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MARKETABILITY AND REDEVELOPMENT ANALYSIS FOR THE BAINBRIDGE NAVAL TRAINING CENTER CECIL COUNTY, MARYLAND

Prepared for:

MARYLAND DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT
and
CECIL COUNTY BOARD OF COUNTY COMMISSIONERS

By:

MORTON HOFFMAN AND COMPANY, INC.
Urban and Economic Consultants

The preparation of this document was financed in part through a Technical Assistance Grant from the Economic Development Administration, U.S. Department of Commerce, Project 01-6-09719-26

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URBAN AND ECONOMIC CONSULTANTS FOR BUSINESS ■ INDUSTRY ■ INSTITUTIONS AND GOVERNMENT

March 31, 1975

Hon. Joseph G. Anastasi
Secretary
Department of Economic and Community Development
2525 Riva Road
Annapolis, Maryland 21401

Dear Mr. Anastasi:

In accordance with our contract, we are pleased to submit our marketability analysis and redevelopment proposals for surplus portions of the 1,261-acre Bainbridge Naval Training Center site in Cecil County, Maryland.

On the basis of our year's work, we have concluded that substantial industrial and institutional development can be achieved on the site over a 15- to 20-year period. This type of development would prove beneficial to Cecil County in terms of employment generation and fiscal returns and help accomplish stated economic development and related objectives. Moreover, industrial and institutional facilities can be located compatibly on the site with a potential power plant proposed by the state's Power Plant Siting Program.

Within our firm, Mrs. Rosalyn Doggett, Associate, who served as Project Administrator, and Mr. James Prost, Senior Analyst, were responsible for market analysis, the formulation and evaluation of costs and benefits of alternative development strategies for the site, and the preparation of recommendations to carry out the preferred development alternative. They were assisted by Mr. Fred Greene, Principal Planning Analyst, and Mrs. Cheryl Siekierka, Research Analyst. The undersigned supervised and participated in all aspects of the firm's work.

Sun Life Building, Charles Center, Baltimore, Maryland 21201 • 301-539-1002

We have benefited from the cooperation of Department of Economic and Community Development staff, members of the Power Plant Siting Program, the Board of County Commissioners of Cecil County, and the County's Planning Director and Economic Development Coordinator. A list of the many individuals whose valuable assistance we received is provided in the Acknowledgments included in our report. We look forward to the redevelopment of Bainbridge and stand ready to assist in any appropriate manner.

Sincerely yours,

MORTON HOFFMAN AND COMPANY, INC.

Morton Hoffman
President

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ACKNOWLEDGMENTS

Morton Hoffman and Company, Inc., is highly appreciative of the cooperation and substantive assistance provided in its work by many individuals and their agencies. Individuals in state agencies who have contributed to the preparation of this report include John B. Moore, Jr., Donald K. Rose, and Joseph A. Kayne, Office of Development Planning, James A. McComas, Jr., Director, Division of Business and Industrial Development, and William Pate, Assistant Secretary, Maryland Department of Economic and Community Development; and Kenneth E. Perkins and Dr. Steven Long, Power Plant Siting Program, Maryland Department of Natural Resources. Cecil County participants include Mary A. Maloney, Joseph B. Biggs and Walton R. Mason, Commissioners, Allan S. Davis, Economic Development Coordinator, David Rever, Planning Director, and the many citizens who attended the two progress presentations given during the course of this study. At the Federal level, special thanks are due David A. MacKinnon, Office of Economic Adjustment, and Captain Wilson and Lt. Commander Knauf, Bainbridge Naval Training Center, U.S. Department of Defense.

The consultant also wishes to acknowledge the information received from officials of many private companies and other public agencies knowledgeable about development trends in the Bainbridge area. Interviews were conducted with realtors, builders, major employers, industrial developers, and regional and local planning and public works department staff in Cecil and Harford Counties, Maryland, New Castle County, Delaware, and in Baltimore and Philadelphia. Also, discussions were held with officials of utility companies serving the Cecil County area, as well as staff of the U.S. Nuclear Regulatory Commission and persons familiar with the possible effects of the development of a power plant on new, adjacent residential, commercial, industrial, or institutional development. In addition to providing useful data, reports, and background information, the individuals interviewed helped the consultant in assessing redevelopment potentials at Bainbridge, and their assistance is reflected in this and the May 15, 1974, report.

Special mention must also be accorded Frederick Ward Associates, Inc., Consulting Engineers of Bel Air, Maryland, which provided professional engineering analyses necessary to establishing potential capital costs for Bainbridge development alternatives.

REPORT HIGHLIGHTS

This marketability and redevelopment analysis of the Bainbridge Naval Training Center determines the prospects for reuse of the military base in accordance with Cecil County's economic and community development objectives. Among these objectives are reversing the job and related losses that would result from imminent closure of the base. Highlights of the report are summarized below in terms of: (1) current status and character of the base; (2) industrial, residential, commercial, and institutional reuse potential; (3) description and evaluation of alternative redevelopment approaches; and (4) next steps in carrying out a preferred redevelopment strategy.

1. Current Status and Character of Bainbridge

- The 1,261-acre Bainbridge Naval Training Center is located in a rural area at the southwestern edge of Cecil County, Maryland. It is approximately two miles from an interchange with Interstate 95, the main eastern seaboard travel corridor. Baltimore is 40 miles distant and Wilmington, 30 miles away.

- The base is currently scheduled to be vacated by the Navy in the spring of 1976, and will become available for reuse by public agencies and private institutions and developers.

- The Maryland Power Plant Siting Program will reserve approximately 550 acres of the site for construction of a fossil fuel or nuclear power plant presently estimated to open close to 1990. The plant, upon operation, could generate substantial tax revenues for Cecil County of $10 to $42 million annually, depending upon the type and size of facility constructed.

- Excluding the power plant reserve zone and certain rights-of-way, 650 acres of the base would be available for redevelopment.

- The base is now fully developed and has on-site water and sewer service, recreation facilities, barracks and housing areas, classroom and administrative buildings, warehouses, and an attractive education complex which previously served as the Naval Academy Preparatory School. While the Prep School and selected buildings could be used by institutions, most structures will have to be torn down since they are dilapidated or unsuited for modern use. In addition, sewer facilities will have to be upgraded at some cost to satisfy present pollution standards, correct present deficiencies and meet needs of future site occupants. The water plant (and related piping) will have to be relocated since it is adjacent to where a power plant would be built.

- Though the site has rail and road access, both transportation facilities would have to be upgraded if substantial residential, commercial, or industrial development is to be attracted to the base.

2. Reuse Potential

- Because Bainbridge is located in a rural area, distant from nearby growth centers, the amount of private market development that can be attracted over the 1974 to 1985 projection period will depend upon improved transportation access, aggressive marketing, related development that also occurs on-site, and, for industry, incentives such as provision of graded sites, served by utilities, at highly competitive prices.

- From 81 to 187 acres of industrial development could be attracted to Bainbridge over the projection period and would include general manufacturing firms related to the processing of raw materials, light manufacturing firms assembling partially finished goods, and distribution firms such as wholesalers. Upper levels of development could be attained if the improvements and incentives cited above are furnished.

- Approximately 240 units of housing could be attracted to Bainbridge under normal market conditions and up to 760 units with improved road access, accelerated development of employment opportunities on-site, and a marketing program to allay fears about living near a potential nuclear plant. Acreage requirements would range from 51 to up to 282.

- About 16,000 to 40,000 square feet of commercial space could be developed over the projection period, consisting primarily of outlets such as food, drug and personal outlet service catering to daily shopping needs. Four to 7 acres would be needed for retailers.

- Based primarily on County, state, and local government and private institution expressions of need for land and facilities at Bainbridge, approximately 171 to 317 acres of the site could be absorbed for community social, health, education and recreation agencies providing services to Cecil County. Major site reuses could include County-operated sewer, water, and elementary school facilities, recreation sites for the surrounding area, and the Naval Prep School for one or more educational institutions.

3. Alternative Development Strategies

- Utilizing reuse potential findings, three alternative redevelopment approaches were formulated for the Bainbridge site. All recognize to different degrees County objectives for mixed-use development in the Bainbridge area, job creation on-site, and restoration of all or part of the former base to the County tax rolls.

- Alternative I emphasizes institutional development and accommodates only the low end of the projected 1974 to 1985 market potential. It, thus, minimizes costs to Cecil County required to attract higher levels of development. Associated with this alternative would be approximately 1,475 persons in 505 dwelling units (including some existing housing), 830 jobs, and potential

net capital costs to the County for site improvements, assuming Federal, state, and private assistance, of $3.4 million over an approximate 10-year period.

- Alternative II emphasizes maximum utilization of land for private market development and minimizes institutional uses. It would require higher capital costs, for items such as road and rail improvements, to attract higher development levels. This alternative would include 770 housing units with 2,570 residents and 1,540 on-site jobs, primarily in industry. It could require $6.4 million in net capital costs to the County over a 10- to 15-year period.

- Alternative III stresses maximum industrial development over a longer time span than the 1974 to 1985 projection period, blended with institutional and recreational use for which land could be obtained at no cost from the Federal government. It has no on-site housing. About 2,350 jobs would be created, double the 1,200 civilian jobs at Bainbridge in 1970. Potential net capital costs to the County over a 15- to 20-year development period could amount to $7.7 million.

4. Evaluation of Alternatives

- Alternatives were evaluated on the basis of (1) direct fiscal and operating revenues attributable to on-site development which takes into account income from new jobs created for County residents; (2) environmental impacts and impacts of the construction force to redevelop Bainbridge; (3) off-site impacts including additional County costs and revenues resulting from jobs and residential development associated with each alternative; and (4) net costs and benefits to the County which reflect capital costs and operating costs and income and tax revenues attributable to on-site and off-site development.

- Annual County operating costs to serve on-site development would amount to $261,000, $401,000, and $131,000 for Alternatives I, II, and III, respectively, while the annual revenues, resulting from property taxes and state income tax surcharges would be $306,000, $691,000, and $369,000. The ratio of costs to revenues is highest for Alternative III and is 3.0, which means that for every $1 the County spends in operating costs it receives $3 in return. Cost/revenue ratios for Alternatives I and II are 1.2 and 1.7, respectively.

- Environmental impacts are not considered significantly different among the alternatives, nor are they judged detrimental to the surrounding area.

- A slight annual fiscal or operating surplus would accrue to the County from off-site job generation and off-site residential development associated with on-site workers.

- Taking into account off-site and on-site net operating cost, income and revenue impacts, and net capital costs to the County, the ratio of costs to County income generated by each alternative would be positive for all alternatives and highest for Alternative III.

Net Benefit/Cost Ratio

Alternative I	Alternative II	Alternative III
13.7	17.6	20.5

In essence, for every dollar invested by the County under Alternative III, County residents would receive $20 in benefits.

- From the standpoint of jobs, taxes, and overall benefits, Alternative III would appear to be the best strategy for the County to pursue.

5. Development Program

- Adopted by the Cecil County Board of County Commissioners as the preferred development approach, Alternative III has the following land use characteristics proposed in this report: 550 gross acres--power plant; 61 gross acres--rail and transmission lines and water pumping station; 356 gross acres--industrial use; 8 gross acres--commercial use; and 286 gross acres--institutional and recreation use, including a County water and sewage treatment plant, a state fire fighters training center, County elementary school and recreation sites, the Naval Prep School site for an educational institution, and a reservation of land for social, welfare and health institutions serving County residents.

- To launch the development of the Bainbridge site, a number of sequential implementation steps must be taken. Three initial stages are foreseen:

  a. A predevelopment stage, lasting approximately one and one-half years from now, will include activities to arrange and plan for site development: completion of applications allowing acquisition by appropriate public and private agencies of recreational and institutional areas and purchase by the state of the rest of the site; preparation of marketing, planning/engineering and financial programs for the industrial development of Bainbridge; adoption of land use and development controls for the site and surrounding areas; and formation of local economic development corporation to manage industrial development at Bainbridge and begin industrial marketing activities.

  b. A subsequent site improvement stage lasting approximately one and one-half years and involving the obtaining from sources described in this report of financing for site purchase

and development by the County and local economic development corporation; purchase by the County from the state of land for an initial industrial development project; site improvements (demolition, grading, installation of roads and sewer and water facilities); and disposition of industrial parcels to private users by the local economic development corporation.

c. A construction stage, lasting about six months, which would result in buildings ready for site occupants.

- Given smooth completion of these steps, it is estimated that the earliest date at which new industrial firms could begin operating would be in the summer of 1978, a little over three years from now. Institutional and recreational uses could occupy designated sites earlier, after the Navy leaves the base in the spring of 1976.

- With gradual occupancy of Bainbridge by institutional, commercial, and industrial uses over the next 10 years, and the opening of a power plant in the late 1980's, Bainbridge can become a significant fiscal asset and employment and community service center for Cecil County.

CHAPTER I

INTRODUCTION

Prepared for the Maryland Department of Economic and Community Development (DECD) and the Board of County Commissioners of Cecil County, Maryland, this report analyzes alternative redevelopment programs for the soon-to-be vacated Bainbridge Naval Training Center in Cecil County. Specifically, it estimates the potential for new public and private development on the former military base, evaluates the costs and benefits to Cecil County of alternative redevelopment plans for Bainbridge, and proposes next steps in carrying out a preferred plan adopted by the County Commissioners.

Since its establishment in 1942, the 1,261-acre naval base located at the southwestern edge of Cecil County has played an important part in the County's economy. The base offered 1,200 civilian jobs to area residents as late as 1970. However, with the Department of Defense decision to close the base, gradual attrition in the number of civilian jobs has been taking place, helping to increase Cecil County's unemployment rate. As the base is phased out, also, expenditures made in the local community by naval and civilian personnel employed at Bainbridge will be lost, as will income received by local residents renting housing to military personnel.

The need for development of a program to reutilize the base to benefit Cecil County and reverse potential losses from the closure has therefore been foreseen by County and state officials as well as the Department of Defense's Office of Economic Adjustment. With funding obtained from the U.S. Economic Development Administration, the consultant was retained by the state to examine and evaluate reuse possibilities for the base.

Once Bainbridge is vacated by the Navy, presently scheduled for the Spring of 1976, it will become available for use by County and state agencies, private social welfare organizations, and private market developers in that order. The State of Maryland has already formally applied to purchase a significant

portion of the base for a reserve site of approximately 550 acres for a fossil fuel or nuclear power plant under its Power Plant Siting Program. It would also purchase remaining land not required for public benefit uses (local government and non-profit social, educational, and welfare institutions). The remaining land would be used for private market development in accordance with County objectives.

This study has been directed at determining the potential for reutilizing that part of the Bainbridge site not needed for a power plant. Though the emphasis has been on determining the prospects for industrial development consistent with County economic development goals and the expressed desire to replace civilian jobs lost through the base closure, investigations have also been conducted to determine commercial and residential redevelopment potential and recreational and institutional needs, as called for in the DECD Request for Proposal.

This report is organized in the following manner. Chapter II describes the locational and physical characteristics of the Bainbrdige site, the status of Department of Defense disposition plans and state Power Plant Siting Program reuse plans, and assets of the site for redevelopment. The third chapter provides an analysis of employment, population, household and household income trends and projections in the area surrounding Bainbridge as a basis for projecting redevelopment potentials for the base over the next decade. These potentials are examined in Chapter IV which covers industrial, residential, commercial, and recreational and institutional uses. The potentials are expressed in terms of square feet of space, housing units, and acres, as appropriate.

With the potentials of new development thus established, the fifth chapter formulates three alternative redevelopment concepts for the base that offer a choice of the County in terms of a mix of land uses, required public development activities and costs, and timing to achieve full development. The sixth chapter then evaluates the fiscal costs and revenues that would accrue to the County under each alternative, including revenues from jobs created; off-site impacts created by each alternative; and the overall costs and benefits of each alternative.

Utilizing the above evaluation, the County Commissioners adopted a redevelopment alternative that stresses long-term industrial development and institutional reuse of the Bainbridge site. A number of steps will have to be undertaken by public agencies and private developers to carry out this alternative, including land acquisition from the Federal government, more detailed planning, engineering, marketing and financial analysis, and site development. The seventh, and final, chapter of this report describes those steps. It suggests the timing, responsible agencies, and interrelationships among activities that will be required, as well as potential funding sources that may be available in implementing the preferred Bainbridge redevelopment alternative.

CHAPTER II

CURRENT STATUS AND CHARACTERISTICS OF BAINBRIDGE

The Bainbridge Naval Training Center comprises a 1,261-acre tract of land in southeastern Cecil County, Maryland. Located above Port Deposit, a small town with approximately 900 residents, the naval base is on a bluff overlooking the Susquehanna River. It is 2 miles from an interchange with Interstate 95 and, thus, within the main Eastern Seaboard travel corridor.

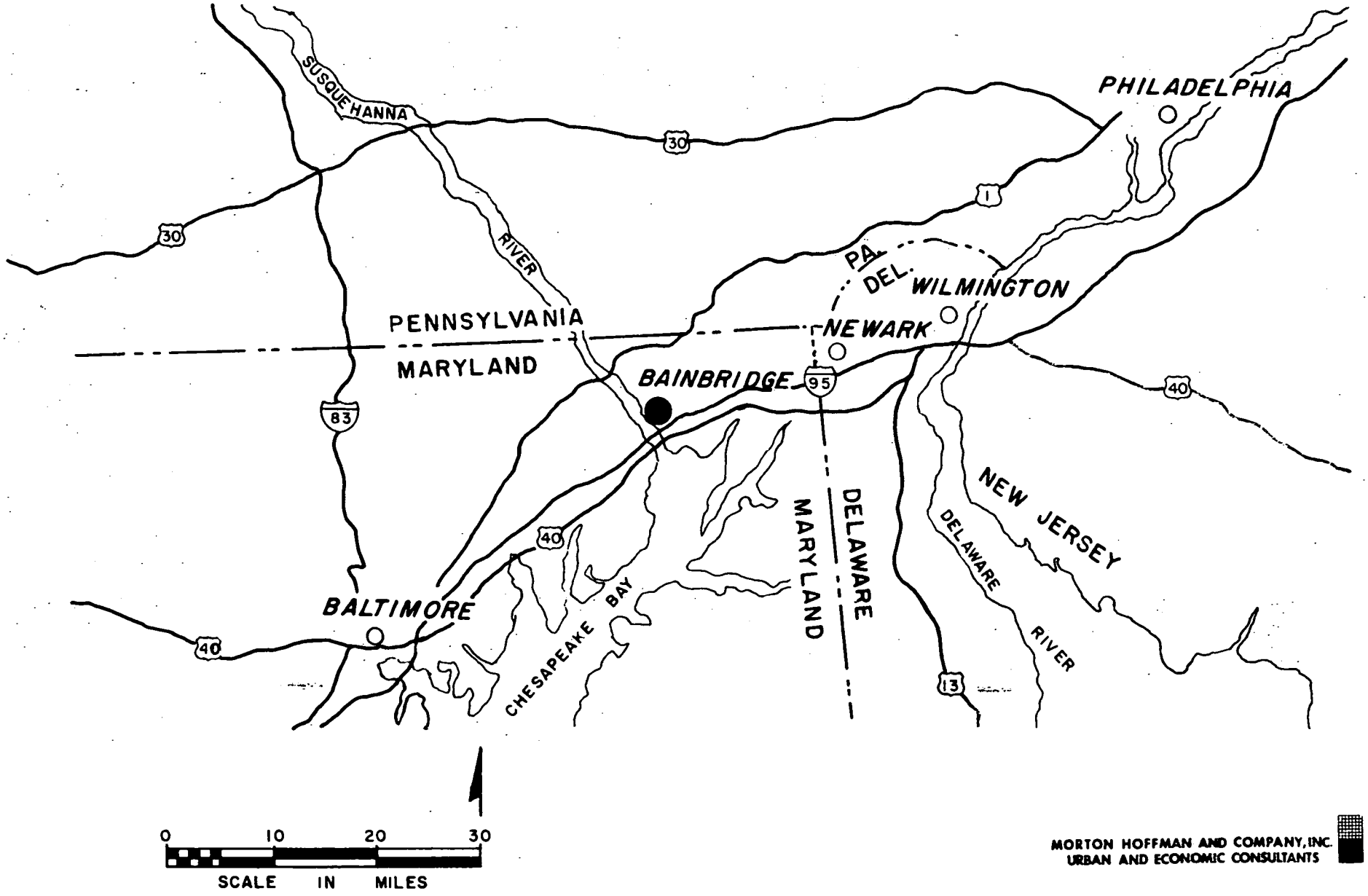
The naval base is located in a rural area, with farming the primary activity nearby. The nearest communities of moderate size are Elkton, the Cecil County seat, with a 1970 population of 5,362, about 15 miles away; Havre de Grace, population 9,791, some 5 miles distant; and Aberdeen, population 12,375, about 8 miles from Bainbridge. The latter two towns are in Harford County to the southwest. Smaller nearby communities in Cecil County, apart from Port Deposit, include Perryville, Rising Sun, and North East.

Bainbridge lies between Baltimore, 35 miles away, and Philadelphia, 55 miles away (Map 1). Delaware's major urban centers of Wilmington and Newark are 30 miles and 20 miles, respectively, from the base. All told, then, the naval facility, though situated in the East Coast urban corridor, is relatively removed from metropolitan centers of active employment and population growth.

The chapter describes the current status and plans involving disposition and reuse of the naval base, and characteristics of the base, itself, and surrounding areas. It, thus, provides a setting for evaluating redevelopment opportunities on the base.

MAP 1

BAINBRIDGE LOCATION MAP



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A. CURRENT STATUS OF THE BASE

1. Department of Defense Plans

Established in 1942, the Naval Training Center reached its peak of operations during and after World War II. In succeeding years the base underwent ebbs and flow of activity as certain training and administrative functions were added and others moved elsewhere. During the reevaluation of military base needs by the Department of Defense in the 1960's, a decision was made to phase out use of Bainbridge, and this policy has begun to be carried out.

Whereas Bainbridge's population had reached levels of over 40,000 in the 1940's, by 1970 the base housed only 5,257 military personnel and their families and employed 1,200 civilian workers. By 1974, this number had dropped to less than 3,000 military persons and 800 civilian employees.

Current plans of the Department of Defense call for all naval and civilian-related personnel to leave the base by April, 1976. The Naval Academy Preparatory School was relocated to Newport, Rhode Island in the fall of 1974. Other functions, including nuclear power training, personnel, accounting, manpower reserve, and enlisted personnel distribution commands, will be transfered to Orlando, Florida, New Orleans, and other locations.

2. Disposition Plans

When a Federal government agency determines that it no longer needs a facility or property, several steps are taken in disposing of it. First, the property is declared "excess" and Federal departments and agencies are given the opportunity to reutilize the facility. If there is no Federal interest in reusing the property, it is declared "surplus," following Congressional approval, and the General Services Administration (GSA) so notifies state and local jurisdictions, who are given the opportunity to apply for all or part of the property in question. Property, or portions thereof, not utilized by a public body is offered to private institutions and businesses.

Provided need is adequately demonstrated, property to be used for public benefit purposes (education, recreation, health and social welfare services and the like) is deeded by the Federal government to the reuser at no cost. Property to be used for profit-making activities is sold at fair market value, following Federal government appraisals.

Exclusive of the Naval Prep School portion (111 acres), the Bainbridge site had gone through the Federal excess process and been declared surplus in 1974. Early in 1975, the Prep School site received Congressional Armed Services Committee approval to be declared surplus, as well.

The State of Maryland, through its Power Plant Siting Program, has plans to reserve a portion of Bainbridge for a future power plant. The state has notified GSA that it will purchase all surplus property at Bainbridge not needed for public benefit uses. The portions of the state-purchased property that are not reserved for a power plant will, in turn, be sold to Cecil County (or to a private user in the event the County does not want to purchase) for sale or lease by the County for economic and community development purposes.

Both Federal and state appraisals on the property are now under way and have taken into account market and planning analyses described in this report. It is anticipated that the state will begin negotiations with GSA to purchase non-public benefit portions of Bainbridge in June or July of 1975 and complete acquisition by the end of the year. The Department of Defense presently plans to vacate the base four months later, at the end of March, 1976.

3. Power Plant Siting Program Plans

The Maryland Power Plant Siting Program (PPSP) in the State Department of Natural Resources has the responsibility to select, study, and purchase to hold in reserve power plant sites that may be required for major utilities generating electricity in the state. In accordance with its mandate, PPSP has investigated the feasibility and environmental impacts of constructing and operating a generating facility at Bainbridge. Preliminary consultant studies indicated

that Bainbridge is a feasible site for the Program; hence, the determination by the State to purchase portions of the naval base.1/

The state would sell the power plant site to a private utility serving nearby portions of Maryland. The utility would build either up to two fossil fuel plants or up to two nuclear power plants. At present, PPSP officials estimate that the earliest date of opening of a power plant would be in 10 years and a more realistic date, in 15 years. Thus, expectations are that a power plant would begin operations on the site sometime close to 1990.

Approximately 550 acres of the 1,261-acre Bainbridge tract would be required for up to two power plants. PPSP consultants determined that geological and related conditions were most favorable for plant siting in the north central portion of the Bainbridge tract. In the case of a fossil fuel plant, the 550-acre area would provide sufficient space for operations, storage, and an open space buffer to protect surrounding land uses. For a nuclear reactor, the area would serve the same functions and would also meet Nuclear Regulatory Commission (NRC) safety requirements for an exclusion area of .4 miles from a reactor in which no other activities should be allowed. The 550 acres encompasses land within .5 miles of the centroid of two adjacent nuclear reactors.

In addition, population densities for up to a distance of 30 miles from a nuclear plant are evaluated by NRC prior to granting a utility an operating license. These densities are related to safety procedures for evacuation and to estimates of impact in the case of an accident. NRC density limits must be taken into account in preparing a reuse plan for other portions of the Bainbridge base.

1/ Engineering-Science, Inc., Preliminary Investigations of a Potential Power Plant Site in Cecil County, Maryland, Volumes I and II, February, 1974.

PPSP consultant estimates suggest that 350 to 700 workers might be associated with the operation of a fossil fuel plant(s) and 150 employees with a nuclear reactor. The construction force to build up to two nuclear plants of either type could be substantial. Construction of a nuclear plant could take approximately eight years; over the three peak building years up to 2,500 workers annually may be required.

Although Cecil County's power needs could be met by a generating facility in another area, the County could derive substantial tax benefits from a power plant located within its boundaries. It is presently estimated that property tax revenues of $9.8 million to $42 million annually, could be realized once one or more fossil fuel or nuclear plants are in operation.

PPSP consultants stated that no significant adverse environment impacts on the surrounding area would occur from the operation of a nuclear or fossil fuel plant under normal conditions. Temporary fogging from a nuclear plant and smoke plumes from certain stacks that might be associated with either type of plant were, however, cited as problems to avoid or ameliorate.

Extensive interviews were conducted by this consultant with experts in the utility field and with government officials and private real estate practitioners familiar with location decisions of industrial, residential, and related developers. Respondents suggested that, for commercial or industrial users, there are no perceived advantages or disadvantages from locating near a nuclear or fossil fuel plant. Potential linkages of industry to a nuclear plant are presently being investigated nationally. There are a few examples of benefits from co-location, for instance, the use of excess heat from a nuclear plant in industrial processing. However, the cost efficiency of such linkages has not been sufficiently demonstrated to date. For residential uses, it is believed that careful marketing would be required to allay home buyers' fears, justified or not, about living near a power plant, particularly a nuclear power plant. However, examples of residential use near plants do exist, and it is believed that other factors such as type of home, location, character of an area and similar items would be as important to the housing renter or buyer as a nearby power plant.[1/]

1/ For further detail on the effects of a power plant on potential redeveloper interest, see Morton Hoffman and Company, Inc., Implications of a Power Plant located on the Bainbridge Site for Marketability of Remaining Portions of the Tract, May 15, 1974.

B. SITE CHARACTERISTICS

This section describes key features of the Bainbridge site and immediate environs, including access, topographic conditions, existing development, utilities and building conditions.

1. Surrounding Area and Access

Apart from the tightly knit town of Port Deposit, located to the southwest of the base on the Susquehanna River, only sparse development surrounds the Naval Training Center. On the southern and eastern perimeters along Route 222, there are some scattered single-family rural homes; the principal land holder, Mt. Ararat Dairy Farms; and the County Board of Education's Bainbridge Elementary School which serves the base and local area residents. To the east and north along Route 275 are farm and wood lands and two mobile home parks adjacent to the base. On Route 276 to the north and west, there are scattered residences and farms.

Access to Bainbridge can presently be gained from several points along all three state roads although in some cases gates to the base are no longer used and entrace roads are in disrepair. The principal entrance to Bainbridge is from Route 222 on the southeast, just above a long hill descending to Port Deposit.

2. Terrain

Most of the site is either level or gently rolling and generally suitable for development. Areas of steep slope are found around the Naval Prep School site where the land falls sharply to Port Deposit on the Susquehanna River plain. The drop from the Prep School area to Port Deposit is nearly 200 feet.

3. Existing Development

A largely developed tract, Bainbridge contains about 665 buildings, numerous outdoor recreation areas, and a network of paved, but mainly narrow and winding, roads (Map 2). The northern and northeast portion of the base has two principal areas in active use: housing and warehousing. Approximately 65 to 70 acres in the northeastern part of the site are occupied by Wherry housing, a 49-building garden apartment complex

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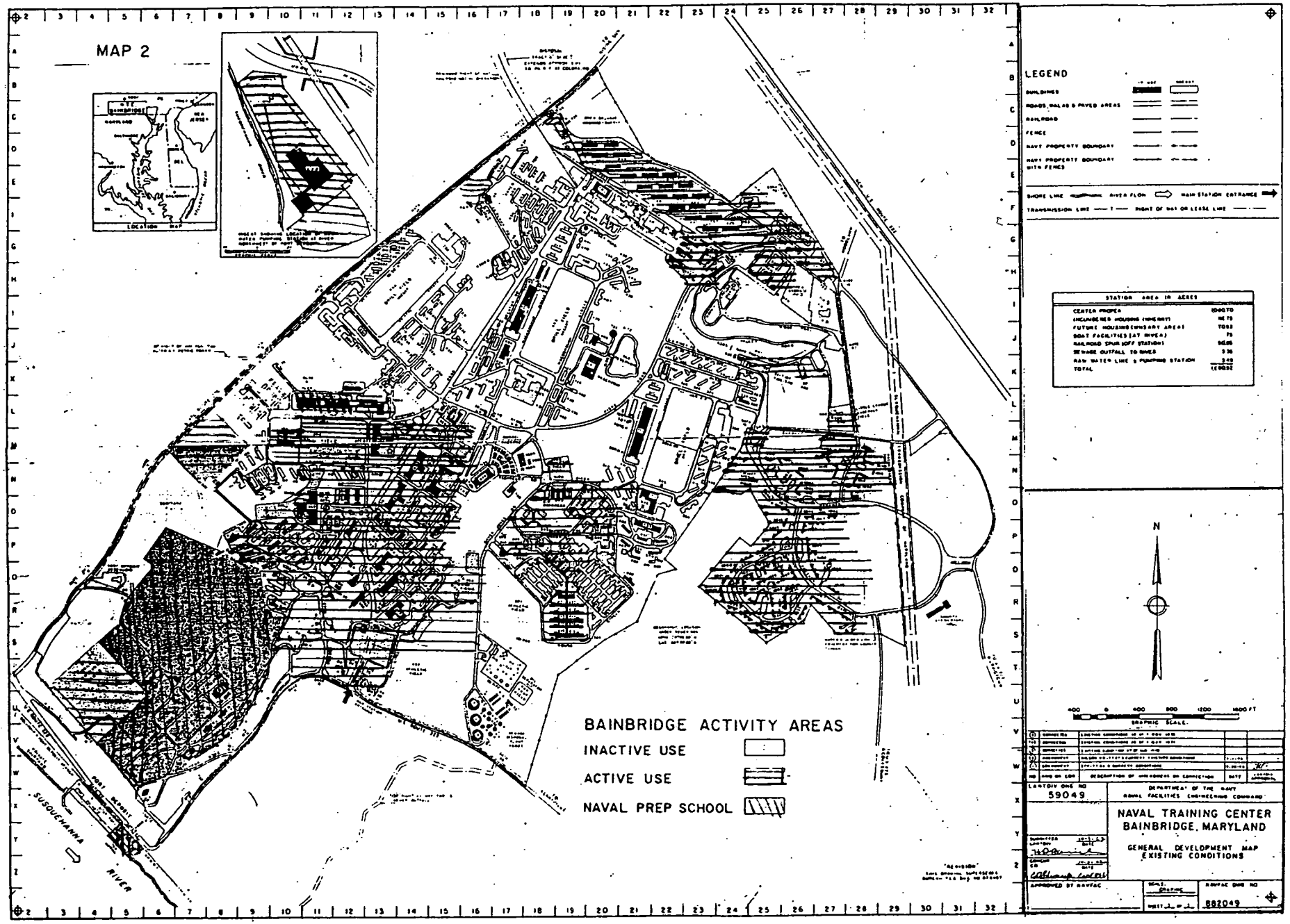
MAP 2
LOCATION MAP
LEGEND
BUILDINGS
ROADS, WALKS & PAVED AREAS
RAILROAD
FENCE
NAVY PROPERTY BOUNDARY
NAVY PROPERTY BOUNDARY WITH FENCE
SHORE LINE
RIVER FLOW
MAIN STATION ENTRANCE
TRANSMISSION LINE
RIGHT OF WAY OR LEASE LINE
STATION AREA IN ACRES
CENTER PROPER
INCUMBERED HOUSING (ONE UNIT)
FUTURE HOUSING (WITHDRAWN AREA)
BOAT FACILITIES (AT RIVER)
RAILROAD SPUR (OFF STATION)
SEWAGE OUTFALL TO RIVER
RAW WATER LINE & PUMPING STATION
TOTAL
BAINBRIDGE ACTIVITY AREAS
INACTIVE USE
ACTIVE USE
NAVAL PREP SCHOOL
SUSQUEHANNA RIVER
PORT DEPOSIT
N
400 0 400 800 1200 1600 FT
GRAPHIC SCALE
LANTDIV DWG NO
59049
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL TRAINING CENTER
BAINBRIDGE, MARYLAND
GENERAL DEVELOPMENT MAP
EXISTING CONDITIONS
APPROVED BY NAVFAC
NAVFAC DWG NO
892049

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constructed for naval families in 1954. Of the 505 Wherry units, 263 have 2 bedrooms; 194, 3 bedrooms; and 48, 4 bedrooms. To the northwest of the housing complex is a maintenance area with approximately 25 buildings, including 21 concrete block warehouses of 12,000 square feet each. These buildings are served by rail sidings, in disrepair. The sidings connected to a deteriorated rail spur which leads to a presently non-operational Penn Central line called the Octoraro branch.

North central portions of the base are included in the power plant reservation area. They contain barracks, mainly unused; drill fields and drill halls; a swimming pool and amphitheater; classroom structures; and the bulk of the base hospital and dispensary facilities. The power plant exclusion zone also includes the reservoir and water treatment plant which serves the base, as well as the town of Port Deposit.

South and west of the power plant reservation are areas that have been in active recent use. Included here are the base sewage treatment plant, administrative buildings, officers' and enlisted men's eating, entertainment and living quarters, and a drill hall, drill field and outdoor recreation areas. At the extreme southwest end of the base is the Naval Academy Preparatory School site, which contains administrative, classroom, dormitory and residential structures, many of which are handsome fieldstone buildings, as well as a golf course and athletic field.

4. Building Conditions

The bulk of the structures on the site (548 of 665) are classified as semi-permanent and temporary. Most of these have not been used for a number of years and could not feasibly be rehabilitated.

The Wherry housing, classified by the Navy as semi-permanent, is occupied in part by remaining base personnel. Largely of concrete block construction, with brick facing and transite siding, these units have outlived their economic life designated by the Navy as 15 years. The buildings do not have rear entrances, required normally by building and fire codes. Individual units have refrigerators and electric

stoves, but other appliances are lacking, though connections exist. For present day purposes, the apartments are small and do not have many of the amenities typically found in more modern units, whether built for lower- moderate-, or middle-income families. It is likely that costs of rehabilitating the dwellings for permanent housing would be substantial, making the reuse of this complex a dubious economic proposition. However, more specific architectural and financial analysis would be required to support this conclusion.

The consultant, County and state personnel undertook brief surveys of other Bainbridge buildings, in particular those now utilized and outside the power plant exclusion area, to judge whether they would be adaptable for reuse. It was concluded that little reuse possiblity exists except, perhaps, for institutions. The warehouses at the northeast edge of the site have a low interior clearance of only 12 feet and narrow docks that do not allow for maneuvering of heavy equipment such as a forklift. It is probable that they could be used only for temporary or start-up purposes by small industrial concerns. Barracks are poorly built of wood and gypsum and, apart from one newer brick building constructed for WAVE's, would not be adaptable for business or industry.

Enlisted men's and officers' club are well designed and constructed and could be used by institutions. The large drill hall southeast of the power plant reservation boundary would be suitable for recreation, its current use, but probably not adaptable for industrial purposes unless heating were improved and wood flooring were replaced by concrete. With major to minor rehabilitation, individual officers' homes (older wood farmhouses) and Naval Prep School facilities would be suitable for institutions having boarders and providing instructional programs.

In summary, then, it appears that most of the buildings on site would have to be demolished to make Bainbridge suitable for industrial, commercial, or residential redevelopment. Certain structures might be adaptable for special purpose institutional or interim commercial or industrial use. The feasibility would have to be determined on the basis of more detailed planning.

5. Utilities and Services

The presence of utilities on the Bainbridge site has been considered an asset for redevelopment purposes. Sewage and water treatment plants, built in 1942, have capacity to serve a population of approximately 45,000 persons. The sewage treatment plant has a design capacity of 3 million gallons per day. Plant facilities, which provide secondary treatment, will, however, have to be upgraded to meet current standards for quality of effluent. Water and sewer lines are available throughout the site, but some are in poor condition. The relocation of the water plant will be required due to its proximity to a potential power generator; the relocation will probably also necessitate rerouting of water lines and the construction of new storage and pumping facilities. Further, the capacity of sewer and water lines must be related to proposed uses for the site, and certain lines may need upgrading. These issues are addressed in later portions of this report.

Electricity is provided to Bainbridge by the Conowingo Power Company through one normal and one alternative 33 KW feeder line. Navy transformers convert the Conowingo power to voltage for base use.

The site is not supplied with natural gas. Heating of existing buildings is provided in some cases by individual units and in others by 4 central heating plants with coal and oil fuel boilers.

The existence of recreation facilities on the base, such as athletic fields, a golf course, and recreation (drill) hall, is a positive asset for redevelopment. These would complement residential, institutional, or industrial and commercial development.

Transportation facilities serving the base include state routes 222, 275, and 276. Route 222, a two-lane highway, provides a connection with the I-95 interchange. To attract substantial industrial or commercial development, it is likely that this road would have to be upgraded, including widening and straightening. The Cecil County Comprehensive Plan recommends improvement of Route 222 between the main Bainbridge entrance and I-95.

Although Bainbridge is served by rail lines, the tracks are no longer usable. Those on the base and the 2.9 mile spur connecting the base to the Octoraro line to the northwest would have to be rehabilitated. The Octoraro line, itself, is not in use and requires repairs. Active interest in taking over operation of the line has been expressed by a public agency (Southeastern Pennsylvania Transportation Authority-SEPTA) and at least two private companies. The eventual operator of the line and the timetable for renewal of service are uncertain at this time.

The nearest airports serving commercial traffic are in Wilmington and Baltimore.

C. SUMMARY

Surrounding development imposes no constraints on redevelopment potentials at Bainbridge, except that such redevelopment should not unduly create noise, pollution or other adverse impacts upon nearby housing and rural areas. The presence of a power plant, likewise, appears to impose no insurmountable constraints on development. However, densities will have to be compatible with Nuclear Regulatory Commission standards, and for some uses, such as housing, special marketing techniques would probably be needed to address concerns of occupants about proximity to a potential nuclear facility.

Existing base facilities of a recreational nature could be incorporated into redevelopment plans. Most of the other existing buildings would have to be demolished since they are in disrepair or not adaptable for industrial, commercial, or residential reuse. Certain structures would, however, lend themselves to institutional reuse. Though the presence of sewer and water utilities on the site is an asset, relocation and upgrading will be required to meet current health standards and needs of potential reuses, and to accommodate power plant development. It is likely also, that improved rail and road access would have to be provided to accommodate substantial industrial and commercial development.

The Bainbridge site has adequate topographic and soil conditions for redevelopment purposes and is large enough to accommodate a mix of uses. Industrial or commercial development could therefore be compatibly located with institutional and recreation uses. The ability to obtain public benefit land at no cost is clearly of great value to the County and private institutions serving County residents.

CHAPTER III

ECONOMIC AND DEMOGRAPHIC TRENDS

In order to estimate potential demand for the reuse of Bainbridge, it is necessary to understand growth trends in labor force, employment, population, and other economic indicators for the surrounding area within which the naval base will compete with other sites for new development. This surrounding area, or market area, will vary with each of the three private market uses being investigated for Bainbridge: industrial, residential, and commercial.

This chapter describes the market areas delineated for each use. For the industrial market area, labor force and employment trends and projections through 1980 and 1985 are presented. This time span represents the immediate period over which redevelopment could occur at Bainbridge. The projections will be utilized in conjunction with other analysis in the next chapter in estimating the potential for industrial redevelopment at Bainbridge. They will be also used in developing projections of population, households and household income for the residential and commercial market areas. The household and household income projections will in turn be utilized to estimate the potential for new housing and retail facilities on the former naval base.

A. BAINBRIDGE MARKET AREAS

Market areas are defined in order to facilitate an analysis of the existing and projected supply of, and demand for, particular uses. Taking into account these data, as well as the relative competitive advantages and disadvantages of a particular site, such as Bainbridge, the probable level of future demand can be determined for the site in question. Factors involved in establishing a market area can include: distance from the designated site, road access, development characteristics, competitive uses, and political and Census boundaries required for the compilation of data.

1. Industrial Market Area

A new, expanding, or relocating industry generally selects a location based upon the following considerations: proximity to

the market for its products, availability of raw materials and supplies, cost and availability of labor, and orientation to transportation facilities. For the Bainbridge site, the market area is generally defined to follow the highway and rail corridor linking the Northeast megalopolis between the Baltimore and Wilmington metropolitan areas. An industry located along this corridor can utilize the dual metropolitan areas to market its finished products, purchase needed materials and supplies, and tap a large skilled labor pool. Since the location is beyond the core of metropolitan development, the industry does not have to compete severely with other uses for land, nor be overly concerned with the presence of potentially incompatible existing land uses, such as extensively developed housing areas.

The industrial market area for the Bainbridge site, as illustrated on Map 3, encompasses: the eastern portion of Harford County along the Route 40/I-95 corridor, east of Route 24 and north of Aberdeen Proving Grounds; all of Cecil County, with the exception of the area south of Chesapeake City; and the greater Newark/Upper Pencader portions of New Castle County, Delaware, which extend south to the Chesapeake and Delaware Canal and approximately 3 miles east of Newark, Delaware. The entire market area consists of a corridor approximately 5 to 12 miles wide and 35 miles in length. The Bainbridge site is located 13 to 14 miles from the western edge of the market area.

2. Housing Market Area

Inclusive of the area surrounding Bainbridge within which households would compete for new housing units, this market area was defined on the basis of distance from the site, road access, physical boundaries, and neighborhood characteristics. Competitive housing developments, also, were taken into account, for they indicate trends in price level, density, occupancy rate, and other characteristics that affect marketability.

Smaller in geographic coverage than the industrial market area, the Bainbridge housing market area encompasses the eastern portion of Harford County and all but a small portion of Cecil County--the southeastern leg of the County, as shown on Map 4. It includes the territory likely to be occupied by employees in the industrial corridor, but generally excludes suburbanizing fringes

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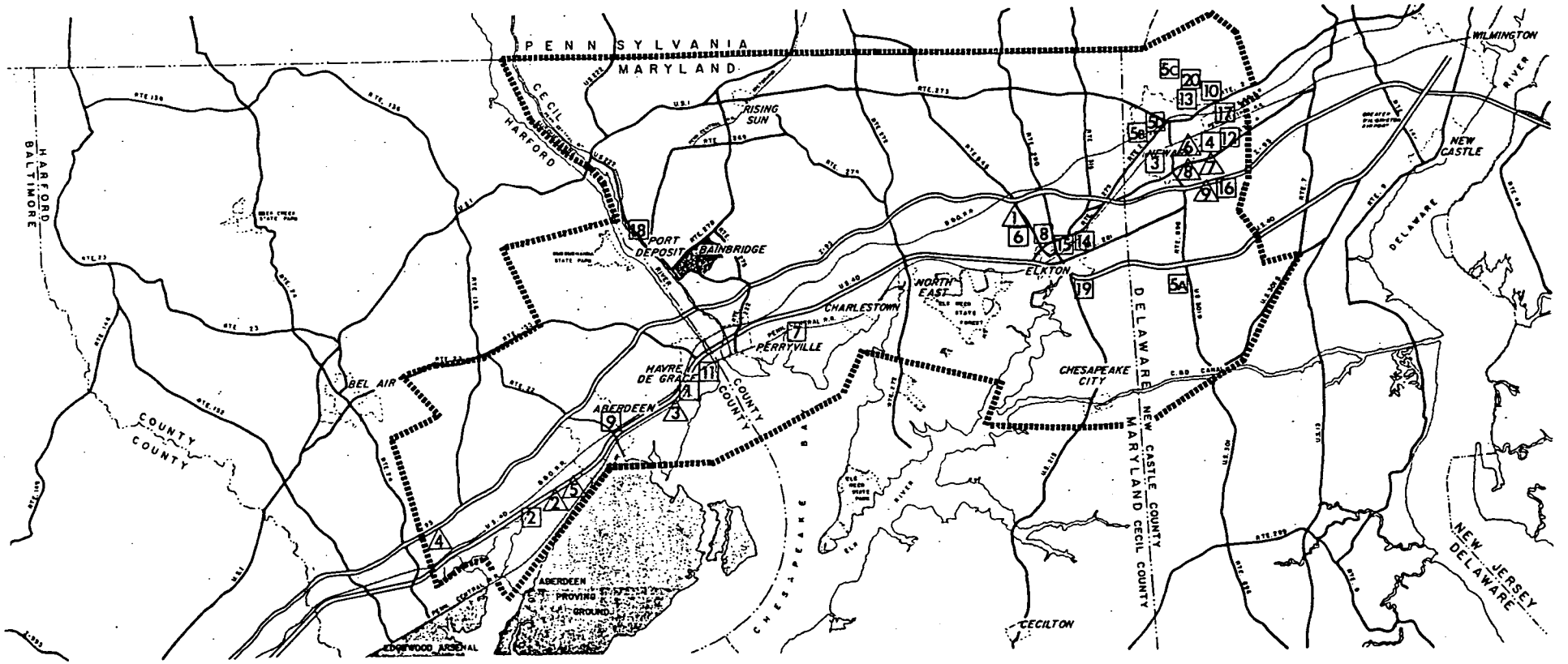
MAP 3

BAINBRIDGE INDUSTRIAL MARKET AREA

EMPLOYMENT CENTERS



LEGEND

- BAINBRIDGE
- INDUSTRIAL MARKET AREA
- INDUSTRIAL PARKS
- OTHER INDUSTRIAL EMPLOYMENT CONCENTRATIONS

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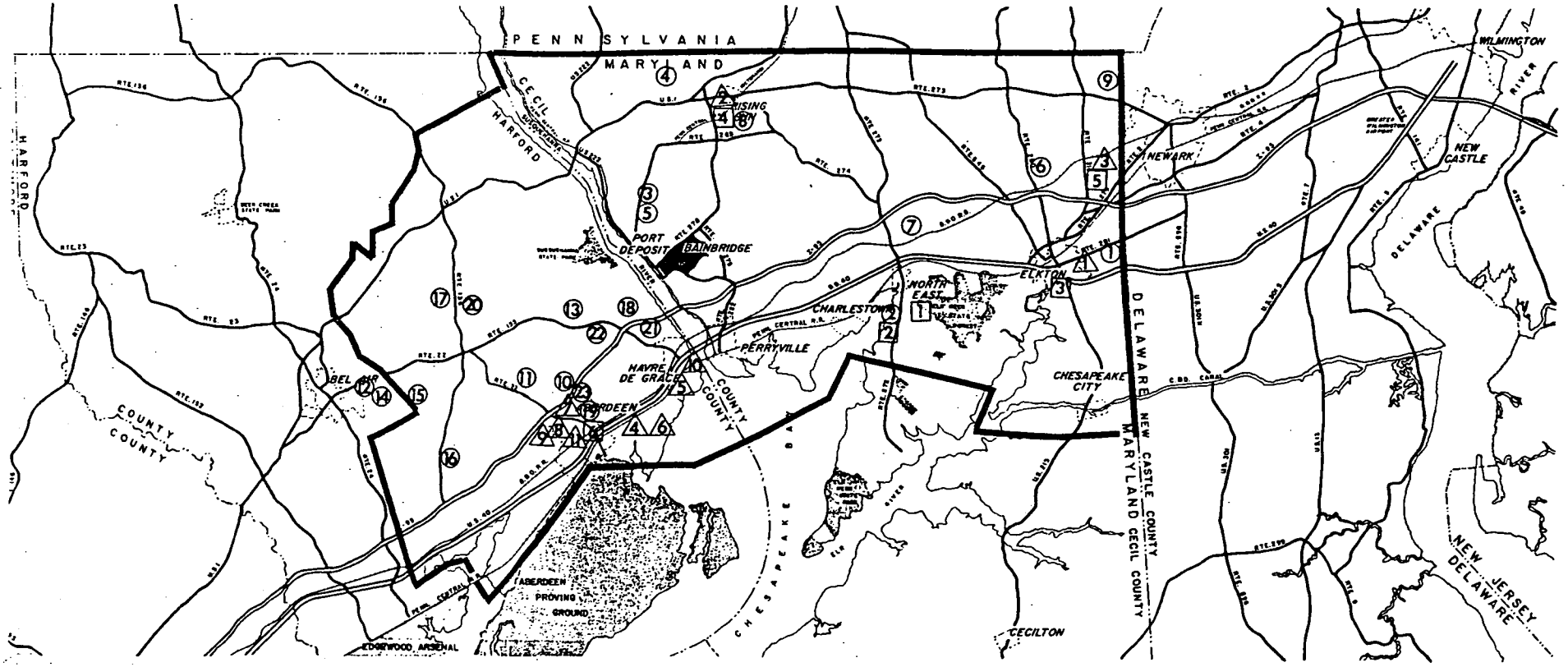
MAP 4

BAINBRIDGE HOUSING MARKET AREA
COMPETITIVE RENTAL AND SALES DEVELOPMENTS



LEGEND
- BAINBRIDGE
- HOUSING MARKET AREA
- RENTAL
- SALES
  - SINGLE FAMILY DETACHED
  - TOWN HOUSES

MILES

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of Newark and Baltimore with more intensive development and services. The housing market area extends approximately 20 miles to the west of Bainbridge, almost to the junction of Emmorton Road (Route 24) and Route 40.

The northern edge of the market area is marked by the Pennsylvania State line 10 to 21 miles distant from the site, and the eastern portion of the market area extends about 19 miles to the New Castle County line. The southern boundary of the market area is delimited by the Chesapeake Bay, 6 miles from the site. At its southeasternmost point, the market area extends beyond Chesapeake City, approximately 24 miles distant.

The western segment of the market area incorporates an area of current expansion in Harford County along the Route 40 corridor, including Havre de Grace and Aberdeen and extending north to the eastern suburbs of Bel Air. Northern portions of the market area in Harford and Cecil Counties presently are the least developed, although Rising Sun, which has been growing in recent years, forms a nucleus for future development. The eastern segment of the market area encompasses the communities of Elkton, North East, and Port Deposit, which also provide foci for future development.

3. Commercial Market Area

The purpose of delineating a commercial market area is to define the territory from which retail establishments in a given vicinity will draw the major portion of their sales. This market or trade area is defined on the basis of driving times to a potential retail center, the location of competitive shopping centers, and other factors such as physical barriers that limit the distance from which a new center might attract its primary patronage.

A drive of approximately 15 minutes was used as a basis for estimating the initial boundaries of the trade area, which were adjusted slightly to incorporate major competitive shopping centers in North East and Aberdeen. As shown on Map 5, the commercial market area includes the western portion of Cecil County and the southeastern segment of Harford County. The trade area extends approximately 12 miles southwest of Bainbridge to the junction of Route 7 and Stepney Road. The northern edge of the market area

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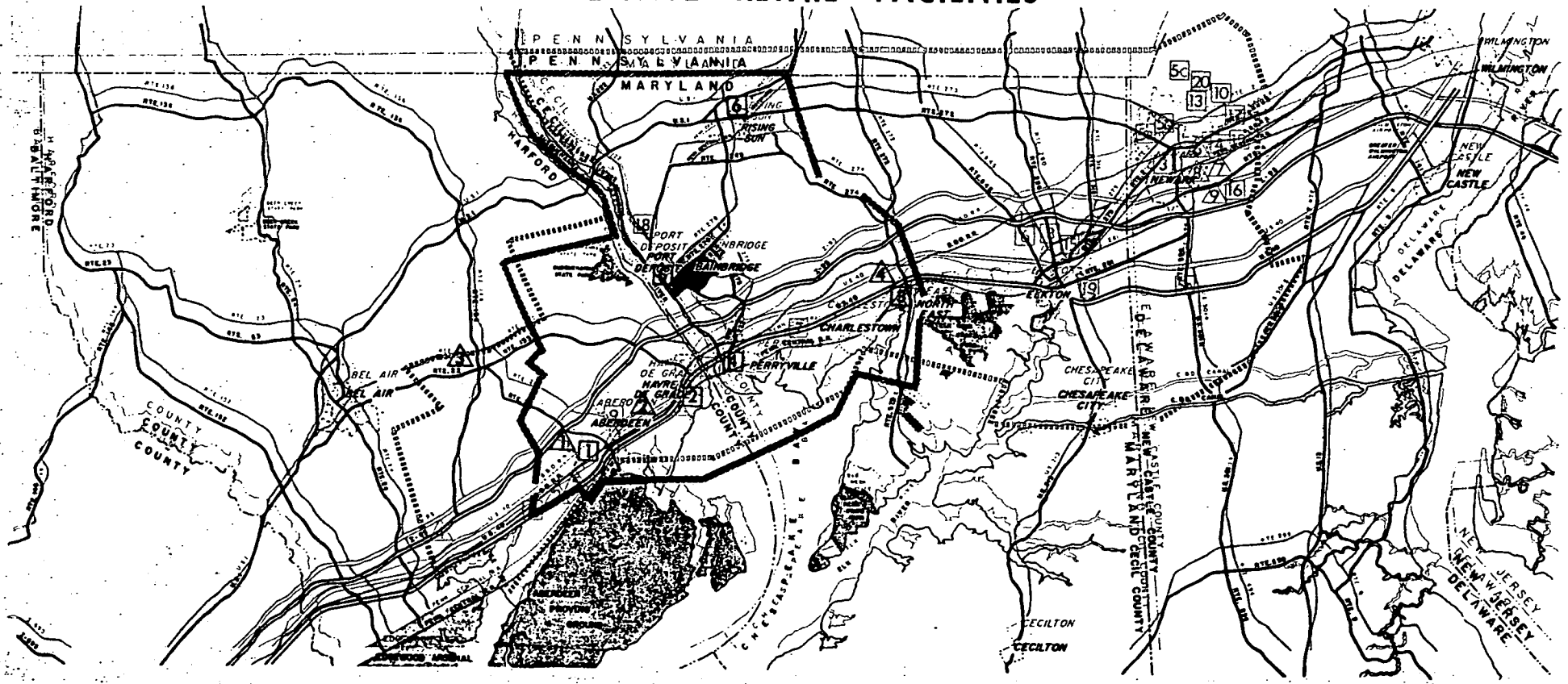
MAP 3

BAINBRIDGE INDUSTRIAL MARKET AREA
BAINBRIDGE COMMERCIAL MARKET AREA
EMPLOYMENT CENTERS
COMPETITIVE RETAIL FACILITIES



LEGEND

- BAINBRIDGE INDUSTRIAL MARKET AREA
- BAINBRIDGE COMMERCIAL MARKET AREA
- SHOPPING CENTERS
- EMPLOYMENT CONCENTRATIONS
- OTHER COMMERCIAL AREAS

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is marked by the Maryland-Pennsylvania state line, 10 to 11 miles from the base. The eastern segment of the market area incorporates the town of North East about 9 miles distant. The southern boundary extends 6 to 9 miles to the Chesapeake Bay and the North East River.

B. LABOR FORCE AND EMPLOYMENT

Data on trends and projections in labor force and employment are presented for the industrial market area. These data serve as background for estimates of population, households and household income for this industrial market area and subsequent projections of these same factors for the smaller residential and commercial market areas.

As of 1974, the civilian labor force in the industrial market area numbered an estimated 58,000 persons of whom 54,500 were employed and 3,500, or 6 per cent, were unemployed. Between 1960 and 1970, the labor force increased from 35,341 to 50,788 persons, as shown in Table 1. This amounts to an annual average increase in the civilian labor force of 1,545 persons, or 4.4 per cent, during the sixties, and 1,803 persons, or 3.6 per cent during the last four years. During the sixties, unemployment decreased from 5.4 to 3.8 per cent. As of mid-1974, the unemployment rate is estimated to have risen to 6 per cent as a result of national and regional economic problems, particularly those of the auto industry.

The residents of the market area are employed by a variety of industries and, as shown in Table 2, are not overly dependent upon any particular industrial segment. Manufacturing still provides the largest number of employment opportunities, although its estimated share of total employment declined from 30.9 per cent to 28.1 per cent over the 1960 to 1970 period. The number of residents employed in manufacturing increased, however, from 10,350 to 13,749.

The largest employment increase, in both numeric and percentage terms occurred in the service sector, as the number of market area residents employed in that industry group rose from 6,740 to 13,343, a gain of 98 per cent. In 1970, only 406 fewer persons were engaged in the service industry than in manufacturing, reflecting the maturation of the regional economy.

TABLE 1

CIVILIAN LABOR FORCE AND EMPLOYMENT
BAINBRIDGE INDUSTRIAL MARKET AREA
1960, 1970, AND ESTIMATED 1974-1985

Year	Civilian Labor Force	Total Employed	Unemployed	
			Number	Per Cent
1960	35,341	33,445	1,896	5.4%
1970	50,788	48,871	1,917	3.8
1974	58,000	54,500	3,500	6.0
1980	70,000	66,150	3,850	5.5
1985	85,000	80,325	4,675	5.5%

Source: 1960 and 1970 estimated by Morton Hoffman and Company, Inc., from 1960 Census of Population, General Social and Economic Characteristics, 1960 Census of Population and Housing, Census Tracts and 1970 Census of Population and Housing, Census Tracts; 1974-1985 estimated by Morton Hoffman and Company, Inc.

TABLE 2

EMPLOYMENT BY INDUSTRY GROUP
BAINBRIDGE INDUSTRIAL MARKET AREA
1960 AND 1970

Industry Group	1960 Number	1960 Per Cent	1970 Number	1970 Per Cent	Change 1960-1970 Number	Change 1960-1970 Per Cent
Manufacturing	10,350	30.9%	13,749	28.1%	3,399	32.8%
Durable Goods	4,510	13.5	9,340	19.1	4,830	107.1
Nondurable Goods	5,840	17.4%	4,409	9.0%	-1,431	-24.5%
Nonmanufacturing	23,095	59.1%	35,122	71.9%	12,027	52.1%
Construction	2,035	6.1	3,052	6.3	1,017	50.0
Transportion, Communication, and Utilities	1,660	5.0	2,464	5.0	804	48.4
Trade	4,795	14.3	7,645	15.6	2,850	59.4
Finance, Insurance, and Real Estate	800	2.4	1,405	2.9	605	75.6
Services	6,740	20.2	13,343	27.3	6,603	98.0
Public Administration	4,030	12.0	5,546	11.4	1,516	37.6
Other	3,035	9.1	1,667	3.4	-1,368	-45.1
Total	33,445	100.0%	48,871	100.0%	15,426	46.1%

Source: 1960 estimated by Morton Hoffman and Company, Inc. from 1960 Census of Population, General Social and Economic Characteristics, and 1960 and Census of Population and Housing, Census Tracts; 1970, 1970 Census of Population and Housing, Census Tracts.

Other significant trends include a substantial employment gain in retail and wholesale trade, where the number of workers rose from 4,795, or 14.3 per cent of total employment, in 1960 to 7,645, or 15.6 per cent of employment in 1970, a gain of 2,850, or 59.4 per cent. Between 1960 and 1970, the number of residents employed in other industries, primarily consisting of agriculture, decreased from 3,035, or 9.1 per cent of total resident employment to 1,667, or only 3.4 per cent, a decline of 45.1 per cent.

Current national recessionary conditions affect projections of future labor and employment force growth. The labor force of the market area, however, is fortunate to be engaged in a variety of industries and should not be subject to economic fluctuations as severe as in many areas of the country. The long term outlook appears to indicate a resumption of moderate growth. The continued maturation of the area economy, further gains in area population, the trend toward an increasing proportion of the population participating in the labor force, and the long term recovery of the durable goods industry should result in further expansion of both market area employment and labor force.

← how? methodology?

It is projected that the number of persons in the civilian labor force will rise from 58,000 in 1974 to 70,000 by 1980 and 85,000 by 1985. These projections assume the gradual but steady recovery of the national economy. They do not assume the closure or entrance of any unusual major employment generators.

Although relatively modest, the labor force and employment increase for the 1974 to 1980 period represents a reversal from the current economic slowdown. By the early 1980's the labor force increase is expected to return to the rate experienced during the sixties. The unemployment rate is not anticipated to return to the low levels experienced in the late sixties and early seventies and is assumed to stablize at 5.5 per cent.

C. POPULATION, HOUSEHOLDS, AND HOUSEHOLD INCOME

Separate sets of data are presented on population, household, and household income trends and projections for the industrial, housing, and commercial market areas. The analysis of these trends and projections forms a basis for measuring the potential for new

industrial, housing and commercial development over the 11-year projection period.

1. Population and Households

The industrial market area containing a rapidly suburbanizing portion of the Wilmington metropolitan area has undergone a moderate rate of growth since 1960. The housing and commercial market areas, more rural in nature and more influenced by the scheduled closing of the Naval Training Center have experienced only a modest rate of growth. The industrial market area is expected to maintain a level of growth similar to that since 1960. The housing and commercial market areas are projected to recover from the base closing and begin an accelerated though still relatively modest rate of growth.

a. Industrial Market Area

The industrial market area contains portions of Cecil and Harford Counties, Maryland, and New Castle County, Delaware. Since part of this market area is located within suburban Wilmington, the market area has received a significant amount of growth in recent years. As continuing suburbanization occurs, the industrial area is expected to maintain a relatively constant rate of growth.

Population in the industrial market area increased approximately one-third from 1960 to 1970, rising from 101,434 to 134,928, a gain of 33,494, as shown in Table 3. During this period, 62.6 per cent of the population increment occurred in the New Castle County portion of the market area; the proportion of market area population residing in New Castle County rose from 29.4 per cent in 1960 to 37.7 per cent in 1970. From 1960 to 1970, the population of the New Castle, Harford and Cecil County portions of the industrial market area increased 70.2, 29.0, and 9.8 per cent, respectively.

From 1970 to 1974 population in the market area rose to an estimated 152,650, reflecting approximately the same average annual percentage gain as during the sixties--3.3 per cent--but with a larger population base. An average annual increment of 4,431 persons was realized, compared to 3,349 persons during the sixties. The New Castle County portion of the industrial market area still received the major portion of the population increase, accounting for 73.3 per cent of the gain over the last four years.

TABLE 3

POPULATION AND HOUSEHOLDS
BAINBRIDGE INDUSTRIAL MARKET AREA
1960, 1970 AND ESTIMATED 1974, 1980 AND 1985

Characteristic	1960	1970	1974	1980	1985
Total Population	101,434	134,928	152,650	182,650	213,550
Population in Group Quarters	6,660	9,008	9,800	9,500	9,700
Population in Households	94,774	125,920	142,850	173,150	203,850
Total Households	26,628	37,363	43,550	53,950	64,600
Average Household Size	3.56	3.37	3.28	3.21	3.16

Source: 1960 Census of Population, General Population Characteristics; 1970 Census of Population and Housing, Census Tracts; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

The 1980 population of the market area is projected to reach 182,650, advancing to 213,550 by 1985. The rate of gain averages approximately 3.3 per cent per year over the 1974 to 1980 period and 3.4 per cent per year over the 1980 to 1985 period. The average annual increase of 6,180 persons per year over the 1980 to 1985 period compares to 5,000 per year for the 1974 to 1980 period, reflecting the improved economic situation foreseen during the eighties.

During the projection period the proportion of population gain that occurs in the New Castle portion of the market area is expected to decline from 73.3 per cent during the 1970 to 1974 period to 70.6 per cent in the 1974 to 1980 period and 64.7 per cent from 1980 to 1985. This would be due to an accelerating rate of residential development in the then suburbanizing portions of Harford and Cecil Counties.

Consistent with national and regional trends in declining fertility rates and a rise in one- and two-person households, average household size dropped from 3.56 in 1960 to 3.37 in 1970. Average household size is estimated to have dropped further to 3.28 by 1974. It is projected that the market area will contain 53,950 households in 1980 and 64,600 households in 1985. Household size will continue to decline, but at a decreasing rate, reaching 3.21 and 3.16, respectively, in 1980 and 1985.

Based on the above figures, it is anticipated that the market area will gain an average of 1,733 new households per year from 1974 to 1980, compared to an average of 1,547 new households per year during the last four years. The average annual increment is projected to rise further to 2,130 over the 1980 to 1985 period.

b. Housing Market Area

Owing to its location beyond the edge of two metropolitan areas, the Baltimore and Wilmington SMSA's, a large portion of the Bainbridge housing market area is rural. Accordingly, population gains within the market area have been limited over the past 14 years. The scheduled closing of the Bainbridge base, as well as the effect of the current national economic recession on the local economy, will be reflected in a modest rate of population growth during the 1970's. In the late 1970's, and throughout the 1980's,

however, population growth in the market area is likely to accelerate as the local economy begins to expand at a more rapid rate and reutilization of the Bainbridge facility occurs.

Population in the housing market area increased from 77,670 in 1960 to 92,592 in 1970, a gain of 14,922, or 19 per cent, compared to 33 per cent for the industrial market area. Between 1960 and 1970, 72 per cent of the population increment occurred in Harford County, although that segment contained only 45 per cent of the market area population at the beginning of the period.

As of April 1, 1974, population in the housing market area had reached an estimated 98,400, as shown in Table 4, representing only a 6 per cent gain since 1970. The cutback in military personnel at the Bainbridge Naval Training Center over the period slowed the rate of growth. Nevertheless, the annual amount of population growth between 1970 and 1974 was almost as high as during the sixties--1,452 persons per year compared with 1,492 yearly. As a result of the personnel reduction at Bainbridge in Cecil County and faster growth in Harford County, the Harford County share of the market area increment in population rose to 87 per cent over the 1970 to 1974 period, compared with 72 per cent between 1960 and 1970.

By 1980, population is projected to reach 108,150, advancing further to 120,550 as of 1985. The anticipated gain of 2,480 persons per year over the 1980 to 1985 period is substantially above the annual increment of 1,625 for the 1974 to 1980 period, reflecting the probable recovery of the local economy, as well as redevelopment of Bainbridge.

As the inventory of attractive and available residential land along the Route 40 corridor in the vicinity of Aberdeen and Havre de Grace is depleted and as more stringent building standards in the rural portions of Harford County begin to take effect, the rate of residential development in the Harford County segment of the market area will stabilize, despite continued expansion of local industry. At the same time, the pace of residential development in the Elkton, North East, and Port Deposit areas should begin to accelerate, as a result of proximity to the expanding economic base of the Baltimore and Wilmington areas. Therefore, it is anticipated that the Harford County share of market area growth will decline from 67 per cent over the 1974 to 1980 period to 52 per cent between 1980 and 1985.

TABLE 4

POPULATION AND HOUSEHOLDS
BAINBRIDGE HOUSING MARKET AREA
1960, 1970 AND ESTIMATED 1974, 1980 AND 1985

Characteristic	1960	1970	1974	1980	1985
Total Population	77,670	92,592	98,400	108,150	120,550
Population in Group Quarters	4,970	4,395	3,200	2,000	1,750
Population in Households	72,700	88,197	95,200	106,150	118,800
Total Households	20,502	26,001	28,650	32,650	37,100
Average Household Size	3.55	3.39	3.32	3.25	3.20

Source: 1960 Census of Population, General Population Characteristics; 1970 Census of Population and Housing, Census Tracts; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

Between 1960 and 1970, the number of market area households increased by more than one-quarter, rising from 20,502 to 26,001. With declining birth rates and an increase in the number of one- and two-person households, the average household size dropped from 3.55 to 3.39 over the decade. Average household size is estimated to have decreased further to 3.32 by 1974, with households totaling 28,650. By 1985, a further reduction in average household size to 3.20 is anticipated, when it is projected that the area will contain 37,100 households.

c. Commercial Market Area

During the sixties and early seventies, population gains within the commercial market area were concentrated primarily in the Harford County segment, particularly in Aberdeen, and, to a lesser extent, Havre de Grace. For the short term, as the military complement at Bainbridge is phased out and redevelopment begins, population gains within the market area will contine to be concentrated within the Harford County segment. In the late 1970's and throughout the 1980's, however, the Cecil County share is anticipated to increase substantially as the County economy begins to expand at a more rapid pace.

Population in the market area increased modestly from 47,100 to 54,315 between 1960 and 1970, a gain of 15 per cent, compared to 19 and 33 per cent increases, respectively, in the housing and industrial areas. As of April 1, 1974, population in the retail trade area had reached 56,000, as shown in Table 5, or only a 3 per cent gain over 1970, primarily because of reductions in the number of military personnel at the Bainbridge Naval Training Center. The average annual gain of 722 persons in the market area during the sixties had fallen to 421 persons per year between 1970 and 1974. By 1980, population is projected to reach 59,600, and, as of 1985, it is estimated to total 65,050. The anticipated yearly gain of 1,090 over the 1980 to 1985 period is substantially above the annual increment of 600 per year for the 1974 to 1980 period, reflecting trends similar to those anticipated for the housing market area.

The number of households in the commercial market area rose at a slightly faster pace than the population during the sixties and early seventies, owing to a decline in average household sizes.

TABLE 5

POPULATION AND HOUSEHOLDS
BAINBRIDGE COMMERCIAL MARKET AREA
1960, 1970 AND ESTIMATED 1974, 1980 AND 1985

Characteristic	1960	1970	1974	1980	1985
Total Population	47,100	54,315	56,000	59,600	65,050
Population in Group Quarters	4,587	4,072	2,900	1,700	1,300
Population in Households	42,513	50,243	53,100	57,900	63,750
Total Households	12,256	15,158	16,350	18,150	20,300
Average Household Size	3.47	3.31	3.25	3.19	3.14

Source: 1960 Census of Population, General Population Characteristics; 1970 Census of Population and Housing, Census Tracts; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

The number of households advanced from 12,256 in 1960 to 16,350 in 1974, a gain of 4,094, or 33 per cent. By 1980, it is projected that there will be 18,150 households in the market area, followed by further growth to 20,300 as of 1985.

2. Household Income

Household income trends and projections for the market area are analyzed below. Income distributions are utilized to estimate economic growth, the broad price range of housing demand, and the overall level of demand for retail goods. Median household income is and will continue to be higher in the industrial market area which includes the more prosperous Newark, Delaware area. It is believed that the comparative income levels of the three market areas will be more similar in the future than in 1974.

a. Industrial Market Area

The income level of area residents is a measure of the strength and vitality of the economy of the area. From 1969 to 1974, median income of households residing in the industrial market area increased from $9,525 to $13,025, an average annual gain of 7.3 per cent, indicating an accelerated rate of economic growth. As of 1974, approximately 33.2 per cent of the households had incomes below $10,000 per year, 27.8 per cent had incomes between $10,000 and $14,999, and 39 per cent had incomes of $15,000 or more, as shown in Table 6. By 1980, median household income is expected to rise to $15,850, advancing to $17,925 by 1985. In 1980, 52.9 per cent of the households will have incomes in excess of $15,000 and by 1985, approximately 61.2 per cent will have incomes greater than $15,000.

b. Housing Market Area

The income level of area residents is a critical factor in determining demand for sales and rental housing at varying price levels in the market. The 1974 distribution is based on an extrapolation of 1969 Census statistics on income, projected forward at 6.3 per cent per year and adjusted for varying growth rates in the Harford and Cecil County portions of the market area, as well as for somewhat higher than average income gains for the military

TABLE 6

HOUSEHOLD INCOME
BAINBRIDGE INDUSTRIAL MARKET AREA
ESTIMATED 1969, 1974, 1980 AND 1985

Income Class	1969		1974		1980[a]		1985[a]	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than $3,000	3,990	10.7%	3,250	7.4%	3,200	5.9%	3,450	5.3%
$ 3,000-$ 4,999	3,358	9.0	2,820	6.5	2,810	5.2	2,900	4.5
$ 5,000-$ 6,999	4,335	11.6	2,910	6.7	2,850	5.3	2,890	4.5
$ 7,000-$ 9,999	8,327	22.3	5,490	12.6	4,820	8.9	4,760	7.4
$10,000-$14,999	10,086	27.0	12,120	27.8	11,750	21.8	11,040	17.1
$15,000-$24,999	5,859	15.7	12,750	29.3	18,590	34.5	24,720	38.2
$25,000 or more	1,408	3.7	4,210	9.7	9,930	18.4	14,840	23.0
Total	37,363	100.0%	43,550	100.0%	53,950	100.0%	64,600	100.0%
Median[b]	$9,525		$13,025		$15,850		$17,925	

a/ In constant 1974 dollars.
b/ Rounded to nearest $25.

Source: 1969 estimated from 1970 Census of Population and Housing, Census Tracts and 1970 Metropolitan Housing Characteristics; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

personnel residing in the area. This 6.3 per cent increase compares to a 7.3 per cent gain in the more economically prosperous industrial market area. The 1980 and 1985 distributions, expressed in constant 1974 dollars, reflect an anticipated average annual gain in real income of 2.9 per cent annually.

On the basis of the above assumptions, it is estimated that median household income has risen from $8,925 in 1969 to $11,750 in 1974, as presented in Table 7. As of 1974, about 31 per cent of the households in the market area had incomes of $15,000 or more.

By 1980, median household income is projected to increase to $13,800, followed by a further rise to $15,475 by 1985. As of this latter date, about 52 per cent of all households in the market area are expected to have incomes in excess of $15,000.

c. Commercial Market Area

Household income is a critical factor in measuring the potential for commercial facilities, affecting the amount and type of retail purchases that households will make. Because of a concentration of lower-income households within the immediate Bainbridge area, median household income in the smaller market area for retail uses is slightly lower than for the housing market area. Median household income in the commercial market area, however, has grown at a faster rate than in the housing market area due principally to the somewhat higher income gains for the military who make up a larger proportion of the commercial market area population. Median household income in the commercial market area rose from $8,775 in 1969 to $11,650 in 1974, as shown in Table 8. By 1980, median household income in the commercial market area is projected to reach $13,825 (in constant 1974 dollars), with a further gain to $15,475 by 1985.

TABLE 7

HOUSEHOLD INCOME
BAINBRIDGE HOUSING MARKET AREA
ESTIMATED 1969, 1974, 1980 AND 1985

Income Class	1969		1974		1980[a]		1985[a]	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than $3,000	3,015	11.6%	2,490	8.7%	2,420	7.4%	2,460	6.6%
$ 3,000-$ 4,999	2,611	10.0	2,090	7.3	1,990	6.1	1,770	4.8
$ 5,000-$ 6,999	3,582	13.8	2,410	8.4	2,190	6.7	2,230	6.0
$ 7,000-$ 9,999	5,949	22.9	4,460	15.6	3,650	11.2	3,460	9.3
$10,000-$14,999	6,583	25.3	8,260	28.8	7,980	24.4	8,040	21.7
$15,000-$24,999	3,478	13.4	6,700	23.4	10,400	31.9	12,650	34.1
$25,000 or more	783	3.0	2,240	7.8	4,020	12.3	5,490	17.5
Total	26,001	100.0%	28,650	100.0%	32,650	100.0%	37,100	100.0%
Median[b]	$8,925		$11,750		$13,800		$15,475	

a/ In constant 1974 dollars.
b/ Rounded to nearest $25.

Source: 1969 estimated from 1970 Census of Population and Housing, Census Tracts and 1970 Metropolitan Housing Characteristics; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

TABLE 8

HOUSEHOLD INCOME
BAINBRIDGE COMMERCIAL MARKET AREA
ESTIMATED 1969, 1974, 1980 AND 1985

Income Class	1969		1974		1980[a]		1985[a]	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
Less than $3,000	1,838	12.1%	1,490	9.1%	1,430	7.9%	1,390	6.8%
$ 3,000-$ 4,999	1,640	10.8	1,260	7.7	1,190	6.6	1,190	5.9
$ 5,000-$ 6,999	2,112	14.0	1,450	8.9	1,390	7.7	1,290	6.3
$ 7,000-$ 9,999	3,383	22.3	2,480	15.2	1,710	9.4	1,720	8.5
$10,000-$14,999	3,688	24.3	4,530	27.7	4,380	24.1	4,260	21.0
$15,000-$24,999	2,024	13.4	3,970	24.3	5,650	31.1	6,350	31.3
$25,000 or more	473	3.1	1,170	7.1	2,400	13.2	4,100	20.2
Total	15,158	100.0%	16,350	100.0%	18,150	100.0%	20,300	100.0%
Median[b]	$8,775		$11,650		$13,825		$15,475	

a/ In constant 1974 dollars.
b/ Rounded to nearest $25.

Source: 1969 estimated from 1970 Census of Population and Housing, Census Tracts and 1970 Metropolitan Housing Characteristics; 1974, 1980 and 1985 estimated by Morton Hoffman and Company, Inc.

CHAPTER IV

BAINBRIDGE REUSE POTENTIALS

This chapter evaluates future demand for potential industrial, residential and commercial reuses for the Bainbridge site. Based on the population, household and income projections developed previously, and an analysis of characteristics and recent development trends in the identified market areas, projections of market area demand are made for the 1974 through 1980 and 1980 through 1985 periods. Estimates are then made of the share of market area demand that could be captured at Bainbridge given its location and site characteristics. In addition, the chapter examines potential public benefit reuses for the Bainbridge site, including recreation and institutional needs. A separate section is presented on each of the four major types of development, followed by a summary of the combined market and public use potential.

A. INDUSTRIAL MARKET POTENTIAL

This section assesses the industrial development potential of the Bainbridge site. Industrial development trends and characteristics within the market area are analyzed, including the size, type, and location of major employers; the location, size, absorption rates, and characteristics of industrial parks; and the number of existing firms by type, location, size, and employment density. On the basis of past trends, future expansion plans, and capital investments anticipated by firms within the market area, projections are made of employment in industrial firms over the 1974 to 1985 period. These employment projections, as well as employment densities and average site coverage by buildings, serve as the background for estimating the industrial potential within the Bainbridge industrial market area in terms of net industrial acreage. The share of market area demand that could be captured on the Bainbridge site is then projected, based on varying assumptions as to access, infrastructure development, and development activities.

To establish a framework for analysis of the industrial space use potential for the Bainbridge site, all industries are classified into three generalized use categories: light manufacturing; "heavy" or general manufacturing; and distribution. These categories represent the general industrial classification in which the products of a firm fall rather than the character of a firm. For example, "heavy" manufacturing does not necessarily connote smoke stacks, railroads, and bulk processing. A research and development facility for a chemical company would be classified as a heavy industry, although it would be one of the "cleanest" industrial facilities. To minimize connotations usually associated with the term heavy manufacturing, the term general manufacturing is utilized instead in this report.

The manufacturing designation is applied to all establishments involved in the mechanical transformation of materials or substances into new products. Light manufacturing firms include those engaged in the processing or assembly of partially finished goods. These firms are categorized by a relatively high labor input per dollar of value added, with a large percentage of employees working in production. By two digit Standard Industrial Classification (SIC) number, these industries include: food and kindred products (20); textile mill products (22); apparel and other finished products made from fabrics (23); furniture and fixtures (25); printing, publishing, and allied industries (27); machinery, except electrical (35); electrical and electronic machinery (36); and instruments, photographic, medical and optical goods, watches, and clocks (38).

General manufacturing covers industries related to the processing of basic raw materials and utilizing bulk transport. These industries generally have a higher proportion of capital as opposed to labor. They are also categorized by a relatively smaller proportion of labor input per dollar of value added and a relatively high proportion of depreciable assets (plant and equipment) per dollar of value added. Industries classified as general manufacturing include: tobacco manufacturers (21); lumber and wood products, except furniture (24); paper and allied products (26); chemicals and allied products (28); petroleum refining (29); rubber and miscellaneous plastics products (30); leather and leather products (31); stone, clay, glass, and concrete products (32); primary metal industries (33); fabricated metal products (34); and transportation equipment (38).

Distribution firms engage primarily in the wholesale distribution of durable and nondurable goods. These firms possess SIC numbers 50 and 51. Their chief function is to sell goods to retailers; industrial firms; institutional, farm, and professional business users; or other wholesalers.

1. Industrial Development Characteristics

Field surveys of industrial parks and major industrial firms were undertaken to gain perspective on the magnitude and type of industrial development that could take place on the Bainbridge site. The data collected on industrial characteristics were supplemented by interviews with knowledgeable public officials and private individuals and organizations.

a. Industrial Parks

There are a total of nine industrial parks in the Bainbridge industrial market area, as shown on Map 3. These parks contain a total of 1,156 acres, approximately 586 of which already have been developed. The parks range from 4 to over 400 acres in size, with land prices varying from $5,000 to $30,000 per acre.

There is only one industrial park in the Cecil County portion of the industrial market area, the Triumph Industrial Complex located in Elkton. This park was founded in 1962 and encompasses a total of 450 acres, 200 of which are still available, as shown in Table 9. Approximately 150 of the 250 developed acres are under lease to the Thiokol Chemical Corporation, which occupies a 370,000-square-foot plant employing approximately 370 persons. There are 12 additional firms located in the park occupying another 428,000 square feet of industrial space.

Employing a total of almost 1,000 people, the Triumph Industrial park is the largest in the market area. However, it has few or no development controls and does not have the appearance of a modern, well-kept industrial park. Its prime selling point is the relatively modest land price of approximately $7,500 per acre.

TABLE 9

SELECTED CHARACTERISTICS OF INDUSTRIAL PARKS
BAINBRIDGE INDUSTRIAL MARKET AREA
JULY, 1974

Industrial Park	Map No.	Year Estab-lised	Total Acres	Acres Avail-able	Avg. Acres Absorbed Annually 1970-1973	Number of Firms	Industrial Space	Employees	Price Per Acre	Rail Access
Cecil County										
Triumph Industrial Complex	1	1962	450	200	11	13	798,000	998	$ 7,500	Yes
Harford County										
Aberdeen Industrial Center	2	1970	100	97	1	2	48,000[a]	9	$10,000	Yes
Chesapeake Industrial Park	3	1965	135	80	5	3	313,000[a]	205	$20,000	Yes
Harford Industrial Park	4	N.A.	87	87	0	0	0	0	N.A.	Yes
Perryman Industrial Park	5	1973	50	50	0	1	81,000	250	$ 5,000	Yes
Subtotal			372	314	6	6	442,000	464		
New Castle County										
Blue Hen Industrial Park	6	1968	16	8	2	4	23,000	85	N.A.[b]	No
Delaware State Industrial Park	7	1962	250	46	15	10	228,000[c]	250	$28,000	No
Diamond State Industrial Park	8	1964	64	2	8	9	317,000[d]	460	$30,000	Yes
Newark Industrial Park	9	1970	4	0	4	3	38,000	72	$17,500	No
Subtotal			334	56	29	26	606,000	867		
Total			1,156	570	46	45	1,846,000	2,329		

N.A.= Not Available.
a/ Includes 82,000 sq.ft. under construction.
b/ Lease only.
c/ Includes 35,000 sq.ft. under construction.
d/ Includes 54,000 sq.ft. under construction.

Source: Field survey by Morton Hoffman and Company, Inc.

The Harford County portion of the market area offers a total of 372 acres in industrial parks, 314, or 84.4 per cent of which, are still available. Including an 82,000-square-foot building under construction, the parks contain a total of 6 firms occupying 442,000 square feet of space and employing 464 people. The sites are quite labor-extensive, having an employment density of 8 employees per acre and having over 950 square feet of industrial space per employee. All the parks are served by rail, and land prices range from $5,000 to $20,000 per acre.

There are four modern, well-planned industrial parks in the New Castle County, Delaware, portion of the market area. These parks are nearly built out, with only 56, or 16.8 per cent of a total of 334 acres, still available. Based upon past land absorption rates, that amounts to less than a two-year supply of land. The firms located in these parks are mostly small, with the average firm having a 23,300-square-foot plant and employing 33 people. Commensurate with the small firm size, only one of the parks is served by rail. Land prices range from $17,500 to $30,000 per acre.

The market area, therefore, has several viable industrial parks, although only the two largest in Delaware possess most of the attributes common to modern industrial complexes. There is little available industrial land remaining in these Delaware industrial parks. While the Triumph Industrial park in Cecil County has ample available land, it appears poorly planned, and there is some question of future water and sewer availability. A large amount of industrial park land is available in the Harford County portion of the market area, which is just starting to be developed, primarily by low-employment density, extensive land users.

b. Major Industrial Employers

To determine the characteristics of existing industrial establishments and their potential for expansion, major industrial firms within the market area were surveyed. Data were gathered on plant location, product line, year established, and site and plant size. Additional data were obtained on employment by skill and wage level, turnover rate, residence of employees, and expansion plans, if any.

A total of 29 plants in the market area employ 100 or more persons. The largest employer in the market area is Chrysler Corporation, which has employed approximately 5,000 workers in its Newark, Delaware, assembly plant and parts depot. Du Pont has 3,720 people in five separate facilities located in the Delaware portion of the market area. The Harford County plant of the Bata Shoe Company accounts for another 2,300 workers.

As presented in Table 10, most of the larger firms are not located in industrial parks. Only 6 of 29, or 20.7 per cent of the major employers, are situated in industrial parks. Major employers with plants in industrial parks employ 1,418--only 8.7 per cent--of the 16,288 employees working for the largest industrial establishments in the market area.

As seen on Map 3, most of the major plants are located adjacent to Routes 40 and I-95. There are 6 large plants employing 3,250 people situated along Route 40 in Harford County. Another 10 major employers in the Cecil County portion of the market area have a total of 2,588 employees. Three of the Cecil County facilities employing 838 people are located in the Triumph Industrial park. An additional 8 firms employing 1,165 people also are located in the Elkton area near the main transportation arteries. The Wiley Manufacturing Company in Port Deposit and the Firestone Plastics Company in Perryville employ 450 and 135 people, respectively. There are 13 major employers with 10,450 employees located in the Delaware portion of the market area. All these plants are situated in and around Newark, except the Du Pont Glasgow complex, a 1,090-acre site designed for product development, where 975 persons currently are employed.

In summary, the area contains a number of large employers. Most of these major employers, however, have chosen freestanding sites as opposed to sites in industrial parks. Almost all tend to locate adjacent to the main transportation arteries, I-95, Route 40 and the main line of the Penn Central Railroads. Special efforts, therefore, will have to be made to attract major industrial firms to an industrial park located on the Bainbridge site, which is slightly removed from the combined main transportation arteries, as is shown on Map 3.

TABLE 10

MAJOR INDUSTRIAL EMPLOYERS[a/]
BY TYPE OF INDUSTRIAL SITE
BAINBRIDGE INDUSTRIAL MARKET AREA
1974

Employer	Map Number	Number of Employees
Industrial Parks		1,418
Du Pont (Pencader Plant)	8	150
Interpace Corp.	3	250
J.L. Clark Manufacturing Co.	3	180
RMR Corp.	1	300
Schultz Mobile Homes	1	168
Thiokol Chemical Corp.	1	370
Freestanding Sites		14,870
American Cyanamid Corp.	1	260
Bata Shoe Co.	2	2,300
Chrysler Corp.	3	5,000
Crown Zellerbach Corp.	4	100
Du Pont	5	3,570
Glasgow Site	5a	(975)
Haskell Lab	5b	(100)
Louviers Building	5c	(2,300)
Stine Lab	5d	(195)
Elkton Fashions	6	260
Firestone Plastics Co.	7	135
General Cable Corp.	8	245
Harford Metal Products, Inc.	9	135
Haveg Industries, Inc.	10	400
J.M. Huber Corp.	11	125
Motor Wheel Corp.	12	270
NVF Co.	13	200
Plasticoid Co., Inc.	14	260
RMR Corp.	15	300
Stuart Pharmaceuticals	16	180
Westvaco	17	315
Wiley Manufacturing Co.	18	450
W.L. Gore and Associates	19	100
W.L. Gore and Associates	20	265
Total		16,288

a/ Firms with 100 or more employees.

Source: Field survey by Morton Hoffman and Company, Inc.

c. Characteristics of Selected Industrial Firms

Table 11 lists selected characteristics of 80 industrial firms surveyed in the market area. These firms employ a total of 19,111 persons in 8.9 million square feet of industrial space. These firms average 239 employees and maintain a mean of 466 square feet of space per employee.

Almost half the establishments surveyed were classified as general manufacturing firms, which account for about 84.3 per cent of the market area's total industrial employment. The remaining firms are approximately evenly distributed between light manufacturing and distribution functions. The area's dependence upon general manufacturing firms is attributable to three large companies--Chrysler, Du Pont, Bata Shoe--which employ 11,020 persons, over two-thirds of the 16,111 persons engaged in general manufacturing.

Cecil County contains approximately 30 per cent of the firms surveyed, but only 16.1 per cent of the employment and 18 per cent of the industrial space. With the largest firm in Cecil County employing 450 persons (the Wiley Manufacturing Company which constructs dredges and barges), the average number of employees per firm in Cecil County is 128, compared with the overall market area's average of 239.

Although general manufacturing predominates in Cecil County (13 firms employing 1,949 people), its 9 light manufacturing firms employing 1,104 people, form the largest light manufacturing component in the market area. This County accounts for 42.9 per cent of the market area's light manufacturing firms, 72.1 per cent of the area's light manufacturing employment, and 53 per cent of the area's light manufacturing space. The major light manufacturing firms in the County are RMR Corporation (which manufacturers small electric motors), with 300 employees, and Elkton Fashion, with 260 employees. Cecil County has only 2 distribution firms employing 25 people. These firms are quite labor extensive, averaging 1,960 square feet of plant per employee. About 80 per cent of the market area's distribution firms and 92 per cent of the distribution employment are concentrated in New Castle County.

TABLE 11

SELECTED CHARACTERISTICS OF EMPLOYERS
BY TYPE AND LOCATION
BAINBRIDGE INDUSTRIAL MARKET AREA
1974

Location	Number of Firms	Number of Employees	Square Footage
Total Industry	80	19,111	8,904,000
Cecil County	24	3,078	1,606,000
Harford County	15	3,562	1,377,000
New Castle County	41	12,471	5,921,000
Light Industry	21	1,532	713,000
Cecil County	9	1,104	378,000
Harford County	3	90	99,000
New Castle County	9	338	236,000
General Industry	39	16,111	7,517,000
Cecil County	13	1,949	1,179,000
Harford County	10	3,379	1,215,000
New Castle County	16	10,783	5,123,000
Distribution	20	1,468	674,000
Cecil County	2	25	49,000
Harford County	2	93	63,000
New Castle County	16	1,350	562,000

Source: Field survey by Morton Hoffman and Company, Inc.

Relating these data to the potential for the Bainbridge site, it is clear that Cecil County has been attractive primarily to small industries. Unlike most of the market area, however, Cecil County has been able to draw light as well as general manufacturing firms. On the other hand, few distribution firms have located outside the Newark, Delaware, area, and those that have located in Cecil County have generated relatively few jobs.

2. Industrial Space Use Potential

The economic outlook for the industrial market area is discussed before projections are presented of light manufacturing, general manufacturing, and distribution employment over the 1974 to 1985 period. Employment projections then are translated into space use potential in terms of net industrial acres based upon regional trends in employment density and site coverage.

a. Economic Outlook

Data on expansion plans over the next 10 years, in terms of number of employees and additional square footage of space, were obtained from 52 of the 80 firms surveyed in the market area. Of the firms responding, 21, or 40.4 per cent, indicated they would be expanding employment and/or industrial space, while 3 companies, 5.8 per cent of the firms responding, anticipate a slight decrease in employment. The remaining 28 firms (53.8 per cent) have no present expansion plans. Four light manufacturing firms currently employing 884 people intend to expand employment by approximately 30 per cent to 1,150 over the 1974 to 1980 period. Plans of 15 heavy manufacturing establishments call for employment to rise from 4,794 in 1974 to 6,684 by 1980, a gain of 39.4 per cent. Two distribution firms currently having 97 persons in their employ hope to add 14 additional employees over the next 6 years. Only 1 firm ventured to give expansion plans beyond 1980. This distribution firm which currently employs 50 people, expects to add 10 more over the next 6 years and an additional 100 workers during the 1980 to 1985 period.

Besides the expansion of existing industries, a number of new industries probably will relocate or be established within the market area over the projection period. From 1970 to 1974, 9 new establishments entered the market area. Six of these firms engage in general manufacturing, 2 in light manufacturing, and 1 is a distribution firm. These firms currently employ a total of 741 employees: 619 in general manufacturing, 75 in light manufacturing, and 47 in distribution.

It also should be noted that, based upon increases in industrial market area population and proportion of the total population in the labor force, the area's resident labor force is expected to expand from 58,000 in 1974 to 70,000 in 1980 and 85,000 by 1985. Even though the overall proportion of the labor force engaged in manufacturing is expected to decrease, the average annual gain in labor force of 4.2 per cent should help create a modest, but significant absolute rise in manufacturing employment.

With new firms entering the area and existing firms planning expansions, the economic outlook for the market area is good. The area has virtually no existing inventory of available industrial facilities, and new and/or expanding industries must be accommodated in new manufacturing and distribution plants.

b. Employment Projections

Based upon past trends in the growth of manufacturing and distribution employment in the market area, expansion plans of existing market area firms, and national and regional employment trends, projections have been made of employment in industrial firms by type for the market area for the periods 1974 to 1980 and 1980 to 1985.

As presented in Table 12, total manufacturing and distribution employment in the market area is projected to increase from 20,200 in 1974 to 23,200 in 1980 and 26,400 by 1985. The advance in employment over the projection period is estimated to total 6,200, representing an annual average increment of 564 jobs, or 2.8 per cent. This gain amounts to 500 jobs, or 2.5 per cent, per year from 1974 to 1980 and 640 jobs, or 2.8 per cent, per year from 1980 to 1985. These projections do not assume the chance entry of a single large employer into the market area; such an occurrence would, of course, revise these employment projections upward.

The annual rate of growth in industrial employment by firm in the market area is expected to be lower than growth in the area's resident labor force--2.5 to 2.8 per cent annually, as opposed to 4.2 per cent. This is due to the continuing maturation of the region economy; in the future, a smaller proportion of the overall labor force is likely to be employed in industrial firms, with a greater percentage of the labor force engaged in service and related industries. In 1974, the market area

TABLE 12

EMPLOYMENT IN INDUSTRIAL FIRMS
BAINBRIDGE INDUSTRIAL MARKET AREA
1974-1985

Category	1974	1980	1985
Light Manufacturing	1,600	2,000	2,500
General Manufacturing	17,000	19,300	21,600
Distribution	1,600	1,900	2,300
Total	20,200	23,200	26,400

	Increase in Employment		
	1974-1980	1980-1985	1974-1985
Light Manufacturing	400	500	900
General Manufacturing	2,300	2,300	4,600
Distribution	300	400	700
Total	3,000	3,200	6,200

Source: Estimated by Morton Hoffman and Company, Inc.

possessed sufficient industrial jobs to employ approximately 35 per cent of the resident labor force. By 1980, it is projected that industrial jobs will decline in importance and only be able to provide sufficient employment for 33 per cent of the labor force. This proportion is expected to continue to decline during the 1980's, reaching approximately 31 per cent by 1985.

The allocation of projected employment gains to the functional categories of light and general manufacturing and distribution is an important tool in evaluating the nature of demand, establishing public policy, and designing an industrial park.

From 1974 to 1985, light manufacturing employment is projected to increase from 1,600 to 2,500, a gain of approximately 900 workers. This represents an annual average increment of 67 workers, or 4.2 per cent, from 1974 to 1980 and 100 employees, or 5 per cent, during the 1980 through 1985 period. In keeping with national and regional trends and employment growth planned by existing firms, most of this advance is expected in electrical and electronic machinery, and the instruments, photographic equipment, and medical and optical goods industries.

A slower rate of employment growth is likely for general manufacturing, the predominant type of industry in the market area. Existing major general industries in the market area have few or no expansion plans. A worldwide shortage of raw materials and the energy crisis, as well as slackened demand for certain durable goods products, such as autos, are contributing factors. General manufacturing employment is projected to advance from 17,000 in 1974 to 21,600 by 1985, with an increase of 2,300 workers, or 2.3 per cent, per year in the six-year period from 1974 to 1980 and 2,300, or 2.4 per cent, per year in the five-year period from 1980 to 1985. Given regional and national trends, most of the general industry employment growth is expected to occur in chemical and allied products, and rubber and miscellaneous plastics products.

Employment in the wholesale trade or distribution sector is closely related to overall growth of the local economy. It is anticipated that wholesale trade employment will become an increasingly important element in the market area's economy, as heightened reliance is placed upon the area's strategic location with regard to East Coast markets and distribution

firms decrease their dependence on locations in Baltimore, Wilmington, and Philadelphia. In 1974, distribution employment accounted for 1,600 jobs, or 7.9 per cent of the combined 20,200 manufacturing and distribution workers in the market area. By 1980, it is projected that 1,900, or 8.2 per cent of the projected distribution/manufacturing total of 23,200 employees, will be engaged in wholesale trade, accounting for 300, or 10 per cent, of the 3,000-worker increment. Wholesale trade is expected to reach 2,300, or 8.7 per cent of the estimated total of 26,400 employees, by 1985. The 400-employee gain anticipated for distribution firms over the 1980 to 1985 period represents an average annual increase of 80 employees, or 4.2 per cent, and amounts to 12.5 per cent of the combined manufacturing/distribution employment rise of 3,200 workers.

These employment projections indicate a viable and diversifying local economy over the 1973 to 1985 period. The improvement in the local economic base should provide reasonable industrial development opportunities for those jurisdictions that are able to provide suitable industrial sites at acceptable prices.

c. Space Use Potential

A key element in evaluating prospects for industrial development on the Bainbridge site is the amount of industrial land that is expected to be absorbed within the market area over the 1974 to 1985 period. In this section, the previous employment projections are translated into estimates of industrial acreage requirements in the market area, by utilizing data on employment density derived from the industrial surveys. These estimates are further refined into acreage requirements by the functional categories of light manufacturing, general manufacturing, and distribution space.

In the 1974 survey of industrial firms in the market area, it was revealed that there are about 9.3 manufacturing and distribution employees per net acre of manufacturing and wholesale trade land. With the national and regional trends toward more labor extensive production and thus lowered employment densities, the suburbanization of industry in the region, and the increasing importance of the low employment density wholesale trade industries, the overall average number of employees per acre is projected to decline over the 1974 to 1985 period.

As shown in Table 13, a total of 750 acres is expected to be absorbed in the market area from 1974 to 1985, at an average employment density of 8.3 employees per acre. Approximately 115 acres, or 15.3 per cent of the total acreage, is likely to be in the light manufacturing category; 470 acres, or 62.7 per cent, in general manufacturing land use; and 165 acres, or 22 per cent, in distribution types of land use.

Light manufacturing land absorption is expected to average 8.3 acres per year from 1974 to 1980 and 13 acres per year from 1980 to 1985. The increasing rate of land absorption results from employment gains and an anticipated reduction in employment density from 8 employees per acre during the 1974 to 1980 period, to 7.7 employees per acre during the 1980 to 1985 period.

For general manufacturing, land absorption is projected to remain fairly constant over the entire period, averaging 42.7 acres per year from 1974 to 1985. The yearly average probably will be 39.2 acres, or 66.2 per cent of the total manufacturing/distribution acreage, over the 1974 to 1980 period, and 47.0 acres, or 59.5 per cent of the total over the 1980 to 1985 period. Compared with past trends, demand is expected to be more modest for general manufacturing land. Moreover, little or no decrease in employment density is likely, and employment density is expected to remain constant at 9.8 workers per acre. Much of the increase in general manufacturing industries will not be in those firms having the lowest employment densities, such as stone, clay, glass and concrete products, but rather in chemical and allied products, and rubber and miscellaneous plastics products.

An average of 11.7 acres of land is projected to be absorbed annually by distribution firms over the 1974 to 1980 period, with the rate of land absorption rising to 19 acres per year over the 1980 to 1985 period. Distribution firms are extensive land users and are anticipated to absorb approximately one acre of land for every 4.2 workers.

These land absorption projections reflect the expected continued growth and variety of the industrial base of the region. The more diversified nature of land requirements in

TABLE 13

INDUSTRIAL SPACE USE POTENTIAL
BAINBRIDGE INDUSTRIAL MARKET AREA
1974-1985

	Acres		
	1974-1980	1980-1985	1974-1985
Total Potential			
Light Manufacturing	50	65	115
General Manufacturing	235	235	470
Distribution	70	95	165
Total	355	395	750
Yearly Average			
Light Manufacturing	8.3	13.0	10.5
General Manufacturing	39.2	47.0	42.7
Distribution	11.7	19.0	15.0
Total	59.2	79.0	68.2

Source: Estimated by Morton Hoffman and Company, Inc.

future years, combined with the projected increases in the average annual land absorption rate, bode well for the development of additional industrial land within the market area.

3. Bainbridge Site Industrial Potential

Numerous factors affect the proportion of the total industrial market area potential that can be attracted to any one site. The accessibility, financial advantages, facilities availability, and environmental compatibility of a particular site in relation to other potential industrial locations all help to define that site's market share.

The proportion of the overall area industrial potential that the Bainbridge site can capture is critically dependent upon public actions and policies. Improved highway access is needed along the routes connecting the site with Interstate 95 and Route 40. On-site rail sidings are necessary to capture any substantial proportion of the demand for general manufacturing land. Furthermore, significant industrial land sales on the Bainbridge site will depend on the creation of graded industrial sites, with utility and road service and adequate room for expansion, at reasonable sales prices. To maximize the Bainbridge site's industrial potential, serviced sites may have to be sold at or below the cost necessary to improve the site and provide it with the necessary facilities. Moreover, an on-site power plant must be so designed as to appear environmentally compatible and utilized in the marketing program to present an image of adequate, uninterruptable electric power. The ability to provide low-cost industrial plants, through low-interest loan guaranty programs such as the Maryland Industrial Development Financing Authority Act (MIDFA), will also affect the marketability of the Bainbridge site. The market share that the site can capture thus will vary from a modest to a substantial proportion of total market area demand depending on which public policies are adopted and implemented.

With a relatively limited program of public action--such as facility improvements (water and sewer) but not the construction of MIDFA buildings or on-site rail--it is estimated that the Bainbridge site could capture approximately 10 per cent of the market area light manufacturing acreage potential over the 1974 to 1980 period, 5 per cent of the general manufacturing potential, and 15 per cent of the distribution potential. These proportions

represent 5 acres of light manufacturing, 12 acres of general manufacturing, and 11 acres of distribution space, as presented in Table 14. The combined total of 28 acres, or 7.9 per cent of the market area demand, is predicated primarily on the delivery at Bainbridge of partially serviced industrial sites at modest prices.

The market potential for the site could be considerably increased--perhaps doubled--by the County's undertaking an extensive promotional program to attract industrial prospects to the site coupled with the following: the provision of on-site rail and improved road; financial assistance in building construction; a high level of industrial park services (landscaping, exterior cleaning and maintenance, security, and the like); and continued low land disposition prices. With such maximum development efforts, up to 20 per cent of the market area's light manufacturing potential, 10 per cent of its general manufacturing potential, and 30 per cent of the distribution land could likely be developed at Bainbridge. This higher level of potential amounts to a total of 55 acres, or 15.5 per cent, of the market area demand--10, 24, and 21 acres, respectively, for light manufacturing, general manufacturing, and distribution space.

Over the 1980 to 1985 period, the Bainbridge site should be able to capture a higher share of the market area's demand for industrial land. By that time, sites closer to Wilmington and Baltimore should be in short supply and the Bainbridge site should have established a nucleus of industrial firms and services necessary to attract industrial occupants and their employees more readily. Under a program incorporating a minimum level of public action, it is assumed the site could capture 15 per cent of the area's light manufacturing space demand, 10 per cent of that for general manufacturing, and 20 per cent of the distribution or wholesale trade demand, for a total of 13.4 per cent of the market area's industrial land potential.

With an intensive level of public effort, it is believed that Bainbridge could become a prime industrial location in the market area, capturing up to one-third of the total demand. This market share would consist of 25, 33, and 40 per cent of the light manufacturing, general manufacturing, and wholesale trade land requirements, respectively. Thus, the site is expected to absorb between 53 and 132 acres of industrial land over the 1980 to 1985 period, depending on the level of public investment.

TABLE 14

BAINBRIDGE SITE SHARE OF INDUSTRIAL POTENTIAL
BAINBRIDGE INDUSTRIAL MARKET AREA
1974-1985

Industrial Use	1974-1980 Total Market Potential	1974-1980 Bainbridge Share Per Cent	1974-1980 Bainbridge Share Acres	1980-1985 Total Market Potential	1980-1985 Bainbridge Share Per Cent	1980-1985 Bainbridge Share Acres
Light Manufacturing	50	10%-20%	5-10	65	15%-25%	10-16
General Manufacturing	235	5%-10%	12-24	235	10%-33%	24-78
Distribution	70	15%-30%	11-21	95	20%-40%	19-38
Total	355	7.9%-15.5%	28-55	395	13.4%-33.4%	53-132

	1974-1985 Total Market Potential	Per Cent	Acres
Light Manufacturing	115	13.0%-22.6%	15- 26
General Manufacturing	470	7.7%-21.7%	36-102
Distribution	165	18.2%-35.8%	30- 59
Total	750	10.8%-24.9%	81-187

Source: Estimated by Morton Hoffman and Company, Inc.

This amounts to 10 to 16 acres in light manufacturing use, 24 to 78 acres for general manufacturing firms, and 19 to 38 acres for wholesale trade.

Over the entire 1974 to 1985 period, the Bainbridge site could capture approximately 11 to 25 per cent of the industrial potential of the market area, or 81 to 187 acres of land. The exact number of acres absorbed will greatly depend upon the development stance taken by Cecil County.

B. RESIDENTIAL MARKET POTENTIAL

Recent trends in the supply of housing in the Bainbridge area are assessed in this section. The analysis is followed by a brief discussion of selected single-family detached, townhouse-for-sale, and rental housing developments comparable to those envisioned for the site. These factors along with previous projections of population, households, and household income used as a framework for evaluating the housing market potential in the Bainbridge housing market area over the projection period. This section concludes with a presentation of the likely share of this potential which could be attracted to the Bainbridge site from 1974 to 1985.

1. Housing Supply Trends

Units authorized under building permits are given separately for the Cecil and Harford County portions of the Bainbridge market area to allow analysis in detail of the different housing supply trends occurring within these segments of the housing market area. The number of new housing units authorized was estimated by the consultant from data provided by the Cecil and Harford County building permit departments, as well as Census data.

An estimated 4,021 units were authorized under building permits in the entire market area over the 1970 to 1973 period, an average of 1,005 per year. The number ranged from a low of 360 in 1970 to a high of 1,427 in 1972. Of the 4,021 units in the market area as a whole, 888, or 22 per cent, were for units in multifamily structures of three or more units, as shown in Table 15. The proportion of multifamily units authorized rose each year over the four-year period, reaching 29 per cent, or 355 units in 1973. Nevertheless, the number of multifamily units authorized was highest in 1972--364, or 26 per cent.

Building permits issued for construction in the Cecil County portion of the market area accounted for more than half of the total units authorized over the 1970 to 1973 period, but only one-quarter of the multifamily units. The bulk of the units authorized in the Cecil County segment of the market area were in the Elkton area. Of the total of 2,247 units authorized in the Cecil County segment of the market area, an average of 562 units was built annually. Multifamily units accounted for 223, or 10 per cent of the 2,247 total, all in 1972 and 1973.

TABLE 15

UNITS AUTHORIZED UNDER BUILDING PERMITS
BAINBRIDGE HOUSING MARKET AREA
1970-1973

Year	Single-Family	Multifamily	Total	Multifamily as Per Cent of Total
		Cecil County Portion		
1970	183	0	183	-
1971	634	0	634	-
1972	624	156	780	20.0%
1973	583	67	650	10.3%
Total	2,024	223	2,247	9.9%
Annual Average	506	56	562	-
		Harford County Portion		
1970	177	0	177	-
1971	219	169	388	43.6%
1972	439	208	647	32.1
1973	274	288	562	51.2%
Total	1,109	665	1,774	37.5%
Annual Average	277	166	443	-
		Total Housing Market Area		
1970	360	0	360	-
1971	853	169	1,022	16.5%
1972	1,063	364	1,427	25.5
1973	857	355	1,212	29.3%
Total	3,133	888	4,021	22.1%
Annual Average	783	222	1,005	-

Source: Estimated by Morton Hoffman and Company, Inc., based on data from Cecil and Harford County building permit departments, and Bureau of the Census, Construction Reports, C-40 Series.

Between 1970 and 1973, 1,774 units were authorized in the Harford County part of the market area, 44 per cent of the market area total. The number ranged from a low of 177 in 1970 to a high of 647 in 1972. Of the 1,774 units authorized in the Harford County segment of the market area, multifamily units equaled 665, or 38 per cent.

2. Comparable Sales Developments

In order to analyze the current and future sales market, a survey was made of a representative sample of 23 single-family detached and 6 townhouse-for-sale developments. Of the 23 single-family detached developments, 9 are located in the Cecil County portion of the market area and 14 in the Harford County segment. Eleven projects opened prior to 1966, four between 1966 and 1971, two in 1972, two in 1973, and four in 1974. Reflecting, to some extent, recent building permit trends in the two segments of the market area, 7 of the 9 subdivisions in Cecil County began development after 1969, but only 3 of the 14 subdivisions in Harford County opened after 1969. By contrast, among the 6 townhouse-for-sale developments, 2 opened in 1971 and 3 in 1974; data was unavailable on the year opened for one of the developments.

a. Single-Family Detached Developments

The 23 single-family subdivisions in the market area will incorporate a total of 3,248 lots when completed, as shown on Map 4 and in Table 16. Of these, 1,767, or 54 per cent, have been platted and are available. As of July, 1974, approximately 1,140 homes were built or under construction in the 23 subdivisions, 1,051, or 92 per cent, of which have been sold.

Single-family subdivisions in the Cecil County segment of the market area began development much more recently than those in Harford County, a factor reflected in the relative stages of development of projects in the two areas. Only 41 per cent of the lots proposed for development in the Cecil County subdivisions currently are available, compared with 62 per cent of those in Harford County subdivisions. Similarly, only 106, or 54 per cent, of the 195 homes completed or under construction in the Cecil County segment of the market area have been sold, whereas all the 945 homes in the Harford County subdivisions have been purchased.

TABLE 16

CHARACTERISTICS OF SELECTED SINGLE-FAMILY DETACHED DEVELOPMENTS
BAINBRIDGE HOUSING MARKET AREA, BY COMPONENT
JULY, 1974

Development	Map No.	Year Opened	Gross Acres	Total Lots to be Developed	Number of Lots Available	Number of Units Built or U/C	Unit Size	Sales Price	Square Footage	Price/ Sq. Ft.
Cecil County Portion										
Brookhill Farms	1	1974	60	225	70	30	N.A.	$29,000	N.A.	N.A.
La Plaine Manor	2	1967	50	75	75	75	3BR	$50,000	N.A.	N.A.
							4BR	$65,000		
Groff Farms	3	1970	93	12	12	12	3BR	$29,000	N.A.	N.A.
							4BR	$40,000		
Haven Lane Estates	4	1973	320	85	48	1	N.A.	$35,000	N.A.	N.A.
Holland Acres	5	1974	111	139	36	0	-	-	-	-
Manchester Park	6	1966	224	448	90	63	3BR	$42,500	1,500	$28.33
							4BR	$45,500	2,100	$21.67
Nottingham Ridge	7	1972	53	86	86	3	3BR	$42,825	1,700	$25.19
Sunrise Estates	8	1974	235	50	50	6	3BR	$32,000	N.A.	N.A.
Tara	9	1973	51	61	21	5	4BR	$53,500	2,000	$26.75
Total			1,197	1,181	488	195				
Bedford County Portion										
Adams Heights	10	1961	40	88	88	65	3BR	$53,000	1,200	$44.17
							4BR	$59,000	1,700	$34.71
							5BR	$62,000	2,000	$31.00
Carson Run Estates	11	1964	160	180	75	40	3BR	N.A.	N.A.	N.A.
Fountain Green Hgts.	12	1959	N.A.	28	28	25	N.A.	$50,000	N.A.	N.A.
Fox Ridge	13	1964	243	217	80	40	3BR	$52,000	1,600	$32.50
							4BR	$68,000	2,300	$29.57
							5BR	$85,000	3,000	$28.33
Greenridge I	14	1958	60	127	127	127	3BR	$14,500[a]	1,230	$11.79[a]
Greenridge II	15	1963	310	700	300	250	3BR	$32,500	1,230	$26.42
Pembrooke	16	1965	62	104	80	40	3BR	$40,000	1,200	$33.33
Priestwood Hills	17	1974	168	102	35	1	4BR	$67,500	2,100	$32.14
Quaker Hills	18	1971	180	65	50	25	3BR	$40,000	1,150	$34.78
Ramsgate Estates	19	1960	40	64	64	40	3BR	$65,000	2,000	$32.50
							4BR	$65,000	2,000	$32.50
Rolling Green	20	1964	220	147	147	132	3BR	$42,000	2,000	$21.00
							4BR	$45,000	2,200	$20.45
Susquehanna River Hills	21	1957	150	110	110	90	3BR	$40,000	1,600	$25.00
							4BR	$45,000	2,000	$22.50
Webster Village	22	1952	75	50	50	45	3BR	N.A.	N.A.	N.A.
							4BR			
Windamere	23	1972	200	85	45	25	3BR	$60,000	2,200	$27.27
Total			1,908+	2,067	1,279	945	4BR	$65,000	3,000	$21.67
Grand Total			3,105+	3,248	1,767	1,140				

N.A.=Not Available
[a] At 1960 prices.

Source: Field survey by Morton Hoffman and Company, Inc.

The largest of the 23 single-family subdivisions now on the market is Greenridge II, located in the eastern suburbs of Bel Air in Harford County, approximately 19 miles from the Bainbridge site on Fountain Green Road. The 310-acre development began in 1963. Currently, there are approximately 250 homes in the community, all three-bedroom units selling for an average of $32,500. When completed, the development will contain 700 houses on lots averaging 13,000 square feet in size.

Manchester Park is the second largest of the active subdivisions in number of total lots proposed for development, although several others, including Rolling Green, Greenridge I, Susquehanna Hills, De La Plaine and Adams Heights have more homes built than Manchester Park.1/ Manchester Park, where development began in 1966, is located about 2 miles north of Elkton off Route 280 near the eastern edge of the market area. Containing 224 acres, the subdivision is to incorporate 448 lots when completed, although only about 90 currently are available. There are 63 three- and four-bedroom homes in the community selling for an average of $42,500 and $45,500, respectively.

The bulk of the homes sold in the developments in the market area contain three bedrooms, although some of the subdivisions contain four- and five-bedroom homes. Three-bedroom homes range in price from $29,000 at Groff Farms to $65,000 at Ramsgate Estates; four-bedroom units vary between $40,000 at Groff Farms and $68,000 at Fox Ridge; and five-bedroom homes range from $62,000 at Adams Heights to $85,000 at Fox Ridge.

b. Townhouse-For-Sale Developments

Five of the six townhouse-for-sale developments in the Bainbridge housing market area are in Cecil County, and one, Brentwood Square, is in Harford County. According to data furnished by representatives of the developers of these projects, they will encompass a total of 1,737 units when completed. Only

1/ Although Greenridge I and De La Plaine have more homes completed than does Manchester Park, there are no vacant lots available for future development within those subdivisions.

375 units currently are available for sale, however, of which 250, or 67 per cent have been sold. The largest development, Winding Brook Village--located northeast of Elkton at the Cecil County/New Castle County line--contains 186 units at present, with the developer planning to build a total of 1,200 units in the community by 1979.

Sales prices at the six developments are moderate, with the least expensive units found at Winding Brook Village and the most expensive at Brentwood Square. Two-bedroom units vary between $20,990 and $28,200; three-bedroom townhouses sell for $23,490 to $33,450; and four-bedroom units range between $24,990 and $32,000, as shown in Table 17.

3. Comparable Rental Developments

As a basis for analyzing the current and future rental market in the Bainbridge area, a survey was made of a representative sample of existing rental developments in the market area. Of the 11 existing rental developments surveyed, 6 opened between 1963 and 1965, 1 in 1969, 1 in 1972, and 3 in 1974. Ranging in size between 22 and 227 units, they encompass a total of 1,049 apartments. The bulk of these units--877 or 84 per cent--are in the Harford County segment of the market area.

Nevertheless, the character of the housing market in Cecil County has begun to shift in recent years. Market acceptance of rental and sales townhouse units has increased significantly, particularly in the Elkton area. Two rental developments, Hickory Hill and Winding Brook Village, opened in Cecil County in 1974, as did two townhouse-for-sale projects, Captains Gate and De La Plaine.

Excluding three rental developments in initial leasing stages--Hickory Hill, Winding Brook Village, and Woodbrook--occupancy levels are quite high in both the Cecil and Harford County segments of the market area. Among the other 8 developments surveyed, which incorporate 672 units, 652, or 97 per cent, of the apartments are occupied.

TABLE 17

CHARACTERISTICS OF SELECTED TOWNHOUSE-FOR-SALE DEVELOPMENTS
BAINBRIDGE HOUSING MARKET AREA, BY COMPONENT
JULY, 1974

Development	Map No.	Year of Initital Sale	Unit Size	Total Units	Units Available	Units Sold	Per Cent Sold	Sales Price
Cecil County Portion								
Captains Gate	1	1974	2 BR	N.A.	6	1	16.7%	$28,200
			3 BR	N.A.	8	1	12.5	$28,600
			4 BR	N.A.	4	2	50.0	$31,000
			Total	140	18	4	22.2%	-
De La Plaine	2	1974	2 BR	30	8	1	12.5%	$28,000
			3 BR	60	20	2	10.0	$30,000
			4 BR	22	4	2	50.0	$32,000
			Total	112	32	5	15.6%	-
Elk Landing Townhouses	3	N.A.	N.A.	120	35	6	17.1%	N.A.
Valley View Village	4	1971	3 BR	75	69	61	88.4%	$23,500
Winding Brook Village	5	1971	2 BR	N.A.	10	8	80.0%	$20,990
			3 BR	N.A.	127	115	90.6	$23,490
			4 BR	N.A.	49	49	100.0	$24,990
			Total	1,200	186	172	92.5%	-
Harford County Portion								
Brentwood Square	6	1974	3 BR	90	35	2	5.7%	$33,450

N.A.= Not Available.

Source: Field survey by Morton Hoffman and Company, Inc.

The bulk of the rental dwellings in the Bainbridge housing market area are one- and two-bedroom units, with the latter predominating, although there is a modest number of three-bedroom units and two-bedroom apartments with dens. Among the 9 developments for which data on unit size are available, two-bedroom units represent 75 per cent of the apartments; one-bedroom units, 17 per cent; and other unit sizes the remaining 8 per cent.

Rent levels among these developments are generally higher in Harford than Cecil County, although Hickory Hill, located in Cecil County, has the highest rents among the surveyed developments, as shown in Table 18.

4. Housing Market Potential

Projections of the magnitude of the total housing potential for the Bainbridge housing market area over the 1974 to 1985 period subsequently are broken down into demand for sales and rental units.

a. Total Potential

Three identifiable components comprise the market potential for new construction in the Bainbridge housing market area over the 1974 to 1985 period: (1) additional households anticipated in the market area; (2) gains in the number of vacant units; and (3) the replacement of units withdrawn from the supply.

As discussed in Chapter III, it is projected that the number of households in the market area will increase from 28,650 in 1974 to 37,100 in 1985. This increment of 8,450 households represents a gain of 768 households per year.

Over the 1974 to 1985 period, the vacancy rate is expected to decline moderately from 5.6 to 5.2 per cent. Nevertheless, as the housing inventory expands, additional vacant units appear probable to accommodate households moving into and within the area. Accordingly, the number of vacant units is anticipated to rise by 350 over the projection period.

TABLE 18

CHARACTERISTICS OF SELECTED APARTMENT DEVELOPMENTS
BAINBRIDGE HOUSING MARKET AREA, BY COMPONENT
JULY, 1974

Development	Map No.	Year of Initial Occupancy	Unit Size	Total Units	Vacant Units	Per Cent Vacant	Monthly Rent [a]
Cecil County Portion							
Hickory Hill	1	1974	1 BR	21	5	23.8%	$156
			2 BR	27	20	74.1	177
			3 BR	6	0	-	$210
			Total	54	25	46.3%	-
Warwick	2	1963	2 BR	22	0	-	$133
Winding Brook Village [b]	3	1974	1 BR	N.A.	N.A.	N.A.	$140
			2 BR	N.A.		N.A.	166
			Total	96	64	66.7%	-
Harford County Portion							
Aberdeen Village [c]	4	1969	1 BR	35	0	-	$135-$140
			1 BR+D	11	0	-	$140
			2 BR	53	1	1.9%	$155-$170
			2 BR+D	5	0	-	$160-$170
			3 BR	12	0	-	$180
			Total	116	1	0.9%	-
Concord Cove	5	1965	1 BR	38	0	-	$141-$153
			2 BR	N.A.	0	-	$162-$174
			3 BR	N.A.	0	-	$200
			Total	108	0	-	-
Delle Grove	6	1964	1 BR	12	0	-	$131
			2 BR	15	0	-	$152
			Total	27	0	-	-

TABLE 18
(continued)

CHARACTERISTICS OF SELECTED APARTMENT DEVELOPMENTS
BAINBRIDGE HOUSING MARKET AREA, BY COMPONENT
JULY, 1974

Development	Map No.	Year of Initial Occupancy	Unit Size	Total Units	Vacant Units	Per Cent Vacant	Monthly Rent[a]
Harford County (Continued)							
Hillside Terrace	7	1964	1 BR	16	0	-	$125
			2 BR	22	0	-	$137
			3 BR	2	0	-	$150
			Total	40	0	-	-
Warwick	8	1964	2 BR	143	0	-	$155
Warwick Plaza	9	1972	1 BR	18	0	-	$145
			2 BR	169	18	10.6%	$165
			Total	187	18	9.6%	-
Winston Hall	10	1964	1 BR	6	0	-	$128
			2 BR	20	1	5.0%	$147
			3 BR	3	0	-	$160
			Total	29	1	3.4%	-
Woodbrook[d]	11	1974	2 BR	189	N.A.	N.A.	$174
			2 BR+D	38	N.A.	N.A.	$204
			Total	227	N.A.	N.A.	-

N.A.= Not Available.
a/ Rent adjusted to exclude all utilities except hot water.
b/ Includes 37 units which have been completed, with the remainder scheduled to be finished by December, 1974.
c/ Includes 22 two-bedroom townhouses and 12 three-bedroom townhouses.
d/ In initial leasing stages.

Source: Field survey by Morton Hoffman and Company, Inc.

The third component of the housing market potential is an estimated 550 units to replace housing removed from the inventory through demolitions for public purposes or by natural causes between 1974 and 1985.

These three components yield a total market potential for 9,350 housing units in the Bainbridge housing market area over the 1974 to 1985 period, or 850 annually. This breaks down to a potential for 4,500 units over the 1974 to 1980 period and 4,850 units over the 1980 to 1985 period, as presented in Table 19.

b. Sales and Rental Share

Housing in the market area has been predominantly owner-occupied, although multifamily rental projects have begun to expand from their previous concentration in the Aberdeen and Havre de Grace areas to other communities in the market area, particularly Elkton and its environs. From 1970 to 1973, multifamily rental units comprised 22 per cent of all housing units authorized in the market area, mostly in the Harford County segment, which accounted for three-quarters of the multifamily rental total. Only 10 per cent of the units authorized in the Cecil County segment were for multifamily rental units.

According to available evidence on future construction in the market area, it appears likely that the proportion of multifamily rental units will advance only slightly over the 1974 to 1985 period. Rising construction costs and tight money markets are likely to prevail for the next several years, interacting to price new single-family homes beyond the reach of many potential homeowners in the area. Increases in sales townhouses, however, are anticipated to offset most of the likely loss in the single-family detached market.

It is projected that 70 to 80 per cent of the housing market potential in the market area will be for sales units over the 1974 to 1985 period, as shown in Table 20. A total of 6,550 to 7,480 sales units, or 595 to 680 units per year, is anticipated to satisfy sales housing needs. The midpoint of the sales potential, 75 per cent, amounts to 7,010 units over

TABLE 19

HOUSING MARKET POTENTIAL
FOR NEW CONSTRUCTION
BAINBRIDGE HOUSING MARKET AREA
1974-1985

Component	1974	1980	1985
	Reference Figures		
Households	28,650	32,650	37,100
Vacant Units	1,700	1,900	2,050
Total Housing Units	30,350	34,550	39,150

	Housing Market Potential For New Construction 1974-1985		
	1974-1980	1980-1985	1974-1985
Increase in Households	4,000	4,450	8,450
Increase in Vacant Units	200	150	350
Replacement	300	250	550
Total	4,500	4,850	9,350
Yearly Average	750	970	850

Source: Estimated by Morton Hoffman and Company, Inc.

TABLE 20

SALES AND RENTAL SHARES
OF THE HOUSING MARKET POTENTIAL
FOR NEW CONSTRUCTION
BAINBRIDGE HOUSING MARKET AREA
1974-1985

Item	1974-1980	1980-1985	1974-1985
Total Potential	4,500	4,850	9,350
Sales:			
@ 80%	3,600	3,880	7,480
@ 75%	3,370	3,640	7,010
@ 70%	3,150	3,400	6,550
Rental:			
@ 20%	900	970	1,870
@ 25%	1,130	1,210	2,340
@ 30%	1,350	1,450	2,800

Source: Estimated by Morton Hoffman and Company, Inc.

the next 11 years, or 637 units per year. The remainder of the demand is expected to be for rental units. The rental potential is estimated to range from 1,870 to 2,800 units, or 170 to 255 units annually, during the projection period.

5. Bainbridge Site Share Potential

Several factors bear significantly on the share of the housing market potential which a development on a specific site within the area can be expected to capture: the location and other characteristics of the site in relation to surrounding land uses and the type, quality, and variety of units offered on the site, as well as project amenities and competition from other developments within the housing market area.

A critical factor in determining the portion of the total market potential that Bainbridge can capture is improved transportation access between the site and Route 40, the major transportation corridor within the market area. Although I-95 passes within about 2 miles of the property, this route is more likely to be used by those passing through the housing market area rather than those traveling within it. Moreover, with a portion of the Bainbridge tract likely to be utilized for a fossil fuel or nuclear power plant, achievement of a reasonable share of the housing market potential would depend on an extensive and innovative marketing program to allay consumer reservations about the dangers of a nuclear plant or the environmental nuisance characteristics of a fossil fuel plant.

Taking these factors into account, it is estimated that the Bainbridge site would be able to capture up to 3 per cent of the sales potential and 10 per cent of the rental potential in the market area over the 1974 to 1980 period, or up to 100 sales units and 115 rental units, as shown in Table 21. Based upon a density of 2 to 4 sales units per acre and 6 to 10 rental units per acre, this combined market potential for 215 units would require up to 69 acres of land area.

Over the 1980 to 1985 period, by which time industrial facilities offering employment opportunities as well as a modest amount of convenience retail facilities could be developed on the site, it is believed that Bainbridge can attract a larger share of the housing market potential. In addition, a first

TABLE 21

BAINBRIDGE SITE SHARE OF RESIDENTIAL POTENTIAL
BAINBRIDGE HOUSING MARKET AREA
1974-1985

Residential Potential	1974-1980 Total Market Potential	1974-1980 Bainbridge Share Per Cent	1974-1980 Bainbridge Share Number	1980-1985 Total Market Potential	1980-1985 Bainbridge Share Per Cent	1980-1985 Bainbridge Share Number
Sales Units	3,370	0%-3%	0-100	3,640	5%-10%	180-365
Rental Units	1,130	0%-10%	0-115	1,210	5%-15%	60-180
Total	4,500	0%-4.8%	0-215	4,850	5.0%-11.2%	240-545

	1974-1985 Total Market Potential	1974-1985 Bainbridge Share Per Cent	1974-1985 Bainbridge Share Number
Sales Units	7,010	2.6%- 6.6%	180-465
Rental Units	2,340	2.6%-12.6%	60-295
Total	9,350	2.6%- 8.1%	240-760

Source: Estimated by Morton Hoffman and Company, Inc.

stage of residential development could have been completed, allowing for a wider range of amenities, including landscaping, recreational facilities, and the like, than are available during the initial development period. The Bainbridge share of the market potential between 1980 and 1985 is expected to rise to between 5 and 10 per cent of the sales potential, or 180 to 365 units, occupying 45 to 183 acres at densities of 2 to 4 units per acre. Correspondingly, the site share of the rental potential is projected to range from 5 to 15 per cent, or 60 to 295 apartments, which, at a density of 6 to 10 units per acre, would occupy 6 to 30 acres of land.

It is believed that the high level of the projection range over the 1974 to 1985 period--760 units--could be achieved with the factors cited above: better transportation access, an effective marketing program, and the creation of on-site employment opportunities. The low end of the range--240 units--could probably be achieved with present transportation access and only modest population and employment growth in the immediate Bainbridge area.

C. COMMERCIAL MARKET POTENTIAL

This section presents an analysis of the commercial or retail market potential for the Bainbridge commercial market area. The focus of the analysis is on convenience goods although shoppers goods also are studied. Convenience goods outlets include food and drug stores, restaurants, and liquor stores. Shoppers goods establishments encompass those dealing with general merchandise, apparel and accessories, home furnishings and supplies, and miscellaneous items, such as cards and stationery, gifts, hardware, and the like.

Existing and planned shopping center developments within the market area are discussed. Retail sales trends and projections for convenience and shoppers goods then are analyzed, as well as expenditures of trade area residents for these goods over the 1969 to 1985 period. On this basis, the retail market potential within the Bainbridge commercial market area is estimated in terms of supportable new floor space. Finally, the Bainbridge site share is derived.

1. Existing and Planned Retail Space

The character of existing and planned competitive retail developments within and in the immediate vicinity of the Bainbridge commercial market area must be taken into account in assessing the retail market potential for the Bainbridge naval base.

a. Existing Retail Concentration

At present, the market area encompasses 759,200 square feet of space, as presented in Table 22, consisting of 281,000 square feet in shopping centers and 478,100 in other retail locations, mostly central business districts. In addition, two military installations--Aberdeen Proving Grounds and the Bainbridge Naval Training Center--contain approximately 82,400 square feet of retail space. Although the military commissary at Aberdeen Proving Grounds is just outside the commercial market area, it was incorporated in the analysis because of the large number of military personnel residing within the market area who utilize this facility. Other retail concentrations in the general vicinity of the market area include Campus Hills Shopping Center immediately to the west, and several retail enclaves located in the Bel Air, Edgewater, and Elkton areas, which are somewhat more distant.

TABLE 22

INVENTORY OF RETAIL SPACE
BY CATEGORY OF MERCHANDISE
BAINBRIDGE COMMERCIAL MARKET AREA
JULY, 1974

Category of Merchandise	Shopping Centers		Other Retail Areas		Total	
	Number of Outlets	Square Footage	Number of Outlets	Square Footage	Number of Outlets	Square Footage
Convenience Goods	9	140,500	54	241,700	63	382,200
Food	3	80,300	17	111,800	20	192,100
Eating	2	6,500	19	73,600	21	80,100
Eating and Drinking	1	1,300	8	19,100	9	20,400
Drug	3	52,400	7	30,000	10	82,400
Liquor	0	0	3	7,200	3	7,200
Shoppers Goods	6	126,500	67	202,700	73	329,200
General Merchandise	2	111,500	16	62,000	18	173,500
Apparel and Accessories	2	9,100	13	40,300	15	49,400
Home Furnishings and Supplies	0	0	9	33,100	9	33,100
Miscellaneous Shoppers Goods[a]	2	5,900	29	67,300	31	73,200
Financial Services[b]	1	1,900	5	5,500	6	7,400
Personal Services[c]	5	12,200	14	28,200	19	40,400
Total	21	281,100[d]	140	478,100	161	759,200[d]

a/ Miscellaneous shoppers goods include cards and stationery, gifts, hardware, jewelry, music, paint, and toy stores.
b/ Includes commercial loan offices and banks.
c/ Includes barber shops, beauty salons, cleaners, and laundromats.
d/ Excludes 44,700 square feet of unoccupied space of which three-quarters is in the initial lease-up period.

Source: Field survey by Morton Hoffman and Company, Inc.

Currently, the largest retail complexes within the trade area are: the Aberdeen Central Business District, with 165,400 square feet; Ames Shopping Center (between Havre de Grace and Aberdeen) with 130,500 square feet; the recently opened North East Plaza, with 129,900 square feet; the Havre de Grace Central Business District, with 106,500 square feet; and the Aberdeen Shopping Center, with 80,800 square feet.

Convenience goods outlets account for 382,200 square feet of the retail inventory, or about half of the total. Shoppers goods outlets represent another 329,200 square feet, or 43 per cent. The remainder of the space is distributed among financial services, such as commercial loan offices and banks, and personal service outlets, such as barber shops and beauty salons. In addition, there are 62,500 square feet of convenience goods space and 19,900 square feet of shoppers goods space at the two military bases in the area.

b. Proposed Retail Developments

No major new commercial facilities are presently proposed inside the market area. Outside the trade area, near Elkton, construction should begin in mid-1975, on the 100,000-square-foot first stage of Big Elk Mall. This first stage will consist of an Acme Supermarket and a Read's Drug Store plus several smaller establishments. The mall is ultimately expected to have a total of 200,000 square feet. In addition, preliminary planning is underway for several other retail centers in the general vicinity of the trade area. These proposed centers are quite removed from the Bainbridge site--Bel Air, Joppatowne, and Newark--and are still highly tentative.

2. 1969-1974 Retail Sales in the Market Area

Convenience and shoppers goods sales are estimated within the Bainbridge commercial market area over the 1969 to 1974 period, with a separate tabulation presented for sales at the military exchanges of Aberdeen Proving Grounds and the Bainbridge Naval Training Center.

a. Convenience Goods Sales

From 1969 to 1974, convenience goods sales in the market area climbed by an estimated $10.7 million, or 42 per cent, from $25.4 million to $36.1 million, as presented in Table 23. This rate of increase reflects expanding sales at the existing retail enclaves, particularly the Ames and Aberdeen Shopping Centers, as well as the opening of North East Plaza in early 1974. A major advance likely occurred in food store sales, particularly by local supermarkets, with a gain of $7 million, or 45 per cent, from $15.7 million to $22.7 million, partially as a result of higher food prices. Eating establishments and drug stores also experienced probable large sales gains of 49 and 41 per cent, respectively, over the 1969 to 1974 period.

b. Shoppers Goods Sales

Shoppers goods sales in the Bainbridge commercial market area are estimated to have advanced at a somewhat slower pace during the past five years, as rapid gains in convenience goods prices, particularly for food, reduced the level of discretionary shoppers goods purchases. Between 1969 and 1974, shoppers goods sales likely increased by $3.5 million, or 30 per cent, from $11.9 to $15.5 million, with the largest advance in general merchandise outlets, such as the Ames Discount Store at the Ames Shopping Center between Havre de Grace and Aberdeen and the Ames Store at the new North East Plaza. Sales of general merchandise outlets rose by an estimated 53 per cent from $6 million to $9.2 million. Apparel and accessory outlets, home furnishings and supply stores and miscellaneous shoppers goods outlets would have experienced much more modest sales gains.

c. Retail Sales at Military Bases

Purchases at the military exchanges of Aberdeen Proving Grounds and Bainbridge naval base generally are made by military personnel and their families. Utilizing data on commissary sales provided by officials of these institutions, it is estimated that convenience goods sales rose from $4.3 to $5.7 million over the 1969 to 1974 period, a gain of 32 per cent. By 1980, the military exchange at Bainbridge will no longer be in operation. Convenience goods sales at the Aberdeen base are projected to be only $3.5 million at that time, rising to a level of $4.1 million in 1985.

TABLE 23

ESTIMATED CONVENIENCE AND SHOPPERS GOODS SALES
BAINBRIDGE COMMERCIAL MARKET AREA
1969 AND 1974
($000's)

Category of Merchandise	1969	1974
Convenience Goods	$25,387	$36,091
Food	15,734	22,741
Eating	3,233	4,806
Eating and Drinking	1,397	1,636
Drug	4,101	5,781
Liquor	$ 922	$ 1,127
Shoppers Goods	$11,941	$15,478
General Merchandise	5,994	9,195
Apparel and Accessories	1,927	1,976
Home Furnishings and Supplies	1,092	1,159
Miscellaneous Shoppers Goods	$ 2,928	$ 3,148
Total	$37,328	$51,569

Source: Estimated by Morton Hoffman and Company, Inc., based upon data from 1967 and 1972 U.S. Census of Business, Retail Trade; County Business Patterns; Sales Management Magazine Survey of Buying Power; and field surveys.

Similarly, shoppers goods sales are estimated to have increased from $2.9 to $3.8 million over the 1969 to 1974 period, a gain of 31 per cent. By 1980, however, they are anticipated to decline to $2.4 million, followed by a rise to a level of $2.7 million by 1985, as shown in the following tabulation.

ESTIMATED CONVENIENCE AND SHOPPERS GOODS SALES
MILITARY EXCHANGES
1969-1985
($000's)

Item	1969	1974	1980	1985
Convenience Goods	$4,331	$5,716	$3,525	$4,050
Shoppers Goods	2,888	3,775	2,350	2,700
Total	$7,219	$9,491	$5,875	$6,750

3. Retail Expenditures by Market Area Residents

Utilizing previously developed estimates of the number of households in the market area and their incomes, reasonable assumptions can be made about the proportion of household income which is spent on convenience and shoppers goods. These assumptions are predicated upon Bureau of Labor Statistics data on consumer expenditure patterns by income level and family sizes.

a. Convenience Goods Expenditures

In 1969, the 15,158 households in the market area spent an estimated $30.7 million on convenience goods, as shown in Table 24. It is projected that resident household expenditures for convenience goods will rise to $43.7 million in 1974, and will increase further to $62.5 million by 1985. The projected gain of $18.8 million over the 1974 to 1985 period represents a 43 per cent increase during the next 11 years. Reflecting the estimated increment in the number of higher income households in the market area, households reporting incomes of $15,000 or more are expected to account for about 45 per cent of the convenience goods expenditures in 1974, and more than 66 per cent in 1985.

TABLE 24

CONVENIENCE AND SHOPPERS GOODS EXPENDITURES
BY HOUSEHOLD INCOME GROUP
BAINBRIDGE COMMERCIAL MARKET AREA
1969-1985
($000's)

Income Class	Number of Households	Convenience Goods Expenditures	Shoppers Goods Expenditures
		1969	
Less than $10,000	8,973	$13,405	$ 6,837
$10,000-$14,999	3,688	9,161	6,152
$15,000 or more	2,497	8,176	6,779
Total	15,158	$30,742	$19,768
		1974	
Less than $10,000	6,680	$10,563	$ 4,536
$10,000-$14,999	4,530	13,291	7,130
$15,000 or more	5,140	19,841	12,948
Total	16,350	$43,695	$24,614
		1980[a/]	
Less than $10,000	5,720	$ 8,371	$ 3,581
$10,000-$14,999	4,380	13,111	7,065
$15,000 or more	8,050	31,451	20,608
Total	18,150	$52,933	$31,254
		1985[a/]	
Less than $10,000	5,590	$ 8,180	$ 3,499
$10,000-$14,999	4,260	12,95[illegible]	7,089
$15,000 or more	10,450	41,316	27,943
Total	20,300	$62,455	$38,531

a/ Constant 1974 dollars.

Source: Estimated by Morton Hoffman and Company, Inc., from 1970 and 1973 Bureau of Labor Statistics Urban Family Budgets.

In addition, expenditures of military personnel in group quarters at Bainbridge are estimated to have totaled $1.2 million in 1969, dropping back to $832,000 as of 1974. Although the base will soon close, by 1985 potential construction workers building power plant facilities at Bainbridge are expected to spend $550,000 in convenience goods expenditures.

b. Shoppers Goods Expenditures

It is estimated that household shoppers goods expenditures in the commercial market area rose from $19.8 million in 1969, to $24.6 million in 1974, a gain of $4.8 million, or 25 per cent. It is projected that resident household expenditures for shoppers goods will advance to $31.3 million in 1980, and $38.5 million in 1985, a gain of $13.9 million, or 57 per cent, over the 1974 level. Due to the anticipated rise in household income levels in the market area during the projection period, households reporting incomes of $15,000 or more are anticipated to account for a growing proportion of shoppers goods expenditures--53 per cent in 1974 and 73 per cent in 1985.

4. Projected Retail Sales in the Market Area

Retail sales within the trade area are generated not only by residents of the market area (who also make some purchases outside), but also by nonresidents who make purchases within it. The latter category includes those living in the immediate vicinity of the trade area who enter it to make purchases, and tourists and transients who buy items when visiting or passing through the area. Although residents of the market area account for the bulk of both convenience and shoppers goods sales, they are responsible for a higher proportion of the convenience goods sales, as nonresidents are less likely to travel long distances for daily necessities. To derive projections of retail sales over the 1974 to 1985 period, both resident and nonresident expenditures patterns are analyzed in this section. The proportion of market area sales made to market area residents and nonresidents is based on the type and location of the various establishments located within the trade area.

a. Convenience Goods Sales

It is estimated that $31.9 million of convenience goods purchases were made by market area residents in 1969--$30.8 million by households and $1.1 million by military personnel. Of this total, an estimated $25.3 million or 79 per cent, were made in the Bainbridge commercial market area, as shown in Table 25. Although resident expenditures within the market area are estimated to rise to $36 million as of 1974, this level of expenditures accounts for only a slightly higher proportion of total resident expenditures, about 81 per cent.

Over the 1974 to 1985 projection period, these expenditure patterns are anticipated to continue in accordance with present trends, with the proportion of resident expenditures made within the market area likely to rise slightly as new facilities are added to the inventory. By 1980, it is projected that resident convenience goods expenditures within the market area will rise to $43.9 million, or 83 per cent of total resident expenditures, rising further to $51.8 million by 1985.

Including sales made to nonresidents as well as at the military exchanges and commissaries of Aberdeen Proving Grounds (just outside the market area) and the Bainbridge Naval Training Center, it is estimated that total market area convenience goods sales rose from $29.7 million to $41.8 million between 1969 and 1974, a gain of 41 per cent. Based upon field surveys, it is estimated that nonresidents accounted for a relatively small proportion of total sales over this period--$4.5 million, or 15 per cent, in 1969, and $5.9 million, or 14 per cent, in 1974.

Total convenience goods sales within the market area are projected to rise substantially to $51.9 million in 1980, and $60.6 million in 1985. This increase in sales is predicated upon the effect of the new North East Plaza as well as other potential developments. Nonresident expenditures within the market area are expected to rise to $8 million or 15 per cent of total sales in 1980, reflecting an increase in convenience goods outlets at the edge of the market area.

TABLE 25

CONVENIENCE GOODS SALES[a]
BAINBRIDGE COMMERCIAL MARKET AREA
1969-1985
($000's)

Market Share	1969	1974	1980[b]	1985[b]
Resident Expenditures[c]	$31,930	$44,530	$52,930	$63,010
Less: Resident Expenditures Outflow	6,670	8,570	9,080	11,170
Net Resident Expenditures	25,260	35,960	43,850	51,840
Nonresident Expenditures Inflow	4,460	5,850	8,030	8,790
Total Sales[d]	$29,720	$41,810	$51,880	$60,630

a/ Rounded to nearest $10,000.
b/ Constant 1974 dollars.
c/ Includes convenience goods expenditures made by military personnel in group quarters at Bainbridge for 1969 and 1974, and estimated expenditures by construction workers in group quarters on the base in 1985.
d/ Includes sales made at the military exchanges and commissaries of Aberdenn Proving Grounds and Bainbridge Naval Training Center for 1969 and 1974.

Source: Estimated by Morton Hoffman and Company, Inc.

A further dollar advance in nonresident expenditures within the market area to $8 million by 1980 is anticipated. After 1980, as additional outlets, such as those potentially on the Bainbridge site are developed in more central locations within the market area, rather than at the edges, the proportion of non-resident expenditures is expected to stabilize at 14 per cent of total sales, reaching $8.8 million by 1985.

b. Shoppers Goods Sales

From 1969 to 1974, resident shoppers goods expenditures within the Bainbridge retail market area grew from $11.2 million, or 57 per cent of total resident shoppers goods expenditures, to $14.4 million, or 59 per cent, as shown in Table 26. The increase in the proportion of resident shoppers goods purchases made within the market area is attributed to the opening of North East Plaza during the beginning of 1974, providing additional retail outlets within the market area for local residents to patronize.

The pattern of resident shoppers goods expenditures within and outside the market area is not expected to shift significantly over the 1974 to 1985 projection period; however, the proportion of resident expenditures within the market area is projected to increase gradually over the next 11 years as North East Plaza is completely occupied and new facilities are developed. In 1980, it is estimated that shoppers goods purchases by residents within the market area will reach $18.8 million, or 60 per cent of total resident expenditures, followed by a further advance to $23.9 million, or 62 per cent, in 1985.

Total shoppers goods sales, including those made at the military exchanges of Aberdeen Proving Grounds and Bainbridge naval base, rose from an estimated $14.8 million in 1969, to $19.3 million in 1974. Nonresidents accounted for a relatively modest proportion of total sales over this period--24 per cent, or $3.6 million, in 1969 and $4.8 million, or 25 per cent, in 1974.

Overall shoppers goods sales within the market area are projected to rise to about $25 million in 1980, and $31.9 million in 1985, reflecting the likely increase of sales at existing outlets as well as the introduction of new shoppers goods space

TABLE 26

SHOPPERS GOODS SALES[a]
BAINBRIDGE COMMERCIAL MARKET AREA
1969-1985
($000's)

Market Sector	1969	1974	1980[b]	1985[b]
Resident Expenditures	$19,770	$24,610	$31,250	$38,530
Less: Resident Expenditures Outflow	8,570	10,170	12,500	14,640
Net Resident Expenditures	11,200	14,440	18,750	23,890
Nonresident Expenditures Inflow	3,630	4,810	6,250	7,960
Total Sales	$14,830	$19,250	$25,000	$31,850

a/ Rounded to nearest $10,000.
b/ Constant 1974 dollars.

Source: Estimated by Morton Hoffman and Company, Inc.

within the market area. These projections represent a rise in shoppers goods sales of $12.6 million, or 65 per cent, over the 1974 to 1985 projection period.

Nonresident shoppers goods purchases are anticipated to stabilize at about one-quarter of total sales over the projection period, rising from $4.8 million in 1974, to $8 million in 1985, a gain of $3.2 million, or 65 per cent. Although new outlets are likely to be developed near the edge of the market area, other retail enclaves also are likely to be developed in more distant central locations, including the Bainbridge site.

5. Potential for Additional Retail Space in the Market Area

In translating potential retail sales volumes in the Bainbridge commercial market area into demand for additional retail space, the effect of new retail development on the existing inventory must be taken into account, as well as the magnitude and types of retail purchases likely to be made by residents and nonresidents. Sales levels at some of the older outlets will probably be reduced as a result of increased competition from new stores, while sales levels at the remaining stores generally will rise, with substantial gains in sales at the new outlets in North East Plaza offsetting moderate declines in some of the older, less competitive stores.

a. Convenience Goods Space

As of 1974, there were approximately 444,600 square feet of convenience goods space in the market area, which generated an estimated $41.8 million in sales, or $94 per square foot. By 1980, approximately 47,900 square feet of the convenience goods inventory at the military exchange of the Bainbridge Naval Training Center will have been eliminated as the naval base is phased out. Accordingly, it is projected that the 1974 inventory of the convenience goods space that remains in 1980 will generate sales of about $41.7 million, or $105 per square foot. The remaining convenience goods sales potential of $10.2 million within the market area in 1980 would yield a demand for 88,900 square feet of additional retail space at a sales level of $115 per square foot, as summarized in Table 27.

TABLE 27

RETAIL SPACE POTENTIAL
BAINBRIDGE COMMERCIAL MARKET AREA
1974, 1980, AND 1985

	Convenience Goods			Shoppers Goods		
1974	Square Footage	Sales	Sales Per Square Foot	Square Footage	Sales	Sales Per Square Foot
Existing Facilities	444,600	$41,810,000	$ 94	349,100	$19,250,000	$55
1980[a/]						
Existing Facilities, 1974	396,700	41,654,000	$105	340,700	$20,442,000	$60
New Facilities, 1974-1980	88,900	10,226,000	$115	70,100	4,558,000	$65
Total	485,600	$51,880,000	$107	410,800	$25,000,000	$61
1985						
Existing Facilities, 1980	485,600	$55,844,000	$115	410,800	$28,756,000	$70
New Facilities, 1980-1985	38,300	4,786,000	$125	41,300	3,094,000	$75
Total	523,900	$60,630,000	$116	452,100	$31,850,000	$70

a/ Assumes that retail space at the Bainbridge Naval Training Center will be lost to the inventory.

Source: Estimated by Morton Hoffman and Company, Inc.

Utilizing the same methodology, it is expected that an additional 38,300 square feet of convenience goods space could be supported in the market area over the 1980 to 1985 period. Sales per square foot in the new space is estimated to average $125 per square foot in 1985.

b. Shoppers Goods Space

There are approximately 349,100 square feet of shoppers goods space in the market area at present, averaging about $19.3 million in total sales, or $55 per square foot annually. The sales level per square foot is relatively low as of 1974 because of the effect of rising food prices on household budgets, particularly on the amount available for luxury items and durable goods. As the Bainbridge naval exchange is phased out, the inventory of shoppers goods outlets will be reduced by approximately 8,400 square feet. As of 1980, it is projected that the remaining space will generate sales of about $20.4 million, or $60 per square foot, with the new outlets at North East Plaza averaging higher sales per square foot. The remaining shoppers goods potential within the market area of $4.6 million in 1980 should be sufficient to warrant an additional 70,100 square feet of shoppers goods space at an average annual sales level of $65 per square foot.

Utilizing the same methodology, it is anticipated that there will be a demand for about 41,300 square feet of new shoppers goods space over the 1980 to 1985 period, at an average of $75 per square foot.

In total, there is a retail market potential for 111,400 square feet of shoppers goods space and 127,200 square feet of convenience goods space in the Bainbridge commercial market area over the 1974 to 1985 projection period, a total of 238,600 square feet.

6. Bainbridge Site Retail Space Potential

To assess the retail space potential for the Bainbridge site, consideration must be given to site accessibility and location. The location of the site at the southeast quadrant of Routes 276 and 222 in Cecil County provides only fair to good access to Route 40, the major transportation corridor

within the market area. Route 222, the access road from Route 40, is a two-lane country highway. The market share that the site can capture would vary from a modest to a more substantial level depending upon whether this road is improved.

a. Convenience Goods

Retail development on the Bainbridge site is conceived of primarily as a local center, catering mainly to the daily shopping needs of potential on-site and other resident population, such as that in the adjoining community of Port Deposit and nearby areas. Because of the local nature of convenience goods purchases, it is projected that a Bainbridge neighborhood retail center could attract between 3 and 10 per cent of the convenience goods space potential in the market area over the 1974 to 1980 period, or 2,700 to 8,900 square feet, as shown in Table 28. If highway access for for shoppers from nearby areas were improved, particularly Route 222, the higher end of the range appears attainable. Acreage requirements for the proposed retail space, therefore, would range between 1 and 2 acres, making allowances for parking and open space needs.

Over the 1980 to 1985 period, as development in Bainbridge is well underway, it is estimated that the site can attract a substantially higher proportion of the convenience goods potential in the retail market area. Thus, the site share of the market area potential is estimated to range between 25 and 50 per cent, or 9,600 to 19,200 square feet, depending upon the adequacy of the local road network and the location of competitive facilities developed elsewhere in the market area. About 1 to 2 additional acres of land would be required for the second phase of development.

In total, the Bainbridge site is projected to capture between 10 and 22 per cent of the convenience goods space potential in the Bainbridge commercial market area over the 1974 to 1985 period, or between 12,300 and 28,100 square feet, utilizing between 2 and 4 acres of land.

TABLE 28

BAINBRIDGE SITE SHARE OF COMMERCIAL POTENTIAL
BAINBRIDGE COMMERCIAL MARKET AREA
1974-1985

Commercial Potential	1974-1980 Total Market Potential (Sq.Ft.)	1974-1980 Bainbridge Share Per Cent	1974-1980 Bainbridge Share Square Feet	1980-1985 Total Market Potential (Sq.Ft.)	1980-1985 Bainbridge Share Per Cent	1980-1985 Bainbridge Share Square Feet
Convenience Goods	88,900	3%-10%	2,700-8,900	38,300	25%-50%	9,600-19,200
Shoppers Goods	70,100	0%-3%	0-2,100	41,300	10%-25%	4,100-10,300
Total	159,000	1.7%-6.9%	2,700-11,000	79,600	17.2-37.1%	13,700-29,500

	1974-1985 Total Market Potential (Sq.Ft.)	1974-1985 Bainbridge Share Per Cent	1974-1985 Bainbridge Share Square Feet
Convenience Goods	127,200	9.7%-22.1%	12,300-28,100
Shoppers Goods	111,400	3.7%-11.1%	4,100-12,400
Total	238,600	6.9%-17.0%	16,400-40,500

Source: Estimated by Morton Hoffman and Company, Inc.

b. Shoppers Goods

It is anticipated that the Bainbridge site could attract no more than 3 per cent of the shoppers goods space potential in the market area by 1980, or 2,100 square feet, because of: (1) its distance from the major market area population centers and Route 40, the local transportation corridor in the market area; and (2) the lack of substantial retail patronage generated by the small amount of convenience goods development that would be expected on the site. Achieving this 3 per cent share would require highway improvements on the southern approaches to the base, particularly Route 222, and an aggressive marketing program.

Over the 1980 to 1985 period, it is believed that the Bainbridge site could attract a much higher share of the shoppers goods potential in the market area as the development of a nucleus of convenience goods stores creates the patronage for additional shoppers goods space. In essence, the amount of shoppers goods space that can be developed would relate directly to the amount and type of convenience goods space placed on the site and would amount to between 10 and 25 per cent of the market area demand, or 4,100 to 10,300 square feet. Accordingly, acreage requirements for the proposed shoppers goods space would range between 1 and 2 acres between 1980 and 1985, while not exceeding 1 acre during the 1974 to 1980 period.

In summary, the Bainbridge site is expected to capture between 4 and 11 per cent of the shoppers goods space potential in the market area over the 1974 to 1985 period, or 4,100 to 12,400 square feet of space. These facilities would require between 1 and 3 acres of land.

When Bainbridge shoppers goods potential is combined with that for convenience goods, there would be a demand for 16,400 to 40,500 square feet of retail space over the projection period. About 4 to 7 acres of land would be needed for retail establishments.

D. INSTITUTIONAL AND RECREATIONAL POTENTIAL

The availability of land and potentially suitable buildings at Bainbridge offers the opportunity for the utilization of portions of the site for institutional and recreational uses, providing services to nearby residents and on-site occupants. Possible uses may be administered by state, County, municipal and private institutions, with the service area varying according to the administering agency. As stated earlier, land for community service uses will be transferred at no cost to the administering institution by the Federal General Services Administration.

To identify possible public benefit reuses at Bainbridge, the consultant worked with County officials who surveyed local agencies and private institutions regarding interest in providing services on the Bainbridge site. Officials of the town of Port Deposit were interviewed for the same reason. Also reviewed were expressions of interest from public and private institutions obtained through the Department of Economic and Community Development, as well as direct requests to the County or Federal agencies by private institutions hopeful of obtaining land at Bainbridge.

The public benefit uses thus identified are summarized below by potential administrative entity:

1. Town of Port Deposit

The town of Port Deposit, fully developed within its narrow boundaries between the Susquehanna River and the Bainbridge site, presently lacks open space and active recreation facilities. Utilization of a portion of the Bainbridge site would remedy this deficiency. Approximately 10 acres of open space should be reserved for the town in a location near Port Deposit that allows for the development of active recreation facilities. The acreage allotment is based on recreation standards of 10 acres per 1,000 persons; the town has over 900 residents. Town officials have also requested that the Naval Prep School marina, located within Port Deposit boundaries, be conveyed for recreation purposes. Port Deposit has no public docking or launching areas despite its location on the river. Two other facilities in which the town has an interest at Bainbridge are a volunteer fire fighting station location and the continued operation of the base water treatment plant serving

Port Deposit. These uses are discussed below in connection with County requirements and the potential location of a University of Maryland training center for fire fighters.

2. Cecil County

Publicly administered institutions within Cecil County have related the following expressions of need for facilities on the Bainbridge site:

a. Health Department

The Cecil County Health Department would like to obtain space at Bainbridge for Family Planning and Mental Health Clinics. Though portions of the present base dispensary are preferred, other buildings could also be used for the 6,100 square feet of space needed. The facilities would serve the lower portion of the County. The Family Planning Clinic, together with a Well-Child Conference, would operate about 4 days per month, with approximately 5 staff members, and have waiting and treatment space for about 30 persons at one time. A five-day per week Mental Health Clinic, with a professional and administrative staff of 10, would serve about 30 persons at any one time.

b. Board of Education

Public schools currently serving the Bainbridge area include Bainbridge Elementary School, located adjacent to and east and south of the base, and middle and high schools in North East and Perryville. The kindergarten through sixth grade Bainbridge Elementary School presently houses approximately 445 students and faculty; enrollment is at capacity. Public schools officials have requested a site of 15 to 20 acres for an additional elementary school to accommodate population growth over the next two decades in the Bainbridge area. Based on Comprehensive Plan population projections to 1990 for the Greater Perryville area, and taking into account a loss of an estimated 300 to 350 elementary students when present naval families move from the area, it is expected that there would be a need for one or more new elementary facilities in 10 to 15 years. For planning purposes, it is assumed that a new Bainbridge school would have approximately 420 students and a professional, administrative and service staff of approximately 30 persons.

c. Utilities

Current assets of Bainbridge include on-site water and sewage treatment plants. The County would obtain title to and operate the present sewage treatment plant occupying approximately 15 to 20 acres. The water treatment plant is located within the power plant reservation area, adjacent to the site where a plant would probably be built. It would have to be relocated outside the plant perimeter, to a location along the raw water line from the Susquehanna River. About 15 to 20 acres would be needed for a new treatment plant to service the site and Port Deposit.

d. Community College

The Cecil County Community College, a part of the State of Maryland's higher education system, is a two-year institution providing liberal arts and vocational training courses. Located on a 100-acre campus in North East, the college had an enrollment of 976 full- and part-time students in 1974. The recently established institution is undertaking a capital construction program on its campus. Though not likely under current plans to relocate to, or even open a formal branch campus, on the Bainbridge site, college officials have indicated the possibility of holding some classes in facilities at Bainbridge. To the extent that these classes offer vocational training suitable for new industries at Bainbridge, such an arrangement would be desirable. Present naval base general purpose buildings or facilities of the Naval Prep School could accommodate community college needs.

e. Recreation

Cecil County has no formal recreation facilities in the Bainbridge area, although school sites and larger state parks and reservations in Cecil and nearby Harford Counties provide some facilities for local residents. As a follow-up to Comprehensive Plan work, the County is contemplating the preparation of a recreation plan, which would lead to the determination of required facilities and desirable locations. In the interim, it is estimated on the basis of Comprehensive Plan 1990 growth projections of 13,200 persons in the Greater Perryville Planning Area encompassing Bainbridge that a reservation of 25 to 60 acres of open space/recreation area might be appropriate on the Bainbridge site. This estimate is

based on an allocation of 2 to 5 acres per 1,000 persons (excluding Port Deposit population) for community-oriented recreation facilities.

3. State of Maryland

The Department of State Planning has acquainted all state agencies with the availability of land at Bainbridge. To date, two have expressed interest in portions of the site.

a. University of Maryland Fire Service Extension Regional Training Center

This service of the College Park Campus of the University has provided short training courses for fire fighters throughout Maryland for over 40 years. The Extension Service is requesting approximately 15 to 20 acres of the Bainbridge site adjacent to the sewage treatment plant, utilized in the past for fire fighting training purposes. The service would administer a regional center for the northeastern part of the state. The facility, operating with 1 full-time instructor and others as needed, would instruct from 10 to 30 firemen at one time on nights and weekends. For large-scale demonstrations of fire control, lasting not more than 2½ hours, up to 100 observers might also be present on the site. Potentially, a Port Deposit volunteer fire department would also utilize a portion of this site.

b. Department of Public Safety and Correctional Services, Division of Correction

This agency has indicated interest in obtaining approximately 10 acres, including existing buildings, for a 108-resident correctional center. However, the area and buildings requested fall within the power plant exclusion zone, and another area with appropriate facilities would have to be located if this potential user were to be accommodated.

4. Private Institutions

Requirements of private institutions which have indicated an interest in locating at Bainbridge are summarized below:

a. Cecil County Training Center for the Handicapped and Association for Retarded Children

Presently serving Cecil County, this non-profit agency foresees expansion of its services, based on estimates of unmet need in the County. Approximately 20 to 30 acres are sought, northwest of the main entrance road in the Naval Training Center, including officers' homes and group instruction, recreation, and eating facilities. Recreation, educational, and vocational programs would be offered to the retarded and handicapped. With gradual growth over the next two decades, the agency, currently serving 35 to 70 people, presently contemplates on-site programs for approximately 355 persons of whom 40 would be residents. A staff of 15 resident and 45 daytime employees is also anticipated.

b. Teen Challenge, Inc.

Teen Challenge, a non-profit institution, with branches in various states, offers rehabilitative services to emotionally disturbed and delinquent youngsters, narcotics addicts, and youth from broken homes. Shelter, board, care, education, training and counseling services are offered in a sheltered environment. Teen Challenge is seeking approximately 55 acres northwest and southeast of the main Bainbridge entrance road to relocate and expand its Baltimore and Washington facilities; it would service those areas, Cecil County and the State of Maryland. Included would be counseling and referral offices, a rehabilitation center for delinquent males, a girls' center, two group homes (or emergency care shelters) and two foster homes. With a gradual program of expansion, Tenn Challenge anticipates accommodating approximately 100 residents and 40 resident staff members.

c. Naval Academy Preparatory School

The availability of dormitory, classroom, recreation, dining and related facilities suggests that the Prep School could most appropriately be reutilized for some type of educational or combined educational and conference services. To date, at least two inquiries about this portion of Bainbridge have been received from private training institutions; it is believed, however, that they are no longer interested in utilizing the Prep School. Other interest should be forthcoming for this most attractive portion of

the Bainbridge site. Based on recent use of the school, it is estimated that approximately 350 resident and 200 daytime students could be accommodated with a staff complement of up to 55 resident and daytime employees.

5. Summary

Table 29 summarizes potential land demands of institutional users by type of function performed. Acreages sought by Teen Challenge and the Cecil County Training Center for the Handicapped and Association for Retarded Children are combined because of an overlap in the area sought. The approximate time periods in which the land would be utilized are estimated from information supplied by the institutions.

TABLE 29

ESTIMATED LAND REQUIREMENTS AND DEVELOPMENT TIMING
FOR INSTITUTIONAL AND RECREATIONAL USES
BAINBRIDGE SITE

Type of Use	Agency	Approximate Land Requirements in Acres	Timing of Use
Recreation			
Marina and Active Recreation	Port Deposit	10	1974-80
Active and Passive Recreation	Cecil County	60	1974-85
Subtotal		(70)	
Education			
Elementary School	Cecil County	20	1974-85
Secondary Higher Education (Naval Prep School)	Private Institution and/or Cecil County Community College	111	1974-80
Subtotal		(131)	
Utilities			
Sewage Treatment Plant	Cecil County	15	1974-80
Water Treatment Plant	Cecil County	15	1974-80
Subtotal		(30)	
Other			
Fire Training Center	University of Maryland	20	1974-80
Center for Handicapped and Retarded	Cecil County Training Center for the Handicapped and Association for Retarded Children	55	1974-85
Youth Services	Teen Challenge		1974-80
Correctional Center	State of Maryland	10	1974-80
Health Clinics	Cecil County	1	1974-85
Subtotal		(86)	
Total		317	

Source: Estimated by Morton Hoffman and Company, Inc., from data supplied by public and private agencies.

E. SUMMARY OF COMBINED MARKET AND PUBLIC BENEFIT USE POTENTIAL

The Bainbridge site is located in a primarily rural area that is just beginning to feel development pressures from outward growth of the Baltimore and Wilmington metropolitan areas. Though the site has positive attributes in terms of location and the availability of public services, accessibility must be further improved and the public facility infrastructure greatly expanded if maximum development potential is to be reached.

Market support for industrial development will depend upon the level of improvements made with regard to road and rail access, facility quality (water, sewer, and storm drainage), industrial park services, land price and the like. As shown in Table 30, it is estimated that 81 acres of industrial land could be absorbed over the next 11 years with only minimum improvements and a maximum of 187 acres with extensive improvements.

Key factors in determining the residential potential of Bainbridge are improved transportation access to local shopping, employment and entertainment areas, an extensive and innovative marketing program to allay consumer reservations about living near a power plant, and the number of industrial employment opportunities that are offered on site. Without improved transportation and significant employment opportunities, it is estimated that approximately 240 units requiring 51 acres of land could be developed at Bainbridge through 1985. With road improvements and more jobs, up to 760 units on 282 acres could be placed on the site over the projection period.

Retail potential of 3 to 7 acres for a neighborhood shopping center with 16,400 to 40,500 square feet of space is projected for the Bainbridge site over the next 11 years. The higher level of development would depend on good local road access for shoppers from the surrounding area.

Approximately 171 to 317 acres of the Bainbridge site could be utilized for institutional and recreational purposes, based on needs determined and interest expressed by public and private agencies. The lower figure represents essential services (Port Deposit recreation, sewer and water plant and elementary school land reservations) and the logical reuse of the Naval Prep School site for institutional purposes. The higher figure encompasses all potential needs identified

TABLE 30

ACREAGE REQUIREMENTS
BAINBRIDGE SITE
1974-1985

Use	1974-1980	1980-1985	1974-1985
Industrial			
Light Manufacturing	5- 10	10- 16	15- 26
General Manufacturing	12- 24	24- 78	36-102
Distribution	11- 21	19- 38	30- 59
Total	28- 55	53-132	81-187
Residential			
Sales Units	0- 50	45-183	45-233
Rental Units	0- 19	6- 30	6- 49
Total	0- 69	51-213	51-282
Commercial			
Convenience Goods	1- 2	1- 2	2- 4
Shoppers Goods	0- 1	1- 2	1- 3
Total	1- 3	2- 4	3- 7
Institutional			
Recreation	10	0- 60	10- 70
Education	111	20	131
Utilities	30	0	30
Other	0- 30	0- 56	0- 86
Total	151-181	20-136	171-317
Grand Total	180-308	126-485	306-793

Source: Estimated by Morton Hoffman and Company, Inc.

to date, as well as an interim estimate of potential County recreation usage.

The combined acreage requirements for the Bainbridge site range from 306 to 793 acres. The potentials can be utilized in formulating alternative concepts for reutilization of the base.

CHAPTER V

ALTERNATIVE DEVELOPMENT STRATEGIES FOR THE BAINBRIDGE SITE

Findings on market and public use potential suggest that there are various mixes of uses that could be developed on the 650 acres of the former naval base that would not be occupied by the proposed power plant and rail and power line rights-of-way. This chapter on development alternatives describes:

- o County goals relating to the Bainbridge site, set forth as a basis for framing development alternatives that are compatible with County policy;
- o Three alternative development concepts for the site and the assumptions underlying each concept;
- o The land use characteristics of each alternative;
- o The public improvements associated with each alternative; and
- o The potential development costs associated with each alternative.

These characteristics form the basis for an analysis and evaluation in the succeeding chapter of the impacts of each development alternative.

A. COUNTY DEVELOPMENT GOALS AND POLICIES

Any development strategy for the Bainbridge site should be consistent with County goals and policies for the base and surrounding area. The Comprehensive Plan for Cecil County, adopted by the Board of County Commissioners in December, 1974, contains such an expression of goals and policies. It was developed with considerable citizen input through public meetings and continuous participation by a Citizens Advisory Committee in the plan development process. A review of the Comprehensive Plan suggests that

basic objectives for the Bainbridge area are to allow mixed development--residential, commercial, industrial, and community uses--that will contribute to the growth of the area, considered one of the County's four primary development nodes.

As a general policy, the plan proposes development intensities for various portions of the County. The immediate Bainbridge area is covered by development intensity Levels II and III, primarily by Level II. Level II would permit average residential densities of three units per residential acre including single-family dwellings, cluster housing, and small planned unit developments; supporting neighborhood commercial and personal service establishments; office/employment centers with not more than 50 workers; light industrial uses which conform to high performance standards; and public facilities. Level III would permit maximum residential densities averaging six units per acre including multifamily dwellings; community business centers; and office and industrial parks. Public sewer and water would have to be available for both levels of development intensity. The purpose of designating growth nodes in the plan is to target development to areas that are presently or planned to be served by public facilities, while protecting more rural areas from haphazard development.

A second set of development goals and policies is reflected in the County's Overall Economic Development Plan (OEDP), adopted by the Board of County Commissioners in December, 1974. This document stresses the need for the County to broaden its industrial base, thereby increasing employment opportunities within Cecil County. Bainbridge is regarded in the OEDP as a prime site for industrial development purposes. Finally, County Commissioners and staff have related several other concerns of local residents: to replace jobs lost through the elimination of the military base; to restore all or part of the site to the County's tax rolls; and to provide primary jobs for heads of household at wage rates competitive with nearby areas, such as Newark, where County residents now commute to employment centers.

B. ALTERNATIVE DEVELOPMENT CONCEPTS

Three alternative development concepts are framed for the site that present a choice to the County in terms of the mix of land uses, the timing of development, implementation costs to the County,

and revenues and related benefits such as jobs. All the alternatives are consistent with County objectives for Bainbridge in that they propose development intensities compatible with the Comprehensive Plan, industrial development for the site, and private taxable uses for portions of the site. However, they differ in terms of the amount, mix and timing of development.

Assumptions common to all alternatives are:

- o The reservation of 550 acres in the north central portion of the base by the state for a nuclear or fossil fuel power plant;
- o The reuse of the Naval Prep School portion of the base for educational, recreational, and social service purposes; and
- o The removal, for the most part, of existing buildings since the preponderance of these are dilapidated or unsuited for conversion to modern use.

1. Alternative I

This alternative was framed in order to create minimum public costs in the development of the Bainbridge site. It seeks to attract only the lower levels of residential, commercial, and industrial use contained in the market estimates for the base. Therefore, it is not assumed that capital expenditures for road improvements, rail connections, and other incentives will need to be made to attract higher levels of development. To make the site marketable to private developers, the County would provide minimum improvements, such as provision of utilities of adequate capacity, but would generally not be involved in long-term management and maintenance functions with respect to actual development, except for those portions of the site that are occupied by County government agencies. Essentially, then, this alternative is intended to minimize effort and cost to Cecil County, while still allowing it to realize objectives of employment creation, residential development and return of limited portions of the site to County tax rolls.

2. Alternative II

Alternative II has as its basis the allocation of the maximum amount of developable site area to revenue-producing uses--primarily industrial and residential--consistent with the higher level of market projections. A minimum amount of land, also, is devoted to essential public services. This alternative implies added public development costs for items such as road and rail improvements to attract industrial investors. However, it also would result in higher property tax revenues and job yields than Alternative I. Of the three alternatives, the second retains the largest amount of developable land for private market uses.

3. Alternative III

The concept underlying Alternative III is to utilize Bainbridge to maximize job opportunities and, at the same time, to reserve major amounts of land, which would be dedicated at no cost, for public service uses of benefit to County residents. Alternative III, therefore, devotes a greater amount of land than the others to industrial use; land allocated exceeds market projections for the 11-year period analyzed in this study and, hence, would take a longer time to develop fully. Like Alternative II, the third would require greater levels of public expenditure to stimulate on-site economic development. No residential development is included in Alternative III on the assumption that the Comprehensive Plan allows, and there is ample land, for such use nearby.

In summary, then, conceptually the alternatives may be described as:

Alternative I	Minimum public cost, minimum private development with emphasis on public use.
Alternative II	Maximum private market development, maximum allocation of available land to tax rolls, minimum public use.
Alternative III	Maximum industrial development, blended with public use.

C. LAND USE CHARACTERISTICS OF ALTERNATIVES

The land use characteristics and locations of the alternatives are described in this section. Table 31 breaks down acreage for each use by alternative and allows a comparison to be made among them. Maps 6 through 8 show the character and location of use for each alternative.

In all the alternatives, the amount of area for the power plant remains constant--550 acres, or 43.7 per cent of the site. Similarly, all alternatives include existing space utilized for the rail spur and electric power transmission line rights-of-way presently on and adjacent to the Bainbridge base, as well as the water pumping station for the base on the Susquehanna River. These combined uses would require 611 acres, or 48.5 per cent of the total 1,261 base acres, leaving 650 acres available for redevelopment.

Alternative I proposes 118 net acres of residential use for 505 housing units. The residential allocation yields an average density of 4.3 units per acre, compatible with Comprehensive Plan Levels II and III, and consisting of single-family, townhouse, and garden apartment units. Land for 205 new housing units is located adjacent to the Prep School and its recreation amenities, as well as to the open space buffer area of the power plant. This alternative also retains the Wherry housing area on the assumption that a portion of the units could possibly be renovated and marketed for low- and moderate-income housing, possibly under a Federal subsidy program.

About three acres of commercial use is allocated adjacent to the new housing. Included in this retail area would be small convenience stores--a grocery, cleaner, and the like--which would service Bainbridge residents, as well as those in greater Port Deposit and in potential new housing areas to the northwest, such as Anchor Hope Farm. A minimum reservation of land, 90 acres, is shown for industrial use on the northeastern part of the site, where the character of the existing use is also industrial. About 640 jobs would be available in this industrial area.

The remainder of the area--that not given over to near-term, modest, private market development--is targeted for institutional use. The 372 acres for institutional and recreational use could

TABLE 31

LAND USE MIX
UNDER ALTERNATIVE DEVELOPMENT STRATEGIES
BAINBRIDGE SITE

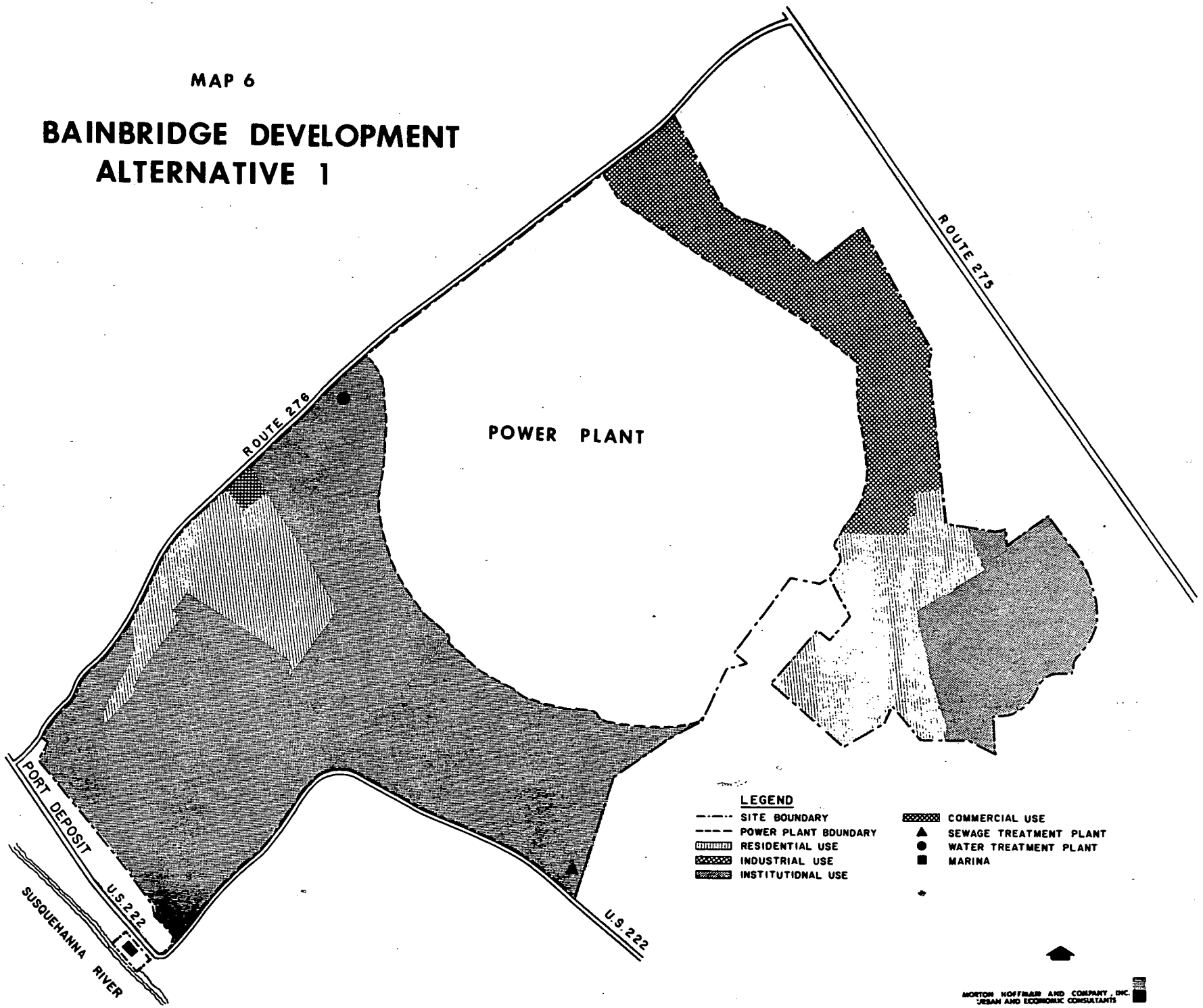
Land Use	DEVELOPMENT ALTERNATIVE I Acres[a]	I Per Cent	II Acres	II Per Cent	III Acres	III Per Cent
Fixed Area						
Power Plant	550	43.7%	550	43.7%	550	43.7%
Railroad and Transmission R.O.W., Off-Site Water Station	61	4.8	61	4.8	61	4.8
Subtotal	611	48.5%	611	48.5%	611	48.5%
Redevelopment Area						
Residential	118	9.4%	218	17.3%	0	--
Industrial	90	7.1	207	16.4	322	25.5%
Commercial	3	.2	7	.6	7	.6
Institutional/Recreational	372	29.5	151	11.9	254	20.1
Major Roads	67	5.3	67	5.3	67	5.3
Subtotal	650	51.5%	650	51.5%	650	51.5%
Total Acres	1,261	100.0%	1,261	100.0%	1,261	100.0%

a/ Net acres are shown for the Redevelopment Area.

Source: Estimated by Morton Hoffman and Company, Inc.

MAP 6

BAINBRIDGE DEVELOPMENT ALTERNATIVE 1



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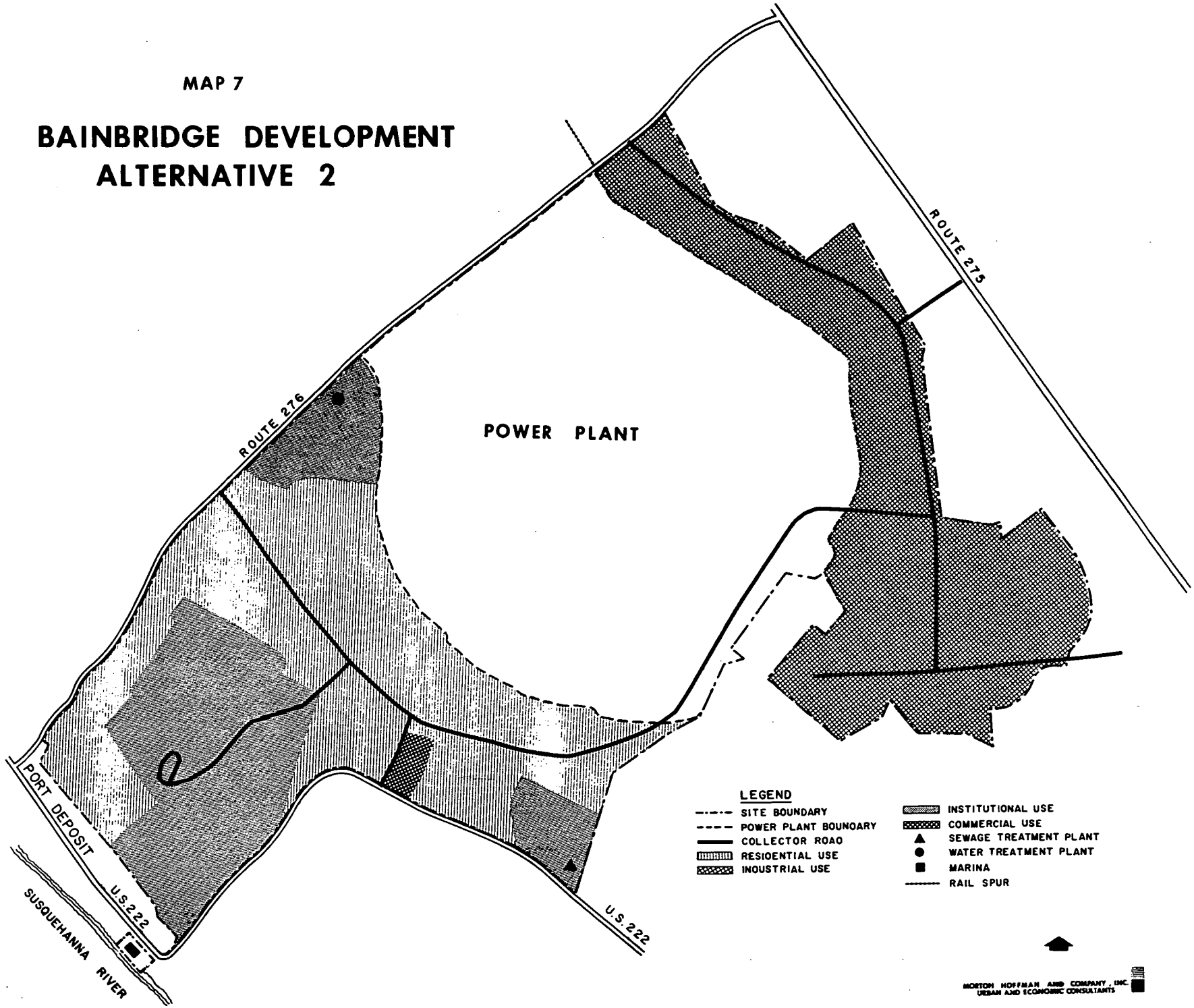
accommodate all potential occupants thus far identified for the site, including a private educational institution and/or the Cecil County Community College on the Naval Prep School site; water and sewer plants; University of Maryland Fire Fighters Training Center; County Health Department clinics, elementary school, and recreation areas; a marina and recreation area for Port Deposit residents; and facilities of private social welfare organizations. The amount of institutional space exceeds that identified to date by at least 50 acres. However, it could be used as a recreation reserve or reserve for special, presently unforeseeable, institutional facilities that might be required in the future, such as a medical center, camp program, or other public benefit use.

Alternative II devotes 432 acres, or 34.3 per cent of the Bainbridge site, to taxable uses (residential, commercial, and industrial), as opposed to only 211 acres, or 16.7 per cent of the site, under Alternative I. Industrial uses would occupy the entire area northeast of the power plant, and thus be separated from residential and institutional uses to the south. The area would employ about 1,400 workers. It includes 24 acres for light manufacturing, 116 acres for general manufacturing, and 67 acres for distribution firms, a total of 207 acres. This scheme assumes that the Wherry housing would be eventually demolished, most likely subsequent to the construction of the power plant; during the building of the plant, it could serve as a housing resource for construction workers.

Land for institutional and recreational use is reserved for only the most important public needs of the County and Port Deposit: about 114 acres generally covering the Naval Prep School site and marina which could be utilized for Port Deposit and County recreational needs, as well as one or more educational institutions; approximately 30 acres for the water and sewer plants; and a minimum elementary school site of some 10 acres. Most of the remainder of the land southwest of the power plant is designated for about 770 residential units at a density of 3.5 units per acre. Included in this area would be 350 single-family houses and 120 townhouses for sale and 300 rental units. These units represent the high levels of housing potential that analysis indicated could be captured at Bainbridge with accelerated development of employment facilities and intensive marketing.

MAP 7

BAINBRIDGE DEVELOPMENT ALTERNATIVE 2



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Alternative II also has an expanded commercial area of seven acres which would offer more variety and choice in goods and could possibly include a small supermarket and/or drug store. The commercial area is placed near the present entrance to the base. Improvement of Route 222, recommended for Alternative II to promote industrial and residential development of the site, will make a retail complex at Bainbridge more accessible from the surrounding area and, thus, allow development of larger shopping facilities than under Alternative I.

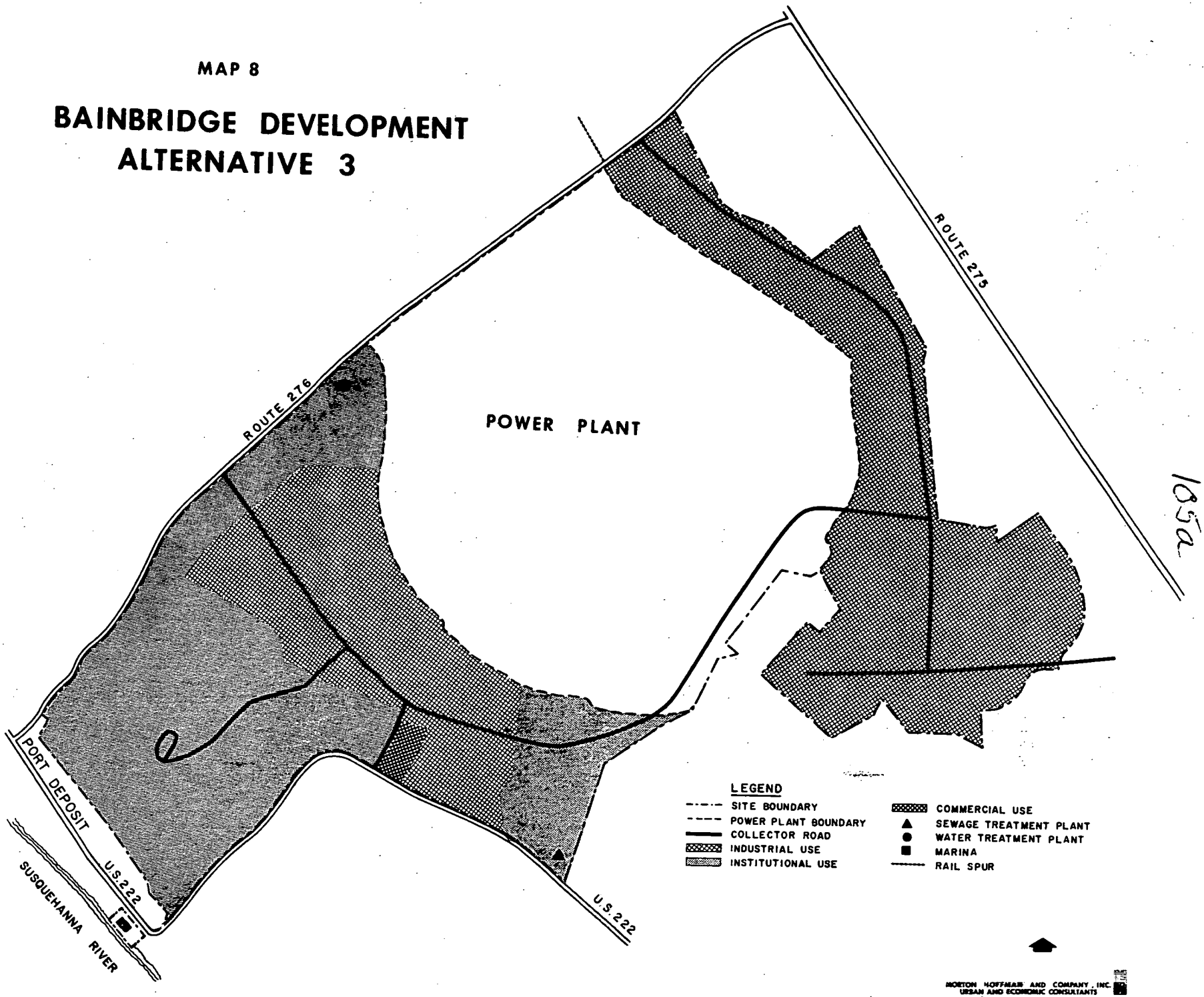
Alternative III increases industrial land absorption over both the previous options. The area for these employment facilities amounts to 322 acres, or 25.5 per cent of the Bainbridge site, consisting of 36,181, and 105 acres, respectively, for light manufacturing, general manufacturing, and distribution firms. It would offer jobs for some 2,170 workers. It represents three times the amount of land in Alternative I and 50 per cent more than under Alternative II. As in Alternative II, the entire northeast area of the site would be occupied by industrial firms, such as manufacturing, assembly, and distribution operations, many of which would require rail service from a rehabilitated Bainbridge line. Industrial use to the southwest would be of a character more compatible with nearby institutional land: research, light manufacturing, and the like. The 254 acres reserved for institutional and recreational purposes could encompass the bulk of public agencies identified as potential occupants of Bainbridge, with possible inclusion of facilities operated by private social welfare organizations.

D. TIMING OF DEVELOPMENT

As alluded to earlier, there are different assumptions for each alternative on the amount of time it would take to complete development of individual uses. These assumptions reflect the market capture rates for Bainbridge, shown previously in Table 30. as compared to land area allocations by use. The tabulation below summarizes timing assumptions by years and average annual development in acres. In reality, the amount of development may not be the same each year. For example, industrial marketing may start more slowly, with lower than average amounts of land sold or leased and developed initially. Accelerated development would likely occur once some initial facilities are on site and a marketing program begins to operate in high gear. However, the figures do give a reasonable idea of the pace of development.

MAP 8

BAINBRIDGE DEVELOPMENT ALTERNATIVE 3



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URBAN AND ECONOMIC CONSULTANTS

	Alternative I		Alternative II		Alternative III	
	Full Development Period in Years	Average Annual Acres of Development	Full Development Period in Years	Average Annual Acres of Development	Full Development Period in Years	Average Annual Acres of Development
Residential	10	11.7	10	21.8	--	--
Industrial	10	9.0	15	13.8	20	16.1
Commercial	10	0.5	10	0.7	10	0.7
Institutional	20	19.6	10	17.1	15	18.3

Alternative I conforms to the market projections for a minimum capture of development on the Bainbridge site. An extended period, however, is shown for institutional uses because the extensive amount of land programmed exceeds present estimates of need; reserve sites may be held for open space, with some possible recreation use, which would be converted to more active institutional use over the next 20 years.

Alternative II is consistent with market projections for a high level of development on the Bainbridge site over an 11-year period. Since industrial land allocations slightly exceed growth forecasts over the next 11 years, a 15-year development period is conservatively targeted for that use.

Alternative III assumes the high range of industrial development estimated for Bainbridge over an 11-year period (180 acres, or 16.4 acres per year) can be maintained thereafter, so that over 20 years, approximately 322 acres could be put into productive use. Full development of institutional and recreational facilities is conservatively estimated to take 15 years, although, on the basis of identified needs, the development period could be somewhat less.

E. DEVELOPMENT ACTIVITIES AND COSTS

In order to convert Bainbridge from a military base with existing buildings, roads, and related facilities that may not be properly suited to future needs, a number of predevelopment activities will have to be undertaken primarily by the County and/or state to make

the site attractive and marketable to potential occupants. These include demolition of unsafe and/or obsolete structures, relocation of the present water plant now adjacent to the likely power plant location and construction of roads to provide adequate access to development parcels on each site. The nature of these predevelopment activities varies with each alternative because of (1) the specific types of actions required to achieve disposition of the land to public or private users and (2) the requirements of the different land users under each alternative.

This section describes the assumptions for each alternative of activities that will have to be undertaken, along with Cecil County's role and responsibilities in carrying them out. It further estimates the timing and cost of these activities and indicates, on a preliminary basis, potential sources of funding. These estimates are one element that must be considered in evaluating the costs and benefits of each alternative.

For Alternative I, only a minimum of predevelopment activities is envisioned in order to market the site to private users. These include:

1. Demolition of approximately 95 per cent of the buildings on the site, exclusive of the power plant, Wherry housing, and Naval Prep School areas. Approximately 190 buildings would have to be demolished under this alternative. Furthermore, the debris would have to be disposed of or, as is assumed here, buried on site, possibly in the power plant buffer area. Buildings to remain might include certain of those in relatively good condition and suitable for reuse, such as a recreation hall on the northwest side of the site near the power plant area boundary, the officers' club and officers' housing.

2. Relocation of the water treatment plant to an area near Route 276 just southwest of the power plant area boundaries along the present raw water line. This plant would include capacity for Port Deposit of approximately 500,000 gallons per day plus capacity for on-site users.

3. Installation of a basic water distribution network, utilizing existing lines where applicable, but with adjustments due to the relocation of the water treatment plant.

4. Upgrading of the present on-site sewage treatment plant to meet State of Maryland Water Resources Department regulations that require effluent to be safe for shellfish harvesting in the Susquehanna River and improving existing collector lines to insure adequate capacity for on-site users.

In addition, it is also anticipated under this alternative that an extensive area--50 to 80 acres--might be devoted to recreation and open space uses, at least on an interim basis. This would require the installation of facilities for active recreation--ball fields, play equipment, and related facilities--as well as the provision of paths, fencing and minor landscaping.

The four categories of improvements cited above for this alternative are viewed as the minimum basic activities that the public sector must undertake to allow disposition of the land to public benefit uses and to private industrial, residential and commercial developers. Site occupants would have to undertake specific improvements for their development areas, such as road construction, grading, installation of sewer and water lines to service industrial buildings, and construction of housing, stores, and industrial plants.

It is likely under this alternative that large blocks of land would be disposed of to private entrepreneurs who would install site improvements and develop land themselves or sell or lease parcels to industrial or residential developers.

In Alternatives II and III, it is expected that public entities could take a more active role in providing both on-site and off-site improvements to speed the pace of land absorption by the private market, particularly in the case of industrial development. It is also envisioned that the County might form a local development corporation to prepare and market industrial sites, thus exercising control over selection of industry for the Bainbridge site. In addition to the predevelopment activities cited for Alternative I, the following would be undertaken:

1. Widening and upgrading of Route 222 from the I-95 interchange to the main Bainbridge gate to provide improved access for industrial trucking, employees, and other site users.

2. Rehabilitation of the 2.9 miles of rail spur connecting the Bainbridge site to the Octoraro line of the Penn Central system and installation of rail sidings to lot lines of a portion of industrial area northeast of the power plant site. The sidings would service up to 185 to 230 acres of industrial land under Alternatives II and III, respectively; this would include the area considered marketable for manufacturing, and distribution industries requiring rail usage.

3. Demolition of Wherry housing.

4. Construction of a collector road system providing basic circulation throughout the tract to facilitate access to, and allow disposition of, individual development sites to public benefit uses and private entrepreneurs.

5. Installation of storm drainage improvements along the collector road system.

6. Grading of industrial sites to facilitate marketing.

Recreation and open space improvements would probably be undertaken for a more limited site area of 10 to 20 acres.

In order to compare the improvements among alternatives, costs were estimated by the engineering firm of Frederick Ward Associates, Inc., based on (1) schematic locations of the proposed collector road system, sewer and water plants, and potential land uses (see Maps 6 through 8) and (2) estimates supplied by the consultant of potential maximum employment and population associated with each land use.1/

1/ Memoranda to Morton Hoffman and Company, Inc., dated December 12 and December 17, 1974, from Frederick Ward Associates detailing the basis of cost calculations have been transmitted to the Maryland Department of Economic and Community Development and Cecil County Economic Development Coordinator.

Detailed planning would be required to fix more certainly the capacity and location of specific improvements in order to derive accurate costs; therefore, estimates reflected in this report must be regarded as highly provisional. However, the estimates do indicate the order of magnitude of expenditures among alternatives, and the use of consistent assumptions for the alternatives allows comparisons to be made for purposes of evaluating the three development approaches.

As shown in Table 32, capital costs for the physical improvements described could range from $6.85 million for Alternative I to $16.22 million under Alternative III. Alternative II capital costs, at $14.75 million, nearly reach those of Alternative III. The major cost items for all alternatives include: demolition expenses, upgrading of the sewage treatment plant, and relocation of the water treatment plant and installation of the water distribution network. The construction of the collector road system and the rail spur and sidings are significant costs added under Alternatives II and III.

In addition to capital costs, associated expenditures will include those for administration, promotion, and maintenance. It is expected that the County will obtain title to public benefit land to be used by its departments, and that the County or a local development corporation formed under County auspices will obtain title to land to be marketed to private users. Annual costs of personnel to management predevelopment activities, for legal, engineering and similar services, and for related administrative items, are estimated at 6 per cent of capital costs according to standard practices for large development projects, for example, the Department of Housing and Urban Development's New Communities Program. Costs to market land are estimated on the basis of $1,000 per industrial acre annually, for use of special brokerage and marketing services. An additional $100,000 is allocated in the initial year for staff and special advertising campaigns and brochures for Alternatives II and III, with $50,000 per year thereafter. The Department of Defense may assist in maintaining land in initial years, and only a minimum cost of $100 per acre is assigned for personnel and equipment for securing buildings that would be reused, for perimeter security, and for basic maintenance activities such as cutting grass, removing debris, etc.

TABLE 32

TOTAL IMPLEMENTATION COSTS
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

Item	DEVELOPMENT ALTERNATIVE I Amount	I Per Cent	II Amount	II Per Cent	III Amount	III Per Cent
Route 222 Improvements	-	-	$ 600,000	(4.1%)	$ 600,000	(3.7%)
Collector Road System	-	-	2,400,000	(16.3)	2,400,000	(14.8)
Rail Spur	-	-	2,030,000	(13.7)	2,030,000	(12.5)
Rail Sidings	-	-	645,000	(4.4)	1,540,000	(9.5)
Water Treatment Plant	$ 700,000	(10.2%)	800,000	(5.4)	700,000	(4.3)
Water Distribution System	790,000	(11.5)	810,000	(5.5)	795,000	(4.9)
Storm Drainage	-	-	600,000	(4.1)	600,000	(3.7)
Sewage Treatment Plant	2,000,000	(29.2)	2,000,000	(13.5)	2,000,000	(12.3)
Sewage Collector System	400,000	(5.9)	400,000	(2.7)	400,000	(2.5)
Demolition	2,420,000	(35.3)	3,035,000	(20.6)	$ 3,035,000	(18.7)
Grading	-	-	1,242,000	(8.4)	1,932,000	(11.9)
Recreation	540,000	(7.9)	190,000	(1.3)	190,000	(1.2)
		(100.0%)		(100.0%)		(100.0%)
Subtotal	$6,850,000	88.9%	$14,752,000	88.3%	$16,222,000	85.4%
Administration	$ 249,000	(29.1%)	$ 559,500	(28.8%)	$ 653,500	(23.6%)
Promotion	90,000	(10.5)	1,007,000	(51.7)	1,572,000	(56.6)
Maintenance	517,300	(60.4)	380,100	(19.5)	549,900	(19.8)
		(100.0%)		(100.0%)		(100.0%)
Subtotal	$ 856,300	11.1%	$ 1,946,600	11.7%	$ 2,775,400	14.6%
Total	$7,706,300	100.0%	$16,698,600	100.0%	$18,997,400	100.0%

Source: Estimated by Frederick Ward Associates, Inc., and Morton Hoffman and Company, Inc.

The costs shown on Table 32 were related to assumptions on the timing of development and installation of facilities. For example, marketing costs estimated on the basis of $1,000 per industrial acre would diminish over time as land went into development according to the absorption schedule presented earlier in tabular form in Section D. Similarly, administration costs were related to assumed annual development costs for the first year of development, for years 2 through 10, 11 through 15, and 16 through 20.

It was estimated that development costs would be incurred in the first year for the following improvements applicable to a particular alternative: Route 222 improvements, rehabilitation of the 2.9-mile rail spur, relocation of the water treatment plant, and upgrading of the sewage treatment plant. It was assumed that the following systems would be installed over the first 10 years of the development period: collector roads, storm drainage, and water and sewer lines. The pace of demolition, rail siding installation, grading, and recreation improvements would vary according to the projected absorption and development of land by time period.

It should be stressed that not all capital costs would have to be borne by Cecil County. It is reasonable to anticipate that Federal and state assistance could be obtained for selected site improvements. In order to compare likely costs to the County of each alternative, assumptions have been made about other sources of funding. It is considered probable that all or most costs of the Route 222 improvements would be paid by the State of Maryland under its highway program. Further, costs of relocating the water treatment plant and realigning water lines might be furnished by a private utility company since the location of a power plant would render the present treatment facility and water lines inoperable.[1/] It is believed also that a private utility might rehabilitate the rail spur to the Octoraro line if required for purposes of the power plant operation. This would be more likely in the case of a fossil fuel plant for which rail service might be needed to transfer waste materials. Alternatively, private rail companies now interested in renovating the Octoraro line might be induced to rehabilitate

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1/ The Department of Defense may also contribute to the costs of operating or relocating the plant since it has an agreement, with certain qualifications, to provide water to Port Deposit for an extended period of time. Legal implications of the agreement are currently being studied by state and Federal officials.

the rail spur if sufficient patronage could be demonstrated. For purposes of this analysis, it has been assumed that the County will not have to incur costs for the rail spur.

For all other site improvements and for administrative and promotion costs, it is possible to obtain 50 per cent funding from the Economic Development Administration under the Public Works and Economic Development Act of 1965, as amended. This act authorizes grants to localities for purposes of job development. Capital costs for upgrading facilities in order to attract industrial development are eligible for a Federal matching share.

If Federal, state, or utility company contributions could be obtained for improvements, as outlined above, County-incurred costs would be as follows:

Potential Implementation Costs to
Cecil County for Bainbridge Development

Alternative I	$3,376,880
Alternative II	$6,429,350
Alternative III	$7,721,150

These amounts compare to total improvement costs for Bainbridge predevelopment activities of $7.7, $16.7, and $19 million, respectively, for Alternatives I, II, and III.

In addition, other sources of funding might be obtained. For certain eligible Bainbridge improvements, Community Development monies authorized under the Housing and Community Development Act of 1974 could be utilized to substitute for, or to provide the local matching share for, EDA funds. Also, assistance might potentially be obtained through Maryland industrial development programs. Other sources of funding are discussed in the final chapter of this report.

CHAPTER VI

EVALUATION OF THE IMPACT OF ALTERNATIVE DEVELOPMENT STRATEGIES

The character and intensity of development anticipated under each of the three alternative development strategies proposed for Bainbridge will result in differing types and amounts of community benefits and costs. To facilitate the selection of a preferred development alternative, this chapter presents an analysis of the implications of carrying out each of the three alternative plans proposed, in terms of economic, social, and environmental factors.

Impacts resulting directly from on-site development are quantified for the following economic factors: on-site, County resident and net new County resident employment and payroll yields; County tax revenues; and County expenditures. Resultant costs and revenues to Cecil County are summarized for each development alternative.

Other factors, both quantifiable and non-quantifiable, are also considered in evaluating the alternatives. These include the relationship of each alternative to County goals, demographic impacts of Bainbridge development on the surrounding area, potential environmental impacts of the development, and secondary economic impacts on the County.

Following the discussion of direct on-site impacts, as well as secondary or off-site impacts, a benefit-cost ratio is presented, measuring the quantitative comparative benefits and costs to Cecil County of each development alternative.

A. EMPLOYMENT IMPLICATIONS

An important consideration in the development of the Bainbridge site is the creation of new employment opportunities. In 1970, the Naval Training Center provided almost 1,200 civilian jobs. By 1974, the number of civilian employees had dropped to approximately 800. About 200 of these employees are eligible for voluntary retirement, 25 to 30 for discontinued service or involuntary retirement, and 30 to 40 are expected to be transferred. Approximately 300 employees may be eligible for Department of Defense Placement Assistance when

their jobs are terminated. Another 225 workers, however, will receive no special government assistance when their jobs are eliminated. The number of new jobs created by redevelopment of the base to help offset this job loss thus is of critical importance in considering the development alternatives.

1. Total On-site Employment

The prospective total employment figures for each development alternative represent an aggregation of estimates of the number of jobs created by each proposed land use. The industrial employment projections are based on the number of industrial acres, probable site coverage by buildings, and number of employees per square foot of industrial space by type of industry anticipated. These estimates were made using data collected during the field survey of industrial parks and major industrial firms within the Bainbridge market area. Similarly, commercial employment is based upon market area trends in the number of square feet of space per employee. The number of institutional employees has been estimated based on the types of institutional/recreational uses that might potentially locate on the site.

The three alternative development plans proposed for the Bainbridge site differ greatly in the anticipated magnitude and type of on-site employment. The first alternative, emphasizing minimum County investment, is projected to create the fewest on-site jobs, approximately 830, as shown in Table 33. Of this total 640 would be industrial jobs--275 in general industry involving mainly the transformation of raw materials or substances into new products; 230 in light industry involving the processing and assembly of partially finished goods; and the remaining 135 in the wholesale distribution of goods. The 16,400 square feet of commercial space would require the equivalent of only 20 workers. The land devoted to institutional and recreational uses should yield employment for approximately 170 persons.

Alternative II, which focuses on residential and industrial uses, is anticipated to provide almost twice as many jobs as the first alternative. Of the total of 1,540 jobs, 1,395, or 90.6 per cent, would be in the industrial category. Approximately 845 of the industrial jobs would be with general manufacturing firms, 290 with distribution establishments, and the remaining 260 in

TABLE 33

TOTAL ON-SITE EMPLOYMENT BY TYPE
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

Employment Type	DEVELOPMENT ALTERNATIVE I Number of Employees	I Per Cent	II Number of Employees	II Per Cent	III Number of Employees	III Per Cent
Industrial	640	77.1% (100.0%)	1,395	90.6% (100.0%)	2,170	92.4% (100.0%)
General Manufacturing	275	(43.0)	845	(60.6)	1,315	(60.6)
Light Manufacturing	230	(35.9)	260	(18.6)	395	(18.2)
Distribution	135	(21.1)	290	(20.8)	460	(21.2)
Commercial	20	2.4	55	3.6	55	2.3
Institutional/Recreational	170	20.5	90	5.8	125	5.3
Total	830	100.0%	1,540	100.0%	2,350	100.0%

Source: Estimated by Morton Hoffman and Company, Inc.

light manufacturing. Employment in commercial establishments is expected to number 55 persons. Institutional uses, which are minimized under this alternative, would account for some 90 employees.

The last alternative, aimed at maximizing industrial and, to a lesser extent, institutional uses, is projected to generate the largest number of jobs--approximately 2,350. This figure represents nearly three times the number of civilian jobs currently on the base and almost double the peak civilian employment this decade. It is expected that this alternative would provide almost three times the number of jobs as Alternative I and over 50 per cent more than Alternative II. Approximately 2,170 of the 2,350 jobs created by the third alternative would be with industrial firms. General manufacturing, distribution, and light manufacturing firms would account for 1,315, 460 and 395 positions, respectively. Commercial employment is anticipated to number 55 persons, while 125 persons are estimated to be in the employ of various public and private agencies and institutions.

2. Employment by Skill Level

In the development of the Bainbridge site, it is not only the number of on-site jobs which is important, but also the type of employment. An expressed County goal has been the creation of jobs requiring a variety of skill levels, with emphasis on high-wage, male employment.

Utilizing 1970 Census of Population data, projected employment on the Bainbridge site under each of the three development alternatives was classified into the following categories: professional, skilled, semi-skilled, and unskilled. The professional category encompasses all professional, technical, and kindred workers, as well as managers and administrators. Skilled workers are craftsmen, foremen, and the like; while the semi-skilled classification includes equipment operators, sales clerks, clerical, and kindred workers. Finally, the unskilled category consists of nonfarm laborers and service workers, excluding private household employees.

For industrial workers, the proportion of the employed labor force by skill levels was determined for each major industry group, such as chemical and allied products, rubber and miscellaneous plastics products, and the like, utilizing the 1970 Census of Population.

This employment component was further analyzed and grouped according to the three industrial categories of light and general manufacturing and distribution, with an average percentage of workers by skill level calculated for each type of industry anticipated. It is asummed that all commercial workers will be sales clerks falling in the semi-skilled classification. The projected distribution of institutional employees among the four skill levels is based on identifiable employment practices.

As shown in Table 34, the distribution of skills varies little among the three development alternatives. All would require a majority of semi-skilled workers: 55.4 per cent under the first alternative compared with 54.2 and 53.4 per cent, respectively, under Alternatives II and III. The percentage of professional and skilled workers would be greatest under the third alternative--42.8 per cent, of whom 25.1 per cent would be in the professional category and 17.7 per cent would be skilled workers.

According to 1970 Census data, the percentage distribution of the employed County labor force by skill level was as follows:

Professional	22.2%
Skilled	20.9%
Semi-skilled	49.7%
Unskilled	7.2%

The skill levels required of new employees on the Bainbridge site under the alternative development plans do not differ greatly from the 1970 distribution of skill levels among County residents. However, all the development alternatives do call for slightly higher proportions of professional and semi-skilled workers than are in the County labor force. The requirements for professional and skilled positions are related to the general manufacturing component of industry.

3. Net New Resident Employment

The total employment figures represent the probable number of jobs that would be available on-site at the end of the respective development periods projected for each alternative. All these jobs will not be held by Cecil County residents, nor will all the jobs held by Cecil County residents represent net additions to the employed County labor force.

TABLE 34

TOTAL ON-SITE EMPLOYMENT
BY SKILL LEVEL
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

	Development Alternative					
	I		II		III	
Skill Level	Employees	Per Cent	Employees	Per Cent	Employees	Per Cent
Professional	185	22.3%	380	24.7%	590	25.1%
Skilled	150	18.1	270	17.5	415	17.7
Semi-skilled	460	55.4	835	54.2	1,255	53.4
Unskilled	35	4.2	55	3.6	90	3.8
Total	830	100.0%	1,540	100.0%	2,350	100.0%

Source: Estimated by Morton Hoffman and Company, Inc.

The estimated proportion of on-site jobs that would be held by Cecil County residents is based upon data gathered in a field survey of major firms within the market area. The field survey revealed that employees with higher skill levels were much more likely to commute longer distances than those with lower skill levels. Non-County residents hold a greater proportion of County professional and highly skilled jobs than they do lower skilled positions. Accordingly, it is anticipated that County residents would hold approximately half the total on-site professional and skilled positions and about two-thirds of the semi-skilled and unskilled jobs at Bainbridge. Numerically, Alternative I is expected to generate 500 jobs for County residents, compared with 920 and 1,400 under Alternatives II and III, respectively, as shown in Table 35.

The opportunity for employment on the Bainbridge site is expected to attract several categories of County residents: those who currently commute outside the County to work but would work in the County if suitable jobs were available; underemployed residents who would switch from low-paying or seasonal and part-time positions; residents not now in the labor force; and those who are unemployed at present.

Based on a 1972 survey of the County labor potential, it is estimated that approximately 46 per cent of the on-site jobs held by County residents would go to persons who formerly commuted to jobs outside the County.[1/] The remaining 54 per cent of the jobs are assumed to represent net new jobs for residents. (Although approximately 20 per cent of these net new jobs for residents would be held by formerly underemployed County residents, it is assumed that their old positions would be filled by other County residents; therefore, the formerly underemployed residents are included in the net new employment figures.) Net new jobs for County residents would therefore range from 270 under Alternative I to 760 under Alternative III.

In summary, the three proposed development alternatives are expected to create a total of 830 to 2,350 on-site jobs, 500 to 1,400 of which would be held by County residents. According to Census data, approximately 6,000 persons, or 30 per cent of the employed civilian labor force, commuted to jobs outside the County in 1970. The resident employment opportunities created at Bainbridge

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1/ Division of Business and Industrial Development, Maryland Department of Economic and Community Development, Estimated Cecil County Labor Potential, 1972.

TABLE 35

EMPLOYMENT GENERATION
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

Item	DEVELOPMENT ALTERNATIVE I	II	III
Total On-Site Employment	830	1,540	2,350
Non-County Residents Employed	330	620	950
Cecil County Residents Employed	500	920	1,400
Former Out-Commuters	230	420	640
Net New County Residents Employed	270	500	760

Source: Estimated by Morton Hoffman and Company, Inc.

could reduce this out-commutation by 230 to 640 persons, or 5 to 12 per cent.

In addition, the 270 to 760 net new jobs created for County residents would help to alleviate County unemployment and underemployment, as well as provide jobs for recent County graduates who would otherwise be forced to find jobs in other areas. Based on past County unemployment, underemployment, and new labor force entrants, it is estimated that development of the Bainbridge site would provide jobs for 5 to 15 per cent of the unemployed, 4 to 10 per cent of the underemployed, and 5 to 14 per cent of the persons entering the civilian labor force.[1/]

B. PAYROLL IMPLICATIONS

An important outcome of Bainbridge's redevelopment would be the injection of new payroll dollars into the area, which would contribute to the economic well-being of the County. Projections of the gross annual payroll under each development alternative were obtained by multiplying the number of jobs anticipated at each of the four skill levels by the average wages paid to individuals at these skill levels in the area. To determine the average annual wages for each skill level, data were gathered and analyzed by industry groups for the Wilmington metropolitan area as of 1969, with adjustments made to 1974, using Bureau of Labor Statistics data.

It is estimated that the wages of professional workers averaged $14,500 in constant 1974 dollars, compared with $10,900 for skilled workers, $8,600 for semi-skilled workers, and $7,100 for unskilled workers. Utilizing these averages and the projections in the preceding section of the number of jobs which would be available at each skill level, the gross annual on-site payroll would range from $8.5 million under Alternative I to $24.5 million under Alternative III. The second alternative is anticipated to generage $16 million, as presented in Table 36.

Of the total projected on-site payroll yield under each development alternative, it is anticipated that jobs held by County residents, as quantified in the previous section, would account for approximately $5 million under the first alternative, $9.3 million

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1/ Data on unemployed, underemployed and potential new labor force entrants provided by Division of Business and Industrial Development, Maryland Department of Economic and Community Development.

TABLE 36

ANNUAL PAYROLL GENERATION
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

Factor	DEVELOPMENT ALTERNATIVE I	II	III
On-Site Payroll	$8,522,000	$16,024,500	$24,510,500
County Resident Payroll	5,014,500	9,283,500	14,173,500
Net New County Resident Payroll	$2,686,500	$ 5,025,000	$ 7,692,000

Source: Estimated by Morton Hoffman and Company, Inc.

under the second alternative, and $14.2 million under the final development alternative. The net addition to the income of County residents is estimated to range from $2.7 million under Alternative I to $7.7 million under Alternative III, with Alternative II generating approximately $5 million. These amounts represent a 5 to 14 per cent increase in taxable wages within the County.

C. ON-SITE RESIDENTS AND INSTITUTIONAL POPULATION

In assessing the costs of County operating services for each alternative, significant factors are the number of people who will reside in housing on the site, as well as the number of additional public school pupils. In addition, the daytime and resident institutional population must be taken into consideration. Off-site population associated with the various development alternatives will be discussed later in this chapter.

1. Residents and School Children

Projections of the number of full-time residents and school children were obtained by multiplying the number of dwelling units of each type proposed (single-family, townhouse, and apartment) by the number of persons and school children anticipated to live in each type of unit. The following per unit population and school child yield factors were utilized, based on field surveys of residential units in the Bainbridge area, interviews with officials of the County Board of Education, and a review of regional and national data in the consultant's file:

Unit Type	Total Residents Per Unit	School Children Per Unit
Single-family detached	4.0	1.00
Townhouse	3.5	0.50
Apartment	2.5	0.25

It is estimated that the 505 housing units envisioned under development Alternative I would result in a residential population of 1,475, including 225 public school pupils. Alternative II calls for a total of 770 units on the site, anticipated to account for a residential population 2,570, including 485 school children. No

residential units are proposed under Alternative III. The population increments under Alternative I or II are small when compared with the 1970 naval base population of 5,257 and the approximately 850 public school pupils. The following tabulation summarizes the estimated resident population and school child yield under each development alternative:

	Development Alternative		
	I	II	III
Resident Population	1,475	2,570	0
Public School Pupils	225	485	0

2. Institutional Population

Only preliminary estimates can be made of the prospective resident and daytime institutional population under each development alternative, because the County is continuing to explore various institutional users. Based upon current prospects, it is assumed that approximately 125 acres of institutional development on the Naval Prep School and elementary school sites will contain an institutional population of 1,000, consisting of a full-time resident population of 350 and a daytime population of 650. For analytic purposes, an additional daytime institutional population of 5 persons per acre for each acre in excess of 125 is projected. Utilizing these figures, the institutional population under the three development alternatives would be as follows:

	Development Alternative		
	I	II	III
Institutional Population	2,555	1,325	1,900

D. DIRECT FISCAL IMPLICATIONS

The type and amount of tax revenues and County expenditures directly attributable to on-site development under each of the alternatives are significant factors in determining the appropriateness of public involvement in the development process, as well as in selecting a preferred development alternative. In the following paragraphs, prospective Cecil County revenues and expenditures created by on-site development are itemized. The fiscal

implications of secondary off-site development impacts created by implementation of the alternatives are discussed in a subsequent section of this chapter.

1. County Revenues

Direct tax revenues accruing to the County as a result of development of Bainbridge include real property taxes, income tax surcharges, and miscellaneous one-time taxes and fees.

a. Real Property Tax

Real property taxes on the land and facilities to be constructed on the Bainbridge site would constitute the largest source of tax revenue for Cecil County. The market value of taxable real property on the Bainbridge site was derived from a review of the selling price and rental and lease rates charged for various uses within Cecil County. Residential values are based on a survey of the price of new sales and rental housing within the County. The market value of commercial space represents the capitalized value of facilities based on the lease rates charged for new commercial space. Industrial values are derived from the sales price and lease rates charged for recently developed industrial space.1/ The market value of taxable real property on the redeveloped Bainbridge tract would range from $15.8 to $36.1 million in constant 1974 dollars, depending upon which development alternative is selected. The real property value for institutional uses is not calculated because these uses are assumed to be tax exempt.

Under Alternative I, which seeks minimum private market investment, the real estate would be valued at approximately $15.8 million upon completion of development. It is estimated that the 90 net industrial acres would have a value of $5.5 million; the 505 housing units, $9.8 million; and the 16,400 square feet of commercial space, approximately $.5 million in constant 1974 dollars.

1/ Based on comparative sales data, single-family homes are assumed to sell for $42,500 in fee, townhouses $25,000 in fee. Market value for apartments is based upon a gross income multiplier of 6.67, with market rents ranging from $135 to $165 per month. Commercial values are derived from an average rental of $3.15 per square foot per year and an 11 per cent capitalization rate. Industrial values are derived from an average annual net per square foot lease value ranging from $1.30 to $1.50 and an 11 per cent capitalization rate. All figures are in constant 1974 dollars.

The value of taxable real property would be highest--$36.1 million--under Alternative II, which devotes the largest amount of land to residential and industrial development. The large number (350) of single-family homes designed for moderate- and upper-income households, together with 420 new rental and town-house units, would have a market value in excess of $21.8 million. It is estimated that the 207 net industrial acres would be valued at almost $13.1 million and the 40,500 square feet of commercial space at $1.2 million.

Alternative III, with industrial and institutional uses predominating, is expected to achieve a market value of $21.5 million upon completion. The 322 acres of net developed industrial land would account for $20.3 million, or almost 94.4 per cent of the total value, under this alternative. Commercial space, the same amount as under the second alternative, would be valued at $1.2 million.

For tax purposes in Maryland, property is assessed at 50 per cent of its fair market value. Utilizing the 1974 County tax rate of $2.50 per $100 and including the $.11 of the $.21 per $100 of assessed valuation that the state collects and returns to the County, the real property taxes generated by each alternative upon completion of development would be as follows, in constant 1974 dollars:

	Development Alternative		
	I	II	III
Real Property Tax	$214,500	$489,200	$291,600

As shown, the highest annual property tax yield would be generated by the second alternative which emphasizes private market uses. Under this alternative, property values would be $15.8 to $20.3 million more than under the other two alternatives.

b. Income Tax Surcharge

In Maryland, an important source of revenue for political subdivisions is the surtax on the state income tax.

The current state income tax rate is 2 per cent of the first $1,000 of taxable income, 3 per cent of the second $1,000 of taxable

income, and 5 per cent of all taxable income in excess of $3,000. Cecil County, like most political subdivisions of the state, levies a 50 per cent surcharge on the total income taxes payable to the state. At this rate, the County tax amounts to $45 on the first $3,000 of taxable income and 2.5 per cent of all taxable income in excess of $3,000. The Cecil County surcharge yield from redevelopment of the Bainbridge site would be derived from two components: (1) employees who also live in Cecil County; and (2) occupants of housing on the site.

Projections of County surtax revenues attributable to on-site employees under each of the three alternative development plans rely upon the previously presented estimates of net new employment and payroll yields by skill level ($14,500 for professional workers, $10,900 for skilled workers, $8,600 for semi-skilled workers, and $7,100 for unskilled workers). Moreover, it is assumed that each employee would derive all income from wages and salaries and have an average of 3.5 dependents, with tax deductions averaging 15 per cent of gross annual income. Applying the tax rates presented above, the average annual County income tax surcharge collected would be $210 per professional worker, $130 per skilled worker, $85 per semi-skilled worker, and $50 per unskilled employee.

For analytical purposes of this study, all occupants of housing prepared for the Bainbridge site are assumed to represent a net increase in County population. This hypothesis means that persons residing on the site are inmigrants to the County or, if they formerly lived within the County, their move from one portion of the County to the site initiated a chain of household moves (a "housing filtering process") that eventually resulted in an actual net increase in County population.

To avoid double counting of residents who also are included in the net new employment figures, downward adjustments in site occupants were made based upon the probable income levels of prospective residents and payroll levels for the net new jobs. The taxable income of the remaining residents was determined by assuming gross income to be a multiple of sales price or annual rent; the number of dependents figuring in deductions was related to each unit type. It was further assumed that itemized deductions would average 15 per cent for renters and 20 per cent for homeowners, who can subtract property taxes and mortgage interest from their gross incomes. It is projected

that the County would realize surcharge revenues averaging $315 from occupants of each single-family home; $150 per townhouse; $130 per garden apartment; and $90 from each rehabilitated Wherry housing unit under Alternative I.

Accordingly, Alternative I would generate approximately $91,000 in income tax surcharge revenue for Cecil County. About one-fourth would be derived from residents of Cecil County working in the industrial plants on-site. Two-thirds of the yield would be derived from the remaining on-site residents, with the rest attributable to Cecil County residents employed by the institutional and commercial establishments located on the former base.

The County income tax surcharge revenue would be greatest--$184,900--under Alternative II. The residents of the new on-site rental and sales housing would account for approximately 69 per cent of this amount, or $127,400 annually. Other Cecil County residents employed by industrial plants on-site would pay a total of some $52,600 in annual income tax surcharges. The remaining $4,900 would come from Cecil County residents employed by on-site institutions and commercial firms.

Alternative III, under which no residential development is proposed, would yield the smallest amount in annual County income tax surcharge revenue--$87,600. Incorporated in this figure, however, is $80,500 per year from industrial employees--the highest amount from this source among all the alternatives.

In summary, yearly income tax surcharge yields to the County would range from $87,600 to $184,900 under the three alternative development proposals, with Alternative II, the residential-industrial alternative, generating significantly more such tax revenue than the other two, as shown in the following tabulation:

	Development Alternative		
	I	II	III
Income Tax Surcharge Revenue	$91,000	$184,900	$87,600

c. Miscellaneous Tax Revenues

In addition to property tax and income tax surcharge revenues that the County would receive on an annual basis, there are

certain one-time taxes and fees that would accrue to the County as a result of redevelopment of the base. These consist of building permit, plumbing permit, and other fees, as well as recordation taxes. Cecil County currently charges 1½¢ per square foot for building permits. A review of Cecil County fiscal records revealed that other building fees, primarily consisting of fees for plumbing permits, usually amount to approximately two-thirds of the building permit fee, or about 1¢ per square foot. Recordation taxes in Cecil County are applied at a rate that amounts to about .44 per cent of the market value. On the basis of these amounts, the following revenues would accrue to the County on a one-time basis under each development alternative:

	Development Alternative		
	I	II	III
One-time Tax and Fee Revenues	$89,400	$215,700	$139,700

Alternative II, with its emphasis on significant residential as well as industrial reuse, would result in the most intensive and valuable redevelopment and thus generate the highest one-time County revenues. Approximately 60 per cent of the one-time revenue yielded under Alternative II is attributable to residential development. Under the third alternative, which incorporates no residential reuse, almost all one-time revenues would be derived from industrial users. Alternative I would provide the lowest intensity and market value of development and, hence, produce the least in one-time County tax and fee revenues.

2. County Expenditures

The two types of County expenditures associated with the redevelopment of the Bainbridge Naval Training Station--annual operating costs and one-time capital costs--are discussed separately. Then a summary is presented of the overall cost implications related to the specific types of development proposed under each alternative.

a. Operating Costs

County operating costs are incurred for three major categories of uses: (1) overall residents, (2) nonresidential users, and (3) school children. Ideally, then, operating costs should be

allocated to various types of development based upon the cost of County services rendered and the cost of maintaining the service capability. Unfortunately, data are not available on the past or current costs of providing County services to various types of development. It, therefore, is hypothesized that County service expenditures constitute services to people and that they can be allocated on the basis of population and/or employment, as explained in the first section below.

(1) Methodologies for Allocating Operating Costs

It is assumed that, for many services, the percentage of County costs attributable to residential uses can be determined by dividing County population--54,200--by the sum of both County population and total at place employment (54,200 residents plus 9,300 employees).[1/] The percentage thus determined--85.4--represents the proportion of most County costs that are expended for selected services to residents. The remaining 14.6 per cent of County operating costs is assumed to be expended on services to nonresidential users.

This approximation method for the allocation of costs, of course, does not hold for every service provided by Cecil County. Waste removal, health, hospital, welfare, correction, recreation, and public service establishments are allocated completely to residential uses. The remaining County services--general government, public safety, highways, and others--however, are assigned to residential and nonresidential uses based on the 85 per cent/15 per cent allocation methodology.

Utilizing this allocation procedure for the fiscal 1974 County budget, per capita residential operating expenses equaled $49.17 and per-employee nonresidential operating expenses, $30.11, as shown in Table 37.

The per capita residential operating cost of $49.17, however, must be adjusted downward to take into account certain Federal and state transfers, which are allocated to the County primarily on the basis of population. Based upon the 1974 Cecil County fiscal year budget and excluding Federal revenue sharing for which funding levels have varied greatly, selected transfer grants and funds amounted to $9.22 per capita. When these transfer are subtracted

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1/ (54,200) ÷ (54,200 + 9,300) = .854
At-place employment includes people working in the County covered by the Federal Insurance Contributions Act, plus workers not covered by the act derived through a standard adjustment factor used by the U. S. Department of Health, Education and Welfare Office of Research and Statistics.

TABLE 37

PER CAPITA AND PER EMPLOYEE
NONEDUCATIONAL OPERATING EXPENDITURES
CECIL COUNTY
FISCAL 1974

Expense Item	Total Expenditures	Residential Expenditures		Nonresidential Expenditures	
		Amount	Per Capita[a]	Amount	Per Employee[b]
General Government	$ 683,000	$ 583,000	$10.76	$ 100,000	$10.75
Public Safety	204,000	174,000	3.21	30,000	3.23
Highway	792,000	676,000	12.47	116,000	12.47
Waste Removal	174,000	174,000	3.21	--	--
Health Conservation	325,000	325,000	6.00	--	--
Hospitals	7,000	7,000	.13	--	--
Public Welfare	186,000	186,000	3.43	--	--
Correction	212,000	212,000	3.91	--	--
Recreation	83,000	83,000	1.53	--	--
Public Service Establishment	44,000	44,000	.81	--	--
Miscellaneous	235,000	201,000	3.71	34,000	3.66
Total	$2,945,000	$2,665,000	$49.17	$ 280,000	$30.11

a/ Estimated 1974 population--54,200.
b/ Estimated total 1974 at place employment--9,300

Source: Compiled by Morton Hoffman and Company, Inc., based on fiscal year 1974 Cecil County Budget.

from overall per capita County costs of $49.17, net County per capita residential operating costs amounted to $39.95 in fiscal 1974.

In a similar manner, the total County educational expenditure per pupil was $907.78. Federal and state contributions, however, accounted for $477.41 per pupil, leaving an actual net cost to the County of $430.37 per pupil.

These operating costs, rounded to the nearest $10, are summarized in the tabulation below:

Factor	Per Unit Operating Costs
Nonresidential-related County costs	$30 per employee
Residential-related noneducational costs	$40 per capita
Residential-related educational costs	$430 per student

(2) Operating Costs under Development Alternatives

County operating costs resulting from the redevelopment of the naval base are measured by multiplying the previously developed per capita, per employee, and per student costs factors by estimates of on-site population, employment, and school children.

Alternative I is projected to result in 1,475 residents living on the site of the former base. As described previously, 225 of these residents would be school children attending County public schools. Preliminary estimates also indicate a full-time institutional population of 350 and a daytime institutional population as large as 2,205. On-site employment is expected to total 830. Based upon these overall population and employment figures, annual operating costs to the County are projected to total $260,900, with educational costs equaling another $96,800 per year.

Under the second alternative, the site would contain the most residents--2,570--and the most school children--485--resulting in

the highest annual County costs of $401,000. For the projected 485 school children, Cecil County would incur expenditures of $208,600. The 2,570 permanent residents, the 350 institutional residents, the 975 daytime institutional population, and the 1,540 on-site employees would require annual noneducational costs of $192,400. Alternative III provides for no residnetial development and thus no public school pupils. The 2,350 on-site employees and institutional population of 1,900 would require annual County operating costs of approximately $131,100. Owing to the lack of educational expenditures and on-site residential services, this alternative would have least impact on annual County operating costs.

In summary, annual operating costs to the County as a result of redevelopment would range from $131,100 to $401,000. The highest annual costs would be generated by the alternative emphasizing residential-industrial development and the lowest annual cost generated by the alternative excluding residential development and emphasizing industrial-institutional development, as shown in the following tabulation. It should be noted that these figures include operating expenditures attributable to on-site development only. Costs associated with related development created off the Bainbridge site are discussed later in this chapter.

	Development Alternative		
	I	II	III
Annual Operating Costs	$260,900	$401,000	$131,100

b. Capital Costs

As presented previously, total development costs could range from $7.7 to $19 million. Based on preliminary estimates of the absorption rates under each of the three development alternatives and the ability of a government entity to finance these improvements with long-term, low interest tax exempt bonds (6 per cent interest, 40-year term), the annual cost to any public body undertaking all of this development would be as follows:

	Development Alternative		
	I	II	III
Total Annual Capital Costs	$370,000	$811,900	$841,500

It is unlikely, however, that all development costs would have to be borne by the County. As explained earlier, it can be assumed for purposes of this analysis that the state, the utility developing the power plant, and/or other sources would pay the costs of the requisite off-site road and rail improvements, as well as the relocated water treatment plant and water distribution system. Moreover, the Economic Development Administration or other sources could potentially provide grants to cover 50 per cent of the remaining capital facilities. This financial assistance would reduce the cost of capital facilities from $7.7 to $19 million to $3.4 to $7.7 million.

The average annual County expenditures necessary to support long-term financing of such phased development, therefore, probably would be as follows:

	Development Alternative		
	I	II	III
Probable Annual Capital Costs to County	$155,200	$283,000	$304,000

As shown above, under Alternative I, which emphasizes minimal public investment, the County is likely to incur only about half the annual capital costs as under the other two alternatives.

3. Direct Fiscal Implication Summary

Given the estimates of annual revenues and expenditures (exclusive of capital costs) presented above for the alternatives, it is projected that redevelopment of the Bainbridge Naval Training Center site would result in an annual County operating fiscal surplus of $44,600 to $289,700, as presented in Table 38.

Under Alternative I, with annual revenues of $305,500 and annual operating costs of $260,900, an annual fiscal surplus of $44,600 in operating revenues is projected, the lowest of the three alternatives. A revenue/cost ratio is also shown on Table 38, and depicted on Chart 1; it measures the relationship of revenue surplus to operating costs. For this alternative, the ratio is 1.171, which means that the County would receive $1.17 in operating revenues for every $1.00 of operating expenditures.

TABLE 38

ANNUAL FISCAL IMPACT ON COUNTY
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

Factor	DEVELOPMENT ALTERNATIVE I	II	III
County Revenues	$305,500	$690,700	$395,700
County Operating Costs	260,900	401,000	131,100
Fiscal Surplus	$ 44,600	$289,700	$264,600
Revenue/Cost Ratio	1.171	1.722	3.018

Source: Estimated by Morton Hoffman and Company, Inc.

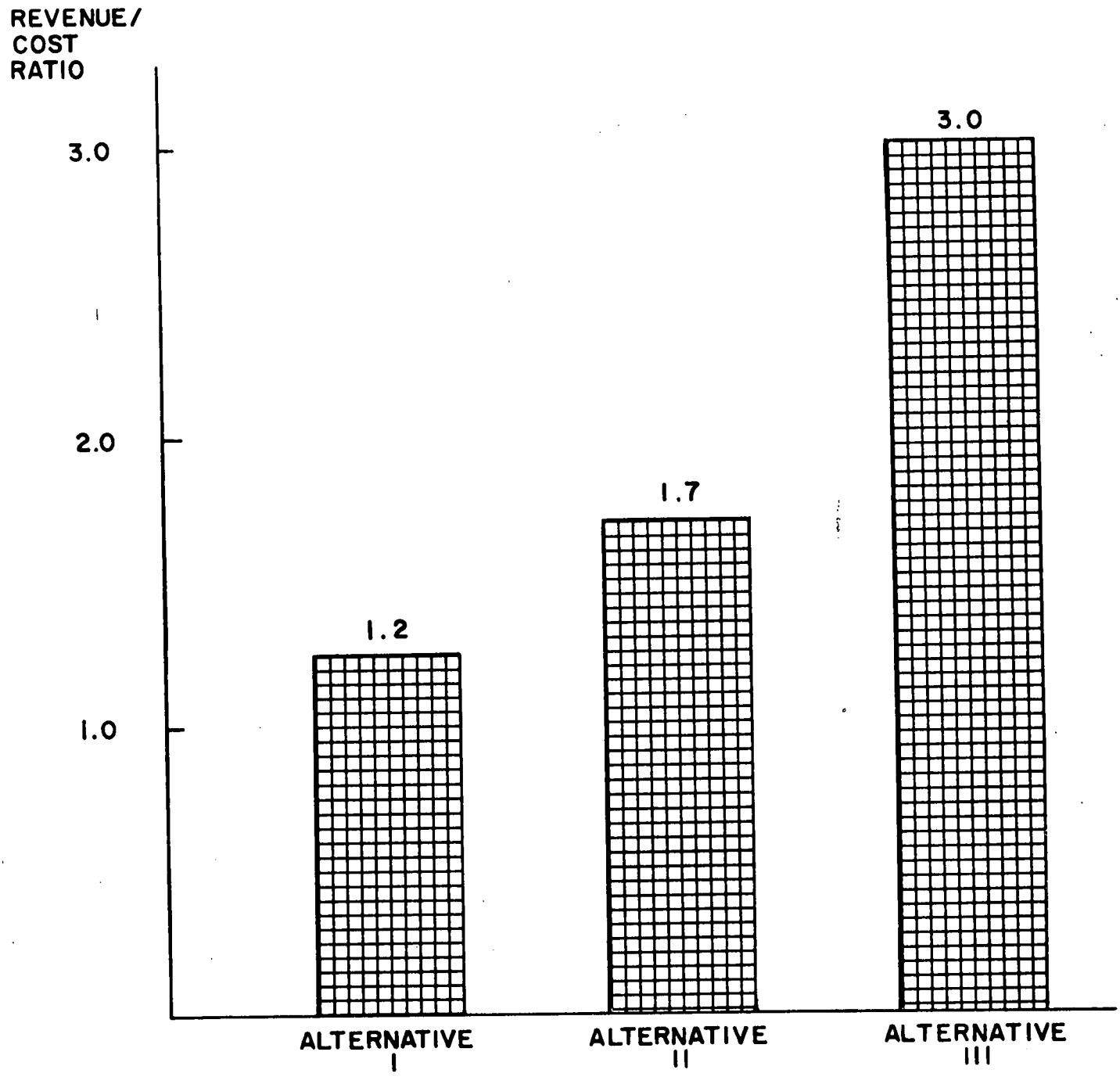
136a

CHART I

REVENUE/COST RATIOS

ALTERNATIVE DEVELOPMENT PLANS

BAINBRIDGE SITE



MORTON HOFFMAN AND COMPANY, INC.
URBAN AND ECONOMIC CONSULTANTS

Alternative II would produce the highest annual revenue surplus of $289,700, although the revenue/cost ratio would be only slightly greater than for the first alternative. Because of the large residential component, this alternative would result in both the highest annual County revenues and the highest annual County expenditures. The third alternative would produce an annual County fiscal surplus only slightly smaller than the second alternative, but a significantly greater revenue/cost ratio. Under the third alternative, the County would receive more than $3 in annual revenues for each $1 of annual expenditures, compared with Alternative II, which would generate less than $2 in revenues for every $1 spent by the County.

For the development of all individual land uses studied, except institutional which involves a large amount of tax exempt property, County operating revenues are projected to exceed County operating expenditures. Residential uses are estimated to generate annual tax revenues 24 to 36 per cent greater than annual expenditures. For the industrial uses under study, revenues could be more than 4 times greater than expenditures. The small amount of commercial use proposed may produce revenues 12 to 20 times greater than County expenditures. Institutional uses, which are assumed to be exempt from property taxes, produce County tax revenues sufficient to cover less than 10 per cent of necessary County operating costs.

From the standpoint of annual fiscal operating funds, redevelopment of the Bainbridge site would be an asset to the County. Based upon the current County budget, if development proposed under any of the development alternatives existed today, the County tax rate of $2.50 could be reduced by $.02 under Alternative I and $.16 and $.14, respectively, under Alternatives II and III.

County capital costs of redevelopment are highly dependent upon the amount and type of outside assistance that can be obtained. Based upon preliminary assumptions concerning the staging of development and possible financial sources, it is not believed that the redevelopment of the base could be funded solely by the tax surplus generated.

As presented in Table 39, anticipating the probable level of state and Federal aid described earlier, surplus operating revenues will cover only 22 to 41 per cent of the likely capital investment

TABLE 39

CAPITAL COST REQUIREMENTS
UNDER ALTERNATIVE DEVELOPMENT PLANS
BAINBRIDGE SITE

	Development Alternative		
	I	II	III
Present Value of Direct Fiscal Surplus	$ 509,200	$1,756,800	$1,604,500
Present Value of Capital Costs	2,335,000	4,258,500	4,574,200
Additional Capital Requirements	$1,825,800	$2,501,700	$2,969,700
Per Cent of Capital Costs Covered by Fiscal Surplus	21.8%	41.3%	35.1%
Annual Additional Capital Requirements	$ 121,300	$ 166,300	$ 197,400

Source: Estimated by Morton Hoffman and Company, Inc.

requirements. In order to achieve the employment, payroll, economic, and other benefits of development of the site, additional monies amounting to $1.8 to $3 million ($121,300 to $197,400 annually) will have to be raised beyond those generated from normal tax sources. These additional funds might be provided from land sales (the estimate of which is beyond the scope of this study), loans repayable through land sales, additional state and/or Federal assistance (which will be more fully explored in later portions of this report), or by utilizing a portion of the surplus tax revenue generated by the power plant (previously estimated by this consultant to range from $9.8 to $42 million annually).

In conclusion, redevelopment of the Bainbridge site would create significant annual fiscal surpluses. While these fiscal benefits may not be great enough to support all capital cost requirements, they should play an important part in selecting future courses of action.

E. RELATED DEVELOPMENT IMPACTS

Preceding sections discussed the direct, on-site impacts of developing Bainbridge under the three alternatives in quantifiable terms. However, these factors should not be the only ones evaluated in reaching a decision about a preferred development alternative. Consideration should be given also to the satisfaction of County goals and policies and, predominantly, off-site impacts of Bainbridge development: effects on population and employment, and fiscal and environmental implications.

1. Compatibility with County Goals

As indicated earlier, all the alternatives are consistent with County development policies for the Bainbridge area and, thus, this criterion alone does not render invalid any of the three development approaches. While Alternative II devotes the largest amount of land to tax generating uses, Alternative III clearly satisfies to the greatest extent County economic development objectives and produces a larger cost/revenue ratio than does Alternative II. Since the alternatives all meet County goals to varying degrees, it is believed that the selection of a preferred approach must be made on the basis of

other direct on-site fiscal and employment factors and off-site demographic, employment and fiscal impacts discussed below in this report.

It should be noted, also, that all the alternatives provide for institutional and recreational uses that can contribute to the social welfare of Cecil County. Alternative II, which provides a minimum of land for such uses would probably meet any pressing needs that have been identified within the County. The other two alternatives provide additional space that could be of benefit to the County, in particular, Alternative III, which provides land for private institutions. However, these increments of land, while desirable, are not critical to the County's welfare.

2. General Off-Site Demographic and Employment Impacts

Land use allocations for the Bainbridge alternatives are based upon prior market studies. The amount of land devoted to each potential reuse reflects the capture of a reasonable share of the potential that will exist in the identified market areas for residential, commercial, and industrial development. The demographic and economic changes created by the development of the Bainbridge site do not represent a departure from general market trends with the Bainbridge trade areas, but rather a redistribution of growth within each market area.

In the housing market portion of this study, it was estimated that the site could capture 2.6 to 8.1 per cent of the market area potential, with the upper end of the range dependent upon improved transportation access and an innovative marketing program. Exclusive of special inducements, normal market forces would probably result in up to 240 new housing units being constructed at Bainbridge at a 2.6 per cent capture rate. Alternative I includes 505 housing units; however, the excess over 205 represents Wherry dwellings which are presently occupied. The second alternative calls for maximizing the number of potential housing units and would bring 530 households or 1,550 more persons onto the Bainbridge site than might be expected under normal market conditions.

According to the Comprehensive Plan for Cecil County, the 1974 population of the Greater Perryville Planning Area surrounding Bainbridge was 10,074, or approximately 706 persons per square mile. This included an estimated 3,000 persons at Bainbridge. Plan projections

indicate a rise to 13,200 persons, or 926 persons per square mile by 1990, assuming redevelopment of Bainbridge and replacement of the 3,000 persons who will move from the base.

Any population gains created by implementation of the housing portions of the proposed development alternatives are, therefore, relatively small. The projected 1,475 on-site residents under Alternative I and 2,570 on-site residents under Alternative II represent only 24 to 42 per cent of the estimated 6,126 population growth for the Greater Perryville area and far fewer persons than the 5,257 persons residing on base in 1970.

The amount of industry that can be attracted to the Bainbridge site is based on an analysis of market trends in an industrial corridor over 35 miles in length, encompassing the eastern portion of Harford County, almost all of Cecil County, and the Greater Newark and Upper Pencader portions of New Castle County, Delaware. The attraction of employment onto the Bainbridge site primarily represents a redistribution of employment within this market area.

The three alternatives are estimated to result in 830 to 2,350 new on-site jobs. In 1970, there were 1,200 civilian jobs on base; by the end of 1974, the number of on-site jobs dwindled to approximately 800. The development of 830 jobs on-site under Alternative I, merely results in the replacement of jobs currently on the base. The 1,540 to 2,350 jobs under Alternatives II and III would create new jobs in excess of base employment, 920 to 1,400 of which might be filled by County residents.

These employment increases are significant for the Port Deposit area. Other then the naval base, the Wiley Manufacturing Company and Mt. Ararat Farms employing 800, 450 and 45 persons, respectively, there is little employment in the Port Deposit area. The creation of new jobs on-site represents significant redistribution to a portion of the County and market area that has relatively few employment opportunities and is about to lose its most significant employer --the naval base.

3. Fiscal Implications of Related Off-Site Population and Employment Change

Revitalization of the Bainbridge site could lead to some external growth outside the former base. New employment

on-site for example, would create additional job opportunities within the County to help service and supply the new on-site establishments. This new employment increment, both on- and off-site, could in turn, lead to an increased demand for housing within Cecil County. Any external development caused by the redevelopment of Bainbridge would of course create additional fiscal costs and revenues for the County, factors which should be taken in consideration in evaluating the various development alternatives.

Previous studies in Cecil County have indicated a local economic multiplier based on employment of 1.372.[1] This figure represents the increase in related County employment that can occur as a result of the creation of a new in-County job in a "basic" industry, i.e., one that exports its product outside the County. The new employee in the basic industry receives wages which are essentially new money brought into the County. He spends a portion of these wages within the County on goods and services, which in turn helps to create additional local jobs and payrolls. In summary, the multiplier means that for every new basic industrial job at Bainbridge, .372 additional jobs would be created in retail, service, and other sectors of the County economy.

Application of the local economic multiplier to the new "basic" or industrial employment projected under each of the development alternatives would create an additional 310 jobs within the County besides those on-site jobs previously estimated for Alternative I, 575 increased portions for Alternative II, and an 875 increment for Alternative III. Utilizing the same methodology employed earlier in this chapter, the additional net new jobs created for Cecil County residents are projected to range from 100 jobs under Alternative I, to 215 under Alternative II, rising to 325 positions with the implementation of the third alternative. This economic multiplier is also expected to add $.8 million annually in net new County payroll benefits besides those previously estimated for Alternative I, $1.7 million more to Alternative II, and a $2.6 million increment to Alternative III.

Total net new on- and off-site County resident employment (370 to 1,085 workers) would also lead to an increased demand for housing within the County. It is believed, however, that any housing pressures created by these net new resident jobs will be relatively small. The average number of net new resident jobs created each year ranges from 37 to 54. A large proportion of these net new jobs will be filled by current residents of the County who are not now in the labor force or who are at present unemployed. The closing

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1/ RMC Research Corporation, Economic Development in Cecil County, March, 1974.

of the base will leave a short-term housing surplus that should eliminate any immediate housing pressure created by any population inmigration. Under Alternatives I and II, a large portion of any housing demand will be met by new and rehabilitated on-site housing. Taking these factors into consideration over the entire development period, inmigration created by the net new job generation is estimated to range from 120 to 545 workers, translated into an equal number of households and 400 to 1,900 people. Alternative I is expected to result in an inmigration of approximately 400 people or an average of 40 persons per year. The second alternative is estimated to cause an inmigration of approximately 1,100 new County residents or 75 persons per year. Alternative III is projected to result in an off-site population increase of approximately 1,900 people, or an average of 95 persons per year.

The additional off-site employment and population in Cecil County as a result of redevelopment of Bainbridge would, of course, cause the County to incur increased revenues and expenditures. The 310 to 875 increase in off-site at-place employment is expected to yield the County $26,400 to $74,400 in yearly property tax revenue or approximately $85 in additional revenue per employee, based upon the current average non-residential assessment per employee. This additional non-residential tax revenue, combined with the previously estimated County operating costs of $30 per employee, yields a net annual County revenue surplus of $17,000 to $48,100 or $55 per employee.

The additional households residing in the County are projected to result in additional $210 annually in property taxes and $70 in income tax surcharge revenue per household. The figures are based upon an average income of $8,000, in line with the average payroll for net new County employees. It should be noted that this figure is a conservative one and may understate the average income of the inmigrants to the County and concomitantly underestimate County tax revenues. Persons attracted to move to Cecil County because of new job opportunities would most likely be drawn by positions offering above average wage levels. Assuming 3.5 persons per household and an average of .5 public school pupils per household, total County operating costs per household are projected to average $355 for a net operating deficit of $75 per household.[1/] The external residential development could therefore result in an annual average fiscal deficit of $9,000 to $40,875 under the three alternatives.

1/ This deficit results from the assumed modest $8,000 income per worker. At this wage level, the affordable dwelling unit would not generate sufficient property tax revenues, combined with the income tax surcharge, to offset County operating expenses.

Based on the above analysis, the combined residential and non-residential off-site fiscal implications of redevelopment of the Bainbridge site are conservatively estimated to be slightly positive. Alternative I results in an average annual off-site fiscal surplus of approximately $8,100. Alternatives II and III create average annual off-site fiscal surpluses of approximately $6,500 and $7,300, respectively. In summary, the external or off-site impacts that may be associated with Bainbridge's redevelopment are relatively modest; from 100 to 375 new jobs would be created for Cecil County residents; approximately 400 to 1,900 additional persons are expected to be attracted to the County; and additional County revenues are projected to be slightly larger than expenditures.

4. Construction Employment

The actual construction of the new facilities on the base should generate both construction jobs and wages, although the impact will not be major with the development spread over many years. Certain development activities are concentrated in the early years of development when basic infrastructure improvements must be constructed. Given the amount of labor input required to construct the necessary improvements and the prevailing wage rates of construction employees, first-year site development costs of $3.1 million for Alternative I could result in approximately 64 jobs and over $.9 million in wages. The initial year site infrastructure costs of $6.5 million and $6.4 million, respectively, for Alternatives II and III, translate into 131 to 134 jobs and $1.9 to $2 million in wages. Construction requirements both for infrastructure and base redevelopment, however, would then level off under all alternatives, with annual payrolls and employment averaging $.4 million and 27 jobs for Alternative I, and $.7 and $.5 million and 47 and 37 jobs, respectively, for Alternatives II and III.

Current construction employment in the labor market area is approximately 10,000 people, so Bainbridge construction job requirements should create no major demands on available labor. Construction employment in Cecil County (employment by place), however, normally numbers approximately 500, while the number of Cecil County residents employed in construction (employment by residence) is approximately 1,500. The development of a major construction project in Cecil County would enable some of these residents to work in the County rather than commuting to jobs elsewhere. With the relatively few construction jobs created at Bainbridge and the large supply of County resident construction workers, it is not believed that any

housing pressures would be created by the construction force required to redevelop the site.

In summary, then, it is judged that the development of the Bainbridge site under any of the alternatives, per se, would not create adverse pressures on the local housing market, nor would it lead to significant population increases and demands for County services in the Bainbridge area over what would otherwise probably occur. To the extent that Alternatives II and III create more jobs than the first, they would increase economic opportunity in the Port Deposit area.

5. Power Plant Implications

Although the construction of a nuclear or fossil fuel plant on-site is a constant under each proposed alternative, the impact of the construction and operation of such a facility cannot be ignored. A case study of the construction impacts of the Calvert Cliffs Power Plant on Calvert County serves as a possible guide for considering similar impacts on Cecil County.1/ This study indicated that the Calvert Cliffs power plant caused some adverse impacts with regard to labor force, housing and traffic during the construction period and positive impacts relative to employment and tax revenues.

The peak Bainbridge power plant construction force may reach up to 2,500 workers, averaging 1,325 workers per year over a 6- to 8-year construction period. The large construction employment created by the development of a power plant will probably result in in-commutation of highly skilled workers from the Baltimore, Wilmington and Philadelphia areas, while unskilled and semi-skilled positions will probably be filled by local residents. The employment of large amounts of local, low-skilled workers, while beneficial to the individuals employed, may cause a temporary shortage of lower payed workers in other County industries which cannot afford to pay the minimum construction wage of approximately $6.50 per hour. The high wages paid at the power plant construction site may also result in rising wage expectations among the formerly lower paid local residents, making them reluctant to return to lower paying positions. The creation of higher wage positions in Bainbridge industrial development areas could help compensate for the loss to the local economy of higher paying construction jobs during the post-power plant construction period (late 1980's and early 1990's). Development alter-

1/ Howard Needles Tammen & Bergendoff, "Review of Socioeconomic Impacts of the Calvert Cliffs Nuclear Power Plant on Calvert County, Maryland and Comparison with Kent County, Maryland," January, 1975.

natives extending over longer periods and maximizing employment opportunities would provide more opportunity to reemploy the local construction force in better paying jobs.

According to the Calvert County study, the construction of the power plant also imposed serious problems on the local housing market. The addition of the construction workers exacerbated a situation in which the demand from Washington-oriented families and second home owners, combined with a shortage of mortgage money, had already created a tight housing market situation. The deliberate decision not to build an on-site mobile home park also contributed to the local housing shortage. Cecil County is fortunate in that there is a temporary surplus in the housing supply as a result of the base closing. Possible utilization of the on-site Wherry housing could help alleviate the housing pressures created by the power plant construction force. Also, the base has serviced areas that have been or are still being used for mobile homes. Nevertheless, coordination with local officials will be necessary to minimize any possible housing shortage.

A third potential impact of the construction of the power plant may be the need to upgrade transportation routes for the movement of power plant equipment, construction material and labor force. Transportation improvements constructed would, however, have positive implications for the redevelopment of the rest of the site and could do much to improve the marketability of the site after any temporary traffic congestion resulting from the construction of the power plant ceased.

The operation of a power plant will probably require 150 to 350 workers. Its operation should create few positive or negative development impacts. The plant will, however, provide substantial additional annual tax revenues for the County. When the plant starts generating power, the real property tax yield to the County may range from $9.8 to $42 million annually, depending upon the type and size of facility.

In summary, potential negative impacts of the power plant should primarily be concentrated in the construction phase. Many of these impacts can be alleviated by careful planning. The major positive impacts should occur in the operating phase when large local tax revenues are generated.

6. Physical Environment

Further refinement of the development alternatives and the initiation of preliminary engineering studies will be required before an in-depth analysis can be undertaken of the impact of redevelopment of the Bainbridge base on the physical environment. Nevertheless, various environmental issues can be addressed in a preliminary manner at this stage.

Air pollution should be minimal under all the alternative plans presented in this report. The primary source of air pollution would be vehicular exhaust emissions. By the time significant development has occurred on the Bainbridge site, improved emission control devices should have appreciably diminished such air pollution. Industries on-site will have to meet stringent state standards for emissions and can no longer be the traditional "smoke-stack" type of industries. Moreover, it is assumed that County zoning ordinances, consistent with Comprehensive Plan policies, would preclude any noxious industries in the Bainbridge area. The large amount of open space on-site and inclusion of distribution uses and light industry should help minimize any air emission problems related to plant operations.

Noise standards with regard to employees are covered by the National Occupational Safety and Health Act. Regulations require proper insulation and attenuation which should minimize adverse effects on local residents. Moreover, appropriate location and buffering of industrial areas, as recommended, will reduce noise levels resulting from industrial development. County zoning controls could also provide adequate protection from noise.

Under all alternatives, infrastructure improvements proposed for the site should do much to improve water quality. All waste water will be treated by a significantly improved sewage plant which will provide "shellfish quality" treatment. Sediment and runoff would be controlled by the construction of a new storm drainage system that would discharge into the Susquehanna River. With large amounts of open space allowed for, even in developed areas, runoff will be considerably less than in a typical urban area.

There should be little impact on the local flora and fauna, since the site is already largely developed. Moreover, landscaping provided in conjunction with the development of the site could result in more plant life than presently exists.

In redeveloping the Bainbridge site as a multi-use planned development, attempts could be made to minimize visual intrusion. All development could be visually and architecturally compatible with the surrounding community. Strong development controls through initial public ownership would encourage development of the character and scale in keeping with the surrounding area. Building heights would probably not exceed two or three stories, similar to present development on the base.

F. BENEFIT/COST IMPLICATIONS

Since an evaluation of related impacts does not reveal significant new adverse or positive effects of any of the three alternatives, it is believed that a preferred alternative can be best evaluated through an analysis of costs and benefits. This section contains an examination of the quantifiable benefits and costs associated with each of the proposed development alternatives. For each alternative, the implementation costs projected to be incurred are compared with the income benefits to County residents as a consequence of development.

In undertaking this analysis, the overall net investment required, as well as preliminary estimates of the portion which represents the net investment of the County, was estimated and discounted to present worth. Similarly, benefits, defined as the incremental income of County residents directly attributable to site development and the associated income benefits resulting from a multiplier effect, also were estimated and discounted to present worth. Discounting the value of both the benefits and costs adjusts for the different times in which the benefits are received and the costs incurred. The present worth of the benefits was divided by the present worth of the costs to determine benefit/cost ratios.

If the benefit/cost ratio is less than 1.0, costs exceed benefits and the development cannot be considered beneficial from a purely economic standpoint. If the benefit/cost ratio is greater than 1.0, benefits exceed costs and the development is economically desirable. A benefit/cost ratio at or near 1.0 implies that the decision on development must be based on other than purely economic considerations.

1. Benefits

In this analysis, benefits are classified as net new County payroll yields from the development proposed for the site, as well as the multiplier effect. The net new resident payroll under the three alternatives earlier was calculated to range from $2.7 to $7.7 million annually, upon completion of the respective development periods. As mentioned earlier, application of the local economic multiplier to the net new "basic" or industrial employment projected under each of the development alternatives adds $.8 million in annual payroll benefits to those previously estimated for Alternative I, $1.7 million to Alternative II, and $2.6 million to Alternative III. Assuming phased development of the site and an 8 per cent discount rate, the total present worth of the income benefit would be as follows:

	Development Alternative		
	I	II	III
Present Worth of Net New Resident Income Benefits	$24,397,000	$43,403,000	$60,025,000

Alternative I, which emphasizes minimum County investment, would create net new County payroll benefits equaling only 40 per cent of Alternative III and 56 per cent of Alternative II. The second alternative creates benefits 78 per cent higher than the first alternative but 28 per cent less than the third alternative.

2. Costs and Benefit/Cost Ratios

The costs necessary to create the income benefit levels projected above are analyzed in two ways: (1) the overall cost of producing these benefits; and (2) the net cost, if any, to Cecil County to achieve these benefits.

a. Overall Costs and Benefit/Cost Ratios

Overall implementation costs consist of the total capital investment required for development of the site. In a previous section, overall capital costs were estimated to vary from $7.7 to $19 million. These costs would be incurred over a 15- to 20-year development period, and, for benefit/cost analysis purposes, have to be discounted to take into consideration

the value of money over time. Using preliminary estimates of project phasing and an 8 per cent discount rate, the present worth of the investment in constant 1974 dollars is estimated to range from $5.6 to $12.7 million. The following tabulation summarizes total implementation costs and the present value of worth of this investment over time.

	Development Alternative		
	I	II	III
Total Capital Costs	$7,706,000	$16,699,000	$18,997,000
Present Worth of Total Capital Costs	$5,567,000	$12,216,000	$12,661,000

The above tabulation shows that implementation costs would be significantly lower for Alternative I than for the other development schemes. Costs for Alternative II and III would be similar, particularly in terms of the present value of implementation costs. Both these alternatives would have similar initial capital costs. Alternative III, however, would have a longer (20- versus 15-year) development period which would spread its higher cost over a longer period of time. As a result, the dollars to be expended in later years are more heavily discounted.

The overall benefit/cost ratio is determined by dividing the present worth of the income benefits by the present worth of the implementation costs. The resultant benefit/cost ratios are as follows:

	Development Alternative		
	I	II	III
Overall Benefit/Cost Ratio	4.38	3.55	4.74

Each dollar invested in implementing development would produce from $3.55 to $4.74 in income, depending upon the alternative selected. Although both costs and benefits are lowest under Alternative I (with a benefit/cost ratio of 4.38), this alternative would produce income commensurate with the investment involved, the benefit/cost ratio being more than midway between the highest (Alternative I) and lowest (Alternative II).

Alternative II, while still having a very positive benefit/cost ratio, would have the lowest of the three development approaches. In essence, the additional investment required beyond Alternative I would continue to produce positive benefits, but at a declining rate of gain.

The greatest benefits would be achieved under Alternative III, both numerically and in terms of the benefit/cost ratio. The present value of the prospective benefits exceeds the present value of the projected costs by $47.4 million, compared with differentials of $18.8 and $31.2 million for Alternative I and II, respectively. The 4.74 benefit/cost ratio means that the extra dollars invested beyond Alternative II would create significant additional benefits in terms of income; i.e., a 3.6 per cent increase in costs results in a 38.3 per cent increase in benefits. From an overall public investment standpoint, Alternative III would be the preferred development scheme.

b. Net County Costs and Benefit/Cost Ratios

In calculating the benefit/cost ratio for Cecil County derived from each development alternative, the additional income created for County residents is compared with the actual costs expected to be incurred by the County to realize the payroll gains. As in standard benefit/cost methodology, these dollar amounts are discounted to their present worth. The total present worth of the payroll benefits to the County was estimated to range from $24.4 to $60 million. The actual net County cost of implementing the development would equal the present worth of the development costs that it is assumed the County would incur, less the present worth of both the direct on-site and secondary off-site fiscal surplus that the County receives as a result of the development. In an earlier section, total implementation costs were estimated to range from $7.7 to $19 million, with $3.4 to $7.7 million of these costs borne by the County. The discounted or present worth of these County costs ranges from $2.4 to $4.6 million. Against these capital costs, the County could apply the present worth of the annual fiscal surplus previously estimated. Subtraction of the present worth of the fiscal benefits projected to be generated from the present worth of the implementation costs that probably would have to be borne by the County yields $1.8 to $2.9 million in net County costs, when discounted to present value, as shown in the following tabulation:

	Development Alternative		
	I	II	III
Present Worth of County Implementation Costs	$2,355,000	$4,259,000	$4,574,000
Less: Present Worth of Fiscal Surplus	568,000	1,799,000	1,647,000
Present Worth of Net County Costs	$1,787,000	$2,460,000	$2,927,000

The benefit/cost ratios for the County are obtained by dividing the present worth of County benefits by the present worth of net County costs. Accordingly, Alternative I would produce benefits valued at $24.4 million and net County costs of $1.8 million, or a benefit/cost ratio of 13.65. Thus for every dollar the County invested in implementing Alternative I, the County would receive $13.65 in new income. Under the second alternative, benefits would exceed $43.4 million versus net County costs of $2.5 million, resulting in a benefit/cost ratio of 17.64. As in the analysis of overall benefits and costs, Alternative III would produce the highest County benefit/cost ratio--20.51--with benefits valued at $60 million and the present worth of County costs amounting to $2.9 million. The following tabulation, along with Chart 2, summarizes the County benefit/cost ratios:

	Development Alternative		
	I	II	III
County Benefit/Cost Ratio	13.65	17.64	20.51

G. CONCLUSION

The above analysis of quantifiable benefits in the preceding section, combined with the discussion of related impacts given earlier, was designed to facilitate objective selection of a preferred alternative. Based on the evaluation, it is concluded that Alternative III offers the County the greatest benefit, in terms of both new income generated and benefit obtained per dollar invested of public and County funds.

In the words of the Cecil County Board of County Commissioners: "The capital cost data which was used in evaluating the development alternatives proved conclusively that Alternate III is without a doubt the best course for Cecil County to follow."1/

1/ Letter of February 11, 1975, to Morton Hoffman.

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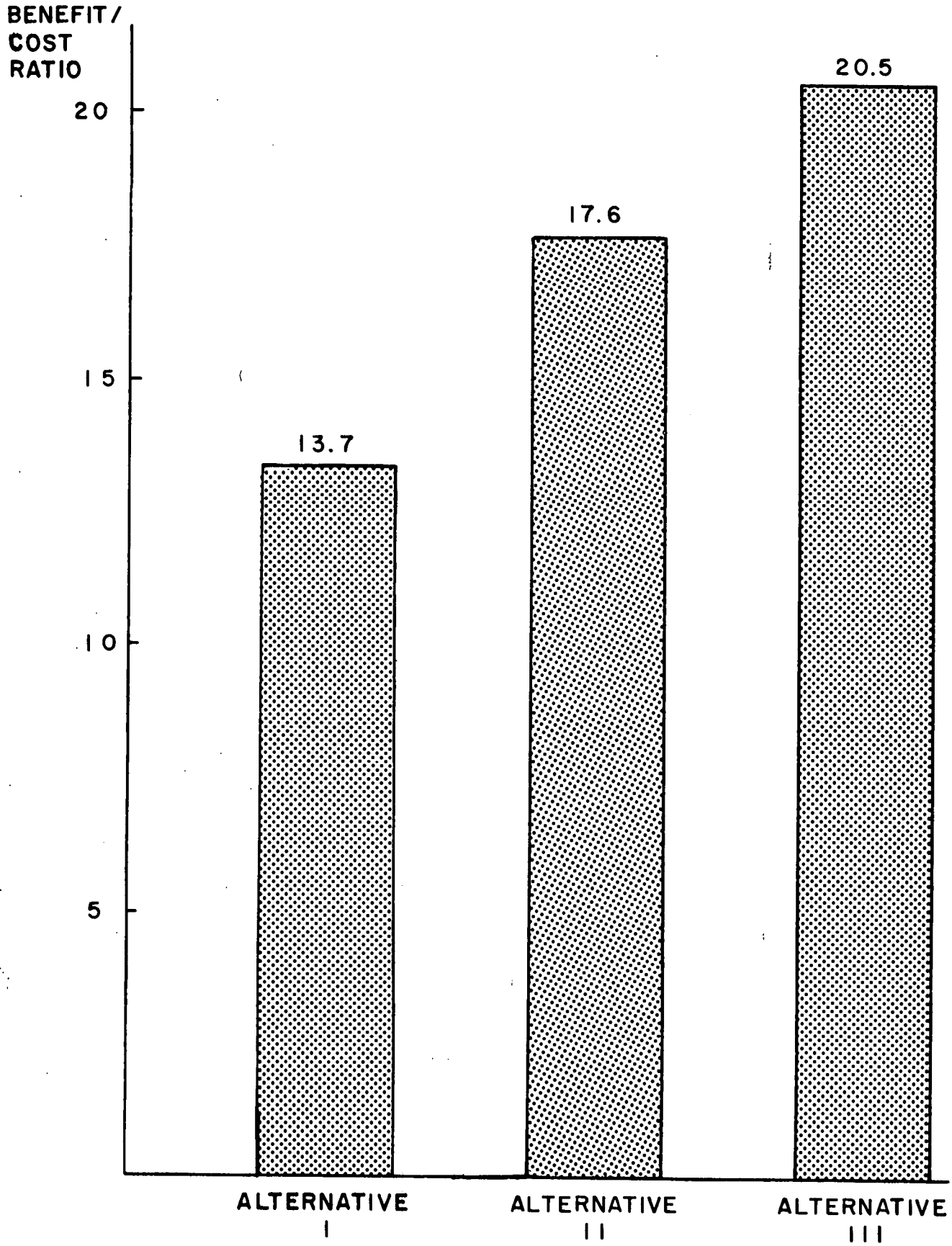
CHART 2

BENEFIT / COST RATIOS

ALTERNATIVE DEVELOPMENT PLANS

BAINBRIDGE SITE



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CHAPTER VII

DEVELOPMENT PROGRAM

Following the evaluation of the alternatives, the Board of County Commissioners of Cecil County voted to adopt Alternative III as the preferred approach to redeveloping Bainbridge. Pursuant to that adoption, this chapter presents a reuse plan for the Bainbridge site, defining major public and private development areas, along with proposals for implementing development. These proposals address staging, timing of and relationships among development activities, potential funding sources, and institutional mechanisms for carrying out the plan.

A. REUSE PLAN

The proposed reuse plan for Bainbridge represents a further detailing of Alternative III to meet the latest safety standards of the Nuclear Regulatory Commission (NRC), should a nuclear plant be built, as well as needs of potential public benefit uses. Discussed below are the plan refinements, resultant land use allocations, and staging considerations in achieving plan development.

The NRC has formulated population density limits in the area surrounding a potential nuclear plant. The standards relate to ease of evacuation and potential dangers in the case of an accident involving radiation leakage. The density limits are applied to concentric circles surrounding a plant location and are taken into account by the NRC in granting an operating license to a nuclear generator at its opening date. For purposes of this analysis a plant opening date at Bainbridge is assumed to be 1990, approximately 15 years from now.

The NRC limits are tabulated below in terms of maximum permissible full-time equivalent population within mile rings around a plant location. Full-time equivalent population represents 24-hour per day, 7-day per week residency in an area. Therefore, for example, an employee on the Bainbridge site, working 8 hours, 5 days per week, would represent only one-fourth of a full-time person; conversely, four employees would

represent one full-time person. It should be noted that NRC approval of a power plant is more likely if existing population at the time of the facility's opening is somewhat below the maximums indicated.

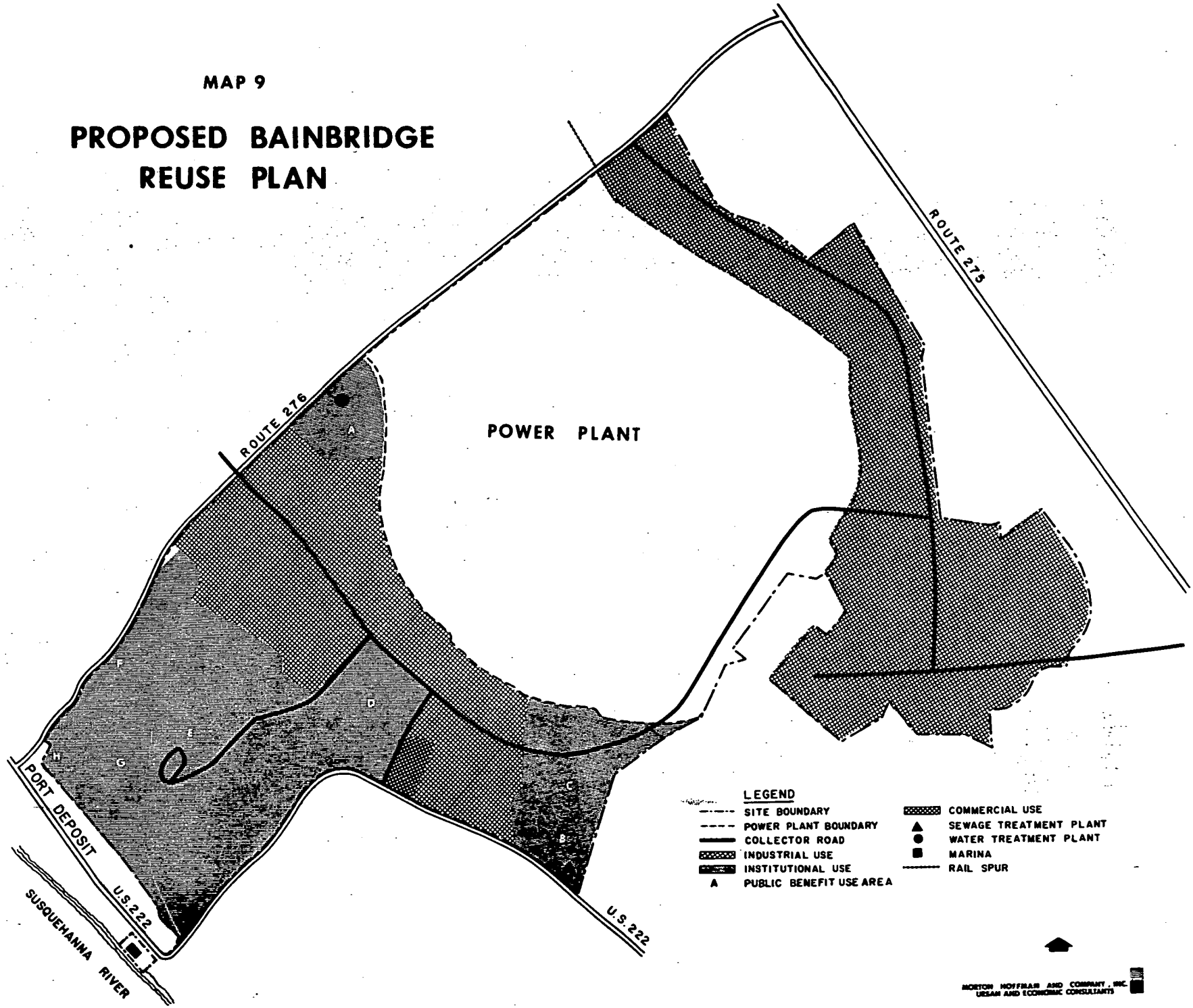
Mile Rings from Nuclear Plant Location	Maximum Permissible Full-Time Equivalent Population at Time of Plant Opening
0-1 Miles	1,571
1-2 Miles	4,712
2-3 Miles	7,854
3-4 Miles	10,996
4-5 Miles	14,139
5 Miles Total	39,272

The full-time equivalent population at Bainbridge in 1990 under Alternative III was estimated and, combined with existing persons in the adjacent mobile home parks and other areas within a one-mile ring from the plant, was found to be slightly in excess of NRC maximum levels. Therefore minor adjustments were made in the plan, involving principally the relocation of the proposed Bainbridge elementary school to a site outside the one-mile ring, just southwest of, and including a small portion of, the Naval Prep School area.

In addition, as shown on Map 9, to accommodate requests of institutional uses,--such as the Cecil County Association for Retarded Children and Center for the Handicapped and Teen Challenge--for selected existing buildings, the institutional area along the main entrance road within Bainbridge has been extended slightly to the northwest into an area formerly designated for industrial use. To replace the employment acreage thus lost, the industrial area has been extended northwestward to Route 276, taking in a portion of the land formerly designated for public benefit uses, including the elementary school, which has been relocated.

MAP 9

PROPOSED BAINBRIDGE REUSE PLAN



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As a result of these refinements, it is believed that 1990 full-time equivalent population within the one-mile ring, which mainly covers the central part of the Bainbridge site and areas immediately adjacent to the northwest, will fall within limits prescribed by NRC, as shown on Table 40. Further, assuming no intensive growth in the one- to two-mile ring which covers the Prep School portion of Bainbridge, Port Deposit, and other nearby areas, full-time equivalent population should also meet NRC safety standards. By 1990, almost 2,000 more full-time equivalent persons could be accommodated in the one- to two-mile ring outside Bainbridge. County development regulations must, however, be analyzed and modified, where necessary, to ensure that growth will not exceed NRC present or revised limits in the one- to two-mile ring and successive concentric rings thereafter. This task is addressed subsequently in this chapter.

1. Land Use Allocations

The detailing does not change substantially either the land use plan or the net land use acreage allocations presented earlier for Alternative III. Moreover, as a result of the detailing of public benefit uses, the land devoted to industrial and commercial use and individual public, institutional, and recreation areas can be set forth in approximate gross acres, including main roads:

Reuse	Gross Acres
Power Plant	550
Railroad and Transmission R.O.W., Off-site Water Station	61
Subtotal	(661)
Industrial	356
Commercial	8
Institutional/Recreational	286
A. Water Treatment Plant	20
B. Sewage Treatment Plant	18
C. Fire Fighters Training Area	25
D. Health, Social Service and/or Welfare Institution	43
E. Naval Prep School Area	120
F. Recreation Area and Marina	15
G. Elementary School	20
H. Unbuildable Land/Open Space	25
Subtotal	(650)
Total Acres	1,261

TABLE 40

ESTIMATED FULL-TIME EQUIVALENT POPULATION
BAINBRIDGE SITE, 1990, AND IMMEDIATE SURROUNDINGS, 1975

Category	0 - 1 Mile[a]			1 - 2 Miles[a]		
	Bainbridge 1990	Outside Bainbridge 1975	Total	Bainbridge 1990	Outside Bainbridge 1975	Total
Residential	-	680	680	-	1,930	1,930
Commercial	20	-	20	10	-	10
Industrial	410	-	410	-	110	110
Institutional	180	-	180	575	115	690
Total	610	680	1,290	585	2,155	2,740
NRC Limit			1,571			4,712

[a] Concentric rings from centroid of two potential power plants on Bainbridge site.

Source: Estimated by Morton Hoffman and Company, Inc.

These areas must be measured more precisely to determine exact boundaries and land acreage for purposes of purchase from GSA. Further, within the commercial and industrial areas, public rights-of-way for existing roads and utilities must be calculated since those portions of the total acreage can be obtained from GSA at no cost. Acreage allocations by use should not, however, vary significantly from those presented above once more precise measurements are made.

2. Development Staging

Full industrial utilization of the tract under the preferred reuse plan would take place over a 20-year period following initial development, while it would likely take 10 years to complete commercial development and 10 to 15 years to achieve the full institutional growth foreseen by potential users. Within these parameters, the staging to prepare industrial sites for development will depend upon the coordinated provision of utilities, roads, and other infrastructure with a schedule of land marketing. This precise staging must be worked out in conjunction with detailed planning, engineering, financial and marketing programs that must be prepared for Bainbridge, as described in a subsequent section of this chapter. However, certain guidelines for staging can be presented at this point.

a. Industrial Uses

(1) To allow temporary retention of the Wherry housing for possible power plant construction worker use, probably during the 1980 to 1990 period, and to tie into a rehabilitated rail system, industrial development north of the power plant should commence at the northwest portion of the site, along Route 276, and proceed southeastward.

(2) Because of proximity to a relocated water treatment plant, development of industrial areas southwest of the power plant reservation areas, should likewise commence close to Route 276 and proceed eastward.

(3) Industrial sites both north and south of the power plant should be offered simultaneously since they would be intended for different types of uses seeking locations within approximately the same time period; general industry and distribution uses to the north and light manufacturing, distribution, and research uses to the south.

(4) The County should not attempt to purchase from the state all land targeted for industrial development. Rather, it should purchase a reasonable inventory of land for two to six years in stages so as not to incur excessive initial acquisition costs on the one hand and, to be able, on the other hand, to offer a choice of sites to industrial uses. For example, an inventory of 50 acres, allowing for 4 to 6 years of development, might be purchased initially. According to state requirements, purchase of successive portions of the site would have to be made at fair market value at the time of acquisition. If state holding costs for the land of 6 per cent annually exceed the appraised fair market value, then the higher price involving these holding costs would have to be paid. Although more careful analysis would have to be made of the financial advantages and disadvantages of purchase by stages, it is presently believed that staged acquisition would be more economical for the County.

b. Commercial Uses

The development of a neighborhood shopping center on the site can take place at once or in stages, following the improvement of Route 222. It is likely that the entire tract would be sold to to one developer who could commence construction in the late 1970's.

c. Institutional and Recreational Uses

Public benefit uses, so desiring, could make immediate use of their targeted sites as long as demolition activities, road construction, and water and sewage plant and line improvements do not preclude continuous occupancy.

d. Site Infrastructure

(1) It is believed that off-site road and rail spur improvements should be undertaken immediately if industrial potential is to be maximized. This will involve engineering analyses to determine the nature of improvements required and, most likely, negotiations with the State Highway Administration and the potential operator of the Octoraro line, yet to be designated. The timing of construction of the rail spur should be tied to the operation of the Octoraro line, and, it is conceivable, that immediate installation of the rail spur may not be feasible.

(2) Demolition activities should proceed apace with the drawdown in stages of industrial land from the state. Demolition of buildings on public benefit sites could be undertaken by the County, with reimbursement by the public benefit use, or by the institution itself. In the latter case, demolition costs projected for the County may be lower than those shown earlier in this report on Table 32.

(3) It would be possible for a collector road system on the site to be built in stages with connections to main roads provided on the western portion of the tract, initially, and later extensions through eastern sections. More definitive engineering analysis would have to be undertaken to establish the most feasible method of extending this system.

(4) On-site rail sidings should be able to be extended to industrial sites consistent with industrial development staging.

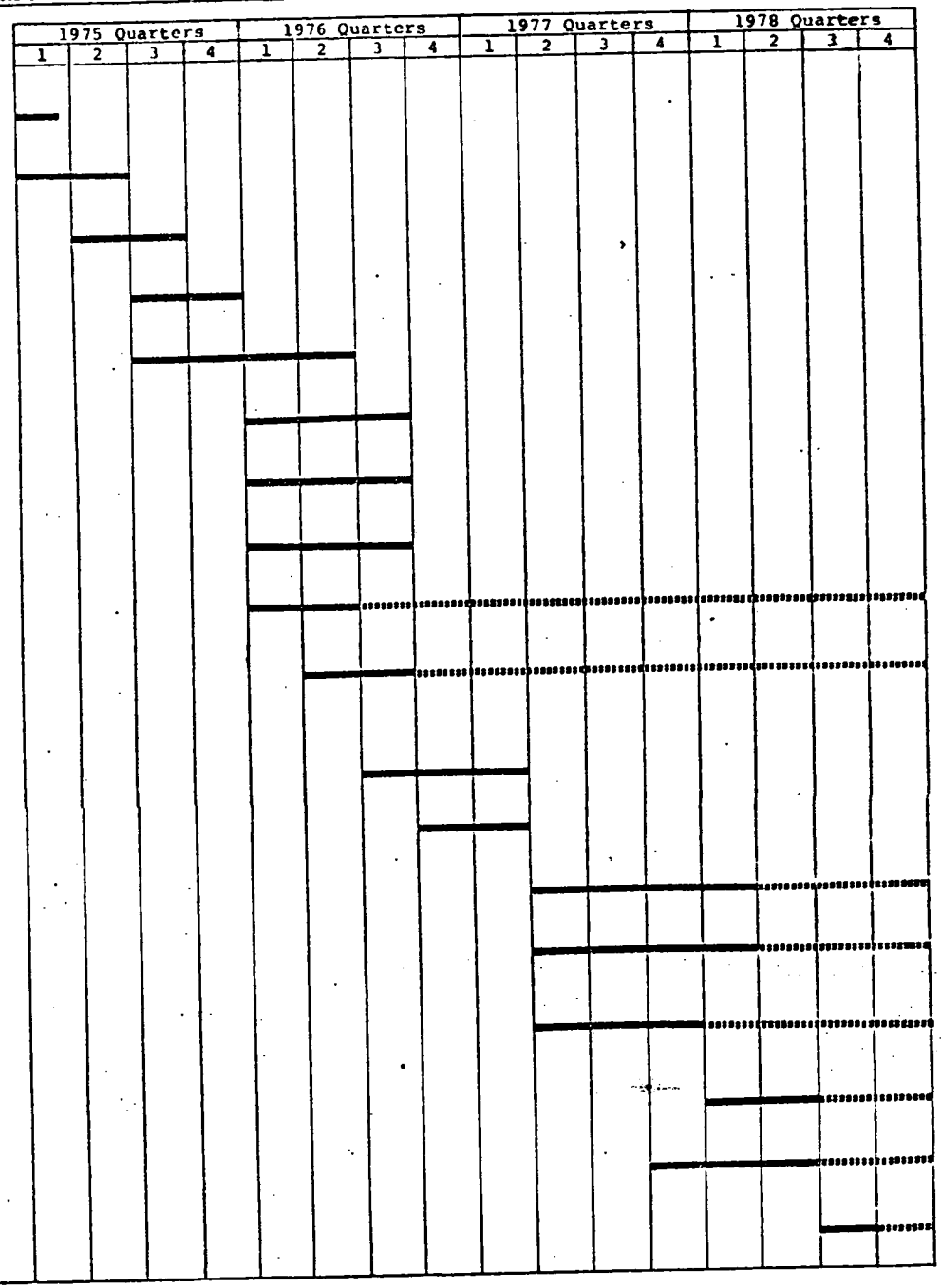
(5) Similar to the collector road system, more intensive engineering analysis would be required to determine the most practical timing and methods for relocating the water plant and its lines and upgrading the sewage treatment plant and sewerage system. These considerations, in turn, would have to be related to a parcelization and staging scheme for industrial development. Since power plant construction is not likely to take place until the early 1980's, it is possible that on-site water systems could be utilized until that time, with construction of a new plant and related piping commencing in the late 1970's.

B. DEVELOPMENT SCHEDULE

Prior to actual occupancy of Bainbridge by industrial and other concerns, a number of steps must be taken by both public and private actors to secure, prepare, and market sites and/or buildings. These steps are shown on Table 41 and explained in the text below. Though they focus primarily on industrial and/or commercial development, reference is made also to requirements for public benefit uses.

TABLE 41

OPTIMUM BAINBRIDGE IMPLEMENTATION SCHEDULE



Implementation Activities

Predevelopment Stage

1. Adopt Bainbridge Development Approach
2. Complete Site Appraisals
3. Obtain Federal Approvals for Public Benefit Land
4. Acquire Site
5. Develop Marketing Program
6. Complete Planning, Engineering, and Financial Program
7. Adopt Public Development Controls
8. Form Local Economic Development Corporation
9. Undertake Marketing
10. Occupy Public Benefit Use Areas and Interim Buildings

Site Improvement Stage

11. Obtain Financing for Site Purchase and Improvements
12. Purchase First Stage Bainbridge Industrial Land from State
13. Construct First Stage On-Site Improvements
14. Construct Off-Site Improvements
15. Dispose of First Stage Site(s)

Construction Stage

16. Construct Industrial Buildings
17. Provide Technical Training
18. Occupy New Buildings

Source: Estimated by Morton Hoffman and Company, Inc.

The development schedule shows three stages: a predevelopment stage involving initial site acquisition and organizing for development; a site improvement stage including financing arrangements, infrastructure development, and industrial site disposition; and a construction stage involving the building and occupancy of structures. The schedule is an optimistic one, assuming smooth transition from one step to another. Even so, the earliest expected date for occupancy of a new structure would be in the summer of 1978, more than three years away.

1. Adopt Bainbridge Development Approach

This step has been accomplished with the adoption by the Board of County Commissioners in February, 1975, of the third alternative emphasizing industrial and institutional/recreation development.

2. Complete Site Appraisals

Both Federal and state appraisals of the purchase price for non-public benefit use areas are under way. They are expected to be completed by the end of June, 1975. In deriving final estimates for private market portions of the site, appraisers must take into account the significant costs of demolishing buildings and improving site infrastructure to serve new development. In many respects, the site is more encumbered than raw land because of the need to remove, restructure, and upgrade existing site improvements, including the sewage treatment plant.

3. Obtain Federal Approvals for Public Benefit Land

Land to be utilized for recreation use must be applied for and receive approval through the U.S. Department of Interior's Bureau of Outdoor Recreation prior to GSA transfer to the intended user. Similarly, land to be utilized for health, education, or welfare purposes must obtain U.S. Department of Health, Education, and Welfare approval. It is recommended that the Cecil County Economic Development Coordinator, in conjunction with Power Plant Siting Program officials, coordinate appropriate application steps by the County, University of Maryland, and private institutions concurrent with the completion of appraisals during the first half of 1976.

In undertaking these steps, it will be necessary to define precisely the boundaries and land area for each public benefit use. It will also be desirable to determine whether Teen Challenge and the Cecil County Association for the Retarded can each utilize portions of the area designated jointly for social welfare institutions or whether one organization or the other would seek the full site. In the event that further negotiations are required or that only a portion of the designated 43 acres is selected by one potential user, it is proposed that the County seek title to the entire acreage or remaining portion on the basis that it would be transferred subsequently to a health, education, or welfare institution.

It should be noted, also, that the Naval Prep School site may not be available for acquisition at the same time as other portions of the site since it has not yet been officially declared surplus. Should an acceptable institutional use not be ready to undertake purchase of the Prep School site at the time of offering, it is recommended that the County obtain the site for subsequent transfer.

4. Acquire Site(s)

Approximately six months, the latter half of 1975, is anticipated by the state as a period for negotiating the acquisition of the non-public benefit portion of the site. During this time also, it is expected that public benefit users would acquire their designated areas.

5. Develop Marketing Program

During the period of site negotiations, the County should be undertaking a series of steps to plan for the disposition of industrial and commercial sites at Bainbridge. The first of these steps, preparing a County-wide marketing program for industrial development, is now being launched by the Cecil County Economic Development Coordinator. To be undertaken with U.S. Economic Development Administration financing, it would involve a consultant-conducted study to determine the most likely types of industries that the County could hope to attract; the locational and site requirements of these specific industries; the steps the County would have to undertake in terms of making appropriate sites, facilities, community services and the like available to draw such industries;

and a marketing program to contact particular companies among the target industries. This effort would be useful in defining specific site improvements, parcelization requirements, and the like for Bainbridge and other County sites, as well as in the marketing of industrial land. It is anticipated that the study would last approximately 12 months and begin about July, 1975.

6. Complete Planning, Engineering and Financial Program For Bainbridge

In order to obtain funding from the Economic Development Administration or other sources to carry out site acquisition and improvements, as well as to develop a sound program for the disposition of industrial land, a project feasibility study involving detailed planning, engineering, financial and management analysis should be undertaken. This work would establish the overall improvements necessary for the site and their character, timing, and estimated cost. It is suggested that, once a general framework of improvements is set forth for the site, detailed planning including parcelization, preparation of development standards, and engineering drawings be undertaken for a first stage development of 50 acres or so. Detailed planning and engineering work would make use of findings of the marketing program study, drawing upon conclusions reached as to target industry potential and site needs of target industries. Also addressed in the planning/engineering work would be off-site improvement questions: the rail spur and Route 222 upgrading.

The analysis should also indicate development costs and revenues over time and produce a cash flow, financing, and management program necessary to establish financial feasibility of the project. This program would be of concern not only to the County, but also to public agencies, both Federal and state, and private institutions that would grant or lend money for project implementation. It is anticipated that this planning work would begin in the first quarter of 1975 in order to make use of findings of the marketing program study. However, the drawing up of a request for proposal and the securing of funds, most likely from EDA, to finance the planning/engineering work should commence shortly. It is expected that approximately nine months would be required to complete the work, which should involve also the preparation of applications for Federal and/or state funding for site improvements and acquisition.

7. Adopt Public Development Controls

Controls need to be adopted by the County both for the Bainbridge site and surrounding areas to ensure that densities will not exceed NRC limits. This would involve the County Planning staff's examining existing population in mile-wide concentric rings around the site, likely population growth over the next two decades, and ultimate "holding capacities" of land areas under various zoning designations. Holding capacities refer to the maximum full-time equivalent population that would result from allowable development in a particular zone. While the focus should be on 1990, the presumed year of a nuclear plant's opening, examination may have to be made, also, of time spans considerably beyond that period since NRC also wishes to ensure "safe" population densities over the 30- to 40-year life of a nuclear plant. Densities over the longer period, however, could exceed permissible maximums at the time of a plant opening. A determination of the time span to evaluate will have to be made through further discussion with NRC and Power Plant Siting Program personnel. For 1990 purposes, however, it would suffice to examine potential population growth and whether zoning and land use controls would have to be imposed to limit such growth to conform to NRC standards.

Similarly, for the Bainbridge site, worker density controls would have to be developed to ensure that on-site employment does not exceed NRC standards. These should be established through County zoning for the industrial area at Bainbridge and could be reinforced through sale or lease agreements with site occupants.

The controls should be formulated in conjunction with the Step 6 detailed planning for Bainbridge by consultants, and the revision of the County zoning ordinance by County staff as a followup to the Comprehensive Plan, in early 1976. The controls should then be formally adopted by the Board of County Commissioners as part of a new or revised County zoning ordinance.

8. Form Local Economic Development Corporation

To carry out marketing and improvement of the Bainbridge site, as well as other potential economic development projects, it is proposed that an economic development corporation be formed under County auspices. The advantages of estabishing a

separate corporation include: ability to incur legal and financial liabilities that do not encumber the County and ability to borrow money independent of County debt limits. The corporation should be chartered to buy and sell land, install site improvements, carry on marketing and promotional programs to encourage employment growth, and incur obligations and issue bonds, pursuant to applicable state law. Its board should be appointed by the County Commissioners to ensure County authority over its operations.

Whether the corporation or County gains title to Bainbridge industrial land would depend upon financing mechanisms utilized for land acquisition and development. Certain funding programs, for example, the state's Industrial Land Act loan program, limit loans for land acquisition to counties, per se, rather than local development corporations.

The corporation should be formed concurrent with the completion of the detailed planning, engineering and financial work for the site so that corporation officials can fully understand and participate in this predevelopment effort. Also, it should be prepared immediately to launch marketing activities (Step 9) consistent with the findings of the marketing program study.

9. Undertake Marketing

Utilizing guidance and materials developed through the marketing program study, the local development corporation could initiate marketing for Bainbridge at the beginning of 1976. More detailed promotional materials could be developed following the completion of Steps 5 and 6 planning efforts, which would develop suitable marketing prospectuses and provide details on the terms of the offering of sites at Bainbridge. This activity would be ongoing for the duration of the development of the site.

10. Occupy Public Benefit Use Areas and Interim Buildings

Once the Navy has vacated the site in the spring of 1976, institutions requiring immediate occupancy can begin site usage in the latter half of 1976. The County and/or state could also negotiate for the temporary lease of existing buildings (for small products warehousing, for example) until such time as demolition takes place.

11. Obtain Financing for Site Purchase and Improvements

Once sufficient progress is made on the detailing of development costs and the preparation of a funding schedule, application can be made to state and Federal agencies and private financial institutions, as appropriate, for loans and grants to purchase first stage Bainbridge industrial land from the state (Step 12) and to construct first stage site improvements (Step 13). Preparation of initial applications, their review by funding agencies, and preparation of final applications and their processing, particularly in the case of Federal funding, could take 6 to 9 months. The local economic development corporation should basically be responsible for this task, with assistance from consultants undertaking Step 6 financial planning and from the state.

12. Purchase First Stage Bainbridge Industrial Land

In accordance with the findings of the planning, engineering and financial analysis, the County or economic development corporation should acquire from the state land targeted for first stage industrial development. Purchase of land for commercial development could be deferred until a bona fide developer were lined up. Initial purchases would probably have to be made through loans which could be secured through state and/or private auspices. Although 1974 amendments to the U.S. Public Works and Economic Development Act of 1965 authorize free transfer of surplus Federal land for economic development purposes to jurisdictions covered by a regional commission, Cecil County, as opposed to Western Maryland counties under the Appalachian Regional Commission, would not now be eligible. Land purchase could be completed by the first quarter of 1976, in conjunction with the securing of financing for such purposes.

13. Construct First Stage On-Site Improvements

Following completion of planning and engineering analyses, securing of financing, and purchase of first stage industrial land, the local development corporation would be in a position to hire demolition contractors; retain engineers to prepare working drawings for site improvements (roads, utilities, grading) and bid specifications; and bid out work to contractors to complete. It would probably take twelve months through early 1978 to complete the bulk of these improvement activities, with some continuation thereafter.

14. Construct Off-Site Improvements

To enhance marketability of the Bainbridge site, it would be desirable for off-site rail spur and Route 222 improvements to be completed simultaneously with on-site infrastructure development. However, it is recognized that the scheduling of such improvements would have to be negotiated with state highway officials and Octoraro rail branch operators. Short-term deferral of these improvements would be acceptable, provided firm commitments to undertake the work were made and could be referred to in marketing activities.

15. Dispose of First Stage Site(s)

As a followup to marketing activities and concurrent with site improvement work, disposition of sites for sale and negotiations on leasing of buildings that may be constructed by the economic development corporation (as determined through Steps 5 and 6 studies) can be initiated during the early part of 1977. This would be a continuous activity of the local economic development corporation, thereafter, but should result in commitments by the end of 1977 for: (a) lease on a short-term basis of existing facilities (Step 10); and (b) construction or occupancy of newly constructed buildings in 1978.

16. Provide Technical Training

Concurrent with building construction, technical training of the local labor force to meet needs of identified site occupants could be provided through special Federal or state programs. The programs could be conducted on-site or in the facilities of Cecil County Community College. Need for such programs would be identified through the marketing program study or through negotiations with prospective site occupants. The local economic development corporation would be responsible for coordinating the provision of training programs by local institutions.

17. Occupancy of New Buildings

Assuming a six-month construction period for new facilities, it is anticipated that initial occupancy by industrial firms could occur in the summer of 1978.

The implementation schedule for Bainbridge could be set back by a delay in the launching or completion of any of the prime pre-development activities described above. It should therefore be reiterated that this schedule represents an optimistic timetable for beginning initial industrial operations on the site.

C. FUNDING SOURCES AND TECHNICAL ASSISTANCE

Approximately $19 million, exclusive of land acquisition costs, may be required to carry out the 20-year industrial development program and related public recreation improvements, as itemized in Table 32, Chapter V. The discussion in that chapter indicated that funding assistance for capital improvements could be obtained from sources such as the Economic Development Administration and state agencies. This section elaborates upon the potential funding sources to carry out not only the physical improvements for the site, but also land acquisition and related non-physical development activities.

Potential funding sources for Bainbridge's redevelopment activities are shown in Table 42. The sources are discussed by Federal and state programs below, as well as private sources.

1. Federal Sources

a. Economic Development Administration (EDA)

Three programs of EDA may be used to help fund physical and non-physical development activities.

- The Title I program provides 50 per cent matching grants to eligible jurisdictions such as Cecil County for site infrastructure improvements (roads, rail spur and sidings, utilities, demolition, and grading), for recreation that improves marketability of a site, and for administration and promotion activities in marketing land. Information from state sources indicates that the County may be able to obtain up to $1 million annually through this program for Bainbridge improvements and administrative costs.

TABLE 42

POTENTIAL FUNDING SOURCES
FOR BAINBRIDGE REDEVELOPMENT

Activity	Potential Funding or Technical Assistance Source[a/]
A. Physical Improvements	
Route 222 Improvements	State Highway Administration
Off-Site Rail Spur	Private Rail Operator, Power Plant Operator, EDA
Water Treatment Plant and Distribution System	DOD, Power Plant Operator, MES, MILA, FmHA
Sewage Treatment Plant and Collector System	EDA, EPA, MILA, FmHA
Demolition	EDA, HUD-CD, MILA
Collector Road System and Storm Drainage	EDA, HUD-CD, MILA, FmHA
Grading	EDA, MILA, FmHA
Recreation	EDA, HUD-CD, DNR
Building Construction	MIDFA, FmHA, IRB
B. Land Acquisition	MIDFA, MILA, HUD-CD, FmHA, IRB
C. Non-Physical Activities	
Administration and Promotion	EDA, BID
Maintenance	DOD
Planning Services	EDA, HUD-CD
Technical Training	EDA, MITP, DOL

a/ See text for full names of agencies abbreviated on table.

- The Title III technical assistance program provides 75 per cent matching grants for project planning and feasibility studies, management and operational assistance, and studies evaluating the needs of, and development potentials for, economic growth. These funds could be used to finance the planning, engineering, financial and management work necessary to establish Bainbridge project feasibility.

- The newly enacted Title IX program provides up to 100 per cent grants to states and local areas to meet special economic development and adjustment needs arising from potential unemployment due to factors such as the closing of a Federal installation. Monies may be used for plan development and for public facilities, public services, business development, unemployment compensation, technical assistance, training, and other appropriate assistance. These funds could, therefore, potentially be used by Cecil County for market strategy and planning and engineering studies, as well as for site development activities. Cecil County officials have already begun to explore the use of these funds for the marketing program study (Step 6 of the Implementation Schedule). Since this program provides the greatest proportion of grant assistance, its utilization for eligible activities should take priority over the other two titles to the extent that monies are available.

b. HUD Community Development Program (HUD-CD)

The 1974 Housing and Community Development Act authorizes the U.S. Department of Housing and Urban Development to make block grants to eligible localities for a variety of community development activities. These grants can be used, under specified conditions, for planning, property acquisition, and development of utilities, streets, street lighting, water and sewer facilities, and parks and playgrounds. They do not require a matching share and could, in fact, be used to provide the local match for other Federal programs, such as EDA Title I or II. Cecil County is not automatically entitled to receive Community Development block grants; rather it is eligible to apply

for part of a discretionary sum of money allocated to the Wilmington metropolitan area. This total discretionary amount is scheduled to grow to $2.9 million, annually, over the next six years. Recently, HUD cancelled metropolitan area discretionary funding for the current fiscal year, but has encouraged communities to apply for such funds in the coming year.

c. Environmental Protection Agency (EPA)

This Federal agency provides 75 per cent grants through funding allocations to states for the construction of wastewater treatment works which are required to meet state and Federal water quality standards. Assistance has ranged up to $2 million. These monies could be used to upgrade the Bainbridge sewage treatment plant. The State Department of Health and Mental Hygiene may finance up to 50 per cent of the local share.

d. Farmers Home Administration (FmHA)

This agency of the U.S. Department of Agriculture makes low interest loans to rural area governments and non-profit development corporations for community facilities that will help expand business and industry. They may be used for restoring or improving water or sewer systems, relocating roads or utilities and acquiring land. FmHA also has a business and industrial loan program under which it makes direct loans to public bodies for financing business and industrial construction, conversion, acquisition, and modernization; purchase and development of land, facilities, and equipment; and working capital, fees, and contingency charges. FmHA will also guarantee loans from private lenders to private organizations or individuals for the same purposes.

e. Department of Defense (DOD)

The Department of Defense normally assists in maintaining land it vacates for several years, thereafter. In addition, the Department of Defense has a contract with Port Deposit to provide water to the town at low rates, with a stipulation that should the Navy discontinue use of Bainbridge and cease operation of the present water plant, the Department

would, from any funds available for that purpose, restore the town's water supply. Legal implications of the contract are now being assessed by the state and Federal government. It is possible, however, that the Department may have to provide some sort of compensation to the town or plant operator for abandoning the plant.

f. Department of Labor (DOL)

The Labor Department, under its Comprehensive Training and Employment Program, authorized in 1973, could provide assistance through state government to Cecil County for training for unemployed or underemployed persons. The Department of Defense Office of Economic Adjustment and State Employment Security Administration may be able to assist the County in obtaining such funds, which could be utilized by local training institutions.

2. State Sources

a. Maryland Industrial Development Financing Authority (MIDFA)

The Maryland Industrial Development Financing Authority guarantees privately provided mortgage loans on land and buildings for up to 90 per cent of cost for 25 years. It also guarantees mortgage loans on manufacturing machinery and equipment for up to 70 per cent of cost for up to 15 years. The mortgage guarantees can be used for manufacturing, research and development, warehousing, and certain types of office buildings and are limited to $4 million per project. They cover utility extensions, access roads, insurance premiums, and legal, architectural, and engineering fees. Mortgages can be extended to private firms, as well as to counties or local development corporations acting on behalf of counties, which lease buildings to private companies. When public bodies obtain loans, they can obtain lower interest rates because interest received by the lender is exempt from Federal income tax. Individual loans guaranteed by MIDFA have ranged from $.1 to $2.9 million. During 1974, MIDFA approved 12 loans totaling about $5 million.

b. Maryland Industrial Land Act (MILA)

This act authorizes the Maryland Secretary of Economic and Community Development to make low interest loans to counties for up to 100 per cent of the fair market value of land for acquisition of an industrial site, not to exceed $500,000 for any one project. The loan period is flexible and interest only need be paid back for the first 5 to 7 years of the loan. The act also authorizes the Secretary to make loans of up to 50 per cent of the anticipated cost, not to exceed $750,000 for any one project, for industrial park planning and development. Eligible activities include planning/engineering; land acquisition; installation of utilities, roads, and street lighting; and site preparation such as clearing and grading. These low interest loans require only interest payments for the first 2 to 4 years and may be extended for 25 years. They have been used in Maryland to provide the local matching share for Federal grants. Although loans are extended to counties, the act does not preclude a local development corporation from planning and carrying out an industrial project.

c. Industrial Revenue Bonds (IRB)

This program permits 100 per cent, tax exempt financing for real estate and equipment for manufacturing, warehousing, and research and development activities.

d. Maryland Environmental Services (MES)

This agency of the Department of Natural Resources will build and operate, under appropriate conditions, water and sewage treatment plants.

e. Department of Natural Resources (DNR)

Through its Program Open Space, the Department of Natural Resources provides up to 75 per cent grants for the acquisition and development of park and recreation projects.

f. Division of Business and Industrial Development (BID)

The Division of Business and Industrial Development of the Department of Economic and Community Development provides technical and promotional assistance to communities seeking to attract industry. As a prime source of contact with firms considering locations in Maryland, it can help channel prospects to Cecil County. It actively promotes and advertises Maryland's economic advantages nationwide and in Europe.

g. Maryland Industrial Training Program (MITP)

Operated jointly by the State Departments of Education and Employment and Social Services, this program provides State-funded training for employees of new and expanding plants. In the past year, it initiated programs throughout the State, including Elkton, involving over 500 employees.

h. State Highway Administration (SHA)

Depending upon the funding source utilized, this agency could provide 70 to 100 per cent financing of improvements to Route 222. However, as indicated previously, discussions would have to be held with the administration to have it incorporate Route 222 improvements in its capital program. The route improvement is not scheduled in the current five-year program.

3. Private Sources

Private sources of funds include those discussed previously in this report. The utility that builds the power plant may finance off-site rail spur improvements. A private rail operator could potentially improve the rail spur from the Octoraro line to the base should the power plant operator not need to. Finally, of course, private lending institutions, in conjunction with state and Federal programs, could provide monies for land acquisition, site improvements and building construction.

From the above description of funding sources, it is clear that there are many routes available for help in financing project activities. Additional Federal sources include the Small Business Administration, which provides loans to set up and finance capital programs of local development corporations, and HEW vocational training programs. Receipts from early stage land sales and leasing could help pay for later stage development. Discounts by GSA on land purchase to defray demolition costs should help the County recoup such costs, although they do not provide funds for demolition activities.

The funding mechanisms described above, morever, can be used in tandem to finance 100 per cent of project costs; for example, EDA grants together with Maryland Industrial Land Act loans or HUD Community Development grants could be used to finance total site improvement costs. Other combinations are possible. Given present sources of monies, it would appear that the best funding strategy for the County to pursue in financing site improvements would be to: (1) make maximum use of EDA funds providing the largest grant amounts (Title IX); (2) provide such local matching shares as are needed through HUD Community Development block grant programs to the extent funding can be obtained; and (3) to the extent that other funding is needed, utilize loan programs, such as the Maryland Industrial Land Act, which offer short-term deferral of principal repayment. This strategy would, of course, minimize initial County outlays of funds.

Establishing eligibility and going through application steps in obtaining public program assistance can often be lengthy and tedious, and availability of funds is frequently limited. Though the persistence required to obtain funds should not be minimized, it does seem apparent that reasonable assistance could be received for redeveloping the Bainbridge site. The timing and amount of funds necessary to ensure project financial feasibility, and the specific financing mechanisms to be used, can be established when more detailed planning, engineering, and financial programming is subsequently undertaken.

D. CONCLUSIONS

The proposed redevelopment plan, schedule, and funding recommendations set forth above provide a basis for moving forward with the redevelopment of Bainbridge. While many steps have yet to be undertaken, analysis to date suggests that the effort will prove beneficial to Cecil County in terms of the fiscal returns, community facilities and services, and employment opportunities created by reutilization of the base. Redevelopment of the Bainbridge site, together with the revenues realized from a new power plant, can reverse the potential deficits of the base closure and produce a major fiscal and employment asset for Cecil County.