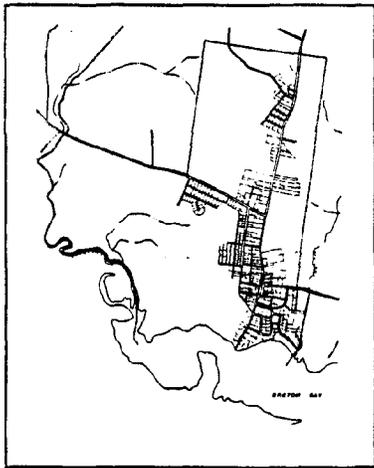


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# LEONARDTOWN · MARYLAND WATERFRONT · RECREATION · PLAN

allace Roberts & Todd · Philadelphia, Pennsylvania · 1987

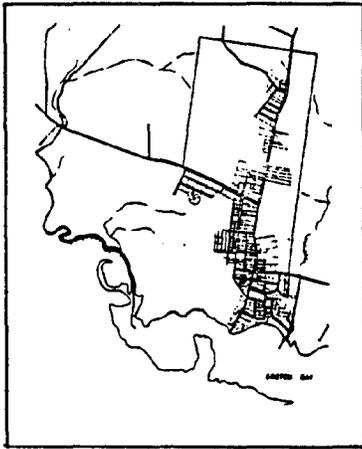
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# LEONARDTOWN · MARYLAND WATERFRONT RECREATION PLAN

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Preparation of this report was funded by the Office of Coastal Resources Management, National Oceanic and Atmospheric Administration.

General Approval of this plan by the Maryland Department of Natural Resources does not imply approval of specific project sites.

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INTRODUCTION

Purpose of the Study

The purpose of the Waterfront Recreation Plan is to recommend an overall strategy for improvement of Leonardtown's Waterfront and specific steps to make it more accessible to people who live and work in the town as well as to visitors.

Summary of Conclusions and Recommendations

The study finds that there are four sites within the town with important visual or physical access to the Waterfront:

1. The Historic District including in particular, the Courthouse and Tudor Hall.
2. The Scenic Overlook along Key Way.
3. The Waterfront at the foot of Washington Street.
4. The natural wooded wetland area leading from Washington Street along McIntosh Run.

The plans calls for an improvement program to be carried out in three phases with priority given in the first and second phases to improvement of the publicly owned sites, the Historic District and the Scenic Overlook. The total cost of the proposed Waterfront Improvements Program is estimated to be \$1,568,220 (in 1987 dollars).

Total improvement costs for each site are estimated to be as follows:

Historic District	\$ 118,880
Scenic Overlook	25,290
Active Waterfront	1,306,250
Nature Trail	<u>117,800</u>
Total	\$1,568,220

The recreational features of the privately owned sites, the Active Waterfront, and the Nature Trail can potentially be realized entirely by private developers.

## II. CONTEXT

Preparation of the Waterfront Recreation Plan required consideration of Town goals and policies for its waterfront as well as existing use of the land environmental features and historic, social, and design character of the Town.

### Goals and Policies

Goals and Policies that form the basis for the plan's recommendations are as follows:

Goal #1 Public access should be established and maintained to waterfront recreational activities and view and overlook areas of natural beauty.

In support of this goal, the plan recommends:

- establishing a continuous waterfront access system linking the Town Center to Tudor Hall, the Scenic Overlook, the foot of Washington Street and McIntosh Run.
- enhancing the visual quality of overlook and direct waterfront access points at each of the four sites along the continuous waterfront access system.

Goal #2 Encourage utilization of natural habitat and man-made structures for natural history study and environmental education;

In support of this goal, the plan recommends:

- establishment and use of a natural amphitheater at the scenic overlook site.
- establishment of a nature trail along McIntosh Run.

Goal #3 Encourage conservation of open space and environmentally sensitive areas.

In support of this goal, the plan recommends:

- conservation of vegetation on the steep slopes of the scenic overlook area.
- protection of the wetlands and wooded areas along McIntosh Run.

Goal #4 Encourage commercial development supportive of waterfront recreation.

In support of this goal, the plan recommends:

- encouraging marina development at the foot of Washington Street in conjunction with a Waterfront Restaurant.

Goal #5 Provide increased opportunities for special events and festivals.

In support of this goal, the plan recommends:

- improving the Scenic Overlook area to permit public festivals and presentations on a float, visible from the overlook and seating provided on the slope and in the amphitheater.
- improving the foot of Main Street as potential site for festivals.

Goal #6 Assure preservation of visual amenities and acoustical privacy for surrounding residents.

In support of this goal, the plan recommends:

- maintaining vegetation along the edges of proposed waterfront recreation sites.
- requiring that any lighting of these sites and adjacent to a residential neighborhood will be directed away from adjacent property lines.

Goal #7 Preserve the waterfront community character.

In support of this goal, the plan recommends developing each of the four waterfront recreation sites in a manner compatible with the existing historic community scale of Leonardtown.

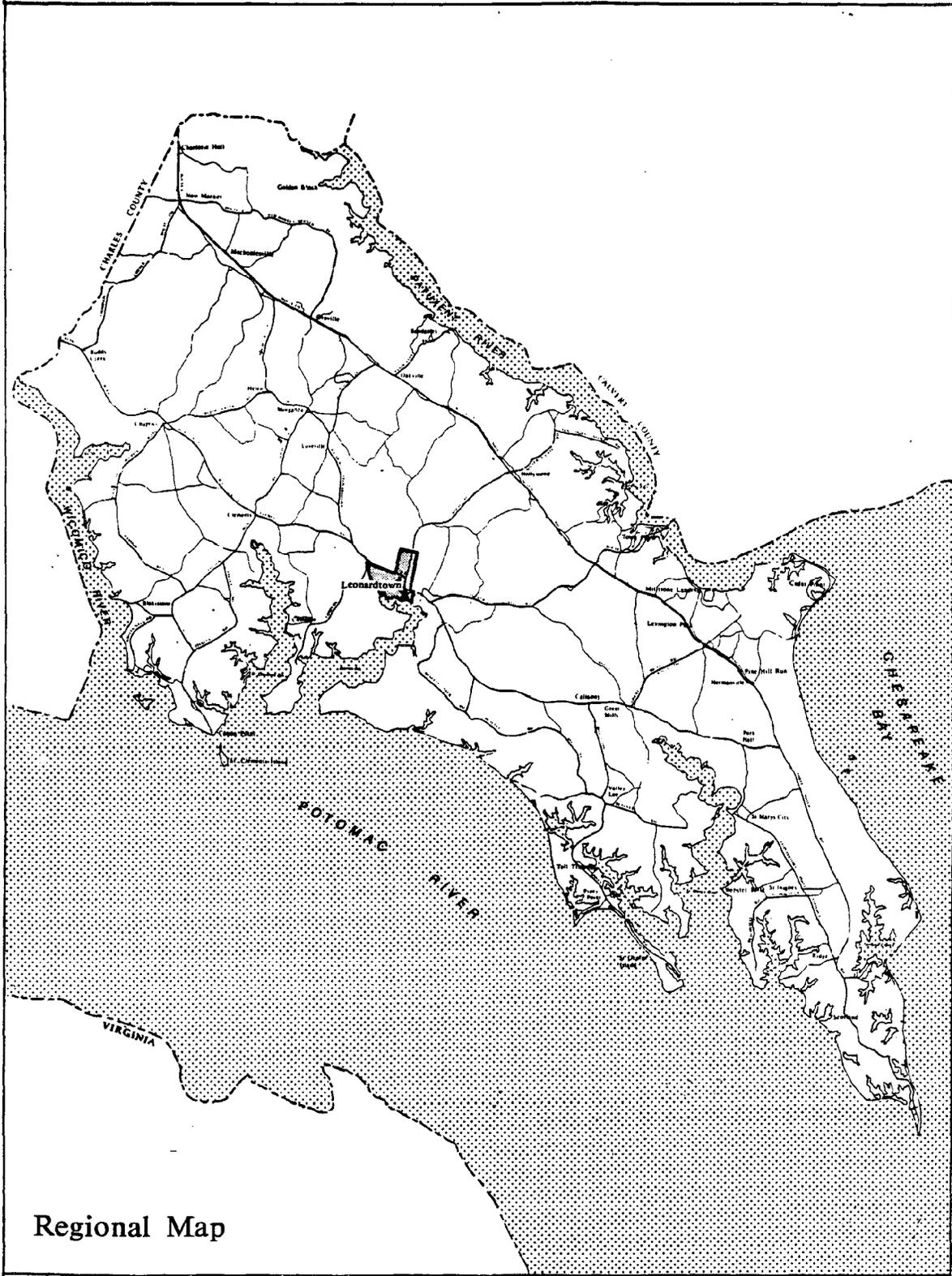


Figure 1

## Regional and Historic Overview

Leonardtwn is the only incorporated municipality in St. Mary's County and is located on Breton Bay just off the Potomac River. The Town was settled in 1660, and has served as the County Seat since 1708. Leonardtown was an important tobacco trading port until the Civil War. Leonardtown now functions as a major employment, retail service and governmental center for the County.

Population in St. Mary's County is expected to increase from 66,000 in 1985 to 85,500 in the year 2000, with the Leonardtown Election District increasing by about 1,000 persons. The proposed waterfront recreation sites in Leonardtown will help to meet the open space needs of this additional population.

## Environmental Setting

The local Critical Areas Program prepared for the Town simultaneously with the Waterfront Master Plan and published under separate cover presents a detailed analysis of the Town's natural environment. This analysis permitted thorough consideration of the Town's natural environment in identifying and evaluating proposed treatment of each of the four key sites. A detailed description and illustration of environmental conditions in Leonardtown is presented in Appendix A.

## Land Use

Development in Leonardtown has occurred primarily along Maryland Route 5 and Maryland 245, which intersect in town. The town square has the greatest concentration of commercial uses which branch out east and west along Fenwick Street and Park Avenue. Smaller clusters of commercial uses occur along Jefferson Street and at the intersection of Jefferson Street and Washington Street.

There are two major institutional and public areas in Leonardtown: the courthouse area, where Town and County government offices are located; and Washington Street on the east side, north of its intersection with Jefferson St. where the library, Leonard Hall Academy, the County Governmental Center, and new State Office Building are located.

Residential areas occur along Breton Bay east of Washington Street, above Fenwick Street west of Washington Street, to the south of Jefferson Street, and in the north on the west side of Washington Street. There are large areas of undeveloped land south of Jefferson Street and along the northern east and west town boundaries.

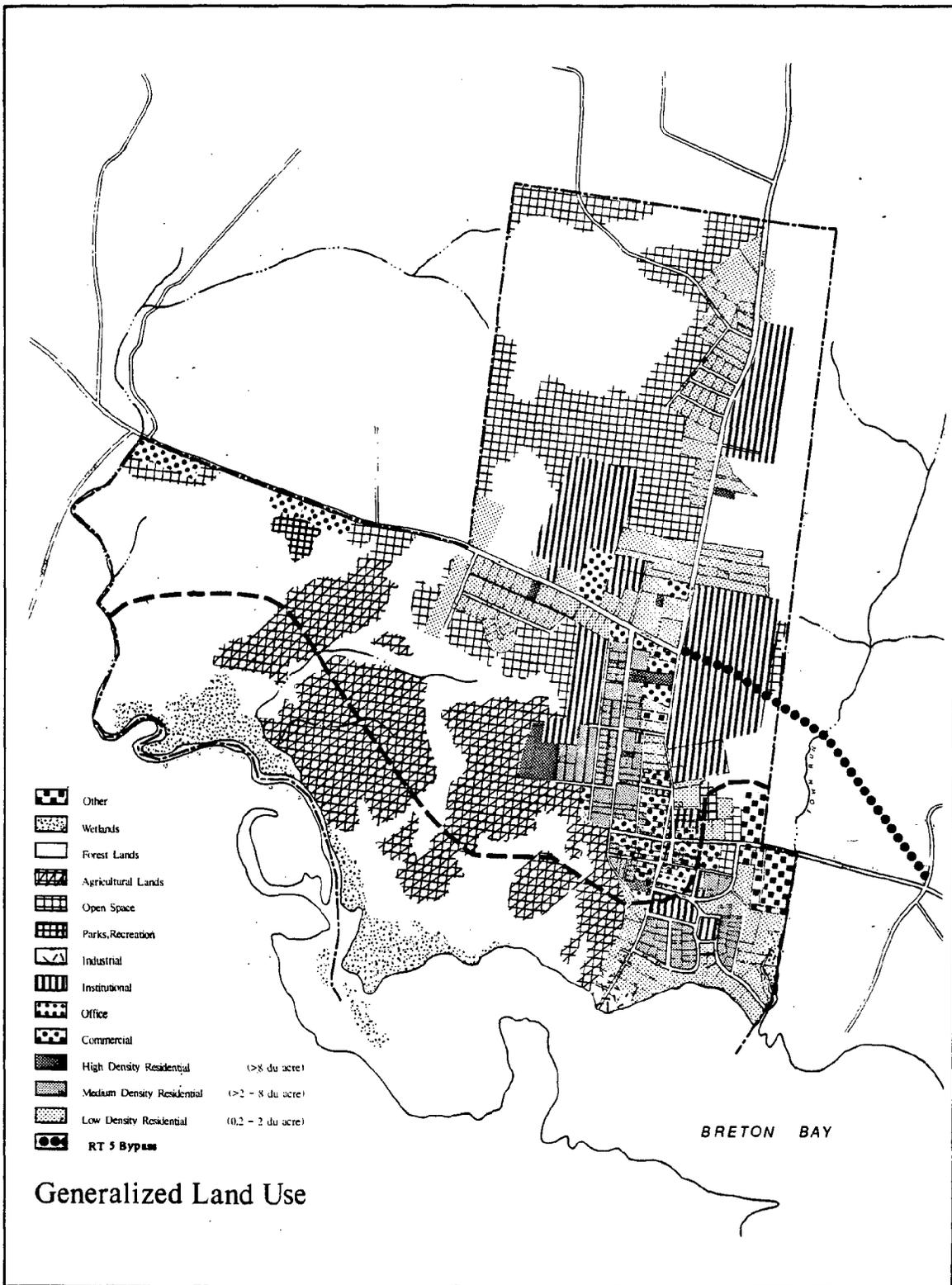


Figure 2

### Community Services and Facilities

Leonardtown is amply served with such community services as schools, fire protection, police protection, library and general governmental services. Recreation facilities, however, are generally limited at present to those provided at or adjacent to existing schools.

### Infrastructure

Public sewer and water are available throughout the developed areas of the town, and in the remaining undeveloped areas through tie-ins to existing water and sewer mains. Maps illustrating the extent of water and sewer service in Leonardtown are presented on pages 71 and 72 of Appendix A.

### Circulation

Circulation in Leonardtown moves generally along the Town's two major arteries, Routes 5 and 245. A bypass for Route 5, which now now cuts through downtown, is planned for the early 1990's.

The key limiting feature of the circulation system for use of the waterfront is the inadequacy of existing parking. A major element of the proposed waterfront Master Plan is the addition of 80-120 or more additional parking spaces within walking distance of the Historic Districts and the Waterfront.



Figure 3

### Social Systems

The many activities which could benefit from improvement of Leonardtown's Waterfront include oyster-shucking and tobacco festivals, as well as regular farm market days. The foot of Washington Street, in particular, has the potential to serve as a fine small urban waterfront festival area.

The scenic overview provides an opportunity for waterfront audiences to view fireworks or waterfront events presented from a float anchored in front of the area's natural amphitheater.

Means of attracting special events to the foot of Washington Street and the Scenic Overlook include advertisements in the local press and on the local radio station, direct communication with organizing committees for various events and establishment of a citizen volunteer group to solicit activities.

### Land Use Controls

In support of the Waterfront Recreation Plan, it is recommended that the Town amend its zoning ordinance to require the provision of one parking space for every two marina slips in any marina.

### Community Town

The Figure-Ground Study presented in Figure 4 presents an analysis of the locations and configuration of buildings within the Town and their relationship to the water's edge. The Town Center, with its larger more densely built structures, is particularly interesting in its location, approximately half way between the intersection of Route 5 and 245 and the Breton Bay Waterfront. The smaller more sparsely distributed buildings of the waterfront residential neighborhood form a distinct separation between the Town Center and the waterfront. A major intent of the Waterfront Recreation Plan is to link the Town Center more directly to the waterfront without disrupting the intervening neighborhood.

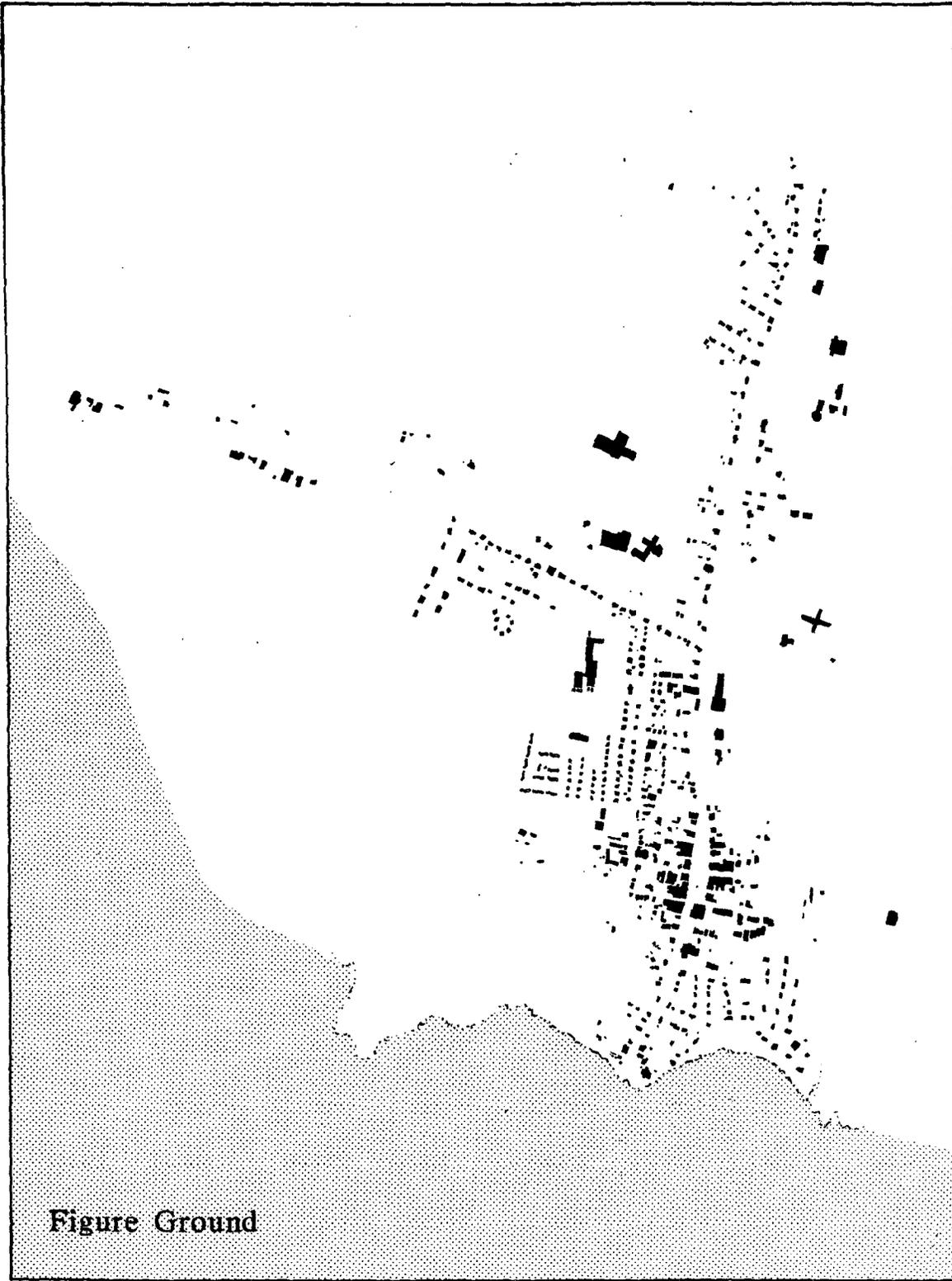


Figure 4

## PUBLIC SPACE RELATING TO THE WATERFRONT

In support of balancing the goal of enhancing public access to Leonardtown's waterfront with that of protecting the privacy of the waterfront residential area, an analysis was undertaken of public, semi-public, semi-private and private spaces between the Town Center and the Breton Bay water's edge. The results of the analysis are presented in Figure 5, in which private spaces are shown in black and public space white, and semi-public and semi-private spaces in tones of gray. Private spaces are assumed to include residences and those portions of offices and commercial buildings that are not typically open to the general public. Semi-private spaces consist of privately owned lands which are visually, although not physically accessible to the general public. Semi-public spaces include public offices and stores, which, although they are confined spaces, are readily accessible to the general public. Finally, public spaces are the streets walkways and areas in public ownership in the out-of-doors, and lobbies and store fronts that are immediately visible and accessible to those outdoor public spaces.

As illustrated in Figure 5, public spaces in Leonardtown include a large L-shaped central area linking the Town Center to Tudor Hall (see Figure 6, p.17). Central purposes of the plan are to enhance this major public open space and its views of the waterfront and to make access points between this space and the waterfront more welcoming.

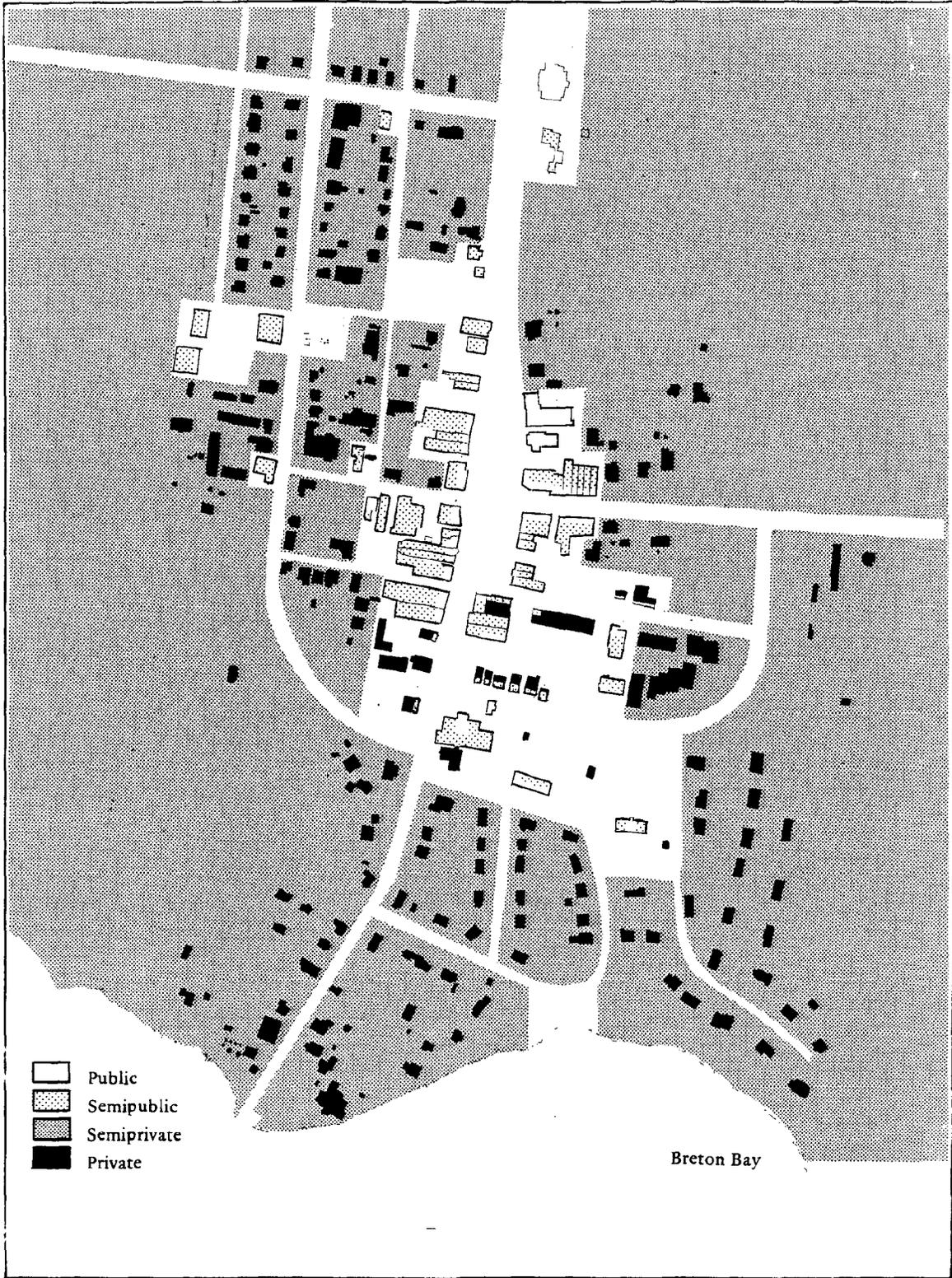


Figure 5

## II. RECOMMENDED IMPROVEMENTS

### Opportunities for Waterfront Related Recreation

Leonardtown is an example of an increasingly rare kind of community, a small town whose name readily brings images to mind of the place.

Leonardtown has three major areas which facilitate public use and enjoyment: the town center, the historic area, and Breton Bay. Even though each of these places is enjoyable in its own right, visual and physical connections between them are unappealing. The Waterfront Recreation Plan provides an opportunity to connect these distinct places. The plan's intent is to go beyond making yet another distinct place. Rather, the Waterfront Recreation Plan recommends improving a sequence of places which link the town to its waterfront.

In an analysis of existing conditions in Leonardtown, four opportunities for open space improvements were noted:

1. The Historic District
2. The Scenic Overlook along Key Way
3. The Waterfront at the foot of Washington Street
4. The natural wooded wetland area along McIntosh Run

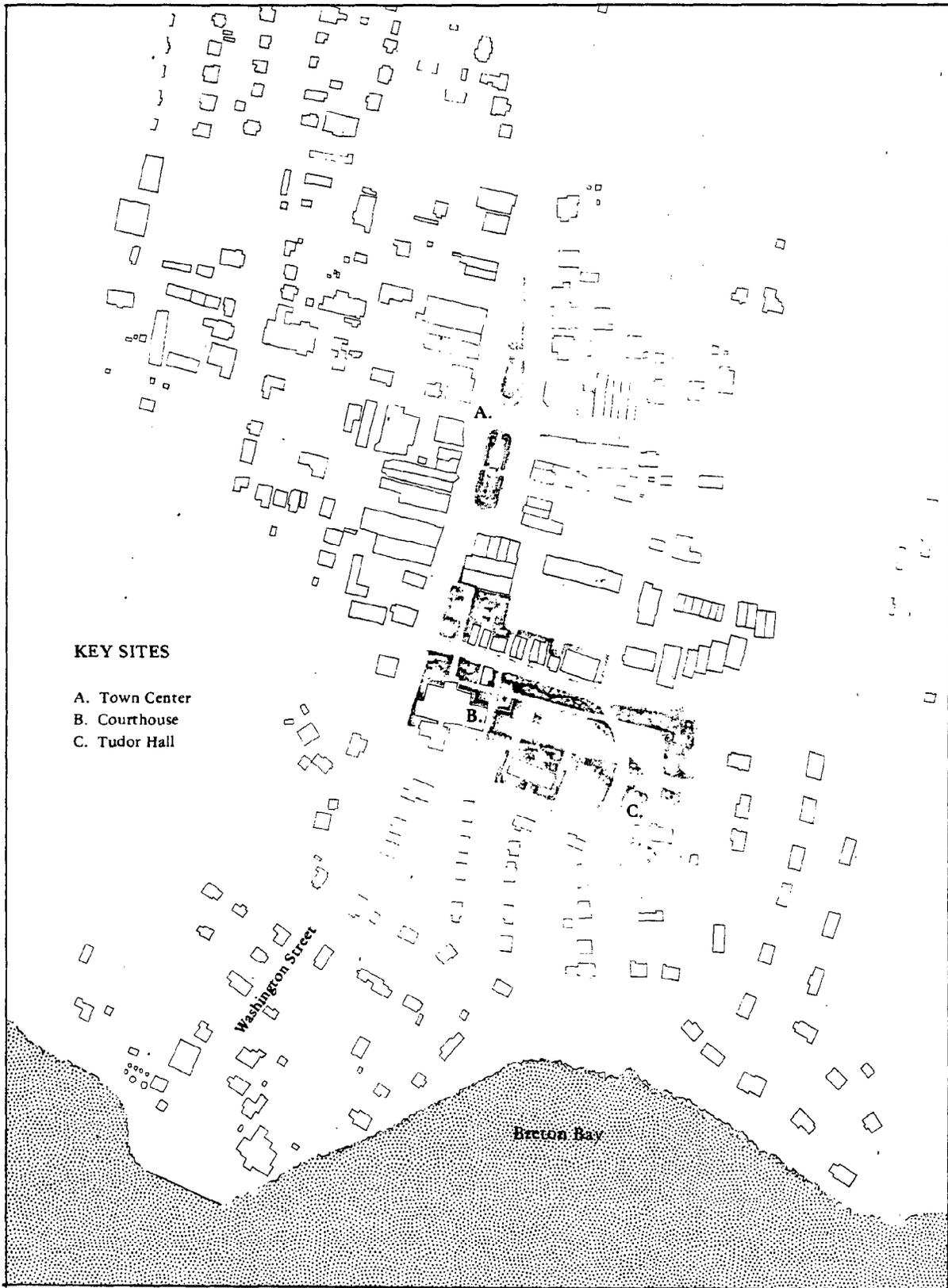
Each of these areas is very different from the others in character and use. Each was designed with emphasis both on enriching the individual place and on integrating it into the network of places linking the Town Center with the Waterfront. The intention of the series of drawings of each site is to demonstrate what ideally could exist there.

Based upon this vision of each site, a series of phased actions are identified to bring each site, gradually over time, closer to its full realization as recreational waterfront open space.

The following pages identify and describe the four sites. They are presented in the order of places one would see on a walk from the Town Center to the waterfront. An outline and illustrations are presented of the proposed phasing of improvements for each site. The four areas, when fully developed, will provide the town with a variety of recreation activity, both passive and active, for both residents and visitors to enjoy.

### Long-Term Maintenance Considerations

A critical consideration of the study has been the minimizing of long-term maintenance requirements on the part of the Town for new open space and recreation facilities. Two of the proposed open space areas are intended to remain privately owned with their maintenance over time the responsibility of the property owner. The first of these is the marina and active waterfront at the foot of Washington Street. The second is the natural trail along McIntosh Run, which, although it is proposed for public access, would serve as a part of the common open space required under the Town's Planned Unit Development Ordinance for future development of the site of which it is a part. The Historic District already receives maintenance as an active governmental center, and the Scenic Overlook is designed to require a level of maintenance comparable to that of the Historic District. No facilities are proposed that will have special maintenance requirements.



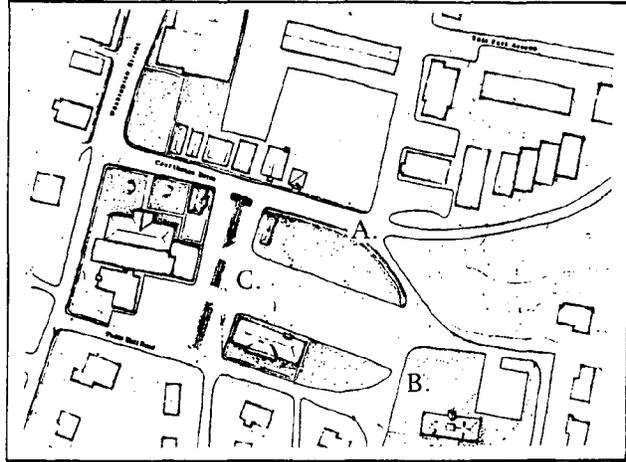
Waterfront Context of the Historic District

Figure 6

**HISTORIC DISTRICT**

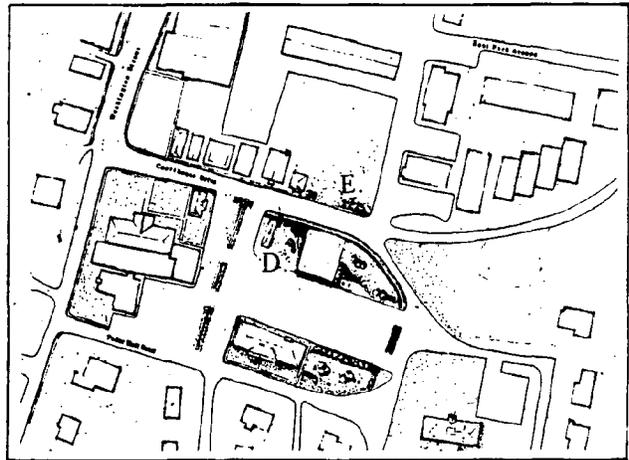
**PHASE I**

- A. Sidewalk at Courthouse Drive (south)
- B. Remove fence at Tudor Hall
- C. Landscaped median at parking lot



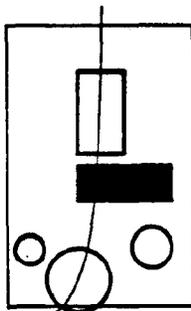
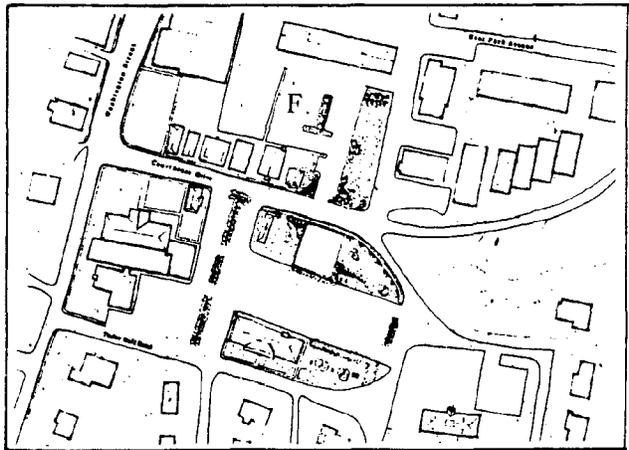
**PHASE II**

- D. Landscape Courthouse Drive (south)
- E. Landscape Courthouse Drive (north)



**PHASE III**

- F. Auxiliary Parking (46 spaces)



Recommended Improvements by Phase **Figure 7**

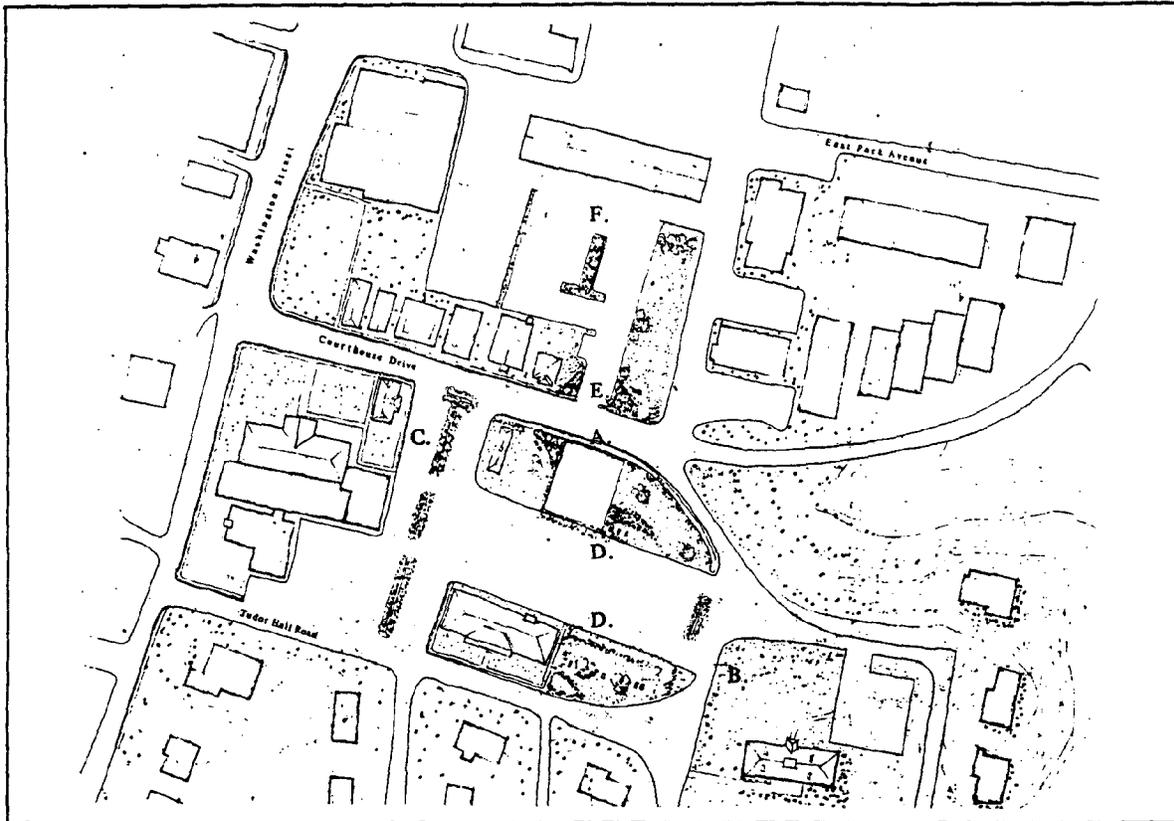


Figure 8.

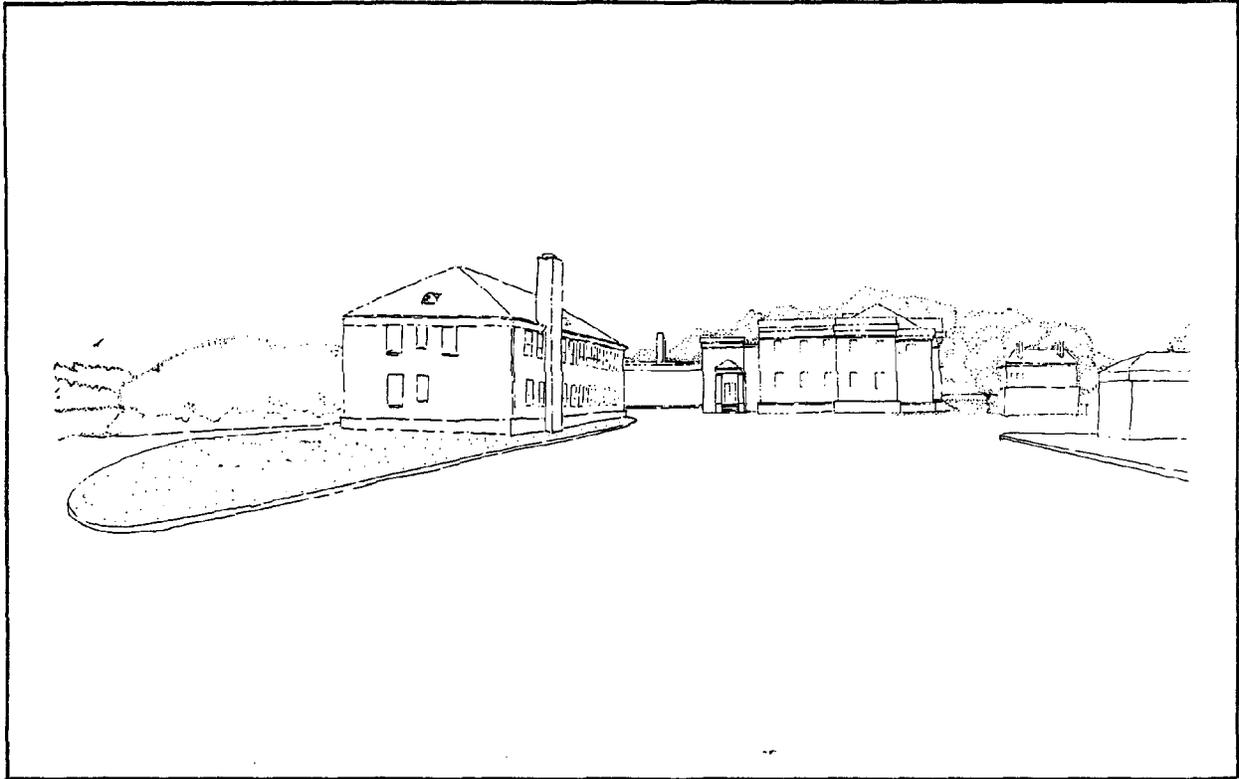
## 1. HISTORIC DISTRICT

A block away from the commercial center of Leonardtown, between Courthouse Drive and Tudor Hall Road, is an area of historical significance. On the eastern edge is the courthouse and old jail house and on the western edge is Tudor Hall. These buildings are physically and visually separated by a large, uninterrupted parking lot. The historic district provides the first glimpses of Breton Bay to people entering the town.

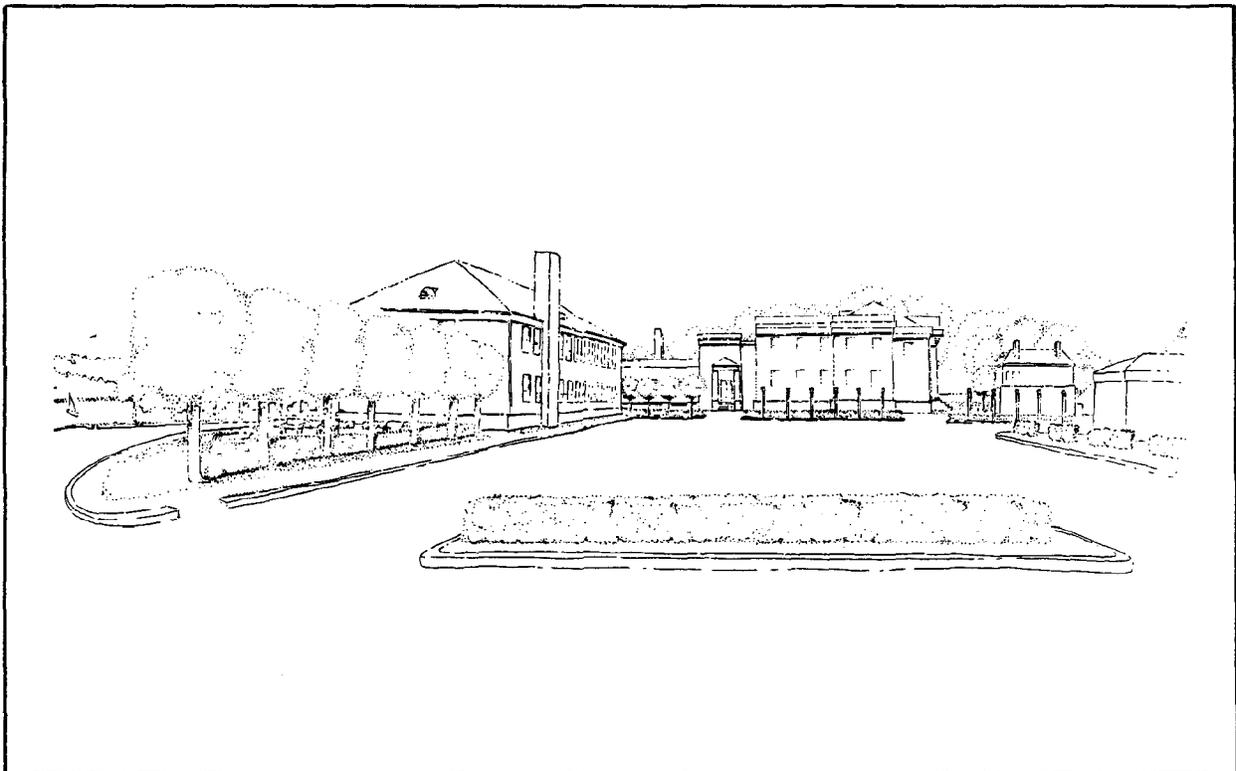
This area is not only historically and architecturally significant, but also an aggregation of many public building and services. This stock of office space, used by state, county, city, and the private sector, creates a demand for neighboring service-oriented businesses and a vital local economic and activity center for Leonardtown. The activity center assures a mixture of users: people who work, people who need

services, and also visitors and tourists. Not only is there a great parking demand, but also the need to make an enjoyable exterior environment and nice path from the Courthouse to Tudor Hall.

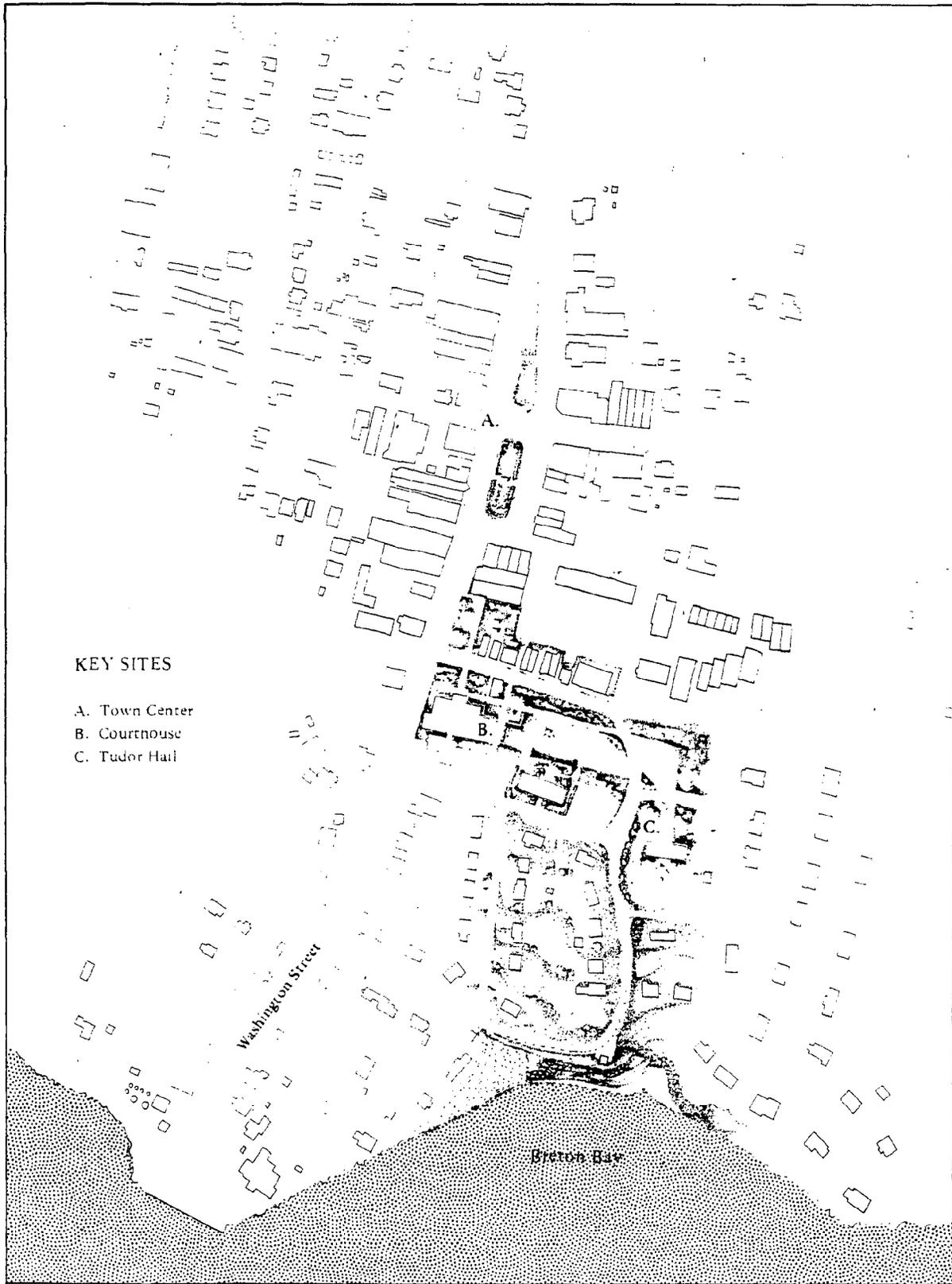
Figures 9 and 10 illustrate views of the courthouse from the East, before and after the installation of proposed improvements.



Historic District Before Improvements **Figure 9**



Historic District after Improvements **Figure 10**



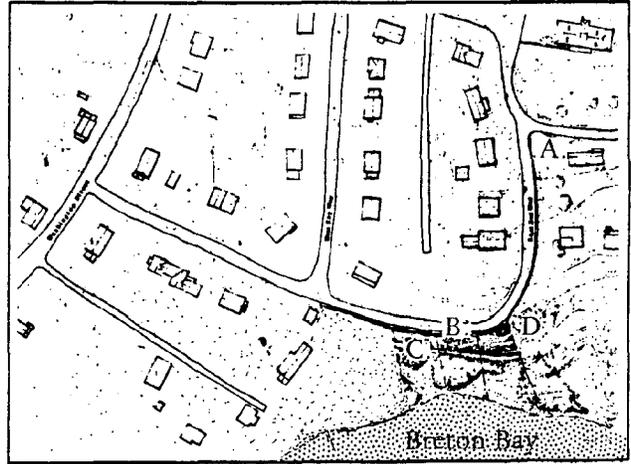
Waterfront Context of the Scenic Overlook

Figure 11

SCENIC  
OVERLOOK

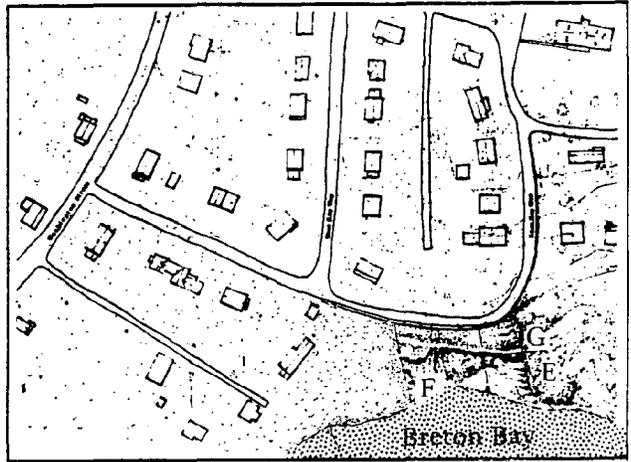
PHASE I

- A. Sidewalk from Tudor Hall
- B. Pedestrian path at shoulder of Key Way
- C. Pedestrian path at lower ledge
- D. Steps connecting the two paths



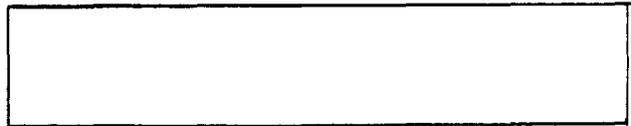
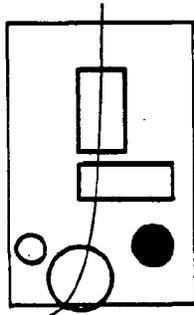
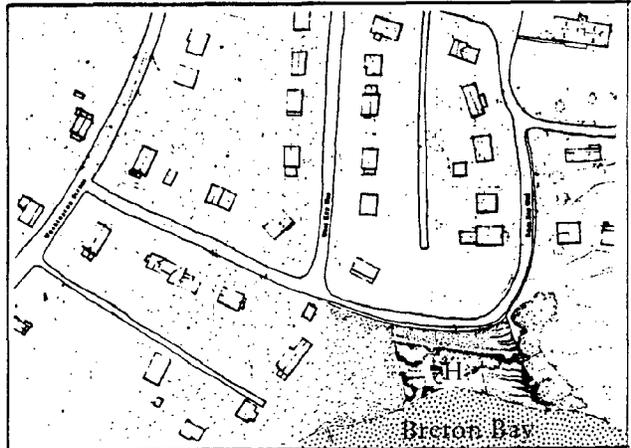
PHASE II

- E. Steps to water's edge
- F. Path along water's edge
- G. Overlook deck

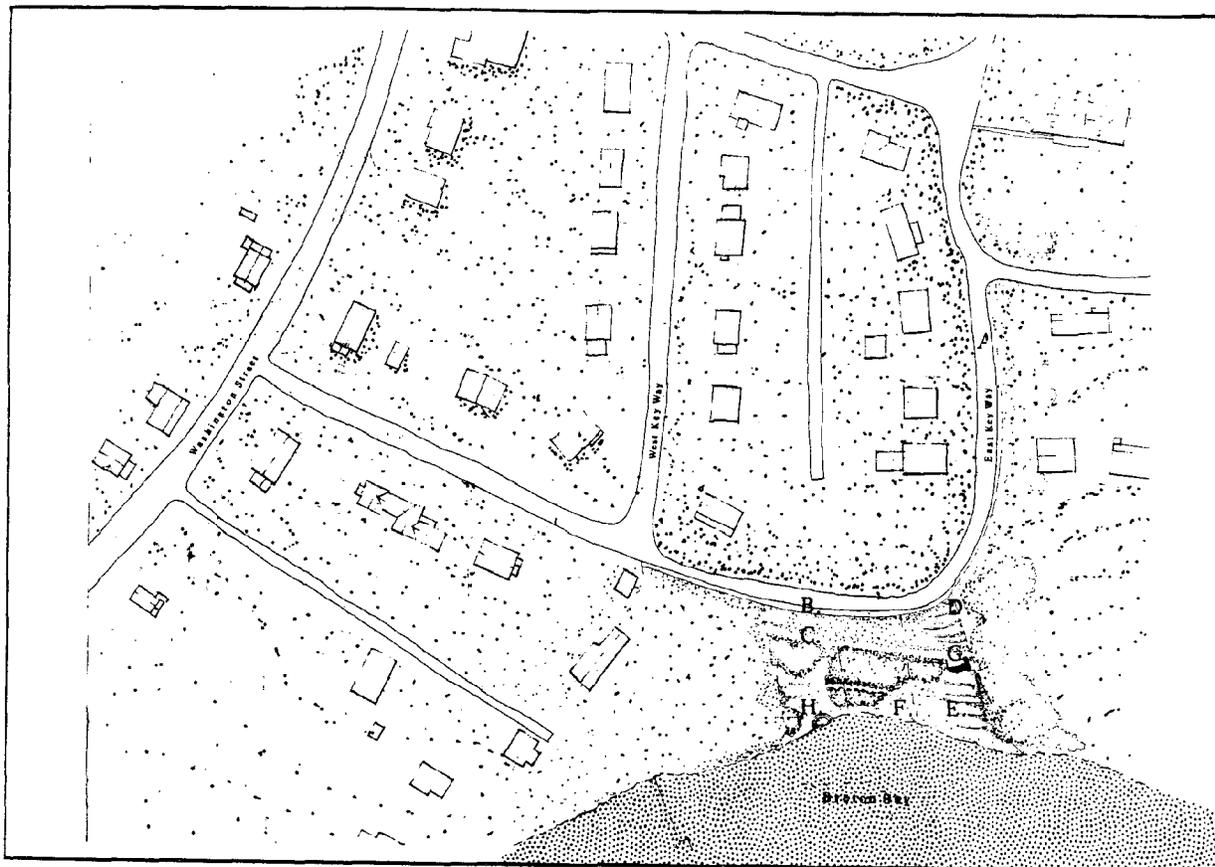


PHASE III

- H. Small Amphitheater



Recommended Improvements by Phase Figure 12



Recommended Improvements at the Scenic Overlook

Figure 13

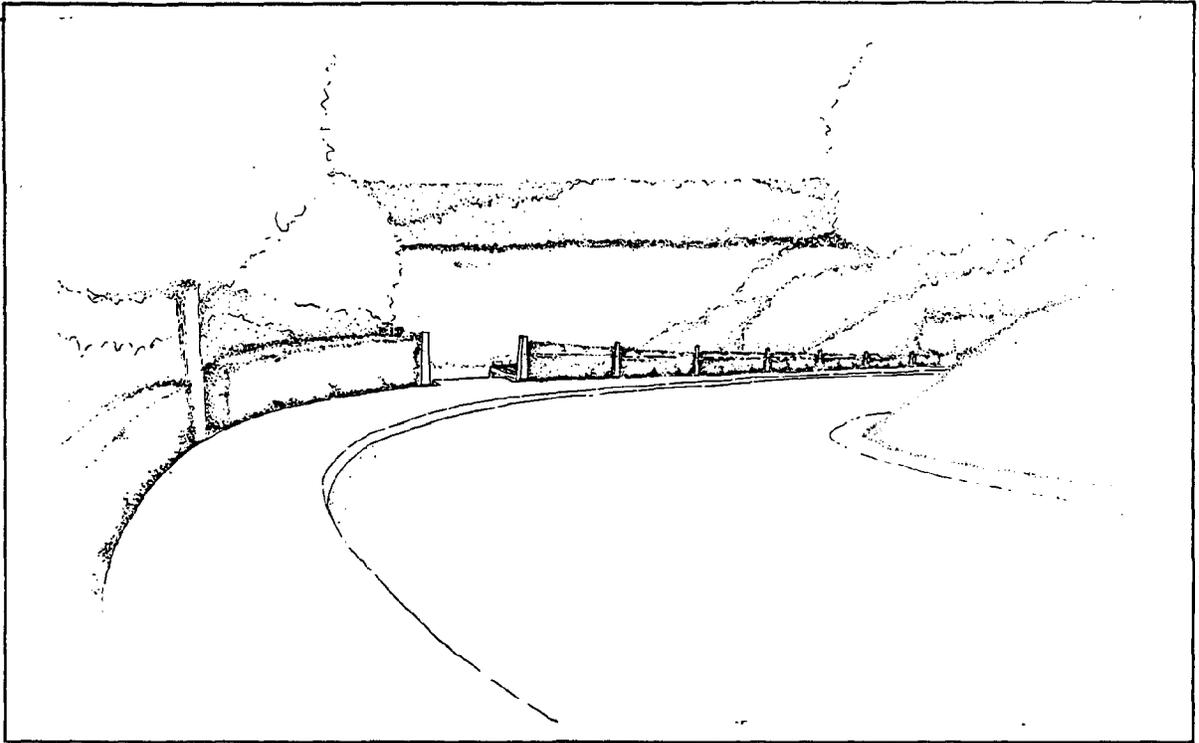
## 2. SCENIC OVERLOOK

From the historic area, a descent along Key Way leads to the scenic overlook, all the while with a view of Breton Bay. The town-owned waterfront property occurs on a steeply sloped area with lush vegetation and a natural shoreline at the water's edge. The view extends from the mouth of the McIntosh Run around towards the Potomac. The residential area to the east is topographically separated and the residential area on the west has a dense buffer of trees and steeply sloped land.

This environmentally sensitive area could provide the town with a quiet overlook area. At different levels of this sloped site, paths are proposed. At street level, a paved walkway along the shoulder of Key Way would allow pedestrian to enjoy the view casually while passing by. Below this, on the ledge created by the placement of a sewer line, a grass path would exist for people who want to spend some time there. At this level, because of the sloping site, the street and residential area are not visible. A wood overlook

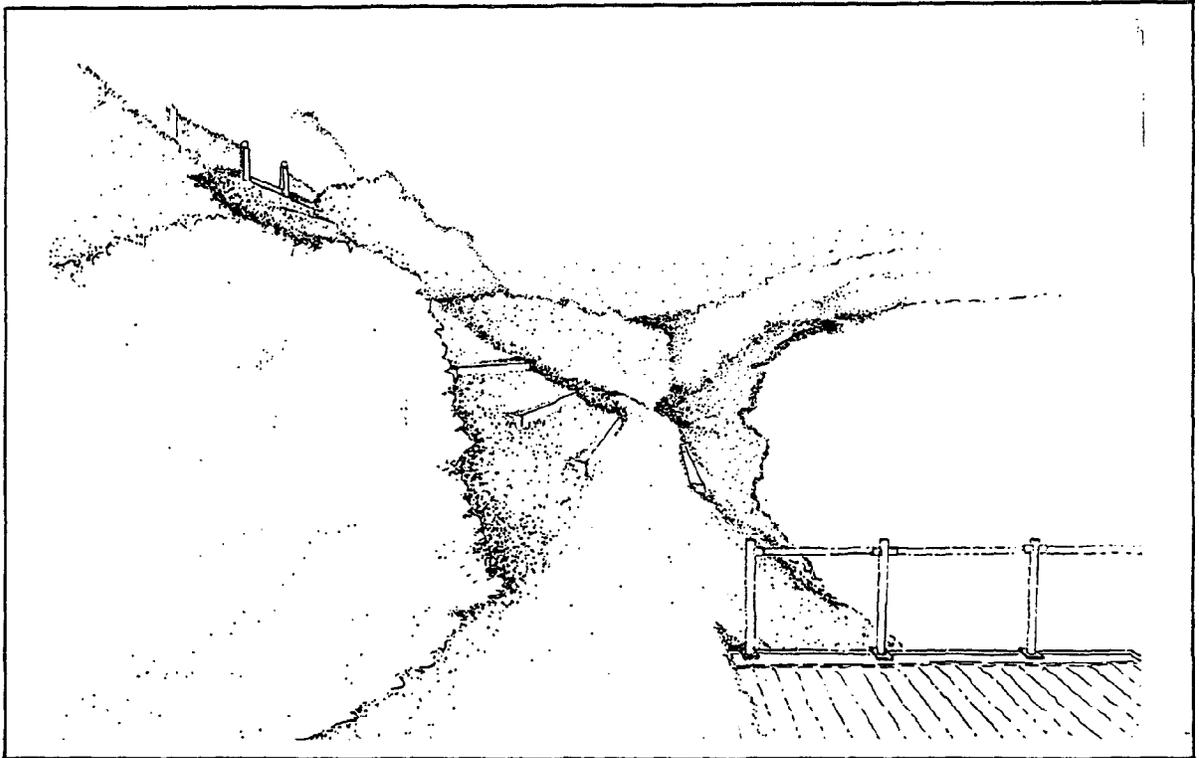
deck would provide a seating and gathering place. At a still lower level, a raised boardwalk along part of the shoreline would provide access for visitors without disturbing the vegetation. Here, a small amphitheater could be constructed to provide a space for lectures and productions. These three tiers of paths would be connected by steps nestled into the slope.

Figures 14 and 15 show views of the Scenic Overlook with the proposed improvements from above and from the hillside.



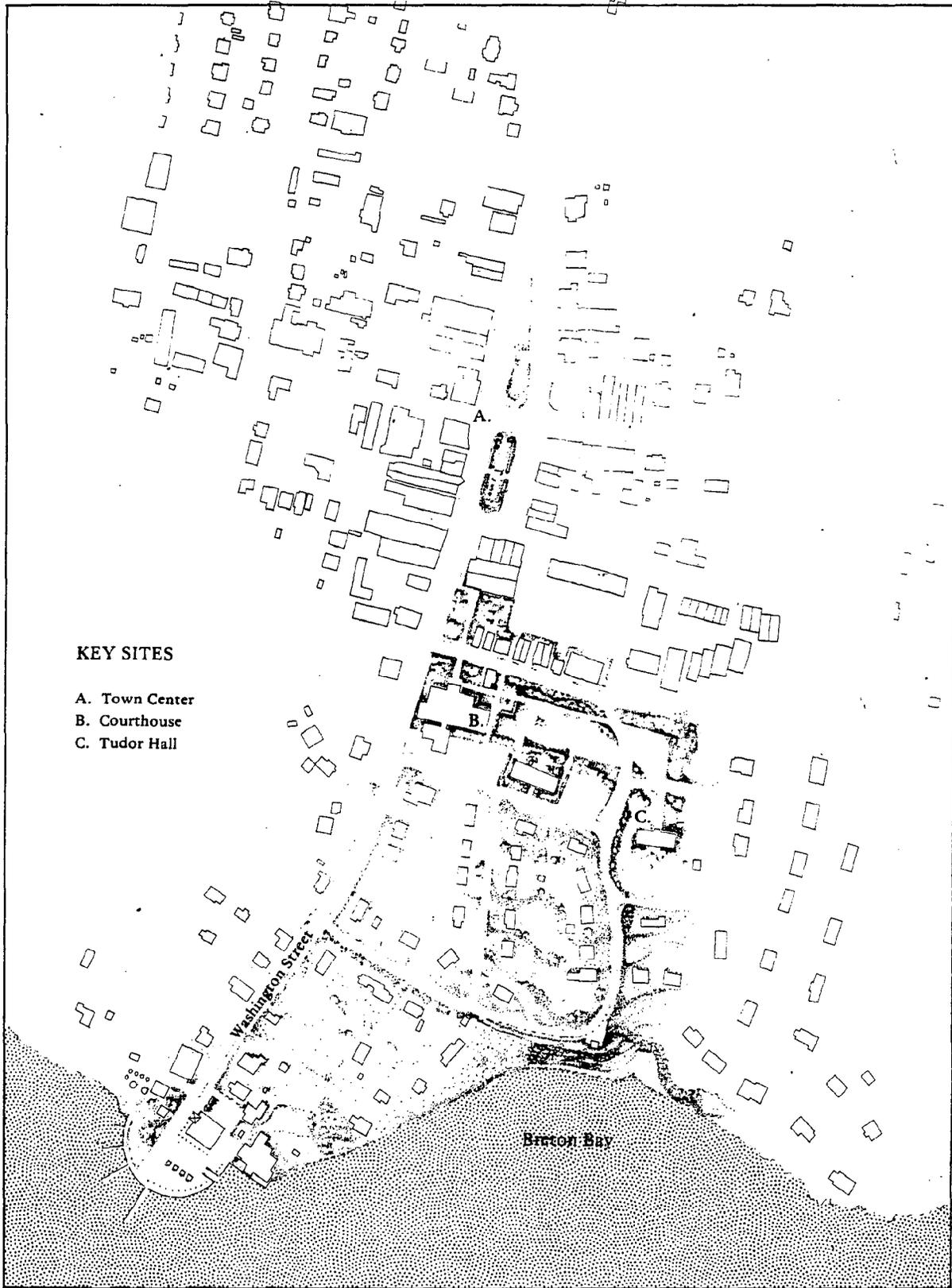
View of the Improved Scenic Overlook from Above

Figure 14



View of the Scenic Overlook from the Hillside

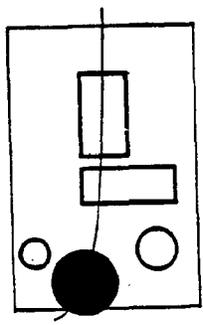
Figure 15

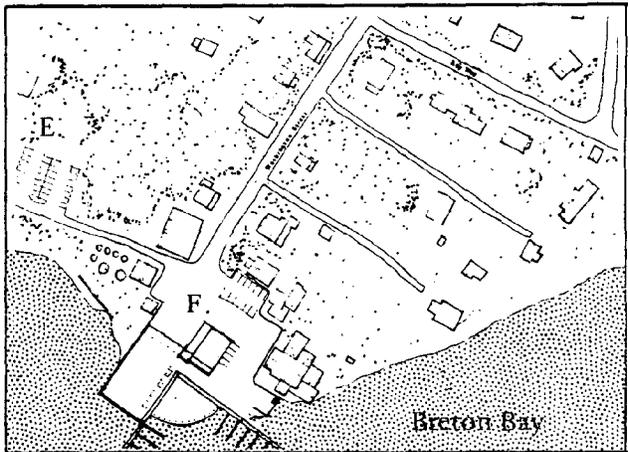
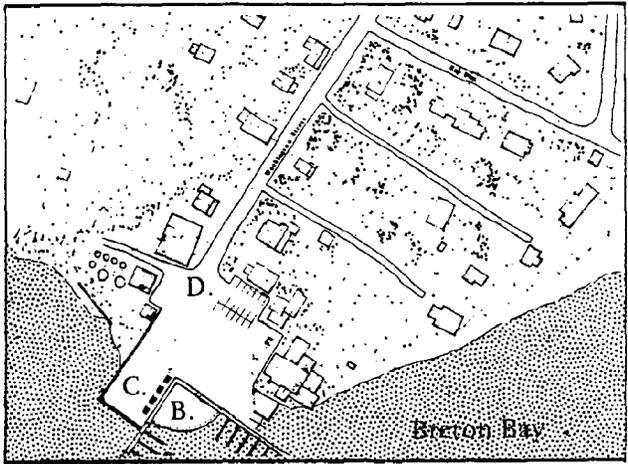
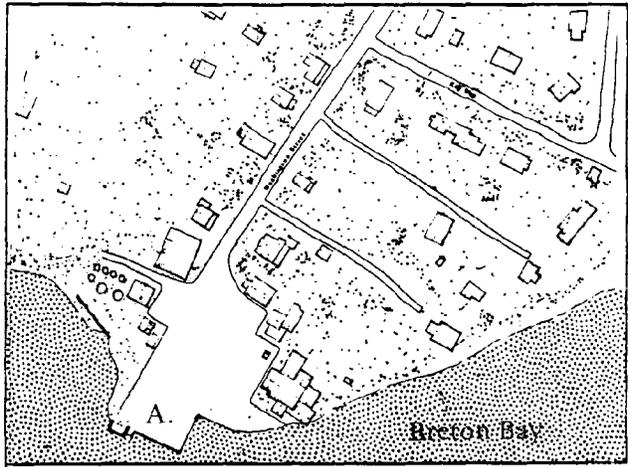


Waterfront Context of the Scenic Overlook

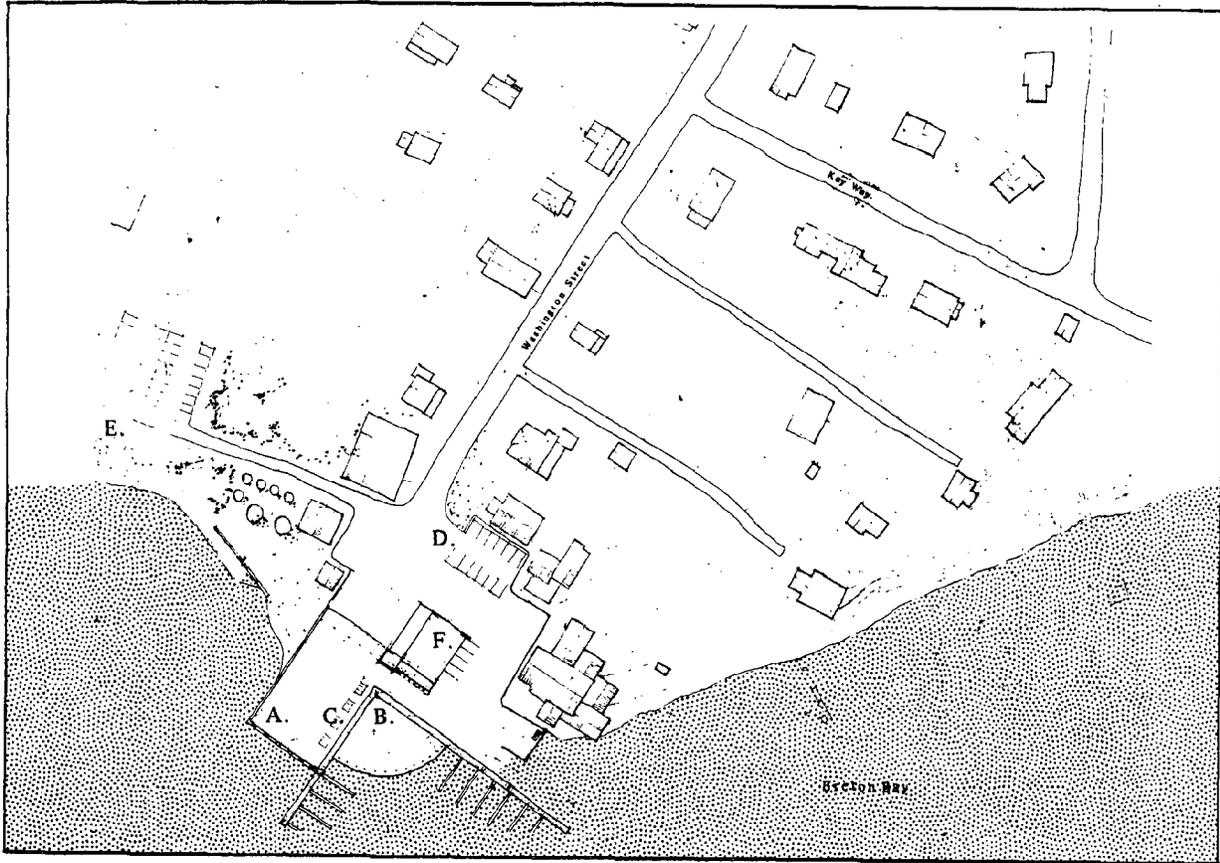
Figure 16

**ACTIVE WATERFRONT**

<p><b>PHASE I</b></p>	<p>A. Existing boat dock and road block addressed</p>
<p><b>PHASE II</b></p>	<p>B. Marina (up to 66 slips) C. Plaza/Market D. Parking Area (40 spaces)</p>
<p><b>PHASE III</b></p>	<p>E. Auxiliary Parking (40+ spaces) F. Commercial Building</p>
	



Recommended Improvements by Phase **Figure 17**



Recommended Improvements on the Active Waterfront

Figure 18

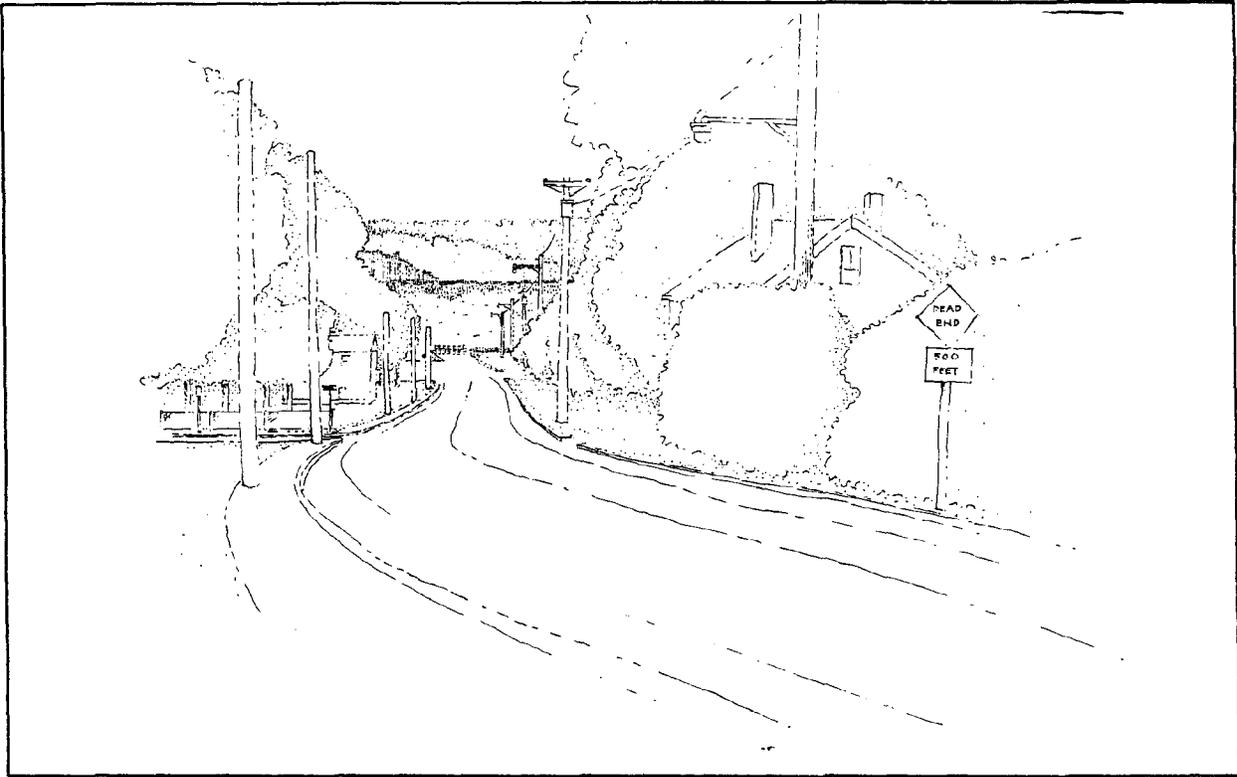
### 3. ACTIVE WATERFRONT

As well as a natural overlook park, an active waterfront is recommended in the Recreation Plan. This would accommodate both residents and visitors. Within walking distance of the commercial core of Leonardtown, Washington Street ends at Breton Bay, the site of the active waterfront. The surrounding light industrial buildings serve as a potential buffer between active waterfront uses and users and the residential area north of the site.

A marina would make it possible for boaters to come to Leonardtown by way of Breton Bay for sightseeing, a meal, or shopping. This increase in activity could accommodate a waterfront plaza where such activities as art shows or produce markets would take place on weekends, and children could play or ride their bicycles away from the streets. A building with shops or a restaurant could be a focus at this

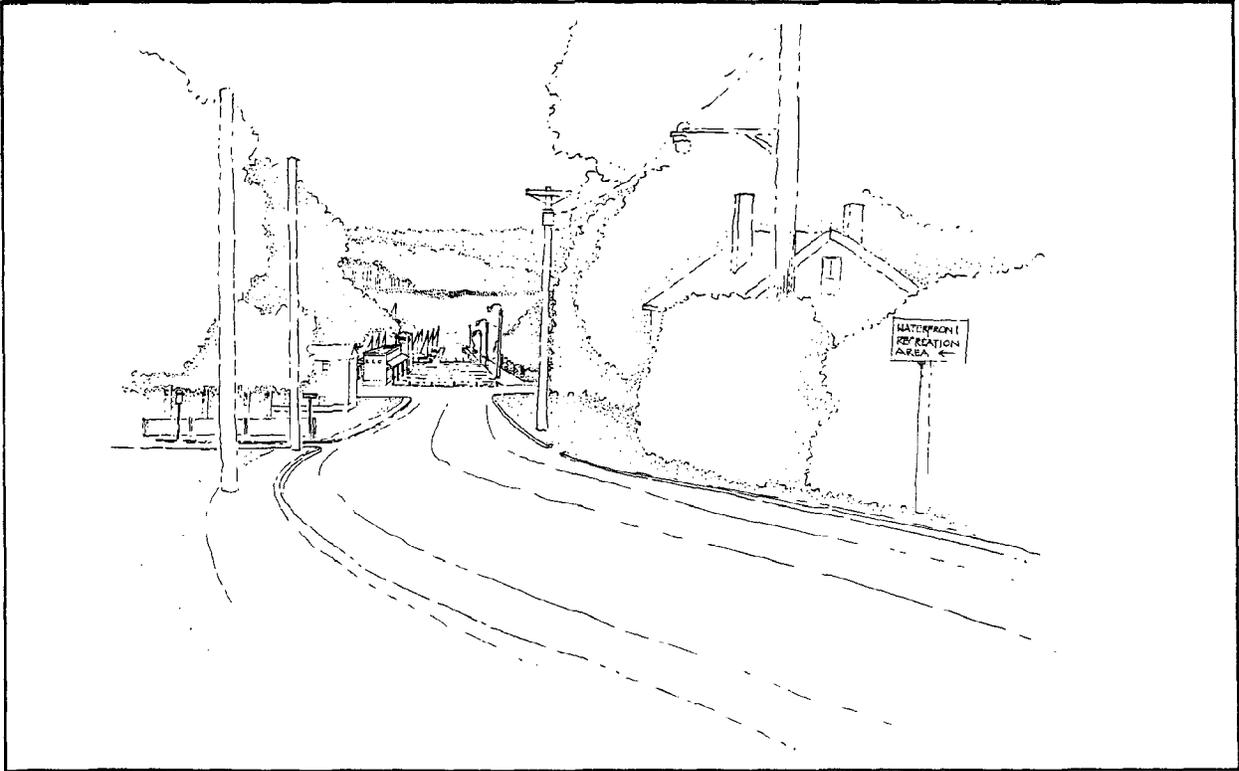
site. A parking lot would be necessary at the building site with an auxiliary parking area proposed to be located west of the site, if necessary.

Figures 19 and 20 illustrate views down Washington Street toward Breton Bay, before and after installation of the proposed improvements.



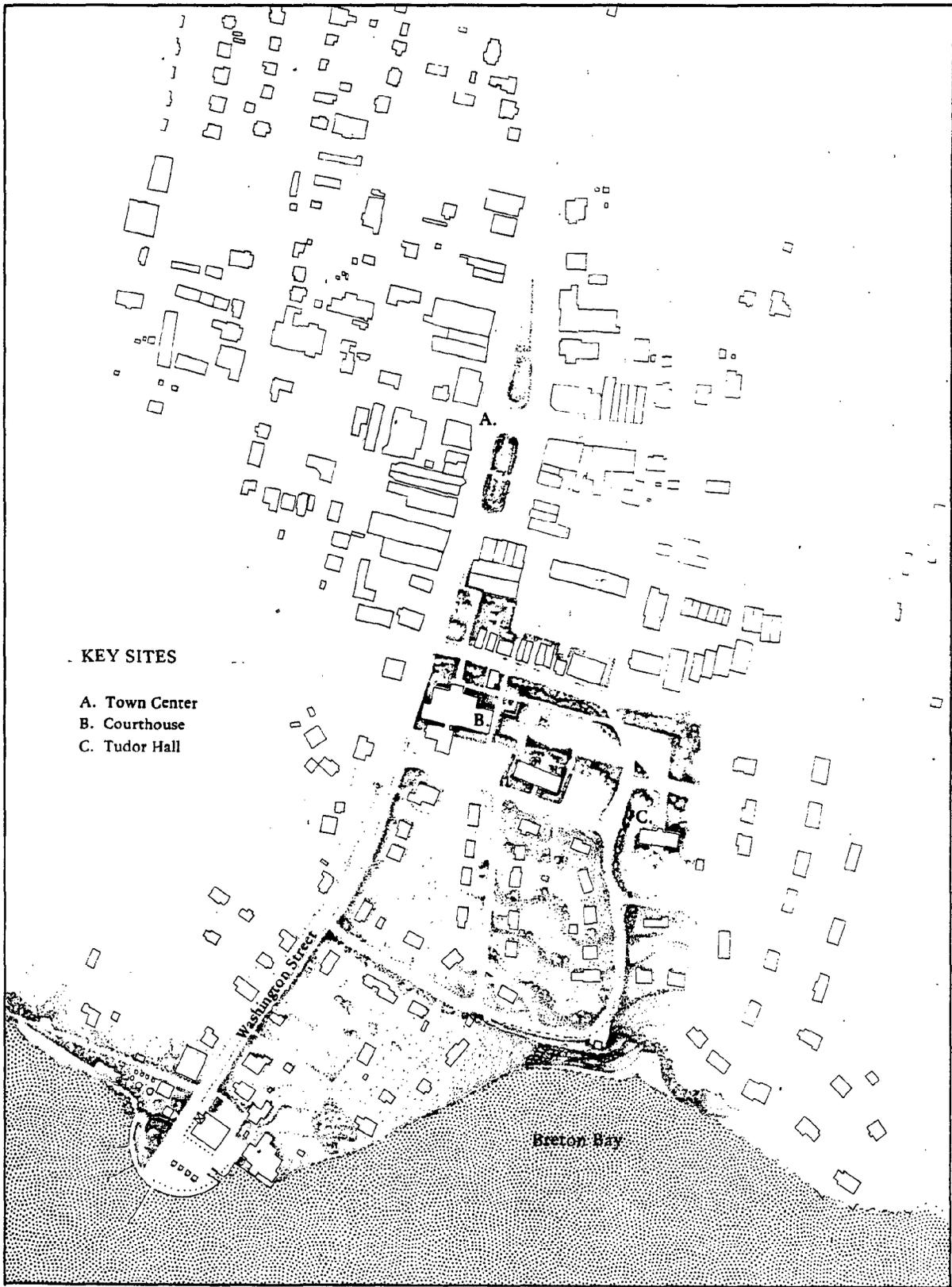
The Active Waterfront from Washington Street Before Improvmenets

Figure 19



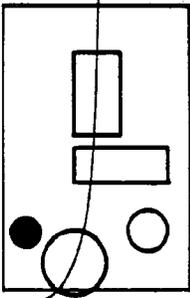
The Active Waterfront from Washington Street After Improvements

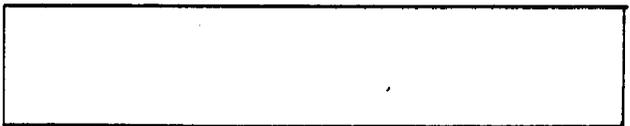
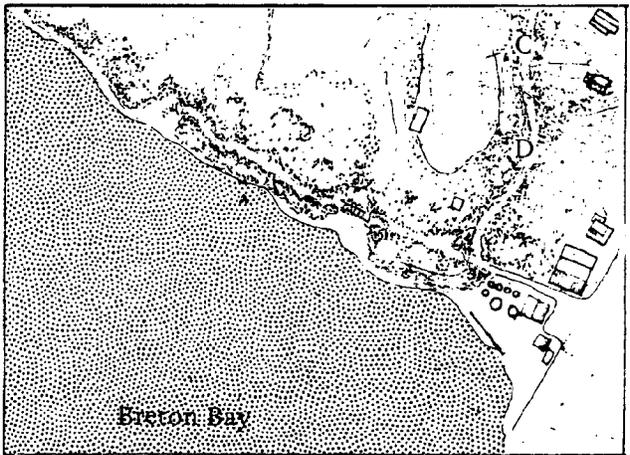
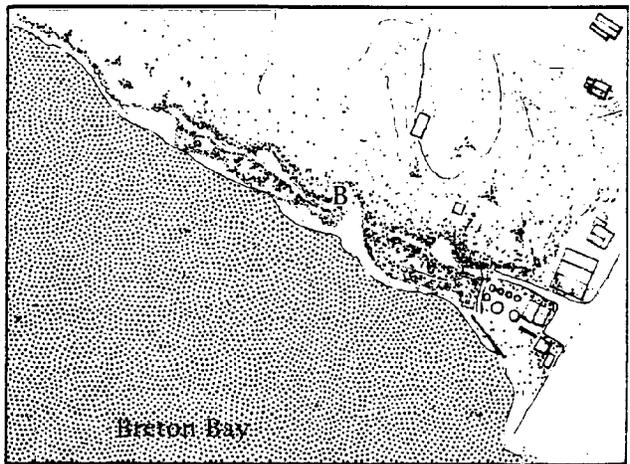
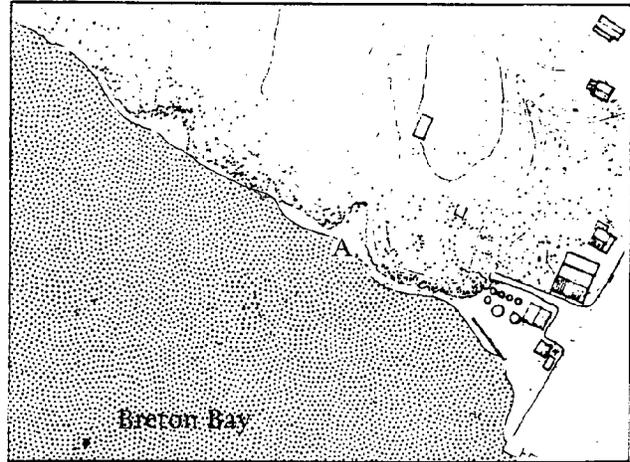
Figure 20



Waterfront Context of the Nature Trail

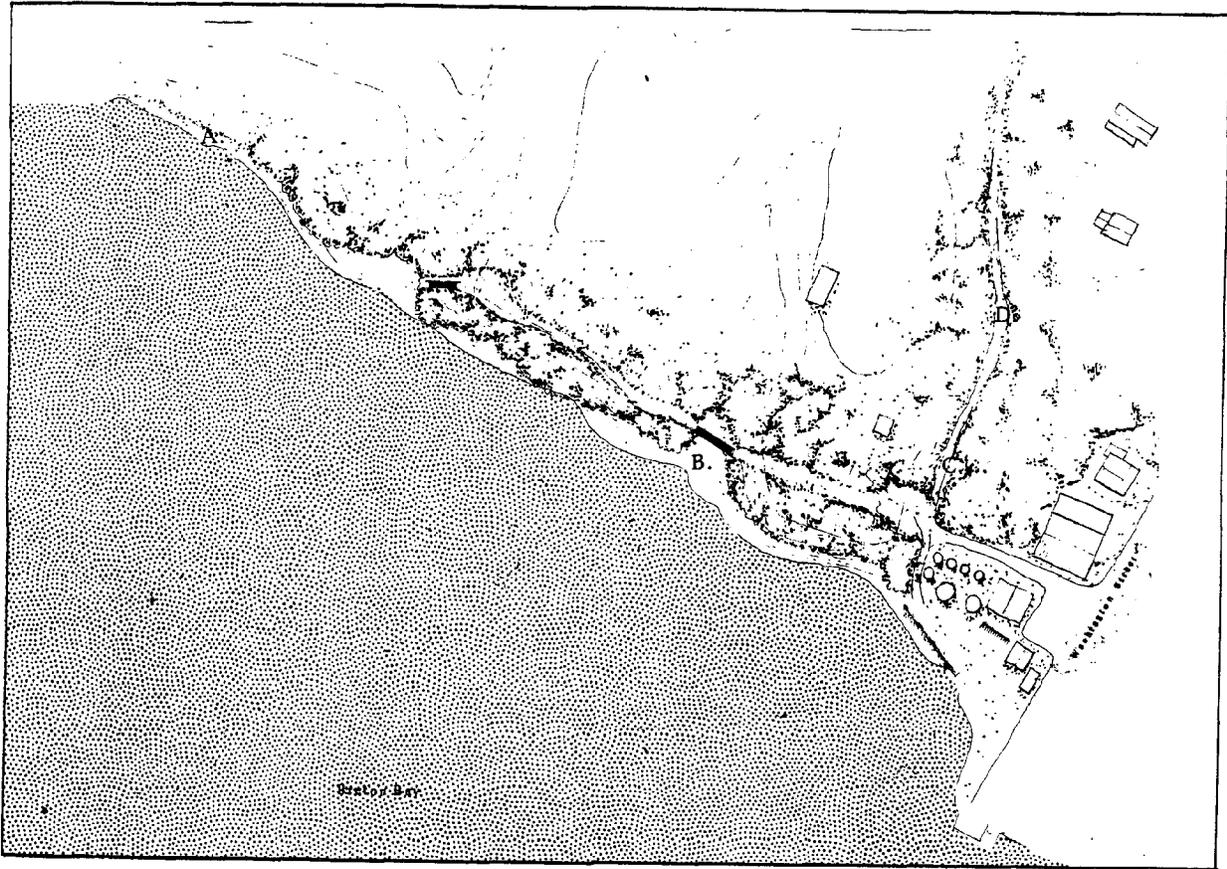
Figure 21

	NATURE TRAIL
PHASE I	A. Visual Edge
PHASE II	B. Trail with rest areas
PHASE III	C. Bike Path D. Link to Elementary School playground
	



Recommended Improvement by the Phase

Figure 22



Recommended Improvements on the Nature Trail

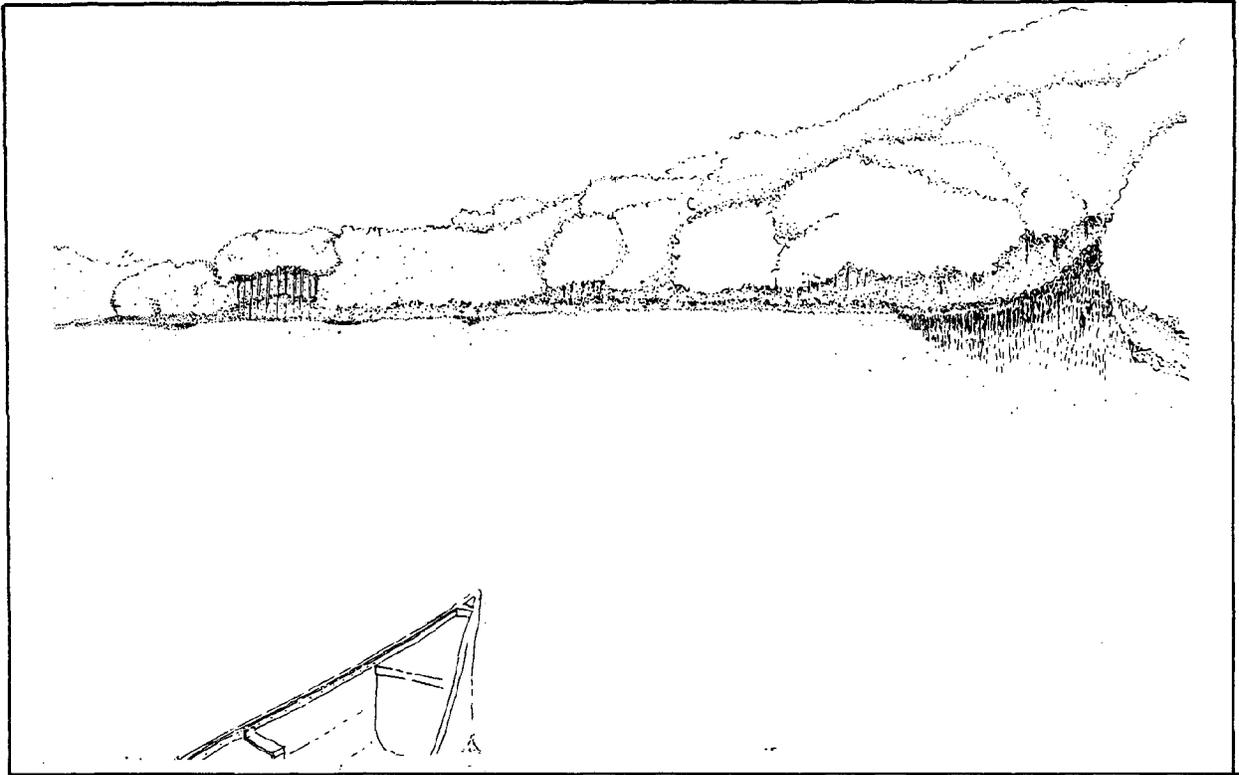
Figure 23

#### 4. NATURE TRAIL

The area along the shoreline to the west of Washington Street is environmentally sensitive, and includes wetlands, forests, and habitat resources. The views of the Bay and the area around the mouth of the McIntosh Run are beautiful. From this area, there is little evidence of the urban environment to the northwest.

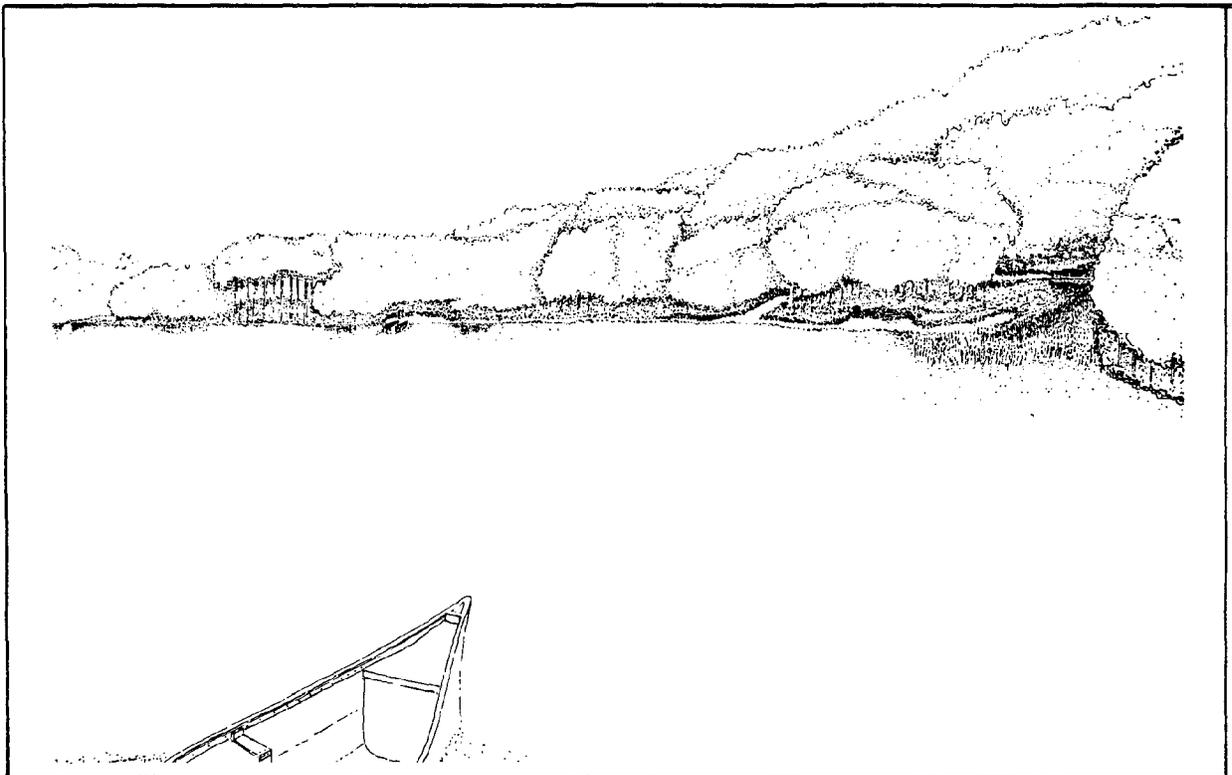
A small trail, including interpretive and directional signs and picnic facilities, could wander along the shoreline. There could be places along the way where canoes could pull up and rest. Along side, possibly further north, a bike path could connect Washington Street to Jefferson Street following McIntosh Run. A path north could connect the nature trail with the playground at the elementary school.

This area would have yet a different character and recreational purpose, further enhancing and enriching the community.



View of the Nature Trail Before Improvements

Figure 24



View of the Nature Trail After Improvements

Figure 25

### III. IMPLEMENTATION

#### Phasing

It is proposed that the improvements recommended to the four key waterfront sites in Leonardtown be carried out in three phases beginning with improvements of the publicly owned Historic District and Scenic Overlook. Later phase include further enhancement of these sites and improvement of the privately owned foot of Washington Street and proposed Nature Trail. Improvement of the two privately owned sites may be realized as integral parts of private development of these sites.

#### Order-of-Magnitude Cost Estimates

Figure 25 on the following page presents order-of-magnitude costs for the entire proposed waterfront improvement program by site and by phase. Subsequent pages break these costs down by details of proposed improvements at each site.

Total costs for Phase I are estimated to be \$38,040. Total costs for Phase II are \$901,930. Total costs for Phase III are \$628,250. Total costs for the entire program are \$1,568,220. While all costs of Phase I would be borne by the public, substantial portions of Phases II and III costs could be borne by private developers for amenities that would enhance private development projects as well as public access to the waterfront.

**COST SUMMARY BY PHASE AND PLACE**

	<b>HISTORIC DISTRICT</b>	<b>SCENIC OVERLOOK</b>	<b>ACTIVE WATERFRONT</b>	<b>NATURE TRAIL</b>
<b>PHASE I</b>	A. Sidewalk at Courthouse Drive (south) B. Remove fence at Tudor Hall C. Landscaped median at parking lot	A. Sidewalk from Tudor Hall B. Pedestrian path at shoulder of Key Way C. Pedestrian path at lower ledge D. Steps connecting the two paths	A. Existing boat dock and road block addressed	A. Visual Edge
<b>TOTAL COST PHASE I</b> \$ 38,040	subtotal \$ 18,200	subtotal \$ 8,790	subtotal \$ 11,050	existing condition
<b>PHASE II</b>	D. Landscape Courthouse Drive (south) E. Landscape Courthouse Drive (north)	E. Steps to water's edge F. Path along water's edge G. Overlook deck	B. Marina (up to 66 slips) C. Plaza/Market D. Parking Area 40 spaces	B. Trail with rest areas
<b>TOTAL COST PHASE II</b> \$ 901,930	subtotal \$ 27,180	subtotal \$ 13,500	subtotal \$ 834,950	subtotal \$ 26,300
<b>PHASE III</b>	F. Auxiliary Parking (46 spaces)	H. Small Amphitheater	E. Auxiliary Parking (40+ spaces) F. Commercial Building	C. Bike Path D. Link to Elementary School playground
<b>TOTAL COST PHASE III</b> \$ 628,250	subtotal \$ 73,500	subtotal \$ 3,000	subtotal \$ 460,250	subtotal \$ 91,500

**TOTAL COST ALL PHASES**  
\$ 1,568,220

**TOTAL COST HISTORIC DISTRICT**  
\$ 118,880

**TOTAL COST SCENIC OVERLOOK**  
\$ 25,290

**TOTAL COST ACTIVE WATERFRONT**  
\$1,306,250

**TOTAL COST NATURE TRAIL**  
\$ 117,800

Figure 26

1. HISTORIC AREA

PHASE I

	<u>Item Costs</u>	<u>Subtotals and Totals</u>
A. Sidewalk at Courthouse Drive (south) 300 lin ft of sidewalk 3 ft wide 100 sf at \$20 sq yd	\$ 2,000	\$ 2,000
B. Remove fence at Tudor Hall 600 lin ft at \$2 lin ft	\$ 1,200	\$ 1,200
C. Landscaped Median at Parking Lot 250 lin ft at \$60 lin ft curbing at both sides 3 ft sidewalk at center planting at sides (hedging and groundcover)	\$ 15,000	\$ 15,000
Town Signage Program (cost not included in totals)	\$ 20,000	\$ 20,000

PHASE II

D. Landscape Courthouse Drive (south) 25,000 sf area, 4,900 sf landscaped 20% trees (9 @ \$600 each) 25% groundcover 10% hedge 4 benches @ \$800 each	\$ 5,400 \$ 2,800 \$ 6,000 \$ 3,200	\$ 17,400
E. Landscape Courthouse Drive (north) 1,700 sf, 1,700 sf landscaped 20% trees, (4 trees @ \$600 each) 25% groundcover 10% hedge 2 benches @ \$800 each	\$ 2,400 \$ 2,900 \$ 2,880 \$ 1,600	\$ 9,780

PHASE III

F. Auxiliary Parking 46 spaces @ \$1,500 each Landscaped Median 75 lin ft @ \$60 lin ft (see 1C)	\$ 69,000 \$ 4,500	\$ 73,500
--	-----------------------	-----------

\$118,880  
(signage not  
included)

## 2. SCENIC OVERLOOK

### PHASE I

	<u>Item Costs</u>	<u>Subtotals and Totals</u>
A. Sidewalk from Tudor Hall		
300 lin ft of sidewalk, 3 ft wide	\$ 2,000	
100 sq yds @ \$20 sq yd		
300 lin ft of edge landscaping,		
1 ft deep		
33 sq yds @ \$30 sq yd	\$ 990	\$ 2,990
B. Pedestrian path at Shoulder of Key Way		
300 lin ft of gravel path 4 ft wide		
133 sq yds @ \$10 sq yd	\$ 1,350	
300 lin ft of guardrail @ \$11 lin ft	\$ 3,300	\$ 4,650
C. Pedestrian Path at Lower Ledge		
300 lin ft of grass path, 3 ft wide		
100 sq yds @ \$1.5 sq yd, reseeding	\$ 150	\$ 150
D. Steps Connecting the Two Paths		
10 wood terraced steps, 8 ft wide		
12" risers every 36"	\$ 1,000	\$ 1,000

### PHASE II

E. Steps to Water's Edge		
40 remaining wood terraced steps,		
4 ft wide 12" risers every 36"	\$ 2,000	\$ 2,000
F. Path Along Water's Edge		
100 lin ft of natural path @ \$15		
lin ft	\$ 1,500	\$ 1,500
G. Overlook Deck		
200 sq ft wood deck w/rail		
@ \$50 sf	\$ 10,000	\$ 10,000

### PHASE III

H. Amphitheater		
200 sf earth bermed theater		
wood terrace, grass seeded	\$ 3,000	\$ 3,000
		\$ 25,290

### 3. ACTIVE WATERFRONT

#### PHASE I

	<u>Item Costs</u>	<u>Subtotals and Totals</u>
A. Existing Boat Dock and Road Block Addressed		
140 sf resurfacing		
demolition cost @ \$5 sq yd	\$ 700	
precast concrete pavers hand		
set on sand @ \$70 sq yd	\$ 9,800	
50 lin ft of new rail @ \$11 lin ft	\$ 550	\$ 11,050

#### PHASE II

B. Marina		
250 lin ft moderate repairs on		
existing timber bulkheads @ \$100		
lin ft	\$ 25,000	
*66 slips @ \$8,500 each	\$561,000	
180 sq yds wood decking @ \$75 sq yd	\$ 13,500	
150 lin ft of wood pier @ \$75 lin ft	\$ 11,250	\$610,750

#### C. Plaza/Market

1,390 sq yd resurfacing		
demolition costs @ \$5 sq yd		
precast concrete pavers hand set on sand		
@ \$70 sq yd	\$104,250	
4 open air market pavilions @ \$10,000		
each	\$ 40,000	
75 lin ft of treated edge condition		
6 metal bollards @ \$200 each	\$ 1,200	
6 bollards w/light @ \$2,000 each	\$ 12,000	\$157,450

#### D. Parking Area

40 parking spaces @ \$1,500 each	\$ 60,000	
75 lin ft of treated edge condition		
landscaped buffer, 3 ft deep,		
25 sq yds @ \$30 sq yd	\$ 750	
2 lights @ \$3,000 each	\$ 6,000	\$66,750

#### PHASE III

#### E. Auxiliary Parking

40+ parking spaces (soft surface)		
14,000 sf area		
200 lin ft road (20 ft wide)		
18,000 sf area		
Total = 2,000 sq yd @ \$10 sq yd	\$ 20,000	
4 lights @ \$2,000 each	\$ 8,000	\$ 28,000

\*Not necessarily a maximum.

	<u>Item Costs</u>	<u>Subtotals and Totals</u>
F. Commercial Building		
3,750 sf commercial space @ \$115 sf	\$431,250	
100 lin ft treated edge condition landscaped buffer, 3 ft deep		
33 sq yds @ \$30 sq yd	\$ 1,000	\$432,250
		\$1,269,750

	<u>Item Costs</u>	<u>Subtotals and Totals</u>
<u>4. NATURE TRAIL</u>		
<u>PHASE I</u>		
A. Visual Edge to be viewed from other areas (stays in existing condition during Phase I)		
<u>PHASE II</u>		
B. Trail with Rest Areas		
900 lin ft of natural trail @ \$15 lin ft	\$ 13,500	
50 lin ft of bridging at various sensitive locations @ \$60 sf	\$ 3,000	
Interpretive and directional sign program	\$ 8,000	
2 rest areas with benches	\$ 1,800	\$ 26,300
<u>PHASE III</u>		
C. Bike Path		
1,500 lin ft connecting S. Washington St. to Lawrence Ave. @ \$40 lin ft	\$ 60,000	
100 lin ft of wood bridging at various sensitive locations @ \$60 sf	\$ 6,000	\$ 66,000
D. Path to Playground at Elementary School		
1,500 lin ft of path @ \$15 lin ft	\$ 22,500	
50 lin ft of wood bridging at various locations @ \$60 sf	\$ 3,000	\$ 25,500
		\$117,800

APPENDIX A

## INTRODUCTION

This report describes existing conditions of Leonardtown's natural and built environment, and the issues and concerns associated with each set of conditions. In addition to providing a framework for the Local Critical Areas Program, this analysis provides the basis for Leonardtown's Waterfront Master Plan and for the updating of the Comprehensive Plan.

The critical natural and built environmental features addressed in this report are:

- Steep Lands
- Water Features
- Depth to Seasonal High Water Table
- Flood Hazard Boundaries
- Soil Erosion and Runoff Potential
- Forest and Woodland Resources
- Wetland Resources
- Habitat Resources
- Agricultural Lands
- Resource Extraction
- Publicly Owned Recreation Areas
- Septic Field Suitability
- Water and Sewer Service
- Water Supply
- Land Use
- Critical Areas Designation

Large scale color maps illustrating the data prescribed in this report are available for review in the Town offices in Tudor Hall in Leonardtown.

## STEEP LANDS

### TOPOGRAPHICAL FEATURES:

Steep slopes are linked to problems of flooding, runoff, and erosion. Development on steep slopes can intensify existing problems of erosion and runoff, and can also present an erosion hazard even on soils not especially prone to erosion. Vegetation disturbance on steep grades can aggravate problems of high erosion and runoff, and subsequently contribute to the degradation of water quality. Increased runoff can intensify flooding by increasing and concentrating water volume which must be accommodated over time in certain areas. It is more costly to develop areas with steep grades because of increased building costs. Sewer lines are subject to instability and, consequently, to leakage when placed in steeply sloped areas. The U.S. Soil Conservation Service does not recommend the cultivation of steep slopes.

Critical Areas legislation prohibits development on slopes greater than 15 percent (as measured before development) in Limited Development Areas and Resource Conservation Areas unless the project is the only effective way to maintain or improve the stability of the slope and is consistent with policies and permitted uses and densities.<sup>1</sup> In addition, the legislatively mandated 100 foot buffer must be expanded on a site by site basis to include contiguous slopes of 15 percent or greater.<sup>2</sup> The buffer must be expanded either 4 feet for every 1 percent slope or to the top of the slope, whichever is greater in extent. The 25 foot vegetated buffer required for agricultural uses in the buffer must be expanded 4 feet for every 1 percent slope for slopes greater than 6 percent.<sup>3</sup>

Leonardtown is situated in the low flat plain region in the Atlantic Coastal Plain. Its developed area is bordered by land with slopes greater than fifteen percent. These very narrow and steep areas are found to the east along Town Run and to the west just beyond the developed residential area. Slopes greater than fifteen

<sup>1</sup>COMAR 14.15.02.04C6 and 14.15.02.05C

<sup>2</sup>COMAR 14.15.09.01C7; written communication from Carolyn V. Watson, February 27, 1987.

<sup>3</sup>COMAR 14.15.09.01C4b

percent also occur to the east and west of Washington Street along Breton Bay.

Elevations in Leonardtown range from 110 feet above sea level to sea level. The highest land is in north west area. The town center and historic area are situated on the edge of a gradually sloping plain at an elevation of 90 feet above sea level. This provides for an unobstructed view of the distant Breton Bay and surrounding area.

## STEEP LANDS

### RECOMMENDATIONS:

#### Goals

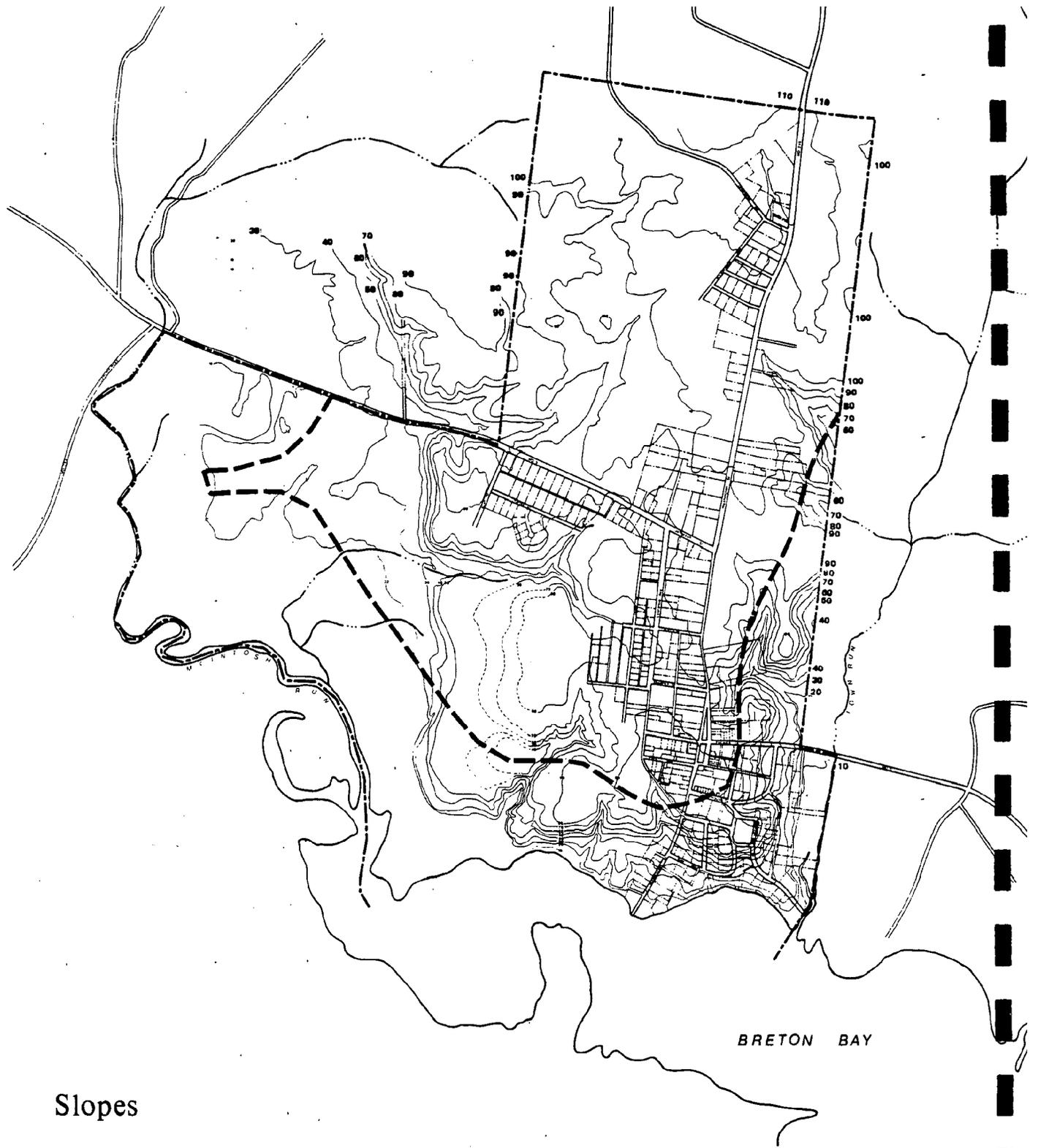
- . Discourage the development of steep slopes greater than 15% unless there is no viable alternative to avoid the potential associated water quality impacts.
- . If development occurs on steep slopes of greater than 15% or on slopes of 8% to 15%, ensure that the clearing of natural vegetation is minimized and that the best available technology is used to control erosion and sedimentation to reduce and/or mitigate the potential associated water quality impacts.

#### Proposed Guidelines and Regulations:

1. Prohibit development on slopes greater than 15 percent (as measured before development) in Resource Conservation and Limited Development Areas unless the project is the only effective way to maintain or improve the stability of the slope and is consistent with the following:
  - a. Maintenance, or if possible, improvement of the quality of runoff and groundwater entering the Chesapeake Bay and its tributaries;
  - b. Maintenance, to the extent practicable, of existing areas of natural habitat; and
  - c. Conformance of the development to water quality and habitat protection criteria established in the Critical Area Overlay Zone Ordinance and the Habitat Protection Area Plan.
2. Prohibit the development of slopes greater than 8 percent (as measured before development) in Intensely Developed Areas unless best available management practices for soil erosion and sedimentation control are in place during construction and after construction.
3. During the Environmental Permit review process, expand the delineated Critical Area Buffer to include contiguous lands with slopes greater than 15 percent whose development or disturbance may impact streams, wetlands or other aquatic environments. The Buffer should be expanded 4 feet for

every 1 percent of slope or to the top of the slope,  
whichever is greater in extent.

4. Permit agricultural uses to continue on slopes greater than 15 percent only if the use is conducted in a manner consistent with the provisions of the Agricultural Protection Plan and any conditions set forth in the Environmental Permit review process.



Slopes

Comprehensive Plan



WALLACE ROBERTS & TODD  
 ENGINEERS, ARCHITECTS, AND PLANNERS  
 1127 WOODBURN AVENUE, BALTIMORE, MARYLAND



# Leonardtown

St. Mary's County  
 Maryland

## WATER FEATURES

### WATERCOURSES AND DRAINAGE BASINS:

Streams, rivers and surface waters are obvious obstructions to development. However these areas must not be viewed simply as impediments to the development process, but must be accommodated so that the vital functions performed by these water courses will not be disrupted. One of the most important characteristics of a watercourse is the ability to gradually cleanse itself of most pollutants. This capability is dependent upon diverse plant and animal ecological communities and a relatively constant water temperature and flow. Development within drainage basins can interrupt constant flow and cause fluctuations in water temperatures, which can be disruptive to the surrounding ecosystems. Development in close proximity to streams can do the most damage, and requires the incorporation of protective measures. In addition, the effects of development anywhere within the drainage basin on stream flow and stream health also must be considered when directing growth.

Critical Areas legislation requires that any new development proposed will observe the requirements for identifying and protecting streams in the county.<sup>4</sup> The criteria propose protection measures for watersheds, streams and streambank habitats.<sup>5</sup> These include:

- a) Prohibition of installation or introduction of riprap or other artificial surfaces onto the bottom of natural streams;
- b) Prohibition of channelization;
- c) Prohibition of construction or placement of dams or other structures which interfere with fish movement;
- d) Prohibition of construction or repair activities within streams or within the buffer along streams between March 1 and May 15; and
- e) Development of watershed protection policies and programs which minimize land disturbance, maintain or improve stream water quality, minimize discharge of sediment, and maintain or increase the vegetative cover of the watershed.

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<sup>4</sup>COMAR 14.15.02.04C1C.

<sup>5</sup>COMAR 14.15.09.05C.

St. Mary's County is within two major basins: The Lower Potomac and the Patuxent-Chesapeake Bay. Route 235 marks the approximate location of the drainage divide between these two watersheds.

McIntosh Run which drains to the Potomac River, forms Leonardtown's western boundary while Town Run, a smaller stream, forms the southern portion of the Eastern boundary. Both streams empty into Breton Bay. Anadromous fish which are present in these streams are discussed in Habitat Resources section under "Aquatic Habitat Resources".

Stream velocities are slow and channel erosion is slight due to the lack of steep channel gradients, even in the headwaters.<sup>6</sup> The streams generally have flat gradients and poorly-defined channels. The majority of the stream banks in the county are composed of Bibb silty loam. Channels meander and choke because of the sandy soils that readily shift. These can produce sand bars, often causing bank overflowing. The streams become brackish and tidal in their lower reaches.

#### SHORELINE EROSION

Shore erosion can damage or destroy recreational beaches, and seriously limit waterfront use and development. It can also cause damage to valuable wetlands. Rates of erosion are highly variable, and dependent upon a combination of many factors. These include: the shoreline configuration; the direction and speed of prevailing and storm winds; the reach of open water over which the winds blow; the movement of sediments by long-shore currents; and the composition and structure of the materials that make up the shore. The major causes of shore erosion are the natural processes and forces involved and the characteristics of the shoreline acted on by these forces. However, shoreline residential, commercial and industrial development, by cutting into the shoreline and altering its configuration, can increase shore erosion problems.

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<sup>6</sup>IBID

In order to comply with Critical Areas Legislation, jurisdictions are required to designate and map shoreline areas where no significant erosion occurs, and areas where structural or non-structural methods can be used to control significant erosion. Areas of historical significant shoreline erosion are documented by the Maryland Geological Survey. Erosion can be controlled on the shores of smaller bays, rivers and creeks using non structural approaches. Very few areas of erosion can be controlled by directly vegetating existing sandy shore.

Historically in the Leonardtown Area, slight erosion has occurred south of Breton Bay along the Potomac. Within the town boundaries of Leonardtown, non-structural approaches have been suggested for some shoreline along Breton Bay. This includes shoreline from Town Run west beyond Washington Street. Erosion is not likely to occur at the remaining shoreline of Breton Bay nor along McIntosh Run due to existing wetlands.

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<sup>7</sup>COMAR 14.15.04.03 A

## WATER FEATURES

### WATERCOURSES AND DRAINAGE BASINS--RECOMMENDATIONS:

#### Goals

- . Discourage development which requires the alteration or obstruction of or construction in existing stream courses and stream banks to reduce the potential associated water quality impacts.
- . Prohibit development activity adjacent to stream banks unless best management practices are employed to minimize potential associated water quality impacts.
- . Discourage development which alters the natural drainage patterns unless adequate measures to mitigate potential adverse impacts are included in the development.
- . Direct development activity away from land areas which are in proximity to water courses.
- . Encourage development activity on sites with water features to locate development as far from the water courses as possible.
- . Encourage the establishment of natural preserves, parks and education areas adjacent to water courses.
- . Maintain, or if practicable, improve water quality in streams.

#### Proposed Regulations and Guidelines:

1. Prohibit development within the Critical Areas Buffer unless the facility is a water dependent or agricultural use, and these uses are developed and conducted in a manner consistent with the provisions of the Agricultural Protection Plan, the Water Dependent Facilities Plan and any conditions set forth in the Environmental Permit review process.
2. Require all proposed development activities in the Critical Areas Buffer to obtain a full Environmental Permit.
3. Prohibit the installation or introduction of concrete riprap or other artificial surfaces onto the bottom of natural streams unless it can be demonstrated during the Environmen-

tal Permit review process that water quality and fisheries habitat can be improved.

4. Prohibit channelization or other physical alterations which may change the course or circulation of a stream.
5. Require the replacement of vegetation removed during development and the protection of vegetation to remain on the developed site during construction in accordance with the schedule and provisions of the planning requirements for the RCAs and LDAs as described under the "Development Area Review: as described in the Environmental Review Permitting Process and any conditions set forth during the Environmental Permit review process to mitigate potential adverse impacts to the watershed associated with clearing of land.
6. Prohibit the construction, repair or maintenance activities associated with bridges, or other stream crossings or with utilities and roads, which involve disturbance within the Buffer or which occur instream between March 1 and May 15.

Proposed Incentives:

1. Encourage the preservation of lands in the vicinity of stream corridors in a naturally vegetated state by encouraging participation in the Maryland Agricultural Land Preservation Foundation Program and the Maryland Environmental Trust.

SHORELINE EROSION - RECOMMENDATIONS:

Goals

- . Encourage the protection of rapidly eroding portions of the shoreline in the Critical Area by public and private landowners.
- . Where such measures can effectively and practically reduce or prevent shore erosion, encourage the use of non-structural shore protection measures in order to conserve and protect plan, fish, and wildlife habitat.

Town Program

Definition:

"Shore erosion protection works" means those structures or measures constructed or installed to prevent or minimize erosion of the shoreline in the Critical Area.

Proposed Regulations and Guidelines:

Since shoreline erosion is not significant (less than two feet per year) in Leonardtown:

1. As part of the Environmental Permit review process require the use of non-structural shore erosion protection works in areas of erosion wherever and whenever these measures would be a practical and effective method of erosion control.
2. During the Environmental Permit review process discourage the use of structural shore erosion protection works in areas where no significant erosion occurs.
3. If significant alternation in the characteristic of a shoreline occurs, the shore erosion protection measure that best fits the change is permitted for sites in that area.

If significant shore erosion (two feet or greater per year) were to occur in Leonardtown:

1. Permit the use of structural shore erosion protection works measures only in eroding areas where both the following conditions exist:
  - a. eroding areas where only structural measures would provide effective and practical erosion control and
  - b. where non-structural control measures would be impractical or ineffective.
2. Require that where structural erosion protection works are required, the measure that best provides for conservation of fish and plant habitat, and which is practical and effective as determined through the Environmental Permit review process shall be used.

DEPTH TO SEASONAL HIGH WATER TABLE

WATER TABLE:

The depth to seasonal high water table is the distance from the surface of the soil to the highest level that ground water reaches in the soil in most years. Depth to seasonal high water table can be a development constraint because of the limitations posed in the siting of on-site septic systems and foundations. Some county residents with shallow wells are dependent upon the water table to obtain water for residential, agricultural and light commercial uses. The leaching of septic fields into the water table would threaten the continued use of this important resource, and could result in additional adverse impacts throughout the county water resources.

The water table is close to the surface throughout the majority of the coastal plain. In Leonardtown, this condition occurs along the McIntosh Run as well as a small, steeply sloped area south of Jefferson Street.

Most of Leonardtown's development has occurred on soils with the seasonal high water table at one to three feet below the surface. This is the predominant condition in the county. There is a large stretch of land, mostly undeveloped, along the southwest boundary extending south of Jefferson Street that has a depth of three to four feet to the seasonal high water table.

<sup>8</sup>MDNR, Water Use Forecast, 1984.

DEPTH TO SEASONAL HIGH WATER TABLE

RECOMMENDATIONS:

Goals

- . Minimize the impacts of surface land use on the seasonal high water table.
- . Direct development which requires on-site septic systems away from areas susceptible to leaching because of topography, soils and the depth to seasonal high water table.

Proposed Regulations and Guidelines

1. Require percolation tests as required by State and local health departments.

## FLOOD HAZARD BOUNDARIES

### FLOOD PLAINS:

Flood plains border watercourses, and are formed by the deposition of sediments carried by water and deposited during floods. The delineation of the boundaries is dependent upon the frequency of the flood. Floods of a greater frequency typically inundate much smaller areas than less frequent flood events. The 100-year flood plain is generally accepted as that area from which all development should be excluded unless the activity or use does not disrupt the flood plain, and is unharmed by flooding or is inseparable from the flood plain.

Disturbance to the flood plain through filling and development can result in hazardous and costly environmental impacts, including the following:

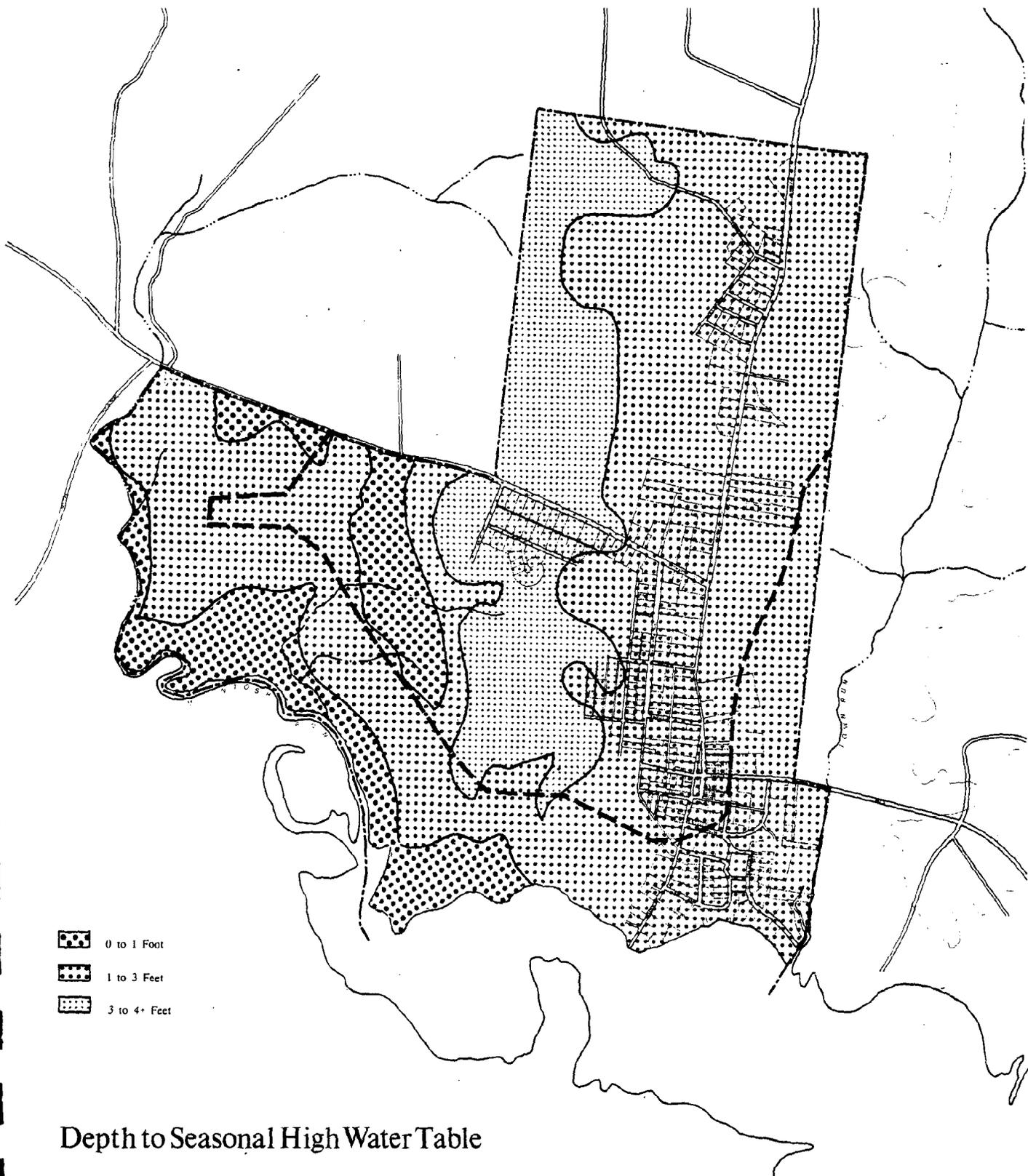
1. Reduction of on-site infiltration in proportion to the amount of impervious cover;
2. Increased overland flow from impervious cover;
3. Loss of stormwater holding capacity of flood plains;
4. Lower low flows due to declining water tables and decreasing groundwater recharge;
5. Higher and more frequent flood flows; and
6. Expanded flood plains downstream of disturbed or developed areas.

These impacts can result in increased hazards to human health, safety and welfare, increased water pollution from runoff and erosion of slopes and stream banks, increased flooding in areas previously unaffected, reduced groundwater yields, loss of aesthetic quality of the environment, and increased municipal costs.

Development in flood plains is regulated by federal legislation. Flood hazard boundaries are mapped by the Federal Emergency Management Agency (FEMA).

In the poorly drained areas, water is removed so slowly that the soils are saturated periodically during the growing season or remain wet for long periods. In very poorly drained areas, free water remains at or on the surface throughout most of the growing season.

A continuous, shallow 100-year flood plain occurs along the shoreline at Breton Bay. The floodway and large flood plain areas extend east along McIntosh Run and its tributaries in west Leonardtown. There is also a small 100-year flood plain along the town's eastern boundary at Town Run that extends north of Fenwick Street.



-  0 to 1 Foot
-  1 to 3 Feet
-  3 to 4+ Feet

Depth to Seasonal High Water Table

<p>Comprehensive Plan</p> <p style="text-align: center;">↑</p> <p style="font-size: small;">WALLACE ROBERTS &amp; TODD</p>	<h1 style="margin: 0;">Leonardtwn</h1> <p style="margin: 0;">St. Mary's County Maryland</p>
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## FLOOD HAZARD BOUNDARIES

### RECOMMENDATIONS:

#### Goals

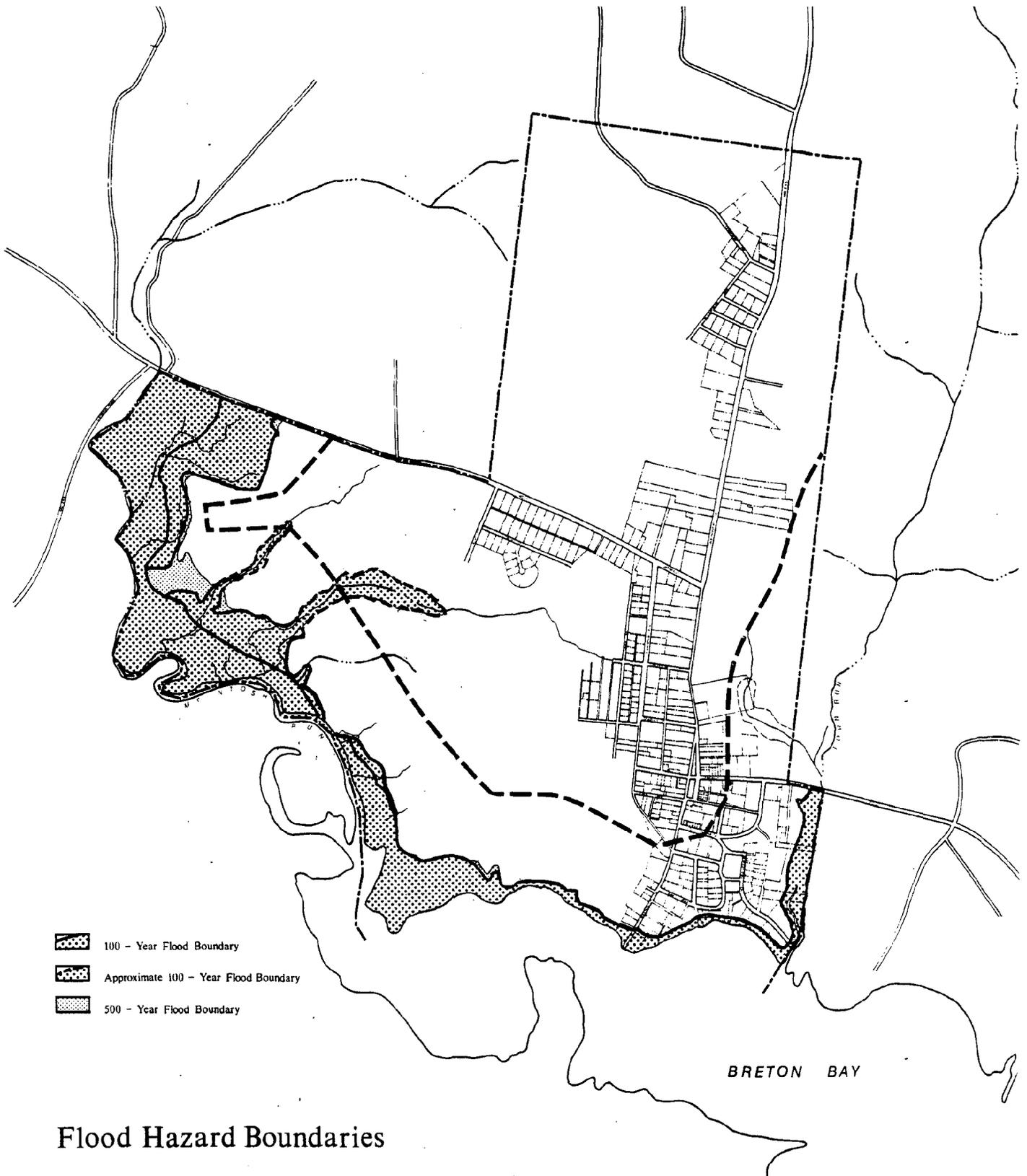
- . Discourage the development of the 100-year flood plain.
- . Minimize the disturbance of vegetation in the 100-year flood plain.

#### Proposed Regulations and Guidelines:

1. In areas where the Critical Areas Buffer overlaps with the 100-year flood plain, prohibit development activity unless the development is related to agricultural or water dependent facilities uses, and is developed and implemented in accordance with any conditions set forth in the Environmental Permit review process, the provisions of the Agricultural Protection Plan and the Water Dependent Facilities Plan and in accordance with Buffer management criteria specified in the Habitat Protection Area Plan and the proposed regulations and guidelines for the Buffer on described under Habitat Resources and the Habitat Protection Area Plan.
2. Consider expansion of the Critical Area Buffer to include the 100 year floodplain.

#### Proposed Incentives:

1. Encourage the preservation of lands within the 100 year flood plain in a naturally vegetated State by encouraging participation in the Maryland Agricultural Land Preservation Foundation Program and the Maryland Environmental Trust.



-  100 - Year Flood Boundary
-  Approximate 100 - Year Flood Boundary
-  500 - Year Flood Boundary

### Flood Hazard Boundaries

Comprehensive Plan

# Leonardtwn

St. Mary's County  
Maryland

WALLACE ROBERTS & TOOD  
PLANNERS ARCHITECTS ENGINEERS AND ENVIRONMENTAL SCIENTISTS  
1715 BRADDOCK ROAD, SUITE 200, ARLINGTON, VA 22202



## ERODIBLE SOILS

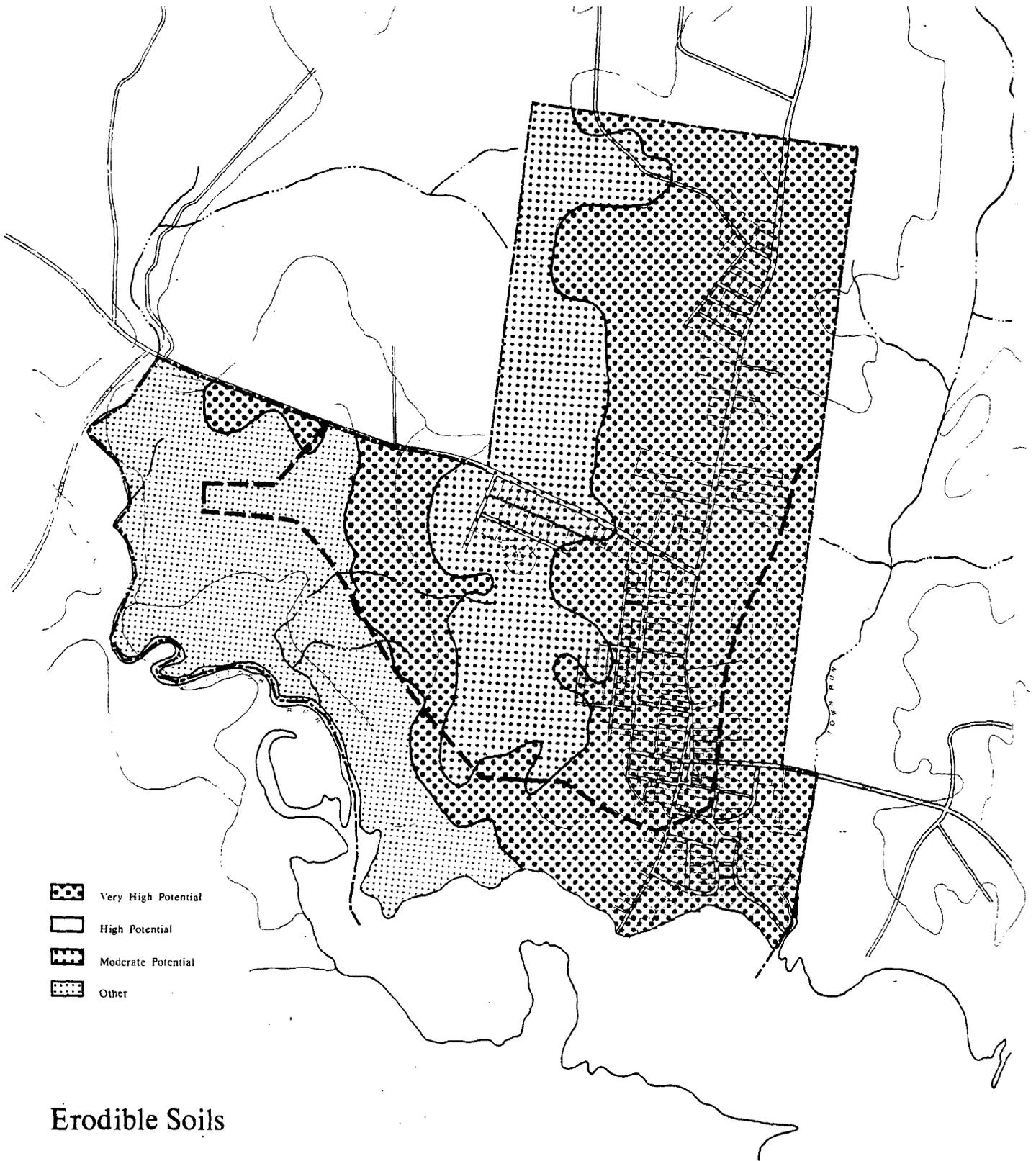
### EROSION AND SEDIMENTATION:

Erosion is the wearing away of the land surface by water, wind, ice or other geologic agents and processes such as gravitational creep. Erosion of exposed topsoil can cause sediments to run into watercourses, and leaves the ground less able to support vegetation needed to protect the land from further erosion. Vegetation protects soil from erosion by deflecting the forces of water and by holding soil together with its roots. The increased concentration of sediments in water bodies increases turbidity and disrupts bottom-dwelling habitat. The suspended sediments limit the sunlight penetration of the water, reducing the sunlight available for growth of plants and submerged aquatic vegetation. Water column temperature is also influenced by the concentration of suspended particulates, which can adversely affect the quality of the environment for temperature sensitive species. Settled sediments alter the character of the substrate, blocking oxygen exchange and the movement of bottom dwellers. Excess nutrients and toxic materials can be transported into the water via soil particles. The slow release of these materials from sediments can adversely affect water quality and enter the food chain.

In the development of critical areas programs, local jurisdictions are required to expand the required buffer on a site by site basis to include contiguous sensitive areas such as those with highly erodible soils whose development or disturbance may impact streams, wetlands or other aquatic environments.

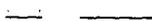
Most of the lands in Leonardtown are soils with very high erosion potential. These soils occur on both sides of Washington Street from the town's northern boundary to the Bay, and in a small, steeply sloped area extending south from Jefferson Street to Breton Bay. There is also an area of mostly undeveloped land along the south west boundary extending south of Jefferson Street which has soils with moderate erosion potential.

<sup>9</sup>COMAR 14.15.09.01C7, written communication from Carolyn V. Watson, February 27, 1987.



-  Very High Potential
-  High Potential
-  Moderate Potential
-  Other

**Erodible Soils**

<p><b>Comprehensive Plan</b></p> <div style="display: flex; align-items: center; gap: 20px;">    </div> <p style="font-size: small; margin-top: 5px;">WALLACE ROBERTS &amp; TODD PLANNERS ARCHITECTS ENGINEERS</p>	<h1 style="margin: 0;">Leonardtown</h1> <p style="margin: 0;">St. Mary's County Maryland</p>
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## RUNOFF POTENTIAL

### SURFACE RUNOFF:

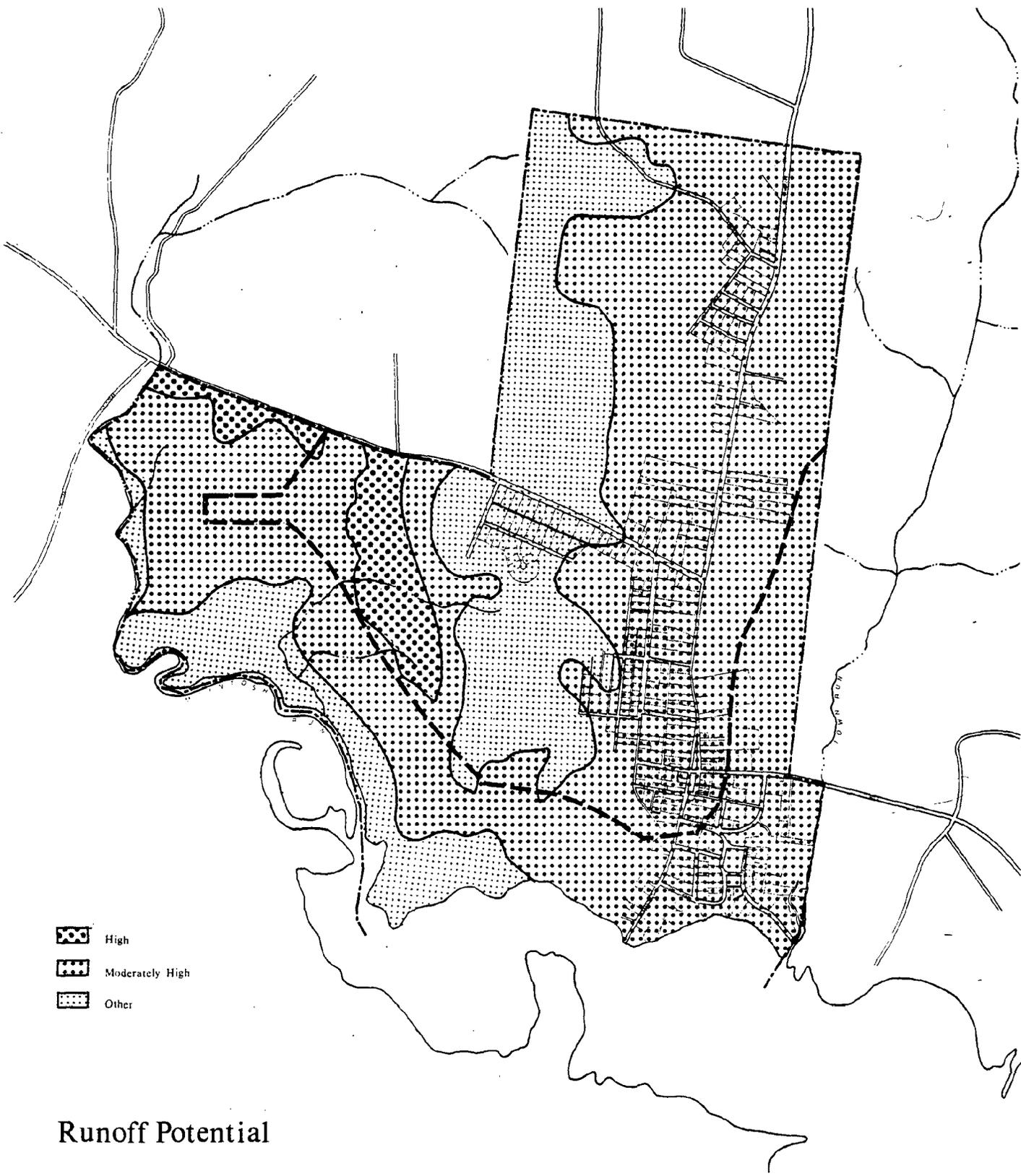
Surface runoff is the precipitation that flows off the land surface into stream channels and other watercourses. Increases in surface runoff from developed and some agricultural areas may adversely impact water quality. In developed areas, runoff is increased by presence of impervious surfaces. Surface runoff washes contaminants from these areas into adjacent water courses. In areas where the land slopes down to the water's edge, excess runoff can cause erosion and stream bank scouring. This can result in increased turbidity and sedimentation. Likewise, runoff from agricultural areas which are cleared of vegetation might also cause similar erosion and water quality impacts.

The runoff potential of soils is a factor of the rate of surface infiltration of water under thoroughly wetted conditions. Soils with high infiltration rates when thoroughly wetted have a high rate of internal transmission and would result in low runoff potential. These soils typically consist chiefly of deep, well to excessively drained sands and/or gravels. Conversely, soils with a very slow rate of water transmission have a very high runoff potential. These soils consist chiefly of: clay soils with a high swelling potential; soils with a high permanent water table; soils with claypan or clay layer near the surface; and shallow soils over nearly impervious materials.

Critical Areas Legislation requires local governments to expand the required buffer on a site by site basis to include hydric soils with high runoff potential whose development or disturbance may impact streams, wetlands or other aquatic environments.<sup>10</sup>

In Leonardtown, a small area of mostly undeveloped land located south of Jefferson Street has soils with high runoff potential. The majority of the lands in the town have moderately high runoff potential. These soils are found continuously along Washington Street, extending to the east and the west and include the land along Breton Bay. There is also a large area of land with moderately high runoff potential south of Jefferson Street extending to the Bay.

<sup>10</sup> COMAR 14.15.09.01.C7; written communication from Carolyn V. Watson, February 27, 1987.



**Runoff Potential**

**Comprehensive Plan**


  
WALLACE ROBERTS & TODD

**Leonardtown**

St. Mary's County  
Maryland

## ERODIBLE SOILS AND RUNOFF POTENTIAL

### RECOMMENDATIONS:

#### Goals:

- . To enhance and protect the water quality of the water resources in Leonardtown through controlling and minimizing soil erosion and runoff to the maximum extent possible on all lands in the town.

#### Proposed Regulations and Guidelines:

Development activities on highly erodible soils and soils with high run-off potential will be regulated by the Environmental Permit review process and the Leonardtown Sedimentation Control Ordinance. The Critical Area Buffer should be expanded on a site by site basis during these review processes to include contiguous areas of highly erodible soils or soils with high runoff potential. If when the Buffer is expanded to include these conditions, the expanded buffer extends beyond the initial Critical Areas Boundary, the Boundary will be expanded to coincide with and incorporate the limit of the Buffer.

In addition, runoff and erosion will be controlled in accordance with Water Resources Administration required practices. In accordance with these requirements, the following practices will be used when necessary as determined through the Environmental Permit review process:

1. Infiltration of run-off on-site (basins, trenches, dry wells);
2. Flow attenuation by use of open vegetated swales and natural depressions;
3. Stormwater retention structures; and
4. Stormwater detention structures.

Typical maintenance tasks necessary for proper operation of these facilities will include inspection, grass mowing, debris removal, bank stabilization, structural repair, nuisance control, and sediment removal. These tasks will be performed by the developer as a condition of the Environmental Permit.

Refer to sections addressing Steep Lands, Water Features, Shoreline Erosion, Forest and Woodland Resources, Agricultural

Lands, and Surface Mining for additional applicable regulations and guidelines.

## FOREST RESOURCES

### WOODLAND COVER:

Trees are not only a source of lumber. A closed wood canopy is a desirable cover for a drainage basin from a water resources perspective. The forest floor reduces soil erosion and runoff. Consequently streams in a forest carry very little sediment. Rainfall in a forest often infiltrates readily, increasing the flow of springs and improving year round stream flow. Forests also provide scenic amenity, enhance recreation opportunities, provide habitat for wildlife, diminish air pollution, moderate climate and attenuate noise.

To protect the values associated with forested land and to meet the needs of the growing population, the amount, location and use of existing forest resources should be considered in making planning decisions and should be an integral part of any land development plan. The Critical Areas Legislation defines forests as "biological communities dominated by trees and other woody plants covering an area of one or more acres" and developed woodlands as "areas of one acre or more in size which predominantly contain trees and natural vegetation, and which also include residential, commercial, or industrial structures and uses."<sup>11</sup> The legislation requires that in the development of Critical Areas Programs, local jurisdictions follow the following policies to protect both forests and developed woodlands:<sup>12</sup>

1. Maintain and increase the forested vegetation of the Critical Areas;
2. Conserve forests and developed woodlands and provide for expansion of forested areas;
3. Provide that the removal of trees associated with development activities shall be minimized, and where appropriate, shall be mitigated; and
4. Recognize that forests are a protective land use and should be managed in such a manner so that maximum values for wildlife, water quality, timber, recreation and other resources can be maintained, recognizing that in some cases these uses may be mutually exclusive.

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<sup>11</sup>COMAR 14.15.05.02.

<sup>12</sup>IBID

The Critical Areas Legislation requires the identification, mapping or designating of forest and developed woodlands in the Critical Area for the preparation of a forest preservation program.<sup>13</sup> Jurisdictions must also identify those forests and developed woodlands which contain habitat protection areas (COMAR 14.15.09) and those periodically flooded within the State wetlands boundary. Forest management plans are required for all timber harvesting occurring within any one year interval and affecting one or more acres in Critical Areas forest and developed woodlands. In addition, a sediment control plan is required for all harvests of 5,000 square feet or more of disturbed area in the Critical Area.

The State Land Preservation and Recreation Plan requires<sup>14</sup> jurisdictions to identify prime and productive Forest Areas. This legislation defines forested lands as those land areas of five acres or more dominated by trees or other woody plants. This includes land that has been cut, but not cleared.

The predominant cover types in Leonardtown are stands of Pines and Hardwoods. The most extensive wooded areas in Leonardtown are located near McIntosh Run and in the north near the town boundary. Species in this category include Virginia Pine, Red Oak, White Oak, and Sweet Gum. There is a prominent stand of Pine Types near the mouth of McIntosh Run that is not only valuable for wildlife and water quality, but is also a visual amenity. Leonardtown also has a large network of Riparian Areas which are located along various tributaries of McIntosh Run.

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<sup>13</sup>COMAR 14.15.05.03

<sup>14</sup>DSP Publication No. 85-9

## FOREST AND WOODLAND RESOURCES

### RECOMMENDATIONS:

#### Goals

Recommended goals to protect forest and woodland resources in the town are as follows:

- . Maintain and increase the forested vegetation of the Critical Areas, and where possible, throughout the town.
- . Conserve forests and developed woodlands and provide for expansion of forested areas.
- . Provide that the removal of trees associated with development activities shall be minimized, and where appropriate, shall be mitigated.
- . Recognize that forests are a protective land use and should be managed in such a manner so that maximum values for wildlife, water quality, timber, recreation and other resources can be maintained, recognizing that in some cases these uses may be mutually exclusive.

#### Proposed Regulations and Guidelines:

If active forestry operations on forests or developed woodland occur within the Leonardtown Critical Area in the future, the following policies and programs for tree cultural operations in the Critical Area shall be required as part of the Environmental Permit review process:

1. A Forest Management Plan shall be required for all timber harvesting occurring within any 1 year interval and affecting 1 or more acres in forest and developed woodland in the Critical Area, including on agricultural lands. The Plans shall be prepared by a registered professional forester and be reviewed and approved by the Maryland Forest, Park and Wildlife Service through the District Forestry Boards and the project forester, and filed with the Bay Watershed Forester and the Town Planner. To provide for the continuity of habitat, the plans shall address mitigation through forest management techniques which include scheduling size, timing and intensity of harvest cuts, afforestation, and reforestation.

2. A Sediment Control Plan shall be required for all harvests of 5,000 square feet or more of disturbed area in the Critical Area, including harvesting on agricultural lands. This plan shall be developed according to the State guidelines entitled: "Standard Erosion and Sediment Control Plan for Harvest Operations." The operations shall be implemented in accordance with specifications set out by the Maryland Forest, Park and Wildlife Service, and enforced by the Department of Natural Resources Water Resources Administration.
3. The cutting or clearing of trees within the 100-foot Critical Area Buffer, as described in the section on Habitat Resources in this document, shall be in accordance with the proposed regulations and guidelines in that section and in the Habitat Protection Area Plan.

Activities in Intensely Developed Areas, Limited Development Areas and Resource Conservation Areas on sites where forests or developed woodlands exist within the Critical Area Boundary will be subject to the appropriate regulations as follows:

1. Intensely Developed Areas:

- a) Require the developer to consider the recommendations of the Maryland Forest, Park and Wildlife Service when planning development.
- b) Require replacement vegetation to offset potential adverse impacts associated with the clearing and cutting of trees.
- c) Require that development activities be designed and implemented to minimize destruction of forest and woodland vegetation.
- d) Require protection of existing forests and developed identified as Habitat Protection Areas.

2. Limited Development Areas and Resource Conservation Areas

- a) Require the developer to consider the recommendations of the Maryland Forest, Park and Wildlife Service when planning development.
- b) Require that development activities be designed and implemented to minimize destruction of forest and woodland vegetation.

- c) Require the protection of existing forests and developed woodlands identified as Habitat Protection Areas.
- d) Require that the total acreage of forest cover be maintained, or preferably increased through either on-site or off-site reforestation as established in the Environmental Permit review process.
- e) Require replacement of all forests removed on not less than an equal basis. On-site whenever possible. If on site, mitigation is not possible as determined during the Environmental Permit review process, the Town will consider off-site replacement as an acceptable alternative.
- f) Prohibit the removal of more than 20 percent of any forest or developed woodland and require the maintenance of the remaining 80 percent through recorded restrictive covenants or similar instruments unless the following formula is applied:

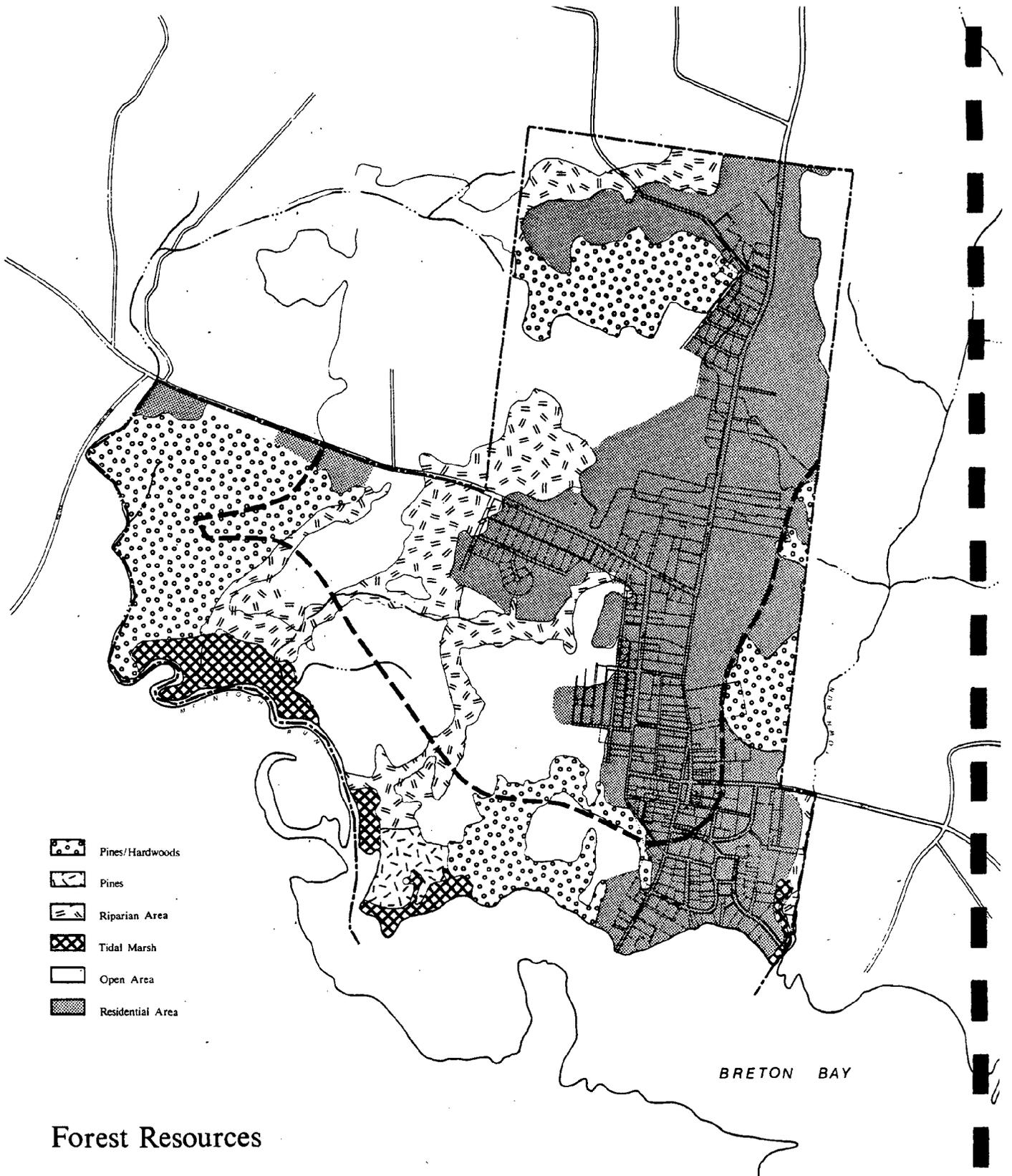
The developer may clear or develop more forest than otherwise permitted to be disturbed only if the total forest area removed from forest use does not exceed 30 percent of any forest or developed woodland, and provided that the afforested area shall consist of 1.5 times the total surface acreage of the disturbed forest or the developed woodland area or both, which will be conserved under restrictive covenant.
- g) Require the conservation of developed woodland vegetation to the greatest extent practicable.
- h) Require bonding to be provided by owners or developers in an amount acceptable to the local jurisdiction and suitable to assure satisfactory replacement of required vegetation. The amount acceptable will be 40 cents per square foot of disturbed vegetated land area.
- i) Require an approved grading permit prior to the clearing of forest and developed woodland in accordance with the provisions of the Forest and Woodland Protection Program and applicable state and local permits.
- j) Require replacement of forests which have been cleared prior to an approved grading permit or of forests cleared in excess of the maximum area permitted to be

replanted at three times the areal extent of the cleared forest. The replacement will be on-site, off-site, or in the form of an acceptable for as determined by the Environmental Permit review team.

- k) If the areal extent of the site limits the application of the stated replacement guidelines, permit the use of alternative provisions or reforestation guidelines through the Environmental Permit review process including fees-in-lieu provisions (if the fee is adequate to ensure the restoration or establishment of an equivalent forest area), or the dedication of forested lands off-site to the Maryland Environmental Trust. Fees-in-lieu should be established on the basis of a determination of the cost of replacement by the State Bay Forester.
- l) Require that if no forest is established on proposed development sites, the sites will be planted to provide a forest or developed woodland cover of at least 15 percent.
- m) Require the developer to designate, subject to the approval of the town, through the Environmental Permit review process, a new forest area on a part of the site not forested, and that the afforestation be maintained as forest cover through restrictive covenant.

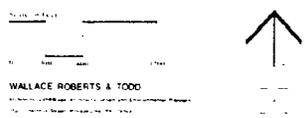
Proposed Incentives:

1. Encourage participation in the existing Maryland Agricultural Land Preservation Foundation Program and the proposed Maryland Environmental Trust.
2. In accordance with St. Mary's County, establish a transfer of development rights (TDR) program whereby owners forested lands in the Critical Area can sell development rights (based on the qualities and amount of land owned) to a developer who can then increase the density of development on parcels in designated areas of the County or Critical Area.
3. Reduce the tax burden on the owners of forested lands if an approved Forest Management Plan is in force.



**Forest Resources**

**Comprehensive Plan**



**Leonardtown**

St. Mary's County  
Maryland

## WETLANDS RESOURCES

### TIDAL AND NON-TIDAL WETLANDS:

Wetlands is a collective term for land-water edge areas and submerged bottoms which occur in coastal and inland areas. These areas usually support extensive growths of aquatic plants because of either permanent, temporary or intermittent submer-sion or inundation by natural surface runoff resulting from rainfall, diurnal lunar tidal cycles, unusual tidal conditions, storms, or seasonal flooding on floodplains. Tidal wetlands refers to two categories of wetlands in coastal areas: fresh and saline. These tidal wetlands are characterized by differences in shoreline elevation and location and the reach of tidal influence. Non-tidal wetlands refer to inland fresh water areas which occur at or near the heads of tributary streams, or in depressions in upland areas where the water table is at or near the surface or where the soil substrate is covered by shallow water at some time during the growing season. In addition, non-tidal wetlands are usually characterized by one or both of the following:

1. At least periodically, the lands support predominantly hydrophytic vegetation;
2. The substrate is predominantly undrained hydric soils.

Because of the abundance and diversity of vegetation in wetlands, these areas provide some of the most valuable habitat to aquatic and terrestrial wildlife and migrating and wintering waterfowl. Wetland areas are some of the most productive areas for spawning and nursery areas for finfish and shellfish.

Other beneficial functions of wetlands include the mitigation of the hydrologic impacts of both tidal and non-tidal flood waters. Surface runoff and tidal flows are delayed and stored through passage through wetland systems. In inland areas, instantaneous flood peaks are reduced downstream. In coastal areas, estuarine wetlands provide a buffer against tidal surges and storm waves, thereby stabilizing coastal lands. Runoff is filtered and cleaned. Vegetative uptake and storage of inorganic materials reduces concentrations of nutrients otherwise contributing to eutrophic conditions downstream. Aquatic plants contribute dissolved oxygen to wetland waters, increasing the assimilative capacity of water bodies. Some potentially toxic materials are stored by wetland vegetation.

Wetland areas are the first to receive runoff from the land surface. Consequently, pollutants, nutrients or sediments can adversely impact the productivity and quality of these delicate ecosystems. The loss of wetlands vegetation through pollution, dredging or filling results in degraded water quality, loss of wildlife habitat, increased flooding and loss of amenities and

economic benefits associated with sport fisheries, boating, and scenic and educational attraction of wetlands areas.

Use of both tidal and non-tidal wetlands are regulated by Federal Legislation under Section 404 of the Clean Water Act, administered by the U.S. Army Corps of Engineers. In addition, tidal wetlands are protected under the Maryland Wetlands Act of 1970. The Act applies to all public and private coastal wetlands as defined:

1. Public wetlands means all lands under the navigable waters of the State, below the mean high tide, which are affected by the regular rise and fall of the tide.
2. Private wetlands means all lands bordering or lying beneath tidal waters, which are subject to regular or periodic tidal action and which support aquatic growth, and all State lands which have been transferred by the State.

The Act requires that all persons proposing to dredge and/or fill on State Wetlands make application for licensing prior to commencement of any work. Rules and regulations apply to the nature of dredging, filling, removing or otherwise altering or polluting private wetlands. Critical Areas Legislation applies to those non-tidal wetlands classified as palustrine. The term palustrine refers to fresh water wetlands that contain trees, shrubs, emergent plants or lichens and such wetlands occurring in tidal waters of very low salinity (less than one-half parts of salt per 1,000 parts of water). The criteria apply to aquatic bed,<sup>15</sup> emergent, forested, and scrub-shrub palustrine wetlands. In the development of their local programs, local jurisdictions are required to protect those non-tidal wetlands with importance to plant, fish, wildlife and water quality.

There are a few small areas of non-tidal wetlands in Leonardtown. There is one area near the southern portion of McIntosh Run, another at the northern reaches of McIntosh Run near Jefferson Street, and one extending along Town Run south of Fenwick Street. Tidal wetlands are the predominant wetland type in Leonardtown. Tidal wetlands are found along the shoreline of Breton Bay and Town Run, and over large areas along McIntosh Run.

<sup>15</sup> COMAR 14.15.09.02

Breton Bay contains no submerged aquatic vegetation.<sup>16</sup>

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<sup>16</sup>MD Department of Natural Resources. Submerged Aquatic Vegetation Maps. 1985

WETLANDS RESOURCES

TIDAL AND NON-TIDAL WETLANDS - RECOMMENDATIONS:

Goals:

- . To protect tidal and non-tidal wetlands resources in Leonardtown because of their importance as plant habitat, fish and wildlife habitat, and overall water quality.

Proposed Regulations and Guidelines:

1. Protect identified tidal and non-tidal wetlands from potential adverse impacts resulting from development activity to the maximum extent possible during the Environmental Permit review process.
2. Protect tidal wetlands through the regulations applying the Critical Area Buffer which is expanded to include tidal wetlands.
3. Require the maintenance of at least a 25 foot buffer around identified non-tidal wetlands where development activities or other activities may disturb the wetlands or the wildlife contained therein.
4. Prohibit development activity within non-tidal wetlands in Leonardtown.
5. Prohibit development activity in identified tidal wetlands unless it is in accordance with applicable state and federal regulations, and it can be demonstrated during the Environmental Permit review process that these activities will be adversely affect the wetland.
6. On a site by site basis during the Environmental Permit review process, protect the hydrologic regime and water quality of identified tidal and non-tidal wetlands by requiring the applicant to demonstrate that development activities or other land disturbances in the drainage areas of the wetlands will minimize alterations to the surface or subsurface flow of water into and from the wetlands and not cause impairment of water quality or the plant and wildlife habitat value of the wetland.

7. Require the applicant to prepare a mitigation plan during the Environmental Permit review process for activities or operations which, as a result of their being water dependent or of substantial economic benefit will cause unavoidable and necessary impacts to the wetlands. These activities include but are not limited to, development activities, tree cutting operations, and those agricultural operations as permitted under the conditions specified on in #2 and #3 under Proposed Regulations in the Agricultural Lands section for which mitigation is required. The plan shall specify mitigation measures that will provide water quality benefits and plant and wildlife habitat equivalent to the wetlands destroyed or altered and shall be accomplished, to the extent possible, on-site or near the affected wetland.
8. For all non-agricultural activities in wetlands, during the Environmental Permit review process, the Town Office of Planning and Zoning will require the applicant to seek comments on mitigation plans from the Maryland Department of Natural Resources (DNR), and where appropriate, State departments including Health and Mental Hygiene and Agriculture, the local Soil Conservation Districts, and the U.S. Fish and Wildlife Service. Upon finding that the plan as proposed, or as may be modified to address the comments of these and other agencies during the Environmental Permit review process, provides sufficient mitigation, the proposed plan shall be made a condition of the Environmental Permit.
9. For agricultural operations, as part of the Environmental Permit review process, the Leonardtown Soil Conservation district, with the assistance of Maryland DNR, will determine if the mitigation plan is sufficient. Agricultural drainage operations, conducted pursuant to Agriculture Article 8-603 Annotated Code of Maryland, shall provide mitigation consistent with any regulation pursuant to that section.

Incentives:

1. Encourage owners of tidal and non-tidal wetlands areas to participate in the Maryland Environmental Trust.
2. Allow owners of tidal and non-tidal wetlands to participate in a Transfer of Development Rights (TDR) program.
3. Allow a reduction in the tax burden for owners of lands with tidal and non-tidal wetlands.
4. Encourage the developer of lands with tidal and non-tidal

wetlands to cluster development to avoid potential adverse impacts.

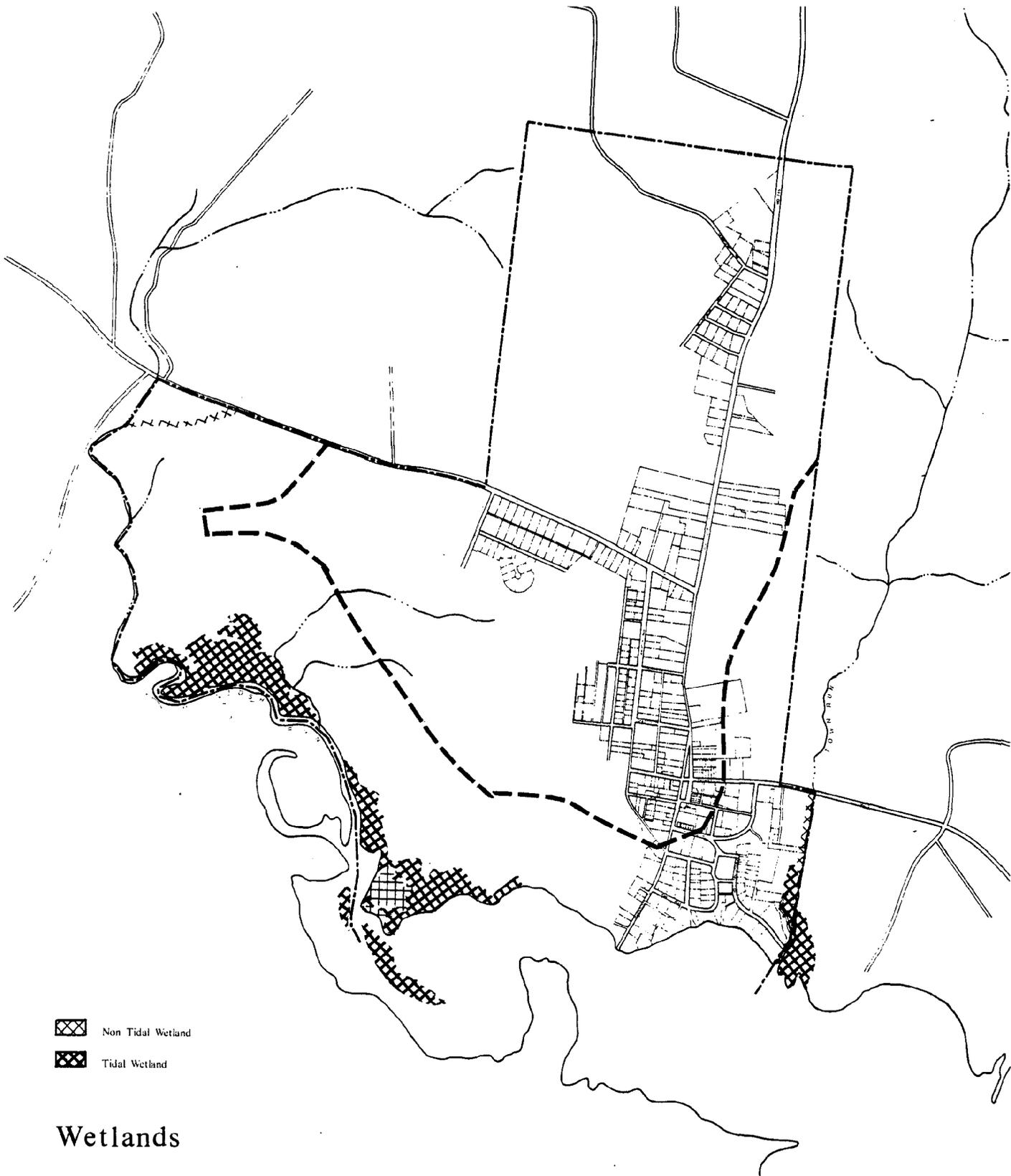
SUBMERGED AQUATIC VEGETATION - RECOMMENDATIONS:

Goals

- . To protect SAV's wherever they occur by regulating adjacent land uses to minimize impacts to these fragile ecosystems.

Town Program:

If any SAV's are identified in the Town's are within the 1,000 foot Critical Area Boundary, they will be protected by the applicable federal, state and local regulations through the Environmental Permit review process.



-  Non Tidal Wetland
-  Tidal Wetland

**Wetlands**

Comprehensive Plan



WALLACE ROBERTS & TODD

**Leonardtown**

St. Mary's County  
Maryland

## HABITAT RESOURCES

### CRITICAL AREAS BUFFER:

The "Buffer" means an existing naturally vegetated area, or an area established in vegetation and managed to protect aquatic, wetlands, shoreline, and terrestrial environments from man-made disturbances. In the development of their critical areas programs, local jurisdictions are required to adopt provisions to protect the values of the Buffer.

### AQUATIC HABITAT RESOURCES:

The waters of the Chesapeake Bay estuary system are among the most productive estuarine areas on the eastern seaboard. The natural habitats of shellfish, finfish and other other aquatic dwellers are delicate ecosystems which can be adversely impacted by on shore development activities.

In the development of their Critical Areas Programs, jurisdictions are required to protect the natural<sup>17</sup> habitats of shellfish and anadromous fish propagation waters.

The waters near Leonardtown have large areas of open oyster bars. There are several oyster bays in Breton Bay near the Potomac waters from Golden Beach to Point Lookout, between St. George Creek, the St. Mary's River and Smith Creek and in the waters of the Wicomico River. Oyster bars are located along the southern shore of the Potomac from Point no Point to St. Clements Island. In addition, there are oyster bars and clam beds in smaller areas scattered throughout the adjacent coastal waters. Many shellfish areas bars exist in Breton Bay.

Anadromous and semi-anadromous fish spawn in many watercourses.<sup>18</sup> Species travelling in the Potomac River include American Shad, Gizzard Shad, Hickory Shad, Alewife, White Perch, Yellow Perch, and Blueback Herring. Alewife, Blueback herring, White Perch and Yellow Perch travel to Breton Bay. Alewife is found in the northern reaches of McIntosh Run.

<sup>17</sup>COMAR, 14.15.9.09

<sup>18</sup>Entire section draws upon information from the Environmental Atlas of the Potomac Estuary, Lipson et al, 1977, and Survey and Inventory of Anadromous Fish Spawning Streams and Barriers in the Patuxent River Drainage, MDNR, 1984.

In the Breton Bay region, spawning migrations are limited, with sparse documentation of spawning activity by any species. However, young stages of Blueback Herring, and Yellow Perch have been collected within the system.

PLANT AND WILDLIFE HABITAT:

The Local Land Preservation and Recreation Plan requires the protection of unique natural areas. These areas are defined as "undeveloped land and water areas which contain unusual plant or animal communities, unusual natural features, fragile natural resources, critical wildlife habitat, or which contribute to the health of a larger ecosystem."

In addition, Critical Areas Legislation requires that in the development of their local programs, jurisdictions take measures to protect the following plant and wildlife habitat:<sup>19</sup>

1. Colonial water birds (herons, egrets, terns and glossy ibis);
2. Waterfowl staging and concentration areas;
3. Riparian forests;
4. Large forest areas;
5. Other important plant and wildlife habitat areas;
6. Other plant and wildlife habitat of local significant;  
and
7. Natural Heritage Areas.

Similar treatment is required for unique plant and wildlife habitats identified in the Town in the future.

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<sup>19</sup>COMAR, 14.15.9.04C

The Critical Area Commission has suggested the following general guidelines for identifying forest habitat for interior dwelling birds:

1. Upland hardwood forests of approximately 100 acres or more in extent; and
2. Riparian forests of approximately 300 feet or more in width.

In Leonardtown, there are many areas which are of this type and size. They exist in the southwest, along McIntosh Run, and in the northwest. Areas will be formally identified on a site by site basis during the environmental permit review process using the guidelines specified for the permit process. (Management Plan Review Guidelines under Plant and Wildlife Habitat in Appendix A).

Currently, no Colonial Water Bird habitat areas have been identified in the Leonardtown area. Information on waterfowl staging and concentration areas has not yet been received from MDNR. Currently, no additional areas of important plant and wildlife habitat, habitat of local significance, or Natural Heritage areas have been identified by MDNR Heritage Conservation Program.

#### THREATENED AND ENDANGERED SPECIES AND SPECIES IN NEED OF CONSERVATION:

Rare and endangered species are protected by Federal and State legislation. In addition, protection of plant and animal habitat for rare and endangered species and species in need of conservation is required by the Critical Area Act.<sup>20</sup>

The bald eagle is the most frequently reported rare and endangered species near Leonardtown. One nest site has been identified near Camp Maria on Breton Bay. However, there are not nest sites in Leonardtown.

Species with special federal status with habitat near Leonardtown include Dabbling Ducks and Diving Ducks. These species frequent the mouth of Breton Bay, and are found scattered off-shore throughout the coast near Leonardtown.

There is a current population of the Dwarf Wedge Mussel, *Alasmidonta heterodon* in McIntosh Run north of Leonardtown which could extend into smaller tributaries of McIntosh Run. *A. heterodon* is a candidate for federal status as Threatened. There are also records of the *Chelone obliqua*, or Red Turtlehead in wetlands to the west of Leonardtown. The Red Turtlehead has been classified as Highly State-rare by the Maryland Natural Heritage Program.

<sup>20</sup> COMAR, 14.15.9.03.

## HABITAT RESOURCES

### RECOMMENDATIONS FOR ALL HABITAT PROTECTION AREAS:

#### Goals:

- . Provide for the removal or reduction of sediments, nutrients, and potentially harmful or toxic substances in runoff entering the Bay and its tributaries.
- . Minimize the adverse effects of human activities on wetlands, shorelines, stream banks, tidal waters, and aquatic resources;
- . Maintain an area of transitional habitat between aquatic and upland communities;
- . Maintain the natural environment of streams; and
- . Protect riparian wildlife habitat.
- . Protect those non-tidal wetlands of importance to plant, fish and wildlife, and water quality.
- . Protection for those species in need of conservation and threatened and endangered species, and their habitats which occur in the Critical Area and Town.
- . Conserve wildlife habitat in the Critical Area;
- . Protect those wildlife habitats that tend to be least abundant or which may become so in the future if current land-use trends continue;
- . Protect those wildlife habitat types which are required to support the continued presence of various species;
- . Protect those wildlife habitat types and plant communities which are determined by local jurisdictions to be of local significance; and
- . Protect Natural Heritage Area.
- . Protect the instream and stream-bank habitat of anadromous fish propagation waters;

- . Promote land use policies and practices in the watershed of spawning streams within the Critical Area which will minimize the adverse impacts of development on the water quality of the streams; and
- . Provide for the unobstructed movement of spawning and larval forms of anadromous fish in streams.

Proposed Regulations and Guidelines:

A. Buffer

1. Establish a minimum 100-foot Critical Area Buffer landward from the Mean High Water Line of tidal waters, tributary streams, and tidal wetlands. The Buffer is not required for agricultural drainage ditches if the adjacent agricultural land has in place Best Management Practices as specified in the recommended guidelines and regulations in Agricultural Lands and the Agricultural Protection Plan.
2. Prohibit new development activities, including structures, roads, parking areas and other impervious surfaces, mining and related facilities, or septic systems, in the Critical Area Buffer, except for those necessarily associated with water-dependent facilities as specified in the Leonardtown Waterfront Dependent Facilities Plan (Appendix A).
3. Require that the Critical Area Buffer shall be maintained in natural vegetation, but may include planted vegetation where necessary to protect, stabilize, or enhance the shoreline.
4. Permit agricultural activities in the Critical Area Buffer, if, as a minimum Best Management Practice, a 25-foot vegetated filter strip measured landward from the Mean High Water Line of tidal waters or tributary streams (excluding drainage ditches), or from the edge of tidal wetlands, whichever is further inland, is established, and further provided that:
  - a. The filter strip shall be composed of either trees with a dense ground cover, or a thick sod of grass, and shall be so managed as to provide water quality benefits and habitat protection consistent with the conditions of the Environmental Permit review process and the regulations and guidelines of this section. Noxious weeds, including Johnson grass, Canada thistle, and multiflora rose, which occur in the filter strip, may be controlled by authorized means;

- b. The filter strip shall be expanded by a distance of 4 feet for every 1 percent of slope, for slopes greater than 6 percent;
  - c. The 25-foot vegetated filter strip shall be maintained until such time as the landowner is implementing, under an approved Soil Conservation and Water Quality Plan, a program of Best Management Practices for the specific purposes of improving water quality and protecting plant and wildlife habitat; and provided that the portion of the Soil Conservation and Water Quality Plan being implemented achieves the water quality and habitat protection objectives of the 25-foot vegetated filter strip;
  - d. The Best Management Practices shall include a requirement for the implementation of a grassland and manure management program, where appropriate, and that the feeding or watering of livestock, may not be permitted within 50 feet of the Mean High Water Line of tidal water and tributary streams, or from the edge of tidal wetlands, whichever is further inland.
  - e. Clearing of existing natural vegetation in the Buffer is not allowed, and
  - f. Farming activities including the grazing of livestock, do not disturb stream banks, tidal shorelines or other Habitat Protection Areas as described in the Habitat Resources section of this document and the Habitat Protection Area Plan (Appendix A).
5. Although there are not currently any forestry operations in Leonardtown, if in the future an operation wishes to begin, the cutting or clearing of trees within the Buffer shall be prohibited except that:
- (a) Commercial harvesting of trees by selection or by the clearcutting of Loblolly Pine and Tulip Poplar may be permitted to within 50 feet of the landward edge of the Mean High Water Line of tidal waters and perennial tributary streams, or the edge of tidal wetlands, provided that this cutting does not occur in the Habitat Protection Areas described in the Habitat Protection Area Plan (Appendix A) and Habitat Resources section and that the cutting is conducted pursuant to the requirements of the Forest and Woodland Protection Program (Appendix A) and the regulations and guidelines for Forest and Woodland Resources, and in conformance

with a buffer management plan prepared by a registered, professional forester and approved by the Maryland Forest, Park and Wildlife Service. The plan shall be required for all commercial harvests within the Buffer regardless of the size of the area to be cut, and shall contain the following minimum requirements:

- (i) That disturbance to stream banks and shorelines shall be avoided;
  - (ii) That the area disturbed or cut shall be replanted, or allowed to regenerate in a manner that assures the availability of cover and breeding sites for wildlife, and reestablishes the wildlife corridor function of the Critical Area Buffer; and
  - (iii) That the cutting does not involve the creation of logging roads and skid trails with the Critical Area Buffer.
- b. Commercial harvesting of trees, by any method, may be permitted to the edge of intermittent streams provided that the cutting is conducted pursuant to the requirements of (5)(a) above.
  - c. Cutting of trees or removal of natural vegetation may be permitted where necessary to provide access to private piers, or to install or construct a shore erosion protection device or measure, or a water-dependent facility, providing the device, measure, or facility has received all necessary state and federal permits.
  - d. Individual trees may be cut for personal use providing that this cutting does not impair the water quality or existing habitat value or other functions of the Critical Area Buffer described in the Habitat Resources section of this document, and provided that the trees are replaced on an equal basis for each tree cut.
  - e. Individual trees may be removed which are in danger of falling and causing damage to dwellings or other structures, or which are in danger of falling and therefore causing the blockage of streams, or resulting in accelerated shore erosion.
  - f. Horticultural practices may be used to maintain the health of individual trees.

- g. Other cutting techniques may be undertaken within the Critical Area Buffer and under the advice and guidance of the Departments of Agriculture and Natural Resources, if necessary to preserve the forest from extensive pest or disease infestation or threat from fire.
- 6. Where agricultural use of lands within the area of the Critical Area Buffer ceases and the lands are proposed to be converted to other uses, the Buffer shall be established. In establishing the Critical Area Buffer, management measures shall be undertaken to provide forest vegetation that assures the Buffer functions set forth in the Habitat Resources section of this document.
- 7. Local jurisdictions shall expand the Critical Area Buffer beyond 100 feet to include contiguous, sensitive areas, such as steep slopes, hydric soils, or highly erodible soils, whose development or disturbance may impact streams, wetlands, or other aquatic environments. In the case of contiguous slopes of 15 percent or greater, the Buffer shall be expanded 4 feet for every 1 percent of slope, or to the top of the slope, whichever is greater in extent.
- B. Non-Tidal Wetlands  
Refer to regulations and guidelines within the 1,000 foot Critical Area Boundary under Wetland Resources.
- C. Threatened, and Endangered Species and Species in Need of Conservation
  - 1. Require the designation of a protection area around each habitat, and prohibit development activities and other disturbances unless it can be demonstrated during the Environmental Permit review process that these activities or disturbances will not have or cause adverse impacts on these habitats.
  - 2. A protection zone of 1/4 mile will be required around all identified bald eagle nest sites. Within the protection zone, the following guidelines apply to permitted activities:
    - a) No timber harvesting, land clearing or construction should occur within 660 feet of the nest site.
    - b) Limited timber stand improvement and maintenance may be allowed outside of the nesting period, at distances

greater than 330 feet from the nest.

- c) Timber cutting, land clearing, or construction may be allowed at distances greater than 660 feet from the nest site, but outside of the nesting period.

Consultation with the Nongame and Endangered Species Program should be obtained for any proposed activities, including timber harvest, within the 1/4-mile protection zone.

D. Plant and Wildlife Habitat

- 1. As part of the Environmental Permit review process, require the establishment of buffer areas for colonial water bird (heron, egret, tern, and glossy ibis) nesting sites that are identified during the Environmental Permit review process so that these sites are protected from the adverse impacts of development activities and from disturbance during breeding season.

Procedures to be followed for the protection of colonial water bird nesting sites are as follows:

- a) Establish a minimum 1/4 mile protection zone around each colony. Recommendations on allowable habitat alternatives within this zone may only be obtained from the Maryland Forest, Park and Wildlife Service Wildlife Management Program on a case by case basis.
  - b) Consult the Maryland Forest, Park and Wildlife Service Wildlife Management Program for impact assessment of proposed intensive development activities within 1 mile of waterbird colony sites. Intensive development activities include new or expanded water-dependent facilities, major residential subdivisions, and commercial or industrial development.
  - c) Obtain specific recommendations for each site from consultation with the Nongame and Endangered Species Program.
- 2. Require that new water dependent facilities are so located as to prevent disturbance to sites identified during the Environmental Permit review process to be of significance to wildlife such as historic, aquatic staging and concentration areas for waterfowl.
  - 3. Require protection measures including a buffer area where appropriate for other plant and wildlife habitat which may

in the future be identified by state and federal agencies as important.

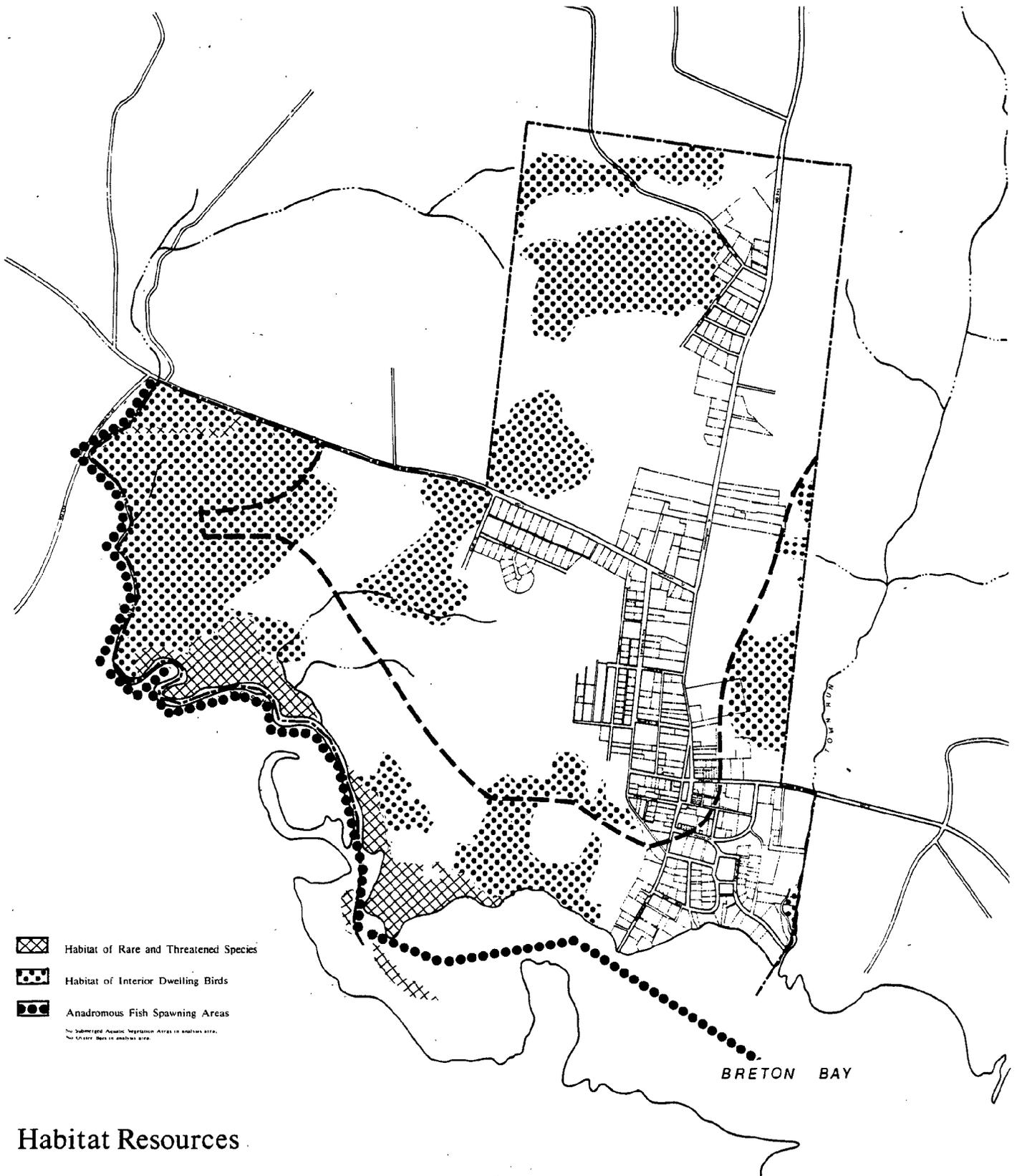
4. To the maximum extent possible, require the protection and conservation of those forested areas required to support wildlife species and habitat by encouraging appropriate site design criteria and development of management measures to conserve these areas during the Environmental Permit review process.
  5. Require to the extent practical that when development activities or the cutting or clearing of trees occurs in forested areas, corridors of existing forest or woodland vegetation be maintained to provide effective connections between wildlife habitat areas.
  6. Require the protection of plant and wildlife habitats considered to be of significance by Leonardtown during the Environmental Permit review process.
  7. During the Environmental Permit review process, require the protection of Natural Heritage Areas from alteration due to development activities or cutting or clearing so that the structure and species composition of the areas are maintained.
  8. Require as part of the Environmental Permit review process that the determination of the existence and extent identified plant and wildlife habitats, and the development of appropriate protection measures for these areas, will result from a cooperative effort between the relevant local team members reviewing the permit and the appropriate state agencies.
- E. Anadromous Fish Propagation Waters
1. Prohibit the installation or introduction of concrete riprap or other artificial surfaces on to the bottom of natural streams unless it can be demonstrated that water quality and fisheries habitat can be improved.
  2. Prohibit channelization or other physical alterations which may change the course or circulation of a stream and thereby interfere with the movement of fish.
  3. To the maximum extent possible, during the Environmental Permit review process require the applicant to avoid potential adverse impacts associated with any activities occurring on those portions of any watershed within the

Critical Area which drain into anadromous fish spawning streams by minimizing development activities or other land disturbances in the watershed; maintaining or if practicable, improving water quality in streams; minimizing to the extent possible the discharge or sediments into streams; and maintaining, or if practicable, increasing the natural vegetation of the watershed.

4. Prohibit the construction or placement of dams or other structures that would interfere with or prevent the movement of spawning fish or larval forms in streams.
5. Encourage the removal of existing barriers which interfere with or prevent the movement of spawning fish or larval forms in streams.
6. Assure that the construction, repair or maintenance activities associated with bridges; or other stream crossings or with utilities and roads, which involve disturbance within the Critical Area Buffer or which occur instream shall be prohibited between March 1 and May 15.

#### Proposed Incentives

1. Encourage participation in the Maryland Environmental Trust.
2. Allow a reduction in the tax burden for owners of lands with Habitat Protection Areas.
3. Encourage the developer of lands with Habitat Protection Areas to cluster development.



-  Habitat of Rare and Threatened Species
  -  Habitat of Interior Dwelling Birds
  -  Anadromous Fish Spawning Areas
- No Submerged Aquatic Vegetation Areas in analysis area.  
No Shaded Areas in analysis area.

## Habitat Resources

**Comprehensive Plan**

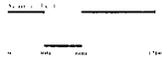
Scale: 1" = 1/2 Mile

0 1/2 1 1 1/2 2 Miles

WALLACE ROBERTS & TODD  
PLANNERS ARCHITECTS ENGINEERS AND ENVIRONMENTAL SCIENTISTS  
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# Leonardtown

St. Mary's County  
Maryland

## AGRICULTURAL LANDS

### IMPORTANT FARMLANDS:

Prime and productive agriculture soils are an important resource. In Leonardtown, major soil associations that are compatible with intensive cropping are concentrated to the west of Washington Street extending from the northern boundary south to an area north of the Bay.

### AGRICULTURAL LAND USE:

In accordance with Critical Areas Legislation and the Local Land Preservation and Recreation Plan requirements, jurisdictions must protect existing agricultural and land uses. Under these requirements, agriculture is defined as follows:

"methods of production and management of livestock, crops vegetation and soil. This includes but is not limited to, the related activities of tillage, fertilization, pest control, harvesting and marketing. It also includes, but is not limited to, the activities of feeding, housing and maintaining of animals such as cattle, dairy cows, sheep, goats, hogs, horses, and poultry and handling their by-products."<sup>21</sup>

The intent of the Critical Areas Legislation was not only to preserve existing agricultural use in the Critical Areas, but also to provide for the management of these lands so that non-point source pollution resulting from agricultural activities is minimized and natural habitats are conserved.

Within Leonardtown boundaries, there is only one existing agricultural area. This area is located in the south west, east of McIntosh Run.

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<sup>21</sup>COMAR 14.15.06.01

## AGRICULTURAL LANDS

### RECOMMENDATIONS:

#### Goals

The following goals have been identified as appropriate to guide future agricultural land use in the Town:

- . Assure that agricultural lands (including both existing farms and prime soils) are identified and that programs are established to maintain, where appropriate, agricultural lands in agricultural use, to the greatest extent possible.
- . Assure that lands currently in farming with desirable and productive agricultural soils will not be taken for public facilities such as schools, roads, or landfills unless there is no other viable alternative.
- . Recognize that agriculture is a protective land use that should be properly managed so that it minimizes its contribution to pollutant loadings to the Bay and its tributaries.
- . Assure that to the maximum extent possible agricultural activities are in accordance with a soil and conservation water quality plan approved by the local Soil Conservation District.
- . Assure that the creation of new agricultural lands is not accomplished through practices which are detrimental to water quality, plant and wildlife habitats, protected wetlands, forests, woodlands and other environmentally sensitive areas.
- . Assure that Best Management Practices are used in agricultural activities as necessary to minimize contamination of surface and groundwater and adverse effects on plants, fish and wildlife resources, and other environmentally sensitive areas.

#### Proposed Regulations and Guidelines:

1. Require all newly proposed agricultural activities to apply for an Environmental Permit.

2. Prohibit the creation of new agricultural lands:
  - by diking, drainage or filling of any class or subclass of palustrine wetlands as described in Wetlands Resources, which have a seasonally flooded or wetter water regime, unless mitigation as provided for in the Environmental Permit review process is accomplished;
  - by clearing forests or woodlands on soils with a slope greater than 15 percent or on soils with a "k" value greater than .35 and a slope greater than 5 percent;
  - if the clearing will adversely affect water quality or will destroy plant and wildlife habitat as defined in the Habitat Resources section of this document; or
  - by clearing existing natural vegetation within the Critical Area Buffer.
3. Require that the drainage of non-tidal wetlands for the purpose of agriculture be done in accordance with a Soil Conservation and Water Quality Plan approved by the local Soil Conservation District.
4. Permit agricultural activities in the buffer only if, as a minimum Best Management Practice, a 25-foot vegetated filter strip measured landward from the Mean High Water Line of tidal water or tributary streams (excluding drainage ditches), or from the edge of tidal wetlands, whichever is further inland, is established, and further provided that:
  - a) The filter strip shall be composed of either trees with a dense cover or a thick sod of grass;
  - b) The filter strip shall be expanded by a distance of 4 feet for every 1 percent of slope, for slopes greater than 6 percent;
  - c) The 25-foot vegetated filter strip shall be maintained until such time as the landowner is implementing, under an approved Soil Conservation and Water Quality Plan, a program of Best Management Practices for the specific purposes of improving water quality and protecting plant and wildlife habitat which achieves the objectives of the 25-foot vegetated filter strip.
  - d) No existing natural vegetation in the buffer is permitted to be cleared.

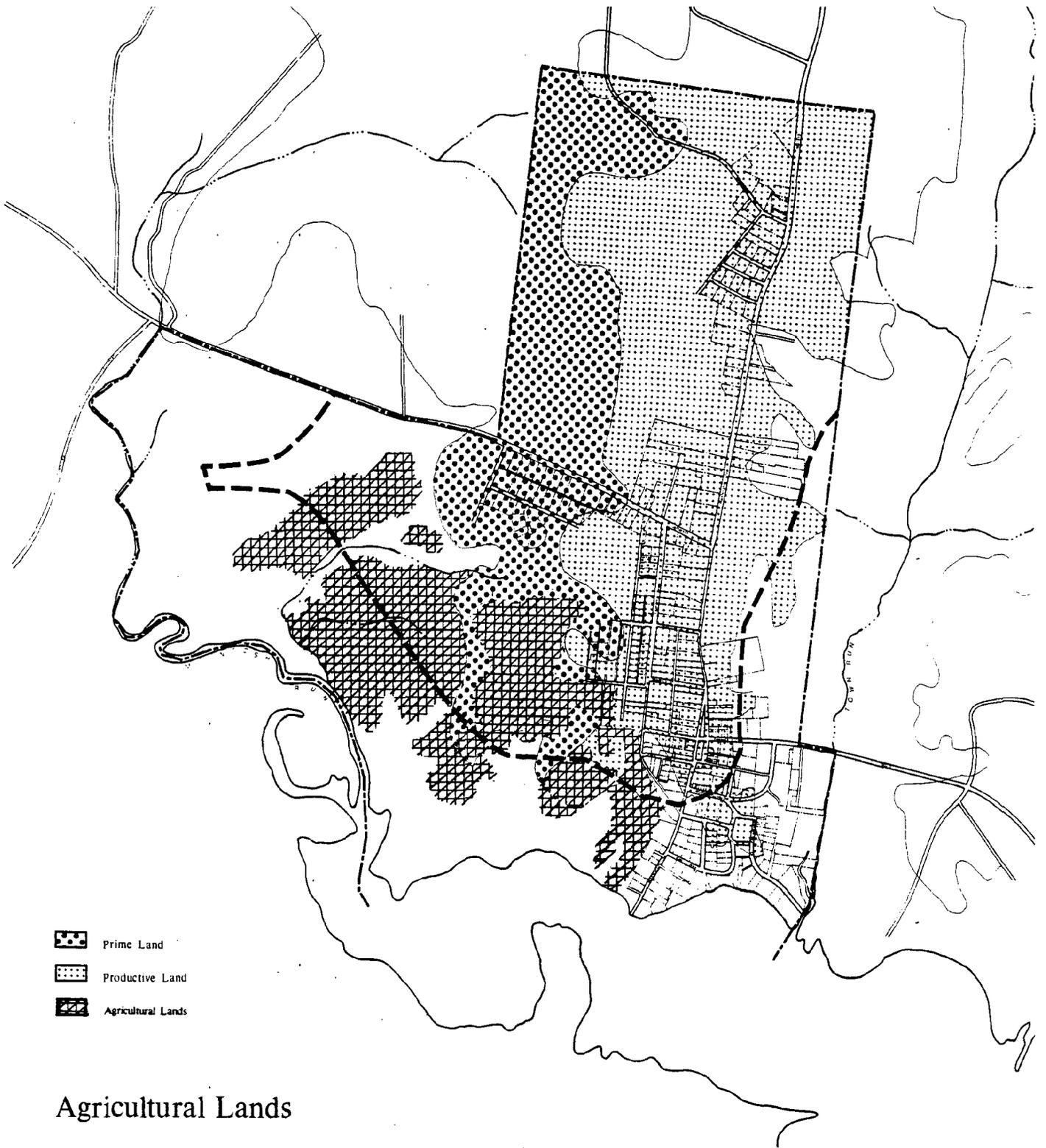
- e) The Best Management Practices used in the Buffer will include a requirement for the implementation of a grassland and manure management program where appropriate.
- f) The feeding and watering of livestock may not be permitted within 50 feet of the Mean High Water Line of tidal and tributary streams.
- g) Farming activities, including the grazing of livestock, are not permitted to disturb stream banks, tidal shorelines or other Habitat Protection Areas occurring in the Buffer.
- h) When agricultural uses within the Buffer cease, the Buffer will be established by the owner and/or developer.

- 5. Prohibit the disturbance of existing Habitat Protection Areas in the Critical Areas 1000 foot boundary.
- 6. Require the design of animal feeding operations, including retention and storage ponds, feed lot waste storage and manure storage to minimize contamination of water bodies.
- 7. Require all farms within the Critical Area to have in place and be implementing Soil Conservation and Water Quality Plans which have been approved by the St. Mary's County Soil Conservation District by July 1, 1991. The plans will be formulated to ensure the use of Best Management Practices for the control of nutrients, animal wastes, pesticides and sediment runoff to protect the productivity of land base and to enhance water quality.
- 8. Encourage landowners to use the following practices until a Soil Conservation and Water Quality Plan is approved and in place:
  - proper nutrient application rates, methods, and timing
  - reduced tillage practices
  - crop rotations
  - cover crop.

Proposed Incentives:

- 1. Encourage participation in the existing Maryland Agricultural Land Preservation Foundation Program and the proposed Maryland Environmental Trust.

2. Establish a transfer of development rights (TDR) program whereby owners of farms in the Critical Area can sell development rights (based on the amount of land he owns) to a developer who can then increase the density of development on parcels in designated areas of the County.
3. Reduce the tax burden on the farmer.
4. Adopt a rural cluster zone.
5. Do not require a Buffer for agricultural drainage ditches if the adjacent agricultural lands has in place Best Management Practices for the specific purposes of improving water quality and protecting plant and wildlife habitat.



## Agricultural Lands

Comprehensive Plan



WALLACE ROBERTS & TODD  
PLANNERS

# Leonardtown

St. Mary's County  
Maryland

SURFACE MINING

SAND AND GRAVEL RESOURCES:

The extraction of sand and gravel resources make an economic contribution to the State of Maryland. However, if not properly managed, these activities can result in sedimentation and other adverse impacts on aquatic resources.

Critical Areas Criteria require the identification of lands which contain known mineral resources but which are not now being used for mining operations.<sup>22</sup>

Although no existing pits are located within Leonardtown, there are two in the surrounding area.

In Leonardtown, a large area of potential lowland sand and gravel resource is located in the eastern half of the town.

Potential upland sand and gravel resources are concentrated between Leonardtown and Hollywood, north of Sotterly Gate Road. No areas of potential upland sand and gravel resources are located in Leonardtown.

<sup>22</sup>COMAR 14.15.07.03.C.1

## SURFACE MINING

### RECOMMENDATIONS:

Note: While there are presently no surface mining activities in Leonardtown these goals and recommendations are incorporated in Leonardtown's Local Critical Areas Program in the event that surface mining is initiated in the future.

### Goals

The following goals are recommended to guide surface mining activity in Leonardtown:

- . To ensure that extraction activities do not adversely affect long term ecological values in Leonardtown.
- . Assure that all available measures be taken to protect the Critical Area and other environmentally sensitive areas from all sources of pollution from surface mining operations including but not limited to sedimentation and siltation, chemical and petro-chemical use and spillage, and storage or disposal of wastes, dusts, and spoils.
- . Develop procedures to assure that mining has been conducted in a way to permit the reclamation of the site as soon as possible and to the extent possible.
- . To minimize the potential for conflicts between surface mining activities and other land uses in the Town.

### Existing Regulations

Surface mining is regulated within the State of Maryland under Title 7, Subtitle 6A Natural Resources Article, Annotated Code of Maryland. This law which is administered by the Maryland Water Resources Administration and the Department of Natural Resources requires the following:

1. Any person intending to mine sand and gravel must first obtain a Surface Mining Operators License from the Water Resources Administration (WRA). Licenses must be renewed on an annual basis.
2. A Surface Mining Permit must be obtained from WRA before mining commences on a particular site.

3. Upon completion of the mining operation the site must be reclaimed in a manner satisfactory to WRA.

Proposed Regulations:

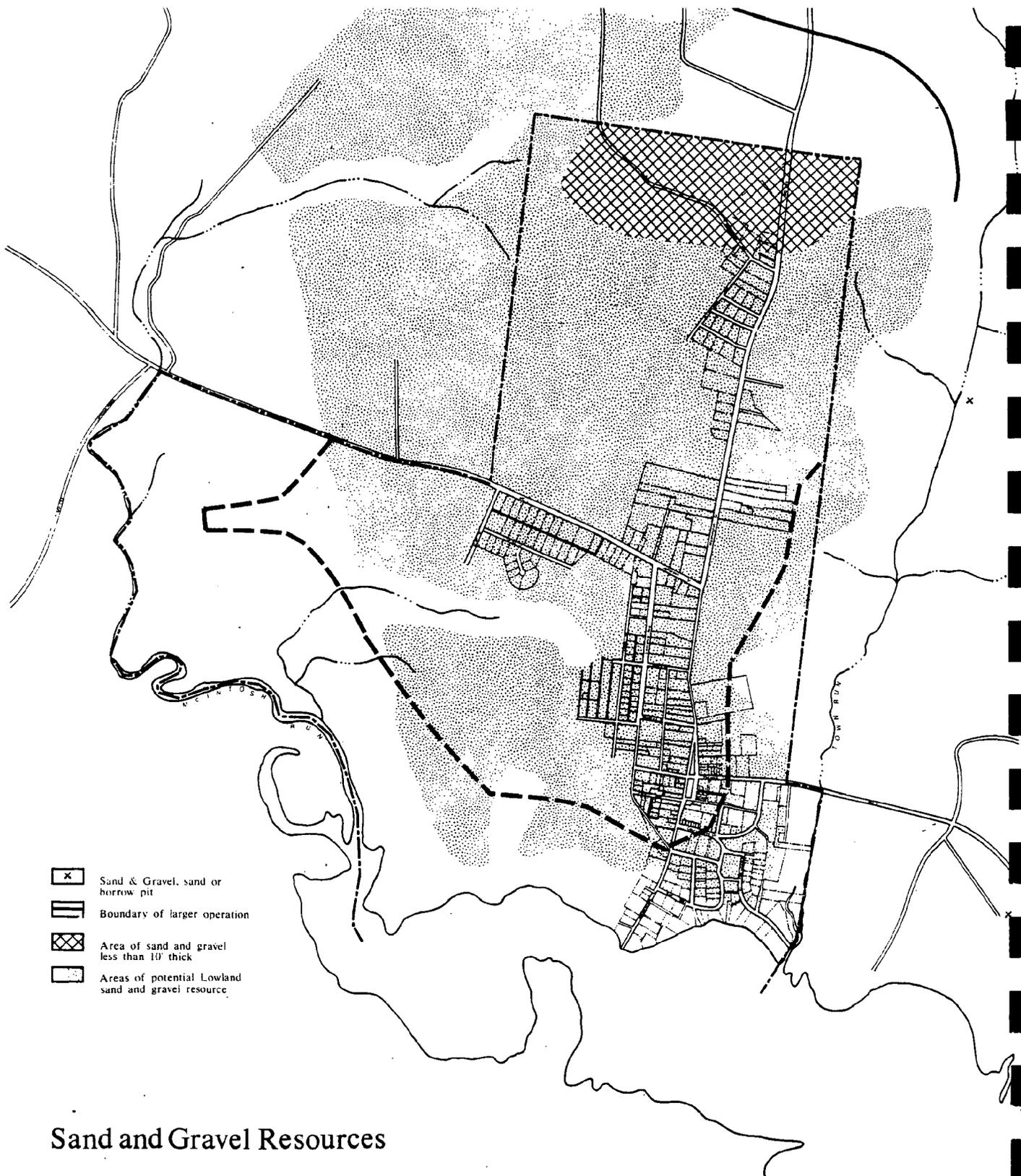
A review of available mining information provided by the MD Department of Natural Resources and the MD Geologic Survey indicates that there are active mining activities and several sand, sand and gravel or borrow pits within the Town's Critical Area boundary. In addition, there are scattered small areas of potential lowland and upland resources in the Critical Area.

While surface mining represents an important economic value in the Town, activities associated with resource extraction, including the removal of vegetation and soil disturbance and grading are generally contrary to the goals of the Critical Area Program because of potential water quality impacts. In addition, the areas of potential lowland and upland resources in the Critical Area boundary represent only a fraction of the rather extensive areas throughout the remainder of the County. For these reasons, it is recommended that none of the undeveloped lands with potential resources in the Critical Areas Boundary should be designated to be kept in an undeveloped state until the land can be used to provide or assist in providing a continuous supply of minerals pursuant to Article 66B 23.05 (a) (i) (v) Annotated Code of Maryland, as amended.

In addition, it is recommended that the Town adopt the following regulations for surface mining activities within the Critical Area:

1. Prohibit all surface mining operations (including accessory uses such as equipment storage) in Critical Area lands where one of the following conditions are present:
  - Habitat Protection Areas as defined in the Habitat Resources section and the Habitat Protection Area Plan (Appendix A).
  - Recommended Preservation Areas as designated in the Comprehensive Plan;
  - Lands within 200 feet of perennial streams as designated on the 7.5 minute U.S.G.S. topographic Quadrangle Maps;

- Proposed use would result in substantial loss of long range (25 years or more) productivity of forest and agriculture, or would result in a degrading of water quality;
  - Lands in agricultural use as of January 1, 1987;
  - Areas with prime agricultural soils; and
  - Areas with highly erodible soils.
2. Prohibit wash plants including ponds, soil piles and equipment in the Critical Area Buffer.
  3. All proposed new mining activities in the Critical Area will be required to apply for and receive a Town Environmental Permit, and file a current WRA permit and approved grading plan, soil conservation plan and land reclamation plan with the Town Planner prior to the commencement of any mining operations.
  4. All new surface mining operations which are proposed for the Critical Area must assure that all best available management practices to protect the Critical Area from adverse impacts resulting from mining operations including but not limited to water quality degradation erosion, sedimentation, siltation, chemical and petrochemical use and spillage.
  5. Proposed new sand and gravel operations will be required to conduct their extraction activities so as to provide, at a minimum a 100-foot buffer of natural vegetation between the operation and the Mean High Water Line of tidal waters or the edges of streams and tidal wetlands, whichever is further inland.
  6. Require all abandoned mines and existing mining operations which are in active operation on the date of Town program approval to file an Environmental Information Sheet, to develop a site reclamation plan and to provide adequate bonding within a period of six months.



**Sand and Gravel Resources**

**Comprehensive Plan**

SCALE: 1" = 1/4 MILE  
 WALLACE ROBERTS & TODD  
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**Leonardtown**

St. Mary's County  
 Maryland

PUBLICLY OWNED RECREATIONAL AREAS

PARKLANDS - RECOMMENDATIONS:

See the Leonardtown Waterfront Recreation Plan for detailed recommendations.

NATURAL PARKS - RECOMMENDATIONS:

Goals:

- . To encourage the creation of opportunities for interaction between people and natural environments without destroying the fragile components of natural habitats.
- . Encourage the establishment of natural parks in areas recommended for preservation.

Recommendations

Within Leonardtown's Critical Area, there are a number of sites where Natural Parks could be established. Suggested areas are as follows:

1. Wetlands along McIntosh Run and Town Run. Including the stand of Pines at the mouth of McIntosh Run.
2. The Waterfront Town property.
3. The fresh water fish pond at the ice plant on Washington Street.

These areas were identified through discussions with Town staff and review of the natural resources maps prepared as a part of the Critical Areas Program and summarized in the exhibits in this report.

POTENTIAL NATURAL PARK AREAS

NATURAL PARKS:

Critical areas legislation requires local jurisdictions to identify areas within their Critical Area where Natural Parks could be established.<sup>23</sup> In addition, special attention must be given to these areas in the development of the local Land Preservation and Recreation Plan.

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<sup>23</sup> COMAR 14.15.08.03A

WATER AND SEWER SERVICE AREAS

WATER SERVICE AREAS:

Within the Leonardtown Water Service district, the entire western portion of the town is currently serviced by a public water system which is potentially expandable. The rest of the area within the town boundaries has been designated as a planned service area.

SEWER SERVICE AREAS:

Within the Leonardtown sewer service district the only existing or planned service areas are in or adjacent to the Leonardtown area.

WATER AND SEWER SERVICE AREAS

RECOMMENDATIONS:

Goals:

- . To protect the health, safety, and welfare of the people of Leonardtown by improving sanitary conditions in every way possible.
- . To protect and enhance the Town's environmental qualities through recognizing natural limitations and constraints as a primary component of physical and social design.
- . To guide development to areas where water and sewerage systems exist, may be installed economically, or are planned in the foreseeable future.

Proposed Regulations and Guidelines:

1. All future development in Leonardtown should be served with public sewer and water.

## SEPTIC FIELD SUITABILITY

### RECOMMENDATIONS:

#### Goals:

- . To protect the health, safety and welfare of the people of Leonardtown and its neighbors by improving sanitary conditions in every way possible.
- . To protect and enhance the Town's environmental qualities by recognizing natural constraints and limitations as a primary component of physical and social design.
- . To guide development to areas where water and sewerage systems exist, may be installed economically, or are planned for in the foreseeable future.

#### Proposed Regulations and Guidelines:

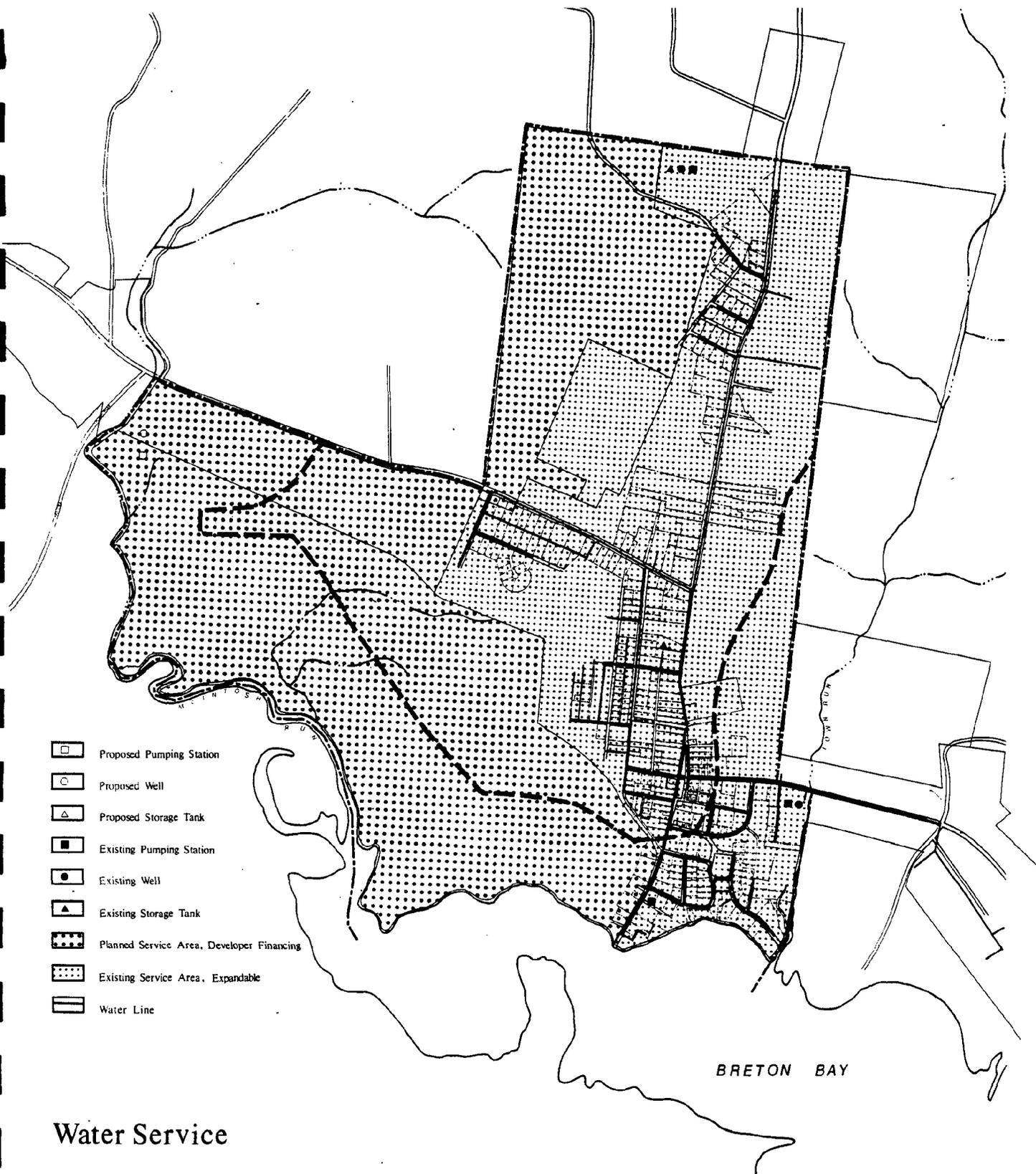
1. All future development in Leonardtown should be served with public sewer and water.

WATER SUPPLY

RECOMMENDATIONS:

Goals:

- . To recognize and protect significant water resources and to maintain and improve the quality of these resources.
  - . To adequately protect the Town's ground water resources and the potential for creation of surface water resources.
  - . To work toward a reduction in sources of existing and potential pollution and toward meeting the Water Quality Standards of the Maryland Department of Health and Mental Hygiene.
  - . To require careful management of water resources by all cognizant County agencies.
1. Protect groundwater and wells serving the Town from existing and potential pollution through careful land management practices.



-  Proposed Pumping Station
-  Proposed Well
-  Proposed Storage Tank
-  Existing Pumping Station
-  Existing Well
-  Existing Storage Tank
-  Planned Service Area, Developer Financing
-  Existing Service Area, Expandable
-  Water Line

BRETON BAY

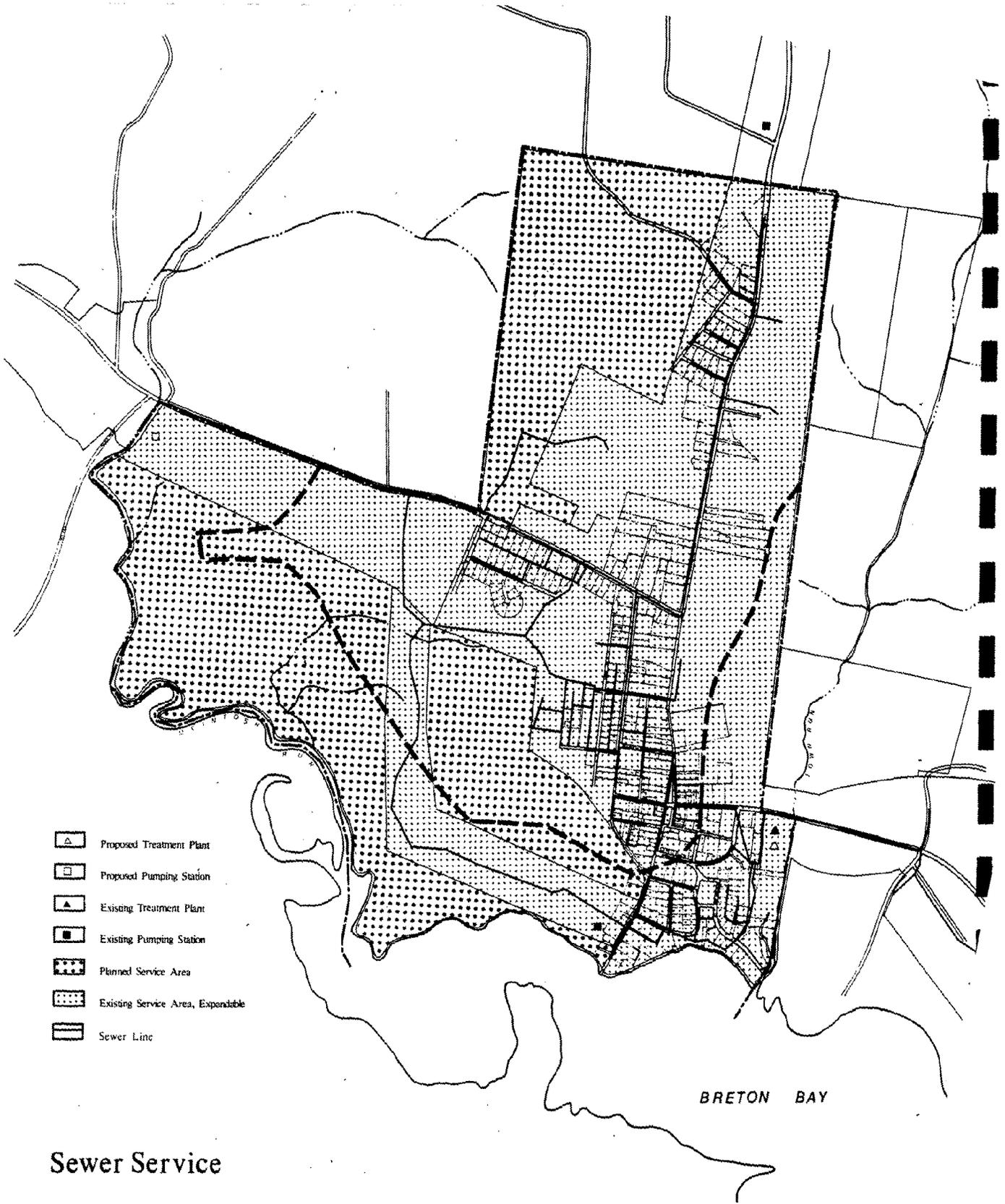
## Water Service

### Comprehensive Plan

  
  
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 ENGINEERS AND ARCHITECTS  
 1000 W. BROAD ST. SUITE 200  
 ANNAPOLIS, MD 21403  
 PHONE (410) 291-1100

# Leonardtown

St. Mary's County  
Maryland



## LAND USE

### EXISTING PATTERNS:

Development in Leonardtown has occurred primarily along Maryland Route 5 and Maryland 245, which intersect in town.

The town square has the greatest concentration of commercial uses which then branch out east and west along Fenwick Street and Park Avenue. Smaller areas of commercial land use occur along Jefferson Street and at the intersection of Jefferson Street and Washington Street.

There are many institutions within Leonardtown, which is the county seat. There are three general areas which contain public or semi-public buildings: the courthouse area, where the majority of Town and County government offices are located; the intersection of Jefferson Street and Washington Street; and north along Washington Street on the east side, where the Library and Leonard Hall Academy are located.

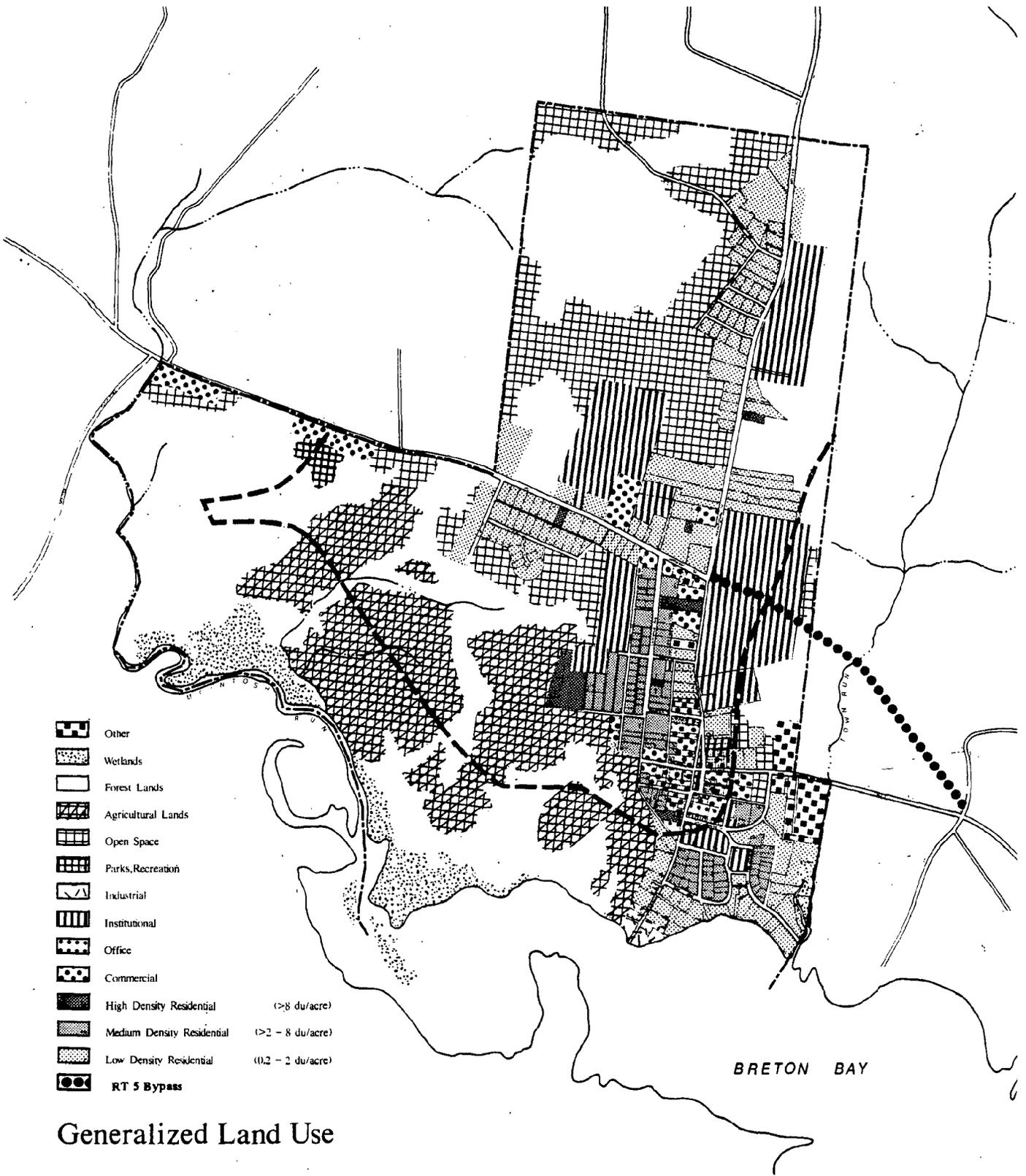
Residential areas occur along Breton Bay east of Washington Street, above Fenwick Street west of Washington Street, to the south of Jefferson Street, and in the north on the west side of Washington Street.

There are large areas of undeveloped land within Leonardtown, such as the large area south of Jefferson Street and the areas along the northern east and west town boundaries.

LAND USE

RECOMMENDATIONS:

Preparation is under way of a Comprehensive Plan for Leonardtown.



### Generalized Land Use

### Comprehensive Plan



# Leonardtown

St. Mary's County  
 Maryland

## CRITICAL AREAS

### AREA DEFINITIONS:

Critical Areas Legislation requires jurisdictions to develop regional land management strategies based on classifying all Critical Areas into one of three categories of land use intensity: Intensely Developed, Limited Development and Resource Conservation Areas.<sup>24</sup> Due to Leonardtown's waterfront location and bordering streams, a large amount of land falls within the mandatory 1000 foot critical area. East of Washington Street, there is a mixture of lands designated as intensely developed areas and limited development areas. West of Washington Street, a large area designated as a resource conservation area is along Breton Bay and McIntosh Run. North of this area is a large area designated as limited development area. These areas have been defined and mapped in accordance with the following criteria:

#### 1. Intensely Developed Areas:

Areas where residential commercial institutional, and/or industrial developed land uses predominate, and where relatively little natural habitat occurs. These areas shall have at least one of the following features:

- a) Housing density equal to or greater than four dwelling units per acre;
- b) Industrial, institutional or commercial uses are concentrated in the area; or
- c) Public water and sewer collection and distribution systems are currently serving the area and housing density is greater than three dwelling units per acre.

In addition, these features shall be concentrated in an area of least 20 adjacent acres, or that entire upland portion of the Critical Area within the boundary of a municipality, whichever is less.

#### 2. Limited Development Areas:

Areas which are currently developed in low or moderate intensity uses. They also contain areas of natural plant and animal habitats, and the quality of runoff from these areas has not been substantially altered or impaired. These areas shall have at least one of the following features:

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<sup>24</sup>COMAR 14.15.02

- a) Housing density ranging from one dwelling unit per 5 acres up to four dwelling units per acre;
- b) Areas not dominated by agriculture, wetland, forest, barren land, surface water, or open space;
- c) Areas with characteristics of Intensely Developed Areas, but less than 20 acres in extent; and
- d) Areas having public water or public sewer or both.

### 3. Resource Conservation Areas:

Areas characterized by nature dominated environments (that is, wetlands, forests, abandoned fields) and resource-utilization activities (that is agriculture, forestry, fisheries activities, or aquaculture). These areas shall have at least one of the following features:

- a) Density is less than one dwelling unit per 5 acres; or
- b) Dominant land use is in agriculture, wetlands forest, barren land, surface water, or open space.

#### MAPPING THE CRITICAL AREA

Mapping of the Critical Area in Leonardtown was based upon the following information and procedures.

First the Critical Area itself was defined on a base map of the Town at a scale of one inch = 300 feet. The boundary was set at 1000' inland from existing wetlands and the head of tides as defined by the Maryland Department of Natural Resources, Wetlands Division 1985 aerial photography. Intensely developed areas were identified on the basis of detailed existing land use information provided by the Town in a parcel by parcel inventory prepared in 1985. Boundaries of the Intensely Developed Areas were drawn to coincide with parcel boundaries.

Public sewer and water are available throughout the remainder of the Town, through tie-ins to existing mains and trunk lines. The distinction between Limited Development Areas and Resource Conservation Areas was based upon a delineation of wetlands and rare and threatened species habitats as defined on maps prepared at a scale of one inch = 300 feet from 1985 Maryland DNR Wetlands maps at a scale of one inch = 600" and a series of data sources regarding habitat resources set out in this list of sources at the end of this report.

#### AMENDING THE CRITICAL AREA

Any expansion of the Limited Development and Intensely Developed Areas in accordance with provision of the State Critical Areas Regulations shall be undertaken as a zoning amendment except that the amendment shall be contingent upon the approval of the Critical Areas Commission.

CRITICAL AREAS

RECOMMENDATIONS:

Goals:

A. Intensely Developed Areas

- . Improve the quality of runoff from developed areas that enters the Chesapeake Bay or its tributary streams.
- . Accommodate additional development of the type and intensity designated by the local jurisdiction provided that water quality is not impaired.
- . Minimize the expansion of Intensely Developed Areas into portions of the Critical Area designated as Habitat Protection Areas and Resource Conservation Areas.
- . Conserve and enhance fish, wildlife, and plant habitats, to the extent possible.
- . Encourage the use of retrofitting measures to address existing stormwater management problems.

B. Limited Development Areas

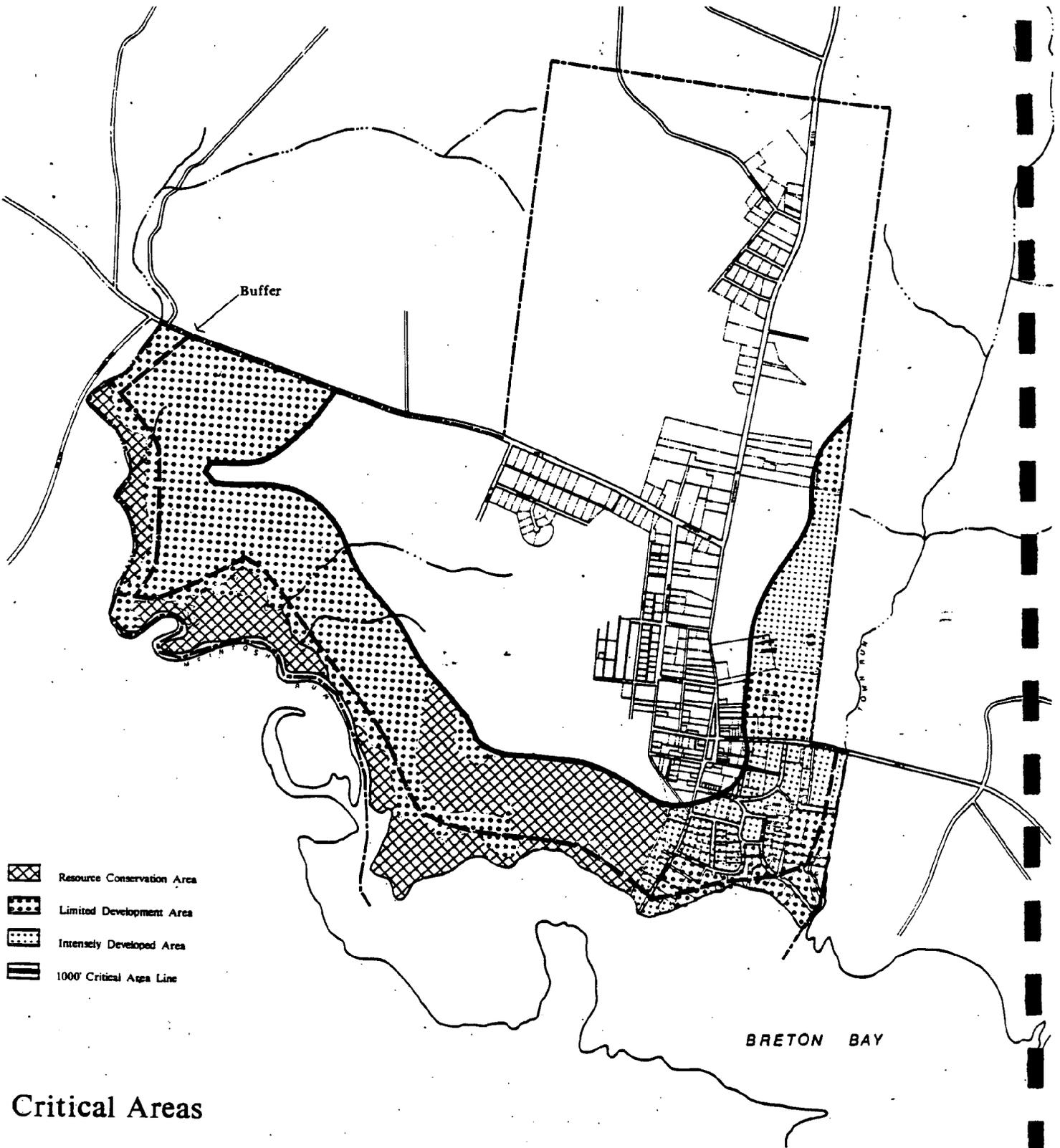
- . Maintain, or if possible, improve the quality of runoff and groundwater entering the Chesapeake Bay and its tributaries.
- . Maintain, to the extent practicable, existing areas of natural habitat.
- . Accommodate additional low or moderate intensity development if the development conforms to the water quality and habitat protection criteria in the Critical Areas Overlay Zone and the overall intensity of development within the Limited Development Areas is not increased beyond the level established in a particular area so as to change its prevailing character as identified by density and land use currently established in the area.

C. Resource Conservation Areas

- . Conserve, protect, and enhance the overall ecological values at the Critical Area, its biological productivity and its diversity.
- . Provide adequate breeding, feeding, and wintering habitats for those wildlife populations that require the Chesapeake Bay, its tributaries, or coastal habitats in order to sustain populations of those species.
- . Conserve the land and water resource base that is necessary to maintain and support land uses such as agriculture, forestry, fisheries activities and aquaculture.
- . Conserve the existing developed woodlands and forests for the water quality benefits that they provide.

Proposed Regulations and Guidelines:

Refer to the provisions of the Leonardtown Critical Areas Zoning Overlay Ordinance.



## Critical Areas

**Comprehensive Plan**

Scale 1:10,000

WALLACE ROBERTS & TODD  
PLANNERS, ARCHITECTS & ENGINEERS  
1000 EAST PROGRESS AVENUE

# Leonardtown

St. Mary's County  
Maryland

## SOURCES

### STEEP LANDS

U.S. Army Corps of Engineers, Baltimore District (USCOE). Evaluation of Water Supply Alternatives for St. Mary's County, MD, 1985.

U.S. Department of Agriculture - Soil Conservation Service (USDA-SCS). Soil Survey of St. Mary's County, 1978.

U.S. Department of Agriculture - Soil Conservation Service (USDA-SCS). Natural Soils Groups, 1981. (Scale 1:63,360)

MD Department of Natural Resources - Water Resources Administration. Water Use Forecast for St. Mary's County, Southern Maryland, 1984.

McHarg, Ian L. Design with Nature. Doubleday, 1971.

### WATER FEATURES:

U.S. Department of Agriculture-Soil Conservation Service (USDA-SCS). Soil Survey of St. Mary's County, 1978.

U.S. Department of Agriculture - Soil Conservation Service (USDA-SCS). Natural Soils Groups, 1981. (Scale 1:63,360)

U.S. Army Corps of Engineers, Baltimore District (USCOE). Evaluation of Water Supply Alternatives for St. Mary's County, MD, 1985.

U.S. Geological Survey. Quadrangle Maps, various dates. (Scale 1:24,000)

MD Geological Survey. Shoreline Structures in Maryland, 1975. (Scale 1:24,000)

MD Geological Survey. Historical Shorelines and Erosion Rates, 1975. (Scale 1:24,000)

MD Department of Natural Resources - Water Resources Administration. Water Use Forecast for St. Mary's County, Southern Maryland, 1984.

MD Department of Natural Resources - Water Resources Administration. Water Supply Resources Planning Concept Document, St. Mary's County, 1983.

MD Department of Natural Resources. Critical Shore Erosion Areas, undated. (Scale 1:63,360)

MD Department of Natural Resources. State Wetlands Maps  
1971. (Scale 1"=200')

MD Department of State Planning. Guidance Handbook, April  
1985.

MD Department of Transportation, State Highway Administration  
Maps, 1985. (Scale 1"=2,000)

Environmental Concern. St. Mary's County Shoreline Erosion  
Study, 1987. (Scale 1:63,360)

Lippson et al. Environmental Atlas of the Potomac Estuary,  
1979.

DEPTH TO SEASONAL HIGH WATER TABLE:

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS). Natural Soils Groups, March 1981. (Scale  
1:63,360)

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS). Soil Survey of St. Mary's County, 1977.

MD Department of State Planning. Guidance Handbook, April  
1985.

FLOOD HAZARD BOUNDARIES:

Federal Emergency Management Agency. Flood Insurance Rate  
Map, February 1987. (Scale 1"=600 feet).

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS). Soil Survey of St. Mary's County, 1978.

ERODIBLE SOILS:

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS). Soil Survey of St. Mary's County, 1978.

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS) Natural Soils Groups, 1981. (Scale 1:63,360).

MD Department of State Planning. Guidance Handbook, April  
1985.

RUNOFF POTENTIAL:

U.S. Department of Agriculture - Soil Conservation Service  
(USDA-SCS). Soil Survey of St. Mary's County, 1978.

U.S. Department of Agriculture - Soil Conservation Service (USDA-SCS). Natural Soils Groups, 1981. (Scale 1:63,360)

MD Department of State Planning. Guidance Handbook, April 1985.

FOREST RESOURCES:

St. Mary's County. Forest Maps, 1987. (Scale 1"=1320')

WETLANDS RESOURCES:

U.S. Department of the Interior - U.S. Fish and Wildlife Service (USDOI-USFWS). National Wetlands Inventory, 1985. (Scale 1"=2,000')

U.S. Department of the Interior - U.S. Fish and Wildlife Service (USDOI-USFWS). Classification of Wetlands and Deepwater Habitats of the United States, 1979.

MD Department of Natural Resources. State Wetlands Maps, 1977. (Scale 1"=200')

MD Department of Natural Resources. Submerged Aquatic Vegetation Maps, 1985. (Scale 1"=2,000')

MD Department of State Planning. Guidance Handbook, April 1985.

HABITAT RESOURCES:

U.S. Fish and Wildlife Service, Atlantic Coast Ecological Inventory, 1980. (Scale 1:250,00)

MD Department of Natural Resources. Rare and Endangered Species Sites, 1983. (Scale 1:63,360)

MD Department of Natural Resources - Fisheries Administration. Survey and Inventory of Anadromous Fish Spawning Streams and Barriers in the Patuxent River Drainage, 1984.

Chesapeake Bay Critical Area Commission. A guide to the Conservation of Forest Interior Dwelling Birds in the Critical Area, July 1986.

MD Department of Natural Resources - Maryland Forest, Park & Wildlife Service. Memorandum to Regional Foresters from State Forester re: Bald Eagle Nest Sites. September 10, 1986.

Lippson et al. Environmental Atlas of the Potomac Estuary, 1979.

MD Department of Natural Resources - Maryland Forest, Park & Wildlife Service. Written Correspondence from Jonathan A. McKnight, Maryland Natural Heritage Program. November 10, 1986.

AGRICULTURAL LANDS:

U.S. Department of Agriculture - Soil Conservation Service. Soil Survey of St. Mary's County, 1978.

U.S. Department of Agriculture - Soil Conservation Service, Natural Soils Groups, 1981. (Scale 1:63,360)

U.S. Department of Agriculture - Soil Conservation Service. Important Farmlands, 1985. (Scale 1:100,000)

MD Department of Natural Resources - Water Resources Administration. Water Use Forecast for St. Mary's County, Southern Maryland, 1984.

St. Mary's County Metropolitan Commission. St. Mary's County Comprehensive Water and Sewer Plan, 1982 Update, 1982.

SURFACE MINING:

MD Department of Natural Resources and Maryland Geological Survey. Sand and Gravel Resources of St. Mary's County, MD, 1986.

(Scale 1:62,5000).

POTENTIAL NATURAL PARK AREAS:

MD Department of Transportation. State Highway Administration Maps, 1986. (Scale 1"=2,000')

Written Correspondence from Gregory Stevens, Town Engineer, Leonardtown. August 19, 1986.

WATER AND SEWER SERVICE:

St. Mary's County Metropolitan Commission. 1986 Update of the Comprehensive Water and Sewer Plan.

LAND USE:

MD Department of Natural Resources - Wetlands Division. Aerial Photography, 1985.

MD Department of State Planning. Existing Land Use, December 1985. (Scale 1:63,360)

Leonardtwn Master Plan. Existing Land Use, 1973.

CRITICAL AREAS:

MD Department of Natural Resources - Wetlands Division, Aerial Photography, 1985.

MD Department of State Planning. Existing Land Use, December 1985. (Scale 1:63,360)

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