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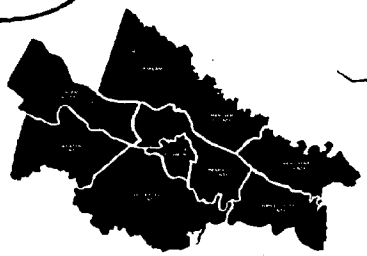

DRAFT

LAND USE PLAN

CHARLES CITY COUNTY, VIRGINIA

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Prepared by

Richmond Regional Planning District Commission
in association with

Charles City County, Virginia

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INTRODUCTION

Charles City County is a quiet interlude in the fast growing Williamsburg-Richmond corridor. Stands of pine and hardwood trees greet visitors at every entrance to the County. The predominant land use, forestry, is only occasionally disturbed by scattered agricultural, residential and commercial activities. Stately plantations and other historic sites remind visitor and resident alike of the long history of the County.

There is another side to the County however. Each day many residents leave to work and spend money in surrounding communities. Scattered development patterns limit the possibilities for public water and public sewer service. There is no central focal point for residents and visitors alike to associate with Charles City County. Instead, it is remembered as a series of isolated points of interest.

In order to address these and other issues, Charles City County in cooperation with the Richmond Regional Planning District Commission has prepared this Comprehensive Land Use Plan.

Purpose of the Land Use Plan

As we move into the 21st Century, change is taking place in and around the County. That change will bring both opportunities and problems. Institutions and individuals that anticipate and plan for the future will fare better than those who merely react.

The purpose of this Comprehensive Land Use Plan is to serve as a framework for decisions concerning land development. The Plan contains a series of goals, objectives, and strategies describing how and where the County wants to grow. The adopted plan will allow public and private land owners to coordinate decision within a shared concept of the future.

The future is never certain, however. As conditions in the county change, the Plan will need to be modified. State law requires that the plan be reviewed and updated every five years.

Scope of the Plan

Three terms can be used to describe the scope of this Comprehensive Land Use Plan: general, long-range and comprehensive. The Plan is general in that is summarizes the County's policies for future development without indicating how specified parcels of land should develop, and without indicating detailed regulations for controlling future development. These details are left to more specific ordinances and regulation designed to implement the Plan, such as zoning and subdivision controls, capital improvement plans and so forth.

The Plan is long-range in that it deals with anticipated development over the next 20 years. Looking that far into the future is difficult, especially in a rural county located adjacent to rapidly growing urban areas. A long-range view is necessary, however, if the County is to attempt to guide development toward appropriate locations and protect historical and environmentally sensitive lands.

Finally, the Plan is comprehensive in that it encompasses the entire geographic area of the County and all types of land use. Publicly and privately owned land is included. The Plan examines the natural and man-made environment. Recommendations are included that cover residential, commercial, industrial and publicly owned land.

How the Plan is Organized

The Charles City County Comprehensive Land Use Plan is organized into three major sections. Section I summarizes the important issues that have influenced past land use trends and will influence development in the future. These include: population and economic base, environment, land use, transportation, and community services and facilities.

Section II is the part of the Plan that looks ahead to the future. This section sets forth future development goals. Also included are a series of objections and strategies that can be used to reach these goals. A future land use map is presented as a means to visualize how the County could develop if these objectives and strategies are followed.

Finally, Section III outlines a series of tools and action the County can use to implement the objectives and strategies contained in Section II.

HISTORICAL AND ARCHEOLOGICAL RESOURCES

> *It is generally believed that the beginning of Charles City County as a colony came shortly after the English landed in Jamestown in May 1607. On a exploration of the James River, Captain John Smith and a body of twenty-one men landed and spent the first night about eighteen miles from Jamestown, where they were entertained by either the Paspahegh Indians in the Sandy Point area or the Weyanoke Indians at Weyanoke Point. It follows that this night marked the first entry by Englishmen into Charles City County.*
>
> *After the Battle of Malvern Hill, Civil War General George McClellan and his troops retreated to Berkeley plantation where the bugle call "Taps" was composed by General Butterfield.*
>
> *Lott Cary [a Charles City native] bought his freedom from slavery in 1821 and became ordained as a Baptist minister. As many of the slaves were being sent back to Africa, Cary responded by raveling to Africa and establishing the first Baptist church on the continent. The church is still in existence today.*

Source: Tyler, D. Gardiner, A Brief History of Charles City County, Virginia Gleanings From the Past, September 30, 1984.

These excerpts provide just a glimpse of how events and people related to Charles City County have been involved in state, national and international history. Historical and archaeological resources date from prehistoric man. Native Americans, European colonists, and others have left their mark here.

The Washington Post has called Charles City 'the land lost in time' because it remains virtually untouched by new development. Many of the historic and archaeological resources can be seen in a pristine setting. Residents are proud of the historical and archeological resources within the County and want to protect and preserve them.

The following is only a cursory report of these resources. More can be found in the soon to be published history of the County entitled Four Centuries of the Southern Experience: Charles City County, Virginia. From the Age of Discovery to the Modern Civil Rights Struggle.

Historical Sites and Structures

The Virginia Historic Landmarks Commission has recorded approximately 78 sites and structures in the County, dating as early as the 17th century. The County is well-known for its abundance of plantation houses from that time period.

In general, historical sites and structures are found primarily in the southeastern section of Charles City County along the James River. The James River was an influential factor in the location of early settlements in Charles City. One of the oldest roads in Charles City County, Route 615, also has many historic sites along its route.

Twenty-three of the 78 sites are listed in the National Register of Historic Places. (Refer to Map _____) These landmarks are considered important to State history.

Berkeley, Sherwood Forest, Shirley, and Westover Plantations have been recognized as National Historic Landmarks. This designation is the highest ranking given to historical sites and structures, and is given to landmarks that are significant to American history. Berkeley was the birthplace of Benjamin Harrison, signer of the Declaration of Independence, and William Henry Harrison, ninth president of the United States. Another president, John Tyler, made his home at Sherwood Forest in 1845. Shirley Plantation is considered to be a superb architectural example of plantation society, while Westover is a premier example of Georgian architecture.

The presence of historical resources has undoubtedly impacted the development of the County and its economy. Much of the development activity continues to take place near and around these historical areas. Route 5, which links together and provides access to many of the historical sites in the County, has been designated as a Virginia Byway. As a result, tourism has increased as a significant economic resource. Many of the historic sites and structures are open to the public, and spinoff commercial activities, such as bed and breakfast establishments, have been developed to take advantage of the County's historical culture.

The Division of Historic Landmarks recently completed a windshield survey of Charles City County to provide Richmond Regional Planning District Commission with updated information to integrate into the Plan. The survey identified approximately 157 historic properties never previously recorded by the Historic Landmarks Commission. Major recommendations of the survey included:

-- a more intensive study of historic resources to be conducted within the County before the next revision of the Comprehensive Plan.

-- the establishment of rural historic districts along Route 5 and Route 615.

-- the development of a slide tape program on historical and archaeological sites in the County to be used in the public school system.

A copy of the survey can be obtained from the Department of Economic Development or the Division of Historic Landmarks.

Archaeological Findings

Charles City County contains a vast array of archaeological sites which date as far back as the beginnings of man and include early American settlement. Presently, 291 archaeological sites have been discovered in Charles City. Most of these archaeological sites lie along the James and Chickahominy Rivers and waterways extending into the interior of the County. Map _____ provides a general overview of archaeological findings in the County.

The earliest archaeological sites in Charles City can be found on Weyanoke. The peninsula has been occupied since 8000 B.C., and contains many sites from the Prehistoric and Middle Archaic periods. Eppes Island also has a significant number of prehistoric sites from the Archaic and Woodland periods.

Archaeological findings reveal the presence of Native American communities in Charles City County in the early 1600's. Sites consist mainly of indian camping grounds along the shoreline areas. Three indian tribes were identified: the Chickahominy along that river, the Paspahegh in the Sandy Point area, and the Weanac in the Weyanoke neck area.

Many Europeans established settlements in the same areas of Charles City as the Native Americans. Sites indicate the presence of farming communities and industrial activities along the James River. In fact, brick making at Sturgeon Point is considered to be one of the first sites for that industry in the nation.

Plantations sites are also found in abundance in Charles City County. Many of the plantation houses have been preserved and help to understand the society of that period. The plantation settlements found on Upper Weyanoke are especially significant because they encompass three centuries of plantation life.

It is expected that many more sites exist in Charles City County, but have not yet been detected. The time and labor necessary to survey one archaeological site limits the ability for a county-wide survey to be conducted. Therefore, archaeologists suggest that an archaeological survey be required before development of a particular tract of land begins.

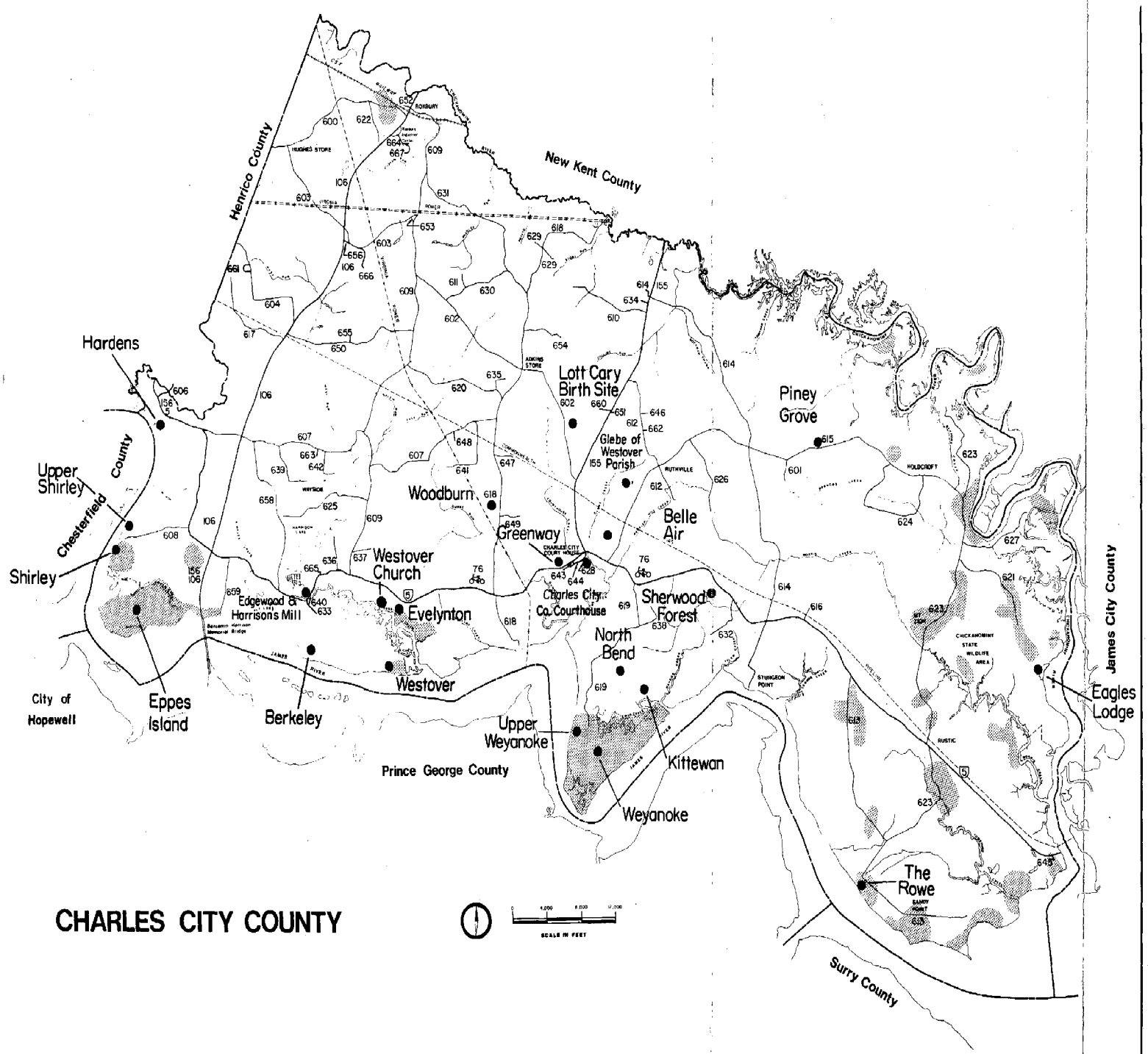
Summary

Charles City County is a reflection of America's past. Its historic and archaeological resources provide important data concerning the development of early man, settlements of Native Americans, the entry of the English into the New World, and the colonial and plantation periods. The County serves as an historic "laboratory" because the majority of these resources have been preserved in their authenticity. Residents of the County recognize the quality and significance of these artifacts and welcome exploration of 'the land lost in time'.

HISTORIC & ARCHEOLOGICAL SITES

● Property listed on National Register.

Identified Archeological Sites



Prepared by
Richmond Regional Planning District Commission

POPULATION, HOUSING AND ECONOMIC ANALYSIS

The analysis of population, housing and economic data allows a better understanding of present conditions and potential trends for the future. Comparing data across time or to State or regional figures provides benchmarks to discern the significance of the data.

An understanding of present conditions is necessary to be able to plan for the future. This section looks at who lives in Charles City County, where they live and where they work. Projections about future County residents are provided.

Most of the data used in this section is taken from the U.S. Bureau of Census. Other sources include the Richmond Regional Planning District Commission, Virginia Department of Planning and Budget, Virginia Employment Commission, and the Charles City County Marketing Book.

Population Characteristics

The following provides information concerning the population makeup of the County and how the population has changed over the years. Also presented are population projections for the County, the region and the State.

Historical Growth

The County population has increased steadily since 1970. In 1970, 6,158 persons resided in the County. The population increased to 6,692 persons in 1980. By 1985, it was estimated that 6,900 people lived in the County. (Refer to Table A-1)

The County's population is concentrated in the Harrison and Tyler magisterial districts. The Harrison district, located in the western part of the County, contains almost one half of the County's population. The Tyler district, located in the central portion of the County, contains approximately 40 percent of the population. The remainder live in the Chickahominy district, located in the eastern portion of the County. The fastest growing portion of the county between 1970 and 1980 was the Tyler District, growing by over 16 percent during that decade.

The County's population has grown less rapidly than the region or state. Both the region and the state displayed about a 15 percent increase from 1970 to 1980 while Charles City County increased by only 8.6 percent. From 1980 to 1985, the region and state indicated a percentage change of 6.7 and 6.1, respectively. During that sane period, the County population increased one half as rapidly at 3.1 percent.

Population Projections

Based on projections by the Richmond Regional Planning District Commission, Charles City County's population is expected to increase to 8,550 persons by 2010. (Refer to Table A-2) The County's population increases between 1990 and 2000 and 2000 and 2010 are expected to be 9.1 percent and 8.3 percent, respectively. These projected increase are similar to the actual increase between 1970 and 1980. Also, they are almost identical to the projected increases in the State population. The County is still projected to grow slower than the region, however.

Age Distribution and Median Age

Table A-3 indicates a substantial change in the age distribution between 1970 and 1980. Persons 19 years of age and younger decreased from 47 percent of the population in 1970 to 36 percent in 1980. Meanwhile persons in the 20 to 64 age group increased from 45.7 to 55.6 percent of the population during the same period. This is significant in that persons 19 years of age and younger depend on the County for educational, recreational and other services. Persons 20 to 64 typically pay the taxes that allow the County to provide these services. An increase in the percentage of tax providers coupled with a decrease in tax "users" can have a favorable impact on County revenues.

The median age of County residents in 1970 was 22 years. This was below the 1970 statewide median age of 26.8 years. In 1980, the median age in the County increased to 27.8 compared with the State median age of 29.8. In other words, while both the County and State populations are aging, the County is getting older faster than the State.

Racial Composition

The majority of Charles City residents are black. (Refer to Table A-4). In 1970 and 1980, blacks composed seventy percent or more of the total population. The percentage decreased between 1970 and 1980, with the change being accounted for by an increase in the while population. Native Americans population share remained constant at eight percent in 1970 and 1980.

Education

County residents made significant strides in educational achievement between 1970 and 1980. As shown in Table A-5, 38 percent of the population had finished high school in 1970. By 1980, the share of high school graduates increased to 51 percent, a figure in excess of the state percentage.

The County still lagged behind the State in percentage completing college, however. In 1980, 16 percent of Charles City residents had completed college, less than half the State figure of 34 percent.

Household Composition

In 1970 and 1980, over 80 percent of the households were family-headed households. (Refer to Table A-5). A family-headed housedhold is two or more individuals living together related by birth, marriage or adoption. These percentages were above the state percentage (75%) in 1980. In 1980, the percentage of female-headed households in the County was also greater than the percentage of female-headed households in the State.

Average Household Size

Household size data shows that while the average number of persons per household decreased between 1970 and 1980, household size in the County still exceeded State and regional averages. (Refer to Table A-5) While the average household size in the County is expected to continue to decline, it is expected to continue to exceed State and regional projections.

Housing Characteristics

An analysis of housing characteristics can help in the understanding of present housing conditions. This analysis can also be used to project the number and type of units necessary to house future populations.

Number of Housing Units and Housing Unit Projections

In 1970, there was a total of 1,568 housing units in Charles City County. The number of housing units increased to 2,152 in 1980. (Refer to Table B-1)

Future housing needs can be developed using projected population, household size and vacancy rate numbers. Based on projections provided by the Richmond Regional Planning District Commission, the County will need a total of 3,307 housing units in 2010. This represents an increase of 37 units per year between 1980 and 2010.

Type of Housing Unit

Single family dwellings dominate the housing stock in Charles City County. Table B-2 indicates that in 1970, single family dwellings accounted for 90 percent of the housing stock. In 1980 the portion of single family dwellings decreased to 80 percent.

According to census information, single family homes and

mobile homes were the only type of housing available in 1970; no duplex or multi-family units were counted that year. By 1980, duplexes and multi-family units accounted for nine percent of the housing stock. The percentage of mobile homes increased from ten percent in 1970 to eleven percent in 1980.

Comparing housing types in the County with State figures indicates two major differences. The percentage of duplex and multi-family units in the County is approximately half the State figure. On the other hand, the percentage of mobile homes in the County is twice the State figure.

Building Permit Data

A review of building permit data confirms that single family dwellings and mobile homes continue to dominate residential development activities. (Refer to Table B-3). Between 1980 and 1987, 354 building permits were issued. Fifty-four percent of these permits were for site-built single family dwellings, while the remaining 46 percent were for mobile homes.

An analysis of housing construction by year between 1980 and 1987 shows that while yearly permits fluctuated greatly, the average for the period was 44 units per year. This level of activity compares favorably with the 37 units per year necessary to meet future housing requirements.

Tenure and Vacancy Rate

Most of the housing in Charles City County are owner-occupied. As shown in Table B-4, the percentage of owner-occupied units decreased from 80 to 77 percent between 1970 and 1980. The 1980 figure still exceeded the State percentage, however. The percentage of rental units in the County was approximately half the State figure.

Median Housing Value and Contract Rent

Dramatic shifts in housing value occurred in Charles City County from 1970 to 1980. Table B-5 shows that in 1970, 96 percent of owner-occupied housing was valued at $20,000 or less. The median housing value in 1970 was $6,700. In 1980, the median housing value increased to $27,200; while only 30 percent of the housing was valued at $20,000 or less. Although housing values increased dramatically from 1970 to 1980, Charles City County housing values were still lower than State housing values in 1980. The median housing value for the State in 1980 was $48,000.

Rental housing statistics changed considerably during the period betwee 1970 and 1980. Figures displayed in Table B-5 indicate that in 1970, 62 percent of Charles City households were paying no rent, while 38 percent were paying less than $100.

Median rent payments were $30. In 1980, the percentage of persons not paying rent decreased to 31 percent. Forty-nine percent of the population started paying over $100 per month. By 1980, median rent in the County had increased to $97. However, rents in the County again lagged behind when compared to the State average of $207.

Housing Conditions

Figures on housing units lacking complete plumbing facilities and number of persons per room are two indicators used to evaluate housing conditions. Statistics in Table B-6 indicate a substantial increase in the percentage of units having complete plumbing between 1970 and 1980. Yet, twenty percent of the housing units in Charles City County remained without complete plumbing in 1980. This was well above the state figure of 4 percent.

Information on persons per room is used as a measure of overcrowding. Housing with more than 1.00 person per room signifies overcrowding, while over 1.51 persons per room indicates severe overcrowding. Table B-7 indicates that crowding eased in the County between 1970 and 1980. Only 74 percent of the population in the County had their own room in 1970 compared to 80 percent in 1980. Again, however, overcrowding was still more common in Charles City than the State.

Economic Characteristics

Analyzing the local economy is one of the most revealing ways to examine the existing development activities and development potential of a community. Income and employment statistics provide the main types of information gathered in this analysis.

Household Income and Household Income Projections

Household income statistics for the County, shown in Table C-1, were very similar to the State figures in 1979. The median income for Charles City residents was $17,120 while the state figure was slightly higher at $17,475. Median household income is expected to continue to climb in both the State and the County, with the County figure growing somewhat faster than the State. By 1990, the County median household income is projected to be $27,287, slightly higher than the State figure of $26,874.

Poverty Status

Approximately 13 percent of the County population was living below the poverty level in 1979 (Refer to Table C-2). Forty-five percent of the persons who had related children under 18 years of age and ten percent of the elderly had incomes which fell below the poverty level. Poverty status for these special population groups were slightly higher in the County than the State.

Labor Force Characteristics

In 1980, approximately 67 percent of the Charles City population participated in the labor force. Information in Table C-3 indicates that the County rate was approximately three percent higher than the State labor force participation rate. The County unemployment rate was 5.1 percent, almost identical to the State unemployment rate of 5.0 percent.

Males were more active in the labor force than females in Charles City County. Males were participating in the labor force at a rate of 76.3 percent in 1980, while only 58 percent of the females in the County were employed. Males had a lower unemployment rate, 4.8 percent for males versus 5.5 percent for females.

Place of Work

Most Charles City residents are employed outside the County. (Refer to Table C-4). In 1970, 71 percent of the working population was employed outside the County. The percentage of persons working outside the County increased to 80 percent in 1980.

These out-commuting patterns are typical for rural counties near a metropolitan area. For example, 86 percent of the James City County population was employed outside the County, while 80 percent of the workers in adjoining New Kent County commuted outside the locality in 1980.

Of the 2,212 residents who worked outside Charles City County, Table C-6 indicates that 991 (45%) worked in Richmond in 1980. Fifteen percent of the population worked in Henrico County, while 13 percent of the County were employed in New Kent County or Williamsburg.

Travel Time to Work

Table C-5 indicates that the median travel time to work for Charles City residents in 1980 was 34.7 minutes. Median travel time for workers across the State was only 23.3 minutes. More specifically, 66 percent of the County workers traveled 30 minutes are more to their place of employment, more than twice the State figure of 32 percent.

Again, these travel times are similar to figures in other rural counties. In New Kent County, 60 percent of the workers traveled 30 minutes or more to their jobs in 1980.

Occupation of Charles City Workers

Occupation refers to the type of job of an employed person. A comparison of 1980 information shows several differences in

occupation between Charles City residents and statewide figures. Only 12 percent of Charles City workers were in managerial or professional specialty occupations in 1980, half the State figure. Operators, fabricators and labors accounted for 37 percent of County workers compared with 18 percent in the State. Other occupations varied also.

Types of Industries Employing Charles City Workers

Charles City workers are employed by a variety of industries. Data in Table C-8 shows that 35 percent of those employed in 1980 worked in the manufacturing industry. This was substantially greater than the State figure of 19 percent. The largest percent of state workers (29 percent) were employed in service jobs. This figure was similar to the 24 percent of County employees.

Type of Establishment and Number of Employees Per Establishment

A total of 76 establishments were in operation in Charles City County in 1987 (Refer to Table C-9). These businesses employed 606 people. The most prevalent types of employers in the County were: Services (25%), Government (18%), and Construction (16%). Comparing the number of establishments with the number of employees, one can see that all of the businesses in Charles City County were small operations. The biggest employer in the County was Government, employing 263 people and making up 43 percent of the employment base in the County.

Employment Projections

Employment projections, displayed in Table C-10, show that the number of jobs in Charles City County will increase in future years. By 2010, non-agricultural employment is estimated to be 1,300 jobs. This increase denotes a 87 percentage change from 1980. Government will remain the leading employer while the manufacturing and service industries will employ the largest number of workers in the private sector.

Wages

People employed in Charles City County in 1987 earned the lowest wage per hour of any other jurisdiction in the region (Refer to Table C-11). Workers in the County received $6.95 per hour, while wages in other areas ranged from $7.52 to $10.20 per hour.

A-1

Population Change in Charles City County And The Surrounding Region: 1970, 1980, and 1985

	1970	1980	% Change 70-80	1985	% Change 80-85
Charles City	6,158	6,692	8.6	6,900	3.1
Chickahominy District	886	890	0.4	---	---
Harrison District	2,933	3,075	4.8	---	---
Tyler District	2,339	2,727	16.6	---	---
Planning District 15	547,542	632,015	15.4	674,900	6.7
State	4,651,448	5,346,818	14.9	5,673,200	6.1

NOTE: No information was given for categories displaying '---'.

SOURCE: VIRGINIA POPULATION PROJECTIONS 2000, DEPARTMENT OF PLANNING AND BUDGET, 1983; U.S. CENSUS.

A-2

Population Projections for Charles City County and the Surrounding Region: 1990, 2000, and 2010

	1990	2000	% Change 1990-2000	2010	% Change 2000-2010
Charles City County	7,230	7,890	9.1	8,550	8.3
PDC 15	740,850	833,900	12.5	930,800	11.6
State	6,095,400	6,651,700	9.1	7,215,900	8.4

SOURCE: REGIONAL DATA REPORT UPDATE (1988), RICHMOND REGIONAL PLANNING DISTRICT COMMISSION, UNPUBLISHED.

A-3

Age Distribution in Charles City County: 1970 and 1980

Percentage of Total Population	1970	1980
0-4 Years	9.3	7.2
5-19 Years	37.7	28.8
20-44 Years	30.4	37.0
45-64 Years	15.3	18.6
65 years and older	7.3	8.4
MEDIAN AGE	22.0	27.8
MEDIAN AGE (STATE)	26.8	29.8

SOURCE: U.S. CENSUS

A-4

Racial Composition in Charles City County: 1970 and 1980

	1970	Percent	1980	Percent
White	1,048	17	1,397	21
Black	4,569	74	4,726	70.5
Native American	510	8	552	8
Other	31	1	17	0.5
TOTAL	6,158	100	6,692	100

SOURCE: U.S. CENSUS

Education Level of Persons in Charles City County: 1970 and 1980

YEARS OF SCHOOL COMPLETED

	1970	Percent	1980	Percent	State, 1980 Percent
Total, 25 Year and Older	2,731	100	3,698	100	100
Elementary	1,448	53	1,237	33	22
High School	1,029	38	1,881	51	44
College	254	9	580	16	34
Median School Years Completed	9.0		11.0		12.4

SOURCE: U.S. CENSUS

Household Composition in Charles City County: 1970 and 1980

	1970	1980	State, 1980
In Households	6,137	6,692	5,169,966
% of family-headed households	89	83	75
% of family heads which are female	14	18	14
% of persons in households who are children	46	39	34
% of persons in households who are other relatives	12	9	5

SOURCE: U.S. CENSUS

Historical and Projected Average Household Size in Charles City County and Planning District 15 Region: 1970 - 2010

	1970	1980	1990	2000	2010
Charles City County	4.19	3.43	3.14	2.97	2.85
Planning District 15	3.11	2.70	2.56	2.43	2.33
State	3.20	2.77	2.63	2.49	2.39

SOURCE: REGIONAL DATA REPORT UPDATE (1988), RICHMOND REGIONAL PLANNING DISTRICT COMMISSION, UNPUBLISHED.

B-1

Number of Housing Units in Charles City County: 1970 and 1980
Housing Unit Projections for Charles City County; 1990, 2000, and 2010

	1970	1980	1990	2000	2010
Charles City County	1,568	2,152	2,509	2,895	3,270

SOURCE: RICHMOND REGIONAL PLANNING DISTRICT, UNPUBLISHED PROJECTIONS.

B-2

Type of Housing Units in Charles City County: 1970 and 1980

	1970	Percent	1980	Percent	State, 1980 Percent
Total	1,568	100	2,152	100	100
Single Family	1,407	90	1,727	80	78
Duplex and Multi-Family	0	0	181	9	17
Mobile Home	161	10	244	11	5

SOURCE: U.S. CENSUS

B-3

Building Permit Data--Type of Dwelling in Charles City County: 1980-1987

Type of Dwelling	1980	1981	1982	1983	1984	1985	1986	1987	Total	Percent
Single Family	33	7	15	28	10	29	30	41	193	55
Duplex	0	0	0	0	0	0	0	0	0	0
Multi-Family	0	0	0	0	0	0	0	o	0	0
Mobile Home	35	14	23	0	0	18	44	27	161	45
Total	68	21	38	28	10	47	74	68	354	

Source: Marketing Book (July, 1988), Charles City County, Virginia.

B-4

Tenure and Vacancy Rate of Housing in Charles City: 1970 and 1980

	1970	Percent	1980	Percent	State, 1980	Percent
TOTAL	1,568	100	2,152	100	---	100
Owner Occupied	1,254	80	1,660	77	---	66
Renter Occupied	212	14	293	14	---	27
VACANT	102	6	199	9	---	7

SOURCE: U.S. CENSUS

B-5

Median Value and Contract Rent of Housing in Charles City County: 1970 and 1980

	1970	Percent	1980	Percent	State, 1980 Percent
Special Owner Occupied	771	100	1,057	100	100
less than $20,000	740	96	313	30	10
$20,000 or more	31	4	744	70	90
Median	$6,700		$27,200		$48,000
Special Renter Occupied	133	100	290	100	100
less than $100	51	38	57	20	13
$100 or more	0	0	143	49	81
No cash rent	82	62	90	31	6
Median	$30		$97		$207

SOURCE: U.S. CENSUS

B-6

Housing Units Lacking Complete Plumbing Facilities in Charles City County: 1970 and 1980

	1970	Percent	1980	Percent	State, 1980 Percent
Year Round Housing Units	1,568	100	2,152	100	100
Complete Plumbing	787	50	1,711	80	96
Lacking All or Some	781	50	441	20	4

SOURCE: U.S. CENSUS

B-7

Persons Per Room in Charles City County: 1970 and 1980.

	1970	Percent	1980	Percent	State, 1980 Percent
TOTAL	1,466	100	1,953	100	100
less than 1.00 persons	1,087	74	1,769	90	96
1.01 to 1.50 persons	252	17	134	7	3
1.51 or more persons	127	9	50	3	1

SOURCE: U.S. CENSUS

Household Income Characteristics in Charles City County: 1979

	1979	Percent	State, 1979 Percent
Households	1,981	100	100
Less than $5,000	283	14	12
$ 5,000-$ 7,499	153	8	7
$ 7,500-$ 9,999	134	7	8
$10,000-$14,999	298	15	16
$15,000-$19,999	336	17	15
$20,000-$24,999	283	14	12
$25,000-$34,999	254	13	16
$35,000-$49,999	151	8	9
$50,000 or more	89	4	5
Median	$17,120		$17,475

SOURCE: U.S. CENSUS

Median Household Income Projections in Charles City County: 1979, 1987-1990

	1979	1987	1988	1989	1990
Charles City County	$17,120	$23,109	$24,397	$25,813	$27,287
State	$17,475	$22,759	$24,036	$25,427	$26,874

SOURCES: U.S. CENSUS; UNIVERSITY OF VIRGINIA, CENTER OF PUBLIC SERVICE "PROJECTIONS OF VIRGINIA FAMILY AND HOUSEHOLD INCOME BY LOCALITY, 1986-1990."

Poverty Status of Persons in Charles City County: 1979

	1979	Percent	State, 1979 Percent
Income in 1979 Below Poverty Status			
Persons	847	13	14
Related children under 18 years	380	45	40
60 years old and older	82	10	9

SOURCE: U.S. CENSUS

Labor Force Characteristics of Persons in Charles City County: 1980

	1980	Percent	State, 1980 Percent
Total Persons 16 yrs. and older	4,905	100	100
Labor Force	3,298	67.2	64.1
Armed Forces	13		
Civilian Labor Force	3,285		
Employed	3,118		
Unemployed	167	5.1	5.0
Not in Labor Force	1,607		
Females, 16 yrs. and older	2,470	100	100
Labor Force	1,441	58.3	52.4
Armed Forces	0		
Civilian Labor Force	1,441		
Employed	1,362		
Umemployed	79	5.5	5.3
Not in Labor Force	1,029		
Males, 16 yrs and older	2,435	100	100
Labor Force	1,857	76.3	57.7
Armed Forces	13		
Civilian Labor Force	1,844		
Employed	1,756		
Unemployed	88	4.8	4.6
Not in Labor Force	578		

SOURCE: U.S. CENSUS

C-4

Place of Work Charles City County Workers: 1970 and 1980

	1970	Percent	1980	Percent
Place of Work Reported	1,794	100	2,775	100
Worked in area of residence	527	29	563	20
Worked outside area of residence	1,267	71	2,212	80
Place of Work Not Reported	154		312	

SOURCE: U.S. CENSUS

C-5

Out-Commuting Patterns to Work for Charles City County Workers: 1980

	1980	Percent
Working outside area of residence	2,212	100
City of Richmond	991	45
Henrico County	328	15
New Kent County	282	13
Williamsburg	296	13
Newport News-Hampton	92	4
Hopewell	64	3
Chesterfield County	28	1
James City County	30	1
Colonial Heights	11	.5
Hanover County	8	.5
Elsewhere	82	4

SOURCE: U.S. CENSUS

Travel Time to Work for Charles City County Workers: 1980

	1980	Percent	State, 1980 Percent
Workers 16 years and older who did not work at home	3,042	100	100
less than 10 minutes	193	6	15
10-19 minutes	503	17	31
20-29 minutes	407	13	22
30-44 minutes	949	31	19
45 or more minutes	990	33	13
Mean Travel Time in Minutes	34.7		23.3
Workers traveling 45 or more minutes	58		59

Source: U.S. Census

Occupation of Employed Persons in Charles City County: 1980

	1980	Percent	State, 1980 Percent
Employed Persons 16 yrs. and older	3,118	100	100
Managerial & Professional Specialty	389	12.5	25
Technical, Sales, and Administrative Support	696	22	30
Service Occupations	483	15.5	12
Farming, Forestry, and Fishing	117	4	2
Precision production, craft and repair	272	9	13
Operators, fabricators and laborers	1,161	37	18

SOURCE: U.S. CENSUS

Industry of Employed Persons in Charles City County: 1980

	1980	Percent	State, 1980 Percent
Employed Persons 16 years and older	3,118	100	100
Agriculture	121	4	2
Forestry & Fisheries	35	1	.5
Mining	13	.5	1
Construction	128	4	7
Manufacturing	1,091	35	19
Non-Durable Goods	674		
Durable Goods	417		
Transportation, Communication & Public Utilities	198	6	7
Wholesale Trade	93	3	3
Retail Trade	317	10	15
Finance, Insurance, and Real Estate	111	4	5.5
Services	748	24	29
Public Administration	263	8.5	11

SOURCE: U.S. CENSUS

Non-Agricultural Employment Projections for Charles City County: 1990, 2000, 2010

INDUSTRY	1990	2000	2010
Mining	56	44	37
Contract Construction	25	28	32
Manufacturing	153	201	245
Transportation & Public Utilities	78	99	120
Wholesale Trade	13	28	47
Retail Trade	70	74	80
Finance, Insurance & Real Estate	13	17	22
Services	146	182	217
Government	340	420	500
TOTAL	893	1,097	1,300

SOURCE: RRPDC STAFF AND VIRGINIA EMPLOYMENT COMMISSION

C-10

Non-Agricultural Employment Projections for Charles City County: 1990, 2000, 2010

INDUSTRY	1990	2000	2010
Mining	56	44	37
Contract Construction	25	28	32
Manufacturing	153	201	245
Transportation & Public Utilities	78	99	120
Wholesale Trade	13	28	47
Retail Trade	70	74	80
Finance, Insurance & Real Estate	13	17	22
Services	146	182	217
Government	340	420	500
TOTAL	893	1,097	1,300

SOURCE: RRPDC STAFF AND VIRGINIA EMPLOYMENT COMMISSION

Average Weekly Wage Per Hour in Charles City County and the Surrounding Region: First Quarter, 1987

Locality	Wage Per Hour
Charles City	$ 6.95
Chesterfield	$ 9.85
Goochland	$ 8.07
Hanover	$ 8.47
Henrico	$ 9.25
New Kent	$ 7.52
Powhatan	$ 7.72
Richmond City	$10.20

SOURCE: "COVERED EMPLOYMENT AND WAGES IN VIRGINIA BY 2-DIGIC SIC CODE, SEPTEMBER 30, 1987," VIRGINIA EMPLOYMENT COMMISSION

NATURAL RESOURCES INVENTORY

Natural features and the types of development that can occur in and around them are closely interrelated. Natural features can greatly enhance the quality of development by virtue of its visual beauty, through the moderation of temperature by trees, the cleansing of the air by plants, the reduction of unwanted sights and sounds by hills and berms, and in countless other ways.

Conversly, natural features can prohibit or make difficult certain types of development. Examples included, building on steep slopes, in floodplains and wetlands. In turn, desireable natural features can be degraded or destroyed by incompatible development activities. The home built in a floodplain, the septic system constructed in improper soil, and the wetland filled to accommodate a shopping center are examples of the incompatibility of development and natural features.

It is important to identify and understand natural features for the benefit of the feature, and the development. Development does not have to clash with natural features, and usually they can work together.

The following is an inventory of natural features in Charles City County. The features include topography, slope, hydrology, wetlands, flood plains, soils, sand and gravel, forests, prime agricultural land, and rare and endangered species. The final section in this chapter deals with efforts to implement the Chesapeake Bay Preservation Act.

Topography

The topography of land is the configuration of it's surface, including relief, and the position of it's natural features. Topography includes an area's size, elevations, and the location and shape of mountains, valleys, bluffs, lakes, rivers, and streams, among others.

Topography is important in that it affects the aesthetic qualities of an area, plant and animal habitat, climate, and the type and location of man's development activities.

Charles City County is located in the south-central portion of the Commonwealth. It is bounded to the north by New Kent County, the east by James City County, the south by Surry County, Prince George County, and City of Hopewell, and to the west by Henrico County. The County has 184 square miles of land area and 20 square miles of surface water. The County lies entirely in the coastal plain physiographic region, a region that runs north-south along the Eastern Seaboard of Virginia.

Charles City County is generally flat with a gently rising

and falling topography. Elevations in the County average less than 80 feet, with the highest elevations around 150 feet. The lowest elevations are at sea level and are found along the major rivers. In general, the higher elevations gently slope down from the west-northwest part of the County to the east-southeast. The land also slopes down to the northern border.

Slope

Slope is defined as "the rise over the run". Slope is a measure of the change in vertical distance (height) over a horizontal distance (length) expressed as a percentage. For example, a change of 5 feet over a distance of 100 feet equals a slope of 5 percent.

It is generally acknowledged that a slope of 15% or greater presents a constraint to many types of development. Steep slopes (greater than 15%) are difficult to build on, place damaging stress on buildings, are easily erodible, and, when disturbed, contribute to sedimentation and pollution of streams.

The majority of the County has slopes of 15% and less. Figure shows that slopes greater than 15% can be found along bluffs adjacent to the Chickahominy River and some of it's tributaries, and in scattered areas along the James.

Hydrology

Hydrology addresses the distribution and circulation of surface and groundwater. Rivers, streams, wetlands, floodplains, and groundwater aquifers are elements of the hydrology of an area. Understanding hydrology is useful in determining the quality and quantity of water available for human consumption, waste treatment, and irrigation.

Surface Water

The many rivers and streams that flow through Charles City County have played a significant roll in the development and history of the County. The locations and general characteristics of the rivers and streams will greatly impact future development.

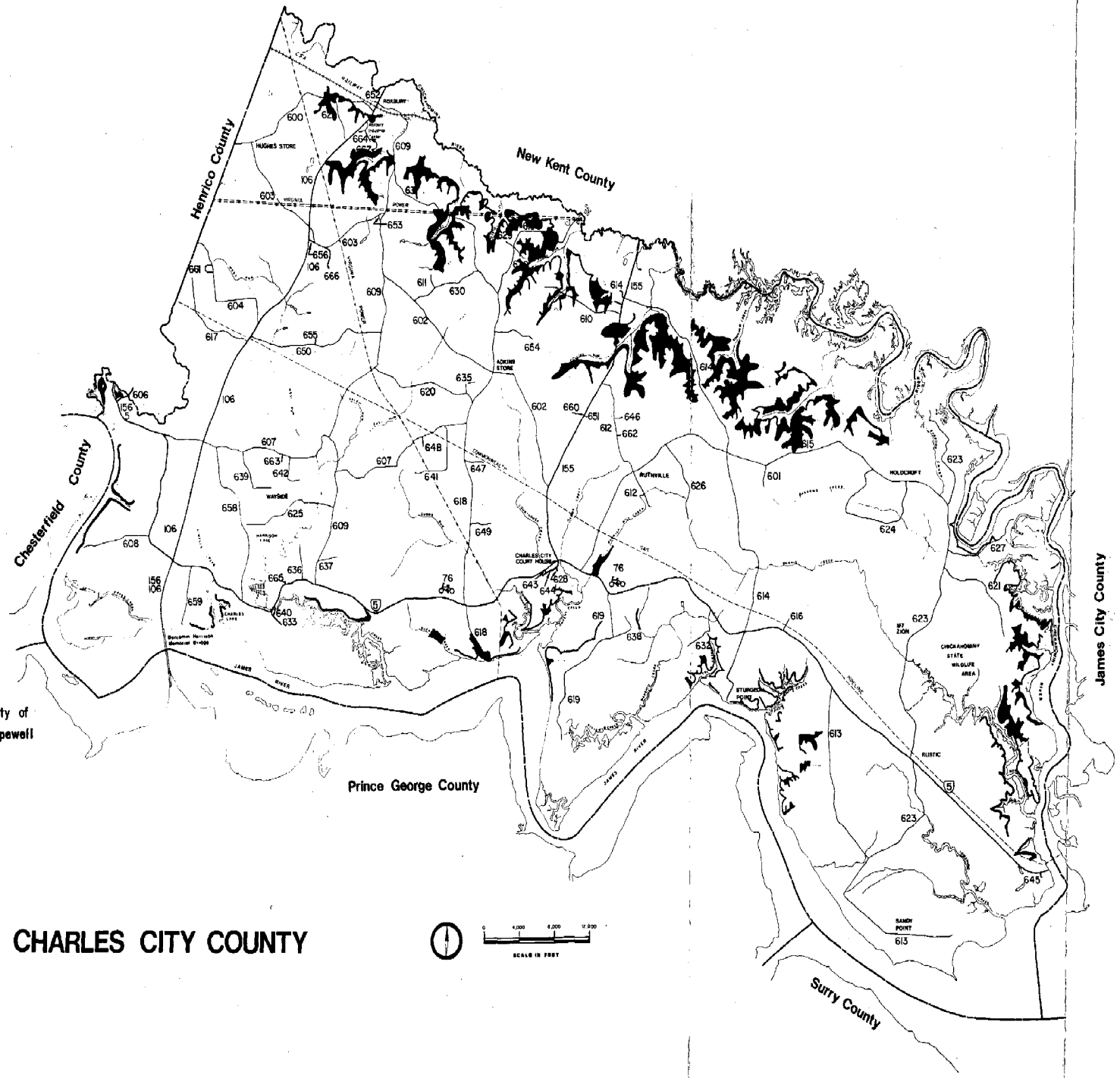
The County's southern boundary lies along the James River. The James is the largest river adjoining the County. The Chickahominy River, the second largest, forms the northern boundary, and as it curves south, also forms the eastern boundary. There are many other significant smaller streams that are tributary to the these rivers.

The County is nearly evenly divided by the James and Chickahominy drainage basins. Even though the Chickahominy drains as much of the County as the James, it is actually a sub-basin of

Figure 1

STEEP SLOPES

Slopes greater than 15%.



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the James. Both rivers flow from west to east with the Chickahominy joining the James in the southeast corner of the County.

The James River is an estuary in Charles City County, that is, it is influenced by the ebb and flow of lunar tide cycles. Fresh water flowing down from the upper basin mixes with the salty waters moving up from the Chesapeake Bay. The concentration of salt water is greatest at the mouth of the river and gradually decreases upriver. The salinity of the James as it passes through the County varies from season to season.

Up-river from Charles City County there are approximately 15 major municipal and industrial dischargers to the James River. These dischargers affect the water quality of the river downstream through the discharge of pollutants contained in their effluents. The extensive growth and urbanization of upstream localities also adversely impacts the water quality in the James due to the runoff of pollutants from such activities.

Part of the Chickahominy River in Charles City County is estuarine, and part non-tidal (not influenced by lunar tides). Walkers Dam, located 22 miles upstream from the mouth of the river, provides a barrier to further movement of tidal currents. That part of the river downstream from the dam is tidal, and that above, nontidal. The tidal portion is saline with concentrations similar to the James.

The City of Newport News utilizes the water impounded by Walkers Dam as a raw water supply. For this reason the watershed above Walkers Dam requires protection from development activities that would adversely affect water quality. The State Water Control Board has developed strict standards for water quality and effluent discharges from Walkers dam to it's headwaters.

Ground Water

The nature and extent of ground water in the County is less well known than for surface water. This information gap has narrowed recently with the publication of Ground-Water Resources of the York-James Peninsula of Virginia by the United States Geological Survey. This study of the ground water of the York-James peninsula includes Charles City County. The report is a good source of information on ground water of the peninsula.

The executive summary of the report reveals significant findings.

> "[W]ithdrawal of ground water has caused a lowering of water levels throughout the multiaquifer system and has created cones of depression centered at and expanding outward from areas of concentrated ground-water use."

- "Withdrawal is expected to increase, further lowering water levels[,]...result[ing] in interference among ground-water users and the possible movement of salty water into freshwater parts of aquifers."

- "The availability of ground water for meeting future water needs has become a matter of local and regional concern."

In general, the County is underlain by a geology made up of sand and gravel. A cross section of the hydrogeology reveals an unconfined surface aquifer with a water table at or close to the soil surface. The surface aquifer is underlain by seven confined aquifers, that is, aquifers separated from each other by an impermeable layer such as clay. Water for human consumption and other uses in the County is withdrawn from these aquifers.

Residents and businesses in the County are served entirely by ground water at this time. There are 3 community systems in the county serving house holds and businesses. The rest of the County is served by individual well systems.

Wetlands

Wetlands are low-lying areas with water saturated soil. The source of water may come from rainfall, groundwater, or ocean tides. Marshes, swamps, and mud flats are obvious examples of wetlands, although there are other types that are not as conspicuous.

Wetlands perform several important functions. Wetlands improve water quality by slowing the flow of water and allowing excess suspended solids, nutrients, and toxic substances to settle out of the water column. Some of these pollutants are taken up and used by wetland plants, while the rest are broken down by bacteria into less harmful substances. Wetlands act as natural buffers against flood waters by slowing the velocity of the flow, absorbing excess volume, and releasing flood waters at a slow rate. Wetlands prevent erosion by binding together soil through their extensive root systems. This prevents the loss of valuable uplands such as agricultural and forestal land. Wetlands contribute to the flow of rivers and streams by serving as discharge points for groundwater. This helps to maintain streamflow during drought conditions. In some cases they act as recharge areas for groundwater. Wetlands produce great amounts of food which feed small organisms, which in turn are fed upon by larger organisms, and so on. Eventually man feeds on organism, such as fish, fowl, and meat, produced by this 'chain'. Wetlands serve as habitat for many important commercial and recreational birds, fish, and mammals. They provide food, nesting areas, shelter, and protection.

Charles City County has extensive areas of both tidal and nontidal wetlands as seen on figure 2. Tidal wetlands are influenced by the ebb and flow of lunar tides. These wetlands are found along the James River and it's tidal tributaries, and the tidal portion of the Chickahominy River and it's tidal tributaries. Nontidal wetlands are usually low lying areas, with a high water table that saturates the soil surface. Nontidal wetlands are isolated from tidal influences. Nontidal wetlands are found along nontidal portions of streams tributary to the James River, and along nontidal tributaries of the Chickahominy River and that portion upriver from Walkers Dam.

Flood Plains

A flood plain is level land lying adjacent to a river or stream that may become submerged by floodwaters. Floodplains are formed by silt and sediment deposited by a stream. The 100 year flood plain is that area of land that would be inundated by a flood that statistically occurs once in 100 years. In other words, land lying within the 100 year flood plain would have a 1% chance of being flooded in a years period of time.

The United States Department of Housing and Urban Development, Federal Emergency Management Agency, has developed flood plain maps under authority of the National Flood Insurance Act. These maps define those areas that are eligible for inclusion under the National Flood Insurance Program. They have been used in this survey to define those areas in Charles City County that fall in the 100 year flood plain.

The FEMA maps have not been field checked, and may contain inaccuracies that can only be corrected though field inspection. The flood plain map indicates, generally, where the 100 year flood plain is located. The map indicates where caution should be exercised when deciding where to locate development.

Flood plains as mapped in Charles City County are primarily located along the James and Chickahominy Rivers and some of their tributaries. Figure 3 shows flood plain areas in Charles City County.

Soils

Development activities are affected to a large extent by soils. Building construction, roads, bridges, septic systems, agriculture and forestry, need to occur in or on the right soil types to ensure their success. Understanding the types of soils in Charles City County is necessary to meet the County's goals for future development.

The United States Department of Agriculture Soil Conservation

Figure 2

WETLANDS

Tidal Wetlands

Non-Tidal Wetlands

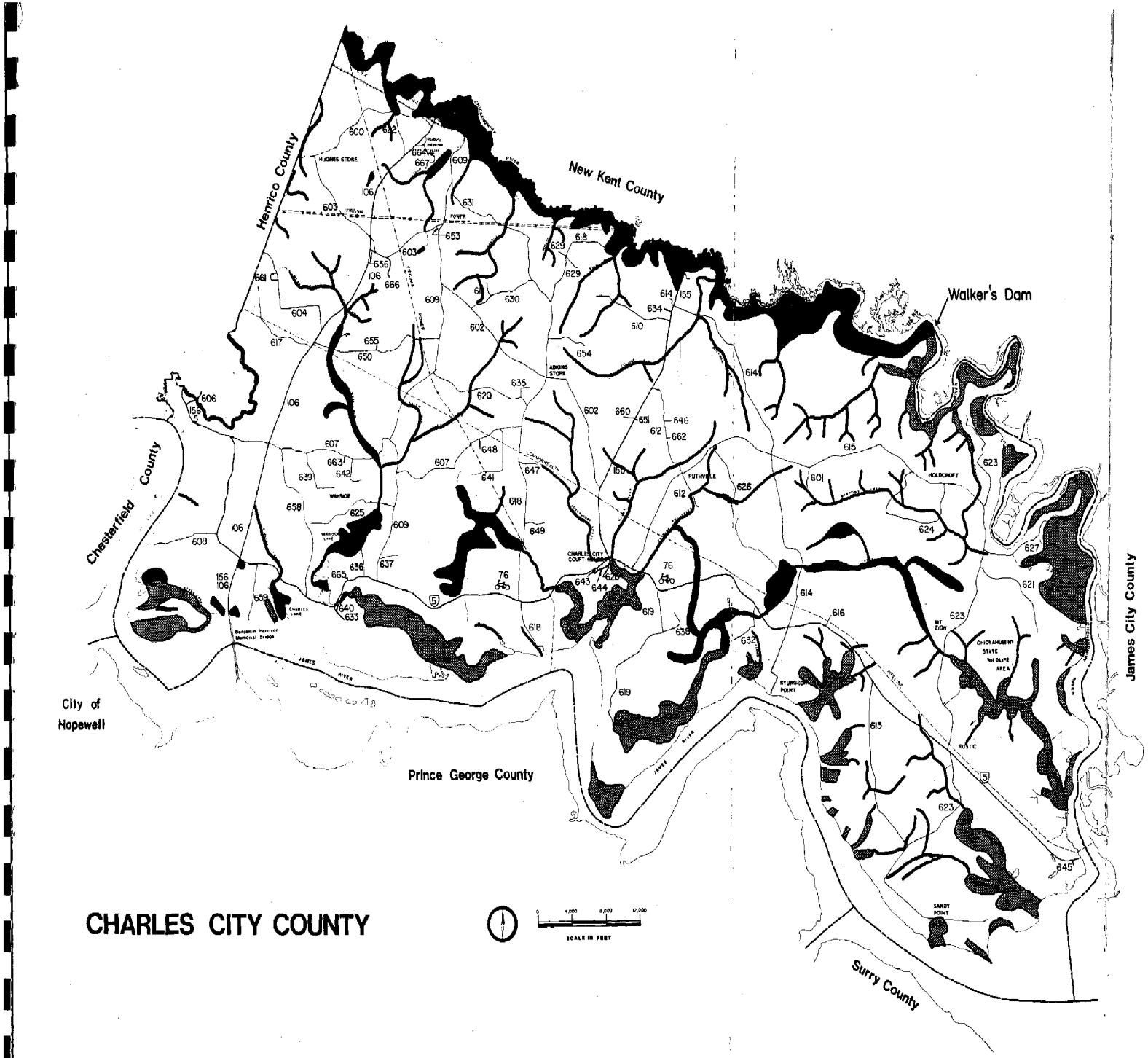

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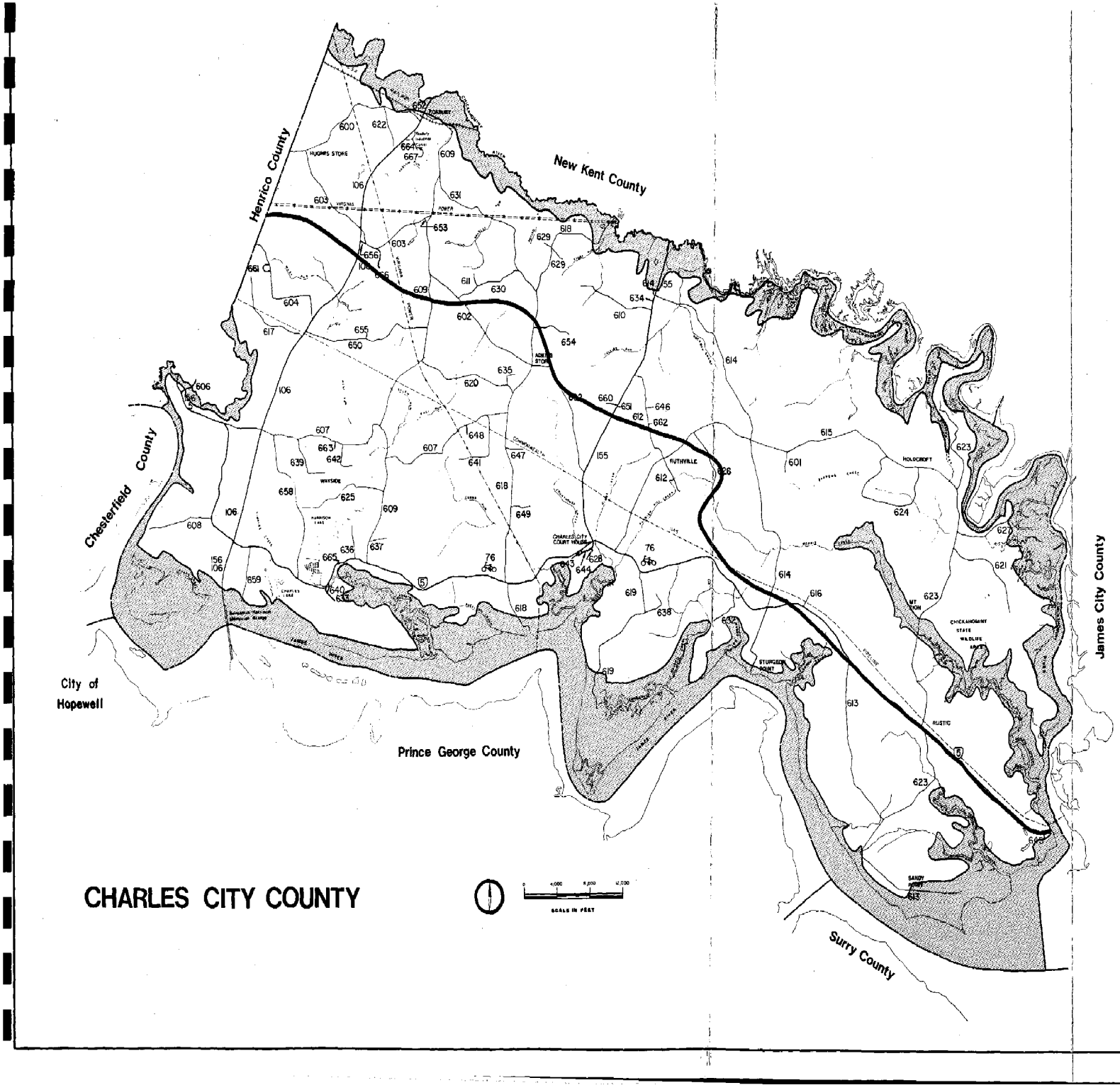
Figure 3

FLOOD PLAINS



100 Year Flood Plain

Drainage Basins

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Service in cooperation with Virginia Polytechnic Institute and State University has recently completed a draft soil survey of Charles City County. This survey will be published for distribution in the near future. Information in this section was obtained from the Soil Conservation Service and represents the most current data available.

The soil survey contains a large amount of valuable information that will be useful in the County's planning process. The survey contains maps that delineate all of the soil types within the County, as well as information on each soil such as, yields per acre of crops and pasture, woodland management and productivity, recreational development, wildlife habitat, building site development, sanitary facilities, construction materials, water management, engineering properties and classifications, physical and chemical properties of the soils, soil and water features, and other information.

There are two issues of particular importance to Charles City County that are directly related to soils; (1) soil suitability for on site sewage treatment, and (2) the inclusion of highly erodible and highly permeable soils in Chesapeake Bay preservation areas.

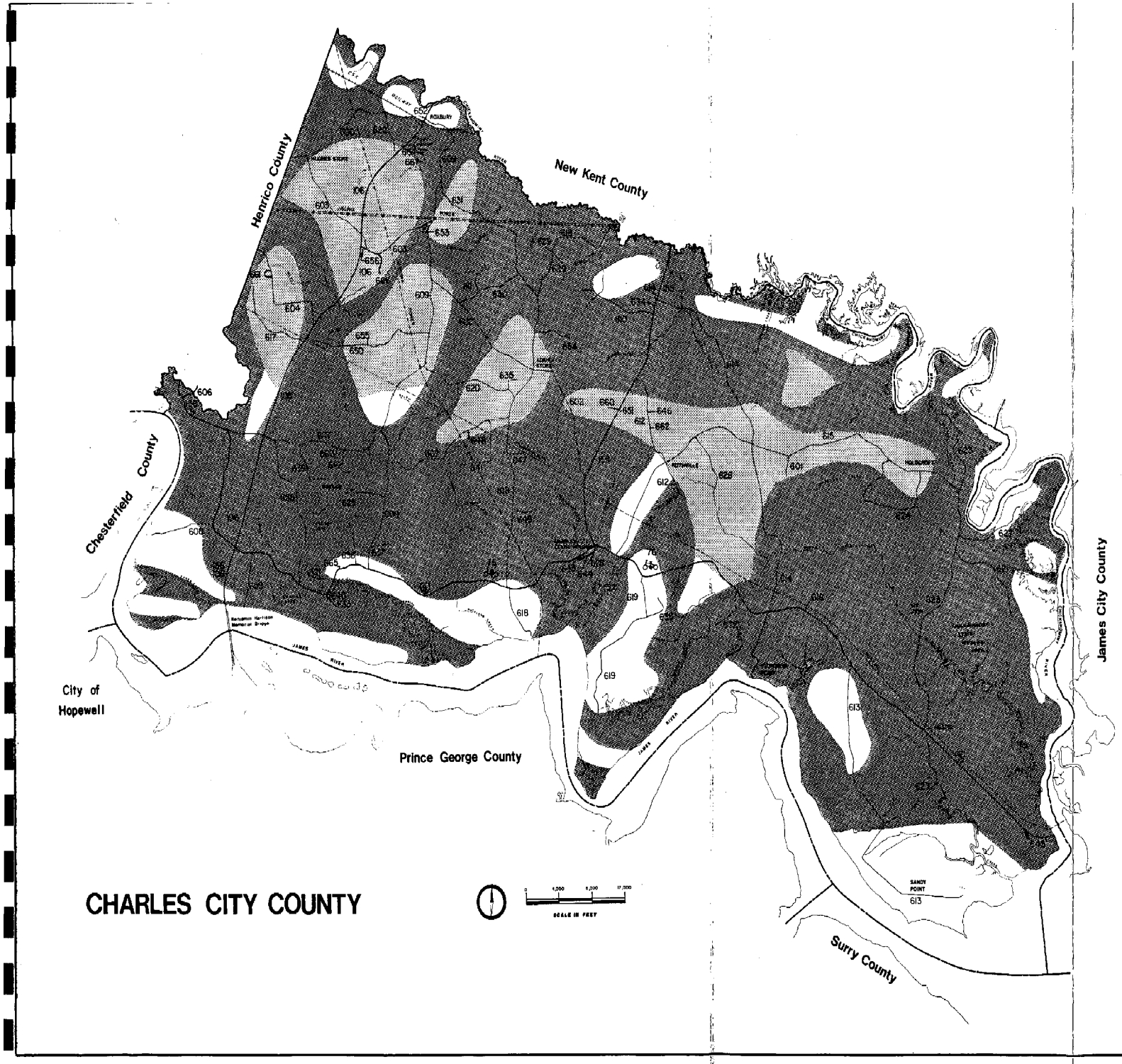
Figure 4 shows soil suitability for on-site sewage treatment. This information was produced in cooperation with representatives of the U. S. Soil Conservation Service (SCS), Virginia Department of Health, Charles City County, Virginia Polytechnic Institute and State University, and Richmond Regional Planning District Commission. This is a generalized map, and does not substitute for a site specific analysis of soils. This figure shows that 76% (88,700 acres) of the County contains soils that are unsuitable for any type of on-site sewage treatment system. Twenty-four percent of the County (27,400 acres) contains soils that are suitable. Within the soils that are suitable, 72% (19,621 acres) have severe limitations for on site systems, and 28% (7,779 acres) have moderate to slight limitations. Slight to moderate limitations may require on-site systems ranging from septic tanks to expensive mound systems.

In anticipation of the requirements of the Chesapeake Bay Preservation Act (see section on Chesapeake Bay Preservation Act), Figure 5 has been developed and included in the County's comprehensive plan. The map shows two expected components of the preservation areas, highly erodible soils, and highly permeable soils. Only those highly erodible and highly permeable soils found in or adjacent to rivers, streams, and adjoining wetlands are included on this map.

Highly erodible soils are soils that are easily dispersed through the action of wind or water. These soils can easily undermine and damage structures that are built upon them. Highly erodible soils are soils with an erodibility value (K) greater than

Figure 4

SOIL SUITABILITY FOR ON-SITE SEWAGE TREATMENT



SUITABILITY

- Good to Moderate
- Poor
- Unsuited

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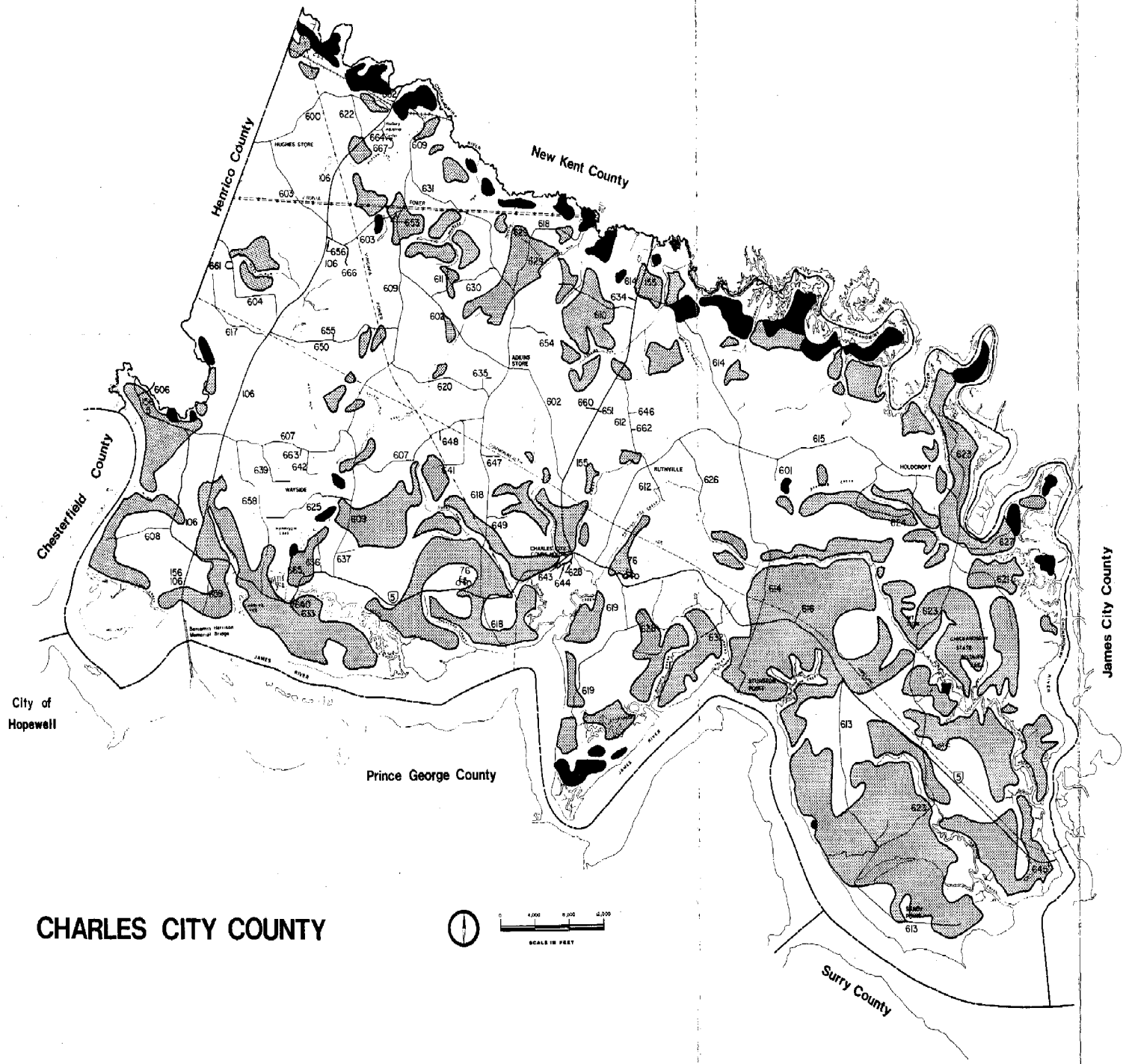
Figure 5

SPECIAL SOIL CHARACTERISTICS

Highly Erodible

Highly Permeable



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.35. Erodibility values for all soils found in Charles City County can be found in the draft SCS survey.

Highly permeable soils are soils with a high potential for transmission of pollutants into ground water. Permeability information can be found in the soils information section of the Field Office Technical Guides published by SCS.

Sand and Gravel

Charles City County has abundant sand and gravel resources. This has already been recognized as evidenced by the several large scale sand and gravel mining operations located in the County. This sand and gravel resource has the potential to benefit the County economically, but if not carefully managed will cause serious environmental damage. Such an abundant resource should be managed for the benefit of the County. Protection of this resource as well as control of it for the protection of other resources is important.

Alluvial deposits of sand and gravel have been placed in the County over a large span of geologic time by the James and Chickahominy Rivers. Figure 6 shows those areas in Charles City County that most likely contain significant sand and gravel deposits, or may contain significant deposits. The ancestral river beds of the James and Chickahominy make up those areas that most likely and may contain significant sand and gravel deposits.

This map was produced using information provided by the staff at the Department of Geology, College of William and Mary, in association with the Virginia Department of Mines, Minerals and Energy, Division of Mineral Resources. Data was derived from core samples of soil taken throughout the County. It is intended to serve as a general guide and should not be used as the only source of information when making decisions regarding development. Detailed, site specific analysis is necessary to make accurate decisions.

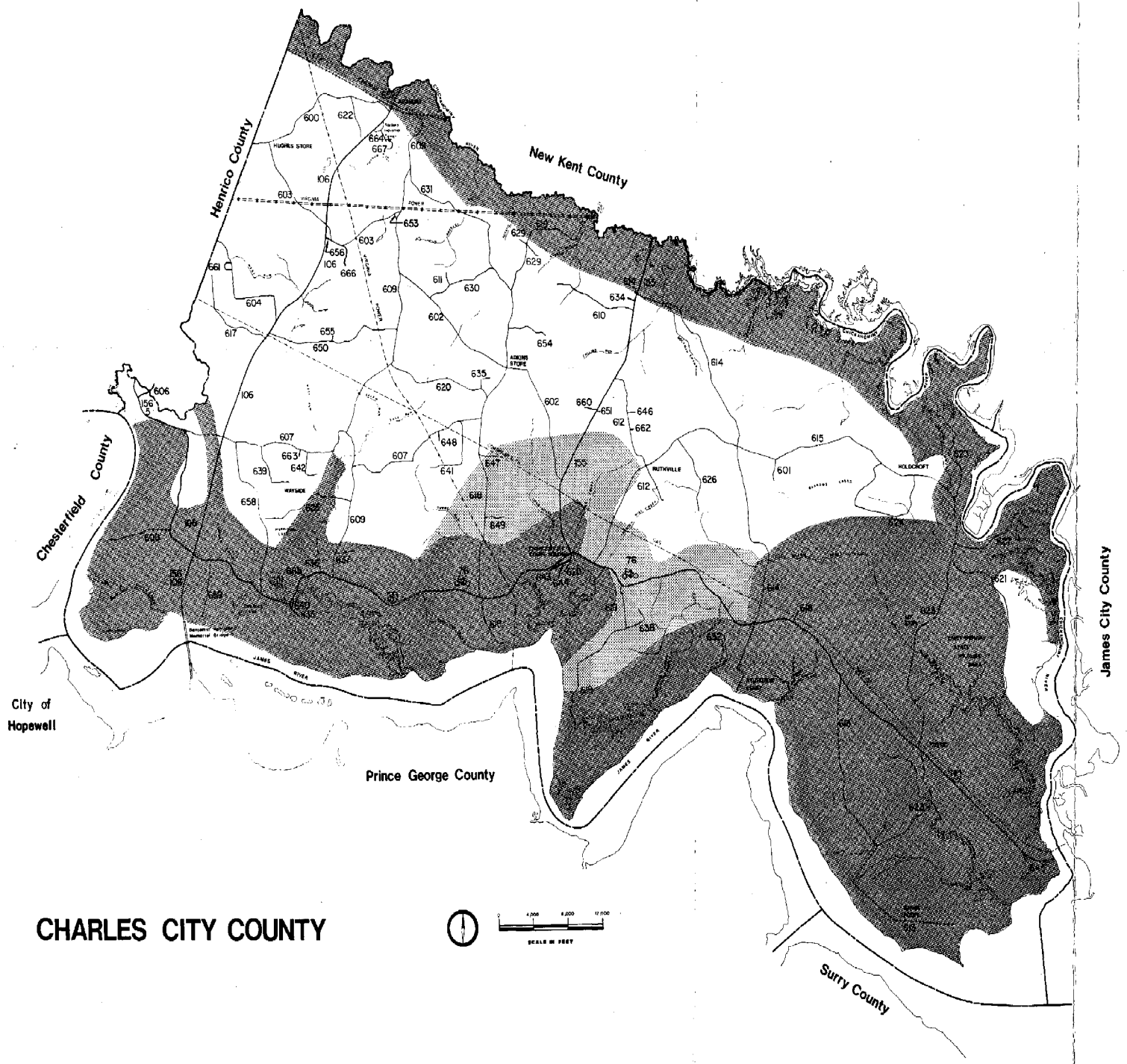
Forests

Forests are a benefit to Charles City County both economically and environmentally. Economically, forestry ranks second behind agriculture in it's contribution to the County's economy. Forests benefit the environment by improving water quality and regulating water supply. Water quality is improved through the reduction of erosion and the sedimentation of lakes and streams. Water supply is regulated by the forest's ability to prevent the rapid runoff of precipitation from the land. Forests clean the air by acting as a filter or "sink". Oxygen is exchanged for carbon dioxide during the process of photosynthesis (the process of converting light energy into useable energy) thus keeping these two constituents in balance. Forests make up habitat that is used by

Figure 6

SAND & GRAVEL DEPOSITS

- Most likely does not contain sand and gravel deposits.
- May contain sand and gravel deposits.
- Most likely contains sand and gravel deposits.



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many animals for shelter, food, and nesting sites. Forests are aesthetically pleasing and provide attractive homesites and recreational areas.

The following information is contained in Forest Analysis For Charles City County, June 30, 1986. The report is a good source of information on forests in the County. Forests cover 68% (79,342 acres) of the land mass in Charles City County. Forest cover is evenly distributed throughout the County, only broken to any significant extent by some of the large agricultural tracts along the James River. Sixty-eight percent of the forest land is in private ownership, twenty-six percent is in commercial, and the remaining six percent is owned by state or local government. Major forest types in the County are loblolly pine, oak-pine, oak-hickory, and oak-gum-cypress. Most of the trees produced are of commercial quality.

Prime Agricultural Land

Prime farmland is determined by the characteristics of the soil. In addition, moisture and a sufficiently long growing season must be present. The U.S. Department of Agriculture has defined prime farmland soils as "soils that are favorable for the economic production of sustained high yields of crops". In addition, "prime farmland soils produce the highest yields with minimal inputs of energy and economic resources, and farming these soils results in the least damage to the environment".

Prime farmland is important to locate within the County to assure that it is not developed for other uses while non-prime farmland lies idle or is used for farming. In this way prime farmland will be utilized for its best and highest use, while energy is not needlessly wasted on the cultivation of marginal land.

The U.S. Soil Conservation Service (SCS) has determined that approximately 37% (43,500 acres) of Charles City County is made up of prime farmland. The far eastern portion of the County contains the fewest acres, with the rest being evenly distributed throughout the remainder of the County to the west. See figure 7 .

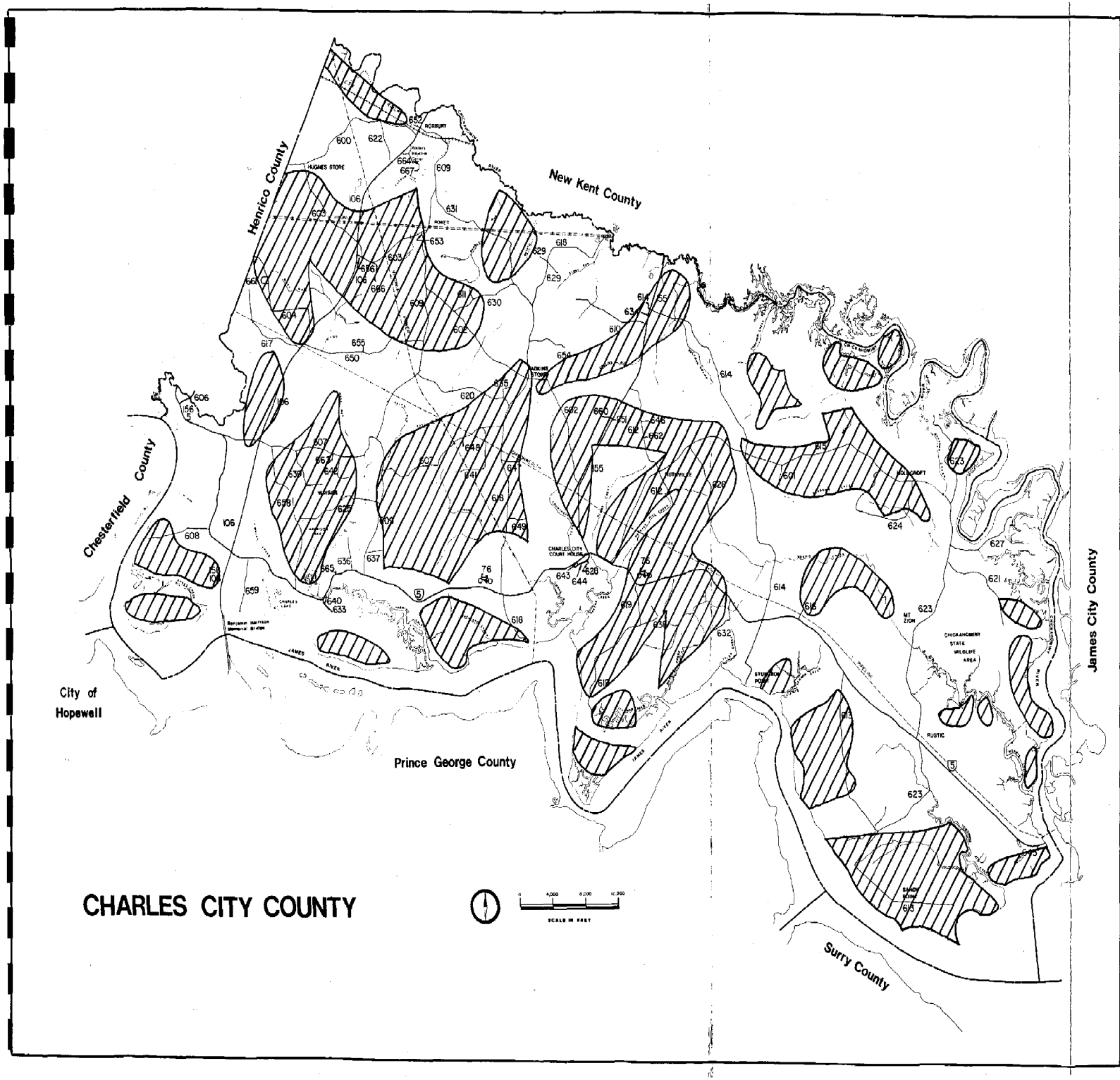
Rare and Endangered Species

Rare species are plants and animals that, because of their low numbers or the scarcity of the habitat in which they live, are in danger of extinction. Endangered species are those in imminent danger of extinction throughout their range. Another category, threatened species, are those that appear to be approaching endangered status.

The extinction of many species of plants and animals have occurred through the ages from both natural and manmade causes.

Figure 7

PRIME AGRICULTURAL



Prime Agricultural Soils

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Climate changes, overcompetition from other species for habitat, and predation are examples of natural causes. Through overzealous hunting and the ability to dramatically change the landscape through development, man has greatly accelerated the rate at which species are lost.

Information on the location of rare and endangered species in the County was obtained from the Virginia Natural Heritage Program (VNHP) under the Virginia Department of Conservation and Natural Resources. This information should not be considered comprehensive. A comprehensive study for the County has not been conducted. There are certainly many other locations of rare and endangered species that have not been identified.

Figure 8 shows those areas in Charles City County that contain rare and endangered species. Each block contains 661 acres. These blocks should not be considered buffer areas for the protection of rare and endangered species. They only indicate that a species is located somewhere within the block. Those blocks with a solid outline contain an area where a report (sighting verified by VNHP staff) of a rare, endangered, or threatened species has occurred. The blocks with a dashed outline contain locations that historically contain rare, endangered, or threatened species. Historic locations were found through the review of research literature by VNHP staff.

Those reported and historical rare and endangered species include: bald eagle; double-crested cormorant; nuttall's micranthemem; long's bitter cress; sensitive joint-vetch; dwarf sundew; new jersey rush; hiddenfruit bladderwort; a spikerrush; sweetscent ladies'-tresses; chickahominy water-hyssop; mat-forming water-hyssop; water-purslane; yellow cowlily; and virginia least trillium.

Chesapeake Bay Preservation Areas

In 1987. the General Assembly adopted the Chesapeake Bay Preservation Act. The purpose of this Act was to protect and improve the water quality and natural habitat of the Chesapeake Bay and its tributaries. Under authority of the Act, the Chesapeake Bay Local Assistance Board is developing criteria for use by local governments in designating Chesapeake Bay Preservation areas, environmentally sensitive lands in and around rivers and streams.

The Chesapeake Bay Preservation Areas will be divided into two areas. The most environmentally sensitive lands, tidal shorelines and tidal and nontidal wetlands and a vegetated buffer will be designated Resource Protection areas. A second area. Resource Management Areas, will consist of floodplains, steep slopes, highly erodible soils and highly permeable soils.

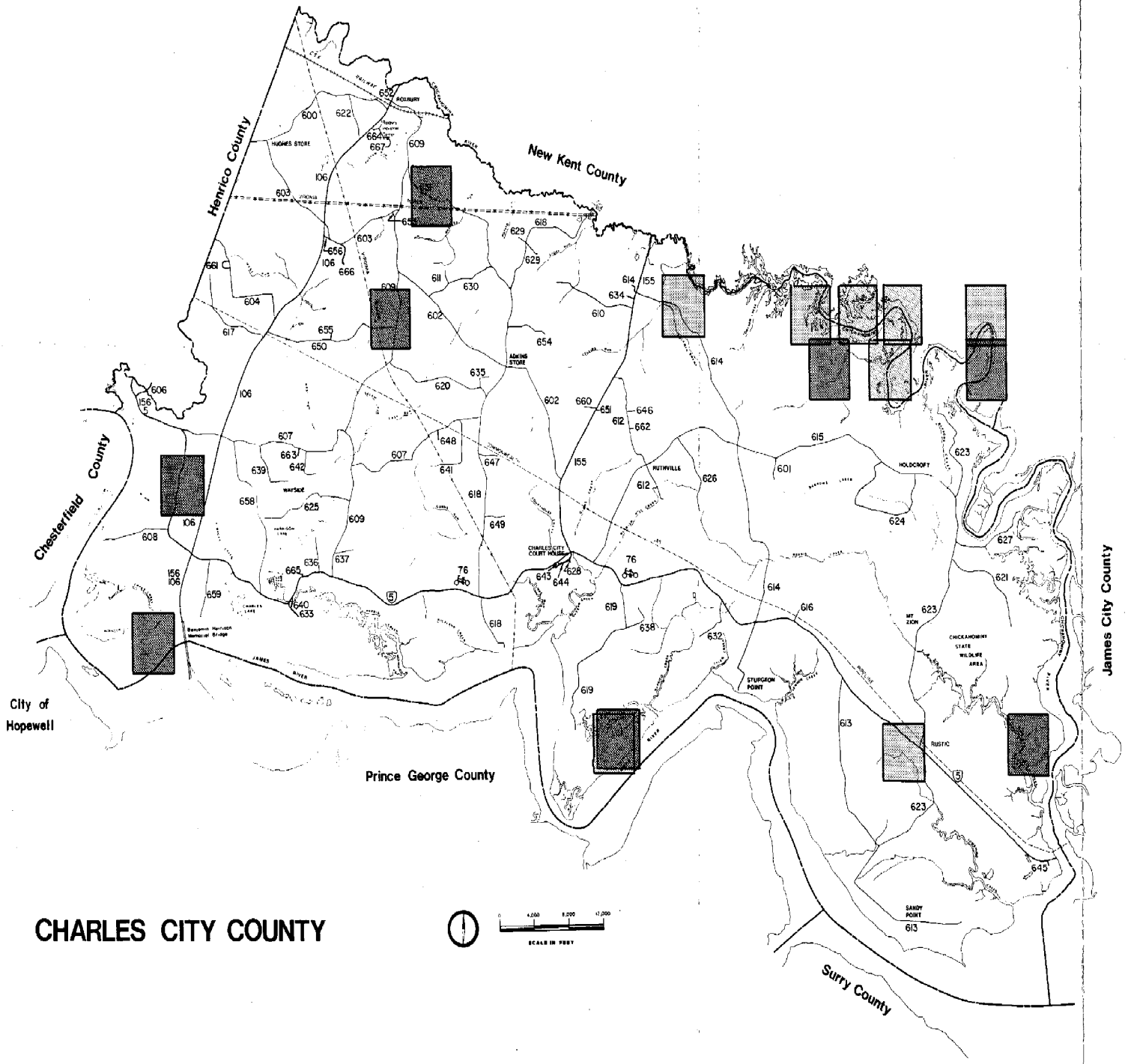
In addition to developing criteria for designation of the

Figure 8

RARE & ENDANGERED SPECIES

Reported Sitings

Historic Sitings



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Chesapeake Bay Preservation Areas, the Local Assistance Board is developing criteria for use by local governments for regulating development in these Preservation Areas. As proposed, land uses in Resource Protection Areas will be limited and subject to stringent development criteria. Land uses will not be limited in the Resource Management Areas, but they will be subject to development criteria. Regulations and guidelines dealing with all of the above will not be finalized until the end of June, 1989.

In anticipation of the adoption of these regulations, a map has been prepared of protection areas that could be included in Resource Protection Areas and Resource Management Areas in the County. Figure 9 shows these areas.

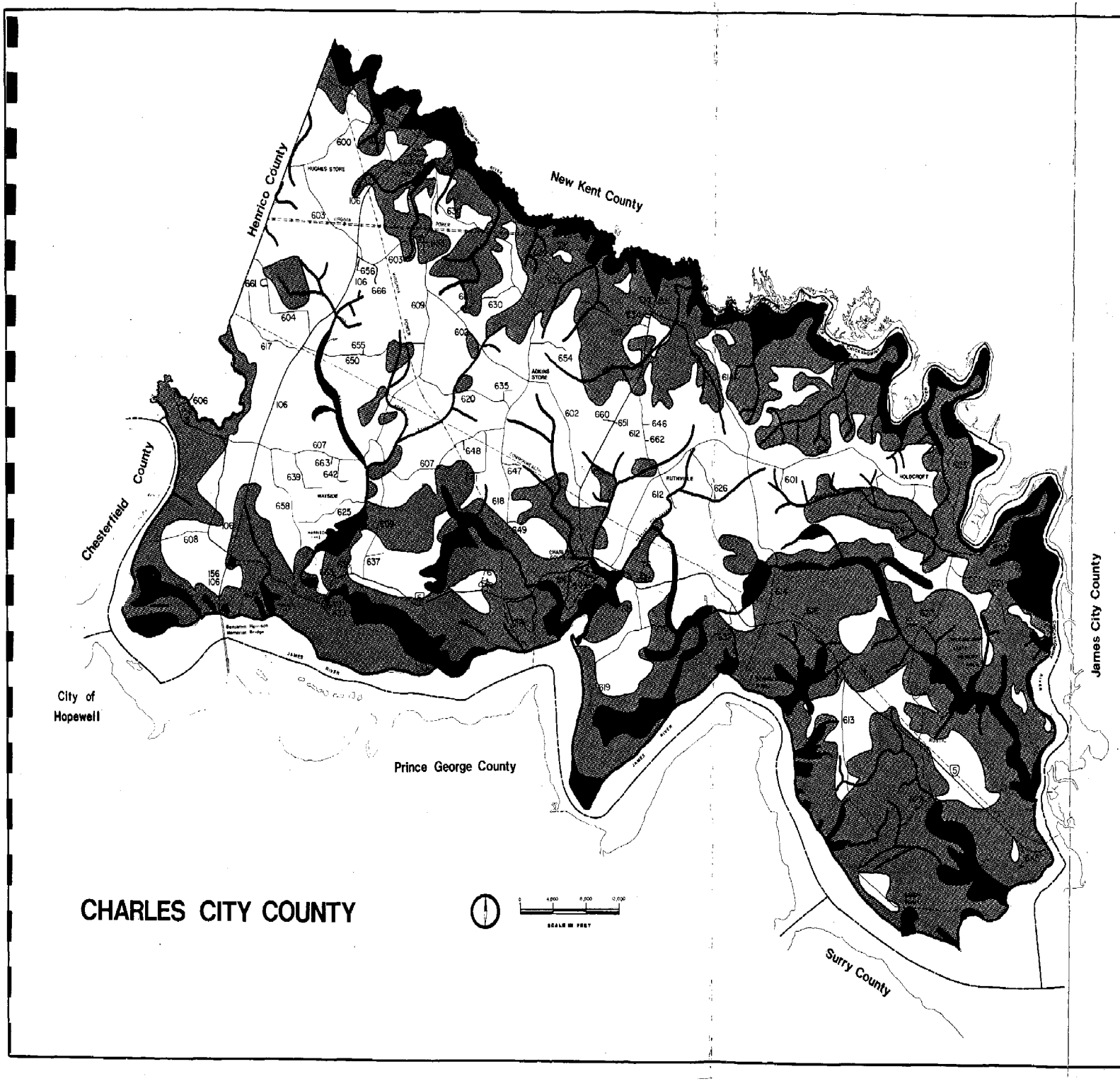

Figure 9

POTENTIAL CHESAPEAKE BAY PRESERVATION AREA

Resource Protection Area

- Tidal Shoreline
- Tidal Wetlands
- Non-Tidal Wetlands

Potential Resource Management Area

- 100 Year Floodplain
- Steep Slopes
- Highly Erodible Soils
- Highly Permeable Soils

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Richmond Regional Planning District Commission

EXISTING LAND USE INVENTORY

The future development of an area is determined, to a great extent, by the physical activities, or land uses, that currently exist on the land. In the initial stages of the planning process, a land use inventory was conducted by the staff of Richmond Regional Planning District Commission for Charles City County. This information was mapped and analyzed to in order to understand existing land use patterns.

Overview

Development is scattered throughout the 184 square mile land area of the County. Concentrations of population are rare. Much of the development that is present is located adjacent to or very near the intersection of primary and secondary roads. Map ____ shows the existing land use pattern.

Forest

Sixty-eight percent (79,342 acres) of the County's total land area is covered by forests. Proper environmental conditions, such as soils, topography, and climate, have caused forest to flourish in Charles City. Scattered residential development can be found within these forest areas.

Agriculture

Agricultural land accounts for 21,350 acres of the County's land area. Tracts of agricultural land are scattered throughout the County. Some of the most visible concentrations of farmland are located along the Route 5 corridor in the southern part of the County.

Soil surveys indicate that 43,500 acres (37 percent) of the land area in Charles City County is prime agricultural land. This designation is based on criteria established by the U.S. Department of Agriculture. By comparing the areas of existing farmland with the location of prime agricultural soils in the County, one finds that most of these prime agricultural lands are being used for agricultural purposes.

Residential

Residential development, like other land uses, is scattered throughout Charles City County. For purposes of this inventory, residential development was divided into two categories.

Rural Residential

Most of the housing in the County is located in small clusters scatted throughout the County. While some of these clusters are

found at intersections, most are scattered along secondary roads in the County. In a few cases, rural residential housing is found scattered along a primary road. Approximately 5,908 acres of land was categorized as Rural Residential, making this the largest land use category in the County.

Housing in this category is typically located on one to five acre lots. The houses face a state maintained road and have direct driveway access to the roadway. All units are served by individual water wells and septic tank.

Mobile homes are also found within the rural residential area. Approximately 200 mobile homes are located in the County. The mobile homes are concentrated in the northwestern section of the County.

Suburban Residential

Only three Suburban Residential areas, consisting of 277 acres of land, exist in Charles City: Glendale Acres located on Route 604, Mt. Sterling located on Route 155 near Providence Forge, and Riverwood located on Route 645 near the Charles City-James City County line. These residential areas are termed suburban because they exhibit a pattern of development similar to those features typically found in a suburban subdivision. For example, lot sizes are uniform, averaging an acre or less and houses are clustered around a local street instead of having direct access to a major road.

Plantations/Bed and Breakfast Operations

This category was established to recognize a unique land use activity in the County. Nine plantation and or bed and breakfast operations are located in Charles City County. Except for one site, these operations are located in older, mainly historically significant homes.

Plantations and bed and breakfast operations serve many different land use functions. These establishments are homes for County residents, tourist attractions, commercial establishments or a combination of the above. The level of tourist and commercial activity is controlled by the individual property owner. Most of the plantations and related commercial activities are found along Route 5 near the James River.

Commercial

The County has a very limited commercial base. Approximately 30 commercial uses, with a total land area of 19 acres, are in operation. Most of these commercial uses are found dispersed throughout the County in isolated locations, while some small clusters of commercial uses exist at intersections. Concentrations

of commercial uses are found at: Adkins Store, Ruthville, the Courthouse, and the intersection of Route 613 and Route 5.

The vast majority of these uses consist of country stores, service stations, or a combination of the two. Other types of commercial establishments include: automotive body/repair shops, gift or antique stores, and florists. A small number of service-oriented businesses, such as beauty shops/barbers, are found within Charles City.

Industrial

Approximately 285 acres of land is used for industrial activities in the County. With the exception of the businesses located in the industrial park area, there are a few industries scattered throughout the County. Most of these industries are related to the many natural resources that exist in Charles City, such as forestry and farming. Other types of industrial uses found in the County include: metal fabrication, alcohol processing, salvage yards, and trucking operations. These industries tend to be small in size and employ only a few people.

Most of the industries are located in or near the Roxbury Industrial Center area. The Center is located in the northwestern corner of Charles City County adjacent to Route 106. Approximately 272 acres has been purchased to develop the center which will become the central focus of industrial activity in the County. Only 33 acres of the center has been developed so far. The area has full utility service and access to rail and highway transportation.

One of the unique physical characteristics of Charles City County is the large deposits of sand and gravel found within the soils. These resources have played a very significant role in the industrial and economic development of the County. Approximately five sand and gravel operations, composing 983 acres of land, are currently mining in the County. These operations are primarily located near the James River.

Water-Oriented Uses

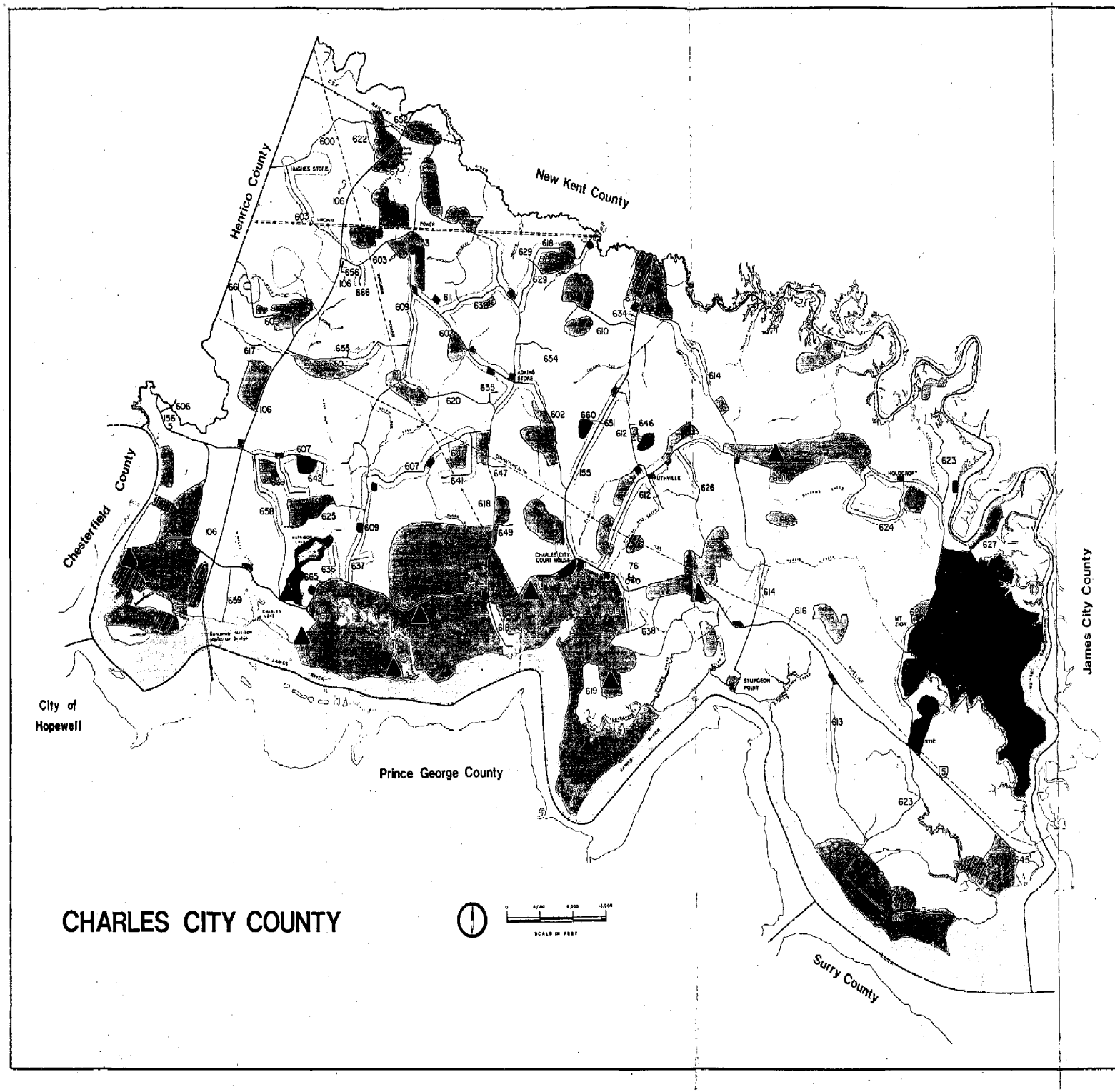
The shoreline areas of Charles City County are primarily undeveloped. Only a few water-oriented uses are located on the rivers. The Hideaway Marina is located in the northeastern part of the County off of Route 623. The marina consists of a boat ramp and a convenience store. A public boat ramp is located within the Chickahominy Wildlife Management Area along Morris Creek. Cedarcrest Marina, a barge repair operation, exists at the end of Route 614 along the James River, while two barge ports are found at the sand and gravel operations near Eppes Island and Sandy Point on the James River.

Transportation

Roads compose 1,015 acres of land area in Charles City County. Primary roads account for 316 acres of land, while the remaining 699 acres make up the County's secondary road network. A detailed discussion of the transportation network in Charles City County can be found on Page ____.

County, State and Federal Land

Uses, such as parks, schools, and government offices, are provided to all Charles City County residents. Approximately 5305 acres of land is owned by the government. Two uses of major importance to State and Federal government authorities are the Chickahominy State Wildlife Area and the Harrison Lake National Fish Hatchery. A complete listing of public facilities can be found on Page ____.



EXISTING LAND USE

Residential

- Rural Residential
- Suburban Residential
- Agricultural
- Commercial
- Industrial
- Sand & Gravel Mining
- Government
- Forest/Scattered Residential
- Plantation/Bed & Breakfast

Prepared by
Richmond Regional Planning District Commission

COMMUNITY FACILITIES AND UTILITIES

The following section provides a brief description of the community facilities and utilities found within the County. Together, these provide necessary services to County residents.

Federal and State Government Properties

Two very important assets are the Harrison Lake National Fish Hatchery and the Chickahominy State Wildlife Management Area. The Hatchery and the Wildlife Area function to preserve various species of animal and marine life. The Hatchery covers approximately 420 acres of land in the southwestern portion of the County. The Chickahominy State Wildlife Management Area consists of 5214 acres and is located east of Route 623 along the Chickahominy River. Hunting, fishing, and other recreational opportunities are provided within the wildlife management area.

The Federal Aviation Administration operates an air traffic control facility in Charles City County. The facility is located near Route 615.

There are two post offices in the County. These are located in Ruthville and Charles City Courthouse.

County Offices

All of the County departments are housed in the Charles City Courthouse Complex Area. The Courthouse area is the focal point of government activity in Charles City County. The Courthouse is located along Route 5 at the intersection of Route 155.

Utilities

County residents are served by a variety of public and privately owned utilities. Utilities available are: water, sewer, electricity, gas and oil.

Water Service

While a majority of residents obtain water from private wells, there are three county owned water systems. Two of these systems, Wayside and Mt. Zion-Rustic, serve residential and commercial needs. The Roxbury Industrial Center has a separate system to serve industrial activity.

The Wayside facility currently serves 363 customers in the County and is well below its production capacity. The system is located on Route 658 northwest of Harrison Lake. Approximately 60 customers use the Mt. Zion-Rustic system located on Route 623. The water system, located within Roxbury Industrial Center, has sufficient capacity and fire suppression capability.

One private water system has been installed at Glendale Acres. This system only serves the residents of the subdivision. Glendale Acres is located in the northwestern portion of the County on Route 604.

Sanitary Sewer

Central sewage treatment is provided for the Roxbury Industrial Center by a mass sanitary drainfield. This system is intended for domestic waste and minor industrial processes. The County is in the process of developing a spray irrigation system for the Roxbury area which will treat up to 40,000 gallons per day. Additional lands will be available for system expansion as the need arises.

The Roxbury system is unique in the County. Private, on-site sewage treatment is the only other type of treatment system available.

Electricity

Virginia Power Company, the electrical service provider for the County, operates a substation off of Route 603 near the company's power lines. Three phase industrial electric service is available in several areas in the County. Adequate electric power is available to meet future development needs.

Gas and Oil

Although natural gas lines are not in place in the County, propane gas is available from local and regional vendors. Fuel oil is provided by several distributors within Charles City County.

Solid Waste Disposal

At present, one public landfill exists in Charles City County. It is located on Route 660 west of Route 155. This existing landfill will soon be replaced by a regional landfill within the near future. The regional landfill will consist of 390 acres of land and will be located in the northwestern portion of the County, bounded by Route 609 to the west, Virginia Power electrical lines to the north, and Bradley Run to the east. Three transfer stations will be provided: one at the new site, one at the existing site, and one on Route 623 in the Chickahominy District.

Public Safety

Police, fire, and rescue services are provided to County residents by many resources. The County provides police protection which includes a sheriff, five deputies, and five dispatchers. Communication with other law enforcement agencies is well-maintained to assure additional police assistance if needed. Fire

protection is provided through a volunteer fire company. There are 42 members in the company, and support agreements are in effect with all surrounding jurisdictions. The Providence Forge Volunteer Rescue Squad serves the Charles City County area. Thirty rescue squad members and 25 dispatchers compose the volunteer crew.

County Parks

Two parks are maintained in the County. Harrison Park, the largest with 19 acres, provides many outdoor recreational activities such as softball and baseball fields, tennis courts, basketball courts, and picnic areas. Hillside Park, located on Route 663 at the Charles City Courthouse Area, has approximately 1.5 acres of open space. Picnic tables and foot trails are provided.

The Recreation Center offers a variety of outdoor and indoor recreational activities. Some of the outdoor playing fields are lighted for night use. A swimming pool is also located at the Center. The Center houses a gymnasium, arts and crafts rooms, and other facilities. The ten acre site is located in Ruthville.

Schools

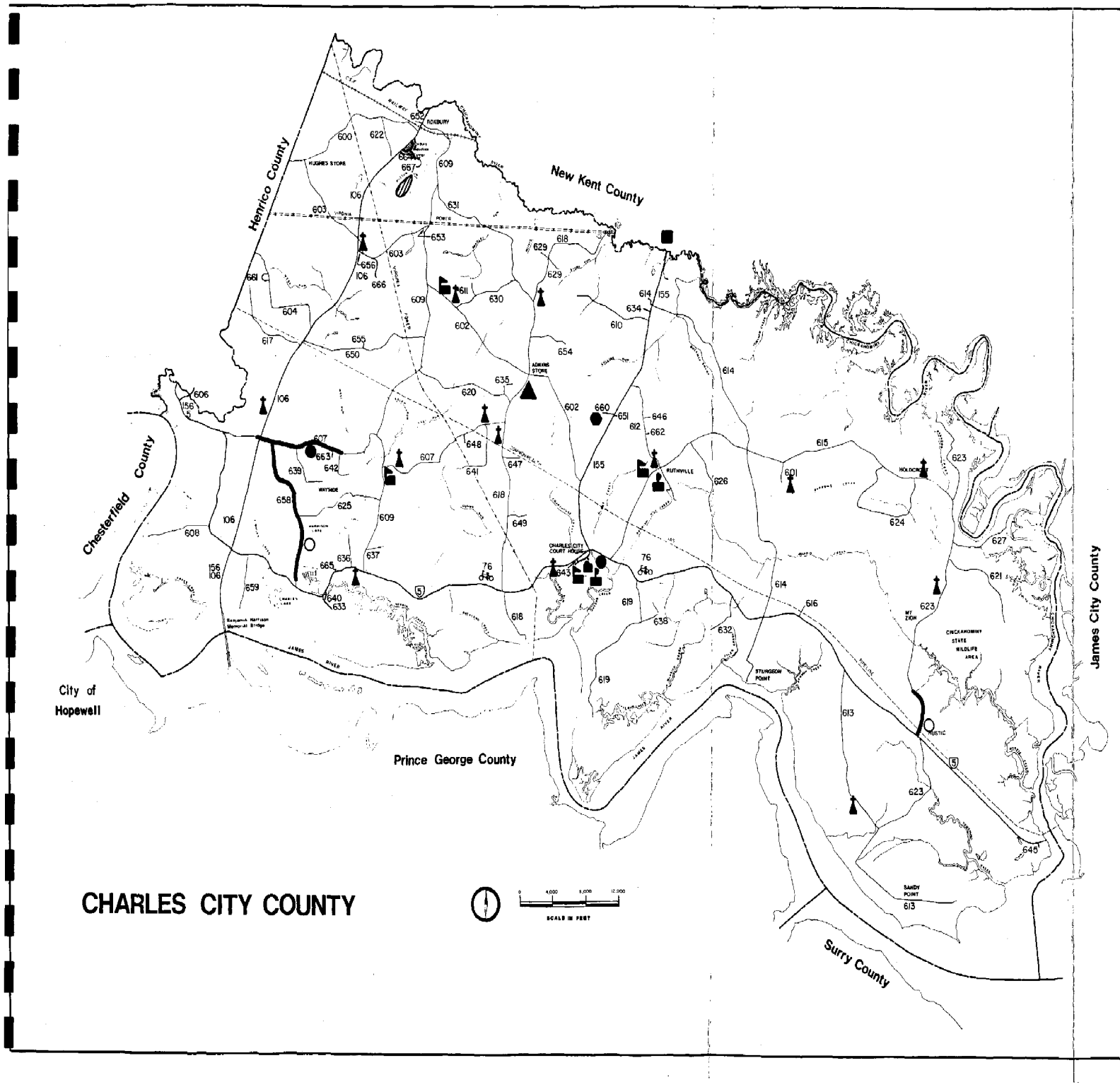
The educational program for Charles City County is divided into four units. Charles City Primary School houses kindergarten through first grade. The school is located on Route 602 near Route 611. Charles City Elementary School houses grades 2-5. It is located at the intersection of Route 609 and Route 607. Grades 6 and 7 are housed at the Charles City Middle School, which is located at the Courthouse Area. The high school (Grades 8-12) for the County is located in Ruthville.

The residents of the County recently approved a ten million dollar school bond. The site for the new school complex will be located on approximately 73 acres of land in the Courthouse area. Three separate schools, (K-5, 6-8, 9-12), will be located at the complex. The project is estimated to be completed by 1991.

Other

Sixteen churches are located throughout Charles City County. A number of these churches are affiliated with the Baptist denomination. Other denominations present within the County are Presbyterian, Methodist, and Episcopalian.

County residents have the opportunity to participate in a wide variety of local organizations. Two of these organizations have their own facilities. The Veterans of Foreign Wars has a building on Route 155. Quin Rivers Agency for Community Action, a non-profit social action organization, is located at the intersection of Route 614 and Route 155.



COMMUNITY FACILITIES

- Church
- Fire Station
- Government
- Landfill
- Library
- Post Office
- Recreation
- Schools
- Sewer Line
- Water Line
- Water Tank
- Spray Irrigation System
- Mass Drainfield

Prepared by
Richmond Regional Planning District Commission

TRANSPORTATION NETWORK

Historically, development activities have originated along transportation routes. Early settlements in the County were along the rivers which were used to transport freight, mail, and passengers. As settlements moved into the interior of Charles City County, paths were created leading to the river. Between 1918 and 1932, a system of local roads were developed. Ferries and bridges gained importance as people started to use vehicular transport instead of water-related transportation.

This section examines the current transportation network in the County. This network includes highway, water, rail and air transportation.

HIGHWAYS

Highway rights-of-way occupy 1,015 acres of land area in the County. Primary roads account for 316 acres of land, while 699 acres make up the County's secondary road network. The following description of County highways is based on the Virginia Department of Transportation functional classification of highways. (Refer to Map _____).

INTERSTATES/MAJOR ARTERIALS

No interstates or major arterials are located in the County. The nearest interstate highway is Interstate 64 in adjacent New Kent County. The interstate runs east-west and is located north of the County. Access points to Interstate 64 are the intersection of Route 106 and I-64 near Talleysville and Route 155 and I-64 south of Criss Cross.

MINOR ARTERIALS

Minor arterials provide the principal means of access between the County and other jurisdictions. These routes also carry traffic between local destinations in the County. The following routes are classified as minor arterials.

Route 106, running north-south, is located in the western portion of the County. The road not only handles local traffic, but serves a regional purpose by handling traffic between Hopewell and Interstate 64. Recently, the State Department of Transportation upgraded the road to industrial specifications. County officials have established the road as an industrial corridor and desire to develop primarily industrial and intensive uses along the road.

Route 5, is considered by residents to be the main highway in the County. Located in the southern portion of the County, it is the primary east-west corridor for local traffic. This route also serves as a link between Williamsburg and Richmond. While this

route serves a variety of responsibilities, existing traffic counts are well below capacity according to Virginia Department of Transportation officials.

Traffic conditions along Route 5 may change in the future, however. Numerous historic sites of national and state prominence are located along the road. Route 5 is also well-known for its aesthetic value. The landscape along the corridor varies from open fields to trees overhanging the road. The road has not been intensely developed and exists, for the most part, in the same condition as it did many, many years ago.

The Virginia Department of Conservation and Historic Resources has designated Route 5 as a Scenic Byway. This designation seeks to give official recognition to unique roadways, but does not regulate development along the corridor. Localities are responsible for any type of protective measure along these corridors.

MAJOR COLLECTORS

The primary function of major collectors is to carry local traffic between arterial roads and residential neighborhoods. These roads carry high volumes of local traffic within the interior of the County. Major collectors are Route 155, Route 607 and Route 618.

MINOR COLLECTORS

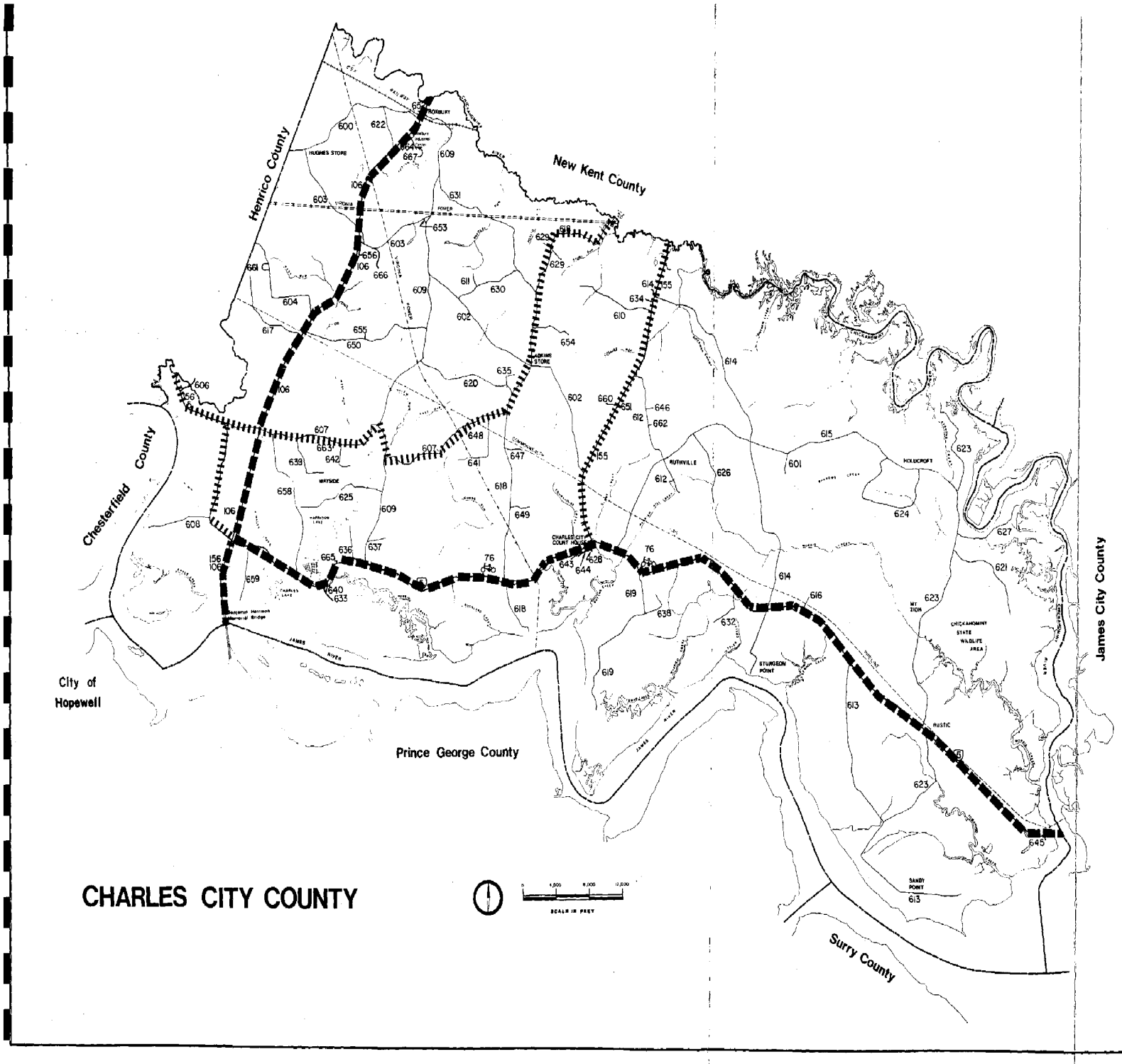
Minor collector streets also link arterial and residential streets, but carry a lower volume of traffic. Roads classified as minor collectors in the County are: Route 609, Route 602, and Route 614.

OTHER IMPORTANT ROADWAYS

The following roads are not classified by the State, but are regarded as significant by the County as local roads.

Route 600, referred to as Darbytown Road, is located in the northwestern portion of the County. The road extends into the County from adjacent Henrico County. Residential development along Darbytown Road has been prevalent in Henrico County. Charles City officials expect residential growth to continue to spread west into Charles City.

Route 603, also located in the northwestern part of Charles City County , is considered a important road in terms of residential development. The road extends from Darbytown Road in the northwest to Route 609 in the northeast. The road crosses Route 106 near the Roxbury Industrial Center.



TRANSPORTATION NETWORK

Functional Classification

- Minor Arterials
- Major Collectors

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Route 615, the oldest road in the County, has numerous historic sites and structures along its path. Local residents have great interest in the historic resources of the County and are investigating ways to preserve these resources. There has been some discussion by local residents and the Virginia Historic Landmarks Commission in designating the area surrounding the route as a historic district. Route 615 is located in the center of the County, traveling north from Route 5 and ending at the intersection of Route 623.

Route 623, located in the eastern portion of the County, serves as an access route to the Chickahominy Wildlife Management Area and the Hideaway Marina. The road has gained prominence because of its proximity to these recreational resources.

PLANNED THOROUGHFARE IMPROVEMENTS

Information on proposed improvements was obtained from the Virginia Department of Transportation Six Year Improvement Program and a draft of Virginia Department of Transportation 1989 Statewide Highway Plan. Scheduled improvements are mainly resurfacing of existing roads and improvements to several existing bridges. ONe significant improvement will be the realignment of the intersection of Route 623 and Route 613.

OTHER TRANSPORTATION ELEMENTS

Highways form the primary transportation network in the County. Other forms of transportation are available in or near the County, however.

WATER

Historically, water transportation has played a very significant role in the development of Charles City County. Today, water transportation plays a less significant part in the development of the County, but is still linked to the County's economy. Ports for barges transporting sand and gravel deposits are located at near Shirley Plantation and at Sandy Point.

The County does have one deep water location, Sturgeon Point. There has been discussion of promoting this location for a port oriented toward ocean-going vessels. This concept does not appear to be feasible at this time due to port activities in Richmond and Hampton Roads. A barge building facility is located at this site presently.

RAIL

The main line of the Chesapeake and Ohio Railroad (CSX) crosses the northwestern corner of the County. Service is

presently available in Roxbury. Central rail facilities at Richmond offer direct shipment and connections to all parts of the nation through four major railroads.

AIR

Commercial air service is available at nearby Richmond International Airport, located approximately eight miles west of the County. Commercial air carrier passenger service is provided by several air lines. Nationwide and worldwide connections are available through daily scheduled flights. Commuter service is also available. The airport also offers air freight and express service and maintenance facilities for many types of aircraft.

The New Kent Airport, approximately five miles north of the Roxbury area of the County is a general aviation airport facility with a 3,200 feet paved runway for use by small corporate aircraft. Fuel and major and minor repair facilities are available. The field is attended during the day and can be lighted at night upon instrument activation.

DEVELOPMENT ASSESSMENT

Development in Charles City County is influenced by many factors. Some of these, such as regional growth trends or soil conditions, are beyond the control of the County. Other factors, such as the future development pattern, can be influenced by the County.

The purpose of this section is to take an honest look at what is happening in and around the County. Regional and local development trends are discussed. Also discussed are those assets that make the County a desirable place to live and work as well as those factors that limit or constrain development.

Development Trends in the Richmond Region

The Richmond region as a whole is experiencing a steady increase in population, housing units, and employment. According to unpublished data from the Richmond Region Planning District Commission (RRPDC), the population in the Richmond region increased from 632,015 persons to 686,430 between 1980 and 1985. This represents an 8.6 percent increase, exceeding the State's growth rate of 6.1 percent. Population forecasters anticipate continued growth in the region into the next century.

Housing stock in the region has grown faster than the population. Between 1980 and 1985, housing stock increased from 241,126 to 269,750 units, an 11.5% increase. Residential development has flourished in the northern, western and southern portions of the region. Recently development has begun to occur in the eastern portion of the region, primarily in New Kent County.

The number of jobs in the region has also grown. Non-agricultural employment in the region increased from 327,005 in 1980 to 358,816 in 1985, according to the RRPDC. This represents an increase of 9.7% increase. Labor force participation has increased by an annual rate of two percent while unemployment rates have remained low.

Two comments can be made about growth in the region. First, growth has not been even across the region. Some localities are growing by leaps and bounds; others are growing very slowly, if at all. Second, there is a price to pay for rapid growth. Some local governments find it difficult to keep up with demands from new residents. Local budgets are hard pressed to the limit to provide necessary schools and other services.

Charles City County Development Trends

Charles City County is one of the localities that has not shared in the rapid growth of the region. County population growth has lagged behind both state and regional trends, showing a 3.1 percent increase between 1980 and 1985. Future population growth is expected to approximate the state growth rate, but remain behind the regional trend. Likewise, increases in housing stock and new jobs are expected to trail behind the regional trend according to the RRPDC.

To many residents, the County growth rate is good news. Development may lag behind the regional trend, but is in keeping with historical County trends. This means that while growth is occurring, it may be more manageable than growth being experienced in other parts of the region.

Development Assets

The County is fortunate to contain a variety of assets which contribute to the quality of life. Residents are able to enjoy what is essentially a rural life-style and still have the benefits of two urban areas close at hand. Following is a list of assets as identified by the County Planning Commission.

Natural Beauty of the Rural Landscape

The first thing new visitors notice is the relatively unspoiled beauty of the County. Deep forests and agricultural fields are the predominant land use. Maintaining this rural beauty is just as important today as it was in 1979 when the County adopted the goal of preserving the rural nature a part of the Comprehensive Plan.

Location between Richmond-Williamsburg/James City County.

The County's location between two growing urban areas offers a variety of employment, shopping and recreational opportunities not found in rural areas. Theses urban areas also supply large numbers of visitors who are able to come and take advantage of what Charles City County has to offer.

The County's location is a mixed blessing, however. The growth currently being experienced in surrounding localities may one day reach the County line. Residential and commercial development is occurring in eastern Henrico County. A recently announced residential community proposed for western James City County could bring large scale development to within a few miles of the County line.

As land adjacent to the county is developed, investors will begin to look more closely at Charles City County. Therefore,

Charles City must begin now to take action to plan for future development and the demands that development will place on the County.

Historical Resources and Tourism.

According to the **1989 Virginia Outdoors Plan**, tourism was the leading industry in the State in 1987, grossing approximately 6.1 billion dollars. Tourism is definitely an important part of this region's economy. Recreational opportunities range from historical sites to theme parks. Travel and interest in historic places are expected to continue as a major contributor to the region's economy. Tourist trade from Colonial Williamsburg and Richmond adds to the number of travelers visiting Charles City County.

Many residents believe the County's greatest assets are the historical structures and sites. These resources are both a source of local pride and contribute greatly to the local economy. Several historical sites are open to the public. Some provide services such as eating facilities or curio shops. These activities add dollars to the County's tax base as well as providing employment opportunities.

This important tie between these historical resources and the local economy was noted in the 1979 comprehensive plan. The County intends to work with private land owners to protect these valuable resources from incompatible development.

Agricultural and Forest Land/Prime Agricultural Land.

The County contains many thousands of acres of land that is well suited for agricultural and forestal use. In fact, over one-third of the soils in the County are classified as prime agricultural land according to standards established by the U.S. Soil Conservation Service. The preservation of agricultural and forest lands is a high priority because of the importance of these resources to the local economy. Preservation of these resources is also important to maintaining the rural character of the County.

Route 5 Corridor

Route 5 has been designated by the Commonwealth as a Scenic Byway. According to the Virginia Department of Transportation, the purpose of the Byway program is to identify outstanding road segments and to conserve them for the enjoyment of Virginians and out-of-state tourist.

The Route 5 corridor is important to County residents for several reasons. The tree lined corridor is the very symbol of the rural character of the County. Route 5 also serves to tie together many historical sites visited by tourist.

Route 5 also serves another purpose. It is the only east-west road that runs the entire breath of the County. A variety of users travel Route 5 including through trucks, local traffic, tourist and persons using the designated bike route. While capacity does not appear to be a problem at this time, the existing pavement width and variety of users can make for some close calls. Any future development plans need to incorporate measures to protect the Route 5 corridor, and other principal entrances to the County, from development that would destroy the scenic nature of these roads.

Extensive River Frontage

The County contains many miles of river front. To date, development along the James and Chickahominy rivers has been limited. Views along and across the both rivers offer few glimpses of urban development. In fact, a portion of the James River from approximately Trees Point eastward into James City County has been designated a state historic river. This was based on the superior natural beauty of the area and in order to maintain the historic, scenic and ecological values of this portion of the river.

One aspect of the river that has helped maintain this natural state is the limited access afforded the general public to either river. While the County is attempting to improve access to the James River by building a boat landing at Wilcox Wharf, this should have negligible impact on the River.

One factor that could change the relative serenity of the rivers is the demand for river front property. This type of property is always in demand for retirement and second homes, marinas and other water oriented activities. Any development on or adjacent to these rivers must be handled with sensitivity to their significance. Furthermore, the recently enacted Chesapeake Bay Preservation Act will establish regulations that will require the County to closely supervise development along all rives and streams.

Large, Undeveloped Tracts

Much of the undeveloped land in the County exists in large tracts under one ownership. This is especially true along the James River. These large tracts are easier to market and develop than numerous small parcels. The County is intent upon taking action to encourage that these tracts be developed in a comprehensive manner.

Sand and Gravel Deposits

Large deposits of sand and gravel are found in the County. Areas with the potential for sand and gravel production cover much of the area between Route 5 and the James River as well as land adjacent to the Chickahominy River. Currently, only a portion of

this land is being mining. Sites along the James are especially important due to the possibility of transporting the product on river barges.

Sand and gravel mining operations can create problems, however, especially if they are not located or operated with respect for surrounding land uses. Sand and gravel operations along the Route 5 corridor could conflict with the historic flavor of the area. Truck traffic from the mines could create problems for tourist traffic and other users of the road.

Mining could be a major contributor to the local economy. Any decision to permit sand and gravel mining must , however, involve a careful analysis of the potential impacts on the area as well as the need to mine this valuable product.

Wildlife Management Area

The Chickahominy Wildlife Management Area, located in the eastern portion of the County, provides the public with opportunities to hunt, fish, hike, or just to enjoy the outdoors. Visitors to this area use local goods and services. In addition, this area also insures that a part of the County will always retain its rural and undeveloped character.

Regional Landfill

Charles City County will soon be home to a regional landfill. The operation of the landfill will substantially increase the County's revenues while providing a needed service. The revenue the land fill will generate will provide a steady stream of income to the County for the next 20 years.

Constraints

There are factors, however, which limit or constrain County development. Some of these constraints, such as the availability of public water and sewer utilities, can be eliminated or reduced over time. Other constraints, such as soil conditions, will always be present.

Natural Environment

The natural environment that makes Charles City County the beautiful place it is also impacts development potential. Some of the natural features found in the County are very sensitive to development and can be lost forever due to inappropriate development. An example of these most sensitive areas are wetlands. Other natural features can be developed, but require special engineering considerations that can raise development cost. These areas include steep slopes and floodplains.

The natural environment is an example of a constraint that should not be overcome by man. The county must take every action possible to protect the natural environment. Development that is not sensitive to the environment can threaten the County's water supply, increase the likelihood of flooding in some areas and can, over time, lead to the deterioration of the rural environment so important to the County.

The County has regulations that govern development in wetlands as well as erosion and sediment controls. Furthermore, the recently enacted Chesapeake Bay Preservation Act will give the County more authority to manage development in and around these natural features.

Lack of Public Water and Sewer Service

The lack of water and sewer utilities is a major constraint to development in the County. Although limited water and sewer service is available, most development is restricted to private wells and on-site sewage treatment facilities. These restrictions limit the type and intensity of development that can occur.

The lack of public utilities is further compounded by the soils in the County. According to an analysis of generalized soil characteristic, 76 per cent of the soils in the County are unsuitable for on-site sewage treatment systems. This is according to current Virginia Department of Health standards.

The 1979 comprehensive plan stated that the number one goal of the County was to improve the standard of living for its residents. Associated with this goal was the objective of providing water and sewer utilities. Unless efforts are made to provide water and sewer utilities, land uses in the County will continue to be limited to scattered, low density development. This type of development will continue to consume rural land and limit the housing, commercial and industrial options available.

Lack of neighborhood or community identity

Development in the County is scattered, not concentrated in specific areas. Community identity is limited. There appears to be more identity with Richmond or Williamsburg depending on where one works or shops. With the lack of identity with Charles City comes a lack of identity with the issues facing the County.

A future development pattern that concentrates development in neighborhoods will help establish this identity. Parks and other community facilities can be constructed as neighborhood focal points. Such development will also be help encourage commercial development to provide neighborhood shopping and service needs.

Limited Rental or Multi-family Development

Housing opportunities in the County are limited primarily to single family houses on two to five acre lots. Multi-family housing is virtually unavailable. In large part this is due to the lack of public utilities coupled with soil conditions in the County. The net result is that young families starting out or older residents wanting to forego the upkeep of a large residence have few alternatives in the County.

The desire to reduce housing costs is shown by the trend toward the use of mobile homes in the County. Fully 50 per cent of the single family residences placed in the County between 1980 and 1987 were mobile homes. Mobile homes are usually viewed as a less expensive alternative to conventual, site-built housing.

The County recognizes that multi-family development will require some form of public or community utilities. This will be expensive. The alternative, however, is to continue with the existing scattered development pattern. This course will only delay the inevitable while allowing more land to be converted to urban use in the interim.

Limited Commercial Development

The County has very little commercial development. This impacts residents in two way. First, County residents are forced to purchase many goods and services outside the County. Second, the County loses potential sales tax revenues.

As the population grows, commercial development should increase. However, the continuation of a scattered development pattern will hinder the concentration of population that is necessary to attract certain types of commercial activities. In additional, scattered residential development contributes to scattered commercial development and the further loss of the rural nature of the County.

Limited Highway System

The County is somewhat removed from the major transportation corridors in the region. Interstate Route 64 and U.S. Route 60 pass near, but not through the County. As stated before, State Route 5 is the only major east-west road in the County. North-south access is somewhat better with State Routes 106 and 155.

All other roads in the County are narrow, twisting secondary routes. A trip through the interior of the County typically requires switching from one road to another. Travel from Holdcroft to the Benjamin Harrison Bridge or from Roxbury to the Chicahominy Bridge is very circuitous. The only alternative for east-west movement is to use Route 5, needlessly placing additional traffic

on that road.

A major concern is that additional development in the southern part of the County will lead to a change in the character of Route 5. The construction of alternative east-west roads incorporating existing secondary routes could help maintain the Route 5 corridor as it is now. Any such activity should include roads built with the assistance of developers contributing to the traffic increase.

Limited Employment Opportunities

Very few jobs are available in the County. In 1980, 80 per cent of the County residents who were employed worked in other jurisdictions. While this may not be unusual in a rural area, it may have long term negative impacts on the County. High school graduates that are forced to leave the County to work may leave the County to live.

Limited Economic Base

Industrial and commercial development are usually prime contributors to a local tax base. The lack of a strong industrial and commercial base has a profound impact on the County and its residents. Without industrial and commercial components to contribute to the local tax base, the County is forced to rely on other sectors for revenues. This means that other types of development must either shoulder a larger than average portion of the tax bill or the County must go without some services.

GOALS AND OBJECTIVES

In planning for the future of Charles City County, certain issues are very clear. The first is the importance of retaining the rural nature of the county. People remain in the County or move here because of the uncluttered and unhurried life style. To date, development has been low intensity and has tended to respect the natural features and environment found in the County. This development pattern needs to continue and encouraged.

The second element that is necessary in any plans for the future is preservation of the rich historical resources of the County. While there is in all county residents a respect for the past, there is also a very practical reason for preserving the many historical sites. That practical reason is money. Tourist bring money into the county. Many of the jobs in the county are directly or indirectly related to the historical sites that attract tourist.

The County recognizes that its assets and location will cause development to happen. While the County does not want to stop development, it does want to control the form and location of this development. The County wants to provide an atmosphere that will allow development to occur in an orderly and controlled manner. The county is also intent upon establishing design standards for all types of development. These will allow needed growth to occur in a manner that complements the rural and historical nature of the county.

With the above in mind, the following development goals and objectives have been established. Goals are general statements which give guidance as to the direction of future county development. Objectives establish a way to reach these goals.

Goal 1 **Overall Development**

To permit orderly, well-planned development to meet physical and economic needs while retaining the rural character of the County.

Objectives

Promote a balanced development pattern as a means of providing necessary living, shopping and working areas and expanding the tax base.

Encourage compact, planned development as means of maintaining the rural character and reducing the premature or inappropriate conversion of land to urban purposes.

Encourage the development of mixed use centers as a means of providing a range of residential, commercial and employment opportunities and promoting neighborhood identity.

Promote well-designed development as a means to lessen the impact of new development on existing development, the environment and the visual beauty of the County.

Goal 2 **Historical and Archeological Preservation**

To preserve and promote the historical and archeological resources of the County.

Objectives

Encourage public and private actions to protect historical and archeological sites.

Encourage the creative use or reuse of historical sites as a means to retain such sites.

Promote development that incorporates historical sites provided such sites are properly preserved.

Encourage the development of tourism associated with historical and archeological resources.

GOAL 3 **Environmental Preservation**

To preserve and protect the natural environment while permitting development to occur in a manner consistent with the capacity of land to handle development.

Objectives

Encourage the retention of natural physical feature, forest, agricultural lands, open space and other assets which contribute to the rural nature of the County.

Control development in and adjacent to floodplains, wetlands, steep slopes and other sensitive areas as a means to protect the environment and water quality.

Protect scenic and natural features from inappropriate development, particularly at main entrances to the County.

Promote land development and site design that is sensitive to environmental constraints and integrates with the rural nature of the county

Designate Chesapeake Bay Preservation Areas and adopt the management controls necessary to protect these areas from inappropriate development.

GOAL 4 **Residential Development**

To maximize the opportunity for a wide range of safe and affordable housing choices for existing and future residents.

Objectives

Provide sufficient land for the development of a variety of housing types at appropriate locations.

Encourage the construction of new, good quality housing in a complete range of prices.

Encourage activities that will improve the existing housing stock.

Provide for a variety of housing densities and types including apartments, townhouses and mobile homes subdivisions.

Encourage residential development at densities appropriate with existing and planned utilities, roads and environmental constraints.

Encourage residential development that promotes distinct and identifiable neighborhoods.

GOAL 5 Commercial Development

To provide for the development of a variety of commercial activities at appropriate ad conveniently situated locations.

Objectives

Provide sufficient land for the development of neighborhood, community and regional shopping and service needs.

Promote compact commercial development at or near principal intersection and other appropriate locations.

Promote well-designed commercial development that incorporate safe and adequate ingress and egress, adequate and appropriately located off-street parking and proper internal circulation.

Require site design that is in keeping with the environment and the rural character of the County.

Provide opportunities for water dependent commercial activities based on anticipated needs.

GOAL 6 Industrial Development

To encourage the development of a diverse industrial base in order to expand employment opportunities and add to the tax base.

Objectives

Provide adequate land, services and utilities for the development of a variety of light to moderate industrial uses.

Locate industrial development in existing industrial areas or in areas with access to major transportation arteries or rail service.

Develop site design and performance standards for industrial uses that reduce or eliminate potential negative impacts on the environment, water quality and adjacent land uses.

Promote the use of industrial parks as a means to concentrate industrial development, increase the efficiency of public utilities and better integrate industrial development into the landscape.

Protect industrial development from land uses that can limit the useability of areas for industrial purposes.

Establish appropriate locations for water dependent industrial locations.

Protect sand, gravel and other mineral deposits and provide for their use in an environmentally sensitive manner.

GOAL 7 Transportation

Develop a transportation network that will effectively serve the needs of current and future needs of the County.

Objectives

Encourage public and private activities to develop a coordinated system of local, collector and arterial roads of adequate capacity to accommodate future traffic demands.

Require development design that incorporates an internal circulation pattern, coordinates with existing and planned roads and limits direct access to arterial and collector roads.

Promote transportation routes that lessen travel time between residential, commercial, employment and community centers.

Improve access to the interior of the County and lessen dependence on Route 5 as an east-west corridor.

Promote the incorporation of pedestrian and bicycle routes within and between development areas.

GOAL 8 **Agricultural and Forestal Development**

To preserve valuable agricultural and forestal resources as an important part of the local economy and to retain the rural nature of the County.

Objectives

Protect agricultural and forestal lands, particularly prime agricultural lands, from development that will lead to the premature loss of these lands.

Promote the use of best management practices and other techniques as a means to lessen pollution and retain valuable soils.

GOAL 9 **Community Facilities**

Provide adequate public facilities and utilities at appropriate locations in order to serve community needs conveniently, efficiently and economically.

Objectives

Develop public utilities to support the County's overall development plan.

Locate community facilities and services in close proximity to existing and planned population concentrations.

Identify and protect surface and ground water resources to assure a safe and adequate water supply.

Improve public access to the County's waterways.

LAND USE STRATEGIES AND POLICIES

Once a series of goals and objectives have been adopted, a way of relating these to every day land use decision making is necessary. Land use strategies set forth what the County wants to happen in the way of future development. Policies serve as the guidelines to be used to implement these strategies.

Overall Development Strategy

The overall development strategy for the County is to encourage concentrated development as a means to create community identity, protect the rural character of the County and establish the population concentrations necessary to promote commercial development and justify multi-user utility systems.

To this end, the County seeks to concentrate growth in development centers. Three such existing centers that have been incorporated into this strategy. These are the Roxbury-Hughes Store area, Wayside and the area between Adkins Store and Route 155. Development in these areas will be predominantly single family homes. Medium density residential uses such as apartments and commercial uses will be permitted provided such uses were compatible with surrounding development. Industrial uses will be permitted in the Roxbury area.

New development centers will be permitted in the areas surrounding Route 5 and south to the James River. Development within these new centers will be restricted to planned unit developments. This is done in an effort to protect the historical and rural character of the route 5 corridor, to blend development with the numerous historical sites and structures found in the area and to protect the environmentally sensitive lands in and adjacent to the many creeks and streams that flow into the James River and the James itself.

Outside the development centers, development will be limited to agricultural, forestal and recreational activities. Some very low density residential development will be permitted. Clustered development is preferred as a means to retain the rural character of the County.

The development actions and policies related to this strategy are:

> Locate intensive development within designated development centers or planned unit developments.
>
> Encourage continued agricultural and forestal uses and recreational uses, in addition to very low density residential uses, in areas outside the development centers.

Permit the compatible mixture of housing, retail and service establishments and community facilities in the development centers and planned unit developments.

Require site planning and County review for all types of development to insure compatibility with the Land Use Plan and surrounding property.

Maintain liaison with adjacent governments to promote compatible development along border areas.

Historic Preservation Strategy

The County has a wealth of historical and archeological treasures. Route 5 is well known for the historcial sites along this road. Other concentrations of significant historical sites are found within the County, especially along Route 615. The County is willing to work with residents to investigate the designation of one or more historical or rural historical districts. The most likely locations of these areas are Charles City Courthouse, the land between Route 5 and the James River and Routes 615 and 623.

The County is willing to assist private property owners in preserving these historical sites and structures. Some sites can be preserved as residences. Others sites may need to incorporate commercial aspects in order to make preservation possible. The past success of both approaches indicates the feasibility of each.

Important to any effort to preserve historical and archeological sites are efforts to protect these sites from incompatible land uses. The County will use its zoning and subdivision authority to see that land development on or adjacent to these sites recognizes the importance of these treasures to the County.

The development actions and policies related to this strategy are:

Investigate the designation of one or more historical districts, particularly in the Route 5 and Route 615 areas, as a means to protect the Conuty's historical resources.

Encourage the continued use or adaptive reuse of historical structures in harmony with the rural and historical character of the County.

Encourage public and private land owners to take actions to protect or restore historically significant structures and sites.

Restrict development in and adjacent to historical sites and structures to uses which are compatible with or complement the historical character of the area.

Require land developers to prepare preliminary archaeological surveys in areas between Route 5 and the James River and other areas thought to contain significant archeological effects.

Work with the Division of Historic Landmarks to increase public awareness of historical and archeological resources within the County.

Environmental Strategy

The County is criss-crossed with a variety of environmentally sensitive areas. These include both tidal and nontidal wetlands and rivers and streams and their accompanying floodplains. The protection of these lands is critical to the preservation of ground and surface water quality in the County and the Chesapeake Bay drainage basin. These features also contribute to the natural beauty of the County and serve as natural habitat for a variety of plants and animals.

The principal strategy with regard to the environment is the protection and preservation of these environmentally sensitive areas. Development should be precluded from these areas and guided towards areas that are more capable of handling development.

A second strategy is to require site plans to be developed and submitted to the County for review for all types of development. These are necessary due to the extensive amount of land that has environmental limitations in the County.

A final strategy is to require proper construction techniques be used during development. This includes the installation of erosion control devises and other techniques to insure proper environmental protection.

The development actions and policies related to this strategy are:

Locate intensive development away from environmentally sensitive areas, particularly wetlands, slopes steeper than 15%, tributary streams, soils with sever limitations for on-site sewage systems.

Require site development that is sensitive to the environmental constraints of the site and adjoining property.

Require strict compliance with the erosion and sediment control ordinance as a means to minimize erosion.

Require development to incorporate buffer strips and other best management practices to reduce the flow of pollutants into rivers and streams.

Encourage the use of non-structural methods of erosion and sedimentation control and storm water management where possible

Promote the retention of natural buffers such as forests and grasslands adjacent to natural drainage areas

Cooperate with public and private bodies to preserve significant plants and wildlife, especially endangered species

Consider the potential environmental impacts when reviewing site plans and subdivision proposals.

Promote the preservation of woodland for control of erosion sedimentation and flooding, protection of ground water and wildlife habitat, oxygen production and for the aesthetic and rural character they give the county.

Agricultural and Forestal Strategy

Protecting agricultural and forestal uses is essential. Fields under cultivation and large stands of trees give the County the rural character so important to residents. These uses also serve as a link to the County's agricultural roots.

One strategy to protect valuable agricultural and forestal land is to limit development to uses that are compatible with agricultural uses. These include agriculture, horticulture, forestry, very low density residential uses, passive recreational uses and open space.

Another strategy is to limit the potential for intensive development of agricultural and forestal lands. This could mean prohibiting the extension of public utilities into agricultural areas unless necessary to protect public health.

A final strategy is to investigate tax incentives that lessen the financial burden on land owners, thereby reducing the threat of premature or inappropriate conversion for other uses.

The development actions and policies related to this strategy are:

Limit development in agricultural areas to agriculture, horticulture, forestry, very low density residential and community facilities and recreational uses.

Require adequate lot size and setbacks to buffer residential development from farm activities.

Encourage flexible techniques such as lot size averaging to permit clustering of residential development as a means of maintaining very low density overall while preserving the natural features and the rural character of the land.

Discourage the extension of public utilities into agricultural lands unless to address eminent threats to public health.

Encourage the use of best management practices, reforestation programs and other land management programs as a means to protect water quality and limit soil erosion.

Provide for limited division of residential lots within agricultural and forestal properties to allow reasonable use of land and encourage continued use as agricultural or forestal uses.

Residential Strategy

The basic residential strategy is to expand the type of housing available by concentrating residential development within the designated development centers and planned unit developments. These centers will contain locations for traditional, site-built single family housing as well as areas for apartments, townhouses and mobile homes subdivisions.

Concentrating new housing within these development centers has two advantages. First, concentrated housing development at a density of 1 unit per acre and greater would create the density necessary to justify expenditures for utilities and an internal road system to serve the housing. Residential development would no longer have to rely solely on septic tanks and direct access to major roadways. Residential areas could be developed as self-contained units, each with its own identity.

Second, concentration will reduce the pressure for conversion of rural areas to housing lots. The future population of the County can be housed on less land than the existing scattered development pattern would require.

A third residential strategy is to insure that the proposed concentrations of residential development is developed in a manner

that harmonizes with existing development and the rural character of the County. Medium density housing (apartments, touwhouses and condominiums) must incorporate appropriate site design to insure compatibility with existing development. Access must be planned to reduce the potential for traffic from higher density residential development filtering onto local streets within single family subdivisions.

Possible locations for medium density development are: Route 106 at the Virginia Power right-of-way, the east side of Route 106 in Wayside and the intersection of Route 155 and 602. Other locations could be incorporated into planned unit developments south of the Route 5 corridor.

The development actions and policies related to this strategy are:

Encourage the use of innovation techniques of design, including planned residential development, cluster housing, mobile home subdivisions, townhouses and condominiums.

Permit a variety of housing types and densities in development centers provided they are compatible with existing land uses, utilities and road capacity and maintain an overall density of one unit per acre.

Prohibit low and medium density residential development outside of development centers.

Limit medium density development to an overall density of 10 units per acre.

Permit mobile homes, but only in mobile home subdivisions located in a development centers.

Require site plans for residential development.

Locate medium density housing on the periphery of neighborhoods, near major roads, or as buffers between commercial and single family areas or within planned residential developments, properly related so that open spaces for buffers and high traffic volumes do not circulate through single family areas.

Limit direct access from residential lots to major roads by the use of frontage roads, cul-de-sacs, loop streets and reverse frontages

Require that residential areas be separated from incompatible uses by major roads, topographic features, open space, screening or building orientation.

Require residential development to provide necessary local and collector streets so to lessen the impact of traffic on existing roads and streets, particularly with regard to traffic safety.

Prohibit direct access to major roads from residential lots.

Commercial Strategy

The basic commercial strategy is to encourage an increase in the type of commercial uses in the county, but in fewer and more compact locations. Sites that are developed for commercial use must be well-designed and compatible with the rural nature of the County. Access and internal circulation must be designed so as to not interfere with through traffic.

The commercial strategy seeks to locate general commercial centers at or adjacent to existing or planned major intersections. These centers, typically 10-50 acres in size, are designed to provide shopping and service opportunities to large portions of the County. Potential locations for these types of activities are: Route 106 and 609, Route 106 and 607 and Route 155 and 602.

Neighborhood commercial centers typically provide goods and services to a local community. Uses include convenience stores, gas stations and barber or beauty shops. These centers are typically 2-8 acres in size. Potential locations include: Route 106 and 603, Route 609 and 607, Atkins Store, Route 155 and 612 and Route 5 just east of the Charles City Courthouse. It is anticipated that additional locations will be incorporated within planned unit developments.

A third commercial category is tourist oriented commercial. These activities typically include motels, marinas, restaurants and automobile service and repair facilities. Two locations have been set aside for this type of use: Route 106 and 5 and a site on the Chickahominy River on Route 623. The site on Route 623 is significant due to the fact that this proposed for water dependent uses. Other sites could be incorporated into planned developments along and south of Route 5 provided adequate buffering and site planning was provided to shield Route 5 traffic from these uses.

The development actions and policies related to this strategy are:

Promote the clustering of commercial development as opposed to scattered or strip development.

Locate general commercial development at or near the intersections of major roads or other locations convenient for large populations.

Provide for neighborhood commercial development in areas that are convenient to existing or planned residential development

Provide locations for tourist related commercial locations that take advantage of the transportation network or that are in close proximity to local tourist attractions without being detrimental to the attraction

Require site plan review for all commercial development to insure a proper fit with surrounding land uses and a design that is compatible with the rural character of the County.

Require well planned commercial developments that incorporate necessary off-street parking and internal circulation and limits direct access to major roads through the use of frontage roads, wide lots and or shared access points.

Regulate the size, location and appearance of outdoor advertising (all) signs

Require all commercial development to be adequately screened from adjacent land uses.

Industrial Development Strategy

The County desires to attract light industrial and warehousing activities both to increase the tax base and to provide employment opportunities for its residents. Heavy industrial development that generates heavy automobile or truck traffic, large amounts of waste that require extensive treatment or may threaten the environment are to be discouraged.

Industrial development within planned parks is preferred. Parks can be designed to blend with the natural surroundings and lessen the impact on the environment and adjacent uses. Parks also offer economies of scale that allow the installation of public water and sewer utilities. The Roxbury Industrial Center is an excellent example of how industrial activity can be integrated into the rural nature of the County through the use proper planning and site design.

Free standing industrial sites will be permitted provided that necessary utilizes and transportation facilities are available. Free standing sites must also provide the necessary site designs considerations to blend with existing development and the rural nature of the County.

The industrial strategy calls for locating activities and parks in and adjacent to the existing Roxbury Industrial Center on

Route 106 in the northwest portion of the County. Route 106 is being upgraded to industrial standards and rail transportation is nearby.

Sand and gravel mining is a special type of industrial activity that needs special strategies. The County will develop standards to be used to regulate the location and operation of sand and gravel mines in an effort to lessen the conflict between mining operations and adjacent land uses.

The development actions and policies related to this strategy are:

Encourage the development of industrial parks as the best way to permit industrial development while maintaining the rural character of the County.

Promote the location of industrial land uses in planned industrial parks.

Prohibit industrial uses which have nuisance characteristics and detract from the rural character of the county

Maintain sufficient distances between industrial uses and adjoining non-industrial uses.

Utilize man-made and natural buffers between industrial development and other uses

Implement performance standards designed to reduce or eliminate negative impacts on the environment or surrounding development.

Protect sand and gravel deposits from incompatible uses and provide for their development in an environmentally sensitive manner.

Locate industrial sites on stable level or gently rolling terrain with direct access to major roads.

Transportation Strategy

The primary transportation strategy is to continue to work with the Department of Transportation to improve travel within the County. Primary considerations are improving east-west access in a manner that lessens dependency on Route 5.

Another strategy is to require all new development to provide necessary internal roads, driveway and maneuvering areas within the development. New subdivisions located along major roads must incorporate an internal street system into the design. Roads

designed for through traffic can no longer be used for direct access to individual lots. Direct access causes traffic to slow down, reducing the capacity of the road and increasing the possibility of an accident.

A third strategy is to improve circulation around commercial locations. Entrances to commercial sites need to be properly designed to avoid confusion and reduce potential conflicts between cars entering and existing at random. Parking areas need to be of sufficient size to provide the needed parking and allow vehicles to maneuver around the site without crossing the roadway.

The development actions and policies related to this strategy are:

Work with the Department of Transportation to develop a coordinated network of major and minor roads based on the Comprehensive Land Use Plan.

Encourage development that improves access between existing and planned major traffic generators in the County.

Require a development pattern that limits direct access onto major roads.

Require that rights-of-way necessary for future highway needs are dedicated at the time of development.

Encourage bicycle and walking paths within and between development centers as a means to eliminate unnecessary automobile traffic.

Require necessary off-street parking and loading facilities.

Encourage development that maintains the scenic rights-of-way of roads within the County.

Prevent major roads from splitting existing or planned neighborhoods

Design collector roads to discourage through traffic

Limit direct access to major roads

Community Facilities and Utilities Strategy

Community facilities and utilities must be coordinated with the general development plan for the County. The basic strategy for community facilities and utilities is to work with public

agencies and private developers to insure that necessary facilities and services are provided as needed.

The development actions and policies related to this strategy are:

Encourage the concentration of development that will permit the installation of needed multi-user water and sewer facilities.

Work to provide public water supply and distribution, sewage collection and treatment and storm drainage facilities where appropriate and desirable.

Discourage the installation of community facilities and utilizes in areas planned for rural or very low density development.

Work to insure that land necessary for public purposes is obtained in advance of actual need in order to preclude other development and prevent costly acquisition at a later date.

Take steps to develop a community facilities and utilities plan.

Greenbelt Strategy

The greenbelt strategy is to maintain the natural vegetation and features along certain designated corridors within the County. The first reason for this strategy is to maintain the rural and agrarian nature of the County. Maintaining greenbelts allows at least parts of the County to retain the rural character so important to residents by serving as a buffer between roadways and new or existing development.

A second part of the greenbelt strategy is to protect historical resources. Part of what makes the historical sites and structures within the County so attractive, and sets them apart from other such sites, are their natural settings. Greenbelts help maintain this natural setting. Visitors can travel between these sites by way of rural roads with few signs of recent development. Any development pattern that infringes on these rural corridors will lessen the value of the historical resources of the County.

A third part of the greenbelt strategy is to maintain the scenic nature of the Route 5 corridor. Tourist come to Charles City County and travel Route 5 in particular because of the scenic nature of this road. The designation of a buffer zone along Route 5 will protect this scenic corridor while permitting necessary development to occur within the County.

The development actions and policies related to this strategy are:

> Encourage the retention of natural vegetation and features along designated greenbelts.
>
> Limit development within these greenbelts to uses compatible and in keeping with the rural nature of the County.
>
> Require development that does occur within____feet of the right-of-way of greenbelt roads to develop in a manner compatible with strategy of maintaining the rural nature of these corridors.

FUTURE DEVELOPMENT PLAN

This section contains the Future Development Plan for the County. This Plan is based on the goals, objectives, strategies and policies previously discussed.

BASIC ASSUMPTIONS

In order to develop a Future Development Plan, certain assumptions about the future have been made. These assumptions are not necessarily desireable or undesirable. They merely represent a "best guess" concerning trends and factors that will influence future development in the County. The assumptions used for preparing this Development Plan are:

County population will continue to grow, but not as fast as the region. Population will increase from an estimated 6,900 in 1985 to 8,550 in 2010.

While decreases in family size, the aging of the population and other factors will increase the demand for less expensive housing, single family homes on individual lots will remain the preferred housing type. Single family housing densities will average 1 unit per acre overall.

Multi-family housing will be built in the County; however, it is estimated that the market share of this type of housing will not exceed 10% of the new units. Average densities in multi-family areas will be 10 units per acre.

Commercial development will remain limited. Some increase in commercial development will occur in response to population growth.

Most residents will continue to commute to jobs outside the County. Job opportunities within the County will be mainly with small employers. Manufacturing and service type jobs will be the major sources of new employment in the county.

Industrial development will primarily be in and around the industrial park primarily due to transportation and utility factors.

Public water and sewer service will grow slowly, if at all, during the next 5 years. Expansions of public utilities will be required, however, to meet future population and development needs.

Interest in preserving and protecting historic sites, and the economic aspects of these sites, will remain high. Opportunities for promoting these attractions will expand as

efforts are made to attract people to the various historic and recreational activities in the region.

The transportation system will remain substantially as is. Route 106 will be improved, but remain 2 lanes. Routes 5 and 155 will also remain two lanes. Factors which may change these assumptions for Route 5 are added traffic due to I-295 and the building of a new James River Bridge into the County.

Land Use Requirements

A part of the preparation of the Land Use Plan involves estimating the amount of land necessary to accommodate future development. This is done in order to insure that sufficient land is reserved for desired land uses. Figure ____ summaries existing land uses by type and acreage and the estimated land necessary to accommodate future land use requirements. Appendix ___ explains how these land use requirements were calculated.

In essence, Figure ___ sets forth the minimum land necessary to provide required space for living, shopping and working areas based on the projected 2010 population of 8550. Additional land area has been set aside in the future land use plans to cover a number of contingencies.

Future Development Map

An important part of the Comprehensive Land Use Plan is the Future Development Map. This Map graphically portrays a future development pattern based on the development goals, objectives, strategies and policies set forth in the Plan. The Map, along with the Land Use Plan, is intended to serve as a development guide for public and private decision makers and as an informational tool for the general public.

In dealing with the Map, or any element of this Plan, three points must be kept in mind:

1. The Map is to be used as a guide. The purpose of the plan is to assist in making development decisions; it does not dictate what decision should be made. The Map is to assist in making zoning decisions, but it is not a zoning map.

2. The Map is general in nature. Lines on the map are meant to show approximate locations, not precise property boundaries. Boundaries should be looked upon for general guidance. Likewise, land use classifications are general descriptions, they do not attempt to list every permitted or excluded use as would be found in a zoning district description.

FIGURE

Projected Land Use Requirements

Land Use Category	1989	2010
Single Family Residential	6,185	7,191
Multi-family Residential	0	12
Commercial	24	171
Industrial	285	361
Sand and Gravel Mining	983	1,000
Government	5,305	5,378
Transportation	1,015	1,219
Total Developed Area	12,809	15,332
Agricultural/forestal/open	103,321	100,798
Total	116,130	116,130

3. The Map and Plan represent a long term view of the County. This plan attempts to look 20 years into the future. Many things will happen before the year 2010. This is why a periodic review of the Plan is necessary.

The long range nature of the Plan is one reason why the areas of the land uses shown on the Map may not coincide with the computations regarding future land use requirements. There are several reasons for these differences:

- The Map shows the County based on what is called the build-out population, that is, the maximum population the County can accommodate based on the land use assumptions. This build-out population is ?? compared to the anticipated 2010 population of 8,550.

- The Map reserves land for particular uses in keeping with the goals, objectives, strategies and policies of the Plan. Otherwise, land could be developed in a manner contrary to the purposes set forth in the Plan.

- The Map offers sufficient area within the various land uses to give developers flexibility in choice of sites. This is in line with the idea of the Plan serving as a guide.

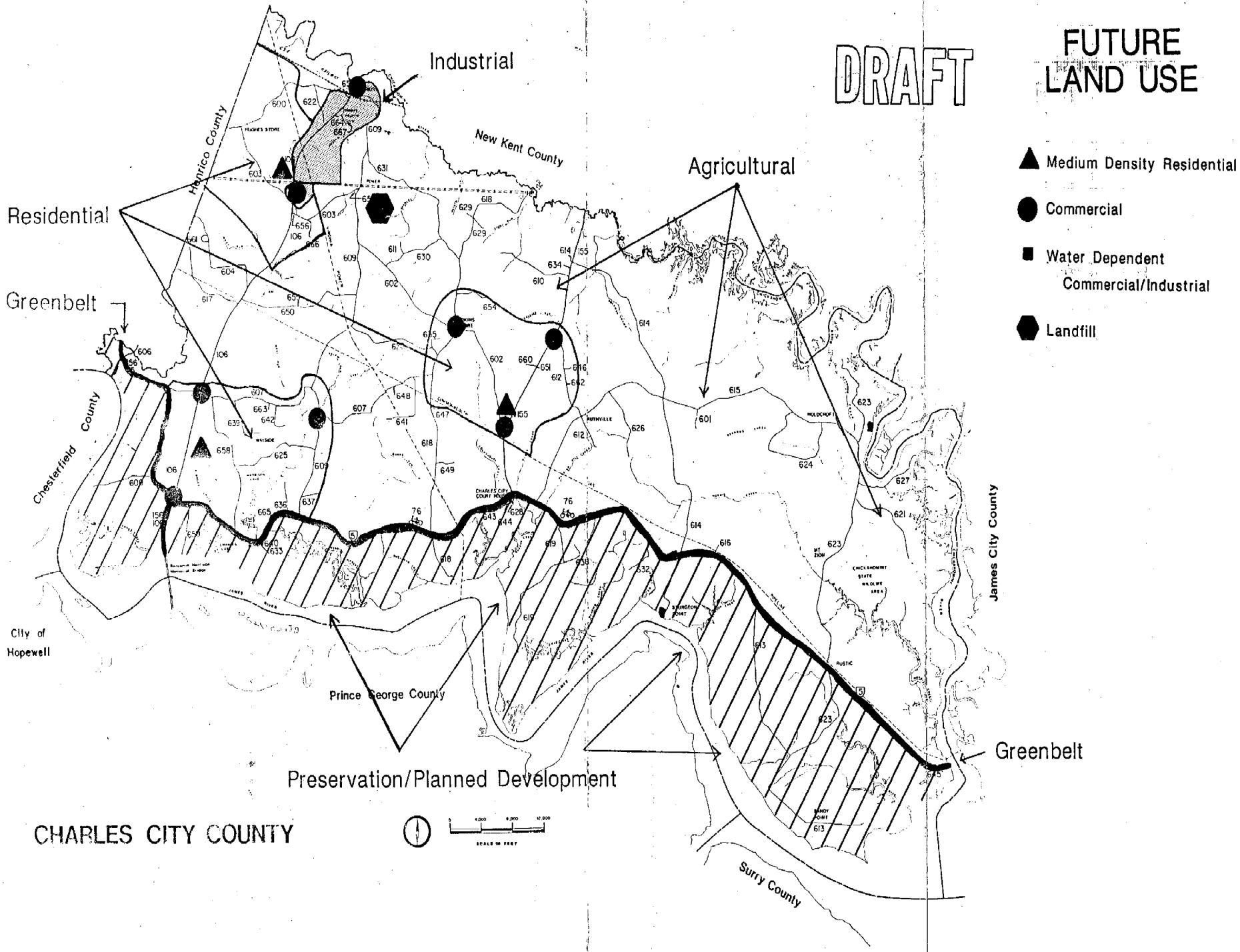
Land Use Categories

As stated before, the Future Development Map is an integral part of the Comprehensive Land Use Plan. Following is a list of the land uses shown on the Map and a general description of uses permitted in each category.

Conservation

Intent: To protect environmentally sensitive areas from inappropriate development by limiting the type and intensity of permitted uses and requiring special treatment of theses areas if development occurs.

This category includes the vast amount of environmentally sensitive lands within the County. These lands require special consideration during development and in some cases, protection from development. These areas encompass lands that may be precluded from development under current law, lands in which development may cause significant environmental impacts and lands which may present significant obstacles or hazards to development. If development is permitted it must be undertaken with a very deliberate and professionally responsive recognition of environmental qualities and conditions. Specifically, land within this category includes tidal shorelines, tidal and nontidal wetlands, the 100 year


DRAFT
FUTURE LAND USE
Medium Density Residential
Commercial
Water Dependent Commercial/Industrial
Landfill
Industrial
Agricultural
Residential
Greenbelt
Greenbelt
Preservation/Planned Development
Henrico County
New Kent County
Chesterfield County
City of Hopewell
Prince George County
Surry County
James City County
CHARLES CITY COUNTY

flood plain as designated by the Department of Housing and Urban Development and slopes in excess of 15%.

Agricultural

Intent: To preserve valuable agricultural and forestal land for continued production; other uses are considered secondary.

These areas are established primarily for agricultural and forestal uses. Other uses may also be permitted provided they do not interfere with the agricultural or forestal uses. Very low density residential development (1 unit per 10 acres) is permitted provided it is in keeping with the rural character and can be supported by private utilities. Due to existing and planned development patterns and densities in these predominantly rural areas, the extension of public utilities into these areas is highly unlikely except under unique circumstances. Residential development that is permitted shall develop in a manner that reduces the overall impact of the development on the rural nature of these areas. The clustering of residences will be permitted when done in a manner that harmonizes with the rural nature of the land and provided that the overall density does not exceed 1 unit per 10 acres.

Suggested uses include agriculture, forestry, large lot and cluster residential development and recreational activities.

Low Density Residential

Intent: To provide areas for the development of mixed residential, commercial and related activities that harmonize with existing development.

Low density areas provide an opportunity for the mixture of residential, commercial and community facility type activities. They also permit the blending of existing and new development. Care must be taken to insure that proper site planning is done and necessary buffering and separation of uses is accomplished. Overall densities of 1 to 2 units per acre are permitted depending on the availability of public water and sewer service. Development should be planned to permit the installation of public utilities where they do not currently exist.

Suggested uses include single family homes, duplexes, cluster housing, mobile home subdivisions, neighborhood commercial uses, school, churches and community oriented recreational areas and facilities.

Medium Density Residential

Intent: To provide locations for development of multi-family housing.

These areas are expected to be developed at densities of up to 10 units per acres. For this reason, location and site planning are very important. Sites located at or near the intersection of major roads and accessible to commercial and recreational activities are preferred. Sites should be properly oriented and buffered to be compatible with surrounding development. The density of this type of development requires that some form of public or shared water and sewer utilities be available.

Suggested uses include apartments, townhouses, condominiums, cluster housing and recreation and community oriented facilities.

Preservation/Planned Development

Intent: To protect the valuable resources located along the Route 5 corridor and the James River and to permit planned development that is compatible with these resources and can serve to protect these resources.

The area covered by this classification contains some of the most valuable resources in the County. Included are historical and archeological sites, the James River, valuable sand and gravel resources and prime agricultural land. This area also contains a variety of environmentally sensitive lands. The purpose of this designation is to permit limited development to occur in a manner that respects and compliments the existing resources. To insure this, development shall be accomplished through planned unit development. Piece-meal development is to be discouraged. Within these planned development, a mixture of single and multi-family residential, commercial and community oriented uses are permitted. While residential densities may vary, overall residential development within a planned unit development should not exceed one unit per acre.

To accomplish this mixing of old and new and to insure rural nature of the County is maintained, a overall master development plan showing proposed land uses shall be required. Each phase of the development shall be governed by this master development plan. Specific site planning requirements shall be established based on existing and planned land uses.

Suggested uses include single family residences, duplexes, cluster housing, apartments, townhouses, public and private recreation areas, schools, neighborhood and general commercial

uses and, in some situations, water dependent commercial and industrial uses.

General Commercial

Intent: To provide locations for commercial activities that are oriented primarily to the County or regional market.

These areas provide a range of goods and services to serve community and regional needs. The highest intensity of commercial activities is allowed in these areas as well as uses which need large amounts of land for operation. These areas would be located on major transportation routes.

Suggested uses include large grocery stores, furniture stores, automobile dealers, and department stores.

Neighborhood Commercial

Intent: To provide locations for commercial activities that are oriented to surrounding neighborhoods

These areas provide locations for small commercial operations oriented to serving the daily needs of residents in adjacent neighborhood areas. The scope of commercial activities is limited to discourage substantial traffic from outside the neighborhood.

Suggested uses include convenience groceries, gas stations, beauty/barber shops, and laundromats.

Tourist Commercial

Intent: To provide locations for commercial activities oriented to the needs of the many visitors to the County.

This designation recognizes the tourist market potential of Charles City County. Tourist commercial uses require visibility from and safe access to a primary highway, public water and sewer service, moderate to large sites with environmental characteristics suitable for intense development, and proximity to existing tourist attractions.

Suggested uses include motels, restaurants, commercial camping facilities, and recreational activities.

Water Dependent Commercial and Industrial

Intent: To provide locations for those activities that must locate and are desireable to be located adjacent to streams and rivers.

This designation is intended to recognize and continue to provide opportunities for a variety of activities oriented toward and dependent on a location possessing access to water. Special site design standards shall be incorporated into the development of these activities due to their location adjacent to water.

Suggested uses include marinas and other boat launching facilities, boat building and repair facilities, and seafood processing and packing plants.

Industrial

Intent: To provide locations for the operation of industrial activities, especially in park settings.

This category designates land for warehousing, service industries and light assembly plants. These are typically small in size and have moderate impacts on surrounding areas. Noise, dust, vibration, odor. traffic and other adverse off-site impacts should be minimal. These industries require access to major roads, public water an sewer and moderate sized sites. Proper design and site planning are necessary to limit impacts on surrounding land uses.

Suggested uses include warehousing, light manufacturing and assembly plants,distribution and trucking facilities, general offices, fire stations and other public facilities.

Greenbelt

Intent: To protect the valuable scenic corridors in the County and maintain the rural atmosphere along these routes.

Greenbelts protect scenic beauty along designated roadways and protect nearby uses form the impacts of traffic. Scenic roads, roads in historically significant areas and entrances to the County are candidates for designation. The greenbelt itself consists of forest, other vegetation or natural features which are used to screen development from the roadway, open areas for scenic vistas and uses that incorporate special setback and landscaping in their design.

State/Federal/County Land

Intent: To provide necessary locations for public offices and facilities.

The areas included in this category are in large part property owned by a government. These areas offer services to the public, education and recreational opportunities.

Suggested uses include schools, parks, offices, recreation centers and land management areas.

IMPLEMENTATION PROGRAM

As stated in the introduction, the Land Use Plan serves as a general guide for making land development decisions. It contains a number of objectives, strategies and policies which the County can use to guide development.

A land use plan is only one element of a community's planning program, however. Specific regulations are needed in order to turn land use objectives and strategies into development requirements. Plans for improvements to water and sewer services, the recreation system and other public services are needed. Finally, an overall program for scheduling and financing capital improvements is necessary.

This section examines the existing land development regulations and suggests changes needed based on this Land Use Plan. Also discussed are additional planning elements needed to help insure that the County is able to reach its development goals.

Land Development Regulations

The County is fortunate to have adopted a comprehensive set of land development regulations. These include a zoning ordinance, wetlands regulations, a subdivision ordinance, mobile home regulations and erosion and sediment controls.

The last comprehensive review of these regulations was conducted in 1980. Since then, these regulations have been updated on an as needed, piece-meal manner. A complete review and update of the development regulations will be done during 1989. With that in mind, this section will only highlight changes needed to these regulations. A more thorough review will be left to the update.

Development Definitions

The first section of the development regulations defines the terms used in the zoning, subdivision, mobile home and erosion and sediment control ordinances. Included in the definitions are terms that are unique to the development field and common terms which take on a special meaning in these ordinances.

The definitions reflect the piece meal approach used in updating the development ordinances. As the various ordinances have been amended, new terms such as apartment, condominium, and townhouse have been added. Other terms, such as fast food restaurant, are not defined. Outdated terms such as feeble-minded remain. Finally, some old and new terms for the same item appear such as camping trailer and travel trailer. Once other development regulations are revised, a complete update of this section is needed.

Zoning Ordinance

The zoning ordinance regulates the use of land in the County. The ordinance divides the County into several zoning districts and establishes the types of land uses permitted within each district.

The zoning ordinance also establishes standards that must be used in creating a lot in each zoning district or constructing a building on a lot. The ordinance outlines the minimum lot size in each zoning district and the maximum building size and height on the lot.

As with the definitions, the County zoning ordinance shows the result of piece meal updating. Fortunately, the updating has given the County several tools helpful in dealing with new development. These include conditional zoning, planned residential and industrial development, a multi-family residential district and wetlands regulations.

The are, however, changes that need to be considered when the zoning ordinance is updated. Following is a list of some of these changes.

Preservation District

The intent of this district is to insure the proper development of areas deemed critical to the preservation and support of historic areas in the County. The permitted uses, however, may not be in keeping with this intent. For example, the district permits agricultural uses which could include agricultural industries and businesses. These types of uses may not be appropriate for this district. Also, while the intent of the ordinance states that it is not anticipated that automobile service stations be permitted, this use is specifically listed as a possible conditional use. This entire district needs to evaluated in light of the goals of the Land Use Plan to preserve rural and historical lands.

Agricultural District

This district permits a variety of uses including one, two and three family residences, home occupations, and agricultural business and industrial uses. This potential mixture of uses permitted in this district is too broad and needs to be examined.

The Residential District

Currently no areas of the County are zoned residential; all residential development is located in an Agricultural

District. One or more residential zoning districts based on this Land Use Plan needs to be developed and then used.

Business District

The Land Use Plan envisions three types of commercial areas as well as a separate category for water-dependent uses. The existing zoning ordinance currently includes only on commercial district. Changes are needed to establish consistency between the land use plan and the zoning ordinance.

The M-1, Limited Industrial District

Any plans for development in this district must be submitted to the Zoning Administrator before construction can begin, but no guidance is given as to how this review is to be conducted. Specific guidelines as to how plans will be reviewed need to be incorporated into the ordinance.

The M-2 Industrial District

Heavy industrial uses such as the manufacture of acid, cement, gypsum and fertilizer and petroleum refining are permitted in this district. These types of intensive manufacturing uses may not be in keeping with the counties desire to preserve the rural character or maintain the environmental integrity of land and water resources.

Planned Unit Development

The zoning ordinance limits the use of planned unit development to industrial and residential uses. The Land Use Plan recommends extensive use of planned development for a variety of uses including mixed use developments. Examination of planned development regulations in view of the land use strategies is needed.

Conditional Use Permit

The ordinance makes numerous references to uses that are allowed by conditional use permit. Little guidance is given, however, as to what conditions may be placed on an use permit or the criteria to be used to evaluate a conditional use request. Both need to be spelled out in the ordinance.

Wetlands Regulations

The County has established a wetlands zoning district which specifics types of activities permitted within this district. In general, permitted uses are those that require a location

at or adjacent to water. Exceptions are non-commercial outdoor recreational uses such as horseback riding and shooting preserves. The ordinance also permits agricultural and horticultural uses in this district.

Regulations now being developed to implement the Chesapeake Bay Preservation Act will establish uses permitted in wetlands areas. This part of the ordinance needs to be reviewed and modified once the regulations implementing the Preservation Act are in place.

Site Planning

The current ordinance requires that a site plan be submitted with all requests for multi-family zoning, but does not define what is to be included in a site plan. The ordinance is also silent on what factors the County should use in reviewing site plans. The importance of maintaining the rural nature of the County requires extensive use of site plans for a variety of uses. The requirements for site plan submittal and review need to be spelled out in easy to understand language.

Lot size requirements

The minimum size for residential lots with individual water and sewage disposal is 30,000 square feet, regardless of zoning district. No minimum lot size is required in the Business District. All lot size requirements need to be reviewed based on the goals of the Land Use Plan.

Parking requirements

The requirements for the minimum number of parking spaces needs to be updated based on more current information and automobile ownership patterns. Some parking requirements appear arbitrary such as 30 spaces for a liquor store.

Subdivision Ordinance

The subdivision ordinance governs the division of private property into parcels for sale or development. It establishes standards for the location of lots, blocks and streets within subdivided property and ensures that adequate provision is made for drainage, flood control and the provision of utilities.

The Planning Commission has discussed several changes to the subdivision regulations, but these have not been officially adopted. These proposed changes need to be examined as a package and presented to the Board of Supervisors for action. In addition, the Chesapeake Bay Preservation Act contains provisions that need to be incorporated into the ordinance. Following are just two

modifications that need to be considered.

Exemptions from the Subdivision Process

Land that has industrial or business zoning, all agricultural land and building sites for family members are exempt from the subdivisions review process. Exemptions such as these limit the County's ability to plan for intensity of development, control access to major thoroughfares and restrict through traffic in residential areas. These exemptions need to be examined.

Subdivision Review Process

Currently all subdivision must be reviewed by the Planning Commission and Board of Supervisors. A system of major and minor subdivisions with different review processes can be beneficial to both the County and the land owner. Such a process would be especially useful if the County eliminates some of the exemptions from subdivision review.

Mobile Home Park Ordinance

Mobile homes are a major part of new single family housing. While the County wants to increase housing opportunities for all residents, current regulations treat all forms of manufactured housing the same regardless of type or age. Specific regulations dealing with mobile homes on individual lots, mobile home parks and mobile home subdivisions are needed. These regulations also need to differentiate between single and double wide units and other forms of modular and manufactures houses.

Erosion and Sediment Control Ordinance

The County adopted an Erosion and Sediment Control Ordinance in 1980. The purpose of this ordinance is to insure that measure are taken to control erosion sedimentation during and following land development. This ordinance requires that any person involved in any land disturbing activity must submit to the county a plan for controlling erosion and sediment due to the land development. A complete review of this ordinance based on the recent Chesapeake Bay Preservation Act is needed.

Development Plans and Programs

As noted previously, additional development plans and programs are necessary in order to fully implement the goals of this Plan. Following is a list of planning and programming needs of the County.

Capital Improvement Program

A capital improvement program is a comprehensive list of needed public improvements. Items typically included are schools, parks, vehicles, public utilities and other major capital expenditures. These capital improvements are arranged by priority and include estimated costs and potential sources of funding.

The development of a capital improvement program is important because it allows the County to plan ahead for the purchase or construction of major new equipment or facilities. For instance, land for new parks can be purchased before development drives up prices. A capital improvement program also allows the County to be in a better position to negotiate with land developers for the dedication of land or construction of new facilities needed to accommodate new development.

Without a capital improvement plan, the County is forced to respond to requests for new parks, schools and other improvements on a case by case basis without knowing how one decision will impact other needs. Also important, the County cannot take full advantage of the provisions of conditional zoning unless it has an adopted capital improvement program.

For the above stated reasons, the development of a capital improvement program is vital to the future of Charles City County. Efforts to establish a capital improvement program will be greatly enhanced by the development of the following plans.

Water and Sewer Plan

As stated previously, the provision of water and sewer service to County residents has been and continues to be a high priority item. These improvements are needed to insure that all residents have access to a source of safe, reliable drinking water. They are also needed to insure that ground and surface water resources in the County are not polluted due to poorly maintained septic tanks.

Water and sewer improvements are also important to the future development of the County. The basic concept of clustering development in order to preserve the rural and historical nature of the County is dependent on the provision of water and sewer utilities. While some of these services may be provided by private developers, an overall concept identifying potential sources of water for residential, commercial and industrial uses coupled with a plan to treat waste water is necessary.

Recreation Plan

Recreation opportunities in the County are deemed adequate at this time. As the County grows, more recreation and park facilities will be needed. Some of these will be provided by the County. Some may be provided by private developers. An overall plan that identifies future recreation needs by type and location

will help the County plan future improvements and assist in negotiating with developers interested in constructing recreation and park facilities.

Transportation Plan

One issue highlighted in the Plan is the dependence on Route 5 for east-west travel. As additional development occurs along Route 5, more traffic will be placed on this roadway. Eventually, the Route 5 that is so important to the rural and historical nature of the county may be lost.

While the Department of Transportation controls highway improvements, an overall plan that addresses the transportation needs throughout the County will help demonstrate highway needs to the Department. A transportation plan will also allow developers to offer to construct additional roadways as part of new development, reducing the existing level of reliance on state funding for roads.

Community Facilities Plan

As the County grows, the need to plan for new schools, community centers and other community facilities will become more important. By establishing a mechanism for planning for the facilities now, the County will be able to stay abreast of the needs of residents.

APPENDIX A

FUTURE LAND USE CALCULATIONS

Following is a discussion of the methodology used to prepare the land use requirements found in Table_____.

Residential

Residential land requirements are based on assumptions concerning future development patterns. One assumption is that single family homes will house most residents, but some multi-family development will occur. Based on this assumption and a projected future land use density of one house per acre, 1006 acres is needed for single family development. Multi-family development is expected to account for 10 per cent of the residential development between now and 2010. Based on an expected density of 10 units per acre, 12 acres of multi-family housing is needed.

Commercial

Historically, the County has had very little commercial development. This must change if the economic base is to grow. Currently there are .0028 acres of commercial development per person. This is quite different from the typical .020 acres of commercial development per person, the average for surrounding counties. Based on this typical amount, the County requires 147 acres of additional commercial property to meet projected population needs.

Industrial

Required industrial land needs is always difficult to estimate. This is especially true in rural areas with small populations. In order to develop a projection, several steps were undertaken. First, the average number of acres per manufacturing employee was calculated using the number of acres occupied by manufacturing uses in 1989 (33) and the number of manufacturing employees reported by the Virginia Employment Commission in 1985 (74). This factor was then used to develop the land necessary to support the number of manufacturing employees projected in 2010 (245). Acres required for more land intensive industrial jobs were calculated in the same manner. Land necessary for sand and gravel mining was held constant based on expected demand for the product.

Government

Land for governmental activities is expected to stay approximately the same. The two exceptions are land used for schools and for recreation. The construction of a new school will add approximately 73 acres to governmental land uses. Based on recreational standards, the County needs at least 30 additional acres of land to meet minimum standards. This land now containing the four schools to be consolidated could provide this additional land.

Transportation

Land use requirements for transportation are based on anticipated road construction related to new development. For planning purposes a figure equal to 20 per cent of new residential development was used to estimate transportation needs. It is assumed that new commercial and industrial uses will locate on existing roads.

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