project develops further.

One commentor on the Draft EIS questioned the statement on page 74 of the Draft EIS that "public water and sewer were not essential to this type of industrial development." Water and wastewater facilities would be required for this type of operation, but not necessarily under public ownership. It is not uncommon for industrial water and wastewater facilities in large-scale operations to be privately owned and operated. Associated Enterprise Development, Inc. is considering various alternatives, but no final plans have been selected.

On October 26, 1982, the Worcester County Commissioners passed a resolution supporting the establishment of a seafood agency with the purpose of studying the compatibility of a seafood industrial park in West Ocean City with Ocean City's tourism industry and developing further plans for the facility. In order for the seafood park to proceed to construction, numerous environmental, enconomic, and engineering issues must be resolved.

ublic Water upply

Private wells which tap the Pleistocene aquifer supply domestic water to West Ocean City. The transmissivity of this aquifer ranges from less than 2500 to more than 10000 square feet per day. The Pleistocene acquifer is capable of producing moderate to very large supplies of water (500 to 2000 gpm). It is one of the most productive acquifers in Maryland and could accommodate extensive development. Although not currently utilized, deep wells which penetrate the Ocean City and Manokin aquifers could provide additional supplies if needed. No incidences of salt water intrusion have been reported in West Ocean City (Morris 1982 and Maugans 1982).

The Worcester County Sanitary Commission has considered providing the area with a centralized water supply system at an estimated cost of three million dollars (Connell, 1982). Due to limitations on borrowing capability and the projected high cost to users, it is unlikely that construction of both water and sewer systems can be considered at this time.

ter nservation

The State of Maryland has demonstrated recognition of the value of water and waste reduction measures. The Maryland Water Conservation Plumbing Fixture Act was enacted by the State Legislature in 1978 and recodified into Article 56 as section 445 in 1982. The Act requires water-conserving fixtures to be installed in all buildings constructed or remodeled after January 1, 1979. The Act also prohibits the sale of any plumbing fixtures which are not water-conserving. The responsibilities of enforcement are placed upon local plumbing inspectors. Given the constraints on wastewater treatment at the Ocean City plant and the high cost of expansion, it is in the best interest of the Worcester County Sanitary Commission to ensure that the Act is enforced. The Construction Grant regulations under which the West Ocean City Facilities Plan was prepared require a detailed analysis of flow and waste reduction measures when the existing sewage flow is greater than 70 gallons per capita per day (gpcd) or the existing population is greater than 10,000. The West Ocean City Facilities Plan assumes a per capita sewage flow of 70 gpcd; approximately 5000 persons currently inhabit the area.

Threatened and Endangered Species

Three Federally-listed endangered species have been reported in the vicinity of the study area. Two subspecies of Peregrine falcons, the Arctid peregrine (Falco peregrinus tundrius) and the American peregrine (F.p anatum) utilize Assateague Island for resting and feeding during annual migrations and, therefore, may pass through or near West Ocean City. However, no significant impact to the falcons are expected as a result of the West Ocean City project. West Ocean City's collection system will be placed under existing streets and railroad rights-of-way. No portion of a Federally funded sewer system in West Ocean City will traverse or provide wastewater service to the area's wetlands and thereby adversely impact shore birds upon which the falcons feed. The elimination of effluent seepage from failing septic tanks into canals should improve the shorefront aquatic habitat. The Maryland Wildlife Administration (Taylor 1978) has reported a bald eagle (Haliaeetus leucocephalus) nesting area south of Berlin, approximately five miles from the project area. No adverse impacts to the bald eagle are anticipated, either directly or indirectly through changes in the food chain. No new surface discharges of wastewater which could impact fish communities are planned. The elimination of septic tank seepage should have a positive impact on surface water quality.

Air Quality

No major point sources of air pollution exist in West Ocean City. The following are known sources that exist in Worcester County.

Berlin Town Power Plant	Berlin, MD
*Chesapeake Foods	Berlin, MD
*Lance T. Eller	Pocamoke City, MD
Ocean City Sewage Treatment Plant	Ocean City, MD
*Tri-State Oil	Snow Hill, MD
*Worchester County Sanitation	Snow Hill, MD

* Major point source whose emissions exceed 100 tons per year of any criterial pollutant including particulates, sulfur dioxides (SO_2), hydrocarbons (HC), nitrous oxides (NO_x), and carbon monoxides (CO).

Transportation Impacts

Construction of a sewer system in West Ocean City will affect both State and County roads. WCSC should continue to coordinate with State and local highway officials during design and construction of the project. The adverse impact of traffic disruption could be minimized by construction during the off-tourist season. One commentor on the Draft EIS questioned the adequacy of principal roads north of Route 50 to serve the population increase projected for the area's subdivisions. The principal roads in question would be Golf Course Road and Keyser Point Road. The Facilities Planning areas that would rely on these roads include Area #1 (the central portion north of Route 50). Area #8 (Captain's Hill) and Area #9 (Cape Isle of Wight). Facilities Planning areas are depicted on Figure II-I in this Final EIS. The Maryland State Highway Administration, Traffic Forecasting Section, performed an analysis of the capacity of Keyser Point and Golf Course Roads (See Appendix D). The State concluded that these roads were adequate to handle current and projected traffic, based on the number of existing dwelling units and the number of dwelling units anticipated in the year 2000 if a Federally funded sewer system is constructed.

Community Services

Population growth inevitably places burdens on the community's ability to provide municipal services, such as fire protection, ambulance/emergency service and education. In West Ocean City, implementation of the centralized wastewater management program will allow significant growth in the area. During the preparation of this EIS, contact was made with the agencies involved in providing the above services to determine the impact of population growth.

Fire protection and ambulance service are considered adequate to meet the growing need in West Ocean City. The volunteer fire department and ambulance service which serves both Ocean City and West Ocean City, has approximately 125 members, 75 of whom reside in West Ocean City. Current response time is under five minutes. The large force, bolstered by a permenantly manned station in Ocean City, is considered fully capable of handling the increased population since the program is designed for accommodating the huge summer populations in the area.

Students from West Ocean City attend Worcester County Schools. Facilities of this system are new or recently renovated. Total enrollment as of 1982 was approximately 5000 reflecting a decrease in enrollment over the past 5 years from a high of about 6500 in the mid 1970's. The system has been losing about 250 students per year. West Ocean City children attend the Ocean City Elementary School, the Berlin Middle School, and the Steven Decatur High School in Berlin. Because of previously decreasing enrollments, and the nature of projected development in West Ocean City (including a continuation of second home and retirement residences) the projected increase of population should not exert significant impacts on educational facilities.

Solid Waste Disposal Facilities

Solid waste generated in Worcester County will be disposed in three sanitary landfills located in Berlin, Pocomoke, and Snow Hill. According to the 1981 update of the Worcester County Solid Waste Management Plan, the County's landfills have a combined capacity of 20 to 25 years. West Ocean City's projected population increase of 9,000 represents less than 25 percent of the County's total population by the year 2000. This projected increase would certainly have an impact on the life expectancy of the County's sanitary landfills, but apparently not a major one. As is common in rural areas, the Worcester County government does not provide for solid waste collection. Generators either haul their wastes to a disposal facility or arrange with a private contractor to haul the wastes. Article 43 of the Maryland Code does contain provisions to allow the County Sanitary Commission to set up a solid waste collection system if desired.

Project Costs

In August 1982, WCSC examined a variety of ways to reduce project costs and the resulting costs to local residents. These included:

1. Assuming that the engineering, legal, and administration fees would add 25 percent to the project's construction cost, rather than 30 percent.

2. Changing the assumption for cost increases due to inflation from 12 percent to 8 percent.

3. Installing laterals to only existing lots of record at the time of construction.

4. Eliminating 5,280 feet of gravity sewer line which would be ineligible for Federal funding in order to directly reduce the local share of costs.

These measures reduced the total project cost from $10,280,200 to $8,675,300. The local share of project costs, which would not be covered by EPA;s grant of 75 percent of eligible costs and the State's 12.5 percent of eligible costs, was reduced from $3,739,200 to $2,788,000.

Financing Schemes

In an effort to further reduce the local share of costs, WCSC sought additional sources of funding from the State of Maryland. Potential sources included:

1. An $800,000 grant to be awarded to WCSC through the Failing Septic Tank Program to cover the cost of constructing West Ocean City's collection and conveyance system in 1983.

2. Assuming that WCSC could also receive $500,000 loans from the State at the current interest rate of 8 percent (compared to 10 percent for general deligation bonds) for a 30-year term in both 1983 to cover the cost of constructing West Ocean City's collection system and in 1985 to cover West Ocean City's share of the cost of expanding the Ocean City Treatment Plant.

If WCSC were to receive the $800,000 grant, the local share of costs to be paid in 1983 would be reduced from $2,788,000 to $1,988.000. The principal benefit gained by $1,000,000 in State loan funds would be the reduction in annual payments to cover debt service caused by the lower interest rate.

Using the revised project cost figures described in the previous section and potential sources of funding, WCSC's Facilities Plan described three funding schemes and the potential resulting user charges. All three schemes assume that EPA will provide a grant for 75 percent of eligible costs and the State will provide a matching grant for 12.5 percent of eligible costs. The following sections describe the three scenarios.

Scheme 1

Under Scheme 1, the local share of costs to construct the systems in 1983 would be paid totally by local residents through issuance of general obligation bonds. No EPA/State grant funding or State loans would be available to cover the cost of expanding the Ocean City treatment plant in 1985. Scheme 1 would yield the user charges estimated in Table IV-2. Note that these estimates do not include the collection system hookup charge of $600-800 for new lots or the $500-1,500 cost to install a service line from the house to the property line.

Scheme 2

Under Scheme 2, the local share of costs to construct the system in 1983 would also be paid totally by local residents through the issuance of general obligation bonds. Scheme 2 assumes that EPA will provide a 75 percent grant to cover the cost of expanding the Ocean City treatment plant in 1985; this is inconsistent with the Construction Grant regulations published on May 12, 1982 which disallow funding of treatment works that would serve new habitations in wetlands or flood-prone areas and also eliminate EPA funding of treatment plant expansion to serve future growth after October 1, 1984. Scheme 2 would yield the user charges estimated in Table IV-3. Note that these estimates do not include the collection system hookup charge of $600-800 for new lots or the $500-1,500 cost for service line installation to be paid by individual users.

TABLE III-2 - Annual User Charges Under Scheme 1

	1983	1985	1990	2000
Front Foot Rate Multiplied by Lot Width	$2.06/ft	$3.56/ft	$3.45/ft	$3.56/ft
50 ft. =	$103	$ 178	$ 178	$ 178
100 ft. =	$206	$ 356	$ 356	$ 356
200 ft. =	$412	$ 712	$ 712	$ 712
300 ft. =	$618	$1,068	$1,068	$1,068
Plus Operation and Maintenance (O & M) Costs for One Residence	$80/yr	$80/yr	$69/yr	$68/yr
Equals Total Cost by Lot Width.				
50 ft. =	$183	$ 258	$ 247	$ 246
100 ft. =	$286	$ 436	$ 425	$ 424
200 ft. =	$492	$ 792	$ 781	$ 780
300 ft. =	$698	$1,148	$1,137	$1,136

TABLE III-3 - Annual User Charges Under Scheme 2

	1983	1985	1990	2000
Front Foot Rate Multiplied by Lot Width	$2.06/ft	$2.43/ft	$2.43/ft	$2.43/ft
50 ft. =	$103	$ 122	$ 122	$ 122
100 ft. =	$206	$ 243	$ 243	$ 243
200 ft. =	$412	$ 486	$ 486	$ 486
300 ft. =	$618	$ 729	$ 729	$ 729
Plus Operation and Maintenance (O & M) Costs for One Residence	$80/yr	$80/yr	$69/yr	$68/yr
Equals Total Cost by Lot Width.				
50 ft. =	$183	$ 202	$ 191	$ 190
100 ft. =	$286	$ 323	$ 312	$ 311
200 ft. =	$492	$ 566	$ 555	$ 554
300 ft. =	$698	$ 809	$ 798	$ 797

Scheme 3

Scheme 3, was the financing scheme used to describe user charges in WCSC's letter to all property owners soliciting public opinion on the project. Under Scheme 3, WCSC assumes that in 1983 the State will award an $800,000 grant through the Failing Septic Tank Program and also a $500,000 loan at 8 percent interest for a 30-year term to cover the local share of costs to construct West Ocean City's sewage collection system. WCSC also assumes that the State will provide a $500,000 loan at 8 percent interest in 1985 to cover West Ocean City's share of the cost of expanding the Ocean City sewage treatment plant. WCSC assumes that no EPA/State grant funding will be available to cover the cost of the expansion Scheme 3 would yield the user charges estimated in Table IV-4. Note that these estimates do not include the collection system hookup charge of $600-800 for new lots or the $500-1,500 cost for service line installation to be paid by individual users.

Financial Capability

The West Ocean City Draft EIS contained detailed analyses of the financial impacts of constructing and operating a sewerage system in West Ocean City. EPA assessed the financial capability of West Ocean City as a community to support the construction, operation, and maintenance costs of such a system as well as the system's affordability by individual users. The financial capability analysis concluded that WCSC, Worcester County, and the West Ocean City Sanitary District could support the costs of constructing and maintaining a centralized wastewater treatment system, but the margin of safety was very small. The analysis contained in the Draft EIS was based on project costs and the anticipated local share of costs as contained in WCSC's Facilities Plan. A revised version of the Facilities Plan, completed by WCSC on August 20, 1982, noted that the State of Maryland may qualify for an $800,000 grant under the Failing Septic Tank Program maintained by the State of Maryland. A comment on the Draft EIS forwarded by the Maryland Department of Health and Mental Hygiene noted that:

> "The financial capability analysis was prepared prior to a decision by this office to favorably consider the use of $800,000 of Failing Septic Tank Grant Funds to reduce 1983 user fees to what we consider to be a fair and reasonable level of approximately $220 per year (for a 100' wide lot), which is seemingly affordable for the community as a whole. In 1985, or whenever the Ocean City plant is expanded, the yearly user fees are expected to escalate to $371 (100' lot). Although this revised cost figure is $17 less than the one presented in the EIS, we feel it does not change the outcome of the financial capability analysis, i.e. the project still has a small margin of safety relative to affordability and, as such, the local officials should take a cautious approach in deciding this project's fate. However, we feel this conclusion has limited applicability because its development failed to consider the element of public input. Regardless of the accuracy of the assumptions and the input data used in the analysis, the ultimate decision on affordability lies in the collective decisions of the potential users of the system.
>
> Should the affected public decide to reject this project, knowing full well the economics involved, then we would be inclined to conclude that the project is not affordable, even though the economic indicators indicate otherwise. In summary, we feel public opinion should play a major role in the decision making process on affordability.

Affordability

In order to determine the affordability of wastewater projects and to alert communities to potentially expensive alternatives, EPA

TABLE III-4 - Annual User Charges Under Scheme 3

	1983	1985	1990	2000
Front Foot Rate Multiplied by Lot Width	$1.41/ft	$2.91/ft	$2.91/ft	$2.91/ft
50 ft. =	$ 71	$146	$146	$146
100 ft. =	$141	$291	$291	$291
200 ft. =	$282	$582	$582	$582
300 ft. =	$423	$873	$873	$873
Plus Operation and Maintenance (O & M) Costs for One Residence	$80/yr	$80/yr	$69/yr	$68/yr
Equals Total Cost by Lot Width.				
50 ft. =	$151	$226	$215	$214
100 ft. =	$221	$371	$360	$359
200 ft. =	$362	$662	$651	$650
300 ft. =	$503	$953	$942	$941

guidelines utilize a comparison of annual charges to customers with median household income. User charges include debt service and operation and maintenance costs. Additional one-time costs to the consumer include the cost of constructing a service line which connects the house plumbing with the sewer line in the street and new unit connection fees. When total annual charges to customers exceed the following percentage of median annual household income, a project is considered expensive:

- o 1.0% when median income is under $10,000.
- o 1.5% when median income is between $10,000 and $17,000.
- o 1.75% when median income is over $17,000.

Since no income surveys are available for the study area, the median household income must be estimated from U.S. Census data for Worcester County in 1979 (1980 Census). Income is then inflated from 1979 to 1983 (the year for which user costs are estimated) using known and forecast changes in the consumer price index. Known and estimated incomes are shown in Table III-5. Based on the median income comparison described above, EPA considers any user charge greater than $371 per year expensive for the average Worcester County resident. However, only 58 percent of the residences in West Ocean City are occupied year-round. It is likely that the majority of the remaining property owners do not live in West Ocean City. Hence, their ability to afford the anticipated user charges cannot be evaluated on the basis of Worcester County income data. It is not possible within the scope of this EIS to determine the median household income of non-resident property owners. However, the project may be expensive for property owners who do reside in Worcester County, particularly for those whose lots are wider than 100 feet.

Table III-5. Estimates and U.S. Census Measurements of Annual Median Household Income.

Area	1969	1979	1983*
United States	8,389	16,553	24,830
Maryland	10,092	20,070	30,105
Worcester County	6,249	14,149	21,224

* Estimated using known and forecast changes in the consumer price index from 1979 through 1983.

As can be seen on Table III-5, Worcester County has a median household income below that of the United States and Maryland. In addition, some of the families in the study area depend on forms of income which might make it difficult for those families to pay the required user charges and connection fees. These include the following:

- o families living on fixed income (retirement)
- o families whose income fluctuates (seasonal)
- o families with low disposable income (farmers).

Because the estimated user charges indicate that financing the proposed alternative could have an adverse impact on the local community, special attention should be paid to the means of assessing and collecting the required fees, since these can provide the potential of either mitigating or heightening cost impacts.

The Facilities Plan combines two different methods of assessing and collecting sewer fees. The first involves user charges to cover the costs of operation and maintenance (O & M) only and the second involves front-foot assessments to cover local bond costs (a small portion of the capital construction costs). Both of these methods conform with State and Federal policies. If the system were constructed totally with local funds, property tax assessments based on acreage would be levied to cover capital construction costs not included in the local bond. As mentioned above, additional costs to be financed by the consumer include private costs (plumbing and service line costs) and new unit connection fees.

The user charge system for O & M costs assumes a uniform charge per dwelling unit while the front-foot and property tax assessments depend on the size of the lot and vary significantly from one service area to another. In 1983, the annual O & M user charge for the selected system is $80. Tables III-2, III-3, and III-4 listed estimated user charges according to lot width for the three financing schemes presented in WCSC's Facilities Plan.

Additional private costs and new unit connection fees must be added to these cost estimates in order to obtain the total costs per customer. Estimates of private costs range from $500 to $1,500 and new unit connection fees from $600 to $800. If, for the purposes of analysis, financing of the private costs and new unit connection fees is assumed to occur through a five-year loan, the private costs paid by an existing unit would range from $149-448 per year; the private cost and new unit connection fees paid annually by new customers would range from $328 to $687. However, in the case of new customers it is probable that these costs will be included in the cost of financing the new unit.

Public Opinion

The ultimate decision to apply for a Federal grant to construct a sewer system in West Ocean City rests with the Worcester County Sanitary commission (WCSC). Because the project's substantial cost must be borne by the area's property owners, WCSC has solicited public opinion on the project. A letter (see Appendix D) was sent to all property owners on October 29, 1982, with a request for reply by December 1st. The letter included a table showing projected user charges under the following assumptions:

1. The total project cost would be $8.6 million.

2. The State of Maryland would contribute $800,000 through the State Failing Septic Tank Program, in addition to the 12 1/2 percent grant of eligible costs normally contributed in conjunction in the 75 percent grant of eligible cost awarded by EPA through the Construction Grants Program.

3. The local share of project costs, equivalent to $1.99 million, would be bonded over a 30-year period.

4. The front-foot rate levied against each property owner to cover capital costs would be $1.41 per front-foot per year in 1983 and increase to $2.91 per front-foot per year through 1985 to 2000. The letter does note that these rates would increase by

$.14 per front-foot per year if WCSC chooses to include 5000 feet of ineligible sewer line which were removed in an effort to reduce costs.

5. A collection system hookup fee of $600-$800 would be charged for all properties connected to the system after initial construction.

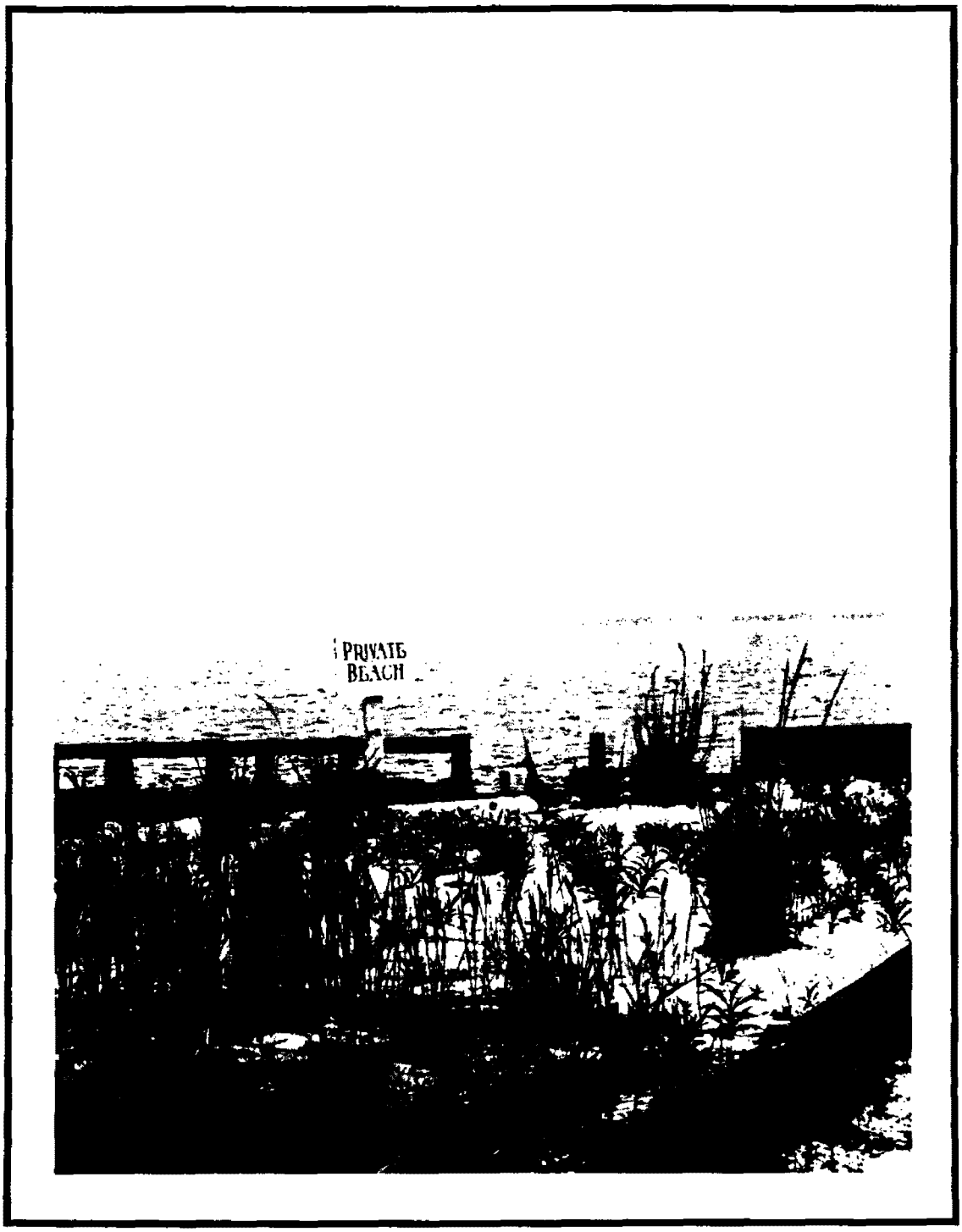
6. Each property owner would pay approximately $500 to $1,500 for installation of a service line from the house to the property line. The cost would vary according to the lot size and the house location.

7. A plumbing permit would be required at an approximate cost of $150. The actual cost would vary with the structure.

As of December 21st, 64 percent of West Ocean City's 1,045 property owners had responded to the letter; 341 were for the project and 328 were against.

Chapter IV.

Recommended Actions



CHAPTER IV. RECOMMENDED ACTIONS

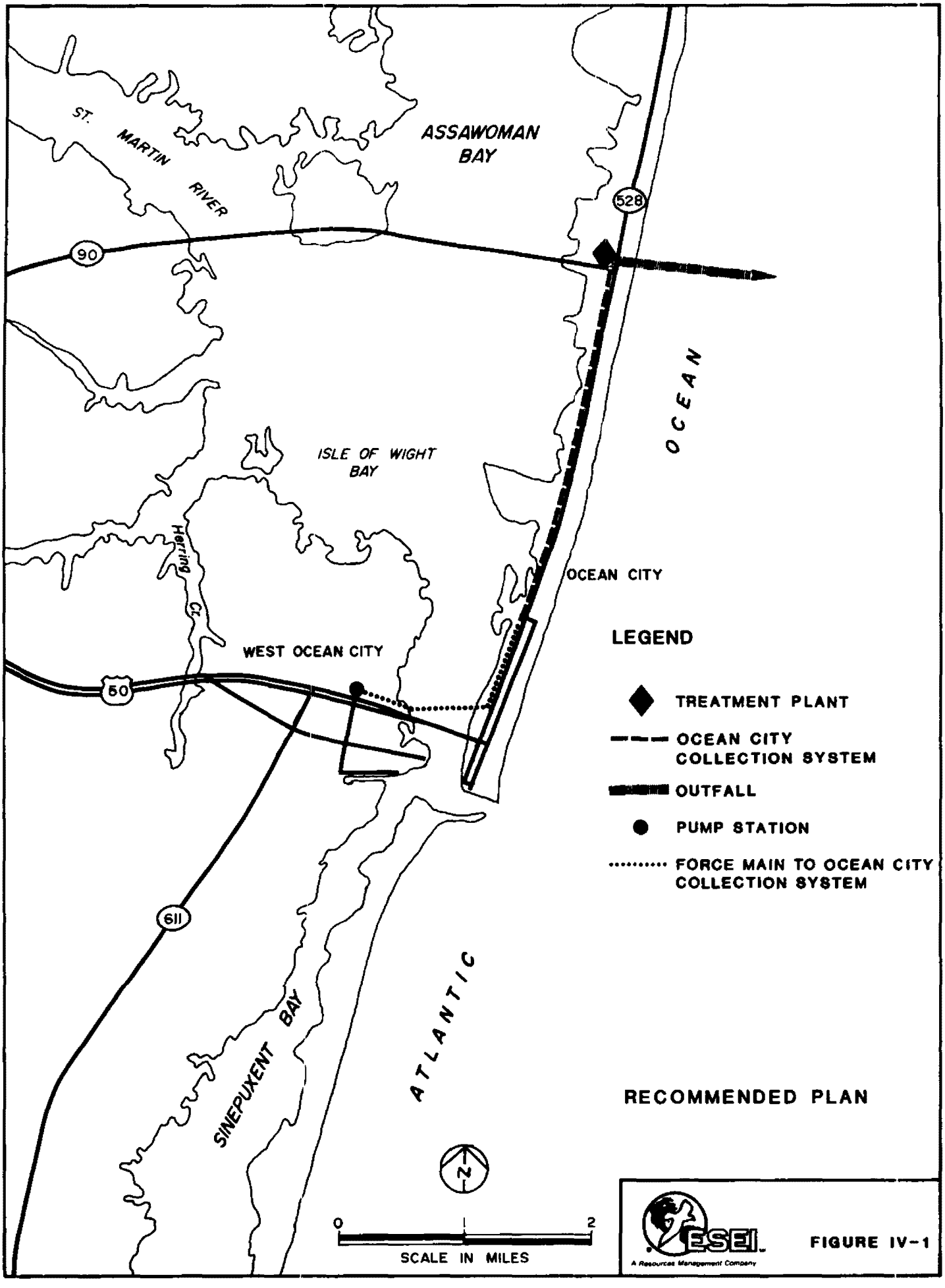
The Facilities Plan Amendment prepared by George, Miles, and Buhr, Inc. for the Worcester County Sanitary Commission considered various alternatives to collect, convey, and treat West Ocean City's wastewater over the next 20 years. Following a detailed analysis of the alternatives according to engineering feasibility and cost, the Facilities Plan Amendment recommended an alternative employing a combination of wastewater collection by gravity sewers and conveyance by force main to the exisitng sewage treatment plant and ocean outfall in Ocean City for treatment and disposal. The Facilities Plan Amendment further analyzed this alternative under two funding scenarios: one which would be locally funded and designed to produce the maximum growth and development that centralized sewer service would permit; and a second which would be partially Federally funded and would incorporate special measures to limit the loss of environmentally-sensitive lands.

ecommended lternative

Following a detailed analysis of all of the Facilities Plan's alternatives according to environmental impacts, costs, and implementability, EPA has concluded that the Facilities Plan's recommended combination of gravity sewer collection, force main conveyance, and Ocean City treatment and disposal is an acceptable solution to West Ocean City's wastewater treatment problems, provided that special measures are taken to mitigate potential sewer-induced loss of environmental values. These mitigation measures are necessary in order to qualify the alternative for Federal funding through EPA's Construction Grants Program. This system would provide wastewater to West Ocean City's anticipated year 2000 population of 13,920 persons and accommodate a wastewater flow of 974,400 gallons per day. The primary beneficial impact of this alternative would be elimination of the hazards to groundwater and public health associated with the area's numerous failing septic tanks.

astewater ollection and onveyance

Gravity sewer systems transport wastewater from buildings to convenient low points utilizing differences in elevation to achieve flows. Because West Ocean City is relatively flat, a minimum of seven low points will be required. At six of these seven points wastewater would be collected in lift stations. These stations would pump wastewater uphill by way of force mains, discharging to the upper elevations of gravity interceptors or to a final pumping station. The proposed alignment for the gravity sewer system, including the 8 inch to 10 inch gravity sewer lines, six lift stations and one pumping station is shown in Figure II-2. Federal funding is available to cover the cost for installing collection sewers only to serve areas which were substantially developed by 1972. Consequently, not all of the sewers in the area can qualify for Federal funding. In an effort to reduce the overall cost of the system to its users, WCSC has identified approximately 5,000 feet of grant-ineligible sewer line which may be eliminated from the project in order to reduce the local share of costs. Figure III-3 depicts these segments. WCSC's final decision on whether to construct these segments as part of the original project will be contingent upon construction bid costs. Raw wastewater collected by gravity sewers in West Ocean City would be pumped via a 16-inch diamter force main to the Ocean City collection system at 15th Street (Figure VI-1). From this point, the existing Ocean City collection system would convey the wastewater to the Ocean City facility for treatment and disposal. A 2500 foot segment of the force main will cross Sinepuxent Bay near the Route 50 bridge.


ST. MARTIN RIVER
ASSAWOMAN BAY
528
90
OCEAN
ISLE OF WIGHT BAY
Herring Cr.
OCEAN CITY
WEST OCEAN CITY
50
611
SINEPUXENT BAY
ATLANTIC
LEGEND
TREATMENT PLANT
OCEAN CITY COLLECTION SYSTEM
OUTFALL
PUMP STATION
FORCE MAIN TO OCEAN CITY COLLECTION SYSTEM
RECOMMENDED PLAN
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2
SCALE IN MILES
ESEI
A Resources Management Company

FIGURE IV-1

Construction of the force main must receive permits from the U.S. Army Corps of Engineers as required under Section 10 of the River and Harbor Act of 1899 and also under Section 404 of the Federal Water Pollution Control Act. The detailed review which will occur as part of the permitting process may identify mitigation measures necessary to minimize impacts due to the force main's location, design, or construction. It is anticipated that the force main will cause short-term adverse impacts on water quality and aquatic organisms due to suspension of sediments. Because of the slow currents in the vicinity of the alignment, sedimentation impacts are not expected to be significantly adverse. Construction of the force main in Ocean City will result in short term adverse impacts on traffic and business disruption. These impacts can be reduced by scheduling construction during the non-tourist season. Otherwise, these impacts could be severe.

Treatment and Disposal

After West Ocean City's sewage flow enters the Ocean City collection system, the combined flows would be transported to the Ocean City plant at 64th Street for treatment and disposal through the Ocean City outfall (Figure IV-1). The Ocean City sewage treatment plant provides secondary treatment capability. The plant was recently expanded to a design capacity of 12 mgd, with peak flow capability of 18 mgd. Average flows through the plant during the peak months of July and August 1982 were 8.59 mgd and 8.39, respectively (Connell 1982). The presence of at least 3 mgd of unused capacity during the peak summer months indicates that plant expansion is not an immediate need as would be the case if the Ocean City plant were hydraulically overloaded. No new local treatment facilities would be required solely as a result of the additional flow from West Ocean City. The marginal increase in effluent flow through the Ocean City outfall as a result of West Ocean City sewage is not expected to noticeably effect water quality.

Project Costs

The Facilities Plan divided the costs for the West Ocean City project into two major components: (1) sewage collection and (2) the cost to treat and dispose West Ocean City's sewage at the existing sewage treatment plant in Ocean City. The project for which WCSC seeks Federal funding at this time includes a gravity sewer system in West Ocean City and a 16 inch force main under Sinepuxent Bay to convey raw sewage from West Ocean City to the Ocean City collection system. WCSC also assumes that if and when the Ocean City treatment plant is expanded in the future, West Ocean City residents will pay for their share of the expansion cost, or 10.5 percent based on the 1.0 mgd of wastewater capacity that West Ocean City residents will ultimately use. Additional details on the Ocean City treatment plant and its proposed expansion are presented in Chapter III in response to comments received on the Draft EIS. The following table shows projected costs as they appeared in the August 20, 1982 version of WCSC's Facilities Plan.

Table IV-1 - Present Worth Cost of the Recommended Alternative

Component	Const. Year	Capital	Salvage Value	O & M	Total Present Worth
Collection					
Gravity sewer system (Includes six lift stations and one pump station)	1983	$7,545,300	-$842,000	+$505,900	= $7,209,000
Treatment and Disposal					
16" Force Main	1983	$1,907,300	[1]	[1]	[1]
Ocean City Treatment Plant Expansion	1985	$1,732,500[2]	-$427,000	+$1,190,400	=$4,110,100

[1] The Salvage Value, Operations and Maintenance costs, and total present worth for the force main are included in the cost figures for the Ocean City Treatment Plant Expansion.

[2] Assumes that West Ocean City will pay 10.5 percent of the $13,200,000 cost to expand the Ocean City plant by 9.5 mgd plus $346,500 to cover engineering and administrative fees.

Annual costs for operation and maintenance are not eligible for Federal funding. These costs for collection, transmission, and treatment must be paid for by those persons actually using the system, in proportion to their wastewater flow. The Facilities Plan assumes that as these costs increase, population growth and development in West Ocean City will create more users to share the cost of operating the system, as well as repaying the debt incurred for construction. The following table shows estimated annual operation and maintenance costs and the anticipated number of equivalent dwelling units as they appear in the Facilities Plan.

Table IV-2 - Annual Operation & Maintenance Costs

Category	Year 1983	1985	1990	2000
Force Mains	$ 5,900	$ 5,900	$ 5,900	$ 5,900
Pump Stations	16,900	26.900	36,700	54,300
Treatment	55,600	87,700	119,600	156,600
Gravity Collectors	19,700	19,700	19,700	19,700
Total Cost	$98,100	$140,200	$181,900	$236,500
Estimated Number of Equivalent Dwelling Units (EDU's)	1240	1760	2660	3480

Financing Schemes

The first step in determining the cost of constructing the project to local residents involves calculating the local share of costs which will not be eligible for Federal or State funding. WCSC has assumed that the Commission will initially install one sewer lateral to each lot of record containing an acceptable structure. Future lateral installation to accommodate new construction will be done on an as-needed basis by the Sanitary Commission and paid for by the property owner through a service charge or new hookup connection fee in the range of $600-$800, depending on the line size and street width. In addition, all lateral cleanouts and service lines from the residence of the property line will be paid for by the property owner. This cost will range from $500 to $1500, depending on lot size. This cost applies to all connections independent of whether they are to serve new development or existing homes. Placing the cost burden of all lateral cleanouts and future lateral installation directly on the property owner reduces the cost of the project to be constructed by WCSC to $8,675,300. The cost includes the gravity sewer system with six lift stations and one pump station and the 16 inch force main to Ocean City. Through October, 1984 EPA may grant up to 75 percent of the eligible cost of constructing publicly owned sewage treatment plants; the State of Maryland may provide an additional 12.5 percent of the eligible cost. WCSC must contribute the remaining 12 1/2 percent of the eligible cost. EPA Construction Grant Program Regulations place limitations on the eligibility of sewers for Federal funding. Collector sewers are only grant-eligible if they will serve areas which were substantially inhabited prior to 1972. For this reason, WCSC has estimated that $1,947,000 of the project cost will be ineligible for funding. The total local share of costs, therefore, becomes $2,788,000. This cost is within the legal bonding capability of the Sanitary District.

In an effort to further reduce the local share of costs, WCSC sought additional sources of funding from the state of Maryland. Potential sources included:

JAT41. Receipt of an $800,000 grant by WCSC through the State's Failing Septic Tank Program to cover the cost of constructing West Ocean City's collection and conveyance system in 1983.

JAT42. Assuming that WCSC could also receive $500,000 loans from the State at the current interest rate of 8 percent (compared to 10

percent for general obligation bonds) for a 30-year term in both 1983 to cover the cost of constructing West Ocean City's collection system and in 1985 to cover West Ocean City's share of the cost of expanding the Ocean City treatment plant.

If WCSC were to receive the $800,000 grant, the local share of costs to be paid in 1983 would be reduced from $2,788,000 to $1,988,000. The principal benefit gained by $1,000,000 in State loan funds would be the reduction in annual payments to cover debt service caused by the lower interest rate. Using the revised project cost figures described in the previous section and potential sources of funding, WCSC Facilities Plan described three funding schemes and the potential resulting user charges. (See Chapter III). The following describes the recommended funding scheme.

Scheme 3 was the financing scheme used to describe user charges in WCSC's October 29, 1982 letter to all property owners soliciting public opinion on the project. Under Scheme 3, WCSC assumes that in 1983 the State will award an $800,000 grant through the Failing Septic Tank Program and also a $500,000 loan at 8 percent interest for a 30-year term to cover the local share of costs to construct West Ocean City's sewage collection system. WCSC also assumes that the State will provide a $500,000 loan at 8 percent interest in 1985 to cover West Ocean City's share of the cost of expanding the Ocean City sewage treatment plant. WCSC assumes that no EPA/State grant funding will be available to cover the cost of the expansion. Scheme 3 would yield the user charges estimated in Table IV-3. Note that these estimates do not include the collection system hookup charge of $600-$800 for new lots or the $500-$1500 cost for service line installation to be paid by individual users.

Table IV-3 Annual User Charges Under Scheme 3

	1983	1985	1990	2000
Front Foot Rate	$1.41/ft	$2.91/ft	$2.91/ft	$2.91/ft
Multiplied by Lot Width				
50 ft. =	$ 71	$146	$146	$146
100 ft. =	$141	$291	$291	$291
200 ft. =	$282	$582	$582	$582
300 ft. =	$423	$873	$873	$873
Plus				
Operation and Maintenance (O&M) Costs for one Residence	$80/yr	$80/yr	$69/yr	$68/yr
Equals				
Total Cost by Lot Width				
50 ft. =	$151	$226	$215	$214
100 ft. =	$221	$371	$360	$359
200 ft. =	$362	$662	$651	$650
300 ft. =	$503	$953	$942	$941

Service Area and Population

West Ocean City has an existing total population of 5,308 persons, of whom 2,033 are year-round residents. The West Ocean City centralized sewerage system will accommodate a total population of 13,920 persons; an estimated 5,045 persons would be year-round residents. To better define where future population growth and increased wastewater flows would occur, the Facilities Plan divided the West Ocean City project area into 15 subareas (Figure II-1). The Facilities Plan's estimates of the year 2000 population, dwelling unit counts, and wastewater flows appear in Table IV-4. A comparison of existing and projected population in each of the subareas appears in Chapter III in response to comments.

Table IV-4. Year 2000 Estimates of Equivalent Dwelling Units, Population Levels and Wastewater Flows Obtained from George, Miles & Buhr (Friedel, 1982).

Service Area*	Equivalent Dwelling Units	Population	Wastewater Flow (gallons/day)
1	428	1,714	120,000
2	341	1,363	95,400
3	237	948	66,400
4	82	326	22,800
5	316	1,264	88,500
6	104	415	29,000
7	19	78	5,500
8	322	1,288	90,200
9	629	2,516	176,100
10	158	632	44,200
11	179	716	50,100
12	178	712	49,800
13	97	388	27,200
14	121	434	33,900
15	269	1,076	75,300
Total	3,480	13,920	974,400

* Areas 1 through 7 are not considered extremely environmentally-sensitive. Population growth and development in these areas can proceed in a manner consistent with local zoning and land use plans. Areas 8 through 15 are environmentally-sensitive. Population growth and development in these areas must comply with Federal and State environmental regulations if a Federally-funded sewer system is constructed.

Sewer-promoted Growth

A lack of centralized sewerage and severe limitations on the use of septic systems have virtually halted development in the West Ocean City area in the last decade. Providing central sewer service to the area will accommodate housing demand built up during this period. Initial growth will be the strongest in existing subdivisions north of Route 50 (Cape Isle of Wight and Captain's Hill). Subsequent growth will occur on tracts of farmland north of Route 50 since those areas are large enough to make subdivision and development profitable. Because the land adjacent to and south of Route 50 is divided into lots with separate ownership and because the area mixes commercial, residential and industrial uses, development in this area is more dependent on economic considerations than a lack of public services. Sewer service will encourage the economic development of this area, but without a strong demand for additional motel/hotel rooms, restaurants, amusements or marine-related industries, development of this area will be slower than growth to the north.

The Worcester County Comprehensive Plan designates the West Ocean City area as a high growth area with an average density of 10 units per net acre. The Worcester County Health Department's septic permit code limits building densities in the area north of Route 50 to 2 units per acre, while local zoning allows 5 units per acre. In the area south of Route 50 the Health Department permits 7 units per acre, while the zoning averages 21 units per acre. The Health Department's septic permit restrictions no longer apply once sewer service is provided, therefore providing sewer service to the area will increase the allowable dwelling unit densities. This will allow the area to develop at the densities suggested in the comprehensive plan. Providing sewer service to the area will

promote another goal of the plan. By allowing West Ocean City to grow to its full potential, the pressure for development in the rural and agricultural parts of the county will decrease. Therefore, providing sewer service to West Ocean City will postpone or eliminate the development of valuable farmlands and other waterfront areas in the county.

Most of the waterfront property in West Ocean City has been subdivided into lots of 1/4 acre or less. EPA and State guidance permits one sewer connection for each lot within the floodplain platted before 1977. The highest demand for housing is in the waterfront areas. When sewer service is provided, initial development will tend to occur within the floodplain. Most of this development will be single family homes in existing subdivisions north of Route 50. A large portion of the waterfront property south of Route 50 is already developed. The one large tract of vacant developable land south of Route 50 is being considered for a seafood industrial park. If this park is developed additional commercial support facilities will be drawn to the area. Although public water and sewer are not essential to this type of industrial development, these public services will make West Ocean City more attractive to developers.

Placing interceptor lines on both sides of Route 50 and along Route 707 will increase the value of adjacent property. Since much of the property located along Route 50 is owned by speculators development companies or joint ventures, increasing property values will also increase carrying costs to these interests. This will prompt property owners to reassess their investments, possibly leading to sale or development of speculative property. Therefore providing sewer service to the area may facilitate the high density commercial development of Route 50. Large single family homes and cottages are located south of Route 50 along Old Ocean City Road (Route 707). The area has large tracts of vacant land divided into small lots owned by local residents. Increasing property values will encourage these residents to develop this land. Combining lots will lead to the most efficient use of the land. With proper planning this area could provide the community with attractive low-cost permanent housing. Once building levels increase with the provision of sewerage, a slow expansion of the cottages and motels located in the area is expected. Construction of new motels and hotels will depend upon future demand and will follow commercial and residential development.

owth Effects Sensitive eas

As described previously, growth inducement in environmentally sensitive areas in West Ocean City (wetland, floodplains, and prime agricultural lands) has been the central issue in this EIS. The Draft EIS described these areas in detail and discussed possible Federal, State and local controls on their use and development. A specific plan to minimize sewer-induced loss or damage of these areas is described later in this chapter.

The Federal Coastal Zone Management Act of 1972 requires that Federal activities occurring in coastal areas be consistent with approved state coastal management programs, to the maximum extent practicable. The recommended federally-funded wastewater treatment facilities and service restrictions to environmentally sensitive areas have been reviewed with respect to this requirement, and found to be consistent with the approved 1978 Maryland Coastal Zone Management Program. Communication with the Maryland Department of Natural Resources, Tidewater Administration (March 17, 1983 telephone call with Elder Ghigiarelli) confirmed

this consistency determination, provided that the federally-funded system is implemented.

The following sections summarize the growth effects on these areas which will occur as a result of implementation of the recommended sewerage system.

Wetlands

No Federally funded sewer service is projected for any of the area's wetlands, thereby avoiding any direct adverse effects. An updated map of Federally designated wetlands is West Ocean City, as defined by preliminary data collected for the National Wetland Inventory being conducted by the U.S. Fish and Wildlife Service appears in Chapter III as Figure III-2. This map will serve as the guide for restricting Federally funded sewer service to wetlands.

Very limited future growth, if any, is anticipated in the area's wetlands through non-federally funded wastewater systems. Federal and State policies act to limit destruction of wetlands, even when private funding is used to provide sewage treatment. The availability of sewer service in adjacent upland areas will act as a deterrent on future wetlands development.

Growth under the selected plan will cause changes in the volume and pollutant loads in runoff. In West Ocean City, runoff is carried primarily through drainage ditches and deposited into small ditches or streams which drain the wetlands. Wetlands act to mechanically remove sediment, store nutrients and adsorb or chemically remove toxic materials which are contained in runoff. The assimilative capacity of the wetlands is, however, limited.

Development forecast for the study area by the year 2000 involves conversion of approximately 17 percent of the land area (excluding the wetlands) from forest and agriculture to low, medium and high density urban uses. Increases in nutrient and biochemical oxygen demanding material loadings have been estimated at about 13 percent. Urbanization will also increase toxic materials in runoff such as hydrocarbons and heavy metals (from vehicular spills and leakage of oils, gasoline and grease).

Growth Effects on Floodplains

The selected wastewater plan allows sewer service to portions of the floodplain which were subdivided into platted building lots as of 1977. Portions of the floodplain not included in the service area may not connect to a Federally funded sewer system; development in these areas would therefore require separate approaches to wastewater management such as septic tanks or innovative on-site systems. Initial growth in floodplains within the project service area will occur as infill to existing developments north of Route 50 (Cape Isle of Wight and Captain's Hill, for example). Subsequent growth north of Route 50 will then center on the large undeveloped area between Route 50, Golf Course Road and Keyser Point Road. Commercial development in floodplain areas along Route 50 will be dependent on economic trends. Floodplain areas potentially affected occur north of Route 50 at the western edge of the study area and south of Route 50 at the eastern edge. As was the case with wetlands, the provision of sewer service in parts of West Ocean City will act to discourage development in floodplain areas outside the service area both in West Ocean City and Worcester County generally.

In 1979, the Worcester County Commissioners adopted a floodplain management ordinance as required in order to participate in the National Flood Insurance Program. As a result, all new or substantially-improved structures would have to be floodproofed or

elevated to the level of the 100-year flood. Almost all of the existing structures in the area were constructed prior to 1979. New development and substantial rehabilitation in West Ocean City, therefore, would have a lower potential for flood damage than structures already in existence. Limitations of the sewer service capacity to that required for one dwelling unit for lots in the 100-year floodplain would also limit the potential for substantial economic losses and potential loss of lives if major development were permitted.

Growth Effects On Prime Agricultural Lands

The recommended alternative provides wastewater service to significant areas of West Ocean City on soil designated as prime agricultural land by the U.S. Department of Agricultural, Soil Conservation Service. Much of the prime agricultural land in West Ocean City has already been subdivided into building lots and/or developed.

Worcester County's Comprehensive Plan allocates a significant proportion of the county's land area to agriculture (250,000 acres of a total 310,000 acres). In 1978 the Worcester County Commissioners revised the agricultural category of the zoning ordinance to discourage conversion of cropland to other uses; new roads and subdivisions of more than five lots are prohibited. The plan calls for concentrating development around existing towns and bay front lands adjacent to Ocean City, including the project service area.

It is for the above reasons that the selected plan projects service for large areas of prime agricultural soils in West Ocean City. The County feels that concentrating development in limited areas offers the best approach to discouraging haphazard conversion of other agricultural areas of the County. Accordingly, a large parcel of agriculturally zoned land in the southwest portion of the study area is not projected to receive sewer service. This parcel contains some areas of prime agricultural soils. Development of prime agricultural soils outside of the service area is possible if local zoning permits; any such development would require approaches to wastewater management separate from the centralized system in the selected plan. As with wetlands and floodplains, sewer service in parts of West Ocean City will discourage development on prime agricultural soils outside the service area both in West Ocean City and Worcester County generally. This effect will be somewhat limited, however, because many of the characteristics that make soils highly suitable for agriculture, also make them suitable for conventional septic systems. Therefore, in areas where development pressure remains and county zoning permits, growth served by conventional septic systems will continue to occur.

Mitigation Measures for Environmentally Sensitive Areas

The recommended wastewater alternative decribed earlier has been designed so as to minimize potentially adverse impacts on environmentally sensitive areas (floodplains, wetlands, prime agricultural lands). Direct construction in these areas has been avoided by aligning the collection and conveyance system along existing roadways and raillines. Sitings of lift and pump stations have similarly avoided sensitive areas to the extent possible. Pipe diameters have also been reduced to the minimum size necessary to adequately transport the sewage flow.

In spite of the attention given to minimizing environmental impact through design of the system, because of the "pent-up" demand for housing which has accumulated during the past decade, induced growth and its accompanying impacts will inevitably occur as a result of a centralized sewerage system in West Ocean City. Existing State and local government plans and procedures, such as

the Worcester County Comprehensive Plan, Zoning Ordinance, and Floodplain Management Ordinance, and the Maryland Coastal Zone Management Plan, already provide some measure of protection from potentially adverse impacts which often accompany a rapid influx of new growth. In addition, the Draft EIS outlined specific restrictions on sewer service in West Ocean City's environmentally sensitive areas which must be imposed if the sewerage system is to receive Federal funding. Figure IV-2 roughly indicates the combined floodplain/wetland area which will be subject to the sewer service restrictions. These restrictions are summarized as follows:

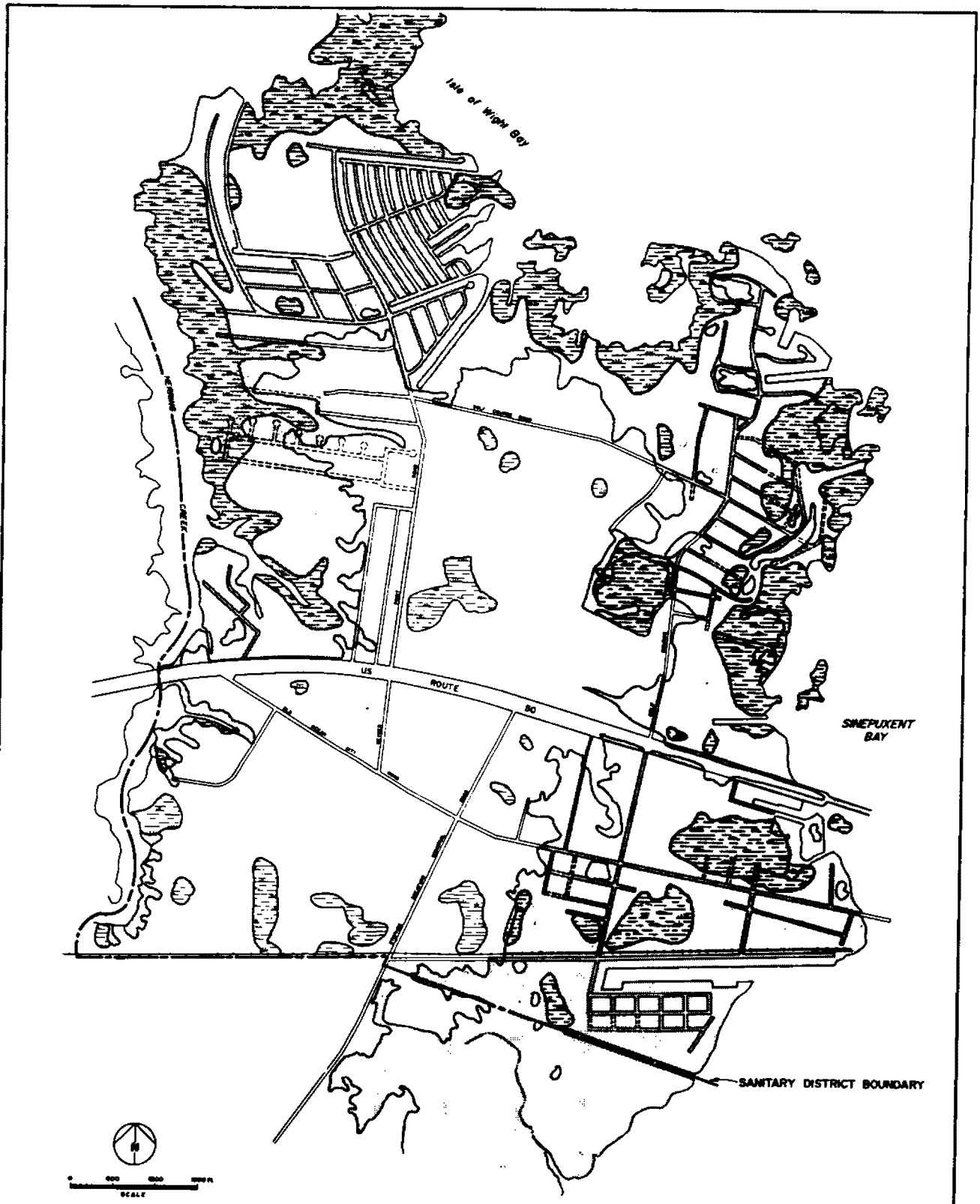
Flood-prone Areas--Because most of the area's existing septic tank problems are located in the floodplain, sewer service will be permitted for all existing structures where required. However, new development must be limited. Sewer service will be permitted for only those undeveloped lots which were platted as building lots prior to May 1977. This date corresponds roughly to the issuance of EO 11988 and the stringent septic system requirements which have restricted development. The sewer service capacity must also be limited to that required for one equivalent dwelling unit (i.e. 280 gallons per day). This will permit individual homeowners, and in some cases small businesses, to develop their land. New subdivisions and major development in flood-prone areas cannot be served by a Federally-funded system.

Wetlands--There is no need for central sewer service to wetland areas to alleviate existing water quality problems. Any sewer service to these areas would be solely to promote new development and would be inconsistent with the intent of Federal Executive Order 11990, as well as other Federal and State wetland protection policies. Therefore, sewer service will not be permitted within any of the area's wetlands, as designated by the U.S, Fish and Wildlife Service. These include both tidal and non-tidal wetlands.

Prime Agricultural Lands--Worcester County has a program to preserve the County's 250,000 acres of agricultural land through provisions in the County's Comprehensive Plan and Zoning Ordinance. The plan states that West Ocean City should be developed in order to protect farmland in the rest of the County. Much of the land in West Ocean City containing Prime Agricultural soils has already been developed or subdivided into small lots of individual ownership. Sewer service can be permitted here on residentially zoned lands, but should be discouraged in agricultural zones.

Combination Areas--The land area north of the east-west portion of Golf Course Road is composed entirely of wetlands, floodplain and prime agricultural land. No sewer service will be permitted here; there is no existing need to alleviate water quality problems. No interceptor will be permitted to extend across the east-west portion of Golf Course Road. EPA regulations prohibit extension of interceptors through environmentally sensitive lands when there is no existing need for service. Undeveloped industrially-zoned lots south of Route 50 and east of Golf Course Road which are composed of wetlands and floodplain areas which were not platted prior to 1977 are also not eligible for service.

Non-sensitive Areas--Sewer service can be planned in these areas in a manner which is consistent with local planning and zoning regulations and population projections.



LEGEND

FLOODPLAIN

WETLANDS

Floodplain/Wetlands

FIGURE IV-2

Sensitive Areas Which Cannot Receive Federally-funded Sewer Service--Any development must be supported by the use of on-site wastewater treatment systems where permitted in accordance with State and local requirements.

Implementation Plan

While the Draft EIS clearly described the expected environmental impacts of the selected alternative, and outlined the constraints necessary to protect environmentally sensitive areas, it did not specify the institutional framework and procedures by which the protective measures would be carried out. As several commenters noted, the absence of a plan for ensuring that these measures are carried out relegates the measures themselves into nothing more than good intentions.

To address this shortcoming, EPA, in conjunction with the Maryland Department of Health and Mental Hygiene and the EIS Coordination Committee, has further researched and discussed the possible mechanisms which could be employed to achieve implementation of the necessary mitigation measures. The following recommended implementation plan has resulted. When executed, it will provide a set of measures which, together with existing controls, will satisfactorally mitigate potentially adverse impacts in environmentally sensitive areas.

The implementation plan calls for actions at the Federal, State and local (County) levels of government. It consists of two primary institutional mechanisms, a local-State Consent Order, and a condition to the EPA Construction Grant award, each of which in turn requires a number of individual actions. The Consent Order and grant condition will serve as the legally binding instruments for ensuring implementation of the individual mitigative measures specified therein.

The grant condition, as currently envisioned, will contain two main provisions:

1. It will require the Worcester County Sanitary Commission to provide the State Department of Health and Mental Hygiene and EPA, Region III with a set of maps prior to construction which clearly delineate within the study area all wetland areas as defined by the U.S. Fish and Wildlife Service and all lands with the 100 year floodplain as defined by the Federal Emergency Management Agency (FEMA). The maps will also delineate all specific vacant parcels of land which lie partially or wholly within the above floodplain or wetland boundaries, and will indicate which parcels were platted as building lots prior to June 1, 1977 and which had been developed prior to the issuance of the Final EIS.

2. It will require the WCSC to prohibit for a period of 10 years from the date of grant award any connections to the sewerage system from structures located on any parcel of land subject to development restrictions based on the above maps, i.e. any parcel of land not platted as a building lot prior to June 1, 1977 which lies partially or wholly within a wetland or floodplain area.

The Consent Order will be negotiated between WCSC and the State Department of Health and Mental Hygiene, and is expected to contain the following provisions:

1. It will require maps similar to those required by the grant conditions, delineating floodplains, wetlands, and vacant parcels therein.

2. It will require WCSC to incorporate the maps and connection restrictions in floodplains and wetlands into the County Comprehensive Water and Sewerage Plan.

3. It will designate the County Environmental Health Director as the responsible party for deciding whether or not a lot is allowed sewer service.

4. It will require WCSC to establish a new permitting process, or modify its existing plumbing permit process, to require an undeveloped lot owner to obtain a permit for connection to the sewer system prior to or concurrently with his application for a construction permit. An owner of a developed lot would only be required to obtain the connection and/or plumbing permit(s).

5. It will require WCSC to amend its administrative procedures, and obtain additional resources, if necessary, to assure compliance with the above provisions.

Timing

It is anticipated that the proposed Consent Order will be agreed to and signed prior to a Construction Grant award for West Ocean City. If this occurs, then a grant condition as outlined above will be included as part of the grant award. Should the Consent Order not be negotiated and signed prior to a Construction Grant award, then the grant condition may need to be modified to reflect the incomplete status of this component of the mitigation plan. Most of the provisions contained in the grant condition and Consent Order will be required to be accomplished prior to local award of any construction contracts. Certain of the provisions, however, may not have to be implemented until prior to initial system operation.

Monitoring and Enforcement

The primary monitoring and enforcement tool for the provisions of the Consent Order is the Worcester County Water and Sewer Plan. This Plan is a State Approved document that delineates those areas in the County that are in need of water and/or sewer service and when, within a period of ten years, such service is to be provided. Each County Plan is required to be updated biennially and an approval must be received for each update. A County Plan is also the document against which a project is checked for conformance before a State construction permit is issued. In light of this, by withholding approval of Worcester County's next update until there are adequate provisions contained therein to control development in environmentally sensitive areas, the State Department of Health and Mental Hygiene will be able to ensure compliance with its Consent Order.

The reponsibility for monitoring compliance with the grant condition provisions rests initially with the State DHMH as part of the Construction Grant delegation agreement with EPA, and ultimately with EPA itself. EPA may consider taking the following actions if the grantee (WCSC) fails to comply with the grant conditions:

1. Terminating or annulling the grant;

2. Disallowing project costs related to noncompliance;

3. Withholding project payments;

4. Suspending work:

5. Finding the grantee to be nonresponsible or ineligible for future Federal assistance or for approval for future contract awards under EPA grants;

6. Seeking an injunction against the grantee; or

7. Instituting such other administrative or judicial action as may be legally available and appropriate.

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West Ocean City EIS
Distribution List

Federal Agencies

- Advisory Council on Historic Preservation
- Council on Environmental Quality
- Federal Emergency Management Agency
- National Agricultural Lands Study
- US Bureau of Prisons
- US Department of Agriculture
  - Soil Conservation Service
  - Farmers Home Administration
- US Department of the Army
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  - Fish and Wildlife Service
    - National Water Resource Analyses Group
    - Eastern Energy Land Use Team
  - National Park Service
    - Assateague Island National Seashore
- US Department of Transportation
  - Marine Environmental Protection Division
- US Department of the Treasury
- US General Services Administration
- Water Resources Council

Maryland State Agencies

- Department of Agriculture
- Department of Health and Mental Hygiene
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  - Bureau of Air Quality and Noise Control
  - Office of Environmental Programs
  - Environmental Health Administration
- Department of Natural Resources
  - Water Resources Administration
- Department of Parks and Recreation
  - Assateague State Park
- Department of State Planning
  - State Clearinghouse
- Department of Transportation
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- Water Quality Advisory Council

Regional Agencies

- Regional Planning Council, Baltimore

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  - Mayor
- Ocean City
  - Mayor
  - Council
  - City Manager
- Worcester County
  - Health Department
  - Planning Director

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Media--Newspapers	Daily and Sunday Times, Salisbury, MD Worcester County Messenger Maryland Coast Press Sun Eastern Shore Times Resort Publications
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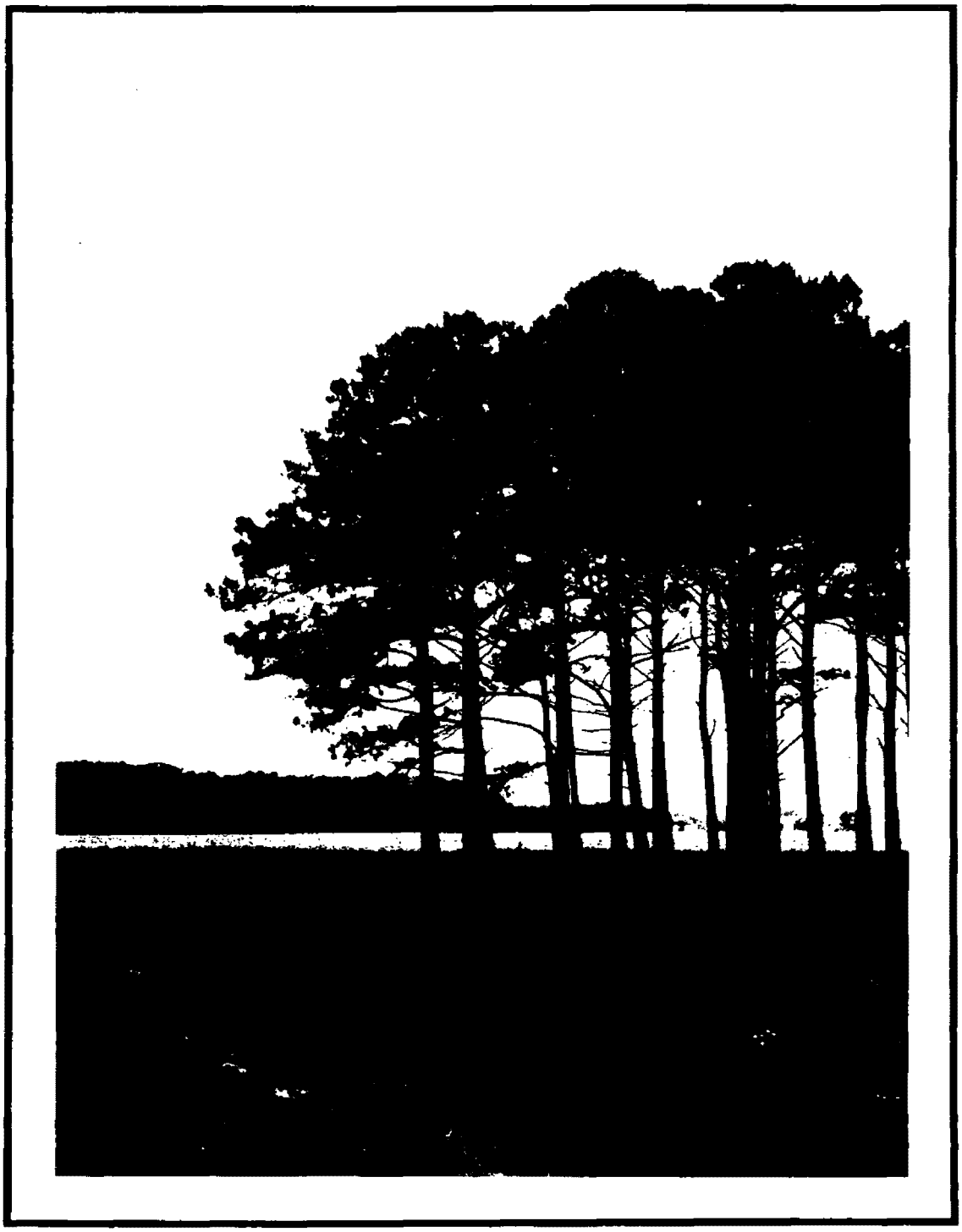
Appendices



APPENDIX A: EXECUTIVE SUMMARY OF DRAFT EIS

EXECUTIVE SUMMARY

Background

The National Environmental Policy Act (NEPA) of 1969 requires all Federal agencies to evaluate the potential consequences of providing Federal financial assistance. When the potential for adverse impacts on the natural, human, and/or economic environment is significant, an Environmental Impact Statement (EIS) is prepared. The EIS process identifies all possible environmental and economic impacts and recommends a plan which minimizes adverse impacts by providing mitigative measures for those which are unavoidable. Federal funding through EPA's Construction Grants Program is one of the Federal actions subject to the requirements of NEPA.

The West Ocean City Sanitary District has a lengthy history of problems with failing septic systems due to unsuitable soils and a high groundwater table. At the same time, the area has been under pressure to develop due to its proximity to Ocean City. The Worcester County Sanitary Commission (WCSC) first designed a sewage collection system for West Ocean City in 1974. At that time, EPA and the State of Maryland directed WCSC to prepare a Facilities Plan for a larger region which included Ocean City, West Ocean City and surrounding parts of the North Central Ocean Basin. EPA prepared Draft and Final EISs on the Facilities Plan in 1977 and 1978, respectively, which recommended large-scale regional wastewater treatment facilities and a new ocean outfall. Because of significant unfavorable comments by Federal and State agencies as well as environmental groups, EPA decided in 1978 not to endorse WCSC's original project. EPA did provide funds to WCSC to upgrade the Ocean City plant to secondary treatment and to expand the plant to a capacity of 12.0 mgd. EPA and the State also agreed to take a second look at the West Ocean City area.

The West Ocean City Sanitary District represents a very small portion (2,300 acres) of the area covered by the original North Central Ocean Basin (63,712 acres). Because of the continuing need for a solution to failing septic systems, EPA decided to issue a Facilities Plan grant amendment to WCSC which would focus solely on the needs of West Ocean City. The amendment was to cover specific Facilities Planning requirements, including:

1. Methods of sewage collection and treatment
2. Preparation of population projections
3. Identification of wastewater treatment needs
4. Consideration of environmentally sensitive features, including wetlands, floodplains and prime agricultural lands

At the same time, EPA prepared this Supplement to the original North Central Ocean Basin EIS which focuses on the following issues related to West Ocean City:

1. Population growth and development induced by the availability of sewer service
2. The effects of increased development on flood-prone areas, wetlands and prime agricultural lands
3. The effects of increasing urbanization on the water quality of the surrounding bays
4. The financial impacts on area residents of constructing and operating a sewer system

The Facilities Plan/EIS

This Draft EIS contains an analysis of wastewater collection and treatment alternatives proposed in WCSC's Facilities Plan Amendment. George, Miles and Buhr, Inc., the engineering consultants to WCSC, evaluated the alternatives for engineering

feasibility and cost. EPA has examined the alternatives from an environmental standpoint. The Facilities Plan and EIS have been prepared through a coordinated, concurrent approach which is sometimes called "piggybacking." In order to insure that WCSC's proposed project is environmentally acceptable for Federal funding, guidance has been given to WCSC on constraints which must be placed on sewer service in West Ocean City in order to protect environmentally sensitive areas. This guidance was prepared by EPA, in cooperation with the State of Maryland's Department of Health and Mental Hygiene.

Existing Environment

Soil Suitability for On-lot Systems--Sewage treatment and disposal in West Ocean City are currently accomplished by on-lot systems, such as septic tank drainfields. As of December 1980, 54% (732 of 1,348) of the area's systems had experienced failures. Soils which are unsuitable for on-lot systems because of a high or seasonally high water table cover 73% of the area. In 1976, Worcester County began implementing the State's Directive Policy GS-6 which required seasonal percolation tests in areas having a high water table. This has resulted in denial of 80-90% of new applications for septic tank permits in West Ocean City. Most of the area's existing homes were constructed prior to 1976.

Flood-prone Areas--The 100-year floodplain covers a substantial portion of the area. Most of the existing homes and platted lots are located in the floodplain since this is a resort community where waterfront locations are most desirable.

Wetlands--Wetlands border most of the area's waterfront. Development, often in filled areas which were formerly wetlands, is adjacent to many of the existing wetlands.

Prime Agricultural Lands--Soils designated as prime agricultural are scattered throughout West Ocean City. Many areas have already been developed or broken into small lots. One large undeveloped area of about 175 acres is located in the center of the study area.

Surface Waters--The area is surrounded by Herring Creek, Isle of Wight Bay and Sinepuxent Bay. Surface water quality ranges from marginal to poor. Pollutant sources include the Ocean Pines Treatment Plant as well as non-point sources. Present and future pollutant loads were calculated to determine whether sewer induced changes in land use would adversely affect surface waters. A 13% increase in nutrient loadings is anticipated as a result of West Ocean City's urbanization. Given the amount of this increase and the anticipated increases from the Ocean Pines Treatment Plant, it is unlikely that West Ocean City's development alone will adversely affect the surrounding bays. Runoff and sedimentation will increase by 19%; it may be necessary to implement stormwater management controls.

Water Supply--Private wells which tap groundwater resources comprise the area's sole domestic water supply. Groundwater supplies are adequate for present and future requirements. Some area wells have been found to contain excessive nitrate-nitrogen and fecal coliform concentrations.

Existing Population--The 1980 peak seasonal population is estimated to be 5,308 persons, of whom 2,033 are year-round residents. Many of the area's residents are employed in Ocean City or retired. The area contains large residential subdivisions as well as cottages, motels, mobile homes and marine-related businesses.

Future Population--Construction has been severely curtailed since 1976 due to the implementation of strict septic tank permit regulations. If sewer service and centralized treatment are not provided, the peak seasonal population is expected to increase by only 560 persons to 5,868 in the year 2000. If a sewer system were in place, the restrictions on housing construction would be lifted. West Ocean City's population would probably grow at a rate similar to that which occurs now in the neighboring communities of Ocean Pines/Berlin where sewer service is already available. The year 2000 population with a Federally-funded sewer system is estimated to be 13,920 persons. If a sewer system were constructed with local funds only and not constrained by State and Federal environmental requirements, the year 2000 population is estimated to be 17,700 persons.

he Alternatives

WCSC's Facilities Plan Amendment describes various alternatives to meet West Ocean City's wastewater treatment needs through the year 2000. The alternatives cover four basic areas:

- Where will sewer service be provided? How will environmentally-sensitive areas be protected from construction-related damage and loss through future development?
- How will the wastewater be collected?
- How will the wastewater be treated and disposed?
- How will the project be funded?

ewer Service Area

Any Federally-funded sewer system and the area it serves must comply with Federal regulations and policies to protect environmental resources from direct damage and indirect loss through development. The entire system must be environmentally acceptable; this includes that portion of the sewerage system which is for new development and therefore cannot receive Federal funding. At the start of the alternatives development process, EPA and the State provided guidance on limitations which must be placed on West Ocean City's sewer service area if Federal funding is to be sought. Each resource was given careful consideration. The intent was to minimize the damage and loss of environmental values, but at the same time minimize the economic impact on local residents and landowners. The following paragraphs describe the Federal policies and appropriate limitations:

Flood-prone Areas--Executive Order (EO) 11988 on Floodplain Management was issued on May 24, 1977. All Federal agencies must now avoid taking part in any actions which cause the occupancy, modification and development of flood-prone areas. This includes financing for public services such as sewers which would promote floodplain development. Because most of the area's existing septic tank problems are located in the floodplain, sewer service will be permitted for all existing structures where required. However, new development must be limited. Sewer service will be permitted for only those undeveloped lots which were platted as building lots prior to May 1977. This date corresponds roughly to the issuance of EO 11988 and the stringent septic system requirements which have restricted development. The sewer service capacity must also be limited to that required for one equivalent dwelling unit (i.e. 280 gallons per day). This will permit individual homeowners, and in some cases small businesses, to develop their land. New subdivisions and major development in flood-prone areas cannot be served by a Federally-funded system.

Wetlands--EO 11990 on the Protection of Wetlands was also issued on May 24, 1977. The objectives of EO 11990 were to avoid the destruction or loss of wetlands, avoid Federally-funded construction in wetlands, and preserve and enhance their values as wildlife nurseries and sources of water purification and groundwater recharge. Like EO 11988, EO 11990 applies to all Federally-funded projects, including the Construction Grants Program.

No sewer service will be permitted within the area's wetlands. The wetlands which surround West Ocean City are a valuable resource in their present undisturbed state.

Prime Agricultural Lands--Prime farmlands are those which have the best combination of soil characteristics, growing season and moisture supply for producing crops. In September 1978, EPA issued a Policy Statement to Protect Environmentally Significant Agricultural Lands in recognition of their value and the need to preserve farmlands wherever potentially affected by agency action. Worcester County has a program to preserve the County's 250,000 acres of agricultural land through provisions in the County's Comprehensive Plan and Zoning Ordinance. The plan states that West Ocean City should be developed in order to protect farmland in the rest of the county. Sewer service will be permitted here on residentially zoned lands, but not in agricultural zones. No interceptor will be permitted across the east-west portion of Golf Course Road. EPA regulations prohibit extension of interceptors through environmentally sensitive lands when there is no existing need for sewer service.

Non-sensitive Areas--Sewer service can be provided in a manner consistent with local comprehensive plans, zoning regulations and population projections.

Sensitive Areas Which Cannot Receive Federally-funded Sewer Service--Any development in these areas must be supported by the use of on-site wastewater treatment systems where permitted under the requirements of State policies.

Wastewater Collection

Three sewage collection systems were evaluated for use in West Ocean City: gravity, pressure and vacuum systems. Proposed sewer routes are nearly the same for each system. For the most part, the sewer alignments follow existing roads and railroad rights-of-way. Because these areas have already been disturbed, no significant damage to the environment is anticipated. Traffic disruption could be minimized by scheduling construction during the off-tourist season. Principal differences between the three systems are caused by construction requirements and costs for operation and maintenance. The gravity system is the most expensive system to construct as deep trenches (3 to 15 feet) and extensive dewatering would be required. This system would have the lowest long-term costs for operation and maintenance. Pressure and vacuum systems have lower construction costs and would require much shallower trenches. However, these systems are more expensive to operate and maintain because of power requirements and additional equipment which must be purchased annually. The Facilities Plan recommends that a gravity system be installed on the basis of lowest total cost over 20 years.

Treatment and Disposal

Several options were examined for treatment and ultimate disposal of raw sewage collected. The wastewater flow is projected to be 974,000 gallons per day based on a year 2000 population of 13,920. Discharge of treated effluent to surrounding surface waters cannot

be considered because of the sensitivity and limited capacity of these bays to accept existing discharges. Land application is an attractive alternative, but not viable because of the lack of suitable soils. For West Ocean City, the only remaining disposal option is use of the existing ocean outfall in Ocean City.

Two treatment options were considered. In the first, raw sewage collected in West Ocean City would be pumped through a 16-inch force main under Sinepuxent Bay to the Ocean City sewage collection system at 15th Street. From this point, the combined flow would be transported to the Ocean City plant at 64th Street for treatment and disposal. The Ocean City plant has a capacity of 12.0 million gallons per day (mgd); this should be adequate for the 11.5 mgd Ocean City flow and 0.5 mgd West Ocean City flow through 1985. In 1985, WCSC plans to expand the Ocean City plant to a capacity of 20.5 mgd. West Ocean City would then have to contribute its share (10.5% based on eventual use of 1.0 mgd of capacity) of the cost for expansion. In the second alternative, a new 1.0 mgd secondary treatment plant would be constructed in West Ocean City. Treated effluent from the West Ocean City plant would be pumped across the Bay to Ocean City. Because the treated effluent and Ocean City's raw sewage could not be mixed, the force main would be extended to the Ocean City treatment plant outfall for discharge. Of the two options, treatment and disposal using Ocean City's existing plant and outfall has the lower cost.

st Comparison

Wastewater treatment and disposal costs are composed of capital (construction) costs and the long-term costs of operation and maintenance (O&M). To compare the cost-effectiveness of each alternative, the total present worth is used. The total present worth is based on the sum of the capital and O&M costs over the 20-year planning period less the value of any equipment which can be salvaged after 20 years. This sum is then amortized to reach to current value of each expenditure. This permits a more accurate comparison of alternatives which are inexpensive to build but expensive to maintain. The following table shows costs for the treatment and collection alternatives as presented in WCSC's Facilities Plan.

Treatment/Disposal Alternative	Capital	O&M	Total Present Worth
Ocean City treatment and disposal	$3,480,400	$1,190,400	$4,223,900
West Ocean City Treatment and Ocean City disposal	8,343,000	2,096,500	9,698,900
West Ocean City treatment and land application	8,431,800	1,678,100	9,352,300

Collection Alternative	Capital	O&M	Total Present Worth
Gravity Sewers	8,057,000	517,000	7,706,000
Pressure Sewers	7,219,400	2,790,000*	9,252,600
Vacuum Sewers	6,723,900	2,638,600*	8,884,400

*Includes costs for purchasing additional equipment for new development.

Land application costs are illustrated for comparison, but this treatment method is not feasible due to the lack of suitable soils in the area.

The Selected Plan

The Facilities Plan recommends wastewater collection by gravity sewers and treatment/disposal using the Ocean City treatment plant and ocean outfall as the lowest cost combination. In addition to alleviating seepage by the area's failing septic systems, this alternative would allow population growth and development to resume. There is a high unsatisfied demand for housing in the area. If the amount and location of development is implemented according to EPA and State guidance, impacts on wetlands, flood-prone areas and prime agricultural lands would be minimized. One of the potential adverse impacts of implementing this plan would be the financial impact on area residents. The user charges may be high for persons on fixed or limited incomes. WCSC could establish a user charge system which reduces charges somewhat to local residents, while increasing costs to commercial and industrial users. Growth under the selected plan will cause changes in the volume and pollutant loads of runoff. Additional public services will also be required to accommodate the projected population increase.

Because of the limitations which must be placed on sewer service in a Federally-funded system, the Facilities Plan also considers a system which would be funded totally by local residents but would not be constrained by environmental regulations. The following is a brief sketch of the differences.

	Federally-funded	Locally-funded
Acres to be developed	1287 with restrictions on amount of development	2300 with development per local zoning
Year 2000 Population	13,920	17,700
Wastewater Flow (mgd)	.975	1.239
Local share of capital cost	$3,379,200 plus $1,801,800 for 1985 expansion	$11,608,900 plus $2,220,700 in 1985

Because of State limitations on bond issuance, the locally-funded alternative could only be financed with a direct assessment to property owners benefiting from the system. An up-front assessment of $4,400/acre would be charged in addition to the new unit hookup charges, service line construction costs and annual front-footage assessment and O&M fees.

User Charges

Fees to be paid by local residents and land owners are estimated in the Facilities Plan. These user charges have several components:

1. A front-footage assessment based on lot width to be paid annually by all property owners in the service area. This assessment would cover local bonds issued to pay for construction costs.

2. An annual operation and maintenance (O&M) charge to be paid by all residents and businesses served by the system.

3. A one-time hookup fee of $600-800 to be paid by all new development.

4. A one-time private cost of $500-1,500 to individual homeowners to pay for plumbing and other costs to install a service line between the house and the sewer lateral at the property line in the street.

User charges will also be affected by the availability of Federal funds. The Ocean City treatment plant may have to be expanded in 1985. Should this occur, West Ocean City will have to pay for its share (10%) of the expansion. The Facilities Plan assumes that Federal funds will be available in 1985 to cover part of the cost of the expansion; West Ocean City's share of the local cost would be $585,600. The potential Ocean City expansion may, however, be Federally funded. In that case, West Ocean City's contribution would be $1,801,900. The following tables show estimates of user charges for West Ocean City, based on the draft Facilities Plan. One-time costs for hookup of new units and installation of private service lines are not included.

Annual User Charges with no grant funding for the Ocean City expansion in 1985:

	1983	1985	1990	2000
Front Foot Rate	$2.62/ft	$4.25/ft	$4.25/ft	$4.25/ft
+				
O&M Costs for one residence	$ 86	$ 86	$ 74	$ 73
=				
Total by lot width				
50 ft.	$217	$ 299	$ 287	$ 286
100 ft.	$348	$ 511	$ 499	$ 498
200 ft.	$610	$ 936	$ 924	$ 923
300 ft.	$872	$1,361	$1,349	$1,348

Annual User Charges with Federal funding for the Ocean City expansion in 1985:

	1983	1985	1990	2000
Front Foot Rate	$2.62/ft	$3.02/ft	$3.02/ft	$3.02/ft
+				
O&M Cost for one residence	$ 86/yr	$ 86/yr	$ 74/yr	$ 73/yr
=				
Total Costs by lot width				
50 ft.	217	237	225	224
100 ft.	348	388	376	375
200 ft.	610	690	678	677
300 ft.	872	992	980	979

These charges assume that each user, residences and businesses, will be charged the same rate. Charges could be reduced to homeowners somewhat if rates for commercial and industrial users were raised. WCSC has the responsibility to prepare user charge systems within the County. In the two existing systems, WCSC does charge higher rates to commercial and industrial users; because WCSC's rates are based on the number of fixtures, multiple dwelling units also pay higher costs.

In an attempt to reduce the cost burden to system users, WCSC recently made revisions to the draft Facilities Plan's proposed project and financing assumptions. These changes yield the following figures:

Annual User Charges with no grant funding for the Ocean City expansion in 1985 and assuming $800,000 from the Maryland Failing Septic Tank Program:

	1983	1985	1990	2000
Front Foot Rate	$1.41/ft	$2.91/ft	$2.91/ft	$2.91/ft
+				
O&M Costs for one residence	$ 80	$ 80	$ 69	$ 68
=				
Total Costs by lot width				
50 ft.	150	226	215	214
100 ft.	221	371	360	359
200 ft.	362	662	651	650
300 ft.	503	953	942	941

These changes will be presented by WCSC at the upcoming public hearing specified in the front of this document.

Affordability

Depending on lot widths and the cost assumptions utilized, the estimates of user charges in many cases exceed EPA guidance on affordability. Based on median income, any cost greater than $371 per year may be expensive for the average Worcester County resident. It is impossible to determine how much the average West Ocean City resident/property owner can afford to pay. Roughly 50% of West Ocean City residents are seasonal visitors only. It is unlikely that their incomes appear in Worcester County economic data. In addition, income data are also not available for the large number of property owners who do not have residences in the area. A detailed financial analysis was performed on the capability of WCSC, Worcester County and the West Ocean City Sanitary District to construct and support the costs of the system. The analysis indicated that the community as a whole can support the project, but the margin of safety is very small (see Appendix D).

Preliminary Recommendations

EPA recognizes that the Facilities Plan's selected alternative has the lowest cost of those examined. However, the proposed user charges may place a financial burden on some residents. WCSC and the Worcester County Commissioners will make the final decision to apply for a construction grant. This should not be done without full support by West Ocean City's residents. WCSC must also comply with EPA and State limitations on sewer service in environmentally sensitive areas.

The Decision-making Process

Both the costs and environmental impact information should be reviewed carefully by area residents and other interested parties to determine which of the alternatives, if any, is preferable.

Ample time will be made available to study the material contained in the Draft EIS and raise questions. Following public distribution of the Draft EIS, there will be a 45-day review and comment period during which time a public hearing will be held.

The Draft EIS will be distributed to government agencies, citizens and other interested groups on the mailing list which appears in Chapter VI. All concerned citizens, groups and agencies should forward their opinions and comments to EPA. EPA will carefully evaluate any comments received and make any necessary changes to the alternatives analysis based on these comments. A response to substantive comments will be provided in the Final EIS, which will be completed following the end of the Draft EIS review period. Also in the Final EIS, EPA will identify a recommended alternative for implementation, with consideration given to public comments, local government positions and the cost and impact evaluations described in the Draft EIS. EPA will also indicate whether other alternatives may also be acceptable and can be considered for Federal funding.

APPENCIS B: DRAFT EIS COMMENT LETTERS

9/23/82

To Evelyn Schultz:

I am in favor of the sewer system selected (Gravity system). It seems to be the most reasonable system over a 20 year period.

If the sewer project does not go through, my property in West Ocean City will be useless as I cannot build.

Thank You

Frank Harrington

MR/MRS FRANK HARRINGTON
1786 JOAN AVE
BALTIMORE MD 21234

3La 7398

MARYLAND
DEPARTMENT OF STATE PLANNING
301 W. PRESTON STREET
BALTIMORE, MARYLAND 21201

HARRY HUGHES
GOVERNOR

CONSTANCE LIEDER
SECRETARY

September 22, 1982

Mr. Peter N. Bibko
Regional Administrator
U.S. Environmental Protection Agency
Region III
6th And Walnut Streets
Philadelphia, Pennsylvania 19106

RE: State Clearinghouse Project - DEIS - West Ocean City WWT Facilities, Worcester Co. 82-9-940

Dear Mr. Bibko:

The State Clearinghouse has received the above project. The review of this project has now been initiated and you may expect a reply from us by November 5, 1982. If you have any questions concerning this review, please contact Samuel Baker (383-7876) of this Clearinghouse.

We are interested in your project and will make every effort to ensure prompt action. Thank you for your cooperation with the Clearinghouse program.

Sincerely,

F. B. Gatch

F. Bryan Gatch
Acting Director, State Clearinghouse

cc: Francis Aluisi

SB:pm

TELEPHONE: 301-383-7875
OFFICE OF STATE CLEARINGHOUSE

LAW OFFICES
RISQUE W. PLUMMER
THE LAW BUILDING
425 ST. PAUL PLACE
BALTIMORE, MARYLAND 21202

TELEPHONE:
OFFICE 301-685-1500
RESIDENCE 301-889-2243

October 14, 1982

United States Environmental Protection Agency
Region III - 6th & Walnut Sts.
Philadelphia, Pa. 19106

Attn. Peter N. Libko
Regional Administrator

Gentlemen:

My wife, Constance B. Plummer, and I are the owners of leased residential property on Old State Road, at the intersection of U.S. Route 50, and bordering on Herring Creek, in Worcester County, Maryland. The property is 1½ miles from the Route 50 bridge and is within the area generally known as West Ocean City.

We have read your Draft Environmental Impact Statement regarding the wastewater management facilities Plan for West Ocean City and are very much in favor of it or any other similar proposal for sewage and wastewater disposal in that area of Worcester County. We note that there will

(over)

be a public hearing on your EIS at the Ocean City Elementary School on October 27, 1982. We live in Baltimore, but will be away on the date of your meeting and hence unable to attend. Please record our "vote", or at least our sentiments, as being decidedly in approval of your proposal to rectify the deplorable conditions which currently exist with respect to waste-water and sewage disposal in the West Ocean City area of Worcester County.

Incidentally, since I have semi-retired from the practice of law, please address any communications to me at my home address, and thanks.

Sincerely,

RISQUE W. PLUMMER
4000 N. CHARLES ST. #5
BALTIMORE, MD. 21218
(301) - 889 - 2243

October 19, 1982

Ms. Evelyn Schultz
United States Environmental Protection Agency
Region 3
Sixth & Walnut Sts.
Phila., Pa. 19106

Dear Ms. Schultz:

I have received a copy of the Draft EIS for West Ocean City Wastewater Treatment Facilities, and I would like to re-affirm my support for sewer service.

I was in attendance at the May 1982 meeting, but I am unable to attend the October 27th meeting.

I am a property owner in Cape Isle of Wight and am strongly in favor of sewer service in that area.

Please keep my name on your mailing list for this project.

Yours very truly,

Donald E. Einolf

DONALD E. EINOLF
906 Pine Heights Ave.
Baltimore, Md. 21229

U.S. Department of Transportation
Office of the Secretary of Transportation

Regional Representative of the Secretary

Region III
434 Walnut Street
Philadelphia, PA. 19106

October 22, 1982

Evelyn Schulz
EIS Preparation Section (3PM61)
EPA, Region III
Curtis Building
6th & Walnut Streets
Philadelphia, PA 19106

Dear Ms. Schulz:

The following is the Department of Transportation consolidated response for the West Ocean City Draft EIS. This document was forwarded for review to the Fifth Coast Guard District, Maritime Administration (Eastern Region), Federal Aviation Administration (Eastern Region), and Federal Highway Administration (Region III).

There are no comments to be offered relative to this EIS with the exception that comment might be made in the final EIS to the effect that the design and construction of the facility will continue to be coordinated with the appropriate state and local highway officials

The Department of Transportation appreciates this opportunity to comment and appreciates the efforts which have adequately addressed the probable impacts to the transportation modes.

George D. Bond, II
Lieutenant Commander, USCG
Senior Staff Officer

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta, Georgia 30333
(404) 452-4095
October 25, 1982

Ms. Evelyn B. Schulz
U.S. Environmental Protection Agency
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

We have reviewed the Draft Environmental Impact Statement (EIS) for West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland. We are responding on behalf of the Public Health Service.

We have reviewed this document for possible health effects and find that with one exception the EIS adequately addresses our concerns. It was noted that the EIS did not consider reducing per capita water use in conjunction with any of the alternatives discussed. The City should encourage water saving devices in all new construction and in the replacement of existing fixtures through review and revision of local codes. The Final EIS should address this issue.

Thank you for the opportunity of reviewing this EIS. Please send us a copy of the final statement when it becomes available. If you should have any questions about our comments please contact Mr. Lee Tate of my staff at FTS 236-6649.

Sincerely yours,

Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MARYLAND 21203

REPLY TO ATTENTION OF:
NABPL-E

26 October 1982

Ms. Evelyn B. Schulz
Project Manager
United States Environmental
Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

This letter is in response to your Draft Environmental Impact Statement (DEIS), West Ocean City Wastewater Treatment Facilities, located in Worcester County, Maryland. Comments are directed toward the alternatives under consideration for the proposed project as they relate to Corps of Engineers' areas of concern.

This agency's areas of concern are flood control hazard potentials, permit requirements under Section 404 of the Clean Water Act, Sections 9, 10, and 13 of the River and Harbor Act of 1899, and other direct and indirect impacts on Corps of Engineers' existing and/or proposed projects.

The Flood Plain Management Services Program is the Corps' means of using its technical expertise in flood plain management matters to help those outside the Corps, both Federal and non-Federal, to deal with floods and flood plain related matters. The subject DEIS provides sufficient and adequate flood plain related information concerning the project and potential adverse impacts from encroachments on the area's flood plains.

The work described will require Department of the Army authorization pursuant to Section 10 of the River and Harbor Act of 1899 and Section 404 of the Clean Water Act. Any plans should be referred and application made to the Baltimore District Office. For more specific information regarding permit needs, please contact Mr. Woody Francis of the Regulatory Functions Branch of Operations Division at (301) 962-4500.

The Corps presently maintains a navigation channel and a jetty project within the immediate vicinity of the proposed project. It has been determined that the proposed construction would not adversely impact these projects. Currently, the Corps is studying beach and hurricane protection from the Ocean City Inlet to the Delaware state line; however, the proposed wastewater treatment facilities are not anticipated to have an adverse impact on this study.

NABPL-E 26 October 1982

Ms. Evelyn B. Schulz

The Baltimore District appreciates the opportunity to comment on your DEIS and would appreciate a review of the Final Environmental Impact Statement following its preparation. If you have any questions regarding that which has been provided or if we can be of further assistance, please do not hesitate to contact either Mr. Rick Popino or Mr. Larry Lower of my staff at (301) 962-2558.

Sincerely,

WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

Federal Emergency Management Agency

Region III 6th & Walnut Streets Philadelphia, Pennsylvania 19106

November 2, 1982

Ms. Evelyn B. Schulz
U. S. Environmental Protection Agency
Region III
6th & Walnut Streets
Philadelphia, PA 19106

RE: Draft E.I.S. - West Ocean City
Wastewater Treatment Facilities

Dear Ms. Shulz:

We have reviewed the West Ocean City Draft E.I.S., specifically those sections concerned with the application of Executive Order 11988. As we have indicated in our earlier correspondence and in meetings of the EIS Coordination Committee, FEMA believes EPA policy for limiting sewer service in West Ocean City consistent with the Executive Order.

In January, 1979 we commented on the Final E.I.S. for the North Central Ocean Basin Facilities Plan. Our comments concerning E.O. 11988 were prompted by plans to provide sewer service, and thus facilitate development of, large areas of the one hundred year floodplain in Worcester County.

FEMA has always recognized that EPA in implementing the Executive Order is not released from its obligation to address water pollution problems in floodplain areas. The policies developed over the last several years appear to us to constitute a very reasonable approach to balancing the mandate of the Construction Grants Program and the Executive Order.

In previous correspondence (December 28, 1979) we indicated that we were essentially in agreement with the decision to limit service to those lots that were individually platted prior to May 1977. While we believe the date of Directive GS-6 (January, 1976) would have been a more appropriate date, since it can reasonably be argued that as of that date "existing need" was recognized, the actual difference in the number of lots to which service would be available is probably inconsequential. Again, however, we wish to point out that there is no "grandfathering" provision in the Executive Order as could be inferred from EPA's use of May 1977, the date of the Order's issuance, as a cut-off date for sewer service.

We believe it essential that the Final E.I.S. detail how the limitations on service will be implemented. We believe the limitations should be spelled out in the funding agreement between EPA and the Sanitary District and the agreement should specify that the Sanitary District, based on the agreement, will deny permits except on the designated lots.

If any further clarifications of our comments are needed, please contact Joseph Gavin at 597-1849.

Sincerely yours,

Walter P. Pierson
Chief
Natural and Technological
Hazards Division

Karen Coordinate of Prep

w/ E&B

NOV 2 RECD

The Maryland Wetlands Committee
416 Edgemere Drive
Annapolis, Maryland 21403

Mr Peter Bibko, Regional Administrator
U.S. Environmental Protection Agency
Region 111
6th and Walnut Streets
Philadelphia. Pa. 19106

October 28, 1982

Dear Mr. Bibko:

I am writing to you on behalf of the Maryland Wetlands Committee, a citizen's organization concerned with state water quality issues and the preservation of wetland habitat. The following comments are in reference to the Draft Environmental Impact Statement for the West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland.

Upon reviewing this permit, and after learning of the high productivity levels of the state wetlands in Assawoman Bay, I am concerned about the use of federal funds for the filling of 8.4 acres of prime wetland habitat as proposed by this permit.

When we consider that the ocurrence of submerged aquatic vegetation, such as wigeon grass, in the Chesapeake Bay has been affected by nutrient loading and sedimentation, it becomes clear that, whenever possible, we should attempt to balance these losses. The Coastal Wetlands of Maryland publication ranks wigeon grass as,"...the most important food plant for waterfowl in the coastal zone of Maryland." pg. 80 The diversity of shellfish and finfish species found in Assawoman Bay is, no doubt, related to the variety of submerged and emergent vegetation that have established themselves therein.

There are, at this time, no plans to mitigate the loss of wetlands from this project. Thus, the Maryland Wetlands Committee is requesting that both the city owned Playland Property and the canal just north of this property be utilized for the sewage plant expansion project.

At this time only 10% of the land in Ocean City remains available for development. Thus, we question the need for a sewage treatment plant that will be expanded for a 25 mgd. capacity especially if this expansion will take place in a highly flood prone area that is now a productive wetland.

Sincerely,

Jane Benesch
Chairman

NOV - 1 1982

EPA, REGION III
OFFICE OF REGIONAL ADMINISTRATOR

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

November 1, 1982

Mr. Peter N. Bibko
Regional Administrator
U.S. Environmental Protection Agency
6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Bibko:

This is in reference to your draft environmental impact statement entitled "West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland." The enclosed comments from the National Oceanic and Atmospheric Administration are forwarded for your consideration.

Thank you for giving us an opportunity to provide comments. We would appreciate receiving two copies of the final environmental impact statement.

Sincerely,

Joyce M. Wood

Joyce M. Wood
Director
Office of Ecology and Conservation

Enclosure: Letter from: Ruth Rehfus, National Marine Fisheries Service

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Services Division
Habitat Protection Branch
7 Pleasant Street
Gloucester, Massachusetts 01930-3799

Rec'd 11/8/82
EC: dm

OCT 26 1982

Mr. Peter N. Bibko
Regional Administrator
U.S. Environmental Protection Agency
6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mr. Bibko:

The National Marine Fisheries Service has reviewed the Draft Environmental Impact Statement (DEIS) entitled West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland.

The selected plan involving construction of a gravity feed collection system with sewage treatment and disposal at the existing Ocean City facility should not result in significant adverse impacts to living marine resources or habitat in the short-term. However, implementation of the plan, as projected in the DEIS, would cause the Ocean City facility to reach capacity by 1985. To accommodate anticipated demands in the area subsequent to 1985 would require expansion of existing or construction of new treatment facilities.

Currently, the Worcester County Sewage Commission has submitted to the Maryland Department of Natural Resources a proposal for expansion of the Ocean City plant (enclosed). The expansion, as proposed, will entail extensive dredging and filling of submergent and emergent wetlands. Additionally, the Maryland Tidewater Fisheries Division has found this site to be an important nursery area for marine and estuarine species.

It is not clear whether or not the request to expand the Ocean City facility is associated with the proposed link-up with West Ocean City, or is in response to increased demand for development in Ocean City. If the request is in response to the latter, the selected plan does not seem feasible to alleviate West Ocean City's sewage problems because it implies that the Ocean City plant is presently operating at full capacity. If the request is in response to the former, it appears that the selected plan is directly responsible for the proposed expansion and the associated adverse environmental impacts. In either case, the proposed expansion should be discussed in the Final Environmental Impact Statement (FEIS) relative to the selected or alternative plans.

The proposed expansion problem is further complicated by the fact that city-owned uplands contiguous with the existing sewage treatment facility are available. We recommend that the Environmental Protection Agency address and, if possible, resolve these issues.

The biological impacts of crossing Sinepuxent Bay with submerged sewage pipelines are not addressed in the DEIS. The proposed pipeline could be attached to the Route 50 Bridge to eliminate impacts to Sinepuxent Bay entirely. A similar alternative was proposed in the FEIS for the North Central Ocean Basin, Regional Wastewater Treatment Facility. This alternative should be discussed in the FEIS.

Should you have any questions concerning our comments, please do not hesitate to call.

Sincerely,

Ruth O. Rehfus

Ruth O. Rehfus
Branch Chief

Enclosure

JAMES B. COULTER
SECRETARY

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TIDEWATER ADMINISTRATION (301) 269-2784
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

September 27, 1982

MEMORANDUM

TO: Harold Cassell, Chief
Wetlands Permit Division, WRA

FROM: Sarah Taylor, Director
Coastal Resources Division, Tidewater Administration

SUBJ: Wetland Case 83-WL-0101, Worchester County
Sanitary Commission

The following comments are submitted on the application for a wetlands license by Worchester County Sanitary Commission to expand the wastewater treatment plant at 64th St. in Ocean City. The applicant proposes to fill approximately 8.5 acres of State wetlands to create the fastland needed for the expansion. The fill material will be obtained from the proposed dredging of approximately 7.4 acres of open water area.

The major issues with the project are (1) the filling of shallow open water and tidal marsh and the resultant loss of valuable fisheries habitat; and (2) the dredging of State wetlands for the purpose of obtaining fill material to be used for the creation of fastland.

We recognize that there are public benefits to be derived from the project. However, there is an alternative upland site available to carry out the objectives of the project. We recommend that this alternative be fully explored prior to any consideration of approving the filling of State wetlands to carry out the project. The following comments are submitted in support of this recommendation.

Project Description

The applicant proposes to conduct the following activities (attachment 1):

- to construct a 1300 feet long by 12 feet high earthen dike within a maximum of 750 feet channelward of the mean high water line;

- to fill approximately 8.5 acres of tidal wetlands within the dike consisting of approximately 7 acres of shallow open water bottom 1.5 acres of tidal marsh;

- to obtain fill by dredging approximately 170,000 cubic yards of material from a 7.4 acre open water area immediately channelward of the proposed dike.

Issues

The major issues associated with the project are the following:

(1) The filling of 8.5 acres of tidal wetlands and associated loss of habitat values;

(2) The dredging of 7.4 acres of tidal wetlands (open water bottom) for the purpose of obtaining fill material;and

(3) The availability (or lack of) an alternative fastland site to carry out the objectives of the project.

Available Information

The project is located in Assawoman Bay immediately west of the wastewater treatment plant at 64th Street in Ocean City. The project will affect approximately 16 acres of shallow open water area, 8.5 acres of which is to be filled and 7.4 acres to be dredged for obtaining fill material. The area to be filled consists of approximately 7.0 acres of open water and 1.5 acres of saltmarsh cordgrass, Spartina alterniflora.

Directly north of the site is a 12 acre parcel of land extending from Seabay Avenue west to Assawoman Bay. The western portion of this land, approximately 7 acres, is the site of an existing amusement park. The eastern 5 acres of this parcel, extending from the amusement park to Seabay Avenue, is undeveloped. The entire parcel is owned by the town of Ocean City.

The Tidal Fisheries Division has sampled the project site as part of the regular Coastal Bays Seine Survey. Results of the surveys undertaken are presented in the attached memorandum from the Tidal Fisheries Division on the project (attachment 2). The project site is considered to be one of the most diverse survey sites in the coastal bay areas.

Approximately 1.5 acres of saltmarsh cordgrass, Spartina alterniflora, will be lost as a result of the proposed filling. Based on our wetlands study, (The Coastal Wetlands of Maryland), McCormick and Somes, 1982) the average peak standing crop for this vegetation type is approximately 2.0 tons per acre. Thus, a conservative estimate of the marsh productivity loss is 3.0 tons of material per year.

Evaluation/Findings

The project will result in a loss of approximately 8.5 acres of shallow open water habitat, including 1.5 acres of coastal saltmarsh. As noted above, this area is diverse in fish species and, based on average peak standing crops, the marsh produces approximately 3.0 tons of material annually. A portion of this is flushed into adjacent waters in the form of detritus and constitutes a food source for aquatic species using the area.

addressed. These are: (1) the availability of an alternative upland site, and (2) the proposed dredging for fill material. As noted in the following section of this memorandum, the filling of State or private wetlands for the purpose of creating fastland is generally considered contrary to the public interest, unless there is no feasible upland site available and there is sufficient economic benefits (public benefits) to be derived. If these conditions are satisfied and filling is approved for a particular project, it is a policy to require that suitable quality fill material be obtained from an appropriate land-based source and not dredged from State or private wetlands.

Based on discussions with Wetlands Permit Division personnel, the undeveloped land immediately north of the wastewater treatment plant is owned by the town of Ocean City and appears to be of sufficient area to accomodate the proposed expansion. Although not owned by Worchester County, the possibility of an agreement between the County and the town of Ocean City to use this land would appear to represent a viable alternative to the filling of State wetlands. The possibility of using this land should be fully explored prior to considering approval of wetlands license to create the fastland necessary for the expansion.

Consistency with CZMP Objectives/Policies

The following objectives and policies of the CZMP relating to activities occurring in tidal wetlands are applicable to this project. The objectives and policies are found in Chapter III of the CZM Program Document.

> (3) To protect coastal aquatic areas of significant resource value and where possible, restore presently degraded areas of potentially significant resource value, such as viable oyster bars and clam beds, important fish migratory pathways, spawning, nursery and feeding areas, and wintering and resting areas for migratory birds.
>
> (4) To protect, maintain, and where feasible, restore the integrity of the tidal wetlands of the State.

In carrying out these objectives it is the policy of the State to allow dredging or filling of State or private wetlands only to the extent necessary to provide reasonable riparian access, to provide necessary shore erosion control, or to carry out necessary water-dependent activities. Approval to dredge and fill private or State wetlands in undertaking a water-dependent activity must be based on the following conditions being satisfied to the extent possible:

- The project cannot feasibly be undertaken on adjacent or nearby fastland;
- It is not feasible to provide the project's intended service by an alternative means not involving the filling of wetlands;
- The creation of fastland should occur only in those areas adjoining existing fastlands;
- No ecologically productive submerged wetlands, such as finfish and shellfish spawning and habitat areas shall be destroyed;

- No areas important for feeding, nesting, or resting of waterfowl or other valuable wildlife habitat shall be destroyed;

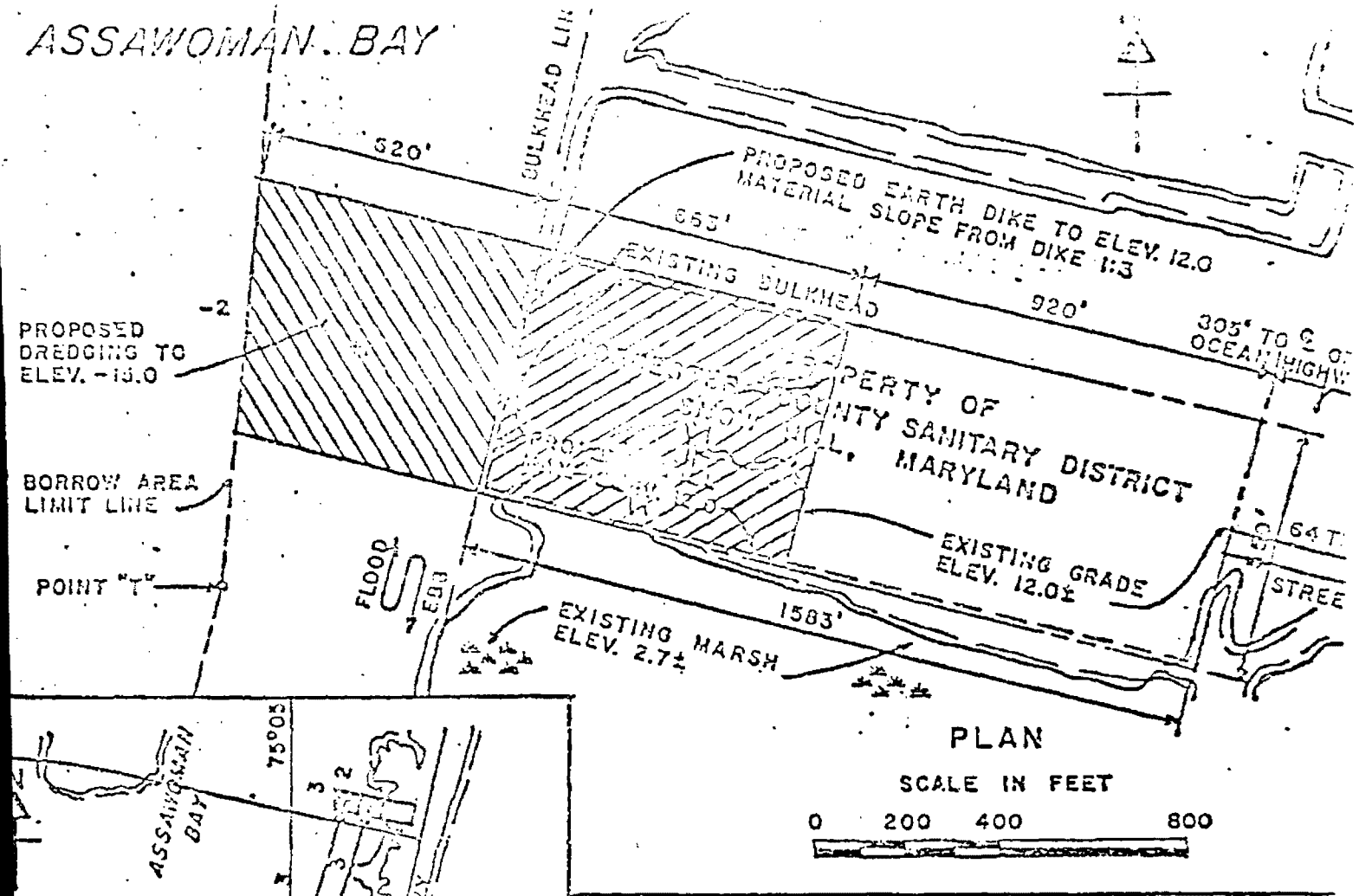
- Fill utilized for the creation of fastland shall be obtained from an appropriate land-based source and not dredged from private or State wetlands.

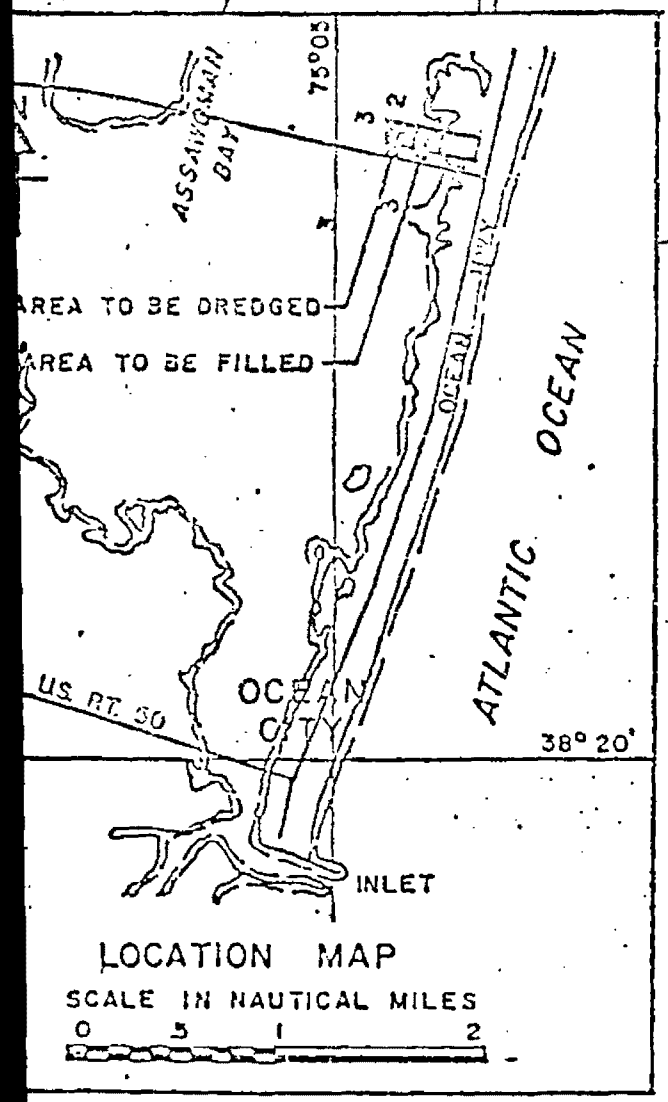
The filling of 1.5 acres of marsh and the loss of shallow water habitat are inconsistent with objectives (3) and (4). However, from a long-term standpoint it appears that the wastewater treatment plant expansion is justified and there are public benefits to be realized. There is adequate fastland for the project just north of the existing plant; however, there is not sufficient information available to determine if this is a feasible alternative to the filling of State wetlands.

Additionally, the proposal to dredge eight acres of State wetlands to obtain fill material is inconsistent with the above mentioned policy regarding fill material.

ST:EG:gvs

Attachments
cc: Pete Jensen, Director
Tidal Fisheries Division





OM C.&G.S. CHART NO. 1220

If channel depth is -4' 220,000 cubic yard will be required.

NOTES:

1. APPROXIMATELY 170,000 C.Y. TO BE DREDGED AND PLACED IN FILL AREA.
2. SOUNDINGS AND ELEVATIONS REFER TO MEAN LOW WATER IN ATLANTIC OCEAN AT OCEAN CITY, MARYLAND.
3. BORROW AREA LIMIT LINE AND BULKHEAD LINE AS ESTABLISHED BY SENATE BILL NO. 465.
4. DREDGED MATERIAL TO BE SAND AND GRAVEL.

83-WL-0101 Sheet 1 of 1

PROPOSED DREDGING

IN ASSAWOMAN BAY

AT OCEAN CITY

COUNTY OF WORCESTER STATE MD.

APPLICATION BY WORCESTER COUNTY SANITARY DISTRICT SNOW HILL, MARYLA

DATE JULY, 1982

JAMES B. COULTER
SECRETARY

LOUIS N. PHILLIPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TIDEWATER ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

MEMORANDUM

September 15, 1982

TO: Elder A. Ghigiarelli

FROM: Pete Jensen

SUBJECT: Ocean City Sewage Treatment Plant expansion 83-WL-0101, Worcester County Sanitary Commission, Coastal drainage

The applicant proposes to bulkhead and fill 8.5 acres of shallow water and marsh in Assawoman Bay immediately west of the Ocean City Sewage Treatment Plant. Fill material would be dredged from just outboard of the proposed bulkhead, effectively doubling the disturbed area. The proposed project would result in the destruction of aquatic habitat and dependent biota which we are mandated to protect and conserve.

These comments were prepared by Bob Lunsford and Steve Early, Technical Assistance/Habitat Protection.

The proposed fill area consists of seven (7) acres of shallow open water and 1.5 acres of State wetlands. This shallow water area has been sampled eight times since 1973 as a part of the regular Coastal Bays Seine Survey. Results are presented in Table 1. A trawl survey was conducted on 8 September 1982; results are presented in Table 2. Species assemblage from this area is considered to be among the most diverse of all survey sites in Maryland Coastal Bays.

Filling of the marsh and intertidal zone would destroy one of the most productive zones of the coastal bays. Production from this area serves as one of the primary bases of all other production of aquatic life. Primary consumers which benefit directly from marsh production serve as food base for recreationally and commercially important fin and shellfish species. Dependent species include: bluecrab, silver perch, hogchokers, anchovy, spot, croaker, and weakfish. Secondary carnivores which in turn are dependent upon this production include: bluefish, summer flounder, northern barracuda, sea bass and jack crevalle. These species as well as many others have been captured at the project site. See Appendix A for further explication.

Shallow water habitat is critically important to young of year fish. Young fish are able to escape predation by larger species by retreating to shallow water. Shoal areas not only offer a relatively protected resting areas but are

extremely important as feeding areas for the primary consumer level finfish. During our 8 Sept. visit young of year fish of four species were collected (silver perch, black seabass, spot, and summer flounder). Additional species have been represented at the site by young of year which are ultimately the mainstay of commercial and recreational fisheries. For undetermined reasons this shallow water area is also particularly attractive to exotic species such as penaeid shrimp, spotfin butterfly fish, pin fish, horse-eye jack, black drum and jack crevalle. These species are currently on display at the National Park Service office at Assateague.

Two species of submerged aquatic vegetation are found in the proposed dredge and fill site, widgeon grass and eel grass. Eel and widgeon grass are important to fish as nursery areas and spawning medium (Stevenson & Confer, 1978). Widgeon grass is considered important to fish as a source of shade as well as food in that the epibiota and infauna, which include algae, protozoans, isopods, amphipods polychaetes, bivalves and decapods, are utilized by fish. Grass beds are particularly important to juvenile fish which have higher growth efficiencies than older fish. We also note that both widgeon and eel grass are utilized by waterfowl.

Further investigations of the proposed dredge and fill sites have demonstrated the existence of hard clams (M. mercenaria) (J. Casey, pers comm). The hard clam population in the fill area is estimated to be over 9500. This density is considered low average for commercial harvesting. We have no records to indicate commercial use of this area, however, recreational clammers have been observed in the proposed fill area. Recreational fishing in the coastal bays is one attraction of Ocean City.

The borrow area for fill material is located just west of the proposed bulkhead line and would be dredged to an elevation of minus 15 feet. Other deep dredge holes in Assawoman Bay become anoxic below the surrounding bottom level during at least part of each year (J. Casey, in file data). This effectively removes the area as suitable habitat for fish and shellfish and in theory reduces potential standing crop.

Aquatic species (fish and shellfish) which otherwise would utilize the proposed dredge and fill areas cannot simply emigrate to other habitat if their own is destroyed, because in general all habitat is filled to capacity. Destruction of a unit of habitat is essentially equivalent to the destruction of the dependent biota and therefore a reduction in standing crop upon which recreational and commercial fishing industries are dependent.

PJ:jac

Appendix A.

Marsh production serves as one of the primary bases of all other production of life in the estuary. Along with green phytoplankton, and influx of green plants form river floodplains, marsh grass combines radiant energy from sunlight with carbon dioxide, water and inorganic elements to produce the basic foods that all other life is dependent upon. Keefe and Boynton (1973) found an average production of 2.25 tons per acre in Chincoteague Bay and cited eleven other studies of marsh production which had reported a range of 1.39 to 13.38 tons per acre. Heinle, et. al. (1974) collected samples from the Patuxent River marshes which averaged 7.4 tons per acre production.

Conversion of this primary production into animal flesh occurs primarily when the dead material falls and is flushed into the water by the tides. Keefe and Boynton (1973) discuss the importance of the lower zones of the marsh, which are flushed more regularly, and provide faster decomposition of dead material. Massman (1971) notes that decay by bacterial and fungal action breaks down the detritus into microscopic and larger particles. It has been shown that the protein value of the detrital material increases for the primary consumer level because of the aggregation of the decomposer species upon the detrital material; Odum and de la Cruz (1967) showed that this protein content quadrupled. Protein content for recently dead material was 6% whereas that of decayed material was 24%.

The primary consumers which directly benefit from this process of energy fixation, decomposition and enrichment are amphipods, opposum shrimp, panaeid shrimp, copepods, cladocerans, isopods, crab larvae and bivalve shellfish.

Secondary consumers are the fish which feed directly upon the above listed animals. Food studies (Van Engel & Joseph 1968) on the most abundant of the young fishes in shallow estuarine waters showed that either myscid shrimp, amphipods or both were among the most important foods for White perch, hogchokers, bay anchovy, spot, croaker, weakfish, sliver perch and southern kingfish. Weakfish and striped bass preyed extensively on the larvae of anchovies and naked gobies (Massman 1971). Massman cited other studies showing that striped bass young feed directly on opposum shrimp and amphipods.

LITERATURE CITED

Casey, J.F. Tidal Fisheries Division. in file data.

Gosselin, J. G., E.P. odum, and R.M. Pope. 1974. The value of the tidal marsh. Louisiana State University Sea Grant Pub. LSU-SG-74-03.

Keefe, E. and W.R. Boynton. 1973. Standing crop of sale marshes surrounding Chincoteague Bay, Maryland-Virginia. Chesapeake Science 14(2):117-124.

Massman, W.H. 1971. The significance of an estuary on the biology of aquatic organisms of the middle Atlantic region. Sport fishing Inst: A symposium on the biological significance for estuaries, 2/13/70.

Odum, E.P. and A.A. dela Cruz. 1967. Particulate organic detritus in a Georgia saltmarsh estuarine ecosystem. in Lauff, G. (ed.). 1967. Estuaries. American Acad. Adv. Sci. Pub. No. 83.

Stevenson, J.C. and N.M. Confer. 1978. Summary of available information on Chesapeake Bay submerged vegetation. USDI FWS/OBS-78/66.

Sweet, D.C. 1971. The economic and social importance of estuaries. E.P.A. Water Quality Office, Washington, D.C.

Van Engel, W.A. and E.B. Joseph. 1968. Characterization of coastal and estuarine fish nursery grounds as natural communities. Va. Inst. Mar. Sci. P.L. 88-309 Va. 3-19-R-2 Final Report.

Table 1
Species List for 8 September 82 Trawls At Proposed
SEWAGE TREATMENT PLANT EXPANSION AREA

Species Caught In Trawls

	Trawl #1	Trawl #2
Reptiles		
Diamondback Terrapins	1	1
Osteachthyes		
Silver Perch		
Bairdiella chrysura	40	8
Spot		
Leiostomus xanthurus	52	86
Pipefish		
Syngnathus fuscus		9
floridae	2	2
Black sea bass		
Centropristis striata	3	4
Pin Fish		
Langodon rhomboides	1	
Spotfin butterflyfish		
Chaetodon ocellatus	1	
Summer flounder		
Paralichthys dentatus		3
Oyster toadfish		
Opsanus tau		4
Anchovies		
Anchoa mitchilli	23	308
hepsetus		1
Blue Crab		
Callinectes sapidus	3	10
Horseshoe crab		
Limulus polyphemus		1
Penaeid Shrimp		
Penaeus spp		3
Grass Shrimp		
Palomenetes spp	29	82

Table 2
Species Density As Determined By Seine in Proposed Fill Area For Ocean City Sewage Treatment Plant, Assawoman Bay, 1973-1982 (summer)

Species	Year 1973	1974	1975	1977	1978	1979	1981	1982
	Numbers/Hectare							
American eel	363		120	7	116	18	60	2
Anchovy	16466	145		116		394	784	23
Bluefish		29		13	24	7		3
Conner					65			
Croaker		261						2
Flounder, winter				122	37	67	1052	2
Flounder, summer	206	14		7	22		74	
Horseeye jack	10							
Mummichog		44	937	19	196	18		27
Striped killifish			338		95		188	8
Sheeps head minnow			2450					7
Mullet	27	44	7068	110	14	121	2111	724
Atlantic Needlefish	14		65	7	65		20	32
Northern Barracuda	30	14	131		124	30	14	
Menhaden		44		64	13734		536	2
Naked Goby								2
Pipefish	14			7	37	42	14	12
Pinfish	20	73						8
Spot	6864	1349	316	1586	771	176	4897	1831
3 spine Stickleback	10				3659			
Atlantic Silverside	259	53	30056	258	640	67		3304
Sea Bass				71	378	24	20	5
Smooth Dogfish Shark						6		
Southern Stingray				6				
Sea Green Goby					22			
Toad fish	50	14	120	6	87	30	14	15
Jack Crevalle							67	7
Blue Crab	1705	189	242	311	1659	163	3578	504
Round Pompano								2
Mud Crab						6		
Spider Crab					7			2
Hermit Crab								12
Horseshoe Crab					14			
Grass Shrimp	41533			1934	1382	3027	382	205
Pink Shrimp	30							
Sand Shrimp					87		744	2
Penaeid Shrimp		261						

Table 2 (continued)
Species Density As Determined By Seine In Proposed Fill Area For
Ocean City Sewage Treatment Plant, Assawoman Bay, 1973-1982 (summer)

Species	Year 1973	1974	1975	1977	1978	1979	1981	1982
	Numbers/Hectare							
Silver perch								12
Blue mussel								2
Mud Snail								12
Lady Crab								2

Worcester Environmental Trust

A COUNTY COMMITTEE OF THE MARYLAND ENVIRONMENTAL TRUST

POST OFFICE BOX 38
SNOW HILL, MARYLAND 21863
632-2640

November 3, 1982

Ms. Evelyn Schulz
Project Monitor
West Ocean City Wastewater Treatment Facilities -
Worcester County, Maryland
United States Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

These comments are in response to the Draft EIS on West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland.

The Worcester Environmental Trust is pleased that attention is focused on the West Ocean City area, which is experiencing water quality problems. These problems are due primarily to past poor land use decisions, i.e., the creation of small lots in poorly drained soils.

We are concerned that residents of West Ocean City will be expected to underwrite more than their fair share of the proposed expansion of the Ocean City Wastewater Treatment Facilities by being asked to assume 10.5% of the cost.

We question the need for almost doubling Ocean City's wastewater capacity when Ocean City has been substantially developed and West Ocean City's input will be limited to 1-mgd.

We question statistics on page 11 of the EIS which state that 54% of a total of 1,348 dwellings experienced septic tank failures. The number of repeat failures is not made clear. One hundred homes could have had 7.32 failures in the past 10 or 20 years to yield that same figure. To our knowledge, periodic septic tank maintenance, a much cheaper alternative, has not been adequately explored as a remedy.

We question the statement that flood plains have been historically attractive for population centers. Conversely, flood plains have usually been lands that speculators could buy cheaper and sell to those unaware of the problems of flooding, high water tables, and poor drainage.

We feel that not enough attention has been given in the EIS to salt water contamination of potable drinking water due to draw down of Ocean City's aquifers. As the area grows and becomes more heavily used year around, salt water intrusion will have to be dealt with. Presently Ocean City is considering mainland wells to augment its water supply. Costs of providing a potable water supply for West Ocean City also needs to be addressed.

The Worcester Environmental Trust opposes the filling of wetlands for expansion of the present Ocean City sewage treatment plant and the siting of pumping stations in West Ocean City. In addition, we feel the map on page 50 of the EIS, Figure III-1, showing property lines as of 1976, unrealistically reflects developable property. Some of these lots were platted over 50 years ago and are in wetlands. They cannot be developed.

More attention should be addressed to the effect of rising sea level and the bay's encroachment on present low "upland areas." Many oldtimers remember land bridges to what are now islands in Assawoman Bay.

We are concerned about secondary impacts of development. It is necessary to clear and grade in preparation for building new homes and streets. The runoff during the construction phase of development is a contributing factor to loss of submerged aquatic vegetation, necessary for the health and productivity of the bay.

We feel that stringent requirements will be necessary regarding the burial of pipes so as to minimize runoff during the construction phase.

Deep holes now exist in Assawoman Bay due to past dredging practices, when bay bottom was used for fill in Ocean City. We feel that a detailed study of the pipeline route under the bay will be necessary. Disruption and sedimentation of shallow, near shore areas important to the marine eco-system can be anticipated if care is not taken.

We feel growth of the West Ocean City area should not be compared with Ocean Pines. Ocean Pines has tight local environmental controls and a functioning community government infrastructure which makes it attractive to purchasers who seek a certain life style and protection of their investment.

Clarification is needed regarding the Carter-Regier study of 1978. This study addressed diffusion of sewage effluent in the ocean, not its effect on benthic organisms or marine ecology. See page 62 (in my copy of the EIS this page should be numbered 63), also pages 64 and 72.

We take issue with comments that there are no major sources of air pollution in the county (page 45). People in Berlin and elsewhere would take issue with that.

We feel that there has not been sincere dedication to exploring less costly alternatives to solving failing septic tank problems in West Ocean City. The consulting engineers are comfortable with traditional wastewater treatment techniques.

We take issue with the statement on page 65 of the EIS that land application of wastewater effluent would result in contamination of ground water and should be restricted to non-food crops. This need not be the case if the wastewater were properly treated. Ocean City sludge is now being land spread for use as a nutrient for food crops. We also feel the amount of acreage required for land treatment is overestimated.

Regarding the proposed seafood park, there are so many economic and environmental constraints that we feel it should not be used to help justify an increased demand for low income housing. This expensive wastewater treatment project may be financially out of reach to low income households. Also, we question the statement on page 74 which says that water and sewer are not essential for the seafood park. After all, the fish are to be cleaned and processed.

We request that certain conditions be made part of the grant for the West Ocean City Wastewater Treatment Facilities in order to protect environmentally sensitive areas:

1. Non-tidal as well as tidal wetlands must be preserved.

2. Present agricultural zoned lands should not be allowed greater density (no septic systems unless in emergency).

3. Flood prone areas platted prior to 1977 should be allowed only minimal development and structures should adhere to conditions set forth in the Federal Flood Insurance Act adopted by Worcester County in 1979. This may require a larger county enforcement staff. The county has no building code.

4. Protection of the coastal bays from runoff and sedimentation should be incorporated as a grant condition. Water quality of our coastal bays was a major reason for justifying the sewering of the West Ocean City area. Installation and maintenance of sediment control facilities should be made a condition of the project.

5. The diameter of the force main under the bay seems to be grossly oversized. Because of infiltration/inflow problems due to settling, tree roots, additional water will seep into the pipe, creating a greater burden for treatment on the Ocean City plant and an added expense to West Ocean City residents. The pipe should be sized for the 1-mgd capacity it is expected to carry.

6. If a Federal grant is awarded to West Ocean City for wastewater treatment it should be conditioned on the county revising its Comprehensive Plan to reflect the intent of Executive Orders 11988 and 11990. Zones incompatible with the sensitivity nature of wetlands and flood plains should be downzoned to reflect the county's commitment to abide by the EIS recommendations. All plats which are on paper only should be reviewed for viability and appropriateness in todays environment.

7. The United States Environmental Protection Agency and Maryland's Environmental Health Administration should review the referendum ballot sent to West Ocean City property owners by the Worcester County Sanitary Commission, to ensure that it adequately reflects the true cost of the proposed wastewater treatment facilities.

In summary, we generally support the findings and conclusions of the DEIS if economically acceptable to local residents. However, the final EIS should in-

clude means for guaranteeing the protection of environmentally sensitive areas.

We appreciate the opportunity to comment on the Draft EIS.

Sincerely yours,

Ilia J. Fehrer

Ilia J. Fehrer (Mrs. Joseph)
Co-Chairman

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Project Review
15 State Street
Boston, Massachusetts 02109

3Ea-1675

IN REPLY REFER TO:

FWS/ES
ER 82/1558

November 1, 1982

Mr. Peter N. Bibko
Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, PA 19106

Dear Mr. Bibko:

This responds to your request for the Department of the Interior's comments on the draft environmental impact statement for the West Ocean City Wastewater Treatment Facilities, Worcester County, Maryland (ER 82/1558).

General Comments

This DEIS was written to concentrate on the issues of user affordability and primary and secondary impacts on floodplains, wetlands, and prime agricultural lands. The statement also provides a good discussion of federal floodplain and wetland policies and the need for required Corps of Engineers permits for this project.

This Department believes that the restriction of sewer service to lots platted prior to 1977 and the selection of treatment and disposal at the Ocean City facility are environmentally acceptable and consistent with Executive Orders 11988 and 11990.

Specific Comments

The graphics in the final statement should depict the presence of Assateague National Park System. In addition, it is our understanding that interest has been expressed in the development of a fish processing plant within the sewer service area. Should this proposal evolve further, we would anticipate that additional studies should be instituted to assess project impacts on Assateague. Further coordination with Superintendent Finley is appropriate if such a project causes alteration of the treatment facility plans.

p. 43 Threatened and Endangered Species. This discussion constitutes little more than a species list. No assessment of potential project impacts to these species is presented. Conclusions regarding potential impacts (whether

direct or indirect, positive or negative) need to be discussed, including the rationale used in reaching those conclusions. If no impacts to threatened or endangered species are anticipated, a statement to that effect with the supporting evidence should be included.

p. 47 No-action alteratnative. This section correctly explains that construction of a locally funded alternative would mean fewer restrictions by Federal policies and regulations on future development in environmentally sensitive areas. However, we feel that the statement incorrectly implies that this would apply to all Federal policies and regulations, which is not true. Development in wetlands and construction in Sinepuxent Bay would still require permits from the Army Corps of Engineers, and are thus subject to Federal regulation. This should be clarified in the final EIS.

p. 74 Growth Effects on Wetlands

Although well put together overall, the analysis of project impacts on wetlands is too limited in scope in this section as it fails to consider impacts on aquatic organisms dependent on the wetlands. It states that increased urbanization will elevate levels of nutrients and biochemical oxygen demand (estimated at 13%) and will increase toxic materials such as hydrocarbons and heavy metals by an unspecified amount.

As reviewed earlier in the statement, one of the benefits of wetlands is the improvement of water quality through the removal of nutrients. But it is shortsighted to assume that wetlands can filter and assimilate toxic materials without subsequent harm to aquatic organisms. This Department believes that it is within the intent and scope of this EIS to determine if the existing stormwater management system is adequate to minimize impacts on wetland fish and wildlife resources from nonpoint source toxic materials generated due to increased development. The final EIS should determine if additional concern and action are warranted in this regard.

Summary Comments

This Department commends the efforts of the EIS Coordination Committee to minimize development in floodplains and wetlands while still addressing the need for sewer service in the West Ocean City area. We recommend that our specific comments be incorporated in the final statement to insure a complete evaluation of project impacts.

Based on our evaluation of the project as presented in this draft statement, the Fish and Wildlife Service would likely have no objection to the issuance of the necessary permits from the Corps of Engineers. We do, however, reserve the right to offer further comments on such permits when detailed project plans are available.

Thank you for the opportunity to comment on this document.

Sincerely yours,

William P. Patterson

William P. Patterson
Regional Environmental Officer

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
PHILADELPHIA REGIONAL OFFICE
CURTIS BUILDING, SIXTH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

REGION III

IN REPLY REFER TO:

NOV 1 1982

Ms. Evelyn B. Schulz
Environmental Protection Agency
Region III
6th & Walnut Streets
Philadelphia, PA 19106

Dear Mr. Schulz:

We have completed our review of the DEIS for the West Ocean City Wastewater Treatment Facilities in Worcester County, Maryland and offer the following comments.

1. On P. 49, the DEIS indicates that Federal and State guidance for the area stated that sewer service could be planned for developed and undeveloped lots in the 100 year floodplain, only if they were platted as building lots which had a selling capability prior to May, 1977. What specific "Federal and State Guidance" does the document refer to and on what is it based? Also, how would the policy of limiting development, as described, be implemented and its permanence assured? Finally, what is meant by "building lots which had a selling capability prior to May, 1977"? This would appear to suggest that not all lots plotted prior to May, 1977 could be built upon. Because these proposed safeguards are so basic to the selected plan, we feel that there should be some discussion of their legal basis in the Final EIS.

2. Table III-1 on p. 53 shows Year 2000 estimates of equivalent dwelling units and population by Service Area. We feel that the EIS discussion of impacts would be enhanced if 1980 population and dwelling units, by the same Service Areas, were added to this Table to show where the greatest increase would occur.

3. In the discussion of growth effects on public services (p. 86), fire protection, ambulance service and education are identified as adequate to meet the needs of the projected population. While this

may be the case, we could find no discussion or analysis in the DEIS to support this assertion. We recommend, therefore, that documentation and analysis in support of this conclusion be included in the Final EIS. In addition, we note that although mentioned in the introductory paragraph, there is no discussion of the impact of population growth on the solid waste disposal facilities of the community. Nor is there any discussion of transportation impacts beyond references to Routes 50, 707 and 611. Given the boost to development that would occur in the subdivisions north of Route 50, the adequacy of the principal roads serving these areas should be examined and a discussion of impacts included in the discussion of growth effects.

Thank you for the opportunity to comment on this Draft EIS. We would appreciate a copy of the final statement when it is completed.

Sincerely,

Thomas J. Gola

Thomas J. Gola
Regional Administrator, 3S

Advisory Council On Historic Preservation

1522 K Street, NW
Washington, DC 20005

NOV 4 1982

Mr. Peter N. Bibko
Regional Administrator, Region III
U. S. Environmental Protection Agency
6th and Walnut Streets
Philadelphia, PA 19106

Dear Mr. Bibko:

We have reviewed the Draft Environmental Impact Statement (DEIS) for wastewater treatment facilities, West Ocean City, Worcester County, Maryland. We understand that the Maryland State Historic Preservation Officer (SHPO) has been consulted, and that EPA is prepared to ensure that additional identification studies and other steps, as necessary, are taken under the National Historic Preservation Act and the Council's regulations, 36 CFR Part 800 (see pp. 43-44; 71). Therefore, we have no substantive comments at this time. If you have questions or wish assistance, please contact Staff Archeologist Ronald Anzalone at 202-254-3974 (an FTS number).

Sincerely,

Don L. Klima
Chief, Eastern Division of
Project Review

MARYLAND
DEPARTMENT OF STATE PLANNING
301 W. PRESTON STREET
BALTIMORE, MARYLAND 21201-2365

HARRY HUGHES
GOVERNOR

CONSTANCE LIEDER
SECRETARY

November 19, 1982

Mr. Peter N. Bibko
Regional Administrator
U.S. Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, Penna. 19106

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT (EIS) REVIEW
Applicant: Worcester County Sanitary Commission
Project: DEIS - West Ocean City WWT Faciltieis, Worcester Co.
State Clearinghouse Control Number: 82-9-940

Dear Mr. Bibko:

The State Clearinghouse has reviewed the above project. Acting under Article 88C of the Annotated Code of Maryland and Federal Executive Order 12372, the State Clearinghouse received comments from the following:

Department of Agriculture, Department of Economic and Community Development including their Historical Trust section, Office of Environmental Programs, Department of Transportation, University of Maryland Center for Environmental and Estuarine Studies, and Ocean City noted that the draft EIS appears to adequately cover those areas of interest to their agencies.

Department of Natural Resources indicated that the Department will forward comments directly to EOA.

Worcester County advised that the County will respond directly to the applicant.

Our staff review comments (copy attached) recommended that the statement on page iii under "Future Population" be modified.

We appreciate this opportunity to review the draft EIS and for your attention to the review process.

Sincerely,

F. B. Gatch

F. Bryan Gatch
Acting Director, State Clearinghouse

cc: Lowell Frederick/Clyde Pyers/Herbert Sachs/Max Eisenberg/Francis Aluisi/
A. W. Barrett/Dennis Taylor/Wayne Cawley/John Yankus/Jeff Bresee

FBG:SB:pm

TELEPHONE: 301-383-7700
TTY for Deaf: 301-383-7555
OFFICE OF SECRETARY

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201

Date: 9/27/82

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT OR ENVIRONMENTAL EFFECTS REPORT

Applicant: Worcester Co. Sanitary Commission

Project: DEIS - West Ocean City WWT Facilities, Worcester Co

State Clearinghouse Control Number: 82-9-940

We have reviewed the above draft environmental impact statement and our comments as to the adequacy of treatment of physical, ecological, and sociological effects of concern are shown below:

	Check (X) for each item	
	None	Comment enclosed
1. Additional specific effects which should be assessed:	X	
2. Additional alternatives which should be considered:		X
3. Better or more appropriate measures and standards which should be used to evaluate environmental effects:	X	
4. Additional control measures which should be applied to reduce adverse environmental effects or to avoid or minimize the irreversible of irretrievable commitment of resources:		X
5. Assessment of seriousness of the environmental damage from this project, using the best alternative and control meausres:	X	
6. Activities which appear to be inconsistent with the State approved Coastal Zone Management Program.		X
7. Issues which require further discussion of resolution as shown:	X	

Signature Lee D. Zeigler

Title Chief, Natural Resources Planning

Agency Md. Dept. of State Planning

Address _____

2. The alternative of West Ocean City buying current capacity in the existing O.C. STP, and letting O.C. pay for any future necessary expansion.

4 & 6. While the locally funded alternatives to serve the area indicate that additional development will be possible through lack of constraints in prime agricultural and flood plain lands, certain State development policies, and Coastal Zone policies would discourage development in such sensitive or valuable areas. While the assumption is that this increment of development may be possible under current local zoning, an evaluation of State policy and legal constraints was not made in the EIS. Therefor, the Statement on P. iii of the EIS under the "Future Population" paragraph stating tjat tje state sewer system would not be constrained by State and Federal environmental requirements under the local funding option should be modified. Certain of these requirements at both State and Federal levels of government may still apply regardless of funding source.

State of Maryland

OFFICE OF ENVIRONMENTAL PROGRAMS

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383-2761

Harry Hughes, Governor

Charles R. Buck, Jr., Sc.D. Secretary

November 26, 1982

Ms. Evelyn Schulz, Project Monitor
EIS Preparation Section
U.S. Environmental Protection Agency
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

Re: C-240407-01(.24), Step 1
Worcester County
Sanitary Commission
West Ocean City Facility Plan
Draft EIS

This office has reviewed the draft of the referenced Environmental Impact Statement (EIS) and, overall, we find the document to be a thorough analysis of the probable primary and secondary environmental impacts associated with constructing the proposed sewerage facilities. There are, however, two issues in the EIS,project affordability and implementation of the recommended mitigating measures, which we feel need to be examined in greater detail. A discussion of our concerns follows:

1. The financial capability analysis was prepared prior to a decision by this office to favorably consider the use of $800,000 of Failing Septic Tank Grant Funds to reduce 1983 user fees to what we consider to be a fair and reasonable level of approximately $220 per year (for a 100' wide lot), which is seemingly affordable for the community as a whole. In 1985, or whenever the Ocean City plant is expanded, the yearly user fees are expected to escalate to $371 (100' lot). Although this revised cost figure is $17 less than the one presented in the EIS, we feel it does not change the outcome of the financial capability analysis, i.e. the project still has a small margin of safety relative to affordability and, as such, the local officials should take a cautious approach in deciding this project's fate. However, we feel this conclusion has limited applicability because its development failed to consider the element of public input. Regardless of the accuracy of the assumptions and the input data used in the analysis, the ultimate decision on affordability lies in the collective decisions of the potential users of the system.

Should the affected public decide to reject this project, knowing full well the economics involved, then we would be inclined to conclude that the project is not affordable, even though the economic indicators indicate otherwise. In summary, we feel public opinion should play a major role in the decision making process on affordability.

2. The EIS proposes various measures to mitigate short and long-term adverse impacts associated with this project. There are existing provisions within the statutory framework of the Sanitary District which would ensure implementation of many of the proposed measures; however, there is currently no active institutional mechanism by which to enforce the guidance for limiting sewer service in the 100-year flood plain and for avoiding the sewering of wetland areas. Consequently, we recommend the Worcester County Sanitary Commission be required, as a condition of any future grant action, to develop and institute adequate measures to ensure that Federal and State guidance on floodplain and wetlands be put into practice. We further recommend the Commission be required, as a minimum, to incorporate the guidance into the County's 10-year Water and Sewer Plan and to implement this guidance, and any other measures necessary for the desired assurance, prior to the date the project is advertized for bidding.

Should you have any questions concerning these comments, please contact Mr. Angelo Bianca, of my staff, at (301) 383-6346.

Sincerely,

Earl S. Quance

Earl S. Quance, P.E.
Program Administrator
Construction Grants and Permits Program

ESQ:sl

APPENDIX C: PUBLIC HEARING TRANSCRIPT
(Incorporated by Reference)

A copy of the October 27, 1982 Public Hearing transcript is available for review upon request at the offices of the Worcester County Sanitary Commission

APPENDIX D: ADDITIONAL CORRESPONDENCE

Worcester County

Sanitary District

COMMISSIONERS
WILLIAM A. STEGER, SR. – CHAIRMAN
NORMAN F. DENNIS – SECT. TREAS.
JOSEPH M. BYRD, SR. – MEMBER

COURT HOUSE ANNEX
11 A N. WASHINGTON ST.
SNOW HILL, MD. 21863
TELEPHONE 301-632-1630

STEPHEN V. HALES – ADM. ASSIST.
NORMAN R. CONNELL – DIST. ENGINEER
JACK DUNLAP – ATTORNEY

October 29, 1982

Evelyn Schultz
United States Environmental
Agency Region 3
6th & Walnut St.
Philadelphia, Pa. 19106

Subject: Sewer for West Ocean City Sanitary District

Dear Property Owner,

The Worcester County Sanitary Commission has been working since 1974 to provide sewer for the West Ocean City Sanitary District. It appears that after meeting and satisfying many obstacles, the probability of providing public sewer is close to reality.

The Sewer District, established in 1975, is comprised of 2300 acres. However, based on limitations imposed by the Floodplain Law of 1975, less then 1300 acres will receive service initially. 613 acres of the service area is within the 100 year Floodplain area. It is planned that all lots platted within the Floodplain will be allowed one (1) connection for a dwelling unit within that property. Prior to receipt of a Plumbing Permit to hook-up proof is to be presented that the property was platted and recorded prior to 1 May 1977.

Of course, your major concern is what it will cost you as a property owner. After the major revision was accomplished on the Facilities Plan Amendment of 1982, the State of Maryland, Environmental Health Administration informed Environmental Protection Agency that this project has the highest priority for funding and has planned to financing up to $800,000. with State Failing Septic Tank funds. This was in addition to the State share of 12½ % of the total eligible cost. Consequently, the local share cost of this estimated 8.6 million dollar project will be 1.99 million dollars. Since the Worcester County Sanitary Commission would plan on bonding this amount for a thirty (30) year period your initial costs for 1983 and subsequent years are shown on the attached sheet, Scheme 3.The costs within the box would be the annual charges. The costs identified below the box are an estimated as one time cost. Item 1, Collection System hook-up charge would only be paid by property owners of undeveloped properties when development occurs after initial construction of the Collection System. Item 2, Local Residence Service Line from house to the property line, is a cost estimate of what a plumber may charge to

hook-up your property to public facilities. Item 3, Plumbing Permit cost, is an estimate of obtaining a permit to hook-up your property into the public facilities. This is an administrative cost to cover record keeping and inspection of the tie-in work and on-site inspection, if required

Regarding the estimated annual local costs as shown in the box, the following points are made:

1. The front foot capital cost estimate of $1.41 per year per front foot is shown for 1985 cost. If, when bids are taken for construction, bids are favorable cost wise, the Worcester County Sanitary Commission may desire to add 5,000 feet of sewer that would serve 96 additional platted properties in the 100 year Floodplain. The 5,000 feet of sewer is not now eligible for Grant Funds. However, if this amount is included in the project planning now, it would add 14 cents to the $1.41 now shown. The cost range then from $1.41 to $1.55 is considered a reasonable cost.

2. The unknown factor in the cost planning equation is the cost West Ocean City property owners would be required to pay for treatment by the Wastewater Treatment Plant of Sanitary District No.1 (Ocean City). The costs as shown are what we consider as the maximum cost to be anticipated (worse case). The parameters used to develop these costs are:

    a. The Ocean City Plant would be expanded eventually from 12 MGD to 20.5 MGD. Since the West Ocean City District, planned to require 1 MGD capacity and reserved for this use would pay their proportunate share of 1/8.5 or 11.7% of that cost. For planning, this cost is high for the West Ocean City to pay. Final decision would not be made on a fair share until expansion becomes necessary.

    b. Expansion is forecasted in 1985, but present flows indicate that a later date, possibly 1989 or 1990 would be more correct.

    c. No grant funds would be available for plant expansion. The present Federal Grant Law does not preclude grant award or eligibility for award. However, the reduction in per cent of eligible payment is evident in the law and recent appropriations signal a reduction in available funds. It is believed that this possimistic forecast is best for planning, but in the long run is reasonable to take a calculated risk that some grant funds will continue for this type of construction, necessary to maintain water quality standards and to preserve public health standards.

The Worcester County Sanitary Commission considers the costs presente reasonable to the property owners of the District. It is interesting to note that this annual cost computed on a monthly basis is less costly then a resident owner is paying for Cable TV or even private water treatment. Since you were unable to attend the Public Hearing on 27 October 1982, we would like your response as to whether you are in favor of this project preceeding as planned. Please fill out the section below, tear off, and return to this Commission by 1 December 1982. If you have ary

questions, please correspond with us or contact the District Engineer's Office in Ocean City, Maryland at 524-6760.

Thank you.

Sincerely,

William A. Steger, Sr.
Chairman

WAS/NRC/vk

Encl.

Date ______________________

TO: Worcester County Sanitary Commission

Response to West Ocean City Sewer please place X by your choice:

Opposed to project ___________

In favor of project ___________

Remarks: ____

____

____

Signature: __________________

____

Please cut on the dashlines and return in self addressed envelope to the: Worcester County Sanitary Commission
111 A North Washington Street
Snow Hill, Maryland 21863

by 1 December 1982.

SCHEME 3 - STATE & LOCAL FINANCING OF ESTIMATED LOCAL COSTS, NO GRANT FUNDING OF THE OCEAN CITY TREATMENT PLANT EXPANSION AND $800,000 FAILING SEPTIC TANK GRANT

ANNUAL CHARGE	YEAR 1983	1985	1990	2000
A. Capital Costs				
1) Front Foot Rate	$1.41/YR	$2.91/YR	$2.91/YR	$2.91/YR
2) Charge for 100 Front Foot Lot	$141/YR	$291/YR	$291/YR	$291/YR
B. Operation and Maintenance Costs per EDU	$ 80/YR	$ 80/YR	$ 69/YR	$ 68/YR
Total for 100* Front Foot Lot with Residence	$221/YR	$371/YR	$360/YR	$359/YR

*Other Costs

1) Collection System Hookup Charge - $600 to $800 (properties hooked up after initial construction)

2) Local Residence Service Line from House to Property Line - $500 to $1,500. Cost will vary with structure location and lot size.

3) Plumbing Permit Cost - approximately $150. Cost will vary with structure.

State of Maryland

OFFICE OF ENVIRONMENTAL PROGRAMS
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383-5740

Harry Hughes, Governor

Charles R. Buck, Jr., Sc.D. Secretary

January 13, 1983

Ms. Evelyn Schulz
EIS Preparation Section
United States Environmental
Protection Agency, Region III
3PM61
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

I am writing in response to your recent inquiry concerning the impact which a projected population increase (between 1982 - 2000) in West Ocean City, Maryland, would have on the solid waste management system of Worcester County, Maryland.

According to the 1981 update of the Worcester County Solid Waste Management Plan, the County's three sanitary landfills have a combined capacity of 20 to 25 years. West Ocean City's projected population increase of 9,000 represents less than one-quarter of the County's total population by the year 2000. This projected increase would certainly have an impact on the life expectancy of Worcester County's sanitary landfills but, apparently, not a major one. As is true in many rural counties, the Worcester County government does not provide for solid waste collection. Generators either haul their wastes to a disposal facility, or arrange with a contractor to haul the wastes.

I trust that we have provided the information which you have requested. If we can be of further assistance, please do not hesitate to call Mr. Lawrence Leasner of my staff at (301) 383-5740.

Sincerely yours,

Douglas H. John

Douglas H. John, Chief
Program Development Division

DHJ:tk

cc: Mr. Ronald Nelson
Mr. Lawrence Leasner

United States Department of Agriculture

Soil Conservation Service

301 Bank Street, Snow Hill, Md. 21863

Nov. 23, 1982

Evelyn Schulz 3PM 61
U.S. Environmental Protection Agency
Curtis Building
6th and Walnut Sts.
Philadelphia, Pa. 19106

Worcester County requires that any construction project that disturbs 300 cubic yards of material submit a sediment and erosion control plan to Worcester Soil Conservation District. This plan must comply with state specifications of sediment and erosion control and be acceptable to the review of William Fritz, Sediment and Erosion Control Officer. Mr. Fritz then reports the acceptability of the plan to the Soil Conservation District supervisors who will then request the municipality to issue a one year permit. The permit is issued under a fee system providing funds to administer the program. The review of site application is under the county's supervision.

Bruce E. Nichols
District Conservationist

Enc. Ordinance

DEPT. OF PUBLIC HEALTH

Worcester County

P. O. BOX 249
SNOW HILL, MARYLAND
21863

DONALD HARTING, M.D. MPH
COUNTY HEALTH OFFICER
DEPUTY STATE HEALTH OFFICER

September 7, 1979

Dr. Max Eisenberg,
Program Administrator
Toxic Substance Control Programs
Environmental Health Administration
201 West Preston Street
Baltimore, Maryland 21201

RE: West Ocean City Failing Septic Tank Area

Dear Dr. Eisenberg:

During the joint meeting in Ocean City on August 23, 1979, it was suggested by the EPA that additional justification of a failing septic tank area at the above captioned would be helpful if it were included in the Environmental Impact Statement. It is within this context that the following information is being forwarded to you.

Many of the lots in this area were surveyed and recorded before there were any Health Department Subdivision Regulations. When percolation tests were run, they were done during the summer months when the water table was down and the percolation was good. However, more and more of these homes are being occupied throughout the year, and during the periods of high water table it is unlikely that a standard septic tank system will properly function. In 1976 the department adopted Directive Policy GS-6 which is their policy dealing with existing lots of record. This policy requires seasonal testing in areas that have a high water table.

During the recent seasonal test period there were approximately 102 requests for percolation tests in this area. There were two approvals and 100 disapprovals primarily due to the high water table.

Enclosed for your information are copies of our observation well readings in the above captioned area. It is obvious that this is a high water table area and that a standard sewage disposal system can't be expected to function throughout the year.

I hope this information will be helpful to you and if additional information is needed, please call our office.

Very truly yours,

E.P. MAUGANS, DIRECTOR
Environmental Health

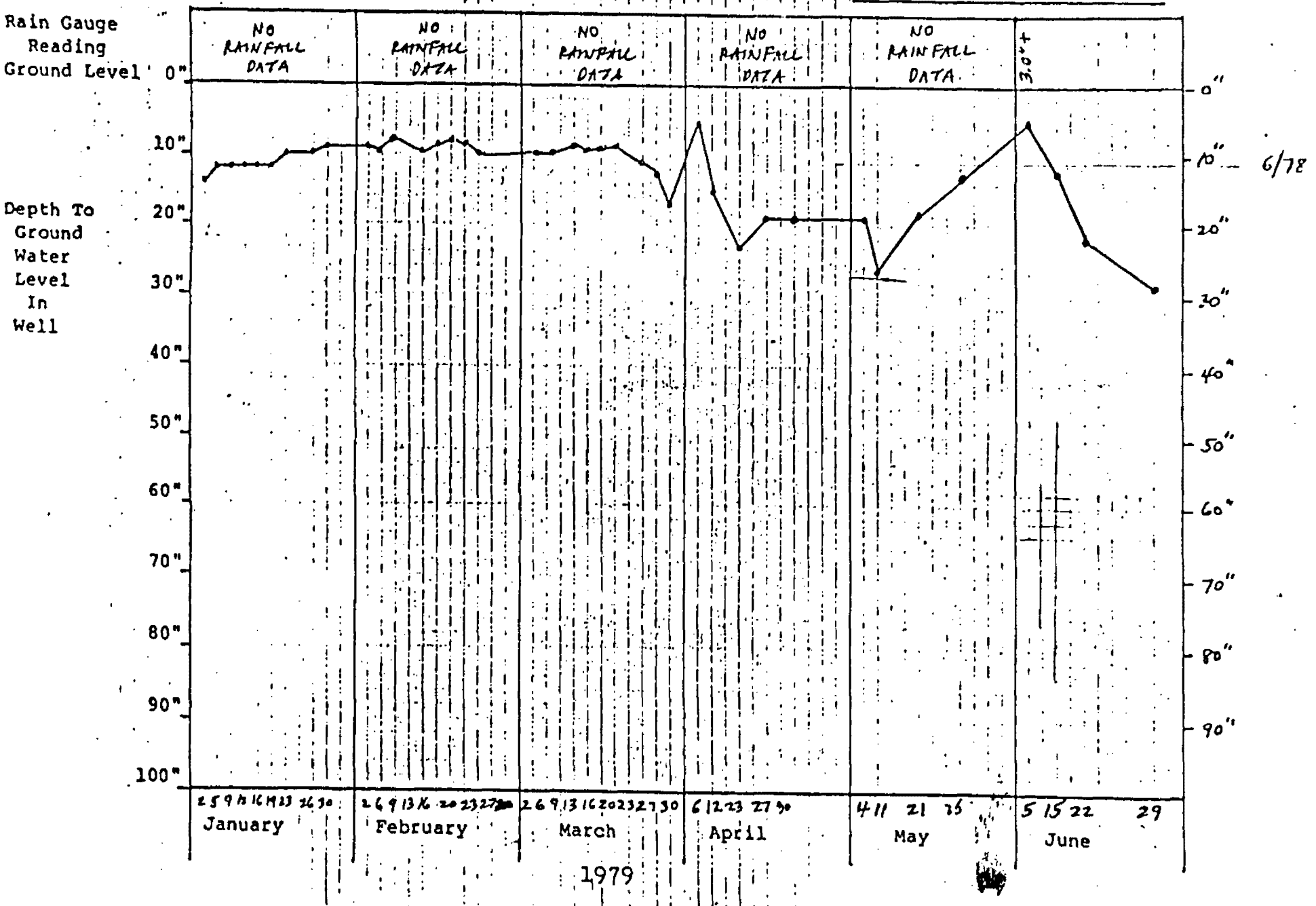
EPM/aw
cc: Rick Sellers
Norman Connell

Enc:

OBSERVATION WELL MONITORING (197) WELL NO. 1

WORCESTER COUNTY - North Well LOCATION Cape Isle of Wight, Lot B

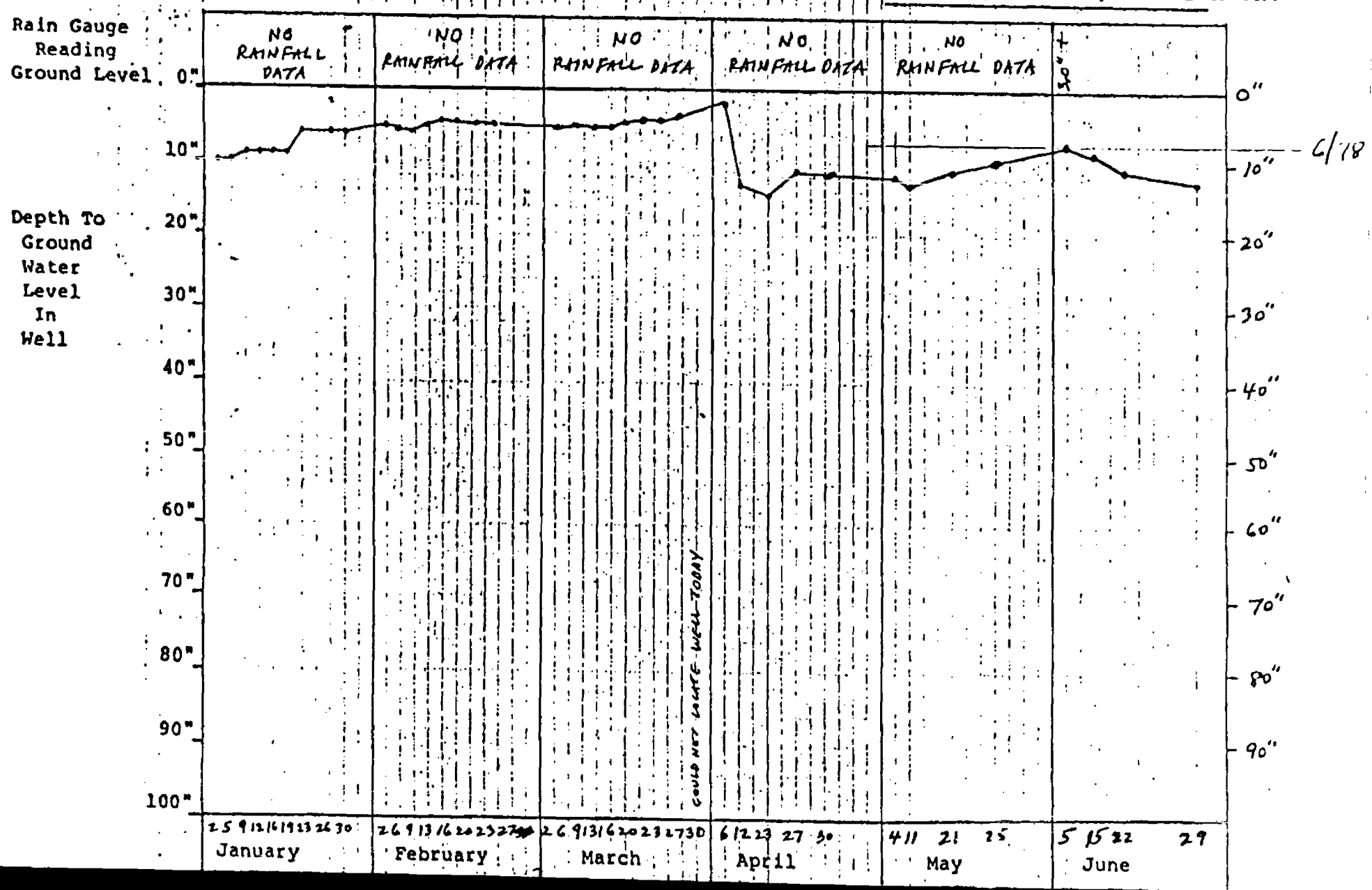
Additionto Section D



OBSERVATION WELL MONITORING (1979) WELL NO. 3

WORCESTER COUNTY - North Well LOCATION Mardin Park Subdivision

Lot 35, Blk 2, Section one



TEL 301 632 1100

DEPT. OF PUBLIC HEALTH

Worcester County

P. O. BOX 249
SNOW HILL, MARYLAND
21863

DONALD HARTING, M.D. MPH
COUNTY HEALTH OFFICER
DEPUTY STATE HEALTH OFFICER

December 12, 1980

Norman Connell
District Engineer
6405 Seabay Drive
Ocean City, Maryland 21842

RE: Sewage Systems Failures
West Ocean City Sanitary
District

Dear Mr. Connell:

The enclosed plan contains a total of 1348 structures requiring the use of a sewage disposal system. These structures for the most part are single family residences along with a few trailer parks, motels, and small commercial businesses.

Out of the 1348 structures the health department records indicate there are a total of 732 structures or 54% that have experianced failures.

The remaining 616 homes or 46%, the health department has no knowledge of any failures occuring.

Sincerely,

E.P. MAUGANS, DIRECTOR
Environmental Health

RW/lg

TEL. (301) 632-1100

Department of Public Health

Worcester County

P.O. BOX 249
SNOW HILL, MARYLAND
21863

DONALD HARTING, M.D. MPH
County Health Officer
Deputy State Health Officer

December 8, 1982

Ms. Evelyn B. Schulz
EIS Preparation Section
U.S. Environmental Protection Agency, Region III
6th & Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Mrs. Schulz:

In reference to your letter to me of November 30, 1982, I have obtained the requested information.

Since preparation of the information contained in my December 12, 1980 letter, there have been 17 new systems installed for homes, businesses or trailer parks that have been built since that time. This brings the number of existing structures to 1365. Of that number, since December of 1980, we have had 18 failures. That addition brings the number of homes experiencing failures to 750 or 55% of the total. The number of structures not experiencing any known failures are 615 or 45%.

With regard to your question about percolation tests in the West Ocean City Sanitary District, this office has conducted 32 seasonal percolation tests since January of 1980. Of that number, 27 of the standard tests failed and 5 passed.

In reference to your request concerning the feasibility of long term use of on-site systems, I wish to offer the following comments. There are many homes on small lots that are existing in this area that dispose of their wastewater by discharging into the underground water bearing sands. Our concern is that wastewater may contaminate the nearby wells or find its way into adjacent shellfish growing water.

It was indicated at the hearing on October 27, 1982, that approximately $250,000 has been expended to explore the alternatives and come up with the most cost effective method of waste disposal for West Ocean City. It is my opinion that the proposed method with State and Federal funding serving existing homes plus existing lots of record is the most cost effective and to continue to explore other alternatives at this late date is not productive.

Very truly yours,

E.P. MAUGANS, DIRECTOR
Environmental Health

JLT/aw
cc: Norman Connell

Worcester County

Sanitary District

COMMISSIONERS
WILLIAM A. STEGER, SR. – CHAIRMAN
NORMAN F. DENNIS – SEC'Y TREAS
JOSEPH M. BYRD, SR. – MEMBER

COURT HOUSE ANNEX
111-A N. WASHINGTON ST.
SNOW HILL, MD. 21863
TELEPHONE 301 632-1630

STEPHEN V. HALES – ADM. ASSIST
NORMAN R. CONNELL – DIST. ENGINEER
JACK DUNLAP – ATTORNEY

November 24, 1982

Environmental Protection Agency
Region 111
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Attention: Evelyn Schultz

Subject: Expansion of the Wastewater Treatment Plant, Ocean City, Maryland
C-240407-01

Dear Evelyn,

In response to your question on 23 November 1982, concerning the expansion requirement of the Wastewater Treatment Plant, Ocean City, Maryland, the following data is provided:

1. Average flows through the plant during the peak months of July and August, 1982 were 8.59 MGD and 8.39 MGD respectively. The new plant design is 12 MGD with peak flows capability of 18 MGD. With excellent response with the oxygen activated plant, I would anticipate we could possibly treat adequately flows of up to 15-16 MGD without difficulty and still meet our permit requirements.

2. Planning to date, projects ultimate Ocean City flows to up to 20 to 20.5 MGD. To fulfill this requirement, it is anticipated that approximately 7-8 acres of additional land would be required to site the maximum size plant anticipated.

3. The acceptance of flows from the West Ocean City District, anticipated initially at 350,000 GPD would ultimately be less then one (1) MGD, but for reservation of capacity, I believe a one (1) MGD capacity should be projected as the ultimate. The requirement for ultimate flows is not anticipated for less then twenty (20) years.

In summary, bringing the West Ocean City District flows into District No.1, Ocean City, is not the reason why the present request for wetland filling has been submitted. With the leadtime required to obtain permit approval and the fact that it would be desirable to have such new fill settle well, prior to construction, is the basic reason.

I would hope that the West Ocean City Amendment and the Environmental Impact Statement not get delayed because of the site fill request. The Maryland Environmental Health Administration concurr that this is the most cost effective solution to solving the sewerage needs for West Ocean City. It is further anticipated that with Environmental Protection Agency approval of the Environmental Impact Statement, that both State and Federal agencies will work toward accomplishing the goals set by those planning documents without argument.

Sincerely,

Norman R. Connell
District Engineer

cc: W.C.S.C.

NRC/vk

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DIVISION OF ECOLOGICAL SERVICES
1825B Virginia Street
Annapolis, Maryland 21401

January 7, 1983

Ms. Evelyn B. Schulz
EIS Preparation Section
Environmental Protection Agency
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Ms. Schulz:

In reference to your letter of December 3, 1982, and subsequent conversations between yourself, Shelly Suflas, and Martha Tacha of my staff, we concur that the proposed West Ocean City Wastewater Treatment Facilities will have no significant adverse impact on federally listed endangered species under our jurisdiction. We understand that the enclosed assessment (which we have revised further) will be incorporated into the Final Enivronmental Impact Statement for the project. We believe this revised assessment adequately discusses the primary sources of potential impact to endangered species in this case.

Three federally listed endangered species have been reported in the vicinity of the study area. Two subspecies of peregrine falcons, the Arctic peregrine (Falco peregrinus tundrius) and the American peregrine (F. p. anatum) use Assageague Island for resting and feeding during annual migrations and, therefore, may pass through or near West Ocean City. However, no significant impacts to the falcons is expected as a result of the West Ocean City project. West Ocean City's collection system will be placed under existing streets and railroad rights-of-way. No portion of a federally-funded sewer system in West Ocean City will traverse through or provide wastewater service to the area's wetlands and thereby adversely impact shore birds upon which the falcons feed. The elimination of effluent seepage from failing septic tanks into canals should improve the shorefront aquatic habitat. The Maryland Wildlife Administration (Taylor 1978) has reported a bald eagle (Haliaeetus leucocephalus) nesting area south of Berlin, approximately five miles from the project area. No adverse impacts to the bald eagle is anticipated, either directly or indirectly through changes in the food chain. No new surface discharges of wastewater which could impact fish supplies are planned. The elimination of septic tank seepage should have a positive impact on surface water quality.

This response relates only to endangered species under our jurisdiction. It does not address other Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other legislation.

Thank you for your interest in endangered species. If you have any questions or need further assistance, please contact Martha Tacha at (301) 269-6324.

Sincerely yours,

Glenn Kinser
Supervisor
Annapolis Field Office

Maryland Department of Transportation

State Highway Administration

Lowell K. Bridwell
Secretary

M. S. Caltrider
Administrator

January 5, 1983

Ms. Evelyn B. Schulz
EIS Preparation Section (3PM61)
United States Environmental Protection Agency
Region III
6th and Walnut Streets
Philadelphia, PA 19106

Dear Ms. Schulz:

An analysis of Keyser Point and Golf Course Roads indicates they are adequate to handle current and projected traffic. The assumptions made in the analysis are attached as enclosure #1.

An area which may be of future concern for these roads, is the ability of traffic to get on, off, or across US 50. We do not have the data to make that evaluation now. If it became necessary, we would need to collect data in the summer, when the worst delays for local residents are assumed to occur.

If we may be of any further assistance, please contact the writer.

Sincerely,

John T. Neukam, Chief
Bureau of Highway Statistics

By: Barbara K. Ostrom
Barbara K. Ostrom, Chief
Traffic Forecasting Section

JTN/BKO:cas

Enclosure

My telephone number is (301) 659-1327
Teletypewriter for Impaired Hearing or Speech
383-7555 Baltimore Metro — 565-0451 D.C. Metro — 1-800-492-5062 Statewide Toll Free
P.O. Box 717 / 707 North Calvert St., Baltimore, Maryland 21203 - 0717

Ms. Evelyn B. Schulz
January 5, 1983
Enclosure #1

	Area #1	Area #8	Area #9
Current dwelling units	69	164	201
Dwelling units - year 2000	428	322	629
Number of daily trips per dwelling unit	9.1	9.3	10.2
Percent of daily traffic in peak hour	10.8	10.8	10.8

Assumptions: The only access to US 50 will be Keyser Point or Golf Course Roads for the areas in question.

Areas #1 and #9 will only use Keyser Point Road with area #1 developing around Keyser Point Road before spreading East.

Area #8 will only use Golf Course Road.

No improvements to either road.

Average Daily Traffic from each area:

	Area #1	Area #8	Area #9
Current ADT	630	1,525	2,050
Current Peak Hour	70	165	220
Year 2000 ADT	3,900	3,000	6,415
Year 2000 Peak Hour	420	325	695

Both Keyser Point and Golf Course Roads are two-lane roads, with 12 foot lanes and no shoulders. There is uncontrolled access to these roads (i.e., driveways, other road intersections). Because of these conditions, either road can handle 1,500 vehicles per hour at the posted speed of 30 miles per hour.

In the year 2000, the rushhour (peak hour) volumes for Keyser Point and Golf Course Roads are forecast to be 1,115 and 325 vehicles per hour, respectively. Traffic from the south side of US 50 going across US 50 northbound on these roads is assumed to be negligible as is traffic from MD 611.