DORCHESTER COUNTY

2004 COMPREHENSIVE

WATER & SEWER PLAN

REVISED MARCH 2004

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CERTIFICATES

Dorchester County Water and Sewerage Plan
2004 Amendment

CERTIFICATE OF ADOPTION, COUNTY COUNCIL

The County Council of Dorchester County, Maryland, on _____ _____, following a public hearing on _____, 2004, did by motion duly made, seconded and carried, adopt this amendment to the County Water and Sewerage Plan as required by Title 9, Subtitle 5, section 503 of the Environment Article of the Annotated Code of Maryland, for submission to the Maryland Department of the Environment for approval.

Attest: _____ _____
President
Dorchester County Council

Date: _____

CERTIFICATE BY COUNTY WATER & SEWERAGE DIVISION ENGINEER

Sections of this plan covering engineering aspects of water and sewerage projects have been examined and reviewed for adequacy and cost effectiveness to meet defined needs in the State of Maryland in accordance with COMAR 26.03.01

Attest: _____ _____

CERTIFICATE OF CONSULTATION WITH PLANNING AGENCIES

All known official planning agencies in Dorchester County and other known State and Federal planning agencies having an interest in Dorchester County have been consulted regarding this County Water and Sewerage Plan and have been given the opportunity to submit information and comments for review and consideration as to consistency of the proposed programs with the plans and planning for all affected areas.

Attest: _____ _____

Steve Dodd, Director of Planning
Dorchester County Planning and Zoning

Date: _____

CHAPTER 1 – GOALS AND OBJECTIVES

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1.1 **GENERAL**

The purpose of the Dorchester County Water and Sewerage Plan is to develop water and sewerage systems in accordance with the demands as anticipated by County plans and policies and in accordance with State requirements. This Plan is intended to guide the development and improvement of water supply and sewerage systems for Dorchester by outlining the requirements of the County for the next ten years.

These requirements were determined as a result of several efforts. First, the communities and entities where central water and/or sewerage systems exist or are proposed were contacted and asked to provide any updated or revised information. Existing plans, such as the County Comprehensive Plan were reviewed. New programs, including the Chesapeake Bay Critical Areas Program and the Groundwater Protection Report were scrutinized. Numerous reports, official publications, correspondence and verbal contacts provided material for inclusion in the plan. In reviewing the multitude of background information the purpose was not to re-state but rather to glean what was relevant to water and sewerage planning.

A Comprehensive Water and Sewerage Plan is not a static document. Factors upon which planning is based can change drastically in a short period of time due to unexpected developments, changes in regulations and revisions in public policy. Needs for water and sewerage services can be overlooked in a plan because they were either unknown or unstated at the time of plan preparation. For these reasons, Comprehensive Water and Sewerage Plans are reviewed triannually, with an amendment process available in-between reviews (See Section 1.6).

The success of any planning effort lies in its implementation, which is the responsibility of local citizens, through the ultimate authority of the County Council plus the public officials who approve and/or help finance programs of action. This Plan is only one of several tools necessary to implement the objectives of the County's overall Comprehensive Planning Process. Its effectiveness can only be realized by the cooperation among the citizens, developers, industries, local elected municipal officials, local and State officials, and the County Council.

1.2 WATER AND SEWER PROBLEMS

This Water and Sewerage Plan identifies water and sewerage problem areas and recommends a plan of correction. The disposal of sewage effluent and, to a lesser extent, the provision of good water are problems in Dorchester County which can inhibit development and pose health and/or environmental hazards. With a clearer understanding of how to adequately treat sewage effluent without contaminating water supplies, some of these problems can be reduced.

The understanding of how to adequately treat wastewater and provide potable water is only part of the solution to having development without health or environmental hazards. The other part of the solution is the implementation of this understanding so that needed facilities are constructed and maintained. To implement this knowledge two things are needed: a willingness to act and monies to finance construction, operation, and maintenance. Lack of either can halt a project.

One major constraint is a lack of willingness of citizens to participate in necessary water/sewer improvements. Whether it is the formation of a Sanitary District, construction of a bermed infiltration pond, or issuance of Department of the Environment order to correct a

violation, the majority of the citizenry resists these and other related actions. Water and sewerage problems are not usually readily visible to the eye. Once systems are in place, the individual often does not feel that there can be any problems as long as clear water runs when the faucet is on and the toilet flushes when the handle is pulled. The "invisible" nature of water and sewerage problems makes them hard to accept and understand.

The lack of funds to construct, operate and maintain water and sewerage systems is also a deterrent. Water and sewerage facilities are usually expensive. Incomes in the County are generally low. These two factors make a horrible combination when trying to provide water and sewerage services unless substantial grants are available to pay for the facilities. Most of the grant programs are either being cut or making the local share so large that poorer communities simply cannot pay their portion. The Environmental Protection Agency (EPA) State used to provide 87½% grant funds for the planning, design, and construction of approved projects. Even with 87½% grants many local communities could not afford the loan or bond for the remaining 12½% for construction, and residents could not afford the user charge. For a while sewerage systems using innovative and alternative methods received a bonus which increased the State/EPA grant to 96½% and reduced the local share to 3¾%. Some communities, at this level of grant funding, were able to participate in the State/EPA program because the loans/bonds were small enough that a reasonable user charge or tax rate could pay for the amortization of borrowed funds, as well as operation and maintenance of the system.

The State/EPA program has, unfortunately, been eliminated. The State of Maryland, realizing that projects have faltered due to the lack of funding, has undertaken several programs

to try to fill this need. Unfortunately, these programs are still either loan, loan/grant, or grant/local match programs and the hurdle of providing local funds still exists.

Due to the deterioration of the water supply systems in the State of Maryland and inadequate financing available for these systems, the Maryland General Assembly created the Water Supply Financing Assistance Program in 1998. This program offers loans and grants strictly for water projects. Financing is based on median household income for an area with financing not exceeding 87½% of the project cost or a maximum of $500,000, leaving the local share at 12 1/2%. Loans are made at the administration bond rate for a period of 30 years.

For sewage construction Maryland has established the Maryland Water Quality Revolving Loan Fund, which supports funding non-point source pollution projects, including the extension of sewers to correct failing septic systems and for the construction and upgrading of municipal wastewater facilities. The program is structured to provide a subsidized interest rate on loans. In Dorchester County where the median household income is less than 100% of the State's non-metropolitan income, the loan rate is set at 53% of the rate on the administration's bonds.

Two financing programs are for grants and/or loans packages to finance both water and sewerage projects. One of these programs is the Maryland Community Development Block Grant Program. This program requires a jurisdiction to match one dollar for every two dollars of grant funding used. A ceiling of $500,000 has been placed on community development projects. The Federal government, through the Farmers Home Administration, provides loan/grant financing to rural communities for water and sewerage construction. This program will finance up to 100% of the project through a grant/loan combination based on median household income for the community and the users to be benefited by the system.

Water and sewerage systems are of two types - central or individual. While both have the problems mentioned previously, each type has its own special needs.

In Dorchester County in 2000 about 55% of the population was served by central sewerage facilities. Central sewerage systems in Dorchester are plagued by increasingly expensive discharge requirements, since all of the public systems discharge into streams or rivers. Most of the systems are old and need rehabilitation. Infiltration of groundwater, which causes the capacity of the collection lines and treatment plants to be filled by relatively clean water undergoing treatment, has caused complete or partial moratoriums in the majority of the systems. Moratoriums prohibit the spreading of spiraling costs among more users, so that sewer services become relatively more expensive to those using the system. Central water facilities have similar problems of aging systems and increasing water treatment costs. Some systems need additional wells, not only for a greater volume of water but also because some of the aquifers from which they previously obtained most of the water are showing increased levels of undesirable substances.

Individual water and sewerage systems have their problems too. These usually exist in rural areas, but in some instances lots were created that were of a higher density than would be allowed today. Clusters of houses and communities exist at densities too high for safe on-site sewage disposal and water supply. The local Health Department has identified 33 communities of suspected septic failure, mostly due to small lots and poor soils. Only 4 were near central services. Two are being centrally served. The 29 communities not near central facilities are too small to need or afford construction of new conventional central systems. In many of the septic tank failure areas there are concentrations of homes without indoor plumbing. For these property

owners, connection to a system also requires the installation of indoor plumbing and bathroom facilities. Those same property owners are generally in the lowest income groups. For these people the outlay of several thousand dollars for plumbing and system connection is almost impossible, even if low interest loans are available.

Many people are on individual on-site systems. With the increasing costs of the use of central systems, on-site systems have seemed to be less expensive, at least initially. However, in a county like Dorchester where many areas have high seasonal water tables, designing and approving on-site sewage systems has not been easy. The recently prepared Ground-Water Protection Report for Dorchester County (see Section 2.2.2) does more clearly delineate what kinds of individual sewage systems can be approved under various soil and high water conditions. Several things are clear. Lot sizes (and corresponding land costs) will increase. The costs of the systems will increase because the traditional, less expensive septic tank with absorption field, in most areas, will be the exception rather than the rule.

The provision of individual water is more difficult in some areas. In the northern part of the County, where shallow wells were widely used, nitrates are becoming a problem, thus requiring new wells to go into deeper aquifers. In other portions of the County, although not as prevalent as in the north, there are also some older shallow wells still being used.

Compounding the problems of central and individual water/sewer services is the fact that local and State programs are encouraging growth to occur in existing centers where central water and sewerage exist, but these community systems are often unable and unprepared to handle the additional growth, for reasons discussed previously.

Specific water and sewer problems are discussed in Chapters three and four for each election district in the County. Water problems are summarized in Table 3-3 and sewer problems on Table 4-2.

1.3 **GOALS**

The goals listed herein represent the broad concepts that are desirous to achieve based on an analysis of the background information, public attitudes, existing conditions and anticipated future conditions.

A. To create and maintain an environment which will insure and protect the general health, welfare and safety of the people of Dorchester County and their neighbors by providing and/or maintaining adequate water and sewerage systems.

B. To control County growth, both in magnitude and direction, through orderly development, expansion and improvement of water and sewerage systems in and around the existing centers of population to assure staged and economically feasible growth.

C. To discourage uncontrolled strip or spot development that will eventually weaken the base of existing town centers and cause decentralization of commercial functions and increase the cost of future water and sewerage systems.

D. To preserve all of the natural resources and assets of the County and to prevent the contamination of destruction of these irreplaceable gifts.

E. To preserve agricultural land use as much as possible, especially in areas of prime land best suited to such use, and to meet the development needs of the County with a minimum encroachment upon agricultural and recreational lands.

F. To encourage a zero discharge policy for treated wastewater and sludge by utilizing re-use techniques of these materials whenever possible.

G. To minimize non-point source water pollution, including storm runoff containing sediment, nutrients, pesticides, toxic substances, and other harmful constituents from urban areas and from agricultural and non-agricultural activities.

H. To identify and eliminate all known sources of groundwater and surface water pollution and potential health hazards and replacement with (or provision of) adequate systems that will safeguard and conserve the necessary water quality and sanitary standards of streams, estuaries, and groundwater for water supply, recreation, and aquatic life, simultaneously providing an environment conducive to residential, commercial, industrial and recreational development.

I. To encourage the development and use of new and innovative methods of on-site treatment and disposal of wastewater in existing problem areas where soil and water table conditions preclude the use of standard septic systems. These systems should be considered as an alternative to centralized sewerage systems where ever possible and cost-effective.

J. To be compatible with the Choptank River Basin and Nanticoke River Basin Water Quality Management Plans (Phase I and Phase II) prepared under Sections 303 (e) and 208 of the Water Pollution Control Act Amendments of 1972 (PL92-500).

K. To require that all municipalities, other public and private communities, multi-use facilities, industries, and individuals provide adequate water and wastewater facilities.

L. To provide adequate waste disposal facilities at County owned marina facilities. Private operators to comply with State or Federal law.

M. To promote conservation of water supplies through utilization of flow reducing plumbing fixtures; recycling, re-use or other procedures; qualified management; and public awareness.

N. To prepare and adopt such ordinances, policies, guidelines and/or regulations as may be necessary to implement this Plan.

O. To provide for timely and orderly amendments and updating of the Plan as required by State law as necessary due to local conditions and needs.

P. To recognize that shared facilities can and will be built outside of identified growth areas.

1.4 **OBJECTIVES**

This report develops an action plan for water and sewer facilities needed and proposed in Dorchester County within the next ten years. Implementation will aid County growth and alleviate many existing health hazards.

The objectives listed hereinafter represent actions, both general and specific, which should be implemented for the good of the County and its citizens. Some objectives are a continuation of existing policy, others represent implementation of new policy. Efforts should be made to act on them as soon as possible, although many will require the availability of local

resources before they can be undertaken. They have been divided into areas of responsibility and should be used as a checklist by the responsible County authorities.

1.4.1 Dorchester County Council

A. The Council has the overall responsibility for all water and sewer facilities in the County. The County can delegate this function by law to the Dorchester County Sanitary District, Inc. The County Council should make certain that the Sanitary District organization is functioning effectively with the proper manpower and financing to undertake alleviation of pollution and resulting health safety in the County.

B. The County Council should evaluate the water and sewerage needs in the County to determine if either the duties and staffing for the Sanitary Commission should be expanded to encompass all of the County instead of just the current Sanitary Districts, or whether a separate County agency should be created to cover countywide water and sewerage functions. In either event, additional staff and office support would be needed. Currently there is no governmental or semi-governmental agency that undertakes the responsibility of assisting individuals or groups who have failing septic systems or contaminated wells to find solutions to their problems. These responsibilities are performed on an ad hoc basis as the Council assigns a special need brought to their attention to one of several County departments.

C. Since the potential funding sources for water and sewerage planning are so diverse and local costs difficult to finance, the County Council should direct the various

County and related agencies, such as County Health, the Sanitary Commission, the Planning and Zoning Office, and the Highway Department, to coordinate their efforts to find funding sources for water and sewerage projects. Several funding sources may be needed to provide adequate dollars for any single project. Each project will need to be evaluated individually to determine the best funding package.

1.4.2 Dorchester County Sanitary District, Inc.

The Dorchester County Sanitary Commission, the governing body of the Dorchester County Sanitary District, Inc. has water and sewerage responsibilities within established Sanitary Districts. It has generally been the policy of both the County Council and the Sanitary Commission that the Sanitary Commission does not become formally involved in an area until and unless a Sanitary District or shared facility (see Appendix A) is created. The objectives indicated below are based upon the premise that this policy continues, and the Sanitary Commission does not undertake countywide water and sewerage functions. Section 1.4.3 addresses additional objectives which should be undertaken by either the Sanitary Commission or a new County agency, as Section 1.4.1.B, County Council Objectives, suggests.

A. Funds should be requested from the County Council for development of standards and policies recommended below.

B. The Sanitary Commission should develop standards and specifications for the design and construction of water and sewerage facilities to be constructed under their jurisdiction.

C. When problems have been identified and it has been determined that a Sanitary District is desirable and feasible, it should be created as quickly as possible.

D. The Sanitary Commission, through policies and standards, should ascertain that all projects under their jurisdiction are sized to provide adequate capacity for existing and future growth. Further, the Commission should monitor the usage to make sure the designed capacity is not exceeded.

E. The Sanitary Commission has direct operating and maintenance responsibility for Commission-financed water and sewer systems. Other existing public and private systems in the County may be operated and maintained by the Sanitary Commission if equitable financial arrangements can be reached.

F. The Sanitary Commission should continue to have the responsibility for shared facilities, should the owners not properly operate and maintain them. The procedural guidelines adopted by the Commission (see Appendix B) remain in effect. The Commission does not currently plan to construct, operate or maintain such systems unless the owners are in default.

1.4.3 Water and Sewerage Agency

As indicated in 1.4.1.B, the County Council should consider either expanding the duties of the Sanitary Commission or create a new agency to perform many of the water and sewerage functions on a Countywide basis that are currently not being performed regularly or by an arm of the County government. The following are objectives that should be charged to whichever entity is determined should best fill that role.

A. Funds should be requested from the County Council for limited general planning to alleviate existing problems, plus development or standards and policies for approving water and sewerage systems.

B. Grant requests should be made by the Agency to study areas of suspected failing systems or contaminated water supplies. The agency should assist and encourage groups of individuals with identified problems to find solutions to alleviate these health hazards.

C. All new subdivisions, outside municipal or Sanitary District jurisdiction, having central water and/or sewerage systems, should be reviewed by the Agency to make sure such facilities have been designed and built to the agency's standards and specifications.

D. The Agency should be responsible for seeking funding to construct, operate, and/or maintain needed facilities.

E. The Agency should make sure that systems not under the jurisdiction of municipalities or the Sanitary District are sized to meet existing and future demands. It should monitor the usage of these systems to prevent exceeding their capacities.

F. The Agency should undertake a long range study to determine the feasibility of developing an integrated water supply system serving the Upper County from East New Market to Federalsburg.

G. The Agency should periodically, but at least triannually, update this Comprehensive Water and Sewer Plan, making recommendations to the

Dorchester County Council for adoption and incorporation of any amendments made to the Plan during the year.

1.4.4 Dorchester County Health Department

A. The County Health Department should continue developing detailed analysis of areas and locations of failing septic systems and/or contaminated wells. This information will be furnished to the Water and Sewerage Agency, or whoever is currently responsible for updates for consideration in triannual updating of the Comprehensive Water and Sewer Plan.

B. The Health Department should cooperate with the Agency in seeking State and Federal grants and loans to develop sanitary systems to alleviate pollution and pollution-related health problem areas.

C. The Health Department should provide technical assistance to the Sanitary Commission in the review and evaluation of proposed shared facilities.

D. The County Health Department should continue to cooperate with private individuals to explore satisfactory alternative and innovative methods of on-site sewage treatment and disposal in areas where conventional systems will not adequately perform. The County Health Department should continue their research and monitor existing innovative systems to develop specific criteria for design and use.

1.4.5 Department of Planning and Zoning

A. The Planning Commission is the primary agency responsible for planned, orderly growth in the County. The Comprehensive Water and Sewer Plan is one of many tools the Commission uses to stimulate development in Dorchester County.

B. The Planning Commission should encourage the use of shared facilities for water and sewer service in proposed subdivisions. The Department of Planning and Zoning (which is the Commission's staff) should assist developers and coordinate tentative preliminary and final subdivision reviews between the Commission, the County Health Department and the Sanitary Commission.

C. The Department of Planning and Zoning should review proposals for shared facilities which are not in new subdivisions to advise applicants whether or not zoning requirements can be met. If hearings before the Board of Appeals is required, the staff should so advise the applicants and assist them in applying for the hearing.

D. Until a Water and Sewerage Agency is established or the responsibilities of the Sanitary Commission expanded, the Department of Planning and Zoning shall be responsible for triannual updates of this Comprehensive Water and Sewerage Plan.

1.4.6 Individual Property Owners and Developers

A. Developers of real estate in the County act within the constraints of County laws and regulations to create new housing, commercial centers and industrial parks. They have a special responsibility under the Water and Sewer Plan to propose and

provide adequate sanitary facilities at the least cost within the special constraints of water availability and sewerage disposal capability of County soils or existing sanitary facilities.

B. Consideration should be given to construction of shared wells serving two or more properties in those areas where deep aquifers are used for water supply. Such construction will reduce the number of well connections into deep aquifers and lower the cost of water supply to the individual homeowner. Shared facilities can be established through the Sanitary Commission.

C. Consideration should be given to construction of shared sanitary facilities servicing two or more properties. Such construction will lower the cost of sewage disposal, particularly in areas where soil capability for underground disposal of septic effluent is limited. Agreements with the Sanitary Commission are required as described in B. above.

D. Developers and their representatives should become familiar with the management strategies in the Groundwater Protection Report, as well as County Health Department criteria and Department of the Environment regulations so that they can better design water and sewerage facilities.

1.5 **WATER AND SEWERAGE AGENCY**

A Water and Sewerage Agency requires detailed policies for the uniform development and operation of water and sewer facilities in the County. General policies are recommended below for consideration and possible adoption once an agency is established and funding

provided. Some of these policies may also be appropriate for the Sanitary Commission and municipalities to follow.

A. All community and multi-use water and sewer facilities, except those owned and operated by municipalities, or the Sanitary Commission, may be designed and installed under the auspices of the Agency and in accordance with its specifications.

B. The Agency may determine the feasibility of all proposed public sanitary projects, the manner in which service may be obtained and the estimated cost of said service. The Agency may review privately-owned community facilities to ensure compliance with Commission standards and specifications.

C. Charges for the design, installation, operation and maintenance of water and sewer facilities shall be sufficient to cover all costs as determined by the Agency.

D. If a project is to receive private funding, a public works agreement must be executed between the owner and the Agency or County prior to final approval by Agency. All necessary private funds, surety bond or performance bond as required by the agreement shall be deposited with the Agency or County prior to the initiation of each phase of a project.

E. Health problems areas (areas of failing septic tanks or polluted wells) defined by the Health Department may be studied for correction by the Agency, upon approval by the County Council. Funds may be advanced by the County Council for this purpose. Any funds committed to a study area shall be repaid to the County, if a Sanitary District is created and bonds issued.

1.6 REVIEW AND AMENDMENT PROCEDURES FOR THE COMPREHENSIVE WATER AND SEWER PLAN

State Law, Title 9, Subtitle 503 of the Environment Article of the Annotated Code of Maryland, requires the governing body of the County, after reasonable opportunity for public hearing, to adopt triennially a County Water and Sewer Plan and have it approved by the Maryland Department of the Environment.

The adopted Plan for Dorchester County and its incorporated municipalities shall be reviewed and amended as required at least triennially. For this purpose, data forms for proposed changes should be sent by the Department of Planning and Zoning (until an Agency is established) to Municipal and County agencies each update year 6 months prior to public hearing so that a draft update can be prepared for a public informational meeting 2 months before the hearing. Municipal and County agencies will be furnished copies of the draft changes for comment. A public hearing with the County Council will then be held. Notice of the public hearing shall be advertised in a newspaper of general circulation at least 15 days prior to the proposal hearing, the County Council shall take appropriate action.

The County Council may amend the Plan as required between updates in a public hearing. Notice of the hearing must be published in a newspaper of general circulation at least 14 days prior to the hearing.

Following the hearing and decision of the County Council, the amended Plan shall be sent to the Department of the Environment for its review and final approval. The amended plan will not become effective until notification of final approval is received from the State, but, in the event the State does not approve or reject the amended Plan within 90 days, the amended Plan

shall be considered approved by the State. The State does, however, have the authority to extend the review period to 180 days.

The format of the Plan has been designed to facilitate State required amendments. Each page is dated and future amendments should be on a page for page replacement basis. The date of amendment should appear in the lower right corner of each page.

To facilitate the triennial review and update, standard water and sewer project forms and instructions have been developed (see Appendix D). It is recommended that the Department of Planning and Zoning send same to all municipalities in the County each update year six months prior to public hearing.

Persons and/or agencies desiring to amend the plan may make such a request at anytime to the County Council, who will forward proposed amendments to the Planning Department. Forms for this purpose have been developed (see Appendix D) and may be obtained from the Department of Planning and Zoning. Such forms when completed shall be reviewed by the County Department of Planning and Zoning, Planning Commission, Sanitary Commission, County Health Department, County Roads Board, and any affected municipality.

Note that inclusion of any project in the Comprehensive Water and Sewerage Plan does not commit the County or any of its subdivisions to take action to implement such project. Persons are also cautioned that additional approvals and permits by State agencies (Department of the Environment and/or Department of Natural Resources among others) are required before water and sewer projects, both public and private, can be implemented.

1.7 **ORGANIZATION**

The County Council of Dorchester County are the governing officials and local coordinating agency charged with the responsibility of developing this Plan and for implementing procedures to insure that all water supply and sewerage systems are developed in the County consistently with this Plan. The County Council also serve as the Board of Health for the County and have partial fiscal responsibility for the County Health Department.

The Dorchester County Sanitary Commission, Inc. whose Commission members are appointed by the County Council, are quasi-autonomous from the County Council under State law. While the County Council has the authority to create a Countywide Sanitary District, excluding municipalities, and place water and sewerage Districts, excluding municipalities, and place water and sewerage responsibilities with the Sanitary Commission, the County Council has not chosen to do so. The Sanitary Commission's authority is confined to the created Sanitary Districts. The County Council has delegated the responsibility of revisions to this Comprehensive Water and Sewerage Plan to the Department of Planning and Zoning. If any incorporated municipalities requested the County Council, through the Sanitary Commission, to develop design, construct, inspect, and/or operate water and/or sewerage systems within the municipal corporate limits, the Council has the authority to meet this request.

The County Council, Sanitary Commission and all municipalities are under the control of the Maryland Department of the Environment, which has jurisdiction over water and sewerage development within the State.

1.8 WATER AND SEWER PLANNING IN THE CONTEXT OF THE COUNTY COMPREHENSIVE LAND USE PLAN

Significant changes have occurred in planning policy since the adoption of the last update of this document on April 11, 1995. The Dorchester County Council has adopted a new Comprehensive Plan, replacing the outdated 1974 Plan. The new Plan represents a substantial departure from the old Plan with respect to land use policy.

In 1992, the State of Maryland adopted the Economic Growth, Resource Protection and Planning Act (the Act) which amended Article 66B (from which the County derives its planning authority). The Act established a series of land use visions for Maryland's future. Under the Act, the land use visions must be implemented upon the adoption of or amendment to a local comprehensive plan. The seven visions are:

(1) Development is concentrated in suitable areas;

(2) Sensitive areas are protected;

(3) In rural areas, growth is directed to existing population centers and resource areas are protected;

(4) Stewardship of the Chesapeake Bay and the land is a universal ethic;

(5) Conservation of resources, including a reduction in resource consumption, is practiced;

(6) To assure the achievement of the above, economic growth is encouraged and regulatory mechanisms are streamlined; and

(7) Funding mechanisms are addressed to achieve these visions.

(8) Adequate public facilities and infrastructure under the control of the county or municipal corporation are available or planned in areas where growth is to occur.

A Comprehensive Plan can no longer be viewed as a separate and distinct document from other County Plans and regulatory ordinances. The State of Maryland has determined that all County plans must be consistent with the locally adopted Comprehensive Plan. This would also hold true for any proposed plan amendments, such as a request for an individual map amendment. Ultimately, the distinction among the various County Plans have become blurred, with the Comprehensive Land Use Plan serving as the guiding document in the preparation of all other County Plans. Since the Water and Sewer Plan is intended to be a planning document, it too must be consistent with the Comprehensive Plan.

The 1996 Comprehensive Plan for Dorchester identifies specifically defined geographic areas targeted for new growth. These areas are identified on Figure 2-1 of the Comprehensive Plan, on a map labeled Land Use Concept Plan. While this map is not intended to be a zoning map per se, it is intended to serve as the basis for the Comprehensive rezoning of the County.

The Concept Map creates six land use "districts"; four of which are intended to serve as target areas for new intensive development. These "development" districts include 1) the incorporated municipalities; 2) the areas adjoining the towns; 3) the development districts and 4) the rural villages. In combination, these four districts represent approximately 10% of the land area of Dorchester County.

The two remaining districts are essentially conservation oriented; created with the intent of preserving the County's rural character and strong agricultural base. The Natural Resource Area is intended to include most of the land within the Resource Conservation Area (RCA)

portion of the Critical Area, as well as lands currently under Federal and State Wildlife Management. While most of this land is located in the southern half of the County, it does extend northward towards the Neck election district and also extends northward along the Marshyhope River. The Natural Resource Area alone represents about 55% of the County. The Agricultural Areas are where the preferred land use will be agriculture, agribusiness and forestry. These are generally found in the northern half of the County.

Since future growth is targeted to the County's development districts, it is imperative that the infrastructure be available and adequate to serve the additional demands of this growth. Since all sewage treatment facilities in the County are owned and controlled by municipalities, the County government per se is not in a position to effectuate the extension of these central sewerage service areas. The municipalities have historically guarded against providing water and sewer service beyond municipal boundaries unless forced to do so. This, in combination with other social and economic reasons, has caused development patterns in the recent past in Dorchester County to mirror that of the nation as a whole; that being a flight from urban areas to rural areas. During the period of 1970 - 1990, two out of every three dwelling units built in Dorchester County were located outside of a municipality.

It should be noted that while the County has adopted regulations which have as their intent the channeling of new development into its growth areas, it must be acknowledged that, to some degree, rural development will continue to be driven by market demand. In anticipation of this, the County Comprehensive Plan suggests that new development in conservation areas be encouraged to cluster in an attempt to preserve as much of the rural character of the area as possible.

As a means of providing waste disposal to a clustered project in rural areas, three types of systems come to mind; shared facilities, multiple-use single ownership facilities and package treatment plants. Dorchester County has extensive experience with shared facilities, having over 40 such systems constructed to date. Multiple-use single ownership facilities, such as shared septic fields, have been successfully used to serve several of the County's mobile home parks. To date, the County has had no experience with package treatment plants, although they have been proposed on several occasions.

The point to all of this is that Dorchester County recognizes that these systems represent a viable alternative means of providing waste disposal in those areas of the County where municipal systems will not be extended. The construction of these systems in the conservation areas of the County should not, in and of itself, be viewed as incompatible with the Comprehensive Plan. It is necessary to look at the scope of the project and its consistency with the zoning ordinance rather than passing judgment on project consistency based on the means of waste disposal. While the County is adopting regulations which discourages development in conservation areas, it also recognizes that some level of development will continue to occur in those areas and that shared or gang systems provide opportunities to preserve open spaces and natural resources. In fact, the County encourages the clustering of development in conservation areas by providing density bonuses to such projects.

1.9 **WATER AND SEWER PLANNING PRINCIPALS**

The following planning principals are intended to be incorporated into the Water and Sewer Plan and to be used as guidance for future decisions relative to the Plan’s amendments and updates:

1. Promote development in and around municipalities which provide water and sewer services.
2. Discourage sprawl development and “leapfrogging” into rural areas that are not planned for growth.
3. Give priority focus to maintaining and improving existing system infrastructure.
4. System capacity should be allocated under the framework of smart growth. Municipalities should reserve capacity for “infill” development.
5. Ensure the financial integrity of existing community water and sewer systems. Since these services are typically run as “enterprise funds” intended to be self sufficient, water and sewer rates must be set at levels to ensure that long-term capital improvement cost of the system are recovered.

1.10 **POLICY ON DENIED ACCESS LINES**

In order to properly regulate development and direct growth to appropriate locations in accordance with the Dorchester County Comprehensive Plan, access is not permitted to lines identified as “denied access lines” on the official Dorchester Water and Sewer Service Area maps except for the following:

1. To provide service only to parcels programmed for water and sewer service designated on the Water and Sewer Plan maps and in the Dorchester County Comprehensive Plan, and.
2. To provide a single hook-up to an existing residence or farm operation located on property adjoining a right-of-way containing the line and which was an existing use as

of the date the denied access line was adopted as part of the Comprehensive Water and Sewer Plan, or

3. To provide service to properties where a written agreement with the County executed prior to the adoption of the denied access designation obligated the County to permit access to the particular line to provide service to a specific property, or
4. To provide service to areas where the Dorchester County Health Department determines access is necessary and reasonable alternatives are not available to solve an existing health-related problem and the County Council agrees to permit access to the line.

Any change to the status of a denied access line will require a finding of consistency with the Dorchester County Comprehensive Plan by the Dorchester County Planning Commission and an amendment to the Comprehensive Water and Sewer Plan.

CHAPTER 2 – BACKGROUND INFORMATION

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2.1 GENERAL

Dorchester County, centrally located on Maryland's Eastern Shore, is the largest of the nine Eastern Shore counties and fourth largest in the State. It is bounded on the west by the Chesapeake Bay, on the north by the Choptank River and Caroline County, on the east by Caroline County, the Nanticoke River, and Delaware, and on the south by Tangier Sound, Fishing Bay, Holland Straits and the Chesapeake Bay.

The physical, social, economic, land use, and planning factors relative to proper evaluation of water and sewer requirements are presented herein. Some of the text and tables in Chapter 2 are taken from publications in the List of References at the end of this Plan.

2.2 **PHYSICAL CHARACTERISTICS**

2.2.1 Topography and Drainage

The topography of Dorchester County is quite flat with a maximum elevation of approximately fifty (50) feet above sea level in the northeastern section of the County and dropping to less than a foot above sea level in the southern areas.

About 60% of Dorchester is subject to tidal flooding in a 100 yr. storm. Dorchester County participates in the Federal flood insurance program, which includes areas expected to be inundated in a 100 year flood. The County has maps depicting the 100 year floodplain Federal Insurance Rate Maps (FIRM), and the County's participation in this FIRM program became effective October 15, 1981.

Under the FIRM program, no new residential structures or substantial improvements are to be constructed below the expected flood elevation. Non-residential structures are either to be raised above the 100 year floodplain elevation or are to be floodproofed up to the floodplain elevation. Necessary water and/or sewer systems below the flood elevation are to be

floodproofed. The base flood elevation in Dorchester is five (5) or six (6) feet above mean sea level, based upon the National Geodetic Vertical Datum of 1929 reference point.

Using Coastal Zone Management funds, the County established reference benchmarks at about 1 mile intervals along roads in most of the 100 year flood areas. From these benchmarks, the elevation for placing structures or facilities on a particular property can be more easily determined.

Soil characteristics are such that the County can be broadly divided into three general areas, namely: (1) well drained, (2) poorly drained, and (3) marsh or swamp lands that are either tidal or fresh water.

The land north of U.S. Route 50 is generally well drained. The land south of Route 50 and west of Cambridge is mainly poorly drained. Much of the land, (approximately 27% of the entire land area) is either tidal marsh or fresh swamp land. Practically all of this latter area lies in the southern portion of the County.

The majority of the County, according to the Maryland Water Resources Administration's watershed designations, drains into the Nanticoke River Area (sub-basin code 02-13-03). Included in this watershed within the County are Marshyhope Creek, the Chicamacomico, the Transquaking, the Little Blackwater, and Blackwater Rivers and part of the Nanticoke River. The headwaters of the Nanticoke River extend into Wicomico and Caroline Counties and the State of Delaware. The other major watershed in the County is the Choptank River Area (sub-basin code 02-13-04) and includes the Choptank, Little Choptank and Honga Rivers. This Area extends into Talbot, Caroline, and Queen Anne Counties and Kent County, Delaware. Due to the low elevations and flatness of the land, most of these rivers and their tributaries are subject to tidal influence even near the upper reaches of their watersheds. Therefore, it is evident that

drainage patterns and soil associations have marked effects on area development and population concentrations.

2.2.2 Groundwater Protection

In 1985 the State of Maryland modified the regulations for sewage disposal for homes where a public sewage system is not available, COMAR 26.04.02, so that groundwater resources could be better protected. The principal mechanism for protecting groundwater resources is the provision of an adequate "soil treatment zone" below any septic system infiltration trench or bed. The regulations require at least four feet of unsaturated, unconsolidated soils capable of treating the sewage effluent before entering the groundwater. The regulations also allowed that in the coastal plain where a four foot treatment zone is not available, the County may identify areas where a reduced treatment zone is allowed provided a management plan to protect the groundwater resources is approved. Most of the soils in Dorchester County have a seasonally high water table and a four foot treatment zone is not available. The County prepared the "Groundwater Protection Report for Dorchester County". in June of 1988 to provide a management plan for protecting the groundwater resources in these areas. The Plan was adopted by the County Commissioners in September 1988 and the Maryland Department of the Environment approved it in December 1988. This document is incorporated by reference. This plan is summarized below, and the entire document is available for review at Dorchester County Health Department and the Dorchester County Planning & Zoning Office.

The Report delineated the county into four geographical management areas designated A, B1, B2, and C. These divisions are based upon hydrogeologic conditions and existing the aquifer water quality and use patterns. The location of the management areas are shown on exhibit 2-A.

Area A is in the northeastern part of the County. It is characterized by thick, permeable sands and gravels with few confining materials to slow and treat the effluent before reaching groundwater. It is also characterized by shallow drinking wells. Because of the potential of effluent contaminating wells, Area A is subject to the maximum protection of the near surface water supply. The types of systems allowed under specified conditions are shown on Table 2-7, Management Strategy Area A.

Area B1 is comprised of a small portion of Dorchester to the west of Area A bordering the Choptank River. It has 5 feet of confining materials to protect the underlying aquifers from sewage effluent. These confining beds may be seasonally saturated by the high water table, thus reducing the treatment zone during the high water table. Table 2-8 Management Strategy Area B1 depicts the conditions under which designated sewerage disposal systems are allowed.

Area B2 is comprised of the western and southwestern part of the County. It, like Area B1, also has at least 5 feet of confining materials, but it has groundwater near the ground surface for, possibly, all the year. The types of systems allowed under which conditions is shown on Table 2-9, Management Strategy Area B2.

Area C is in the southeastern part of the County. Inadequate data exists to classify the area as A or B, although it is anticipated that with the development of more information, Area C will most likely become a "B" area. Because of this uncertainty, the requirements for Area C, shown on Table 2-10, Management Strategy Area C are more stringent than those for the B areas.

The Groundwater Protection Report further requires additional well-drilling measures to help protect the aquifers. In Area A, wells must be at least 50 feet deep, and wells in unconfined aquifers must have grouting to the top of the screen. In B1, B2 and C, where aquifers must be

confined, wells are to be grouted through the disposal stratum and 5 feet into the aquilude above the aquifer of use via a tremie pipe.

On-site soil evaluations still need to be conducted to determine the treatment zone conditions. Once that work is done, however, the type of systems allowed can be more easily and consistently determined, based upon this report.

2.3 **POPULATION TRENDS**

2.3.1 Population Characteristics

Over the past 120 years, Dorchester County has experienced modest growth from 23,110 persons in 1880 to 30,674 in 2000, with a few periods of decline in between. Although the State of Maryland has grown rapidly during the last century, Dorchester has not been a part of the State's growth from a rural to a metropolitan climate. The County's share of the total State population has steadily declined from 2.5% in 1880 to 0.58% in 2000.

Within the County the population has shifted away from the southern portion to the northern parts of Dorchester, including some of the towns. This trend is a reflection of the migration of employment centers, both inside and outside of the County. Whereas at one time the maritime industry supported the population of the southern county, this is no longer true today. Since the manufacturing base is centered in Cambridge and Hurlock, these areas and their suburbs have grown accordingly. In addition, the growth of Caroline and Talbot Counties, MD. and Sussex County, DE. have contributed to the population growth in northern Dorchester County.

2.3.2 Water and Sewer Planning Demographics

In the context of this Plan, the overall county population trends are not nearly as significant as the more specific trends for growth in the areas served by municipal sewer service.

These are the areas described in Table 2-1. In Dorchester County, the municipalities of Cambridge, Hurlock, Vienna, and Twin Cities (ENM and Secretary) are the owners and operators of waste-water treatment plants. The County government has no control over these systems and therefore cannot dictate where and how the service areas are extended. The Dorchester County Sanitary Commission does have written agreements with the City of Cambridge to provide system maintenance, updating and billing to approximately 2,200 persons outside of the Cambridge City limits. Those agreements define the physical boundaries of the service areas, provide for a maximum daily flow from each sanitary district, establishes a user rate, etc. Within the established district boundaries, the Sanitary Commission (a quasi-county agency) does control the extension of municipal sewer services. Any extension, however, must be within the agreed upon flow limit set by the agreement.

Based on the data from Table 2-1, approximately 55% (16,839 people) of the County's population is served by municipal sewer. Of this number, 13, 820 live within the town limits of a municipality providing sewer and/or water service. This leaves approximately 3,000 persons receiving municipal sewer and/or water service who do not reside within a municipality. The majority of these persons reside in one of the county Sanitary districts; the remaining persons live in West Vienna, Depot, Green Point, or just outside of Hurlock. These are existing communities which, due to failing systems, were extended community sewer or water services by the towns of Vienna, East New Market, Secretary and Hurlock, respectively.

With respect to growth trends over the last 20 years, the collective population of the county's municipalities has decreased by 5% from 14,847 in 1980 to 14,046 in 2000. Conversely, growth in the "non-municipality" portion of the County has grown by 5% from 15,776 persons in 1980 to 16,628 in 2000.

This Plan anticipates a reversal of that trend in the next twenty years. While growth in the non-municipal portion of the County will continue to grow at a rate similar to past trends, we anticipate increases, not decreases, in population, particularly for the City of Cambridge, Hurlock and Vienna. Growth in the City of Cambridge will be significant if the City remains on its aggressive course of encouraging new development both within existing city limits and through annexation.

It is evident that part of the pro-growth phenomenon in Cambridge can be explained by what some might characterize as recent "anti-growth" sentiment in Queen Anne's and Talbot Counties, where several major developments have been successfully defeated by community groups. This has forced developers to look toward other eastern shore communities for new markets. Cambridge is well-positioned to serve this need; it has significant unreserved capacity in its wastewater treatment system, pro-growth elected officials, a significant waterfront and creek, and has benefited by the opening of the Hyatt Regency Chesapeake Bay Resort.

The City of Cambridge is on the verge of a level of growth and development unprecedented in its recent history. After decades of very little new residential development, there are currently over 1,300 hew housing units proposed in over a dozen new housing developments which have been formally submitted to the City government. These projects are in various stages of approval; some are under construction, some have been given final approval but not started while others are still in the approval process. This represents a tremendous influx of new housing units when one considers that, according to 2000 US Census Bureau data, Cambridge only has 4,629 occupied housing units. It is almost certain that population projections for Cambridge did not take this phenomenon into consideration and that, should most

or all of these projects come to fruition, Cambridge and Dorchester County will experience higher than anticipated population growth.

While the Town of Hurlock might not benefit directly from the factors described above, its Town officials have historically focused on maintaining adequacy of their infrastructure and on strengthening their employment base as a means of encouraging growth in their town. As a result, Hurlock is the only municipality in Dorchester to have a record of substantial growth from 1970 to 2000.

The Town of Vienna is currently considering a new major development project located on the south end of town which could ultimately add an additional 180 dwelling units to the housing stock. If approved, this single project would consume the majority of the Town's excess capacity.

The smaller towns of Secretary and East New Market each have limited capacity (East New Market and Secretary share a single treatment plant) for growth, and it is likely that neither town sees itself as a regional growth center. These small towns are more concerned with maintaining their "small town" atmosphere and with providing basic service to existing residents and infill properties.

2.3.3 Projected Water and Sewer Capacity Needs

One of the primary functions of water and sewer planning is to ensure that existing systems are adequate to serve existing and planned growth within a 10 year planning period. Projecting the exact location and timing of this growth is difficult since the private market drives these matters. As stated earlier, the County does not own or operate any wastewater treatment plant. There is no County capital budget for the planning or construction of wastewater conveyance systems for planned service areas. To a large extent, the same can be said for the

municipalities with wastewater treatment facilities – extensions to their systems are typically privately funded as part of the cost to the developer requesting extension of services. Because of the lack of public funding for water and sewer infrastructure planning in Dorchester County, the Water and Sewer Plan appears to be more of an inventory rather than a planning tool.

Table 2-4 describes the current status of the wastewater treatment capacity for the municipal WWTP's in Dorchester.

Municipalities which possess excess wastewater treatment capacity must be careful to "reserve" the portion of that capacity necessary to serve the infill and revitalization needs of the existing municipality. Cambridge is currently the only municipality in the County with significant excess capacity. Hurlock's system is designed to serve many times over the actual population of the town, however, because of the large quantities of industrial waste discharged into the system, the capacity for residential growth is limited. Both Vienna and the Twin Cities treatment plants have limited gross adjusted capacity available, although it should be adequate to serve projected demands for the next ten years.

Table 2-1
Current and Projected Populations
County Municipalities and their service areas

	2000	2010	2020
Hurlock[1]	2,130	2,240	2,350
Cambridge	10,911	11,991	13,071
Twin Cities[2]	838	861	905
Vienna[3]	518	564	626
Sanitary Commission[4]	2,531	3,179	3,210
Total	16,928	18,835	20,162

[1]Includes Town of Hurlock proper and water service to Mission Hill and Jones Village/Skeet Club Road.

[2]Includes Town(s) of East New Market and Secretary proper and sewer service to Green Point area.

[3]Includes Town of Vienna proper and sewer service to West Vienna.

[4]Includes sanitary districts for West Cambridge, Church Creek, Jacktown and Bonnie Brook. Projections assume expansion of Sanitary District #3 to include the Madison/Woolford service district by year 2010.

Table 2-2
Population Change, Dorchester County and Incorporated Towns
1970-2000

	1970	1980	1990	2000
Brookview	95	78	64	65
Cambridge	11,595	11,703	11,514	10,911
Church Creek	130	124	113	85
East New Market	251	230	153	167
Eldorado	99	93	49	60
Galestown	123	142	123	101
Hurlock	1,056	1,690	1,706	1,874
Secretary	352	487	528	503
Vienna	358	300	264	280
Total Towns	14,059	14,847	14,514	14,046
Total Dorchester County	29,405	30,623	30,236	30,674
County Minus Towns	15,346	15,776	15,722	16,628

Table 2-3
Projected Demographic Change, Dorchester County 1990-2020

	1990	2000	2010	2020	%Δ 1990-2020
Population	30,236	30,674	31,751	32,250	5%
Household Pop[1]	29,750	30,004	31,113	31,570	5%
Households	12,117	12,706	13,468	14,093	13%
Average Household Size	2.46	2.36	2.31	2.24	

[1]Excludes Group Quarters Population
Source: 1996 Dorchester County Comprehensive Plan, US Census

Table 2-4
Municipal Wastewater Treatment Capacity

Municipal WWTP	Permitted MGD	2001 Average Flow MGD	Projected 2020 Flow MGD
City of Cambridge	8.1	4.714	7.0
Town of Hurlock	1.022	.833	1.062
Town of Vienna	.137	.051	.137
Twin Cities WWTP	.28	.090	.118

Source: Dorchester County Health Department
City of Cambridge

Table 2-5
Comparison of Housing Stock Characteristics
1970-2000

	1970	1980	1990	2000
Total Housing Units	10,992	12,753	14,269	14,681
Total Occupied	9,725	11,329	12,117	12,706
% Occupied	88.5	88.8	84.9	86.5
Average Number of Persons per Occupied Unit	3.02	2.70	2.49	2.39
Total Vacant or Seasonal	1,267	1,424	2,152	1,975
Seasonal Only	182	411	860	613

Table 2-6
Dorchester County Population by Election District

Election District	1980 Pop.	1990 Pop.	2000 Pop.
1. Fork	1,833	1,825	1,881
2. East New Market	1,983	2,023	2,233
3. Vienna	1,089	929	908
4. Taylors Island	293	269	270
5. Lakes	530	478	402
6. Hoopers Island	759	640	587
7. Cambridge	14,147	13,913	13,261
8. Neck	833	916	934
9. Church Creek	635	567	615
10. Straits	647	521	479
11. Drawbridge	91	82	85
12. Williamsburg	1,048	1,026	1,180
13. Bucktown	603	482	464
14. Linkwood	2,106	2,591	2,698
15. Hurlock	3,207	3,272	3,806
16. Madison	423	401	557
17. Salem	299	222	228
18. Elliott Island	97	79	86
Totals	30,623	30,236	30,674

TABLE 2-7
MANAGEMENT STRATEGY AREA A

SEWAGE DISPOSAL OPTIONS AND REQUIREMENTS								
Unsaturated Natural Soil Thickness Beneath Bottom of Sewage Disposal Trench	Soil Textures	Minimum Lot Size	Conventional	Alternative	Aquifer Type	Minimum Separation Distances: Wells & SDS/SRA	Minimum Depth	Minimum Grouting Depth
1. > 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03	Gravity Trench	Shallow Pressure Dosing Trench	Unconfined Confined	100 feet 50 feet	50 feet N/A	Top of screen COMAR 26.04.04 Requirements
2. 2 to 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03		Sand mound*	Unconfined Confined	100 feet	50 feet N/A	Top of screen COMAR 26.04.04 Requirements
3. 2 to 4 feet	Sandy Loam or Finer	2 acres	Gravity Trench	Shallow Pressure Dosing Trench	Unconfined Confined	100 feet	50 feet N/A	Top of screen COMAR 26.04.04 Requirements

* = At grade sand mound may be utilized provided all other requirements met.

TABLE 2-8
MANAGEMENT STRATEGY AREA B1

SEWAGE DISPOSAL OPTIONS AND REQUIREMENTS								
Unsaturated Natural Soil Thickness Beneath Bottom of Sewage Disposal Trench	Soil Textures	Minimum Lot Size	Conventional	Alternative	Aquifer Type	Minimum Separation Distances: Wells & SDS/SRA	Minimum Depth	Minimum Grouting Depth
1. > 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
2. 1 to 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03		Sand mound*	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
3. 1 to 4 feet	All	2 acres	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
4. 0 feet	All	2 acres		Sand Lined Trench	Confined	150 feet	N/A	Through disposal stratum & 5' into lower confining layer

* = At grade sand mound may be utilized provided all other requirements met.

TABLE 2-9
MANAGEMENT STRATEGY AREA B2

SEWAGE DISPOSAL OPTIONS AND REQUIREMENTS								
Unsaturated Natural Soil Thickness Beneath Bottom of Sewage Disposal Trench	Soil Textures	Minimum Lot Size	Conventional	Alternative	Aquifer Type	Minimum Separation Distances: Wells & SDS/SRA	Minimum Depth	Minimum Grouting Depth
1. > 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
2. 1 to 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03		Sand mound*	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
3. 1 to 4 feet	All	2 acres	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
4. 0 feet	All	2 acres		Sand Lined Trench	Confined	150 feet	N/A	Through disposal stratum & 5' into lower confining layer
5. 0 feet	All	4 acres for Parcel of record 5 acres in a subdivision		Bermed Infiltration Pond	Confined	150 feet		Through disposal stratum & 5' into lower confining layer

* = At grade sand mound may be utilized provided all other requirements met.

TABLE 2-10
MANAGEMENT STRATEGY AREA C

SEWAGE DISPOSAL OPTIONS AND REQUIREMENTS								
Unsaturated Natural Soil Thickness Beneath Bottom of Sewage Disposal Trench	Soil Textures	Minimum Lot Size	Conventional	Alternative	Aquifer Type	Minimum Separation Distances: Wells & SDS/SRA	Minimum Depth	Minimum Grouting Depth
1. > 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
2. 2 to 4 feet	All	Based on Zoning & COMAR 26.04.02 & 26.04.03		Sand mound*	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer
3. 1 to 4 feet	All	2 acres	Gravity Trench	Shallow Pressure Dosing Trench	Confined	100 feet	N/A	Through disposal stratum & 5' into lower confining layer

* = At grade sand mound may be utilized provided all other requirements met.

CHAPTER 3--WATER

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3.1 **GENERAL**

Descriptions of existing, planned and future requirements for water service areas in Dorchester County are included in this Chapter. Also, supplemental maps, tables, and references are provided to give a comprehensive picture of existing and future water use in the County. Water service use categories include W-1, W-2, and W-3. W-1 means existing or construction within one year. W-2 means construction within 2 to 5 years. W-3 means construction within 5 to 10 years. And finally no designation indicates that no construction is contemplated within the 10 year planning cycle. Water use predictions are based on past and present use, population projections, industrial and agricultural trends, public reaction to expansion, soil conditions, and political and financial contingencies.

Although about 38 percent of the County is covered with water (surface water, marsh and/or swamp), very little of this surface water can be used except to provide irrigation since the water is generally brackish and unpalatable. Therefore, the prime source of potable water for Dorchester County is groundwater and the needs of the County are such that this source probably will be adequate through the end of the century. The Corps of Engineers has projected a 12 million gallon per day deficit by the year 2020 for the entire Delmarva Peninsula. Thus, it is important for Dorchester County to practice conservation to protect its valuable groundwater resources and to plan now for eventual use of surface supplies to supplement groundwater resources.

The Critical Area Protection Program will impose more stringent development limitations over large areas of Dorchester County. Most development will be prohibited in the Resource Conservation Areas and restricted in the two development zones. This action will have the effect

of transferring the pressure for new development to interior sections of north and central Dorchester County.

The Critical Area program also encourages consolidation of new development near existing communities and subdivisions. This strategy enables the provision of improved water supplies and other public services at lower costs, and is consistent with principles embodied in the Dorchester County Comprehensive Plan and in this Water and Sewerage Plan.

Water supply plans should be amended as necessary to account for the redistribution of future development brought about by the Critical Area Protection Program. Engineering solutions will be needed to minimize adverse environmental impacts and reduce costs associated with the provision of appropriate water supply facilities.

3.2 **COUNTY WATER USE**

Potable water in Dorchester County is derived entirely from underground sources. Most of the water used is produced by community systems with the remainder coming from private individual or industrial wells. In this report, actual flows and per capita uses are noted where available. Otherwise, a design use of 100 gallons per capita per day is assumed.

3.2.1 Drinking Water Quality Standards

The Federal "Safe Drinking Water Act" (Public Law 93-523) and the Maryland Department of the Environment COMAR 26.04.01 “Quality of Drinking Water in Maryland” provide the legal basis for control of drinking water quality supplied by public water systems. A "public water system" is defined as:

a system that provides water for human consumption to the public through pipes or other constructed conveyances, if the system has at least 15 service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

This definition includes any collection, treatment, storage and distribution facilities under control of the operator of the system and used primarily in conjunction with the system, and any collection or pretreatment storage facilities not under that control which are used primarily in connection with the system.

All public water systems which fit this definition and are not exempted based on COMAR 26.04.01.02 are required to comply with the specified maximum contaminant levels (MCL's), minimum monitoring and public notification requirements. Since the implementation of these laws, water quality parameters previously unreported such as heavy metals, radioactive substances and organic pesticides and herbicides have been checked and levels established for future monitoring and analysis comparisons. The public served by these supplies will become more aware of the quality of their water and hopefully any toxic buildups will be averted.

In 2001 the U.S. Environmental Protection Agency lowered the maximum contaminant level for arsenic in drinking water in public water systems from 50 ppb to 10 ppb. The Maryland Department of the Environment is expected to adopt that same MCL in 2003. The standard will than apply to all drinking water supplies in Maryland including all new individual wells.

The Dorchester County Health Department has been routinely sampling all new wells for arsenic, and has identified 2 areas of concern where arsenic levels in groundwater exceed 10 ppb. The largest area is in the Aquia aquifer in the Neck, Madison and Taylor's Island districts. The arsenic levels in this area have ranged from 3 – 25 ppb with a mean of 14 ppb. The other area is a

narrow strip in the Piney Point aquifer oriented northeast to southwest from Cabin Creek to East New Market to Airey's to Bucktown. The arsenic levels in this area have ranged from 6 – 23 ppb. The wells that supply the water systems in Secretary, East New Market and Heritage Mobile Home Park are screened in the Piney Point and have arsenic levels exceeding 10 ppb. Water from the Piney Point aquifer in all other areas of the county has been found to have arsenic levels generally less than 10 ppb.

In these areas, the provision of drinking water with less than 10 ppb of arsenic will probably require either treatment or the use of alternative aquifers. Treatment technology for arsenic removal is at this time not yet widely tested. Alternative aquifers may be available, but have not yet been fully explored.

3.2.2 Master Planning

The Comprehensive Water and Sewer Plan is primarily oriented to facilities planned for construction within the next ten years. However, the useful life of major water facilities is much longer and planning periods of 30, 50 or even 100 years are often considered. Within these planning periods, substantial residential and industrial growth may occur along the major arteries in the northern area of the County. Previously separate communities such as East New Market and Secretary may be joined by development of presently vacant land.

Proper management of potable water resources require recognition of the possibilities of future growth factors. In this regard, the most important feature is compatibility between water systems; compatibility which will permit the joining together of separate systems for major fires, other emergencies or even joint distribution service. This requires a common static water pressure for each system. Such water pressures are usually stated in terms of the overflow

evaluation of elevated storage tanks. The topography of Dorchester County is such that one common zone can be established for the entire County. It is recommended that a common pressure zone with overflow elevation of 150 feet above mean sea level be created.

The present water systems of Cambridge, East New Market, Hurlock and Sanitary District No. 2 are compatible with this pressure. Other existing municipal and private systems should strive toward compatibility as old, existing tanks are replaced and/or new tanks added.

The County should require that all new community and industrial water systems be developed in compliance with the 150-foot static water elevation requirements.

Another important consideration in developing compatible water systems is the adequate sizing of major distribution mains which one day may connect two or more systems. The actual diameter of such mains requires detailed engineering study, but regional consideration in the sizing of mains should be required by the County along all major highway routes connecting existing towns (such as State Route 392 between East New Market and Hurlock).

3.2.3 Dry Hydrants

The County Planning Commission has long expressed concern over the lack of an adequate water supply for firefighting particularly as development occurs in the north Dorchester area away from municipal sources of water. As a result, the Planning Commission reviews each new development in the County as to the feasibility of installing a “dry hydrant” at or near the project site. The Planning Commission will require the installation of these hydrants when feasible. The hydrant can be installed in those man-made or natural water bodies where a perennial source of water (ground or surface) is available at least 2’ below and at least 2’ above the installed pipe (typically PVC). Bermed infiltration ponds are excellent candidates for dry

hydrants since they are constructed in a way that ensures a year-round source of water. Stormwater management ponds may also serve as dry hydrants, depending on the soils in the area. Of course, naturally occurring water sources such as rivers and creeks may also be used. Technical assistance for the permitting and construction of dry hydrants is available through the RC & D Council.

3.2.4 Shared Water Facilities

The 1985 Maryland Legislature amended the Sanitary District law to better define the parameters for Shared Facilities in Dorchester County. Under this law, water systems serving 14 or fewer properties can be constructed, operated or maintained. Shared Facilities are established at the discretion of the Sanitary Commission after approval of property owners petitions, maps and plans for the shared facility. Annual assessments and benefit charges are levied to recover not less than the actual costs expended for a shared facility.

The law allows for broad application including the construction of facilities by the Commission if desired. Both new and existing properties can come under the law. In general application however, the developer of a small subdivision with shared facilities is likely to want to construct these facilities himself and recover the cost in the sale of the land. Property owners in a development will probably want to operate and maintain a shared facility at their own expense. Thus for most cases, there is little reason for the Sanitary Commission to be involved in a shared facility unless a dispute arises over its operation or maintenance. Then under the Shared Facilities Law, the Commission with presigned agreements can step in and operate or maintain the facility; charging the users thereof for any costs involved. Approval of shared facilities would be automatic provided the standard agreement was executed, the Local Health

Department approved the technical aspects of the shared facility and the Planning & Zoning requirements including subdivision regulations were met.

All shared water facilities would be considered in compliance with the Dorchester County Water and Sewerage Plan if they meet the following requirements.

1. Plans and specifications are approved by the Dorchester County Health Department and Maryland Department of the Environment.
2. Subdivision (where required) is approved by the Planning Commission and any variances or special exceptions approved by the Board of Appeals.
3. Passage by Sanitary Commission of formal resolution and recording of shared facility agreement in the land records of Dorchester County. Addition to the Water & Sewerage Plan by reference to resolution number and basic description of the shared facility within 6 months of the recorded resolution.

3.3 **WATER SERVICE AREAS**

The eighteen water service areas in Dorchester County correspond to the eighteen election districts in the County. This was done because of general local familiarity with election districts and because of the wealth of socio-economic and population data available for projection purposes on an election district basis. Numbers of election districts and service areas are the same.

3.3.1 Fork (District 1)

The Fork District is located in the extreme northeast section of Dorchester County between Federalsburg and Vienna. Forest and agriculture are the principal land uses in the area which comprises 57.3 square miles. The area had a 2000 population of 1881 persons scattered

throughout (density 33 persons per mile) and is the fifth largest election district in terms of population. Small concentrations of people are located in the municipalities of Galestown (population 101), Eldorado (population 60) and Brookview (population 65).

The present estimated residential water demand in the Fork District is 0.18 mgd. This estimated demand is being met by private individual wells except for one community well serving the Reliance Mobile Homes development. Wells in the Fork area are generally in the Pliocene-Pleistocene Aquifer at depths ranging from 16' to 65', some of these shallow wells have nitrate problems. Several wells in and near Brookview are located in the Choptank Aquifer at depths of 165' to 230'.

The Reliance Mobile Homes development is served by a community well, four inches in diameter drilled to a depth of 100' in the Pleistocene Aquifer. Pumping capacity is 50 gpm provided by one well mounted pump. Water is pumped from the well into two 500-gallon hydropneumatic tanks and then distributed through a system of four inch and three inch mains without further treatment to 75 trailer units. A large pond provides water for fire protection. The subdivision contains 100 approved lots, of which 75 have been developed. There are no current plans to expand the size of the park or water system.

It is felt that the small communities of Galestown, Eldorado and Brookview will not require central water service within the next ten years. Very shallow wells in the Pliocene-Pleistocene Aquifer should be investigated for contamination. If any are found, owners should be encouraged to develop new deeper wells in the same formation.

3.3.2 East New Market (District 2)

The East New Market area, comprising 26.5 square miles, is located in the northeastern portion of Dorchester County and abuts the Choptank River. Principal communities in the area are the close but distinctly separate municipalities of East New Market and Secretary as shown on Exhibits 3-B and 3-C, respectively. The general area is characterized as farmland with some forest area. Sections along the Choptank and Warwick Rivers have waterfront development and this use is likely to increase. The area has a well defined road system and the railroad passes through East New Market.

The 2000 population was 2223 persons, making the East New Market area the fourth largest election district in the County. Population density averages 84 persons per square mile. The area is expected to grow substantially by the year 2010. Most of this growth is expected to occur outside of the incorporated towns of East New Market and Secretary, which had 2000 populations of 167 and 503 persons respectively.

Private wells in the area are generally founded in the Choptank Aquifer at depths of 150'-210'. Several wells are located in the shallow Pliocene Aquifer 15'-21' deep and the Calvert Aquifer approximately 300' deep. The Piney Point Aquifer is used by East New Market and Secretary in their community water systems. These wells range in depth from 470' to 580'. Current water demand is estimated to be 175,000 gpd.

East New Market's central water system supplies approximately 35,000 gallons per day to 315 persons. The Town's original well, drilled in 1916, is developed in the Calvert Aquifer at a depth of 225' and has an estimated rated capacity of 70 GPM. In 1978, a new well was developed in the Piney Point Aquifer at a depth of 522'. The new well is ten inches in diameter

and has a safe yield of 260 GPM. This well is now used to provide the Town with its primary sources of water. The original well is still utilized, as a back-up for the new well. Both wells provide the residents of East New Market with water of a good drinking quality. All water supplies are disinfected utilizing gas chlorination systems.

The Town's distribution system consists of six inch and four inch water mains located along State Routes 14 and 16 with smaller branches along intersecting streets. The majority of East New Market's water system was constructed in 1916 and was not adequate for the town's needs.

Accordingly, the Town completed construction on a new 8 inch main along State Route 16 that is interconnected with the previously existing distribution system and has enhanced water distribution and pressure. This addition was completed in the summer of 1981. Additional hydrants for fire protection and replacement of some badly deteriorated house services were also undertaken.

Water storage for the Town of East New Market was provided by a 25,000 gallon elevated tank with overflow elevation set at 147.3'. The tank was originally constructed in 1916 and was in a severely deteriorated condition threatening public health and safety. Accordingly, the water improvements project also included construction of a new elevated storage tank. The new tank provides a total storage capacity of 100,000 gallons with the overflow elevation set at 148.3'. The Town's existing tank was dismantled. All water system improvements were funded with a combination loan/grant from the Farmers Home Administration.

The Depot area, recently annexed into the Town of East New Market, consists of 55 dwellings. The majority are low income, minority owned residences that currently have severely

inadequate individual water supplies and fire protection. East New Market's water system improvements project also included expansion of the Town's water system by installing a new 8-inch water main across State Route 392 in order to provide fire protection and a safe and adequate water supply to the Depot area.

In 2000, a water and sewer project was completed whereby an 8” water main replaced the existing 6” and 4” mains or Main Street, with an 8” extension down Linkwood Road to MD 392. Additional Fire Hydrants were added to improve fire protection. Also an 8” distribution system was constructed in the newly annexed Depot Area to fully service the area with water and fire protection. At the same time the whole town was fully metered with water meters and all house connections were replaced to eliminate all lead connections.

High nitrate levels exist in many of the wells in the Hubbard (Railroad Hill) settlement. It is not known whether this is due to cross-contamination or agricultural fertilizers seeping into the shallow wells. New deeper wells are needed and the area requires investigation to determine whether a community water system should be constructed.

Heritage Mobile Home Park, located southwest of East New Market has completed its first phase of development, 39 units. It is served by a 4" well that is at a depth of 500 feet in the Piney Point Aquifer and capable of pumping 50 or 60 gpm. Total development calls for 78 units, but restrictions on pumping station capacity in East New Market presently precludes any further development of additional units. Originally the mobile home park was to be served by a central water system connected to the East New Market system but an agreement could not be reached between the Town and the owner. A priority of W-2 (construction within up to 5 years) has been assigned to this area.

Expansion of central water and sewer facilities in East New Market should encourage additional development in and around the town. Such development will probably occur within the general area designated W-2 on Exhibit 3-B.

The Town of East New Market, as Part of Project, ready to go to bid, is replacing the water line on Main Street with an 8" line with new hydrants and creating a Distribution System with Hydrants in the Depot area. Meters are to be installed throughout the system. Eddie Powell extended the system with 6" lines to service an 18-lot subdivision on Creamery Road, looping from the Sugar Drive Extension.

The Town of Secretary operates two wells drawing water from the Piney Point Aquifer at depths of 471 and 581 feet. The system has a pumping capacity of 600 gpm with an average daily output of 90,000 gallons. Approximately 528 persons plus three industries are served by the system. Industrial use averages 15,700 gallons per day. All water supplies are disinfected with gas chlorination systems.

Secretary's distribution system consists of eight and six inch pipes along State Route 14 with six-inch branches on intersecting streets. Storage capacity is provided by a new elevated 150,000 gallon storage tank with overflow elevation of 134'. The Town of Secretary received State and Federal funds to construct additional production well, an additional elevated water storage tank, and replace all deteriorated and undersized water distribution lines. The area is designated W-1, existing. The water project has been completed.

As growth occurs away from each Town, but toward each other, the most satisfactory and economical solution to water supply problems would be to combine these separate systems into a

single system. This may necessitate booster pumping stations, altitude valves, etc. but future plans should be directed towards this end.

Rhodes Haven Subdivision is a development of 27 lots in the Town for single-family homes. This project is completed. Warwick Landing is a development of 16 townhouses which was recently approved for construction on the former Phillips Oil Co. site on the north side of the Warwick River west of Route 14 and the bridge. To date, 10 of the units have been constructed.

The construction of six townhouses has been completed in the Warwick Landing development site. All units have been sold and are occupied. This completes the development.

Priority classifications for East New Market and Secretary are shown on Exhibit 3-B and 3-C, respectively. The remainder of this District shall be with no improvements scheduled within 10 years.

The Town of East New Market, through its agreement with the Town of Secretary for the upgrading of Secretary's sewage treatment plant to serve both towns, has installed a new well for water supply to the disinfection system at the treatment plant site. This well is 4" in diameter and 418.5' deep in the Piney Point Aquifer with a 25 gpm submersible pump. Estimated maximum appropriation is 15,000 gpd. The well is also used as a potable water source and disinfection of same supplied by sodium hypochlorite solution injected into the supply by a small metering pump.

3.3.3 Vienna District (District 3)

The Vienna District is located at the eastern end of Dorchester County. It is bounded to the north by US Route 50, the intersection of US Route 50 and Route 731 (Old Ocean Gateway) to the west, and runs one lot deep along Route 731 to the Vienna Elementary School. The

district then runs south along the corporate boundaries of Vienna and includes the Steele Phillips/William Larmore property as the southwestern boundary, and a portion of the Legg Farm to the south. The easternmost boundary is the Nanticoke River.

Forest, agricultural and residential uses dominate the area with some marshland along the Nanticoke River. The current and proposed service area has a combined population of approximately 415 residents according to the Census 2000 population figures. A concentration of 280 residents exists in the Town of Vienna, 125 residents live in the unincorporated area known as West Vienna, and approximately 10 residents are scattered throughout the remaining unincorporated portions of the service area.

The entire water service area is approximately 620 acres in size, of which approximately 110 acres are within the current corporate limit of Vienna. The W-1 area west of Vienna, known as West Vienna, and located outside of the corporate limit is zoned Suburban Residential with a small area zoned Neighborhood Business. The proposed W-1 and W-2 areas southwest of town are zoned either Suburban Residential or Suburban Residential-Resource Conservation Area. The W-3 area south of Vienna is zoned Suburban Residential-Resource Conservation Area and the W-3 area northeast of town is zoned as either Light Industrial or Heavy Industrial.

Vienna's water system was upgraded in 1998. Service was extended to West Vienna as part of the upgrade, however the West Vienna system is not in a Sanitary District. The Dorchester County Council in a "Memorandum of Understanding" has guaranteed to reimburse the Town of Vienna for any losses that may result from non-payment of service bills for this part of the service area.

While the existing distribution system consists mostly of six (6) inch pipe, it does have ten (10) inch mains along Market Street, between Market Street and Gay Street, and extending along Route 331 to Back Street. There is an elevated 150,000 gallon storage tank and two 65 foot wells in the Manokin aquifer. Each well produces 125 gpm and has high iron content. The water treatment plant was reconditioned in 1998. It uses two manganese greensand filters to remove iron. Because of the high concentration, bleed through of iron sometimes occurs. Although this is not a public health problem, there are occasional complaints from consumers about red discoloration caused by the water. The Town is interested in finding an aquifer with less iron. There are potentially four deeper aquifers ranging in depth from 250 to 500 feet. The deepest of this is Piney Point, which is known to contain high chloride in the Vienna area. Two or three test wells are needed to investigate the yield and water quality of the intermediate aquifers. In order of depth, the possibilities are the Frederica (Choptank), the Federalsburg, and the Cheswold aquifers. If the results of the test wells are positive, the next step will be to drill one or two new wells.

Current use of water is 38,000 gallons per day with a capacity of 80,000 before a back flush is required. The treatment includes chlorination and filtration to remove iron and manganese. The system requires the plant to feed potassium, permanganate, and chlorine to remove the insoluble precipitates in the water through filtration. Fluoride is also added to the water.

The rebuilding of the water plant and the construction of a new wastewater plant has allowed the moratorium on development to be lifted in the town. With the NRG Power Plant now only operating as a “peaker” plant, the future of Vienna is focused on the development of

tourism as the economic backbone of the community with limited residential and commercial development to serve visitor and resident need alike.

Vienna is currently working with a local developer on an annexation request for the Steele Phillips/William Larmore property. The proposed development is a “phased” planned unit development featuring a mix of residential uses to include single-family dwellings, duplexes, and multi-family units. Phase One of the development will involve the annexation of the W-1 designated portion of the property which constitutes approximately 26 acres. The developer is proposing a density range of four (4) to five (5) dwelling units per acre. This density range wil produce a minimum of 104 new dwellings and a maximum of 130 new dwellings. Phase Two of the development will involve the W-2 designated portion of the Legg Farm, which constitutes approximately 27 acres. At the densities previously mentioned, Phase Two of the annexation/development will result in a minimum of 108 new residences and a maximum of 135 new residences.

The current remaining capacity of the water plant is approximately 42,000 gallons per day. If Phase One is developed at the maximum density of 130 dwellings with an estimated usage rate of 250 gallons per day per dwelling, the additional demand on the water plant will total 32,500 gallons per day, which is below the current remaining capacity.

Although unlikely, if Phase Two is also developed at the maximum density of 135 dwellings with an estimated usage rate of 250 gallons per day per dwelling, the additional demand on the plant will total 33,750 gallons per day. When combined with Phase One, Phase Two demands will exceed the current available capacity by 24,250 gallons.

As previously mentioned, Vienna has an existing water quality problem that contributes significantly to the stated anticipated deficiencies. The Town currently uses approximately 77,000 gallons a week to backwash, however the flushing volume and frequency would be greatly reduced if a higher quality water source were located. The Mayor and Town Commissioners have made it a priority project to drill a deeper aquifer for this very purpose, which would by default, free up additional water capacity for future community use.

Aside from the capacity issue, it is also appropriate to mention that in order for this development to come to fruition, it must successfully progress through the regulatory process, as well as be supported by private investment.

3.3.4 Taylors Island (District 4)

The Taylors Island District is located in the western area of Dorchester County, abutting the Chesapeake Bay. Forest and marsh predominate in the area. The District has a 2000 population of 270 persons, mostly located in the communities of Taylors Island and Smithville. Population density is 3.2 persons per square mile (District area, 83.8 square miles).

Individual private wells supply an estimated 27,000 gpd water demand in the area. These wells are generally founded in the Piney Point Aquifer at depths of 290' to 350' or the Aquia-Greensands Aquifer at depths of 490' to 560'.

The Taylors Island Family Campground maintains a non-community water supply which serves 149 campsites.

No foreseeable community water supply systems are needed within the next ten years.

3.3.5 Lake (District 5)

The Lakes District is located in the south-central portion of Dorchester County. The area is largely marshland with a few small farms and settlements located on higher land. The 2000 population of 402 was less than half of the 1930 population of 1,269. Crapo, Andrews and Blackwater are the most significant communities in the area.

The area has an estimated water demand of 60,000 gpd entirely supplied by private individual wells. Almost all wells in the area are located in the Piney Point Aquifer at depths of 375' to 500'.

3.3.6 Hoopers Island (District 6)

The Hoopers Island District is located in the southwestern area of Dorchester County, along the Chesapeake Bay. The District is a long, narrow series of islands with small population concentrations at Fishing Creek, Honga and Hoopersville. The population has declined from 1,267 in 1930 to 587 in 2000. Population density is 40 persons per square mile in the 14.7 square mile District.

Water demand in the District is estimated to be 89,000 gpd with six seafood industries consuming approximately 25,000 gpd. This demand is being met by wells located in the Piney Point Aquifer with average depths of 400' to 500' and by wells in the Choptank Aquifer at depths of 150' to 185'. Water requirements should remain relatively static or rise slightly through the year 2010. However, wells should be monitored for indications of salt water intrusion.

3.3.7 Cambridge (District 7)

The Cambridge District includes the City of Cambridge and adjacent suburbs. This 37.5 square mile area had a 2000 population of 13,261 of which 10,911 lived in the City of

Cambridge. Although the area and the City had steady population increases each decade from 1930 through 1960, the 1970 census showed drops of 6.3% for the area and City respectively. The 1980 census data shows a slight increase over 1970. The 1980 census data shows a slight increase over 1970 while 1990 figures were lower than 1980 and 2000 figures were lower than 1990. Both the City and County are aggressively seeking new industry and residential development. Substantial public investment is being made in new utilities and port oriented facilities.

Current water usage is estimated at 2 - 2.5 MGD with approximately half being used by industry. Groundwater is used exclusively in the area with most water, both public and private, being taken from the Piney Point Aquifer at depths from 370’ to 470'. This has resulted in a huge cone of depression for water levels in area wells and increasing chloride content from suspected saltwater intrusion. The Cambridge Municipal Utilities Commission has developed wells, at considerable cost, in other strata to reduce demands on the Piney Point Aquifer. This includes a 16 inch diameter 950 foot deep well in the Magothy Aquifer and two 1350 foot deep wells tapping the Raritan-Patapsco Aquifer.

The Municipal Utilities Commission (MUC) is a semi- autonomous body which owns and operates the Cambridge water system. It was created by the City in 1959 from the purchase of the Dorchester Water Company, a private franchise water supplier dating back to 1893. The Commission inherited a system described by its engineer as "over-age and shaky". Since 1959 a new well complex at Stone Boundary Road and an elevated tank on Woods Road have been constructed. Numerous improvements have been made in existing well complexes and several large mains strengthening the system, have been installed. There are many distribution problems

inherited from the private water company, however, which must still be corrected by replacement of leaky and undersized mains.

There are nine wells presently in operation (see Table 3-2), that have a combined pumping capacity (actual groundwater withdrawal) of about 7.1 mgd and a safe system replenishment capacity of 5.3 mgd. Current average usage is approximately 2.1 mgd with a peak daily consumption reported to be 4.50 mgd. Two elevated tanks (overflow elevation 150') and three ground storage tanks provide a total of about 4.02 million gallons of storage capacity. Another 1,000,000 gallon elevated tank is needed to insure adequate reserve for fire, emergency and health needs. A four hour fire demand at 4000 GPM at a time of peak usage would leave little or no reserve storage without an additional tank.

The MUC system, which is approximately 100% metered, serves 4,608 customers in and out of the City boundaries, including 3,689 residential, 857 commercial establishments, 41 municipal buildings, 20 industries, and the Eastern Shore Hospital Center. Private industrial wells at the old Hanover Foods complex and the W.T. Andrews Co. are not now in service but had been drawing large quantities from the Piney Point Aquifer. One well at the old Bumble Bee Tuna facility was being used by East Coast Cold Storage, which burned down in 1989. At this time the well is not in use.

The Eastern Shore Hospital Center well has been abandoned and this facility is served by the M.U.C. system. The elevated storage tank has an overflow elevation about fifteen feet lower than the M.U.C. tanks. Therefore, this tank cannot be interconnected with the M.U.C. system for normal operation and is equipped with an altitude valve that permits storage for fire protection only.

All water in the Cambridge system is aerated and chlorinated before distribution through approximately 266,000 feet of pipe. About 30% of the system consists of two inch or smaller pipeline which is inadequate and should be replaced. The commission has a continuing program of replacing undersized mains, but heretofore the extent of the program has been severely hampered by lack of funds.

A three well field (Station No. 10) east of Christ Rock is planned by M.U.C. to meet the expected increased demand from this area and to replace and supplement older and somewhat unreliable existing wells. Construction is deferred indefinitely. Property utilized by City for Patamoke II development. The construction of an additional well in the Magothy Aquifer at Nathans Avenue (Station 7) has been deferred. Planned improvements and water service categories are shown on Exhibit 3-D. The Commission has developed an ambitious 10 year Capital Improvement Program to upgrade and expand the City water system. Several projects have been completed but many remain. The program will require an estimated minimum of $4,5000,000 to complete which is more than five times current revenues and almost two times current bonded indebtedness. Grants, loans and local bond funds are needed with special emphasis on grant funds from the Federal government and possibly the State. Support at all levels of government is needed for this program to succeed. Its success could attract new business and industry to the area.

Since the MUC relies on underground sources of water supply, it proposes to establish a water planning area to include the city and surrounding ten mile area of Dorchester County. The 1974 Comprehensive Water and Sewer Plan and the 1984, 1988, 1992 and 1994 updates recommended, and this 2000 update reaffirms the recommendation, that the County should

establish a groundwater management program. Groundwater is a limited resource whose uncontrolled depletion could create havoc in the County. It is recommended that the MUC establish a ten mile water planning area around Cambridge and act in an advisory capacity to the County on all proposals for withdrawing water in the planning area. MUC advice should be sought on project viability and the aquifer to be used. The County has established the Groundwater Protection Report which assesses groundwater resource availability to develop on-site sewage disposal management strategies. However, a water planning area has not been established.

The University of Maryland's Horn Point branch (UMCEES) will have to rely on existing well supplies or additional on-site wells for at least the next decade until the M.U.C. system can be extended to serve the area. There are currently 8 wells on the property. In 1991 UMCEES completed the installation of a water tower with a capacity of 125,000 gallons. The tower serves the fire protection requirements for 3 buildings and the potable water requirements for 2 buildings. The other buildings and facilities are served by individual wells. The site is classified as no planned service within the next ten years.

An existing seawater system was designed to provide approximately 2,000 gpm of ambient seawater to the research facilities. However, due to silt loading in the intake structure and expansion of the research facilities, renovation and upgrading of the seawater system has been completed.

This project consisted of the renovation and expansion of the existing seawater supply and distribution system providing a system capable of delivering 7,000 gpm of ambient seawater

to Horn Point research facilities and classrooms. Seawater is drawn from the Choptank River and distributed to the various facilities and then re-enters the Choptank River.

The system includes a new intake structure, a higher capacity distribution system, and a complex filtration system to provide water to the existing fish hatchery, rockfish ponds, benthis laboratory, classroom and laboratory building, and a Marine Science laboratory which was recently completed. In addition, this project provides reserve capacity that will be available for any future expansion of the University facilities.

The previously owned Hales Water System Inc., now owned and managed by Dorchester County Sanitary District Inc., (and so referred to hereinafter as Dorchester County Sanitary District No. 6, Lodgecliff Water System) is serving a portion of residential development west of Cambridge in Algonquin. Water is supplied to 103 residences with approximately 230 persons using the system. Initially, wells were used as a water source but water is now purchased (Master Meter) from the Municipal Utilities Commission whose mains almost surround the service area. The water system provides all service through 3600 feet of 8" PVC water main, 6000 feet of 6" PVC water main, and 10 fire hydrants which are adequate for fire flows. There are water service connections and meters at every home. For 1996 average monthly water consumption was 956,000 gallons and 1997 average monthly water consumption was 708,917 gallons for the 103 residences. The service area is classified W-1, existing.

3.3.8 Neck (District 8)

The Neck District in northwestern Dorchester County comprises an area of 20.4 square miles. The area is devoted to agriculture, woodland and waterfront development. There are small population concentrations at Hudson and Cornersville.

The 2000 population of the area was 934 giving a density of 46 persons per square mile. The area is expected to slowly grow to a population of 1,002 by the year 2010. The nearby University of Maryland's Center for Environmental and Estuarine Studies at Horn's Point and the desirability of abundant waterfront properties should contribute to this growth.

Individual wells supply the current water demand of approximately 92,000 gpd in the Neck District. Most of these wells tap the Aquia Greensand Aquifer at depths of 490' to 570' with a few scattered wells utilizing the Choptank Aquifer at 120' and the deeper Paleocene Aquifer between 530' and 540'.

3.3.9 Church Creek (District 9)

The Church Creek District is located southwest of Cambridge with the Little Choptank forming its northern boundary. This 34.0 square mile area is characterized by farming and woodland areas at the northern end and woodland, marsh and swamp in the central and southern portions.

In 2000 the population was 615 people of which 85 were located in the Town of Church Creek with the remainder scattered throughout the District. Population density is 18 persons per square mile. A sewer system has been constructed in the Church Creek area which will assist future growth.

Current water use is approximately 57,000 gallons per day; all from private, individual wells. These wells are generally located in the Piney Point Aquifer at depths of 300' to 448'. One well has been jetted 934' into the Patapsco-Raritan Aquifer. Installation of a community water system serving the Town of Church Creek should be considered, but without substantial grant funds this is financially impractical.

No community water systems are planned within the next ten years in the entire Church Creek District.

3.3.10 Straits-Neck (District 10)

The Straits-Neck District is the southernmost District in Dorchester County. Most of the land area is marsh, with some woodland and agricultural uses along State Route 336 from Wingate Post Office to Bishops Head. This area, including Bloodsworth Island, comprises 24.1 square miles.

Most of the population depends on the surrounding waters of the Honga River and Fishing Bay for a living. Concentrations of population are located in the water oriented communities of Wingate, Bishops Head, Toddville and Crocheron. The area has steadily declined in population from the 1930 census of 1,170 persons to 2000 when the population was 479. This decline is expected to slowly continue through the year 2010.

Current water use is estimated to be 82,000 gpd with seafood processing plants consuming about 30,000 gpd from private wells. The residential demand is entirely met by individual wells and is expected to decrease slightly over the next several decades. Almost all wells in the area draw on the Piney Point Aquifer at depths of 415' to 580'. One well using the Choptank Aquifer at 180' depth has been reported.

3.3.11 Drawbridge (District 11)

The Drawbridge District in east, central Dorchester County lies south of Vienna. This District of 49.1 square miles comprises extensive marshy areas with some farm and woodland uses.

Drawbridge is the least populated District in the County with a 2000 population of 85 persons. This is a decline of 303 people since 1930 and yields a present density of only 1.7 persons per square mile. The population is expected to continue to decrease through the year 2010.

Present water demand is 8,200 gpd from private, individual wells and is projected to rise slightly in the future. Wells are generally located in the Pleistocene Aquifer at depths ranging from 12 feet to 40 feet. One well was reported in the Choptank Aquifer at a depth of 74'. Owners of such wells should be encouraged to develop new wells in the deeper Piney Point Aquifer. No community water systems are planned in the area within the next ten years.

3.3.12 Williamsburg (District 12)

The Williamsburg District is located in northeastern Dorchester County. It is the center of a 16.5 square mile triangle between the communities of Preston, Federalsburg and Hurlock. Major land uses are farming and woodland.

The 2000 District population was 1,180. Population is scattered throughout the area at an overall density of 72 persons per square mile with local concentrations in the Williamsburg and Elwood areas.

Presently, almost all water is supplied from individual wells tapping the Pleistocene Aquifer. Some of these wells have high nitrate levels. Estimated current residential water use is approximately 103,000 gallons per day. An additional 160,000 gallons daily is taken by Williamsburg Canning Company (plants 1 and 2 on Canning House Road). An unknown quantity of water is used seasonally for irrigation of farm crops. Future population increases will

raise residential water use to about 105,000 gallons per day by the year 2010. Unless new industry locates in the area, water requirements will remain similar to current levels.

Two settlements in the Williamsburg District require special attention. The settlement around St. Mary's Rest Home (now closed) on Williamsburg Church Road and Milligantown on Williamsburg Road require improved individual or central water supplies. Both settlements are low income areas. They have shallow wells with pitcher pumps and no indoor plumbing. Several wells are not operative. Milligantown would require development of a well source and storage system plus a small distribution system. Eventual community water service to the Williamsburg area could best be accomplished by extension of the Hurlock water system. This is not expected to occur within the ten year planning period.

3.3.13 Bucktown (District 13)

The Bucktown District is located south of Cambridge and encompasses large portions of the Blackwater and Fishing Bay Wildlife Refuge. Extensive marshes with some wooded areas and farmland predominate the 51 square mile area.

In 2000 the population was 464 persons. The area has experienced a general decrease in population since 1930. Population density is 9 persons per square mile. The population is expected to decrease slightly through the year 2010.

Estimated domestic water demand is 48,000 gallons per day and is met entirely by individual wells. All wells in the area penetrate the Piney Point Aquifer at depths ranging between 420'-500'. No community water systems are foreseen within the next 10 years.

3.3.14 Linkwood (District 14)

The Linkwood District of 22.3 square miles is located just east of Cambridge and straddles U.S. Route 50. Farming and woodland predominate in the area, however, its proximity to Cambridge has led to development of many suburban dwellings and small businesses. The Cambridge Airport and four manufactured home parks are located in the area.

In 2000, population of the Linkwood District was 2,698 making it the third most populous District in the County. Population almost doubled in the period between 1960 and 1970, but increased less dramatically in the last 30 years. Growth in the area is expected to continue.

Domestic water use in the District is estimated to be 259,000 gpd. In addition, the Eastern Shore Rendering Company at Linkwood uses about 25,000 gallons a day from two wells and Diversey, Inc. north of Jacktown, has purchased one of the Rotork Company (plant closed) wells capable of pumping 80,000 gpd. The principal aquifer in the Linkwood District is the Piney Point Aquifer generally reached at depths of 405 to 540 feet. Wells also penetrate the shallower Calvert Aquifer and Choptank Aquifer at approximate depths of 300 and 150 feet respectively. All industrial and community wells in the District are located in the Piney Point Aquifer.

Dorchester County Sanitary District No. 2 is located in the Linkwood area at the Bonnie Brook subdivision as shown on Exhibit 3-D. Bonnie Brook has two wells and a 10,000 gallon hydropneumatic storage tank (installed under a HUD grant to replace the old defective tank). Pumping capacity is 80,000 gpd. All water is chlorinated and distributed through a looped system of eight and six inch pipes. The system provides 91 services with an estimated

population of 320. Current water demand is about 39,000 gallons per day. This is a growing community with 117 approved lots. Water for firefighting must be pumped from Hurst Creek since the system is inadequate for fire protection.

Beaver Run is a Mobile Home Park development with a privately owned community water system served by four wells and an 850 gallon hydropneumatic tank and 500 gallon chlorine detention tank. Water is chlorinated before distribution through a looped system of 2" and 2.5" pipe. The system provides service to 56 existing units and 33 additional lots. Average flows are 9,800 gpd.

Bay Country Mobile Home Park on Bucktown Road has a privately owned community water system drawing on two wells in the Piney Point Aquifer for system supply. Water from one well is stored in hydrocells while a 1500 gallon hydropneumatic tank provides storage for the other well. Water is treated before distribution through a series of three inch and two inch mains to 145 developed lots. Average flows are 6,500 gpd.

Linkwood Manor Mobile Home Park has a privately owned community water system drawing on one well in the Piney Point acquifer for system supply. Water from the well is stored in a 2,250 gallon hydropneumatic tank. Water is injected with chlorine and distributed to the system through 2”, 3” and 4” mains. The allocated flows are 16,000 GPD (average) and 28,800 GPD (maximum month) based on a 65 unit mobile home park. Presently only 7 lots are in service. Plans are being developed to obtain approval for approximately 185 additional mobile home units. This facility is classified as W-1.

Dorchester Mobile Home Village on U.S. Route 50 uses water from the Piney Point Aquifer to supply water to a privately owned community water system. Water is taken from one

well and distributed through two inch mains to 35 developed lots in this 50 unit subdivision. Storage is provided by a 1500 gallon hydropneumatic tank. Chlorination is not provided.

There is much commercial development along Route 50 including the Cambridge Inn Motel, Days Inn Motel, Holiday Inn Express, several restaurants, gasoline stations and antique shops.

Areas in the Linkwood District classified W-1, existing, are as follows: Bay Country Mobile Home Park, Beaver Run, Dorchester Mobile Home Village, the Linkwood Manor Mobile Home Park, Dorchester Sanitary District No. 2 at Bonnie Brook, Eastern Shore Rendering Company, Diversey Equipment and Cornell Maritime Press; along with several private homes connected to the latter company's well.

The remainder of the Linkwood area has no planned service within the ten year period.

3.3.15 Hurlock (District 15)

The Hurlock District in northern Dorchester County comprises 31.6 square miles largely devoted to farm related uses. The area has a well developed highway system throughout and railroad spurs from Cambridge to Vienna converge in the Hurlock community.

The 2000 population of the District was 3,806 with 1,874 persons located in the Town of Hurlock. Area density was 120 persons per square mile. The area is expected to continue to grow through the year 2010.

Water consumption in the Hurlock District is estimated at 1,060,000 with approximately 350,000 gallons being used for domestic purposes and 710,000 gallons used in industry. All water is derived from underground supplies. Most wells in the area are drilled into the Pliocene-Pleistocene (Columbia) Aquifers with depths ranging from 40 to 110 feet. A few wells

take water from the Choptank formation. Municipal and industrial wells in the area are founded in the Pliocene-Pleistocene (Columbia) Deposits, except for one municipal well in the Piney Point Aquifer.

The Town of Hurlock has 4 wells. Three (3) are approximately 100 feet deep tapping the Pleistocene series and one (1) is in the Piney Point Aquifer. The system has an average daily output of 360,000 gallons servicing a population of 1,874 and several industries. The two largest water-consuming industries, however, obtain their processing water from private wells. Facilities exist to neutralize, fluoridize, and chlorinate Town water before distribution through a partially looped system of 4, 6, 8 and 10 inch mains. There is still a need for additional transmission lines in Town to loop significant areas of water service. One of these needed would connect from Maryland Route 392 near the bypass to Dogwood Drive. Another would follow Nealson Street up to Broad Street. A third would be constructed along Travers Avenue.

Hurlock's shallow wells have a history of increasing nitrate levels**.** In March of 1988 a test well was installed, adjacent to the existing well located South of Rt. 392, which penetrates the Piney Point Aquifer. A new production well in the same aquifer, is in use for this location. It is being used for blending with water from existing well to offset the nitrate concentrations and combat pH problems.

The Thompson Street well is inactive due to nitrate concentrations and needs to be abandoned. A replacement for the shallow well at Oak Street is needed to further reduce nitrate levels and increase volume. The new well is proposed to be located in the Hurlock Industrial Park and will be drilled into the Piney Point Aquifer.

A 300,000 gallon elevated water tank was constructed northeast of Town along Route 392. A 10" water main connects the new elevated tank to the system. A water extension to serve Phase II of the Hurlock Industrial Park is needed within the next two years. Another storage tank on the westerly end of Town or in the Park will be needed. A 4” water main extension of about 800’ is needed from Skeet Club Road to serve the new wastewater treatment plant within the next two years.

There are some undeveloped areas within Hurlock, mostly on the fringe, that do not have water service. A recently annexed area along MD Route 307 will need to have water service extended from Nealson Street within five years to serve a new industrial area.

South of Hurlock is a low-income area requiring water service (Mission Hill-Jones Village). The Town, in conjunction with the County, completed construction of an extension of the Town's water line. The 10" and 6" mains serves approximately 20 units in the Mission Hill area and approximately 60 units in the Jones Village area.

Bobtown, a small settlement north of Hurlock, has been recommended by the Health Department as requiring a community water system. The settlement consists of ten homes and sanitary facilities are inadequate. The community remains on the MDE needs survey. While it is unlikely Hurlock will extend water within the next ten years, there is a need to improve water/sewer facilities.

Most of the Town of Hurlock, Mission Hill and Jones Village are classified W-1, existing. Exhibit 3-F shows other priority classification in and adjacent to the Town.

3.3.16 Madison (District 16)

The Madison District in west central Dorchester County is characterized by farm and woodland and marsh; the later predominating in the western and southern portions of the District. Water oriented development has occurred along the several necks of land reaching into the Little Choptank. One major road, State Route 16, traverses the area.

Population in the Madison District was 557 persons in 2000; representing an increase over 1990. Population is expected to increase through the year 2010. Population is concentrated in the northern and central part of the 18.4 square mile area.

Current water demand of approximately 40,000 gallons per day is supplied by individual wells from the Aquia Greensands (depths range from 500' to 550') and the Piney Point (300' to 380' depths) Aquifers. A small inadequate central system at Laurie Lane (Brad Vern Park) that served several homes has been abandoned and individual wells installed.

Madison Bay Restaurant and campground is designated W-1; the rest of the District has no planned service.

3.3.17 Salem (District 17)

The Salem District is an entirely rural area west of Vienna devoted to woodland and agricultural uses. The 35.4 square mile area is traversed by U.S. Route 50 and several County roads which provide access to the area.

Population of the area has been declining since 1930 and is expected to continue a slow decline through the year 2010. The 2000 population of 228 persons was scattered throughout the District at a density of 6.4 persons per square mile. A small concentration of dwellings is centered at Salem near Route 50.

Average daily water use of 22,000 gallons per day is taken from underground sources. Wells are located in the Pleistocene Aquifer at depths of 15' to 50', the Choptank Aquifer 140' to 190; deep and the Calvert Aquifer 210' to 330' deep. Demand for water is not expected to increase in the foreseeable future.

There is no need for central water systems in the Salem District and the entire area has no planned service.

3.3.18 Elliott Island (District 18)

The Elliott Island District is a marshy 18.4 square mile area in southeast Dorchester County. The 2000 population of 86 was concentrated at Elliott where the population has declined significantly since 1930. No reversal in this trend is expected through the year 2010.

Current water usage is estimated to be about 7,900 gallons per day with little possibility of any increase in the foreseeable future. Water is supplied by individual wells largely in the Piney Point Aquifer at depths of about 530'. A few shallow wells of 3' to 15' exist in the Pleistocene Aquifer. Owners of such wells should be encouraged to develop new wells in the deeper Piney Point Aquifer.

No central water systems are planned in the foreseeable future and the area has no planned service.

TABLE 3-1 (S.H.D.-4)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
II. Public Community								
A. Cambridge M.U.C.								
1. Sta No. 2 Mill St. (abandoned)	CD 10	Piney Point	271,900/1,063,500	375	12-10-8	0		
2. Sta No. 3-1 Washington St.	CE 4	Piney Point	266,700/1,065,800	372	8-6	500	500) cannot be pumped	Good
3. Sta No. 3- Washington St.	CE 86	Piney Point	266,770/1,065,800	514	16	900	900) simultaneously	Good
4. Sta No. 7-1 Nathans Ave.	CE 12	Piney Point	267,100/1,068,250	436	12	600	600) cannot be pumped simultaneously	Good
5. Sta No. 7-2 Nathans Ave.	CE 13	Piney Point	267,100/1,068,250	427	12	700	700) cannot be pumped simultaneously	Good
6. Sta No. 7-3 Nathans Ave.	CE 82	Raritan-Patap	267,100/1,068,250	1350	8	350	350	Good
7. Sta No. 8 Glasgow St.	CE 43	Piney Point	273,100/1,060,700	425	12	650	650	
8. Sta No. 11-1 Stone Boundary Rd.	CE 78	Piney Point	260,500/1,065,200	503	18	1200	1200	
9. Sta No. 11-1 Stone Boundary Rd.	CE 81	Magothy	260,500/1,065,200	950	16	400	400	
10. Sta No. 11-3 Stone Boundary Rd.	CE 84	Raritan-Patap	260,500/1,065,700	1350	16	1000	1000	
B. East New Market	BF 6	Calvert	280,400/1,107,000	225	6	---	70	Fair
	2	Piney Point	280,500/1,106,000	522	10	260	260	Good
	3	Federalsburg	280,000/1,106,000					
	4	Piney Point	280, 000/1,106,000					

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AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
II. Public Community								
C. Secretary								
	2	Piney Point	284,000/1,101,000	581	10	500	350	Good
	3	Piney Point	284,200/1,096,600	4185	4	25	25	Good
	0088-1759	Piney Point	284,200/1,096,600	552	10	500	350	Good
D. Hurlock	BG	Pleistocene	293,800/1,123,500	80	8	---	500	Good
	Thompson 1	Pleistocene		108	8			
	Oak Street 2	Pleistocene		112	14		700	Good
	Delaware Ave. 3	Pleistocene		103	10		405+	Fair
	Delaware Ave. 4	Piney Point	290,000/1,125,000	568	12		300	Good
	Allen F. F.	Pleistocene		105				
E. Vienna	1	Calvert	238,900/1,136,000	228	6		88	Poor
	2	Calvert	239,000/1,136,000	225	6		160	Poor
	3	Calvert	237,500/1,135,300	225	8		200	Poor
		Pleistocene	232,000/1,138,000	66	10		150	Poor
		Pleistocene	232,000/1,138,000	65	10		150	Poor
F. Dorchester County Sanitary District No. 2		Piney Point	264,800/1,069,700	454	6		225	Good
Bonnie Brook Subdivision		Piney Point	264,800/1,070,500	460	4		100	Good

TABLE 3-1 (S.H.D.-4)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
II. Private Community								
A. Bay Country MHP		**Piney Point**	263,500/1,076,000	450	4		25	Good
		Piney Point	263,500/1,076,000	450	4		25	Good
		Piney Point	263,500/1,076,000				25	Good
B. Dorchester Mobile Home Village		Piney Point	262,000/1,076,000	425	4			Good
C. Reliance Mobile Homes		Pleistocene	286,000/1,160,000	100	4		50	Good
D. Beaver Run Mobile Home Park		Piney Point	262,000/1,096,000	200			35	Good
		Piney Point	262,000/1,096,000	498			25	Good
		Piney Point	267,000/1,096,000		4			
		Piney Point	267,000/1,096,800					
		Piney Point	267,000/1,096,800	507	4			Good
E. Heritage Mobile Home Park		Piney Point		520	4		50	
F. Countryside MHP		Cheswold		320	4		25	Good
G. Lodgecliff Water System			Takes treated water from Cambridge system					
H. Eastern Corp. Campground		Cheswold	N 4800/6560E		6	50 gpm		
I. Linkwood Manor MHP	DO & 11011	Piney Point		481			30	

TABLE 3-1 (S.H.D.-4)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
III. Commercial/Industrial								
A. Conagra	1	Pleistocene	293,000/1,126,000	98	12			
	2	Pleistocene	293,000/1,126,000	106	12			
	3	Pleistocene	293,000/1,126,000	86	12			
	4	Pleistocene	293,000/1,126,000	100	12			
	5	Pleistocene	293,000/1,126,000	90	4			
B. Eastern Shore Rendering Co.	1	Piney Point	265,125/1,103,750	540	4		750	Good
C. Goose Creek Seafood	1	Piney Point	161,800/1,076,000	500	1.5		10	Good
D. Williamsburg Canning Co.			309,000/1,142,000					
E. Meredith & Meredith	1	Piney Point	173,000/1,069,000	500	1.5		4	Good
	2	Piney Point	173,000/1,069,000	500	2.5		17	Good
F. Powley, Inc.	1	Piney Point	164,000/1,063,000	580	2.5		15	Good
G. Rippons Bros.	1	Piney Point	156,300/1,035,800	500	3.5		20	Good
H. Diversey Inc.	1	Piney Point	267,000/1,085,000	432	8		50	Good
	2	Piney Point	267,000/1,085,000	435.6	4		25	Good
I. Ruark and Ashton	1	Piney Point	157,500/1,035,800	500	1.5		10	Good
J. Toddville Seafood, Inc.	1	Piney Point	173,500/1,068,000	500	1.5		10	Good
K. Williamsburg Plant	1	Pleistocene	301,500/1,134,000					
		Pliocene						
L. W.O. Whiteley	1	Pleistocene	301,375/1,304,000	100	2			Good

TABLE 3-1 (S.H.D.-4)
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AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
III. Commercial/Industrial (con't)								
M. C. Robert Spedden, et al.	1 (res)	Piney Point	261,000/1,059,250	500	2		260	Good
Not in service	2	Piney Point	261,000/1,059,250	460	8			
N. W.T. Ruark	1	Piney Point	180,000/1,021,000	500	1.5		10	Good
O. A.E. Phillips	1	Piney Point	176,800/1,021,600	500	1.5		10	Good
P. Bayshore Foods	1	Pleistocene	294,000/1,126,500	74	12		65	Good
	2	Pleistocene	294,000/1,126,500	75	12		65	Good
	3	Pleistocene	294,000/1,126,500	75	12		65	Good
Q. Brady P. Todd & Sons	1	Piney Point	150,000/1,073,100	500	1.5		16.6	Good
R. East Coast Cold Storage	1	Piney Point	264,750/1,067,700	400	8		50	Good
S. Chesapeake Seafood			225,000/1,063,000		3		8	Good
T. C.H. Park and Company	1	Piney Point	---- /1,022,600	500	2		10	Good
U. DeCecco	1	Pleistocene	268,000/1,134,000	110	8		800	Good

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TABLE 3-1 (S.H.D.-4)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
III. Commercial/Industrial (cont'd)								
V. Delmarva Power & Light also draws 2.6 mgd of surface water from the Nanticoke River	4 wells	Pleistocene	239,000/1,137,500	50	2		1	Good
		Pliocene	(Plant Location)	50	2		40	
				50			1	
				50			40	
	1 well	Pleistocene		70	18		100	
	1 well	Pliocene		310	6		150	
W. Dorchester Crab Co.	1	Piney Point	163,700/1,063,500	500	2.5		20	Good
X. Hanover Foods	1	Piney Point	265,250/1,065,750	400	8		500	Good
	2	Piney Point	265,750/1,066,250	400	8		500	
Y. Medford Ind., Inc.	1	Pleistocene	312,000/175,000	65	1.5		18	
	2	Pliocene		63	1.5		18	
	3			46	1.5		20	Good
	4			34	1.25		15	
	5			29	1.25		15	
Z. J.F.D. Cannery	1	Piney Point	191,250/1,054,500	500	1.5			
	2	Piney Point	191,250/1,054,500	500	1.5		14	Good
AA. I.F. Cannon	1	Piney Point	173,250/1,049,250	500	1.5		16.6	Good

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INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
III. Commercial/Industrial (cont'd)								
BB. Bloch and Guggenheimer	00-73-0437	Pleistocene	292,000/1,127,000	67	16(casing) 8 (screen)			
	4-3204	Pleistocene	292,000/1,127,000	74	6			
	DO-05-7782	Pleistocene	292,000/1,127,000	98	8		Standby	
	DO-73-1436	Pleistocene	292,000/1,127,000	80	10		100	
CC. Chemed Corp.	CE-73	Piney Point		446	8			Good
DD. Eastern Corp. Sand/gravel/concrete	DO-73-1065	Calvert	318,000/1,140,000	305	4			Good
EE. Johnson Shufelt		Surface	Sand and gravel					
FF. Eastern Md. Wood Treatment	DO-81-0200	Calvert	308,000/1,141,000	260	4			Good
GG. Cambridge-Dorchester Airport	1	Piney Point	256,000/1,078,000					
HH. Dorchester Lumber Co.	1	Piney Point	259,000/1,102,000					
II. Andrews Seafood, Inc.	1	Piney Point	191,000/1,055,000					
JJ. Skipjack Inn		Piney Point	273,000/1,094,000					
KK. Dennis Sandleitner Crab Shedding		Surface	232,000/1,143,000					
LL. SKS Auto Park	1	Piney Point	262,000/1,080,000					
MM. Robert Hall	1	Piney Point	179,000/1,023,000					

TABLE 3-1 (S.H.D.-4)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER SUPPLY SYSTEMS

OWNER	WELL NAME OR NUMBER	AQUIFER	COORDINATE LOCATION	DEPTH (FEET)	DIAMETER (INCHES)	MAX. SAFE YIELD (gpm)	PUMPING CAPACITY (gpm)	WATER QUALITY
IV. Institutional								
A. Hurlock Primary School	1	-	288,500/1,125,200		2			
B. North Dorchester High School	DO88-1854	Piney Point	277,000/1,122,000	580	6	75	50	Good
C. North Dorchester Middle School		-	275,000/1,122,000					
D. South Dorchester Middle School	1		207,000/1,033,000					
E. Countryside Christian School	1		262,000/1,084,000					
F. University of Maryland Horn Point	8 wells							

TABLE 3-2 (S.H.D.-6)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER TREATMENT FACILITIES

OWNER-OPERATING AGENCY	WATER SOURCE	TYPE OF TREATMENT	PLANT COORDINATE LOCATION	RELATED PLANT CAPACITY (MGD)	AVERAGE PRODUCTIO N (MGD)	MAX. PEAK FLOW (MGD)	STORAGE CAPACITY (MGD)	PLANNED EXPANSION & DATE	METHOD OF SLUDGE DISPOSAL
A. Public Community									
Cambridge Municipal Utilities Commission	9 wells	Chlorination and aeration at each well	See Table 3-2 for well locations	9.6	3.1	4.05	4.02	-	none
Town of Hurlock Commissioners	4 wells	pH adjustment, chlorination, fluoridation	See Table 3-2 for well locations	1.0	.35	.8	.30	-	none
Town of East New Market Commissioners	2 wells	Chlorination	See Table 3-2 for well locations	.46	.025	.05	.10	-	none
Town of Secretary Commissioners	2 wells	Chlorination	Secretary WTP See Table 3-2	.042	.065	.013	.05	-	none
Town of Secretary Commissioners	1 well	Chlorination	Secretary WTP See Table 3-2	.015	.010	.015	none		
Town of Vienna Commissioners	5 wells	Flouride Chlorination Iron Removal, pH Adjustment	See Table 3-2 for well locations	.63	.045	.1	.015	-	none
Dorchester County Sanitary District No. 2 (Bonnie Brook)	2 wells	Chlorination	See Table 3-2 for well locations	.375	0.011		.01	-	none

TABLE 3-2 (S.H.D.-6)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER TREATMENT FACILITIES

OWNER-OPERATING AGENCY	WATER SOURCE	TYPE OF TREATMENT	PLANT COORDINATE LOCATION	RELATED PLANT CAPACITY (MGD)	AVERAGE PRODUCTIO N (MGD)	MAX. PEAK FLOW (MGD)	STORAGE CAPACITY (MGD)	PLANNED EXPANSION & DATE	METHOD OF SLUDGE DISPOSAL
B. Private Community									
Bay County Mobile Home Park	3 wells	Chlorination?	See Table 3-2 for well locations	0.072	0.01	N/A	0.002	-	none
Beaver Run Mobile Home Park	3 wells	Chlorination	See Table 3-2 for well locations	0.086			0.00085	-	none
Dorchester Mobile Home Village	2 wells	none	See Table 3-2 for well locations	N/A	0.006	N/A	0.0015	-	none
Reliance Mobile Homes	1 well	none	See Table 3-2 for well locations	0.072	0.015		0.001	-	none
Lodgecliffe Water System (Richardson)	-	distributes treated water from Cambridge system	-	-	-	N/A	none	-	-
Hurlock Food Products	4 wells	Chlorination demineralization		2.8	1.30		0.25 fire prot.	none	
Eastern Corp. Campground	1 well 2 wells	None		N/A	N/A	N/A	.010	200 Units prior to 2000	none
Linkwood Manor MHP	1 well	Chlorination		.029	.016	N/A	.00225	200 additional MD units 2001	

TABLE 3-3 (S.H.D.-7)
INVENTORY OF WATER PROBLEM AREAS

Water Service Area	Population	Area (Acres)	Nature of Problem	Planned Correction Date and Action
Fork, District 1				
Reliance Mobile Home		--	No chlorination of system	Chlorination, date unknown
Galestown		--	High nitrates	Unknown
East New Market, District 2				
Depot Area		35	Cross contamination (well and sewerage systems in proximity inadequate pressure in part of area	Connection to East New Market system, Project to be bid 5/98
East New Market --town		156	Inadequate pressure levels in lines and badly deteriorated and undersized lines	Install new fire hydrants, valves & corp. stops, replace existing small diameter lines, Grant funds required. Project to be bid 5/98
Hubbard (Railroad Hill)		--	High nitrates; shallow wells	Deeper wells needed; no planned correction date; no public funding available
Town of Secretary		161	Inadequate pressure levels in lines; deteriorated and undersized lines and structure deterioration of elevated storage tank; grant funds required	Install fire hydrants, valves, & corp. stops; replace existing small diameter lines and clean and paint storage tank; Date: 1985
Vienna, District 3				
Vienna (town)		107	High dissolved solids in town water; intermittent iron complaints	Corrections required; town working with MDE to correct problem. Project under construction, estimated comp. date 8/98
Vienna (town)			Chlorine discharge from backwashing filter causing NPDES violation	Correction required; town working with MDE to resolve violation. Project under construction, estimated comp. date 8/98
Rabbittown		~~107~~	Wells subject to failing septic systems	Connect to Vienna system; grant funding required. Project under construction, estimated comp. date 8/98
Lake, District 5				
Blackwater		--	Some shallow wells may be contaminated	Sampling survey required to determine extent of problem; Date: unknown

TABLE 3-3 (S.H.D.-7) (cont.)
INVENTORY OF WATER PROBLEM AREAS

Water Service Area	Population	Area (Acres)	Nature of Problem	Planned Correction Date and Action
Cambridge, District 7				
Cambridge (city)		--	Excessive leaks and inadequate pressureand flows in part of area; inadequate elevated storage and number of producing wells	Replace 2" and smaller mains; new elevated storage & development of new well field; grant funds required
Lodgecliff Water System (Richardson)		50+	Inadequate pipe sizes for fire protection; leaking pipes	Replace water mains and service connections; Estimated comp. date 9/98
Drawbridge, District 11				
General area		31,400+	Isolated shallow wells may be cross contaminated	Sampling survey required to determine extent of problem
Williamsburg, District 12				
Area around St. Mary's Rest home		--	Inadequate and contaminated individual supplies	Grant funds needed for central water system
Milligantown		--	Inadequate and contaminated individual supplies	Grant funds needed for central water system
Linkwood, District 14				
Bonnie Brook		--	Need additional storage, fire hydrants, pumps and backup treatment equipment	Grant funds needed

TABLE 3-4 (S.H.D-3)
PROJECTED WATER DEMANDS AND PLANNED CAPACITY
FOR EXISTING AND/OR PLANNED PUBLIC OR PRIVATE
COMMUNITY WATER SYSTEMS

WATER SERVICE AREA	1990					2000					2010				
	POPULATION			CAPACITY		POPULATION			CAPACITY		POPULATION			CAPACITY	
	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned
Straits Neck District	521	0	521			479	0	479			404	0	404		
Drawbridge District	82	0	82			85	0	85			61	0	61		
Williamsburg District	1,026	0	1,026			1,180	0	1,180			1,253	0	1,253		
River Run RV Park	200					0					0				
Bucktown District	482	0	482			464	0	464			426	0	426		
Linkwood District	2,591	200	2,391			2,698	250	2,448			3,229	318	2,991		
S.D. # 2 Bonnie Brook	200	200	0	0.04	0.08	250	250	0	0.045	0.08	318	318	0	0.052	0.08
Bay Country MHP				0.011					0.013						0.015
Dorchester MHP				0.010					0.010						0.010
Beaver Run MHP				0.012					0.015						0.017
Linkwood Manor MHP						13	13	0	.0013	.0288	125	125	0	.0625	.0625
Hurlock District	3,272	1,956	1,316	0.48	2.5	3,806	2,130	1,676	0.58	3.5	3,839	2,542	1,297	0.67	
Town of Hurlock	1,706	1,706	0			1,874		1,874			2,262	2,262	0		
Mission Hill	50	50	0			68	68	0			80	80	0		
Madison District	401	0	401			557	0	557			506	0	506		
Salem District	222	0	222			228	0	228			184	0	184		
Henry Thomas	160	10				160	10				160	10			
Elliott Island Dist.	79	0	79			86	0	86			95	0	95		
Jones Village District	200	200	0			200	200	0			200	200	0		
Eastern Corp. Campground	200	200	0			0	0	0			0	0	0		
Fork District	1,825	0	1,825			1,881	0	1,881			1,874	0	1,874		
Brookview Town	64	0	64			65	0	65			50	0	50		
Eldorado Town	49	0	49			60	0	60			40	0	40		

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TABLE 3-4 (S.H.D.-3) (cont.)
PROJECTED WATER DEMANDS AND PLANNED CAPACITY
FOR EXISTING AND/OR PLANNED PUBLIC OR PRIVATE
COMMUNITY WATER SYSTEMS

WATER SERVICE AREA	1990					2000					2010				
	POPULATION			CAPACITY		POPULATION			CAPACITY		POPULATION			CAPACITY	
	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned
Fork District (cont)															
Galestown Town	123	0	123			101	0	101			99	0	99		
ENM District	2,023	681	1,342			2,233	670	1,563			2,075	804	1,271		
East New Market Town	153	153	0	0.07	0.15	167	167	0		0.15	205	205	0		0.15
Secretary Town	528	528	0	0.07	0.12	503	503	0		0.12	600	600	0		0.12
Vienna District	929	264	665			869	240	629			847	218	629		
Vienna Town	264	264	0	0.055		280	280	0			380	380	0	0.055	
Taylor Island District	269	0	269			270	0	270			218	85	133		
Lake District	478	0	478			402	0	402			403	0	403		
Hooper Island District	640	0	640			587	0	587			640	0	640		
Cambridge District	13,913	13,437	476			13,261	13,261	0			14,489	14,489	0		
City of Camb. (MUC)	11,514	11,514	0	4.4	6.5	10,911	10,911	0	5.1	6.5	11,911	11,911	0	5.2	7.9
S.D. # 1 (MUC)	1600	1600	0	0.18		1,886	1,886	0	0.19		2,114	2,114	0	0.2	
Lodgecliffe	273	273	0	0.03		273	273	0	0.03		273	273	0	0.03	
UMCEES Horn Point	50	50	0			191	191	0			191	191	0		
Neck District	916	0	916			934	0	934			1,002	0	1,002		
Church Creek District	567	0	567			615	193	422			655	0	655		
Church Creek Town	124	0	124			85	0	85			120	0	120		

Table 3-5
Immediate, 5 and 10 Year Priorities for Water Development

Project Name & Description	Location Md. Coord. North/East	Estimated Cost			Projected Years To Completion	Remarks
		Total	Fed. and/or State	Local		
A. Cambridge (Municipal Utilities Commission)						
1. Construct 1 M.G. elevated storage tank on Leonards Lane.	270,400 1,060,000	1,000,000	1,000,000		2-5	There is currently little or no reserve capacity within the City's 1.5 M.G. elevated storage for fire demand and peak usage
2. Construct three wells at Christ Rock well field site. (Sta. No.10). One each into the Piney Point, Magothy, and Raritan Aquifers.	260,400 1,056,000	550,000	550,000		5-10	M.U.C. currently operates 8 wells, many of them old. Present well capacity with best well out of service (Sta. No. 11-Well # 1) equal only to max. daily flow rate (5MGD) (Deferred)
3. Construct transmission main from Christ Rock to Egypt Rd. 1000' of 18" and 800' of 16" ductile	260,000 1,058,000	100,000	100,000		5-10	This project is in conjunction with the above project in order to transport proposed Christ Rock wells to the distribution system (Deferred)
4. Construct 1 M.G. ground storage tank at Sta. No. 10 (at Christ Rock)	260,000 1,056,000	400,000	400,000		5-10	Required for storage and treatment of Sta. No. 10 wells
5. Construct pumping station at Sta. No 10. (Christ Rock)	260,400 1,056,000	300,000	300,000		5-10	Wells to distribution system (Deferred)
6. Construct 350 GPM well into Magothy Aquifer at Sta. No. 7 (Nathans Ave.)	267,000 1,068,000	200,000			2-5	Required for increased production (Deferred)
7. Construct waterline on U.S. 50, from Woods Rd. to Bucktown Rd.	265,000 1,070,000	110,000		110,000	2-5	To provide service to proposed industrial park, Bucktown Rd.
8. Southside MHP, phase II, fire protection	262,000 1,065,000				1-2	Phase 1 completed.
9. Construct 12" waterlines on Bayly Rd., from Sta. No. 10 to Maces Lane	264,000 1,060,000				5-10	To connect the central part of the system to Sta. No. 10 and provide service along Bayly Rd
10. Replace water lines on Wright St.					2-5	To replace undersized leaky lines and provide better fire protection
11. Construct 8" waterlines on Peachblossom, Cedar and Trenton Sts.					1-2	To extend service and allow Cedar St. to replace undersized leaky lines and provide better fire protection

Table 3-5
Immediate, 5 and 10 Year Priorities for Water Development

Project Name & Description	Location Md. Coord. North/East	Estimated Cost			Projected Years To Completion	Remarks
		Total	Fed. and/or State	Local		
A. Cambridge (Municipal Utilities Commission cont.)						
12. Add third service pump at Stone Boundary pumping station	267,000 1,065,000	15,000		15,000	5-10	Increase service pump capacity from 1 MGD
13. Construct automated control center to provide for remote monitoring and control of all pumping operations and tank levels		300,000	300,000		5-10	To monitor and control all pumping operations from 1 central point on a 24 hr/day basis
14. Replace auxiliary power generating equipment at Nathan's Ave. pumping station	267,000 1,068,000	100,000	100,000		2-5	Necessary to meet water demand in event of power failure
15. West End project Replace water lines on Glenburn, Church, Vue de Leau, Choptank, West End, and Oakley Sts.,	271,000 1,063,000	85,000		85,000	2-5	Replace existing undersized and leaky waterlines. Glenburn and Vue de Leau Sts. Completed. (This project could be accomplished in conjunction with the storm and sanitary sewer separation project)
16. Center City Project Replace water mains on Center, Light, Meadow, Robbins, Springfield, and Muir Sts.,	268,000 1,063,000	145,000		145,000	5-10	Replace existing undersized and leaky waterlines (This project could be accomplished in conjunction with the separation of storm and sanitary sewers)
A. Cambridge Election District						
Reserved						
B. East New Market						
Reserved						
C. Vienna						
Reserved						

Table 3-5
Immediate, 5 and 10 Year Priorities for Water Development

Project Name & Description	location Md. Coord. North/East	Estimated Cost			Projected Years To Completion	Remarks
		Total	Fed. and/or State	Local		
D. Williamsburg, District 12						
1. Settlement around St. Mary's--central water system required	307,000 1,130,000	120,000	120,000			Grant funds required
2. Milligantown--central water system required	302,000 1,128,000	60,000	60,000			Grant funds required
E. Hurlock, District 15						
1. Bobtown--central water system required	300,000 1,124,000	80,000	80,000		No plan	Grant funds required
2 Abandon Thompson Street Well		10,000	10,000		1-2	Grants needed
3. Industrial park water main extension		60,000			1-2	Grants needed
4. Additional town well and treatment to replace Oak St. site		391,000			1-2	Grants needed
5. Nealson to Broad St. loop		90,000			1-2	Grants needed
6. Travers Ave. loop		80,000			1-2	Private developer or grants
7. Industrial park storage tank		675,000			1-2	Grants needed
8. Water main extension to wastewater treatment plant "G"		50,000			1-2	Grants needed
9. Md. Rt.307 water extension					No plan	
F. Linkwood, District 14						
1. San. Dist.#2, Bonnie Brook Provide storage, treatment equipment, hydrants, and pumps					No plan	Grant funding required

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CHAPTER 4 - SEWAGE

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4.1 INTRODUCTION

Dorchester County's future growth is dependent on the development of improved methods for sewage treatment and disposal. The County's topography, soils, high water table, past problems with sewage disposal, and economic dependency on clean water preclude the type of development experienced in the past from continuing in the future. The area north of Route 50 is composed of moderately coarse to coarse textured soils that are dominantly well drained and medium textured to moderately coarse textured soils that range from poorly drained to well drained. These soils are generally satisfactory for sub-surface sewage disposal where water table limitations are met.

Areas of major sewage concern are the southern and western edges of Cambridge, the Neck District, Hoopers Island, and the remaining southern portion of the County. Jacktown has been largely sewered as Sanitary District #4. The Sanitary district #4 service area was expanded by agreement between Sanitary District, Inc. and Cambridge in 1993. These areas are included in Table 4-2.

Development regulations associated with the Critical Area Protection Program will limit growth in most of the Critical Area, and will concentrate allowable growth near existing developed areas. Concentrated development is being further encouraged by State regulations which prohibit individual sewage disposal systems except in areas where the seasonal high water table is consistent with the Dorchester Groundwater Protection Report (GPR). These factors are likely to limit most new development to the periphery of existing communities having excess capacity in their sewerage systems.

4.2 SHARED SEWER FACILITIES

The Sanitary District law was amended in 1980 to provide for Shared Facilities in Dorchester County and future state law in 1984 better defined the parameters for shared facilities. Under this law, sewer systems serving 14 or fewer users on one or more lots can be

constructed, operated and/or maintained. Shared Facilities are established at the discretion of the Sanitary Commission after approval of property owners petitions, maps and plans for the shared facility. Annual assessments and benefit charges are levied to recover not less than the actual costs expended.

Shared Facilities offer the potential for developing adequate sanitary systems in the County which are not prohibitive in cost. The cost of a bermed infiltration pond, for example, can be split among several users making such a disposal system cost effective.

The law allows for broad application including the construction of facilities by the Commission if desired. Both new and existing properties can come under the law. In general application however, the developer of a small subdivision with shared facilities is likely to want to construct these facilities himself and recover the cost in the sale of the land. Property owners in a development will probably want to operate and maintain a shared facility at their own expense. Thus for most cases, there is little reason for the Sanitary Commission to be involved in a shared facility unless a dispute arises over its operation or maintenance. Then under the Shared Facilities Law, the Commission with presigned agreements can step in and operate or maintain the facility; charging the users thereof for any costs involved.

Approval of shared facilities would be automatic provided the standard agreement was executed, the Local Health Department approved the technical aspects of the shared facility and the planning and zoning requirements including subdivision regulations were met.

All shared sewer facilities would be considered in compliance with the Dorchester County Water and Sewerage Plan if they met the following requirements:

1. Plans and specifications are approved by the Dorchester County Health Department.
2. Subdivision (where required) is approved by the Planning Commission and any variances or special exceptions approved by the Board of Appeals.

3. Passage by Sanitary Commission of formal resolution and recording of shared facility in the land records of Dorchester County. Addition to the Water and Sewerage Plan by reference to resolution number and basic description of the shared facility within 6 months of the recorded resolution.

4.3 **SEPTIC SYSTEM PROBLEM AREAS**

4.3.1 Description of Septic System Problem Areas

Septic system problem areas have been differentiated into two categories as defined below:

Type 1: An area of concentrated development where a sanitary survey has found and documented a high incidence of failing septic systems and the soil conditions and lot sizes make continued septic system correction impractical.

Type 2: An area of concentrated development where safe and reliable septic system operation is presumed to be difficult due to poor soil conditions and/or small lot size, however no sanitary survey has been conducted to document and define the problem.

The septic system problem areas are described below:

Type 1 Areas:

1. Lovejoy, Northside of Old Rt. 50 between Tates Bank Rd. and Cedar Drive

   This area consists of about 100 lots with both residential and commercial development. The soils range from poorly drained to well drained. The poorly drained soils combined with the small lot sizes makes septic system operation difficult. A sanitary survey completed in 1978 included this area and is a part of the Facility Plan for Jacktown - Lovejoy Area (EPA-C-240373-010). The city of Cambridge and Sanitary District, Inc. completed an agreement for the expansion of the Sanitary District No. 4 boundaries to include this area. However, there is no currently approved plan to extend the sewer into the expansion area. Some

piecemeal minor sewer extensions have occurred to correct failing septic systems or allow building expansions. A new sanitary survey is needed to assess the current conditions and needs.

2. Cordtown - Aireys Rd. - Old Rt. 50 South of New Rt. 50

This area consists of about 100 lots with both residential and commercial development. The soils are predominantly poorly drained and the seasonal high water table makes proper septic system operation difficult and expensive. Some homes do not have bathrooms and discharge the kitchen sink and washwater to the ground surface. Detailed sanitary surveys were completed in 1975 and 1978 and are a part of the Facility Plan for the Jacktown - Lovejoy Area (EPA-C-240373-010). This area is not in the Sanitary District No. 4 boundaries. There currently is no plan to extend sewer service into this area. A new sanitary survey is needed to assess the current condition.

3. West side of Bucktown Rd., from Rt. 50 south to the Airport

This area consists of about 65 lots with both residential and commercial development. The soils are predominantly poorly drained and the seasonal high water table makes proper septic system operation difficult and expensive. Detailed sanitary surveys were completed in 1975 and 1978 and are a part of the Facility Plan for the Jacktown - Lovejoy Area (EPA-C-240373-010). This area is not within the Sanitary District No. 4 boundaries, however it is adjacent to the Sanitary District No. 4 and the City of Cambridge. The City of Cambridge is preparing to annex this area and extend water and sewer service into this area.

4. Christ Rock

This area consists of about 60 parcels with residential development. The soils are entirely poorly drained and the seasonal high water table causes surface sewage

discharges. A detailed sanitary survey completed in 1978 is part of the Facility Plan for Christ Rock Area (EPA-C-240375-010). Over 50% of the septic systems were found to have some type malfunction generally during the wet season. A sanitary district was not created as a result of that study. This area is adjacent to the City of Cambridge. The City of Cambridge is preparing to annex this area and extend water and sewer service into this area.

5. Woolford, Madison, Milton, Brad Vern Park, Deep Point, Susquehanna Point

This area consists of about 300 homes and a few commercial establishments. The soils are predominantly poorly drained or very poorly drained with a seasonal high water table causing frequent replacement of seepage systems. A sanitary survey completed in March 2000 found that 38% of the homes surveyed had some form of on-site sewage disposal system problem. The ongoing efforts to correct this problem by extension of the adjacent Sanitary District No.3 are discussed in detail in section 4.4.9.1.

Type 2 Areas:

1. Kraft Road

This area consists of about 25 homes, some without indoor plumbing. The soils are poorly or somewhat poorly drained and not suitable for conventional trench septic systems. Sand mounds and At Grade mounds are possible alternative septic system types for the better drained lots. Some very small existing lots make septic system repair of any type difficult.

2. Thompsontown

This area consists of about 30 homes, some without indoor plumbing, near the intersection of Thompsontown and Messick roads. The soils range from moderately well drained to poorly drained and are not suitable for conventional

trench septic systems. Sand mounds and At Grade mounds are possible alternative septic system types for the better drained lots. Some of the residents have recently begun exploring the possibility of creating a shared facility or sanitary district to solve their sewage disposal problem.

3. Reids Grove

This area consists of about 25 homes, some without indoor plumbing, on Maiden Forest road. The soils range from moderately well drained to poorly drained and are not suitable for conventional trench septic systems. Sand mounds and At Grade mounds are possible alternative septic system types for the better drained lots.

4. Cornersville, Hills Point, Hudson, Thomas, Castle Haven Rd.

These communities total about 150 homes on small lots. The soils are predominantly poorly drained and are problematic for Sand Lined Trench septic systems. The small lot sizes often preclude construction of adequate size drainfields. In these areas malfunctions create a more serious health and nuisance problem due to the small lots, the density and the proximity to shellfish waters.

5. Smithville

This area consists of about 25 homes on small parcels along the north end of Smithville road. Some of the homes do not have indoor plumbing. The soils are very poorly drained with soils subject to seasonal high water tables. The very small lot sizes often preclude construction of adequate size drainfields.

6. Upper Hoopers Island

This area includes about 300 homes and businesses. Many of the improved parcels are too small to safely accommodate both individual water supply and

individual sewage disposal. The soils range from moderately well drained to poorly drained. Density is the primary limiting condition here.

7. Hoopersville

About 40 homes and a few businesses exist in this area. Many are on poorly drained soils subject to a high water table requiring frequent repair and/or replacement of seepage systems.

8. Lakes and Straits Election Districts (Toddville, Crapo, Wingate, Bishops head, Crocheron, Blackwater, Andrews and Wesley).

This area consists of about 500 homes and a few commercial establishments clustered in small communities on the very slightly elevated ridges punctuating the extensive marshes. According to the 2000 census data, about 10-15% of the homes do not have bathrooms, and the kitchen sinks and washing machines discharge to the ditches and ground surface. The high areas in this landscape are less than 5 feet above sea level. Subsidence and/or sea level rise is a significant concern here. The soils of the ridges are predominantly very poorly drained and the year round high water table complicates adequate sewage disposal and requires frequent repairs. Even where septic systems are present some kitchen sink and washwaters are separately discharged to the ground or ditches. The area is loosing population and the remaining population is getting older.

4.4 SEWER SERVICE AREAS

The sewer service areas are the same as the water service areas, namely election districts. Characteristics of each area and population data can be found in the Chapter 3 (water) description of each area and is not repeated here for brevity.

4.4.1 Fork (District 1)

Community sewerage systems should not be required in this sparsely populated district during the ten-year planning period. The soils are generally suitable for on-site disposal and this method should suffice to support the limited projected growth in the area. The incorporated towns of Eldorado and Brookview and Galestown shall be designated "no planned service".

4.4.2 East New Market (District 2)

The East New Market District is in an area of coarse grained Pleistocene deposits. Thus, underground disposal of individual system effluents is not generally a problem. However, these deposits are also used as the aquifer for most individual wells. Therefore, careful siting is necessary to prevent cross contamination.

The Town of East New Market has a collection system of eight-inch gravity sewer lines, a Grinder pump system, and a Pumping Station and Force Main to Twin Cities Treatment Plant. The collection system was installed during the WPA program in the 1930's. There was no pumping stations within the Corporate Limits; the area being served by a gravity system with the outfall to a limited treatment plant where the pumping station is now located across undeveloped land outside the Town.

As a result of a Facility Plan Study under an EPA Step 1 grant, East New Market decided to abandon its existing treatment plant and pump its flow to Secretary for treatment in improved, aerated oxidation ponds. This was a foresighted regional solution to a problem wherein both towns had to improve their treatment facilities. The new pumping system was completed the in the Fall of 1981. Its duplex centrifugal pumps were designed to operate at 295 gpm, but are only operating at approximately 180 gpm, therefore the pump station is subject to extended periods of dual pump operation which is considered an overload condition. The new pumping system includes an emergency generator for a stand-by power source, telemetering system to monitor high water levels in the wetwells and approximately 10,000 feet of 6-inch diameter PVC force

main that transmits all of East New Market's wastewater to the upgraded treatment plant in Secretary.

East New Market has provided to local share of funds to construct the pumping station, force main and necessary improvements to Secretary's existing treatment system. Financing of the improvement was through a 75% grant from the Environmental Protection Agency, 12-1/2% grant from the Maryland State Health Department with the remaining 12-1/2% financed with a combination grant/loan from Farmers Home Administration. Under a joint agreement, the costs for operation and maintenance of the Secretary treatment plant is shared by the two towns based on the metered flows from each. Each town is responsible for the operation and maintenance costs of their respective sewage collection and pumping systems.

The town of East New Market replaced the sewer line from Main Street to the Pumping Station with a 10" P.V.C. line. At the same time larger motors were installed at the Pumping Station, which is now capable of pumping 300 + G.P.M.

Eddie Powell constructed a system to service an 18-lot subdivision on Creamery Road. A sewer line was extended across Railroad Avenue, just east of Farm Credit property, and then run easterly along Railroad Avenue to service a planned development in that area.

In 2000, the town replaced the original collection system throughout the town with an 8' gravity system. At the same time, a low pressure grinder pump system pumping into the gravity system on Railroad Avenue was constructed in the "Depot" area to service the area annexed into the town. A low pressure grinder pump system pumping into the gravity system on Main Street was constructed down Linkwood Road to service this newly annexed area.

The town of Secretary installed a wastewater collection and treatment system in 1971. The collection system is comprised of 8 and 10-inch gravity sewers that flow to a pumping station at the foot of Gordon Street. This station has two centrifugal pumps each with a capacity of 200 gpm. The flow is pumped through a six-inch force main that crosses under the South

Branch of the Warwick River and discharges directly into the treatment plant at the distribution chamber. There is also a small pneumatic station, located at the foot of Poplar Street, that serves a limited number of properties and pumps the flow through a 4-inch force main up to the principal gravity system.

The I/I Analysis in the Step I Facilities Plan identified severe problems and showed that during wet weather months, the existing system is subject to approximately 35% infiltration and is overloaded. Subsequently, in 1978, under a HUD Community Block Grant the Town conducted a television inspection program of a limited portion (20%) of the sewer system. This revealed several broken joints, several dips (settled pipe sections), and a segment of collapsed pipe (in Wes Road). Grant funds are being sought to correct the problems so identified and listed by priority in Table 4-6. The town is presently planning to perform an I/I Analysis on the system. Funding is being sought on the State level. This work remains to be done.

The Town of Secretary is in the process of applying for a loan for the Water Tower refurbishing project (painting exterior).

The Infiltration/Inflow Reduction project for Secretary began on May 12, 2003. The schedule for completion of work items is as follows:

1. Complete clean and retv of the entire system to determine if changes in design are warranted based on current televisuals by June 1, 2003;
2. Installation of short cured in place liners by June 27, 2003;
3. Manhole work by July 25, 2003;
4. Lateral Relining by August 1, 2003;
5. Grouting by August 1, 2003;
6. MH to MH Pipe Relining by August 22, 2003;
7. Mainline or Lateral Excavation/Replace by September 8, 2003;
8. Paving and Cleanup by October 7, 2003.

Once the I/I project began, the town applied for a grant to upgrade and repair our Gordon Street pump station, which is thirty-four years old.

The duties of the wastewater treatment plant operation are now being done by two Employees who alternate weeks. They have initiated an aggressive schedule to repair and upgrade the facilities and equipment to insure its most efficient operation.

A joint treatment system for the two Towns at the improved treatment facility in Secretary was completed in the fall of 1981 (Twin Cities). The improvements included converting Secretary's primary pond to an aerated lagoon by installing four 7-1/2 hp. surface aerators and increasing the normal operating depth to six feet. The second pond was converted to a polishing pond and recirculation facilities are present to satisfy a portion of the influent BOD, thus enhancing operational efficiency. New chlorination facilities were constructed which provide a minimum of 30 minutes contact time at the anticipated peak flow of 0.54 MGD. Rapid mixing, de-chlorination with sulfur dioxide and post aeration is also present. A new control building, complete laboratory facilities and a new 25 GPM well were also constructed.

Future improvements in the East New Market District are limited to those contemplated for the Towns of Secretary and East New Market.

Future improvements for sewerage collection would include the extension of lines to the depot area and a gravity collection system along Maryland Route 392 and 14 and connecting roads as shown in Exhibit 4-B. A pump station and force main would transport the sewage to the existing gravity line at Maryland Route 16 and Linkwood Road. Another future consideration is to provide service to the Green Point/West Secretary area of this district. The Green Point area expansion is being considered in conjunction with improvements to the Twin Cities wastewater treatment plant. The state has committed $400,000 for the construction of the Green Point collection system.

The East New Market system is presently servicing Phase I of the Heritage Mobile Home Park consisting of 39 units with a gravity sewer connected to the East New Market collection system at manhole #32. A second phase is planned for 40 units which would also connect to the gravity sewer. However, East New Market is under a moratorium due to overloading of its pump station.

Small concentrations of septic tank failures have been identified by the Health Department in Thompsontown, the Depot area near East New Market and along the Choptank River on Green Point Road near Secretary. The Depot area and Green Point Road area were studied as part of the Facilities Plan for East New Market and Secretary. The Plan recommended that both areas be served through the joint treatment plant expansion. As noted above, the Depot area is planned for correction as part of East New Market's program. The Facilities plan recommended that a Sanitary District be established in the Green Point Road area and that the Sanitary Commission contract for treatment services with East New Market and Secretary. A citizen's petition for an engineering study was submitted to the County on November 8, 1983. A current citizen's petition was submitted to the County in 1993 for a feasibility study. The study was completed in 1994. The Green Point Road area is designated S-1 with improvements completed. The Depot area is designated S-1 with improvements occurring at the time of this writing.

Thompsontown was not studied as part of the Step I Facilities Plan. The extent of failing septic systems has also not been documented. It is recommended that Thompsontown be placed in category S-3 pending a detailed sanitary survey by the Local Health Department. If the suspected individual system failures are confirmed, the area could be studied as part of a Facilities Plan including Rhodesdale, Reids Grove and an unnamed development between the latter two settlements. All have suspected septic tank failures.

Categories for sewer service in East New Market and Secretary are shown on Exhibits 4-B and 4-C, respectively The remainder of the District is classified "no planned service".

4.4.3 Vienna (District 3)

Soils in the northern portion of the Vienna District (north of U.S. Route 50) are derived from course grained Pleistocene deposits. The major soils series are the coarse textured Downer, Hammontown, and Hurlock soils. The moderately well to well drained soils are generally suitable for individual soil absorption systems. South of U.S. Route 50, Elkton and Othello soils series are encountered. These fine to medium textured soils are poorly drained, have very high seasonal water tables and slow permeability. These conditions preclude the use of individual soil absorption systems.

The Local Health Department has identified four areas above U.S. Route 50 as known, or suspected septic system failure areas. These are Rhodesdale, Reids Grove, an unnamed settlement on Maryland Route 331 between these communities and the area west of Vienna. Each of these areas requires a detailed survey to quantify the extent of septic system failure.

The Vienna District is located at the eastern end of Dorchester County. It is bounded to the north by US Route 50, the intersection of US Route 50 and Route 731 (Old Ocean Gateway) to the west, and runs one lot deep along Route 731 to the Vienna Elementary School. The district then runs south along the corporate boundaries of Vienna and includes the Steele Phillips/William Larmore property as the southwestern boundary, and a portion of the Legg Farm to the south. The easternmost boundary is the Nanticoke River.

Forest, agricultural and residential uses dominate the area with some marshland along the Nanticoke River. The current and proposed service area has a combined population of approximately 415 residents according to the Census 2000 population figures. A concentration of 280 residents exists in the Town of Vienna, 125 residents live in the unincorporated area

known as West Vienna, and approximately 10 residents are scattered throughout the remaining unincorporated portions of the service area.

The entire service area is approximately 620 acres in size, of which approximately 110 acres are within the current corporate limit of Vienna. The S-1 area west of Vienna, known as West Vienna, and located outside of the corporate limit is not designated as a Sanitary District. The Dorchester County Council in a "Memorandum of Understanding" has guaranteed to reimburse the Town of Vienna for any losses that may result from non-payment of wastewater bills for this part of the service area. West Vienna is zoned Suburban Residential with a small area zoned Neighborhood Business. The proposed S-1 and S-2 areas southwest of town are zoned either Suburban Residential or Suburban Residential-Resource Conservation Area. The S-3 area south of Vienna is zoned Suburban Residential-Resource Conservation Area and the S-3 area northeast of town is zoned as either Light Industrial or Heavy Industrial.

The Town of Vienna rebuilt its wastewater treatment plant in 1998. It tore down the old plant, which was located directly on the Nanticoke River and also within the floodplain. The new plant is located along Route 331 and Ocean Gateway.

The new plant designed by Davis, Bowen and Friedel has a design capacity of 0,137 mgd and a permitted capacity of 0.137 mgd. Its 2001 calendar year average flow was 0.046 mgd. It is a Biolac Systems with enough capacity to serve an additional 310 homes. The system is still plagued with an inflow and infiltration problem, which is being addressed by local officials. The collection system has three (3) lift pump stations and has a collection system of eight (8) inch pipes throughout the service area.

The completion of the new wastewater treatment plant and the rebuilding of the water plant has allowed the moratorium on development to be lifted in the town. With the recent completion of the "Community Vision Plan" by the Conservation Fund and the adoption of a new comprehensive plan, Vienna is poised for development.

One such development currently under consideration is an annexation request for the Steele Phillips/William Larmore property. The developer is proposing a "phased" planned unit development featuring a mix of residential uses to include single-family dwellings, duplexes, and multi-family units. Phase One of the development will involve the annexation of the S-1 designated portion of the property which constitutes approximately 26 acres. The developer is proposing a density range of four (4) to five (5) dwelling units per acre. This density range will produce a minimum of 104 new dwellings and a maximum of 130 new dwellings. Phase Two of the development will involve the S-2 designated portion of the Legg Farm, which constitutes approximately 27 acres. At the densities previously mentioned, Phase Two of the annexation/development will result in a minimum of 108 new residences and a maximum of 135 new residences. Although unlikely, if both phases are developed at the proposed maximum density of five (5) dwelling units per acre, the resulting number of new homes will total 265, which is below the current available plant capacity to serve an additional 310 homes.

Aside from the capacity issue, it is also appropriate to mention that in order for this development to come to fruition, it must successfully progress through the regulatory process, as well as be supported by private investment.

4.4.4 Taylors Island (District 4)

Soils in the Taylors Island District are poorly suited to conventional sub-surface sewage disposal by individual systems. They are subject to seasonal high water tables which prevent underground absorption systems from working effectively.

The Local Health Department has identified two health problem areas of known and suspected septic tank failures. These are the existing communities of Taylors Island and Smithville which have some houses on small lots close together. Both communities are located on Elkton silt loam which is generally classified as unsuitable for individual disposal systems. It is recommended that a survey be made of each individual disposal system during wet weather

months to determine the severity of the problem. If the survey confirms that the communities have substantial failing septic systems, then a Facilities Plan should be developed for the area.

Taylors Island Family Campground, located in this district, is an RV park of 149 sites. Each is supplied with hookups for water and sewer. The sewerage is handled by three separate septic tanks and drainfields. These systems also are used to handle pumpout from holding tanks.

The entire district (4) is designated as no planned service within the 10-year planning period.

4.4.5 Lakes (District 5)

The Lakes District in southern Dorchester County has soils which are generally unsuitable for individual underground disposal systems. However, none of the small communities in the area have central sewerage facilities.

The Health Department has identified four potential health problem areas with suspected failing septic tanks and/or inadequate privies. They are Blackwater, Andrews, Wesley and Crapo. It is recommended that detailed surveys be undertaken in each of the areas to determine the extent of the sanitary problems. If a Facilities Plan study is warranted, it is further recommended that this District and the Straits Neck (District 10) be studied as a single problem area.

4.4.6 Hoopers Island (District 6)

There are no central sanitary facilities in the Hoopers Island District. All improvements rely upon individual sanitary systems. Soils in the area are predominately tidal marsh and Elkton silty clay loams. Both soil types are considered unsatisfactory for underground seepage disposal of effluents from individual systems, because of periodic high water tables.

The Health Department has identified Fishing Creek and Hoopersville as known septic tank failure areas. In March and April of 1977, a detailed survey of the 300 developed properties on Upper and Middle Hoopers Island was undertaken. Of this total, 136 properties had their on

site sewage disposal systems inspected for possible violations. (Access to the remaining properties was not gained because the occupants were not present.) Thirty-four percent of the properties inspected had wastewater violations of some type. It is felt that this percentage would have been considerably higher if the survey had been made during a period of high water tables. During 1976 and the spring of 1977 unusually low precipitation levels were experienced. Consequently water tables were below normal and soil limitations for septic tank effluent were not as severe during the survey period as could normally be expected. Detailed sanitary inspections should only be made during the period of seasonal high water tables when percolation testing of undeveloped properties is allowed. It is recommended that the Hoopers Island communities be re-surveyed under such conditions.

4.4.7 Cambridge (District 7)

Soils in the Cambridge District are predominantly Elkton and Galestown associations which are subject to periodic high water tables and are consequently poorly suited for underground absorption of effluents from individual disposal systems.

4.4.7.1 City of Cambridge (Pre-2003)

The City of Cambridge has been treating sewage since the mid-1930's when its first treatment system was constructed. The present sewerage system is composed of separate sanitary sewers and combined sanitary and storm drain sewers which serve the 6.78 square miles within the 2003 corporate limits.

The City completed a study of the combined sewer problem under a Step 1 Facilities Plan and Sewer System Evaluation Survey. Recommendations of the SSES Report, completed in May 1985, revised in June 1986 and again in September 1986 and approved in September 1986 were to correct problems by building two new separate sanitary sewers (Peachblossom Separation and Cedar Street Separation), by diverting sanitary sewage before it enters the combined system (Douglas Street Diversion, High and Gay Street Diversion), and by removing

fringe inlets, adjusting overflows and overall sewer rehabilitation. The design of these projects was completed in 1988 and construction was completed in late 1990 or early 1991. Funding of the Combined Sewer Overflow Project was through a special EPA grant program (Marine Estuaries Combined Sewer Overflow Abatement). This work was divided into two major projects; (1) the Combined Sewer Overflow Project and, (2) the Joint Sewerage Project (in conjunction with Dorchester County Sanitary District No. 1). The State Department of the Environment has completed an after study of the effects that these construction projects had on pollution in the Choptank River and Cambridge Creek and found there to be positive improvements to water quality. As a result of the described work and the water quality improvements, flow allocations were modified upward under a 1993 consent order. Previous interim corrective actions by the City permitted an allocation system under a 1984 consent agreement to regulate additional flows into this system.

In general, there are three major areas of the City that have combined systems, namely, (1) the West End section, (2) the Central or downtown area, and (3) the East Cambridge area. The combined flow from these areas, plus the flows from separate sanitary sewers that serve areas tributary to the combined sewer areas are carried to the Trenton Street Pumping Station where it is pumped through a 20-inch force main to the treatment plant. The Water Street Interceptor, built in 1936, serves the entire West End section and portions of the downtown area. This line converges at the head of Cambridge Creek with the Cedar Street Interceptor, which in turn joins the line serving residential and industrial development along Washington Street at a joint just north of the intersection of Virginia Avenue and Lake Street, thus forming the Trenton Street Interceptor that flows to the Trenton Street Pumping Station.

Another major interceptor, the Woods Road Interceptor, serves a heavily industrialized area of approximately 155 acres in the extreme eastern portion of the City including Chesapeake Industrial Park, Woods Road and the Dorchester County Jail. This system included a 12" main

along U.S. Route 50 and the 18" main along Woods Road. The flow is carried by the 18" main to the Woods Road Pumping Station where it is pumped to the treatment plant. This system is entirely a separate sanitary system and the flows are primarily industrial resulting from the numerous industries in the area.

The City enacted a "Wastewater Pretreatment Program" in September, 1985. This Ordinance sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the City of Cambridge, and enables the City to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR Part 403). Significant users are required to provide quarterly wastewater sampling and make their process available for quarterly inspections.

As previously mentioned, the area within the corporate limits of Cambridge is extremely flat, thus requiring the use of pumping stations to pump the wastes to elevations where gravity systems can be utilized and also to pump the wastes to the treatment plant. Presently, there are 16 (sixteen) City-owned sewage pumping stations.

Of these sixteen pumping stations, only 4 pump directly to the treatment plant. These are the Trenton Street, Southside, Woods Road and Willowmere Lane pumping stations. Three (3) of the City pumping stations pump to gravity systems which eventually flow to the Trenton Street Pumping Station where there are two variable speed pumps, each with a capacity of 6.2 mgd. Operating together the two pumps can handle 8.2 mgd. The pumping station is provided with a flow overload device consisting of an automatic sluice gate which shuts off the incoming flow to the station when its pumping capacity is exceeded and a certain flood level in the wet well is reached. The overload device protects the station by backing up flows into the piping system to a point where they overflow into the tidal waters. This device serves to protect the pumping station, but can also cause a combination of sewage, industrial wastes, and stormwater

to overflow into the Choptank River and Cambridge Creek during wet weather periods. The station is now equipped with an auxiliary generator which locks out the lag pump and operates the lead pump during power outage. The station can now handle 2.0 mgd beyond original capacity resulting in a reduced frequency and duration of combined sewer overflows into Cambridge Creek and Choptank River in the event of high intensity storms. There is no record of discharges from this station in recent years.

The Southside Sewer interceptor was constructed from the Cambridge-South Dorchester School Complex on Route 16 between Maple Dam and Egypt Roads eastward to Woods Road. The system consists of 18", 21" and 24" gravity sewer and two pumping stations with associated force mains and serves the school complex, existing properties on Race Street and Stone Boundary Road, thereby providing a backbone sewer facility for the southern portion of the City. One small pumping station on Stone Boundary Road was abandoned and two others (Lexington Street and Pacific Avenue) rerouted to discharge into gravity sewers flowing to the Southside system. Rehabilitation of gravity sewers within the service areas of these latter two pumping stations, which have been directed to the Southside system, has helped to reduce infiltration/inflow.

The West Side interceptor was constructed in 1991, providing gravity service to the western edge of Cambridge and receiving flows from Dorchester County Sanitary District No. 1. The construction of this interceptor allowed the closure of the Sanitary District lagoons and provides, through a cost share agreement, 0.60 mgd. capacity to the District. The interceptor feeds to the Maple Dam Pumping Station. This interceptor also accepts flows from the High Street diversion sewer, rerouting areas on separate sanitary flow from the combined system to the separate Southside system.

As discussed previously, Cambridge is the largest municipality in the County and has the greatest growth potential. The Smart Growth Initiative has served to strengthen that position.

All future development is keyed to the City Wastewater Treatment Plant, which has a present capacity of 8.1 mgd and an ultimate capacity of 10.8 mgd. With a present flow of about 4.5 mgd, the plant can support future development that will contribute 3.6 mgd without modifications. Also, when the existing flows related to CSO's are eliminated, an additional 0.6 ± mgd of capacity will be available for development.

The consensus of planning efforts is shown by sewerage service categories on Exhibit 4-D and may be summarized as follows:

1. Sewerage service for the annexed land is being provided by the Southside Sewer system consisting of collecting sewers, interceptors, pumping stations, and force mains that pump the sewage around the perimeter of the City and directly to the Cambridge Wastewater Treatment Plant. These facilities are independent of existing facilities.
2. Land use is such that the industrial area and higher density residential areas will be located closest to the Treatment Plant with lower densities in the land areas furthest away from the Plant in order to reduce the cost of sewage facilities throughout the service area. The location and size of the proposed industrial area were evaluated to promote working opportunities which could support the accompanying residential uses. This industrial area is adjacent to existing industry.
3. The Treatment Plant's ultimate surplus capacity of 6.3 mgd is divided such that 2.3 mgd is allocated for industrial use, 3.4 mgd allocated for residential and commercial use, and 0.6 mgd allocated for City (old area) development after correction of infiltration.
4. Industrial allotment is based on low to moderate water users (3,000 gallons per day per acre) with a total industrial area of 750 acres.

5. The residential allotment will support an ultimate population of 33,000 people and commercial development in the Urban Area.

The Southside Mobile Home Park, a 125-unit mobile home park, has been proposed for several years with final plans to connect by gravity to the Southside Sewer near the Southeast Pumping Station. Section 1 (41 lots) was completed in December 1982. The developer installed the sewers for dedication to the City. Another phase is now proposed for construction. Several other developments (Woods Crossing Apartments on Route 16 and the Ellsworth Subdivision on Stone Boundary Road) have been made possible as a result of the Southside Sewer. The relocation of the State Hospital facilities to this area has also been completed.

The Cambridge Wastewater Treatment Plant was originally built in 1937 and later expanded and modernized in 1956, but still with primary treatment only, to meet the growing demands of residential and industrial development. In 1973, the plant underwent a complete renovation, at a cost of approximately $6 million, to provide secondary treatment. The upgraded plant was put into operation in 1973 with a design capacity of 8.1 mgd (average daily flow) with a capability through future expansion of ultimately handling 10.8 mgd. The wastewater treatment plant utilized the activated sludge process, and modifications thereof, that removed about 90% of the incoming BOD^5 and 90-95% of the suspended solids, as compared to values of 25-35% and 50-60%, respectively, provided by the old primary plant. The plant was designed to condition sludge by a low pressure wet air oxidation process (Zimpro System), capable of processing 16 tons of dry solids per day, followed by vacuum filtration for dewatering, but fuel costs and tremendous odor problems caused it to be abandoned. An aerated grit chamber was added in 1979 to provide needed grit removal due to the large volumes as a result of the severe infiltration/inflow in the system. In an effort to reduce operating costs and find an end use for the sludge, the City began a composting operation at the plant. Composting was abandoned in 1990 when a belt press was installed for dewatering. In 1997, a lime stabilization system was

added to provide additional pathogen reduction to the sludge. The sludge is used at the County landfill as daily and intermediate cover.

Chlorine is applied to the final effluent for disinfection prior to discharge to the Choptank River. A dechlorination system, mandated by the State, was installed in 1989. The system consists of using the last portion of the existing chlorine contact tank for dosing and mixing of sulfur dioxide gas for dechlorination and diffused air for post-aeration. The chlorine contact tank is located downstream of a 6.6 acre shellfish protection pond that provides a holding time of 24 hours at ultimate average daily flow (10.8 mgd). This will permit ample time for MDE to close shellfish harvesting beds in the River in case of a plant malfunction. The Pond had filled with solids carried over from the final clarifiers.

In 1996, the City entered an agreement with the State to participate in a study which would consider the addition of a Biological Nutrient Removal Process (BNR) at the wastewater treatment plant. This was in response to the Governor's Chesapeake Bay Initiative, which promised to reduce nutrient loading into the bay by 40%. The recommendations included major modification to the aeration system, which would provide for nitrogen removal through either the Step Denitrification or MLE processes. Phosphorus removal would be accomplished through chemical addition. In order that the existing 8.1 mgd capacity could be maintained, additional final clarifier volume was required. The study called for the demolition of one of the plant's existing 64-foot diameter final clarifiers to make way for the construction of two new 98-foot diameter clarifiers. The study reviewed all phases of the equipment and operations of the plant, and included recommendations for upgrades or replacement of much of the plant and a new odor control system. In late 1997, the City accepted the recommendations of the study, and directed the engineer to proceed with the design work.

In August 2000, construction of the $15 million BNR upgrade began. Major components of the upgrade included headworks modifications, aeration tank modifications, aeration system modifications, new flow distribution boxes, new final clarifiers, existing final clarifier modifications, sludge pumping modifications, sludge thickener modifications, chlorine contact tank modifications, shellfish protection pond sludge removal, new chemical feed facility, new biofilter for odor control, new biofilter blower building, underground piping, electrical modifications and a new process control system.

Funding for the project consisted of approximately $5.0 million in State grant funds, approximately $2.4 million in EPA grant funds and with the remainder being paid for by the City through the State's Revolving Loan Fund. Completion of the project in 2003 will provide the City a significantly upgraded plant.

The Cambridge Treatment Plant and pumping stations were operated by the City between 1980 and 1993. For several years prior to 1980, operation was performed by a private corporation (Envirotech). Since 1993, the plant has been operated by Maryland Environmental Services.

In 1993, the City of Cambridge contracted with the engineering firm of Greeley and Hansen to perform a study of the City's combined sewer system. As a national leader in the field of CSO abatement, Greeley and Hansen was asked to make recommendations as to improvements which would be necessary to eliminate CSO discharges in streets, and further recommend improvements that would provide the City the ability to meet the requirements of the newly adopted EPA CSO Control Policy. The study included a monitoring and sampling program and the development of a mathematical model of the City's system. As the City of Cambridge is located along a portion of the Choptank River which includes shellfish harvesting waters, the restriction on the allowable fecal coliform count of any discharge is extremely restrictive. Although the mixing zones provided by the tremendous width and tidal fluctuation

were great, the allowable coliform counts still drove the end result of the study. The end result, without question, was that most the cost effective and practical method of meeting the new EPA CSO Control Policy was to separate the sewers. With the separation of sewers, there would be no method for overflows associated with CSO's to occur in the street. The State of Maryland and the City of Cambridge adopted the recommendations of this study and agreed to move forward with the separation of the combined sewers. Because of the high cost of this work and the disruption associated with a project of this magnitude, the engineer recommended that this project be carried out in seven phases, each to be completed in two-year periods.

In 1996, the City contracted with the engineering firm of George, Miles and Buhr to provide the design of the first phase which included Mill, Water, Vue de L'eau, Church, William and Glasgow Streets. Ongoing design concerns relating to the original stormwater based design, gave way to further review of this project and a change to a more cost effective sanitary sewer based design. Phase I construction was completed by J.M. Bryan & Sons in December 2001. Phase II of the sewer separation, involving the installation of new storm drain systems in Glenburn Avenue in the City's westside and Maryland Avenue, Henry St. and Hayward St. in the City's eastside, is currently under construction and is scheduled to be completed in May 2003

4.4.7.2 City of Cambridge (2003 & Beyond)

In 1997, the Mayor and Commissioners adopted a stronger policy regarding the annexation of properties requesting the use of City sewer service. Smart Growth had designated the City and much of the surrounding area as receiving areas for proposed development. The City wished to make it clear to anyone considering development in the areas adjoining the City that, before sewer service would be granted, annexation must be fully considered. This policy is also shared in questions regarding the expansion of existing sanitary districts. The Council has recognized that continued growth of the districts would be detrimental to the growth and health of the City. The City's adopted 1997 Community and Economic Development Plan and the 1998

Comprehensive Plan made this policy part of the City's long range goals. As part of this Comprehensive Water and Sewer Plan, it shall be included that properties outside of the City limits or an established sanitary district requesting use of the City's sewer service shall first request annexation from the City. The City is just now initiating an update of their Comprehensive Plan. It is anticipated that similar language will be contained therein to reiterate the City's policy of requiring annexation as a pre-requisite to extending sewer service.

4.4.7.3 Dorchester County Sanitary District No. 1 (pre-1998)

The Dorchester County Sanitary Commission maintains Sanitary District No. 1 which presently serves about 1,600 people in the contiguous area northwest of the City of Cambridge. The original District, formed in 1963, comprised approximately 500 acres but has since been increased to about 570 acres.

The present collection system consists of a total of approximately 40,000 linear feet of 8, 10, and 12 inch collecting sewers, 3 pumping stations, 930 feet of 4-inch force main, and 2800 feet of 8-inch force main. Pumping Station No. 1 is located at the intersection of Bellevue Avenue and Hambrooks Boulevard and serves the bayfront area. It houses 2 - 100 gpm centrifugal pumps which pump the flow through a 4 inch force main into the gravity system that eventually flows to Pumping Station No. 2. Similarly, Pumping Station No. 3, which is a pneumatic ejector type station of 100 gpm capacity, serves the Lovers Lane subdivision and pumps the sewage through a 4-inch force main into the gravity system on Glasgow Street near the eastern boundary of the District. From here, the flow is conveyed westwardly along Sandy Hill Road to Pumping Station No. 2 located at the intersection of Algonquin Road and Kiowa Road. This station receives the sewage from the entire District and has 2 pumps rated at 500 gpd each and one auxiliary pump rated at 750 gpm. The flow is pumped through an 8-inch force main that discharges directly to the treatment plant. This station is being completely renovated as part of the Joint Sewerage Project.

The treatment plant consists of two waste stabilization ponds that may be operated in series or parallel. Each has a surface area of approximately 3.5 acres at an average depth of 4.5 feet. The depth may be varied between a minimum depth of 3 feet and a maximum depth of 5 feet. The design load is 200 people per acre (0.14 mgd). The treated effluent is chlorinated and then discharged through a 12-inch gravity outfall pipe into a ditch that empties into Jenkins Creek. Since the actual number of people served (1600) is in excess of the design capacity (1400) the State Department of Health ordered in May, 1973 that no construction permits would be issued for sewer extensions until the plant capacity was increased. In October 1979 the order was extended to prohibit additional house connections and as of May, 1988 this order is still in effect.

A Step 1 Facilities Plan covering the existing Sanitary District No. 1 and an additional 1590 acres south and west of the Sanitary District was prepared in early 1978. The Plan recommended converting the existing stabilization ponds to aerated lagoons to increase treatment capacity to 0.45 mgd and to discharge effluent to Jenkins Creek only from October through April each year. During the remainder of the year, effluent would be spray irrigated when Jenkins Creek is nitrogen limited (as determined by the State Health Department). This plan was revised (Supplement No. 1) to reduce the study area to account for the annexation of 240 acres of the proposed Jenkinstown subdivision by the City of Cambridge and define another recommendation to join with the City of Cambridge in a joint project to install a west end interceptor and replace the lagoons with a pumping station, thus sending the wastewater to the Cambridge WWTP via the Southside sewer system.

This method was first presented at a hearing held January 5, 1984 in Sanitary District No. 1. The City and the Sanitary District entered into an Agreement allowing the implementation of this alternative on August 22, 1984. The State Health Department approved this Joint Sewerage Project by letter dated September 28, 1984. A Step 4 grant was awarded to the City in

September 1984. In the course of the design work, an amendment was requested and approved to permit the use of an all-gravity sewer from the lagoons to the City's Maple Dam Pumping Station, thus eliminating the need for a pumping station. The joint sewer project was completed in 1991.

4.4.7.4 Dorchester County Sanitary District No. 1 (1998 & Beyond)

As part of the Joint Sewerage Project, the existing lagoons have been abandoned, with the Algonquin Pumping Station force main diverted from the influent structure to a new terminal manhole on the new 15" Westside Interceptor (just south of Lovers Lane). Both lagoons have been leveled and graded.

The long standing building moratorium was lifted. This allows for hookups for existing platted but undeveloped lots, and the development of the presently undeveloped areas between the existing District and the City (to be incorporated into the District). These areas include the Longboat Subdivision, Garden Estates, and the Clifton Woods Subdivision. These areas should be S-2.

The Algonquin Pumping Station is being completely renovated with the installation of new pumps (600 gpm each), motors and controls (including emergency generator, wiring, etc.) and an additional wet well connected in series with the existing wet well in order to provide additional (adequate) detention time to prevent short cycling of the pumps. A flowmeter will be installed to monitor all flows pumped to the City's Westside Interceptor.

The entire existing system is subject to periodic excessive infiltration/inflow (I/I). Although this will not affect the flow to the City (and the City's WWTP) as much as it did the lagoons, the cost of transporting and treating this flow will be borne by the District's users.

4.4.7.5 Jacktown

A small part of the Jacktown sewerage system (Dorchester County Sanitary District No. 4), is actually within the Cambridge Election District (No. 7). The force main from the pumping

station serving this system (located at Old Rt. 50 and Tates Bank Road) runs along the north side of Rt. 50 to Woods Road and then along Woods Road directly to the City Treatment Plant. The area west of Bucktown Road along Rt. 50 east of Rt. 16 is not connected to the Jacktown system.

4.4.7.6 Christ Rock

Christ Rock is a small community of 52 homes southwest of Cambridge. Individual septic systems are used for disposal of sanitary wastes and Health Department Surveys in 1978 indicated that 44% of area properties had some form of sanitary violation. Many of the systems are failing due to seasonal high water tables. In 1973, the area refused annexation by the City of Cambridge and was not included in the first phase construction of the Southside Sewer system. Capacity in the system is available however, and the area could be served by westward extension of this system.

A limited Step 1 Facilities Plan, completed in late 1980, recommended that Christ Rock area be provided with central sewer collection facilities connecting to the Southside Sewer system. The plan recommended was a septic tank effluent pressure (STEP) system with an estimated capital cost of $435,300. Local capital cost was estimated to be $27,930. The community strongly opposed any alternatives studied and expressed a desire to repair and/or replace their existing individual systems without Federal or State assistance. Because of unanimous opposition by residents, the County Council voted for the Do-Nothing alternative and not to implement other parts of the plan. Violations are in the process of being corrected under County Health Department supervision. This situation may change now that the City has extended the 21" Westside Interceptor up Egypt Road and Chesapeake Street as part of the Joint Sewerage Project. Also, since as part of the Church Creek proposed plan, a gravity line would be installed along Rt. 16 from Bayly Road to the 21" line at Egypt Road, it presumably would be available for hook-ups in the Christ Rock area.

In 2002, the City of Cambridge filed an amendment to the Water and Sewer Plan to include the Christ Rock community as a planned service area (S-2, W-2). The amendment was approved and the new service area is reflected on the maps included in this Plan.

4.4.7.7 Horn Point Center for Environmental & Estuarine Studies (UMCEES)

The University of Maryland Horn Point Center for Environmental and Estuarine Studies has a NPDES permit for an experimental oyster hatchery. Water is taken from the Choptank River, passed through the hatchery beds and discharged to an unnamed tributary of the River. Floating solids and persistent foam are not permitted in the discharge.

Wastewater system improvements at the University of Maryland Horn Point were recently completed and the system started operations in the summer of 1988. The project cost $1.3 million, jointly shared by the U.S. Environmental Protection Agency and the State of Maryland under the innovative/alternative grant funding program. The new facilities replaced the aged and over stressed system of evapotranspiration beds and septic tanks located throughout the 800 + acre campus. This innovatively designed system includes 1) collection system consisting of 14 grinder pump stations in the pressure sewer system that pumps to 2) treatment facilities (sequencing batch activated sludge-SBAST) composed of three sequencing batch reactors (SBR's) and one aerobic digester, all housed inside a building and operated automatically by a microprocessor programmable controller, 3) two sludge drying beds, and 4) a three segmented bermed infiltration pond for effluent disposal into the surficial groundwater aquifer. The system is designed for a capacity of 35,000 gpd average daily flow which is anticipated by the year 2004, as compared with the present total average flow of approximately 10,000 gpd. Because of performance problems with the bermed infiltration ponds, UMCEES submitted a separate NPDES permit application to MDE for a proposed emergency surface discharge. The surface discharge was granted and flows to the headwaters of LeCompte Bay.

The collection system was extended to serve recent facilities such as the marine sciences building, the outdoor educational complex, additional dormitories, and other buildings.

In 1994 UMCESS successfully negotiated an agreement with the city of Cambridge to accept the sewage waste flow from the center. The Cambridge approved plan is modeled after the Church Creek agreement and will not allow for hook up by properties between the city and UMCEES. The plan is undergoing final state approval now. The design stage is underway and construction could start as early as late summer (94).

4.4.7.8 Summary

As shown on Exhibit 4-D, most of the City of Cambridge, and Sanitary District No. 1 are classified S-1 existing or under construction. Southside Mobile Home Park and several other developments are S-2. The western portion of Cambridge to be served by extension of the Southside Sewer to the Sanitary District No. 1 lagoons, is classified S-2, construction within three to five years. A detailed listing of proposed sanitary improvements is shown in Table 4-6.

4.4.8 Neck (District 8)

The Neck District relies entirely on private disposal systems for sanitary wastes. Soils in the area are primarily Elkton and Keyport associations interspersed with Mattapex and Othello Associations. All are considered undesirable for underground absorption of sewage effluents. Nevertheless, this is the method in use at all but two private disposal systems in the District. The majority of existing development is located on the extensive waterfront in the District, with both large lots and small clusters of homes experienced.

There are presently several shared facilities using bermed infiltration pond systems for effluent disposal, constructed and operating, and several more proposed and/or under construction, in the Neck District. (See Table 4-3A).

The Health Department has identified seven Neck communities as areas of known and suspected septic tank failures. Almost every community is included. A house to house survey to

quantify the extent of septic tank failures is recommended during the next seasonal high water table period. If the survey confirms that a health problem exists, a Step I Facilities Plan should be undertaken of the Neck area and portions of the adjacent Cambridge District.

4.4.9 Church Creek (District 9)

Soils in the Church Creek District are primarily in the Elkton-Othello Associations which are poorly suited for underground absorption of individual disposal system effluents. Seasonally high water tables associated with these soils inhibit absorptive capacity. The Church Creek Sanitary District # 3 sewage collection system was placed in service and on line in August 1992. Maryland Wire Belts has been connected into the Church Creek sewage collection system. The Maryland Wire Belts BIP was retained for fire protection services only.

The Health Department has identified the areas west and east of the Town of Church Creek along Route 16 as areas of failing septic systems. A detailed Health Department analysis during the spring of 1977 showed that in Woolford, 10 septic systems (or 21%) were malfunctioning and seven additional properties discharged kitchen or dishwasher wastes to ditches and streams. The majority of failing septic systems in Woolford were systems eight to fifteen years old. Many of the functioning systems were relatively new and/or used by only one or two persons.

4.4.9.1 Dorchester County Sanitary District No. 3 (Church Creek)

A Step 1 Facilities Plan was prepared for the area including the Town of Church Creek, and the Community of Woolford in the Church Creek Election District (No. 9), and the communities of Madison, Deep Point and Brad Vern Park in the Madison Election District 16. This Plan, completed in 1976, recommended a regional treatment facility to serve all five of the above communities with a collection system consisting of vacuum sewerage lines serving each community, a central treatment plant consisting of secondary treatment and discharge to Buttons Creek for tertiary treatment via natural wetlands. However, due to resistance from the U.S.

Department of Interior (since Buttons Creek flows into the Blackwater River which flows through the Blackwater National Wildlife Refuge) this method of disposal was dismissed in favor of a bermed infiltration pond. Supplement #1 to the Facilities Plan was prepared in January 1978 which set forth the revised recommendations. Following a series of meetings in 1979 and 1980 the County decided to construct only a portion of the system, serving the Town of Church Creek and a small surrounding area. Dorchester County Sanitary District No. 3 was formed to serve an estimated 80 connections in the Church Creek Area with an estimated flow of 30,000 gallons per day.

A Step 4 Design/Construction grant was made and the project was initiated in May 1980 under the Innovative/Alternative Funding Program. After preliminary hydrogeological investigations for the BIP, additional studies to amend the Step 1 Facilities Plan were approved by the State. This led to the recommendation in 1983 (Supplement No. 2) that the collection system consist of a grinder pump pressure sewer system instead of the vacuum system and that instead of a treatment plant disposal in the Church Creek area the raw sewage be pumped via force main to the City of Cambridge for treatment and disposal. Due to opposition by the City of Cambridge, the project remained dormant for several years until the State agreed to fund Supplement No. 3 to re-evaluate the feasibility of pumping to the City and to try to work with the City of Cambridge in order that a final alternative plan could be approved and the project move forward. In early l990 the MDE mandated that the City accept the sewage flows from Church Creek. Consequently, a public hearing on Supplement No. 3 was held on September 6, 1990 and a revised Finding of No Significant Impact was issued on October 30, 1990.

Both Supplement #2 and #3 recommend that a grinder pump pressure sewer system would be the cost-effective sewage collection method for the Town of Church Creek. They also showed that conveyance of collected wastewater would be most effectively handled by a force main connection along Maryland Route 16 between Church Creek and the City of Cambridge's

sewer system. The collection system would consist of approximately 91 grinder pumps and associated piping to serve the existing population of 305 in Church Creek. The conveyance system would consist of a pump station and some 19,000 feet of 4-inch diameter force main to be constructed in the public right-of-way along Route 16. The flow would then be conveyed by the Cambridge sewer system to the Cambridge Wastewater Treatment Plant for treatment and disposal. Since the 8 MGD plant is operating at one-half capacity, the anticipated design flow of 30,000 GPD would not require any modifications to the existing treatment facility. Construction of the system was completed and operational in August 1992.

The most appropriate connection to the City's sewer system, from an engineering and cost standpoint, was to a 21-inch gravity sewer in the Joint Sewerage Project. The sewer was built by the City of Cambridge and Dorchester County Sanitary District #1. The connection is on the west side of the City along Route 16. This location represents the shortest distance between the City system and the District #3 collection system. A transition manhole at Rt. 16 and Bayly Road was provided upstream of the gravity sewer connection, with a short gravity line along Rt. 16 to connect the transition manhole to a manhole on the 21 inch sewer at Rt. 16 and Egypt Road. How this may affect the ability (or desire) of the residents of Christ Rock to hook-up to the facilities is unknown at this time.

The proposed service area for the expansion of the Church Creek Sanitary District involves a large geographic area which includes both existing communities and undeveloped areas. A number of the existing communities are experiencing high rates of failing septic systems, particularly during periods of seasonally high water tables. This Comprehensive Water and Sewer Plan describes these areas in Section 4.3. The geographic areas described within the proposed service area include Madison, Woolford, Harrisville, Brad Vern Park, Deep Point and Susquehanna, all of which are experiencing problems with failing systems.

It is understood that the provision of sewer to this large geographic area must be reconciled with the Comprehensive Plan and growth management policy. The intent of expanding sewer service to this area is not to create the potential for new development, but rather to alleviate a serious threat to public health. Much of the land in the service area is sensitive; tidal and nontidal wetlands, 100-year floodplain and Critical Area. In addition, the County's Comprehensive Plan designates the majority of this service area for conservation purposes (with the exception of Church Creek and the rural villages of Madison and Woolford.) Therefore, there must be some agreement reached which limits the potential for additional development which may arise from the extension of sewer to this area.

In the spring of 1998, after a very wet February and March, residents of the Woolford and Madison areas petitioned the Dorchester County Sanitary District requesting sewer service by expansion of the nearby Sanitary District No. 3. The requested expansion was to include "Woolford, Laurie Lane, Deep Point, Madison, to Indian Trail Acres Road area, Susquehanna Point." The Sanitary District retained Chester Engineers to prepare a preliminary feasibility study, which was completed in February 1999. The study area delineated included nearly all existing dwellings south of the Little Choptank, west of the Town of Church Creek, east of Parsons Creek and north of the Blackwater River. Those excluded were either outliers too distant to be served, or currently served by shared facility bermed infiltration ponds. This study recommended the installation of small diameter pressure sewers and pumping stations to convey the sewage to the Church Creek Pumping Station and then to the City of Cambridge Wastewater Treatment Plant. In January 2000, the Commissioners of Cambridge tentatively agreed to allow the expansion of Sanitary District No. 3.

In January 2000, the Environmental Health Office of the Dorchester County Health Department, requested the assistance of MDE to conduct a community sanitary survey of the Woolford and Madison areas, to assess the need for public sewer service. The sanitary survey

area was essentially the same as the study area delineated in the preliminary feasibility study of 1999. The survey was conducted from March 13, 2000 to March 22, 2000. A total of 312 properties were visited within the designated survey area that is predominately residential. In among the residential uses are four churches, one marina, four businesses, one restaurant, one firehouse and two seafood processing facilities. Of all properties evaluated, 38% had some form of on-site sewage disposal problem.

In general, the survey area included all problem areas known to the Dorchester County Health Department with one exception. During the course of the survey, it was observed that the cluster of homes northeast of Sanitary District No. 3 along Church Creek Road has the same characteristics as the survey area and is adjacent to the existing sewer system. These homes were not surveyed at this time due to staff constraints, but are expected to have similar septic system problems and should be considered in planning any expansion of the Sanitary District.

In 2001, the Dorchester County Sanitary Commission funded a study by George, Miles and Buhr entitled "Madison-Woolford Feasibility Study – Dorchester County, Maryland", said study being incorporated by reference into this Plan. The study examined the feasibility of eight (8) alternative methods of providing community sewer to the Madison-Woolford-Susquehanna Point areas of the County. The alternatives included gravity sewer systems, low pressure sewer/grinder pump systems, pump and haul systems, Regional Wastewater Treatment Plants, and on-site shared facilities. A cost-benefit analysis to rate the following categories was performed: public health, environmental impacts, smart growth, affordability and implementation.

The study resulted in a recommendation that the entire proposed service area be served with low pressure sewer/grinder pump systems. The flow would be transmitted from the system to the Church Creek pump station in Sanitary District #3 and treat the wastewater at the City of Cambridge Wastewater Treatment Plant.

Based on the 2000 survey conducted by the Environmental Health Office of the Dorchester County Health Department, a map identifying the boundaries of the proposed Madison-Woolford Sanitary District was developed and is identified in this Plan as Exhibit E. In addition to the map, the following table represents a list of the parcels and lots that are intended to be included in the proposed service area:

TABLE 4-1									
	Woolford - Madison Sewer Project Wastewater Allocation Estimate								
911Num	911Rd	Tax Map	Parcel	Lot	SbNm	OwnFNa	OwnLNa	NewBdUs	WWAlloc
4814	Madison C	50	121			Dwayne	Zentgraf	Com	4750
4825	Madison C	50	124			Thomas	Beeker	Res	250
	Madison C	50	160			William	Harrington	Com	500
4840	Madison C	50	232			William	Harrington		250
4820	Madison C	50	238	1		John	Alaskewic	Res	250
4828	Madison C	50	238	2		James	Cunnungh	Res	250
	Madison C	50	28			Comm. Of	Dorcheste	Res	250
1226	Old Madis	50	68			John	Hughes	Com	500
1154	Taylors Isl	50	141			Madison	Firehouse	Com	500
1441	Taylors Isl	50	46			Charles	Powell	Com	7500
1607	Taylors Isl	51	143			Theodore	Bramble	Com	500
1614	Taylors Isl	51	93	1B		Bonnie	Abend	Com	500
1616	Taylors Isl	51	103			Betty Lou	Middleton	Com	500
4622	Harrisville	50	167			Baptist	Church Ha	Oth	500
4624	Harrisville	50	166			Harrisville	Baptist Ch	Oth	250
1213	Old Madis	50	172			Madison	Methodist	Oth	500
1628	Taylors Isl	51	242			Milton	Methodist	Oth	250
1718B	Taylors Isl	51	247			Trinity	Hall	Oth	500
1316	Bell Lane	50	34			Michael	McMahan	Res	250
1318	Bell Lane	50	220			Garland	Felty	Res	250
1320	Bell Lane	50	219			Terry	Felty	Res	250
1322	Bell Lane	39	68			Ernest	Freuderst	Res	250
1324	Bell Lane	39	86			Erna	Bower	Res	250
1326	Bell Lane	39	44			Ben	Vester	Res	250
1328	Bell Lane	39	55			Donald	Heintzelm	Res	250
1330	Bell Lane	39	43			Michael	Diorio	Res	250
1334	Bell Lane	39	88			Charles	Mills	Res	250
1336	Bell Lane	39	52			Evelyn	Baker	Res	250
1404	Bell Lane	39	82	2		Alberry	Moore	Res	250
1408	Bell Lane	39	81	4		John	Horn	Res	250
1410	Bell Lane	39	83	5		Sharon	Clagg	Res	250
1414	Bell Lane	39	70	6&7		Robert	Anderson	Res	250
1416	Bell Lane	39	22	9		Lloyd	Tull	Res	250
1418	Bell Lane	39	23	8		Leroy	Moore	Res	250
1420	Bell Lane	39	21	10		Emma	Brooks	Res	250
1422	Bell Lane	39	20	11		William	Bowen	Res	250
1424	Bell Lane	39	84	12		Alfonzo	Karminski	Res	250
4946	Deep Poin	50	22			William	Asplen	Res	250
5008	Deep Poin	50	212			Ruth	Phillips	Res	250
5010	Deep Poin	50	178			Mary	Nolan	Res	250
4613	Harrisville	50	157			James	Cooper	Res	250
4615	Harrisville	50	156			Lillie Mae	Chester	Res	250
4617	Harrisville	50	155			Levin	Lee	Res	250
4619	Harrisville	50	186			Levin	Lee	Res	250
4623	Harrisville	50	153			Norman	Opher	Res	250
4625	Harrisville	50	152			Levin	Lee	Res	250

4629	Harrisville	50	151			Rebecca	Ayres	Res	250
4635	Harrisville	50	221			John	Brown	Res	250
4637	Harrisville	50	149			Randolph	Stanley	Res	250
4639	Harrisville	50	148			Helen	Sprow	Res	250
4641	Harrisville	50	147			Levin	Lee	Res	250
4643	Harrisville	50	145			John	Harris	Res	250
4645	Harrisville	50	146			Kemp	Harris	Res	250
4716	Harrisville	50	41			Vernon	Tortello	Res	250
4718	Harrisville	50	40			Raymond	Mitchell	Res	250
4720	Harrisville	50	39			Raymond	Mitchell	Res	250
4733	Harrisville	50	161			Bruce	Steinmiller	Res	250
4735	Harrisville	51	241			Joseph	Willey	Res	250
4739	Harrisville	51	86			William	Shenton	Res	250
1601	Heliport R	50	189	11	5	Logan	Parks	Res	250
1605	Heliport R	50	189	9 & 10A	5	Chris	Seaman	Res	250
1609	Heliport R	50	189	8 & 9A	5	Elwood	Hawes	Res	250
1614	Heliport R	50	189	5	5	Anthony	Benussi	Res	250
1621	Heliport R	50	189	7	5	Armel	Arthur	Res	250
1609	Joy Place	50	7			Rebecca	Herbert	Res	250
1611	Joy Place	50	165	41		Howard	Getz	Res	250
4802	Laurie Lan	50	204	1-Jan	2	William	Ruark	Res	250
4804	Laurie Lan	50	204	2-Jan	2	Matthew	Werner	Res	250
4806	Laurie Lan	50	204	3-Jan	2	Lawrence	Barnes	Res	250
4808	Laurie Lan	50	204	2A	2	Lanny	Creighton	Res	250
4810	Laurie Lan	50	204	2B		Steve	Mills	Res	250
4816	Laurie Lan	50	188	40	1	Rodney	Travers	Res	250
4822	Laurie Lan	50	188	43	1	Colleen	Olazagasti	Res	250
4828	Laurie Lan	50	188	49	1	Lynn	Stavdle	Res	250
4832	Laurie Lan	50	188	51	1	Frank	Whirley	Res	250
4834	Laurie Lan	50	188	52	1	Michael	German	Res	250
4840	Laurie Lan	50	188	70		Dean	Price	Res	250
4846	Laurie Lan	50	188	72		Dorsey	Shockley	Res	250
4904	Laurie Lan	50	188	78		Linda	Rockwell	Res	250
4914	Laurie Lan	50	204	7	2	Timothy	Argie	Res	250
4916	Laurie Lan	50	204	9	2	Thomas	Wolf	Res	250
4920	Laurie Lan	50	204	10	2	B.Jo	Parsons	Res	250
4924	Laurie Lan	50	204	11	2	Jeff	Linthicum	Res	250
4901	Lee Terra	50	189	6	5	Alice	Wilson	Res	250
4905	Lee Terra	51	265			Elmer	Molter	Res	250
4907	Lee Terra	50	26			Kirk	Rodgers	Res	250
4910	Lee Terra	51	257			Hans	Littner	Res	250
4913	Lee Terra	51	205			P.O.	Slaughter	Res	250
4915	Lee Terra	51	91			William	Willey	Res	250
4918	Lee Terra	51	259	1	6	Kenneth	Combes	Res	500
4921	Lee Terra	51	258			Frances	Vaughan	Res	250
4923	Lee Terra	50	24			James	Travers	Res	250
4840	Madison C	50	206			Harold	Travers	Res	250
1204	Old Madis	50	73			Eugene	Elliott	Res	250
1205	Old Madis	50	171			Madison Meth. Church			250
1207	Old Madis	50	84			Donald	Killmon	Res	250
1209	Old Madis	50	83			Frank	Nuttall	Res	250

1210	Old Madis	50	74			Eugene	Elliott	Res	250
1211	Old Madis	50	82			Daniel	Mills	Res	250
1215	Old Madis	50	81			Hubert	Burton	Res	250
1216	Old Madis	50	72			Nettie	Hastings		250
1217	Old Madis	50	80			Christoph	Applegart	Res	250
1218	Old Madis	50	71			Jeanette	Brannock	Res	250
1219	Old Madis	50	79	North Part		Howard	Hughes	Res	250
1221	Old Madis	50	78			Gene	Gould	Res	250
1222	Old Madis	50	70			Ruth	Moore	Res	250
1223	Old Madis	50	86			Linda	Ball	Res	250
1224	Old Madis	50	69			John	Hughes		250
1225	Old Madis	50	77			Howard	Frazier		250
1227	Old Madis	50	76			Howard	Frazier	Res	250
1228	Old Madis	50	67			Thomas	Jones		250
1230	Old Madis	50	17			William	Diskau	Res	250
1232	Old Madis	50	16			Calvin	Stewart	Res	250
1234	Old Madis	50	15			William	Jones		250
1242	Old Madis	50	65			Howard	Frazier	Res	250
1243	Old Madis	50	173			Frederick	Miller	Res	250
1250A	Old Madis	50	12			William	Cheezum	Res	250
1250B	Old Madis	50	12			William	Cheezum	Res	250
1250C	Old Madis	50	12			William	Cheezum	Res	250
1254	Old Madis	50	62			John	Kriner	Res	250
907	Parsons D	49	21	34	7	Roanld	Derflinger	Res	250
909	Parsons D	49	21	35	7	Alicia	Hoffman	Res	250
911	Parsons D	49	21	36	7	Louis	Buscemi	Res	250
913	Parsons D	49	21	37	7	Joseph	Coyne	Res	250
917	Parsons D	49	21	39	7	John	Kerger	Res	250
919	Parsons D	49	21	40	7	John	Strehlen	Res	250
920	Parsons D	49	21	20	7	John	Kerger	Res	250
921	Parsons D	49	21	41	7	Arthur	Teagarde	Res	250
922	Parsons D	49	21	21	7	John	Dillion	Res	250
923	Parsons D	49	21	42	7	Marie	Halverson	Res	250
924	Parsons D	49	21	22	7	Diana	Vincent	Res	250
925	Parsons D	49	21	43	7	James	Jarrett	Res	250
927	Parsons D	49	21	44	7	Betty	Chamberl	Res	250
928	Parsons D	49	21	24	7	Wayne	Souder	Res	250
929	Parsons D	49	21	45	7	Wayne	Perry	Res	250
931	Parsons D	49	21	46	7	Virginia	Murphy	Res	250
932	Parsons D	49	21	25	7	Dennis	Jones	Res	250
937	Parsons D	49	21	49	7	Vernon	Ireland	Res	250
942	Parsons D	49	21	29	7	Lawrence	Pugh	Res	250
944	Parsons D	49	21	30	7	Irvin	Bramble	Res	250
947	Parsons D	49	21	54	7	Randy	Cool	Res	250
948	Parsons D	49	21	32	7	Nat'l Bank	Cambridg	Res	250
950	Parsons D	49	21	33	7	Richard	Adamski	Res	250
951	Parsons D	49	21	56	7	David	Keener	Res	250
1236	Pennsylva	50	66			James	Stallings	Res	250
1238	Pennsylva	50	64			Thomas	Scheuerm	Res	250
1240	Pennsylva	50	63			Edward	James	Res	250
1244	Pennsylva	50	13			Thomas	Jones	Res	250

5017	Russell R	40	128	66		Thomas	Cockran	Res	250
5021	Russell R	40	127	63		William	Donnelly	Res	250
5023	Russell R	40	125	61		Frederick	Melvin	Res	250
5025	Russell R	40	124	59		Janet	Crawford	Res	250
5026	Russell R	39	100	4		Donna	Walter	Res	250
5027	Russell R	40	123	58		Walter	McGovern	Res	250
5028	Russell R	39	102	3		Kenneth	Mason	Res	250
5029	Russell R	40	122	57		Joseph	Stone	Res	250
5030	Russell R	39	117			James	Gregory	Res	250
5031	Russell R	40	121	55		Willilam	Headley	Res	250
5032	Russell R	39	2			Robert	Parks	Res	250
5033	Russell R	40	120	54		Terence	Sheehan	Res	250
4701	Steamboa	51	94			Robert	Martin	Res	250
4707	Steamboa	51	97			Theodore	Bramble	Res	250
4708	Steamboa	51	95			Benjamin	Sears	Res	250
4711	Steamboa	51	72			Anna	Brooks	Res	250
4712	Steamboa	51	98			Ted	Brooks	Res	250
4714	Steamboa	51	204			Archie	Brooks	Res	250
905	Susqueha	49	20		7	Gloria	Diegel	Res	250
911	Susqueha	49	21	16	7	Donald	Polz	Res	250
912	Susqueha	49	5		7	Timothy	Oakes	Res	250
915	Susqueha	49	21	14	7	Edward	Satterfield	Res	250
919	Susqueha	49	21	12	7	James	Cahalan	Res	250
921	Susqueha	49	21	11	7	Johnie	Hutchinso	Res	250
923	Susqueha	49	21	10	7	Arthur	Chase	Res	250
925	Susqueha	49	21	9	7	Howard	Hughes	Res	250
927	Susqueha	49	21	8	7	Robert	Myers	Res	250
929	Susqueha	49	21	7	7	Allen	Pugh	Res	250
933	Susqueha	49	21	5	7	Shirley	Keener	Res	250
935	Susqueha	49	21	4	7	Shirley	Keener	Res	250
937	Susqueha	49	21	3	7	Benjamin	Horseman	Res	250
942	Susqueha	49	21	1	7	George	Vickers	Res	250
1039	Taylors Isl	50	37			Phyllis	James	Res	250
1045	Taylors Isl	50	201			Elwood	Elzey	Res	250
1047	Taylors Isl	50	33			Samuel	Horseman	Res	250
1048	Taylors Isl	50	2			Charles	Bromwell	Res	250
1051	Taylors Isl	50	205			David	Horseman	Res	250
1056	Taylors Isl	50	135			Carl	Insley	Res	250
1057	Taylors Isl	50	25			Alton	Windsor	Res	250
1058	Taylors Isl	50	134			Richard	Moxey	Res	250
1060	Taylors Isl	50	133			Robert	Bromwell	Res	250
1061	Taylors Isl	50	19			Fay	King	Res	250
1103	Taylors Isl	50	38			Larry	Parks	Res	250
1105	Taylors Isl	50	202			Herbert	Thompson	Res	250
1107	Taylors Isl	50	200			Carl	Abend	Res	250
1109	Taylors Isl	50	203			Amasa	Matthews	Res	250
1111	Taylors Isl	50	36			Richard	Abend	Res	250
1113	Taylors Isl	50	138			Michael	Abend	Res	250
1115	Taylors Isl	50	137			Richard	Abend	Res	250
1118	Taylors Isl	50	129			Louis	Sears	Res	250
1120	Taylors Isl	50	128			Keith	Cornish	Res	250

1122	Taylors Isl	50	127			Sophia	Smith	Res	250
1124	Taylors Isl	50	126			Eddie	James	Res	250
1126	Taylors Isl	50	163			Eddie	James	Res	250
1143	Taylors Isl	50	181			Hilda	Keene	Res	250
1147	Taylors Isl	50	35			John	Lieb	Res	250
	Taylors Isl	50	162			Daniel	Mills		250
1209	Taylors Isl	50	87			Martha	Evans	Res	250
1211	Taylors Isl	50	88			Albert	Mills	Res	250
1216	Taylors Isl	50	207			Howard	Hughes	Res	250
1226	Taylors Isl	50	75			Walter	Isaac	Res	250
1303	Taylors Isl	50	61			Harold	Travers	Res	250
1309	Taylors Isl	50	179			James	McNew	Res	250
1343	Taylors Isl	50	51			Norman	Opher	Res	250
1409	Taylors Isl	50	248			Monroe	Smith	Res	250
1415	Taylors Isl	50	209			Rachel	Groff	Res	250
1541	Taylors Isl	50	10			Medford	Travers	Res	250
1542	Taylors Isl	51	124			Melvin	Peters	Res	250
1548	Taylors Isl	50	23			Terry	Vincent	Res	250
1550	Taylors Isl	50	196	4		Terry	Vincent	Res	250
1552	Taylors Isl	50	14	2A		Donald	Welch, Jr.	Res	250
1554	Taylors Isl	50	44			William	Ford	Res	250
1556	Taylors Isl	50	123			Fred	Collins	Res	250
1558	Taylors Isl	50	226			Ronnie	Thomas	Res	250
1560	Taylors Isl	50	30			Frederick	Travers	Res	250
1562	Taylors Isl	50	31	3		Vernon	Webb	Res	250
1564	Taylors Isl	50	217	2		Vickie	Lewis	Res	250
1566	Taylors Isl	50	218	1		Terry	Groves	Res	250
1569	Taylors Isl	50	140			Raymond	Asplen	Res	250
1605	Taylors Isl	51	44			Joyce	Balderson	Res	250
1606	Taylors Isl	51	26			Marston	Price	Res	250
	Taylors Isl	51	208			Milton Baptist Church			250
1610	Taylors Isl	51	211			Joan	Lectera		250
1611	Taylors Isl	51	45			Mary	Bramble	Res	250
1612	Taylors Isl	51	92			Bonnie	Abend	Res	250
1613	Taylors Isl	51	88			Theodore	Bramble	Res	250
1615	Taylors Isl	51	88			Theodore	Bramble	Res	250
1617	Taylors Isl	51	88			Theodore	Bramble	Res	250
1618	Taylors Isl	51	103			Betty Lou	Middleton	Res	250
1619	Taylors Isl	51	273	1		Charles	Brohawn	Res	250
1620	Taylors Isl	51	101			Leonard	Greenhaw	Res	250
1621	Taylors Isl	51	273	2		John	McWilliam	Res	250
1622	Taylors Isl	51	102			Leonard	Greenhaw	Res	250
1623	Taylors Isl	51	273	3		Donald	Robbins	Res	250
1624	Taylors Isl	51	100			Dean	Spray	Res	250
1625	Taylors Isl	51	273	4		Gary	Newcomb	Res	250
1626	Taylors Isl	51	99			Verne	Morris	Res	250
1629	Taylors Isl	51	279			Theodore	Bramble	Res	250
1631	Taylors Isl	51	198			Harold	Marshall	Res	250
1639	Taylors Isl	51	188			Carole	Armiger	Res	250
1646	Taylors Isl	51	71			Donald	Neal	Res	250
1647	Taylors Isl	51	277	1		Earl	Asplen	Res	250

1648	Taylors Isl	51	262			John	Popejoy	Res	250
1650	Taylors Isl	51	27			Kenneth	Asplen	Res	250
1651	Taylors Isl	51	107			Dewitt	Brannock	Res	250
1653	Taylors Isl	51	108			Bernard	Vervin	Res	250
1654	Taylors Isl	51	105			Carolyn	LeCompte	Res	250
1655	Taylors Isl	51	48			John	Paul	Res	250
1656	Taylors Isl	51	199			Carolyn	LeCompte	Res	250
1659	Taylors Isl	51	49			Emory	Fitzhugh	Res	250
1705	Taylors Isl	51	50			Larry	Windsor	Res	250
1709	Taylors Isl	51	52			Philip	Lyons	Res	250
1713	Taylors Isl	51	18			Alan	Herbert	Res	250
1715	Taylors Isl	51	245			Elsworth	Lutz	Res	250
1718A	Taylors Isl	51	106			Trinity	Parsonag	Res	250
1719	Taylors Isl	51	74			Betty	Camper	Res	250
1721	Taylors Isl	51	109			Bessie	Camper	Res	250
1725	Taylors Isl	51	244			Ernest	Payne	Res	250
1729	Taylors Isl	51	112			Frankie	Harris	Res	250
1734	Taylors Isl	51	30			Thomas	Palmer	Res	250
1736	Taylors Isl	51	90			Joan	Waldsburg	Res	250
1738	Taylors Isl	51	232			David	Stewart	Res	250
1747	Taylors Isl	51	76			Benjamin	Linthicum	Res	250
1748	Taylors Isl	51	73			Donna	Garman	Res	250
1806	Taylors Isl	51	200			Benjamin	Linthicum	Res	250
1820	Taylors Isl	51	209	north side		Benjamin	Linthicum	Res	250
1604	Vanada W	51	259	4	6	Robert	Perry	Res	250
1504	Vane Rd.	39	95			Richard	Brown	Res	250
1506	Vane Rd.	39	89	15		Louis	Baker	Res	250
1508	Vane Rd.	39	30	16		Wilfred	Smith	Res	250
1510	Vane Rd.	39	31	17		Charlotte	Oliver	Res	250
1512	Vane Rd.	39	62	18,19		Deborah	Schiesser	Res	250
1514	Vane Rd.	39	32	20,p/o21		Donald	Wilson	Res	250
1516	Vane Rd.	39	59	22,p/o21		James	Wagner	Res	250
1517	Vane Rd.	39	97	9		Melvin	Miller	Res	250
1518	Vane Rd.	39	19	23		Daniel	Zajac	Res	250
1520	Vane Rd.	39	48	24		James	Talcott	Res	250
1522	Vane Rd.	39	69	25,26		Jost	Miller	Res	250
1524	Vane Rd.	39	64	27		James	Foley	Res	250
1526	Vane Rd.	39	60	28,p/o 29		Keith	Lynch	Res	250
1527	Vane Rd.	39	96	6		Earlene	Mayhorn	Res	250
1528	Vane Rd.	39	65	30,p/o29		John	Hall	Res	250
1530	Vane Rd.	39	51	31		Charles	Liberto	Res	250
1532	Vane Rd.	39	66	32		Ira	Taylor	Res	250
1534	Vane Rd.	39	61	33		Joyce	Taylor	Res	250
1535	Vane Rd.	39	98	5		Vernon	Webb	Res	250
1536	Vane Rd.	39	74	34		Edward	Hughes	Res	250
1538	Vane Rd.	39	45	3536		Carl	Christians	Res	250
1540	Vane Rd.	39	73	37		Melvin	Steelberg	Res	250
1542	Vane Rd.	39	33	38		Rose	Johanson	Res	250
1544	Vane Rd.	39	34	3940		Charles	Parks	Res	250
1602	Vane Rd.	39	67	41		James	Reiter	Res	250
1604	Vane Rd.	40	112	42,43		James	Bostic	Res	250

1606	Vane Rd.	40	113	44		Christoph	Hunt	Res	250
1607	Vane Rd.	40	119	52		Walter	Parker	Res	250
1608	Vane Rd.	40	114	45,46		Charles	Carlisle	Res	250
1609	Vane Rd.	40	118	51		Helen	Rogers	Res	250
1610	Vane Rd.	40	115	47		Jack	Smith	Res	250
1611	Vane Rd.	40	117	49		Russell	Vane	Res	250
1613	Vane Rd.	40	116	48		Glenn	Yoder	Res	250
5035	Vane Rd.	40	129	53		Richard	Parker	Res	250
4652	White Mar	50	222			Thomas	Frazier		250
4654	White Mar	50	103			Tommy	Frasier	Res	250
4656	White Mar	50	100			Rudolph	Kuessner	Res	250
4658	White Mar	50	99			Phillip	Kenny	Res	250
4660	White Mar	50	98			Barry	Wingate	Res	250
4663	White Mar	50	93			Norman	Wingate		250
4664	White Mar	50	97			Ken	Bright	Res	250
4665	White Mar	50	92			Norman	Wingate	Res	250
4667	White Mar	50	91			Linda	Willey	Res	250
4668	White Mar	50	96			Linda	Willey	Res	250
4669	White Mar	50	90			Russell	Cheesma	Res	250
4670	White Mar	50	95			Linda	Willey	Res	250
4672	White Mar	50	94			Raymond	Aaron	Res	250
4671	White Mar	50	223			Ottie	Mills		250
4673	White Mar	50	89			Ottie	Mills	Res	250
2013	Church Cr	51	24			Edmund	Chester	Res	250
2017	Church Cr	51	25			Linna	Manokey	Res	250
2023	Church Cr	51	184			Golden	Jackson	Res	250
2025	Church Cr	51	203			Thomas	Jackson	Res	250
2035	Church Cr	51	226			Gorman	Lankford	Res	250
2039-2	Chruch Cr	51	P/0 185			Sylvester	Manokey	Res	250
2039-3	Church Cr	51	181			Charles	Pinkett	Res	250
2039	Church Cr	51	269			Thomas	Tanner	Res	250
2043	Church Cr	51	189			Gary	Adkins	Com	500
2043	Church Cr	51	189			Gary	Adkins	Res	250
2045	Church Cr	51	224			Gary	Adkins	Res	250
2057	Church Cr	51	190			Jerry	Clark	Ind	500
2059	Church Cr	51	212			Darnelle	Robinson	Res	250
2063	Church Cr	51	192			William	Foxwell	Res	250
2067	Church Cr	51	193			Joe	Barrack	Res	250
2103	Church Cr	51	182			Gillis	Todd	Res	250
2107	Church Cr	51	69			Dennis	Roe	Res	250
2115	Church Cr	51	237			Carrie	Burton	Res	250
2121	Church Cr	51	84			Tawes	Harper	Res	250
2123	Church Cr	51	249			Alan	Robbins	Res	250
2125	Church Cr	51	251			Jaquine	Hailey	Res	250
2127	Church Cr	51	83			Alfred	Jones	Res	250
2135	Church Cr	51	59			Michael	NcGlaughl	Res	250
									*101,500

* The total wastewater allocation approved by the City of Cambridge is not to exceed 100,000 g.p.d. unless expressly authorized in writing by the City of Cambridge. Therefore, failing systems will be granted w waste wastewater allocation before infil lots. Data was obtained from MD Property View 2002.

The total flow allocation granted to the proposed service area is .10 mgd. This allocation was committed to by the City of Cambridge in a letter dated October 3, 2003, which is referenced in this Plan as Exhibit H.

The primary purpose of the new Sanitary District is to alleviate existing, documented health-related problems caused by failing septics in the service area. Therefore, existing, improved lots in the service area will be given first priority to the flow capacity granted by Cambridge, and then only to the extent that it corrects an existing failing system problem. Once existing failing septics are addressed, any excess capacity in the systems will be made available to those unimproved parcels located within designated Priority Funding Areas (PFA's) that fall within the proposed sanitary district boundaries. Sewer service will not be provided to those parcels not identified on Table 4-1 and Exhibit 4-E.

Within the parameters described above, the Dorchester County Sanitary Commission should develop specific policies for allocating excess flow capacity to those properties included in the Madison-Woolford Sanitary District. These policies must be consistent with this Plan, and should be coordinated with the local health department and planning office to ensure consistency with local land use regulations. The availability of sewer service in the sanitary district should not be used as a basis to change the zoning of property from that which it was zoned prior to the establishment of the sanitary district.

4.4.10 Straits Neck (District 10)

The Straits Neck District is similar to the neighboring Lake District. Soils are poorly suited to absorptive disposal of individual systems, yet this is the only method provided for effluent disposal of individual systems. The Health Department has identified every community in the District as a known or suspected septic tank failure area. These communities include Toddville, Wingate, Bishops Head and Crocheron. The area requires detailed surveys to

determine the extent of the problem and whether a Step I Facilities Plan is warranted. If so, it should be done in conjunction with any study of the Lakes District.

4.4.11 Drawbridge (District 11)

Soils in the Drawbridge District are primarily in the Elkton, Othello, Mattapex and Tidal marsh association; each of which are poorly suited for underground absorption of septic tank effluent. Individual septic tank failures have been experienced but the lack of concentrated population areas prevent resulting serious health problems.

Individual problem areas are best solved on a case by case basis in the Drawbridge District. Bermed infiltration ponds and evapotranspiration beds may be advantageously used where effluent absorption methods have failed.

The entire area is not classified, indicating no improvements contemplated within the ten-year planning period.

4.4.12 Williamsburg (District 12)

The sandy loam soils of the Williamsburg District are generally satisfactory for underground absorption of septic tank effluents. In some areas, the soils are so permeable that the effluents (and nitrates from agricultural fertilizers) are not sufficiently filtered in the soil and can contaminate water supplies taken from the shallow aquifer. Isolated septic tank failures occur however, particularly in the Klej soil association. Population growth in the area has been scattered but is generally in the suburbs of Hurlock or Federalsburg. Soil capabilities for underground disposal of septic wastes is believed a factor. Future growth will probably continue in similar fashion.

Milligantown and the settlement around St. Mary's Rest Home in Williamsburg Church Road use privies for disposal of sanitary wastes. In Milligan town each privy serves several dwelling units. A detailed Health Department survey of the dwellings around St. Mary's Rest Home showed many of the privies in disrepair or overflowing. (Note that the Rest Home has

adequate private sanitary facilities for its patients.) Privies are acceptable for disposal of sanitary wastes where there is no indoor plumbing as in these two areas. Public action is needed, however, to at least provide acceptable, sanitary privies. Soils in the area do have capability for underground absorption of septic tank effluent. Construction of such systems would require installation of indoor plumbing. These areas should be studied by the Sanitary Commission and a method found for providing adequate sanitary facilities. The remainder of the Williamsburg District is classified "no planned service".

4.4.13 Bucktown (District 13)

The Bucktown District, south of Cambridge, has no central sewerage facilities. Soils are generally not suited for conventional underground disposal of septic wastes because of the high seasonal water table.

The Health Department has identified an area of known or suspected failing septic systems along Cordtown Road and Aireys Road. These areas are included in the Jacktown Step I Facilities Plan completed in November 1980, see District 14 for discussion. The remainder of the area is classified no service within the ten year planning period.

4.4.14 Linkwood (District 14)

The soils in this District, particularly north of U.S. Route 50, are generally suitable for on-site disposal of individual septic tank effluent. Of major concern to the Health Department is the many failing septic tanks in the Jacktown area along Route 50 from Bucktown Road to and including Airey's Road. Part of this area is located in the Bucktown District but is generally associated with Jacktown.

Darling International on Linkwood Road, north of Route 50, processes chicken wastes collected from chicken processing plants across the Delmarva Peninsula. A secondary waste treatment plant was installed in the early 1970's and consisted of a primary clarifier, a dual 11.6 million gallon aerated lagoon system which treated the rendering wastewater and was combined

with condenser cooling water prior to disinfection and discharge to an unnamed tributary of the Transquaking River which flows into Higgins Mill Pond. However, several years ago the system was converted to an aerobic system combined with spray irrigation part time and discharge to the surface tributary part time. The NPDES permit is presently under consideration for renewal. However, at a recent public hearing for the permit renewal strenuous objections were raised by area residents concerning the quality of effluent discharge into Higgins Mill Pond because of recent fish kill in the Pond, along with the noted overall decline of the water quality, were cited as indicators of substandard operation and management of the facility. Testing also has indicated a high ammonia level in the effluent. This facility is classified as S-1.

Linkwood Manor Mobile Home Park has a privately owned community sewage collection system. Phase one of the development has been approved for 27 mobile home units to be served by septic tank/pumping stations that discharge into a bermed infiltration pond (BIP). Currently, 7 units are connected to the BIP. A groundwater discharge permit allowing 8,100 GPD (average) and 32,400 GPD (maximum) was issued in 1988. Plans are currently being developed to obtain approval for approximately 185 additional mobile home units. The original approvals included 27 units in Phase One; 64 units, a commercial area, and an undetermined number of campsites in Phase Two to be served by an additional BIP. A spray irrigation system is being planned to accommodate the ultimate build-out of the development. This facility is classified as S-1.

4.4.14.1 Dorchester County Sanitary District No. 4 (Jacktown)

A Step I Facilities Plan was completed in November 1980 for the Jacktown-Lovejoy area. The plan considered two methods of sewage treatment, three methods of central collection facilities and two ways of individual system upgrading. The plan recommended a septic tank effluent pressure (STEP) system pumping to the City of Cambridge treatment facility as best meeting the needs of the area. Where possible, the system would not be operated during periods

of low groundwater, and existing underground effluent septage system utilized (modified STEP system).

At the public hearing of January 20, 1981 testimony and petitions were presented both in support and opposition to the Plan. After extended discussion the County Council voted to approve the recommended modified STEP system. Following this a group of citizens pushed to implement the initial phase of the plan; thus, Dorchester County Sanitary District No. 4 was created to serve this initial phase of service.

Subsequently, during the Step 2 design an amendment to the Step 1 Plan was incorporated into the design to provide for a grinder pump small diameter pressure sewer system as the means of collection and transportation, with all septic systems abandoned. The system, as completed in March 1984 is shown on Exhibit 4-D. This Exhibit also shows the future phased areas for service as included in the Facilities Plan. After collection by the grinder pump pressure system the entire flow is pumped from a pumping station located on the north side of Route 50 at Tates Bank Road through an 8" force main along Route 50 to Woods Road and along Woods Road directly to the City of Cambridge Sewage Treatment Plant. The maximum flow allowed per the intermunicipal agreement between the City and the Sanitary Commission, for the present operational phase of the system, is 72,000 gallons per day. The present flow is approximately 35,500 gallons per day.

Since there is pressure for growth in this general area, especially upon completion of the improvements to Route 50 in Cambridge and the expansion of services to the Chesapeake Industrial Park and shopping center at Route 50 and Route 16, along with plans to increase industrial development and services at and near the Cambridge-Dorchester Municipal Airport, it is recommended that several areas be designated as S-2 for service in the next three to five years. All of the recommended service areas are shown on Exhibit 4-D.

4.4.15 Hurlock (District 15)

Hurlock District soils are generally of the Sassafras and Galestown associations which have good absorptive capacity for underground disposal of sewage system effluents.

The Town of Hurlock and the immediate surrounding area have a large growth potential due to the Town's active efforts to secure additional industry, a good water supply and an adequate sewage treatment plant. Suburban development using individual sewage systems is also a factor because of the good soil absorptive capacity.

The Hurlock sewerage system serves an estimated 2000 population of 1,874 persons and two (2) major industrial plants. The collection systems consists of eight, ten, twelve and fifteen inch diameter gravity sewers, 3 small lift stations which transport sewage through 3000' of 4" diameter force main, and a main pumping station which transports all of the Town's sewage to the treatment plant.

The Jackson Street pumping station, located in the Southeast part of the Town collects all flows from the Town and pumps them through 6000' of 18" diameter force main to the treatment plant. The pumping station is equipped with three pumps, each with a capacity of 2,800 gallons per minute.

The Step 1 Facilities Plan for the Hurlock area found that infiltration and inflow amounted to about nine percent of total flow and that it is more cost effective to continue to treat these extraneous flows than to remove them. The study also found the collection system to be structurally sound with no apparent problems. Isolated excessive infiltration in the Prospect Heights area was recommended for correction by routine maintenance. This has not been completed. Drainage has been improved in Prospect Heights, which may be beneficial to the infiltration problems.

Adjacent to the southern corporate limits of Hurlock are the settlements of Mission Hill and Jones Village. Mission Hill is a development of about 20 homes, some of which are using

privies for waste disposal. Service can be provided by a short extension of an existing sewer in Main Street. Jones Village is a larger area bounded generally by Main Street, Jackson Road, Pickle House Road and Skeet Club Road. Sewerage problems are not as severe as in the Mission Hill area but several properties rely on privies for sanitary wastes disposal. Both of these areas are served by the Town's water supply. However, no central sewage collection systems have been installed nor are there any plans for central collection in the near future.

The economic levels of both areas will probably preclude connection to any extension of the sanitary sewer system without substantial grant funds to provide the needed indoor plumbing. Recent experience inside the Hurlock corporate limits where water and sewer lines were extended to an area of similar economic level without indoor facilities illustrates the need for such grants. The Town has had difficulty in getting homeowners to connect to the system because of the high cost of providing indoor plumbing. As an inducement, the City reduced hook-up costs and worked with the County to obtain low interest State home improvement loans to provide the needed home improvements.

The Hurlock treatment plant, constructed in 1968, is comprised of four stabilization ponds with a total surface area of 410 acres. The system currently has approximately 106 acres under irrigation which is permitted for 740,000 gallons per day. The spray system operates during the months of April through November. Due to weather, time, and crop constraints, the system operates best at about half the permitted rate.

Recent NPDES permit and TMDL requirements for discharge to Wright's Branch required either an advanced treatment plant or greater use of spray irrigation.

A denitrification (BNR) plant is currently under design for discharge to Wrights Branch. The existing irrigation farm will continue in operation and the existing lagoons will provide emergency storage. Plant capacity will be 1.67 mgd to handle current domestic and industrial

needs plus anticipated growth for 15 to 20 years. A new permit becomes effective once the new plant goes on line in 2005.

The Hurlock Industrial Park, located on the south side of MD Route 392, within the Town's Corporate Limits, has city sewer and water. The sewage collection system consists of on-site gravity sewers which empty into an on-site pump station. A 4" diameter force main 2,900' long transports sewage from the on-site pump station along MD Route 392 to the MD Route 392 Pump Station, which discharges into the Town's existing sewer system. Service lines will need to be extended within the Park to accommodate Phase II.

Currently there are two major industries connected to the City Sewer System. These are Bloch and Guggenheimer and Allen Family Foods, Inc. As part of a pretreatment program implemented by the Town in 1984, Bloch and Guggenheimer and Allen Family Foods, Inc. pretreat their wastewater before discharging it into the City Sewer System.

There are several unserved areas within Hurlock, mostly due to annexations. One area, the property owned and operated by Delmarva Community Services along MD Route 331 on the south end of Hurlock, is under consideration to be served by an extension of a force main within the next year that would cross MD Route 331 and connect through a recorded, but not yet built-out subdivision, Gemcraft Homes. At this time, only Delmarva Community Services is to be served by this extension. Another recently annexed area is along MD Route 307 on the easterly edge of the Hurlock corporate limits. This property is proposed to be served with sewerage facilities within the next five years to open up a heavy industrial area along the rail line and MD Route 307. The design phase will determine whether to connect onto the Town system along MD Route 397, or from the south through Prospect Heights.

The Town of Hurlock received a request from the Dorchester County Public School system to extend sewer service to the North Dorchester Complex. The North Dorchester High and Middle Schools serve roughly 1,000 students from the towns of Vienna, Rhodesdale,

Eldorado-Brookview, Hurlock, East New Market and Secretary; as well as, the rural areas of the northern half of the county. The water service at the North Dorchester Complex is provided by private wells located on the campus. At each school the effluent is handled by a series of clarification tanks, pump stations, force mains and septic fields. These are the largest septic fields in the county. The high school's field is almost 50 years old while the middle school's is over 25 years old. Both systems are at or beyond their design life.

As part of the Board of Education's Five Year Capital Improvement Plan (CIP) these systems are scheduled for replacement in 2004. Options for replacement include replacing these systems "in kind", building an on-site treatment plant or connecting to an existing system (Town of Hurlock Treatment System).

The first option of replacement in-kind is unattractive due to the recurring costs system replacement every 25-30 years and environmental concerns. It is estimated that to replace the existing system in kind (assuming future projected flows) will cost $496,000. Each year for the last several years, the effects of age have been costly to all county tax payers: pump stations have failed and required replacement, force mains have collapsed, clarification tanks require regular pumping, drain fields have collapsed or failed. These items have cost in excess of $69,000 in the last three years in unbudgeted costs.

The second option of an on-site treatment plant is not considered practical due to the difficulty of meeting environmental standards and operational expenses. To operate this type of system requires licensed plant operators, regular maintenance and repeated capital upgrades to meet changing standards.

The third option of connecting to an existing system is desirable for several reasons.

- Treatment of effluent is accomplished by an existing licensed facility and operations staff.
- It is easier to monitor and regulate fewer treatment systems in an area.

- The cost to do this is comparable to replacement in kind but would avoid the types of unbudgeted expenses that are currently being incurred as well as avoiding future capital costs for replacement systems.
- The Town of Hurlock is in the process of upgrading their system capacities that would more than allow for tie in of the North Dorchester Complex and still allow for conservative growth of their users.
- The Town of Hurlock has reacted positively to initial discussions of this topic.
- Once connected the Board of Education would simply pay quarterly service bills like any other user, large or small. This would be a budgeted cost versus the unbudgeted emergency maintenance costs that incurred currently.
- The system would be sized to only accept current and projected flows from the North Dorchester Complex. This is consistent with Smart Growth policy and the Town's desires.
- Option three would remove the two largest septic fields in the county from service.

The firm of George, Miles and Buhr, LLC conducted a preliminary feasibility study on behalf of the Board to investigate this potential solution. This proposed option is comprised of the following components:

- Primary Pump Station (120 gpm) to move effluent from North Dorchester Complex to Hurlock's treatment plant. Both existing pump stations are assumed to be capable of delivering effluent to the new primary pump stations.
- 18,800 feet of 4" PVC force main to convey effluent to Hurlock's treatment plant.
- 1 "moled" highway crossing.

The estimated cost for this option is $637,000. While this is in excess of replacing in kind, this option avoids future replacement and repair costs. The 4" force main is sized to accept only the flow rates from the North Dorchester Complex. Additional tie-ins to this line between the schools and the treatment plant will not be accepted. Preliminary discussions with key stake holders (Town of Hurlock, Board of Education, Health Department, State Highway Administration and the State of Maryland's Inter-Agency Committee on Public School Construction (IAC) have received positive feedback.

The Maryland Office of Planning (MOP) has indicated that in order for this project to begin moving forward, the County's Water and Sewer Masterplan must be updated, approved locally and submitted to MOP for approval. With this update and approval in place, this project will be ready for funding application to the IAC. The Board of Education intends to submit a funding application for this project as part of the annual Capital Improvement Plan (CIP) Update (FY05).

Bobtown is a settlement of ten homes in the County north of Hurlock. It is recommend that a small shared facility of individual septic tanks with a central drainfield or a BIP should be constructed, because many of the homes have no sanitary facilities.

A potato processing plant located on Nealson Street uses water to wash sand from potatoes prior to shipping. Settling tanks are used to remove sand and soil from the wasted washwater before discharging to the spray irrigation system outside of the Town limits.

One other industry in the County area is operating under effluent discharge permits. This is The Eastern Corp. (sand and gravel operation) near Hurlock. The Eastern Corp. uses water to wash impurities from sand. These wastewaters are processed through settling ponds to eliminate fine soil particles from being discharged directly to the Gravel Run. The ponds operate by exfiltration through the underlying soils.

4.4.16 Madison (District 16)

The Madison District has soils of the Elkton and Othello associations which are poorly suited for underground absorption of individual disposal systems because of high seasonal water tables. An indication of this is the Health Department designation of Madison, Deep Point and Brad-Vern Park as areas of failing septic systems.

A detailed Health Department survey of the area in 1977 found 21 (34%) individual sewage systems malfunctioning in Madison with an additional 7 dwellings discharging kitchen wastes or clothes washer waste to a stream or ditch. Brad-Vern Park and Deep Point each had one failing septic system. Many of the Brad-Vern Park systems had been repaired within the last seven years while almost half of the Deep Point systems are used seasonally or part time. The community of Harrisville has been added to the list of failing septic tank areas by the Health Department.

Madison, Milton, Brad-Vern Park and Deep Point were included in the Church Creek Step 1 Facilities Plan study. The study recommended community sewer (vacuum system) service for each with a regional treatment facility, but only the Church Creek area is proceeding into the design phase. For further details see 4.12.9.1, Dorchester County Sanitary District No. 3 (Church Creek).

There is one shared sanitary system serving 3 homes (Vernon Webb system) each having their own septic tank with the effluent pumped to a mounded seepage bed.

4.4.17 Salem (District 17)

Soils in the Salem District are not generally suited for underground absorption of septic system effluents. Homes are widely scattered and the Health Department has not identified any areas of suspected septic tank failures within the District.

Population of the area has been declining since the 1930 census and no community systems are foreseen to serve the small population. The entire area is not classified, indicating no construction within the planning period.

Tudor Farms, a 3,200 acre private wildlife management area and hunting preserve, is located south of Decoursey Bridge road. Several buildings are served by septic tank/pump systems that discharge to a BIP. Although flows are currently less than 5,000 gpd, a State Groundwater Discharge Permit was issued due to the non-residential nature of the development.

4.4.18 Elliott Island (District 18)

The Elliott Island District is largely tidal marsh which is unsuitable for underground absorption systems. The Elliott community at Fishing Point is located over soil associations which have underground absorptive ability and the individual systems function satisfactorily with proper maintenance.

No community sanitary facilities are planned within the next ten years and the entire District is not classified.

TABLE 4-2 (S.H.D.-II)
INVENTORY OF EXISTING COMMUNITY AND INDIVIDUAL SEWAGE PROBLEM AREAS

SEWERAGE SERVICE AREA	NATURE OF PROBLEM	POPULATION	AREA (ACRES)	CAPACITY (MGD)	DEMAND (MGD)	PLANNED CORRECTION AND ACTION
I. INCORPORATED AREAS						
A. City of Cambridge	a) Infiltration b) Combined sewer overflows c) Cambridge WTTP Nutrient Removal		Total City 3,392 Combined Sewer Area, 333	8.1	4.4	a) Step 1 Facilities Plan under study b) Combined Sewer Overflow Project Phase 2 of 7 completed 2003. Phase 3 in design. c) BNR upgrade completed 2003.
B. Town of Secretary	a) Infiltration		161	0.14 50% of Twin Cities WWTP	0.10	a) Grouting and selective pipeline replacement. Funding needed
C. Town of East New Market	a) Infiltration		156	0.14 50% of Twin Cities WWTP	0.25	Sewer replacement completed in 2003.
D. Town of Vienna	Infiltration		75	0.13		Wastewater treatment plant and sewer replacement completed in 1998.

TABLE 4-2 (S.H.D.-II)
INVENTORY OF EXISTING COMMUNITY AND INDIVIDUAL SEWAGE PROBLEM AREAS

SEWERAGE SERVICE AREA	NATURE OF PROBLEM	POPULATION	AREA (ACRES)	CAPACITY (MGD)	DEMAND (MGD)	PLANNED CORRECTION AND ACTION
II. COMMUNITIES						
A. Fork (District 1)						
1. Brookview	Failing Septic Systems		103	0.06	0.047	Step 1 Facilities Plan required
2. Eldorado	Failing Septic Systems					Step 1 Facilities Plan required
3. Galestown	Failing Septic Systems					Step 1 Facilities Plan required
B. East New Market (District 2)						
1. Thompsontown	Failing Septic Systems					Possible creation of Sanitary District with a community septic system. Concept feasibility study initiated in 2003. Grant funding required.
C. Vienna (District 3)						
1. Kraft Road	Failing Septic Systems					Step 1 Facilities Plan required
2. Reids Grove	Failing Septic Systems					Step 1 Facilities Plan required
D. Taylors Island (District 4)						
1. Taylors Island	Failing septic systems					Step 1 Facilities Plan required
2. Smithville	Failing septic systems					Step 1 Facilities Plan required

TABLE 4-2 (S.H.D.-II)
INVENTORY OF EXISTING COMMUNITY AND INDIVIDUAL SEWAGE PROBLEM AREAS

SEWERAGE SERVICE AREA	NATURE OF PROBLEM	POPULATION	AREA (ACRES)	CAPACITY (MGD)	DEMAND (MGD)	PLANNED CORRECTION AND ACTION
II. COMMUNITIES (CONT.)						
E. Lakes (District 5)						
1. Blackwater	Failing septic systems		-	-	-	Step 1 Facilities Plan required
2. Andrews	Failing septic systems		-	-	-	Step 1 Facilities Plan required
3. Robbins	Failing septic systems		-	-	-	Step 1 Facilities Plan required
4. Wesley	Failing septic systems		-	-	-	Step 1 Facilities Plan required
5. Crapo	Failing septic systems		-	-	-	Step 1 Facilities Plan required
F. Hoopers Island, (District 6)						
1. Fishing Creek	Failing septic systems		-	-	-	Step 1 Facilities Plan required
2. Hoopersville	Failing septic systems		-	-	-	Step 1 Facilities Plan required
3. Hoopers Island	Failing septic systems		-	-	-	Step 1 Facilities Plan required
G. Cambridge (District 7)						
1. Christ Rock	Failing septic systems		100	-	0.02	Annexation by City of Cambridge
H. Neck (District 8)						
1. Thomas	Failing septic systems		-	-	-	Step 1 Facilities Plan required
2. James	Failing septic systems		-	-	-	Step 1 Facilities Plan required
3. Hudson	Failing septic systems		-	-	-	Step 1 Facilities Plan required
4. Hills Point	Failing septic systems		-	-	-	Step 1 Facilities Plan required
5. Cornersville	Failing septic systems		-	-	-	Step 1 Facilities Plan required
I. Church Creek (District 9)						
1. Woolford	Failing septic systems		-	-	0.05	Expansion of the Sanitary District No. 3 (Church Creek)
2. Milton	Failing septic systems		-	-		

TABLE 4-2 (S.H.D.-II)
INVENTORY OF EXISTING COMMUNITY AND INDIVIDUAL SEWAGE PROBLEM AREAS

SEWERAGE SERVICE AREA	NATURE OF PROBLEM	POPULATION	AREA (ACRES)	CAPACITY (MGD)	DEMAND (MGD)	PLANNED CORRECTION AND ACTION
II. COMMUNITITES (CONT.)						
J. Straits-Neck (District 10)						
1. Bishops Head	Failing septic systems		-	-	-	Step 1 Facilities Plan required
2. Crocheron	Failing septic systems		-	-	-	Step 1 Facilities Plan required
3. Toddville	Failing septic systems		-	-	-	Step 1 Facilities Plan required
4. Wingate	Failing septic systems		-	-	-	Step 1 Facilities Plan required
K. Drawbridge (District 11)						
L. Williamsburg (District 12)						
1. Milligantown	Inadequate privies		-	-	-	Study by Sanitary Commission
2. Area around St. Mary's Rest Home	Inadequate privies		-	-	-	Study by Sanitary Commission
M. Bucktown (District 13)						
1. Vicinity of Aireys	Failing septic systems		-	-	-	Part included in Jacktown Step 1 Facilities Plan. Remainder should be included in a Step 1 Facilities Plan.
N. Linkwood (District 14)						
1. Jacktown-Lovejoy S.D. #4	Failing septic systems		-	.072	.035	Sanitary survey needed to update information concerning extent and nature of problem. Extension of sewer service to areas where needed.

TABLE 4-2 (S.H.D.-II)
INVENTORY OF EXISTING COMMUNITY AND INDIVIDUAL SEWAGE PROBLEM AREAS

SEWERAGE SERVICE AREA	NATURE OF PROBLEM	POPULATION	AREA (ACRES)	CAPACITY (MGD)	DEMAND (MGD)	PLANNED CORRECTION AND ACTION
II. COMMUNITIES (CONT.)						
O. Hurlock (District 15)						
1. Mission Hill	Inadequate privies	20 homes	-	-	-	Possible inclusion in Hurlock Facilities Plan. Funding required.
2. Jones Village	Inadequate privies		-	-	-	Possible inclusion in Hurlock Facilities Plan. Funding required.
3. Bobtown	No sanitary facilities	10 homes	-	-	-	Study by Sanitary Commission.
P. Madison (District 16)						
1. Madison	Failing septic systems		-	-	0.05	Expansion of the Sanitary District No. 3 (Church Creek)
2. Deep Point	Failing septic systems		-	-	-	
3. Brad-Vern Park	Failing septic systems		-	-	-	
4. Harrisville	Failing septic systems		-	-	-	
Q. Salem (District 17)						
R. Elliott Island (District 18)						

TABLE 4-3 (S.H.D. - 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VACANT					AVG	PEAK	
I. PUBLIC COMMUNITY												
1. City of Cambridge Dept. of Public Works	Activated Sludge	Issued MD0021636	268,000 1,069,000	25	0	Choptank River	10.8	10.8	8.1	3.5	6.9	*See Appendix Consent order
2. Dorchester Co. Sanitary Dist. #1, Sanitary Commission												Pumped to Cambridge WWTP Lagoon System abandoned 1991
3. Town of East New Market Commissioners (Twin Cities)	Pump Station to Secretary	N/A	279,750 1,113,500	.9	-	Sec./East New Market STP			PS @ 281 GPM Duplex	.085	.15	
4. Town of Hurlock Commissioners	Denitrification Plant	Issued MD0022730	285,500 1,130,500	245	20	Wrights Branch of Marshyhope Creek & groundwater	4.0	4.0	*After* 1.7	*upgrade* 1.1	*is done* 2.1	Under construction in 2003
5. Town of Vienna Commissioners	Extended Aeration	Issued MD0020664	239,750 1,136,750	.5	-	Nanticoke River	.06	.06	.06	.054	.250+	Re. Consent Order Rehabilitation Planned by 4/1/96

TABLE 4-3 (S.H.D. - 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
6. Town of Secretary Commissioners (Twin Cities)	Aerated Lagoon with Polishing Pond	Issued MD0055352	282,000 1,097,000	3.3	-	Warwick River	.284	.284	.281	.246		
7. Dor. Co. Sanitary Dist. #4 Jacktown-Lovejoy	Pumping Station Force Main	N/A	264,000 1,074,000	-	-	Cambridge STP	-	-	500 GPM	.058	.180	
II. PRIVATE COMMUNITY OR INSTITUTIONAL												
1. South Dorchester K-8 Center Board of Education	Septic Tank & Bermed Inf.Pd.	Being Processed 880PO543	207,000 1,033,000	2.0	-	Groundwater	-	-	-	-	-	
2. University of Maryland Horn Point CEES	N/A	Issued MD0051403	280,000 1,046,000	-	-	Tributary of Choptank River	N/A	N/A	N/A	N/A	-	Discharge from oyster hatchery
3. Eastern Corp. Campground	Septic tank & Leachfield	N/A	E 6500 N 4100	0		Ground	N/A	N/A	N/A	N/A	.012	
III. INDUSTRIAL												
1. McWilliams Canning Co.	Settling	Expired 82-DP-0396	287,250 1,104,500	N/A	N/A	Spray Irrigation	N/A	N/A	N/A	N/A	-	
2. W.F.D. Cannery	Settling	No permit needed	191,250 1,054,500	N/A	N/A	No discharge	N/A	N/A	N/A	N/A	-	
3. DeCecco, Inc.	Screening	Issued MD0061115	268,000 1,134,000	5	15	Spray Irrigation	N/A	N/A	N/A	N/A	-	

TABLE 4-3 (S.H.D. - 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
4. Royal Packing Co.	Settling	No Permit Needed 81-DP-0816	240,000 1,135,000	N/A	N/A	No Discharge	N/A	N/A	N/A	N/A		Company also operates under MD0056162
5. Delmarva Power & Light	Settling	Being Processed MD0000094	243,000 1,138,000	N/A	N/A	Nanticoke River	N/A	N/A	N/A	N/A	N/A	Discharge in Wicomico
6. Rippons Brothers	Screening	Issued MD0051900	158,000 1,036,000	N/A	N/A	Muddy Hook Cove	N/A	N/A	N/A	N/A	N/A	
7. Ruark & Ashton, Inc.	Screening	Issued MD0000809	160,000 1,035,000	N/A	N/A	Hickory Cove	N/A	N/A	N/A	N/A	N/A	
8. C.H. Parks & Co.	Screening	Issued MD0003336	177,000 1,022,000	N/A	N/A	Back Creek	N/A	N/A	N/A	N/A	N/A	
9. I.F. Cannon & Son	Screening	Issued MD0050377	174,000 1,048,000	N/A	N/A	Lakes Cove	N/A	N/A	N/A	N/A	N/A	
10. A.E. Phillips & Sons, Inc.	Screening	Issued MD0003328	176,000 1,022,000	N/A	N/A	Back Creek	N/A	N/A	N/A	N/A	N/A	
11. W.T. Ruark & Co., Inc.	Screening	Issued MD0003352	160,000 1,035,000	N/A	N/A	Hickory Cove	N/A	N/A	N/A	N/A	N/A	

TABLE 4-3 (S.H.D. - 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
12. C.H. Parks & Co.	Screening	Issued MD000336	177,000 1,022,000	N/A	N/A	Back Creek	N/A	N/A	N/A	N/A	N/A	
13. I.F. Cannon & Son	Screening	Issued MD0050377	174,000 1,048,000	N/A	N/A	Lakes Cove	N/A	N/A	N/A	N/A	N/A	
14. A.E. Phillips & Sons, Inc.	Screening	Issued MD0003328	176,000 1,022,000	N/A	N/A	Back Creek	N/A	N/A	N/A	N/A	N/A	
15. W.T. Ruark & Co.,Inc.	Screening	Issued MD0003352	180,000 1,022,000	N/A	N/A	Back Creek	N/A	N/A	N/A	N/A	N/A	
16. Russell Hall Seafood	Screening	Being processed MD0052787	177,000 1,023,000	N/A	N/A	Honga River	N/A	N/A	N/A	N/A	N/A	
17. National Can Corp.	N/A	No permit Needed	266,000 1,067,000	N/A	N/A		N/A	N/A	N/A	N/A	N/A	Cooling water
18. Van Dyke's Chesapeake Seafood	Screening	Expired MD0054127	270,000 1,035,000	N/A	N/A	Gray Creek	N/A	N/A	N/A	N/A	N/A	
19. Toddville Seafoods Inc.	Screening	Issued MD0003361	174,000 1,068,000	N/A	N/A	Farm Creek	N/A	N/A	N/A	N/A	N/A	
20. Meredith & Meredith	Screening	Issued MD0003379	174,000 1,068,000	N/A	N/A	Farm Creek	N/A	N/A	N/A	N/A	N/A	
21. Dorchester Crab Co.	Screening	Issued MD0051306	164,000 1,063,000	N/A	N/A	Hearns Cove	N/A	N/A	N/A	N/A	N/A	
22. Goose Creek Seafood	Screening	Issued MD0003395	162,000 1,076,000	N/A	N/A	Goose Creek	N/A	N/A	N/A	N/A	N/A	

TABLE 4-3 (S.H.D. - 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
23. Brady P. Todd & Sons, Inc.	Screening	Hearing Schld MD0051772	152,000 1,074,000	N/A	N/A	Tedious Creek	N/A	N/A	N/A	N/A	N/A	
24. Ford Industries, Inc. (formerly Harrison & Jarboe)	Settling & Screening	Expired 75-DP-1048	312,000 1,117,500	N/A	N/A	Spray Irrigation	N/A	N/A	N/A	N/A	N/A	
25. Williamsburg Canning Co.	Settling & Screening	Expired MD0059854	309,000 1,144,500	N/A	N/A	Spray Irrigation	N/A	N/A	N/A	N/A	N/A	
26. Not in business W.H.Leonard & Son	Settling	No permit needed 75-DP-0343	225,000 1,063,150	N/A	N/A	Seepage Lagoon	N/A	N/A	N/A	N/A	N/A	
27. Eastern Shore Rendering Co.	Aerated Lagoon	Hearing Held	265,125	N/A	N/A	Unnamed Tributary of Trans. River	N/A	N/A	N/A	N/A	N/A	Possible expansion for bonemeal or chitin processing
28. Rhodesdale Food Products, Inc.	Septic Tank	Issued 76-DP-1256	274,000 1,132,000	N/A	N/A	Drainfield	N/A	N/A	N/A	N/A	N/A	
29. Fooks Sand & Gravel	Settling	Issued 77-DP-1248	304,000 1,121,000	N/A	N/A	Exfiltration	N/A	N/A	N/A	N/A	N/A	Sand Processing wastewaters
30. Hurlock Food Processors, Inc. (Not in service)	-	Hearing Held MD0000574	293,000 1,124,000	N/A	N/A	Unnamed tributary of Wrights Branch	N/A	N/A	N/A	N/A	N/A	Cooling waters
31. Madison Seafood Co.	Screening	Issued/ Refiled MD0051756	249,000 1,022,000	N/A	N/A	Madison Bay	N/A	N/A	N/A	N/A	N/A	

TABLE 4-3 (S.H.D. - 10)

INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX. SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
IV. MULTI-USE												
Ray Gustin, Jr. - Ray Gustin III E/S Morris Neck Ed #8	Home Aeration Jet 401 units	N/A	274,000 1,033,000			Bermed infiltra-tion pond			2 homes			Unknown
Vernon M. Webb--Terry L. Groves -Wm. C. Lewis N/S Rt. 16-ED #9	Home Aeration Jet-J-137 units	N/A	2,455,000 10,335,000			Evapotrans-piration seepage bed			3 homes (1200 gpd)			No expansion-abandonment when C.C.San.
Frank C. Thorne-Alton T. Morris E/S Maple Dam Rd. Ed#7	Home Aeration Jet 101 FP	N/A	254,000 10,615,000			Bermed infiltration pond			2 homes			Unknown
Lawrence Gillen-Wm. Lewis Sr. E/S Corners Wharf Rd. ED #8	Home Aeration Jet J-153 unit	N/A	282,000 1,024,000			Bermed infiltration pond			2 homes			1979-completion
William Yates--Charles Hillyer S/S Rt. 343 ED #7	Home Aeration Flygt #4291-4	N/A	272,000 1,039,000			Bermed infiltration pond			2 homes			Unknown
C. Webster W/S Todd Point Road ED #8	Septic Tank/ Effluent Pond	N/A	284,000 1,015,000			Bermed infiltration pond			3 homes			Unknown

TABLE 4-3A
INVENTORY OF DORCHESTER COUNTY SHARED FACILITIES

SHARED FACILITY	OWNER'S NAME	SUBDIVISION NAME	LOCATION	TAX MAP-BLOCK-PARCEL	NUMBER OF LOTS	STATUS
01	CDW Land	Deep Harbor	Brannock Neck Road	040-020-150	4	Comp.
02	Meredith	Meredith	Casson's Neck Road	027-023-087	2	Comp.
03	Moore	Brannock Cove	Hill's Point Road	027-008-158	12	Comp.
04	Moore	Point of View	Hill's Point Road	027-010-004	4	Comp.
05	Bogle	Kilmaurie	MD Route 343	018-009-212	2	Comp.
06	Weber	Weber	Maple Dam Road	041-010-059	3	Comp.
07	Adams	Adams/Jennings	Casson's Neck Road	027--23-096	2	Comp.
08	Ralph	James Engle	Casson's Neck Road	038-005-005	2	Issued
09	Krapf	Krapf	Ragged Point Road	038-010-002	2	Comp.
10	Jordan	Jordan	Ragged Point Road	038-010-035	2	Comp.
11	Unangst	Unangst	Bar Neck Road	028-009-012	2	Comp.
12	Wright	Wright	Indian Quarter Road	017-018-163	2	Comp.
13	Ralph	Ralph	Casson's Neck Road	038-005-005	3	Comp.
14-1	Stevens 1	Deep Water 1	Deep Point Road	050-006-003	14	Comp.
14-2	Stevens 2	Deep Water 2	Deep Point Road	050-006-003	14	Comp.
15	Marquess	Marquess	Pig Neck Road	040-017-047	2	Comp.
16	Tieder	Tieder Sub.	Hoopers Island Road	093-008-024	4	Comp.
17	Hughes	Hughes	Dailsville Road	029-016-020	2	Comp.
18-1	White 1	Bromwell's Adventure #1	Madison--Rt. 16	050-009-053	8	Comp.
18-2	White 2	Bromwell's Adventure #2	Madison--Brooks Road	050-009-053	10	Comp.
19-1	West 1	Heron Harbor #1	Town Point Road	039-012-017	14	Comp.
19-2	West 2	Heron Harbor #2	Town Point Road	039-012-017	14	Comp.

TABLE 4-3A
INVENTORY OF DORCHESTER COUNTY SHARED FACILITIES

SHARED FACILITY	OWNER'S NAME	SUBDIVISION NAME	LOCATION	TAX MAP-BLOCK-PARCEL	NUMBER OF LOTS	STATUS
20	White	Rienhoff	Old House Point Road	100-003-065	2	Comp.
21-1	Matthews 1	McKeil Pointe #1	Brooks Road	039-015-018	14	Comp.
21-2	Matthews 2	McKeil Pointe #2	Brooks Road	039-015-018	4	Comp.
21-3	Matthews 3	McKeil Pointe #3	Brooks Road	039-015-018	14	Comp.
22	Reigle	Sunset Farms B	Ragged Point Road	027-022-161	4	Design Approved
23	Sears	Ruxton Landing	Hudson Creek Road	018-013-016	14	Comp.
24	Wright	Wright	Hoopers Neck Road	059-014-008	4	Comp.
25	Stepanoff	Stepanoff	Ross Neck Road	028-001-060	4	Design approved
26	Sharif	Camelot	Town Point Road	039-010-106	11	Design approved
27	Creighton	Consolidation	Madison Landing House Road	050-008-124	2	Comp.
28-1	Vaughan 1	Vaughan #1	Town Point Road	040-007-099	2	Comp.
28-2	Vaughan 2	Vaughan #2	Town Point Road	040-007-099	2	Comp.
29	Spangler	Spangler	Town Point Road	039-005-003	3	Comp.
30	Newcomb	Brad Vern Pk 3	Laurie Lane	050-012-204	4	Comp.
31	White	White	Pine Top Road	059-014-171	3	Comp.
32	Barnett 1	Barnett Phase 1	Town Point Road	040-004-033	8	Comp.
33	Bahr	Bahr	Town Point Road	039-006-005	4	Cons.
34	Reed	Reed	Punch Island Road	068-020-015	4	Cons.
35	Trees	Trees	Town Point Road	039-010-108	2	Comp.
36	White	Riverview Ests.	Rt 335	093-012-001	3	Design approved
37-1	Thomas 1	Ferry Farm Estates. #1	Hudson School Road	017-017-010	11	Comp.

TABLE 4-3A
INVENTORY OF DORCHESTER COUNTY SHARED FACILITIES

SHARED FACILITY	OWNER'S NAME	SUBDIVISION NAME	LOCATION	TAX MAP-BLOCK-PARCEL	NUMBER OF LOTS	STATUS
37-2	Thomas 2	Ferry Farm Estates. #2	Hudson School Road	017-017-010	10	Comp.
38	Budd/Hales	Budd/Hales	Maple Dam Road	041-016-045	3	Comp.
39	Meekins	Meekins	Golden Hill Rd (Rt 16)	085-005-039	2	Design approved

TABLE 4-4 (S.H.D. -12)
WATER QUALITY PROBLEMS DUE TO STORM DRAINAGE OUTFALLS AND TO NON-POINT SOURCES

SERVICE AREA	NATURE OF PROBLEM	REACH AFFECTED
1. Cambridge, Maryland	Combined Sewer overflows during wet weather and urban runoff	Cambridge Creek and Choptank River
2. Jacktown-near Cambridge, Maryland	Failing septic systems	Choptank River
3. Sanitary District No. 1	High Algae levels	Jenkins Creek
4. Secretary	High Algae levels	Warwick River
5. Hooperville, Fishing Creek, Crapo, Wingate, Bishops Head	Failing septic tanks	Honga River
6. Neck District, Church Creek District, Madison District	Failing septic tanks	Little Choptank River
7. Hurlock District	Nutrient Enrichment High Nitrogen & Bacteria	Marshyhope Creek
8. Vienna District	Nutrient Enrichment	Nanticoke River
9. Linkwood District Salem District	Poor D.O. & Bacteria Failing Septic Tanks	Transquaking River

TABLE 4-5 (S.H.D.-9)
PROJECTED SEWERAGE DEMANDS AND PLANNED CAPACITIES FOR COMMUNITY AND MULTI-USE SEWERAGE SYSTEMS

FIG NO.	SEWERAGE SERVICE AREA	GPCD gals EDU (*)	1994				2000				2010			
			POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)	
			TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED
	Fork District		1825	0			1855	0			1874	0		
	Brookview Town		64	0			55	0			50	0		
	Eldorado Town		49	0			45	0			40	0		
	Galestown Town		123	0			114	0			99	0		
	ENM District		2023	681			2055	778			2075	844		
	Twin Cities		681	681	0.262	0.280								
	East New Market Tn		153	153	*	*	178	178	.23	.28	164	164	.21	.28
	Secretary Town		528	528	*	*	600	600	*	*	680	680	*	*
	Depot			0										
	Greenpoint			0										
	Heritage MHP		234	128										
	Thompsontown			0										
	Vienna District		929	264			869	240			847	218		
	Vienna Town		264	264	0.055	.06	240	240	.06	.06	218	218	.06	.06
	Taylors Island Dist		269	0			242	157			218	85		
	Lakes District		478	0			439	0			403	0		
	Hoopers Island Dist		640	0			582	0			530	0		
	Cambridge District**		13,913	13,114			15,222	14,165			14,867	14,585		
	City of Cambridge		11,514	11,514	3.9	8.1	11,701	11,701	4.7	8.1	11,819	11,819	4.9	10.8
	S.D.#1**		1600	1600	.23	**	2159	2159	.31		2386	2386	.34	

* East New Market and Secretary are known as Twin Cities ** Connected to Cambridge

TABLE 4-5 (S.H.D.-9)
PROJECTED SEWERAGE DEMANDS AND PLANNED CAPACITIES FOR COMMUNITY AND MULTI-USE SEWERAGE SYSTEMS

FIG No.	SEWERAGE SERVICE AREA	GPCD gals EDU (*)	1994				2000				2010			
			POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)	
			TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED
	Christ Rock **		150	150	**	**								
	Linkwood Manor MHP						13	13	.0039	.0081	625	625	.0625	.0625
	Neck District		916	0			958	125			1002	216		
	Church Creek Dist		567	0	**	**	579	305	**	**	593	380	**	**
	Church Creek Town & Environs		124	0			305	305			380	380		
	Straits Neck Dist		521	0			459	0			404	0		
	Drawbridge District		82	0			70	0			61	0		
	Williamsburg Dist		1026	0			1043	0			1053	0		
	Bucktown District		482	0			453	0			426	0		
	Linkwood District		2591	300			3254	409			3605	483		
	S.D. # 4 Jacktown		300	300	.38	.52	409	409	.42	.52	483	483	.50	.52
	Hurlock District		3272	1706	.80	4.0	2131	2131	.95	4.0	2262	2262		
	Madison District		401	0			450	57			506	114		
	Salem District		222	0			202	0			184	0		
	Elliott Island Dist		79	0			69	0			58	0		

* East New Market and Secretary are known as Twin Cities ** Connected to Cambridge

TABLE 4-6 (S.H.D. - 13)
IMMEDIATE, 5, AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

PROJECT NAME & DESCRIPTION	COORDINATE LOCATION (NORTH EAST)	COUNTY PRIORITY ASSIGNED	ESTIMATED COSTS						PROJECT SCHEDULE			
			TOTAL	ELIGIBILITY		OTHER FUNDING		LOCAL	PRELIM PLANS	FINAL PLANS	START CONSTR.	COMPLETE CONSTR.
				FED	STATE	FED	STATE					
I. COMMUNITY A. Cambridge 1. Combined Sewer Separation Project	270,000 1,065,000		7,500,000		150,000 per year	- -	- -	6,000,000	1996	1998	1998	2010
2. BNR			7,456,000		3,400,500			4,055,500	1998	1999	1999	2001
3. Bayly Road Sewer Extension	261,000 1,060,000		216,000		200,000						1994	1994
B. Hurlock 1. Industrial Park Sewer Extension and Electrical Upgrade		S-1	82,000							2004	2004	2004
2. BNR Upgrade		S-1	4.5 million							2003	2003	2004
3. Delmarva Community Services		S-1								2003	2003	2004
4. North Dorchester School Complex Extension		S-1	$637,100				445,970	BOE 191,130	2003	2004	2005	2005
5. 307 Extension		S-2							2004	2005	2005	2006
6. Travers Ave. Ext.		S-1	$95,000						Deferred	Until	Site is	Developed
C. Twin Cities (ENM/Secretary) 1. Rehab Sewer Mains 2. Extend sewers to Depot Area	280,000 1,110,000	S-1 Deferred until I/I correct.in ENM	736,000		125,000					1995	1995	1996
3. Extend sewers to Linkwood Road (future annex. area)	277,000 1,106,000		N/A								S-3	

REVISED MARCH 2004

TABLE 4-6 (S.H.D. - 13)
IMMEDIATE, 5, AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

PROJECT NAME & DESCRIPTION	COORDINATE LOCATION (NORTH EAST)	COUNTY PRIORITY ASSIGNED	ESTIMATED COSTS						PROJECT SCHEDULE			
			TOTAL	ELIGIBILITY		OTHER FUNDING		LOCAL	PRELIM. PLANS	FINAL PLANS	START CONSTR	COMPLETE CONSTR.
				FED	STATE	FED	STATE					
C. Twin Cities cont'd East New Market/Secretary 4. Twin Cities WWTP Improvement 5. Extend sewers to Greenpoint	285,000 1,100,000		650,000		150,000 500,000					1995		
6. Sewer line extension for apartments- Xebec, Inc.												
D. Secretary 1. Rehab. of existing sewers 7 hse. conn. plus T.V. remaining sewers 2. I/I Study	285,000 1,100,000		94,800		35,000	94,800		5,000			?	?
E. Vienna 1. WWTP Upgrade 2. Rehab. of existing sewers	240,000 1,136,000	S-1 Deferred S-3	2,500,000 130,000	97,500	350,000 16,250			16,250	1994		1995	
F. Bucktown 1. Bucktown Failing Septics			457,000									
G. Hoopers Island 1. Hooper Island Failing Septics			1,473,000									
H. Linkwood 1. Jacktown/Sanitary District #4		S-3	1,112,000									
I. Madison 1. Madison Failing Septics			622,000									

REVISED MARCH 2004

TABLE 4-6 (S.H.D. -13)
IMMEDIATE, 5, AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

PROJECT NAME & DESCRIPTION	COORDINATE LOCATION (NORTH/EAST)	COUNTY PRIORITY ASSIGNED	ESTIMATED COSTS						PROJECT SCHEDULE			
			TOTAL	ELIGIBILITY		OTHER FUNDING		LOCAL	PRELIM PLANS	FINAL PLANS	START CONSTR	COMPLETE CONSTR.
				FED	STATE	FED	STATE					
J. Neck District 1. Failing Septics			169,000									
K. Taylors Island 1. Taylors Island Failing Septics			724,000									
II. INDIVIDUAL Separate Facility Plan Studies for each area of failing septic tanks and other sanitary, deficiencies is not feasible nor desirable. Accordingly, areas in the County not yet studied have been tentatively grouped into four study areas. They are identified below. A. Facility Plan Area One (comprises problem areas in Districts 4,5,6, 10. B. Facility Plan Area Two (comprises problem areas in Dist. 8 and the remainder of Dist. 7 not already in plans)												
	-		180,000	135,000	22,500			22,500	1981			
	-		100,000	75,000	12,500			12,500	1981			
III. PRIVATE A. Univ. of Md.-CEES Connect to Cambridge	-	S-3										

APPENDIX B
SHARED FACILITIES IN DORCHESTER COUNTY
ANNOTATED CODE OF MARYLAND; PROCEDURES FOR CREATING

APPENDIX B
Annotated Code of Maryland
Environment Article
Title 9 Subtitle 6
(Sanitary Commission's Part VII
Shared Facilities in Dorchester County)[1]

§ 9-672. Definitions.

(a) *In general.* - In Part VII of this subtitle the following words have the meanings indicated.

(b) *Shared facility.* - "Shared facility" means a water system or sewerage system that serves:

(1) More than 1 lot;
(2) More than 1 single family residence or its equivalent; or
(3) A series of water systems or sewerage systems that each serve 1 lot.

(c) *Shared facility area.* - "Shared facility area" *means the territory served by a shared facility. (An. Code 1957, art. 43, § 645; 1982, ch. 240, § 2.)*

§ 9-673. Scope of Part VII.

Part VII of this subtitle applies only to Dorchester County. (1982, ch. 240, § 2.)

§ 9-674. Powers of Dorchester County Sanitary District, Inc.

(a) *In general.* - The Dorchester County Sanitary District, Inc., may:

(1) Construct, buy, own, hold, lease, repair, maintain, improve, and operate a shared facility; and
(2) Contract with any person, any agency of the federal government or this State, or any municipality for services that relate to the facility.

(b) Permitted locations. - The shared facility may be built only:

(1) Outside an incorporated area of Dorchester County; and
(2) (i) Outside a service area; or
(11) If inside a service area, to serve territory that the Sanitary Commission determines is not feasible to serve with an

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[1] Annotated Code of Maryland, Environment Article, § 9-672--§9-681, 1993, 1994 Supplement, pp.423-427.

existing project.

(c) *Limitation on service by shared facility.* - The shared facility may not serve more than 14 single family residences or their equilivent. (An Code 1957, art. 43, §§ 664A, 645; 1982, ch. 240, § 2; 1988, ch. 6, § 1.)

§ 9-675. Petition for shared facility.

(a) *Filing petition with Sanitary Commission.* - The owners of property in territory that may be served by a shared facility may file a written petition with the Sanitary Commission that requests the Sanitary Commission:

(1) To build a shared facility; and
(2) To designate a shared facility area.

(b) *Contents of petition.* - The petition shall include:

(1) Plans for the proposed shared facility that will enable the Sanitary Commission to determine the cost and feasibility of the proposed shared facility; and
(2) A map of the proposed shared facility area.

(c) *Expenses for petition.* - The petitioners shall provide, at their own expense, the map and plans required by this section. (An. Code 1957, art. 43, § 664A; 1982, ch. 240, § 2.)

§ 9-676. Action on petition.

(a) *When decision required.* - Within 90 days from the date the complete petition is filed, the Sanitary Commission shall decide on the petition.

(b) *Applicable standard.* - In deciding on a petition, the Sanitary Commission may designate a shared facility area if the Sanitary Commission finds that:

(1) The proposed shared facility is necessary for the public health, safety, and welfare of the residents of Dorchester County who would be affected by the proposed shared facility; and

(2) It is feasible:
(i) To construct the proposed shared facility; and
(ii) To establish the proposed shared facility area.

(c) *Appeal following denial.* - (1) If the Sanitary Commission denies the petition, the petitioners, within 30 days after the denial, may appeal to the Dorchester County Commissioners.

(2) The Dorchester County Commissioners:
(i) Shall determine whether the proposed shared facility

meets the applicable standards of this section; and

(ii) May affirm, modify, or reverse the decision of the Sanitary Commission.

(d) *Action following approval.* - When a petition is approved by the Sanitary Commission or the Dorchester County Commissioners, the Sanitary Commission shall:

(1) Adopt a resolution that:

(i) Provides for construction of the shared facility; and

(ii) Designates the boundaries of the shared facility area; and

(2) File the resolution among the Dorchester County land records. (An. Code 1957, art. 43, § 664A; 1982, ch. 240, § 2.)

§ 9-677. Adoption of rules and regulations.

(a) *In general.* - The Sanitary Commission shall propose and, with the approval of the Dorchester County Commissioners, given after a public hearing, shall adopt rules and regulations to carry out the provisions of this subtitle that relate to shared facilities.

(b) *Rules and regulations for classification and assessment of property.* - These rules and regulations shall include provisions for:

(1) Classification of properties in the shared facilities area; and

(2) Levy of benefit assessments in accordance with this subtitle. (An. Code 1957, art. 43, § 664A; 1982, ch. 240, § 2.)

§ *9-678*. Advances by Dorchester County; repayment.

(a) *Advances.* - The Dorchester County Commissioners may advance funds to the Dorchester County Sanitary District, Inc., to meet the organizational and preliminary costs of establishing and constructing the shared facility.

(b) *Repayment.* - From the first revenues received from benefit assessments made for the shared facility, the Sanitary Commission shall repay advances made under this section. (An. Code 1957, art. 43, § 664A; 1982, ch. 240, § 2.)

§ 9-679. Benefit assessments.

(a) *Benefit assessments and other charges authorized.* - In accordance with the rules and regulations that the Dorchester County Commissioners approve:

(1) The Sanitary Commission shall make benefit assessments

on the property in a shared facility area in an amount that is enough to:

(i) Pay the principal and interest on each bond issued and any other obligation incurred by the Sanitary Commission in constructing the shared facility; and

(ii) Pay any other costs incurred in building the shared facility; and

(2) The Sanitary Commission may establish reasonable charges on each parcel in the shared facility area.

(b) *Notice of classification and assessment.* - (1) The Sanitary Commission shall give to the owner of each parcel in the shared facility area written notice of:

(i) The class and subclass of the parcel;

(ii) The benefit assessment for the parcel; and

(iii) The time and place of the hearing to which the owner is entitled under this section.

(2) The Sanitary Commission shall mail the notice to the owner at the last known address of the owner on the Dorchester County tax assessment records.

(c) *Opportunity for hearing.* - The Sanitary Commission shall give each property owner an opportunity for a hearing before the Sanitary Commission.

(d) *Decision.* - After the hearing, the Sanitary Commission may adjust the classification or benefit assessment as appropriate.

(e) *Levy of benefit assessments.* - The Sanitary Commission shall make the levy of each benefit assessment the Sanitary Commission determines under this section so that the levy is effective for the July 1 that follows the first March 31 that occurs on or after the date:

(1) Construction is completed on the shared facility; or

(2) The shared facility is acquired.

(f) *Lien on property.* - While unpaid, benefit assessments and other charges are a lien on the parcel for which made.

(g) *Priority of lien.* - The lien granted by this subsection is subordinate only to State taxes and municipal taxes.

(h) *Public record.* - (1) As to each lien that arises against a parcel in the shared facility area, the Sanitary Commission shall keep a public record that:

(i) Identifies the owners of the parcel;

(ii) Describes the parcel and gives any lot number of record that applies to the parcel; and

(iii) Shows the amount of the lien.

(2) The Sanitary Commission shall file the record of liens with the Clerk of the Circuit Court for Dorchester County, for filing among the land records for Dorchester County.

(3) The record of liens shall be legal notice of all existing liens in the shared facility area.

(i) *Enforcement of lien.* - (1) To enforce the collection of unpaid benefit assessments or other charges that are at least 60 days overdue, the Sanitary Commission, at any time, may:

(i) Sue any person who was an owner of record of the parcel at any time since the benefit assessment was last paid; or

(ii) File a bill in equity to enforce a lien through a decree of sale of property against any person who was an owner of record of the parcel at any time since the benefit assessment was last paid.

(2) When recorded, the lien shall be legal notice to any person who has any interest in a parcel. (An. Code 1957, art. 43, § 664A; 1982, ch. 240, § 2; 1988, ch. 6, § 1.)

§§ 9-680, 9-681.

Reserved.

PROCEDURES TO ESTABLISH A SHARED FACILITY
IN DORCHESTER COUNTY, MARYLAND

The following procedures shall be followed in order to establish a Shared Facility (Water or Sewerage) in Dorchester County:

1. During the process of developing a subdivision plat and related design or the Shared Facility, the Owner (s) of the subject property shall notify The Dorchester County Sanitary Commission, the governing body of the Dorchester County Sanitary District, Inc., of their intent to create a Shared Facility.

2. After the Owner (s) have been notified by the Dorchester County Planning and Zoning Department and the Dorchester County Health Department that the subdivision plat and design plans are satisfactory, the Sanitary Commission shall be so notified.

3. If the Sanitary Commission approves of the Shared Facility, their attorney shall prepare the following legal documents (examples attached hereto):

   a. "Petition for a Shared Facility".

   b. "Resolution" of the Dorchester County Sanitary Commission creating the Shared Facility.

   c. "Indenture" which sets forth the legal requirements for the Shared Facility.

1. The Owner (s) of the subject property shall file a "Petition For A Shared Facility" along with the proposed subdivision plat with the Dorchester County Sanitary District, Inc..

2. The Sanitary District's Attorney will review and approve the plat and the Petition.

3. The Sanitary Commission shall then:

   a. Contact the applicant and advise them that the Shared Facility has been approved by the Commission.

   b. Have the applicant sign and execute the Petition, Indenture, and Resolution and collect from the applicant the required application administration fee.

   c. Date the Petition, Indenture and Resolution.

d. Insert Shared Facility Number in Section 28 of the Indenture.

e. Sign the mylar plat for the Shared Facility Subdivision.

f. Obtain the signature of the County Health Department on the mylar plat.

g. Forward the original signed mylar plat to the Dorchester County Planning and Zoning office.

h. Forward the original executed Petition, Indenture and Resolution to the Sanitary Commission Attorney for recordation among the Land Records of Dorchester County, Maryland after the Dorchester County Planning and Zoning Office records the final subdivision plat.

APPENDIX D
REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 107
Cambridge, MD 21613

A. Type of Amendment _____ Map _____ Text

1. Map Amendment

a. Sewer: From _____ To _____
b. Water: From _____ To _____
c. Other: _____
d. Map number(s) to be changed: _____

_____

2. Text Amendment: Section and page number(s) to be changed: _____

_____

B. Character of Amendment:

_____ Addition _____ Deletion _____ Change

C. Property Identification:

1. Tax Map/Block/Parcel number ____/____/____
2. Election District _____ Zoning District _____
3. Critical Areas _____ Yes _____ Designation _____ No

D. Description and Purpose of Change

1. Name of Project or Subdivision _____
2. Location, including Road name _____
3. Approximate population served _____
4. Other _____

E. Estimated Design and Construction Costs _____

F. Estimated Design/Construction Dates _____

Revised June 1992

G. Applicants Name, Address, Phone

_____

_____

_____

_____

H. Owners Name, Address, Phone

_____

_____

_____

_____

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

_____ _____

Certifier's Name & Title Date

J. Signatures

_____ _____

Applicant Date Owner Date

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

MEMORANDUM

To: Steve Dodd, Director of Planning & Zoning

Rodney Banks, Planner

From: Jane Baynard, County Manager

Date: May 24, 2007

RE: **Resolution No. 438**

At its May 22, 2007 meeting, the County Council adopted **Resolution No. 438** – *A Resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) within the corporate limits of the Town of East New Market, MD, shown on East New Market Tax Map 200, Parcel 43; said land is currently designated as S-1, S-2 and W-1, W-2, to be changed to S-1 and W-1 which means service existing or planned within a 2 year time period.*

Attached is an executed recorded copy of Resolution No. 438. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

Resolution No. 438

A resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) within the corporate limits of the Town of East New Market, MD, shown on East New Market Tax Map 200, Parcel 43; said land is currently designated as S-1, S-2 and W-1, W-2, to be changed to S-1 and W-1 which means service existing or planned within a 2 year time period.

Whereas, Maryland State Law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

Whereas, Dorchester County, Maryland has adopted its most recent and current Water and Sewer Plan on March 16, 2004; and

Whereas, a request was filed to amend the Comprehensive Water and Sewer Plan for certain properties located in the Town of East New Market, MD and identified on the attached exhibits; and

Whereas, the Dorchester County Planning Commission reviewed the application on April 4, 2007 and determined that this amendment is consistent with the Dorchester County Comprehensive Plan; and

Whereas, the County Council of Dorchester County, having held a public hearing regarding this matter on May 8, 2007, and having given careful consideration to the request, voted unanimously to amend the adopted Comprehensive Water and Sewer Plan.

Now, therefore, the County Council of Dorchester County does hereby amend the 2004 Dorchester County Comprehensive Water and Sewer Plan as identified on the attached exhibits.

Adopted this 22 day of May, 2007.

Attested by:

Jane Baynard
County Manager

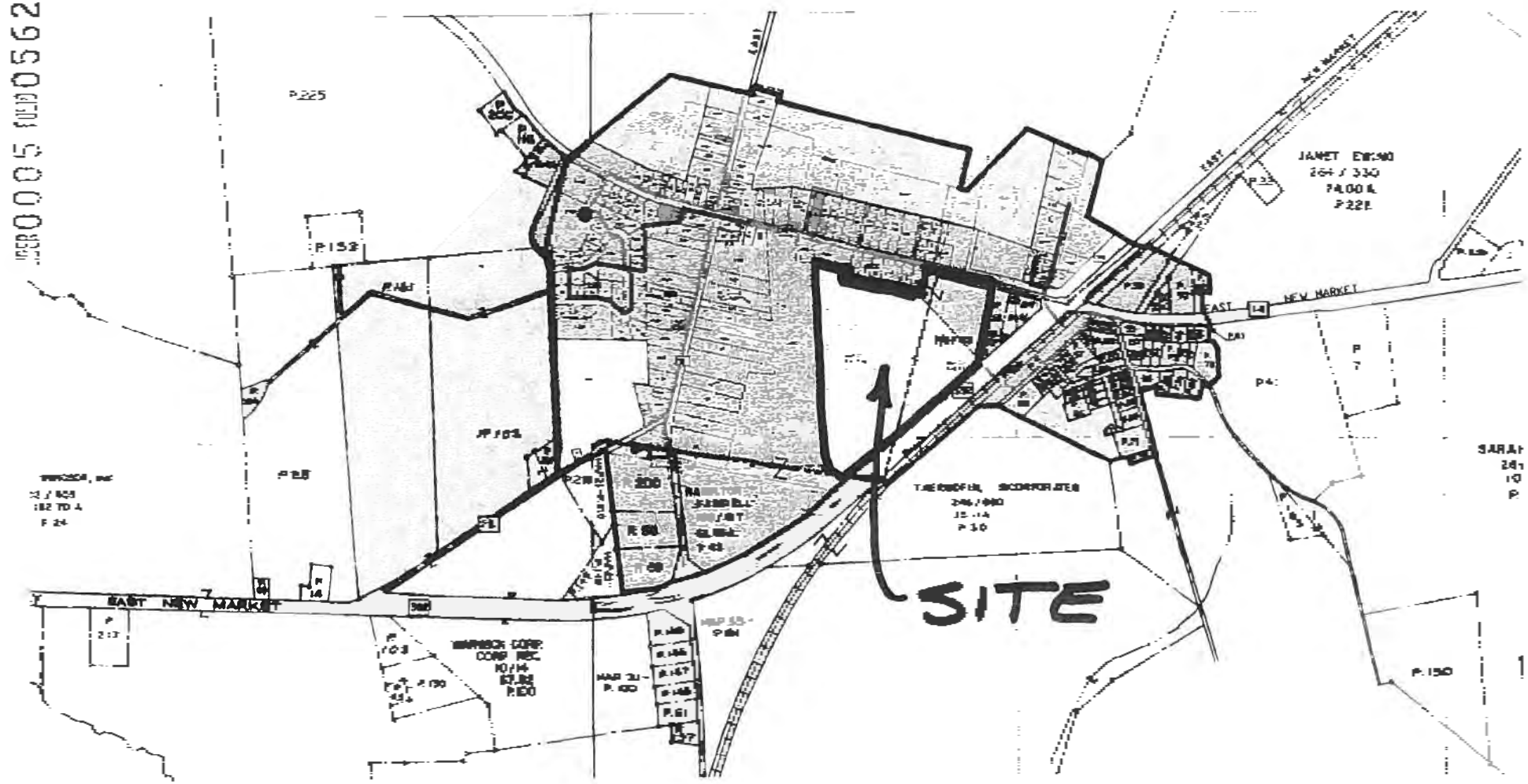
The County Council of
Dorchester County

William V. Nichols
President

FILED

07 MAY 24 AM 9:33

0000562



TOWN OF EAST NEW MARKET
COMPREHENSIVE WATER AND SEWER PLAN

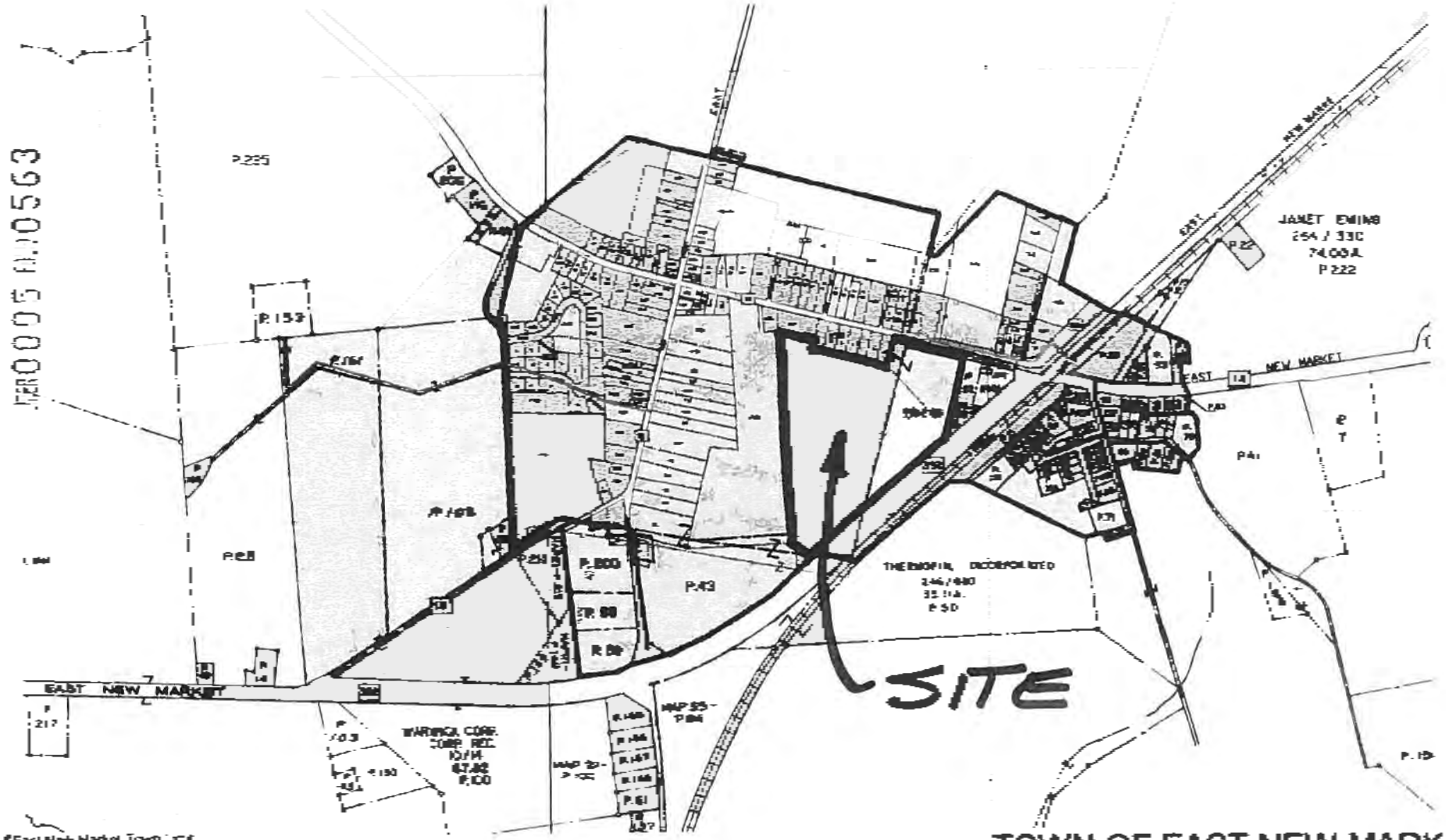
WATER SERVICE AREA

Source: MD Property View, Prepared by Dorchester County Planning 6/10/03.

Note: This Water Service Area Map is for determination of water service only. This map is not intended to be used for property boundary determination.

Exhibit 3-B

ER0005 P.0563



East New Market Town Limit
Low Pressure Sewer
1.5 inch
2.5 inch
3 inch
Gravity line 10 inch
Gravity line 8 inch
East New Market Sewer
S-1 Existing to 2 years
S-2 2 to 5 years
S-3 5 to 10 years

Source: MD Property View. Prepared by Dorchester County Planning on 6/19/03.
Note: This Sewer Service Area Map is for determination of sewer service only. This map is not intended to be used for property boundary determination

TOWN OF EAST NEW MARKET
COMPREHENSIVE WATER AND SEWER PLAN

SEWER SERVICE AREA

Exhibit 4-B

Resolution No. 438

MEMORANDUM

To: Steve Dodd, Director of Planning & Zoning

Rodney Banks, Planner

From: Jane Baynard, County Manager

Date: May 24, 2007

RE: Resolution No. 439

At its May 22, 2007 meeting, the County Council adopted **Resolution No. 439** – *A Resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) within the corporate limits of the Town of East New Market, MD, shown on East New Market Tax Map 200, Parcel 53; said land is currently designated as S-1, S-2 and W-1, W-3, to be changed to S-1 and W-1 which means service existing or planned within a 2 year time period.*

Attached is an executed recorded copy of Resolution No. 439. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

Resolution No. 439

A resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) within the corporate limits of the Town of East New Market, MD, shown on East New Market Tax Map 200, Parcel 53; said land is currently designated as S-1, S-2 and W-1, W-3, to be changed to S-1 and W-1 which means service existing or planned within a 2 year time period.

Whereas, Maryland State Law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

Whereas, Dorchester County, Maryland has adopted its most recent and current Water and Sewer Plan on March 16, 2004; and

Whereas, a request was filed to amend the Comprehensive Water and Sewer Plan for certain properties located in the Town of East New Market, MD and identified on the attached exhibits; and

Whereas, the Dorchester County Planning Commission reviewed the application on April 4, 2007 and determined that this amendment is consistent with the Dorchester County Comprehensive Plan; and

Whereas, the County Council of Dorchester County, having held a public hearing regarding this matter on May 8, 2007, and having given careful consideration to the request, voted unanimously to amend the adopted Comprehensive Water and Sewer Plan.

Now, therefore, the County Council of Dorchester County does hereby amend the 2004 Dorchester County Comprehensive Water and Sewer Plan as identified on the attached exhibits.

Adopted this 22 day of May, 2007.

Attested by:

Jane Baynard
County Manager

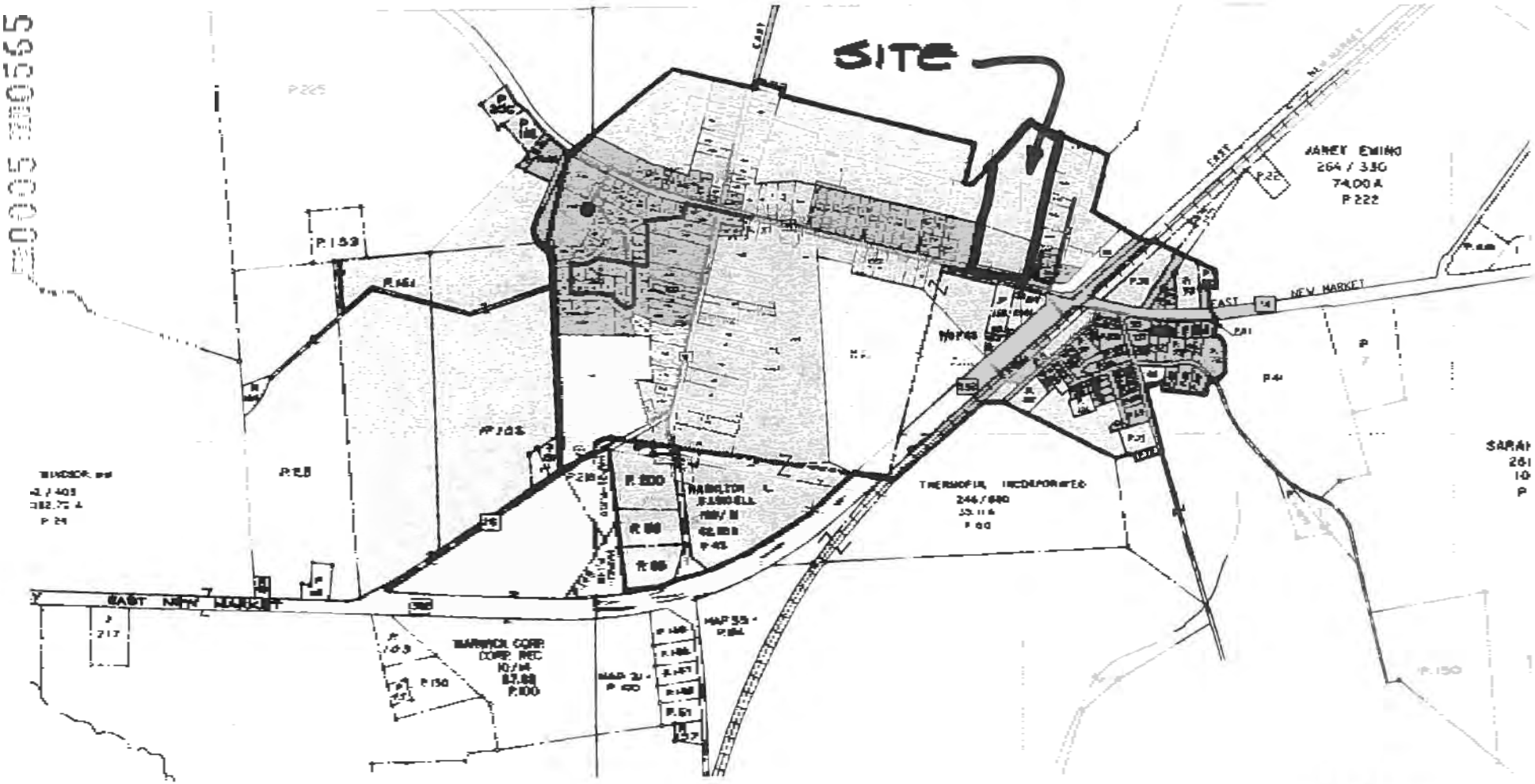
The County Council of
Dorchester County

William U. Nichols
President

FILED

07 MAY 24 AM 9:33

00005 00555



East New Market Town Limit
Water tank
Water lines
8 inch
6 inch
4 inch
1.5 inch
East New Market Water
W-1, Existing to 2 years
W-2, 2 to 5 years
W-3, 5 to 10 years

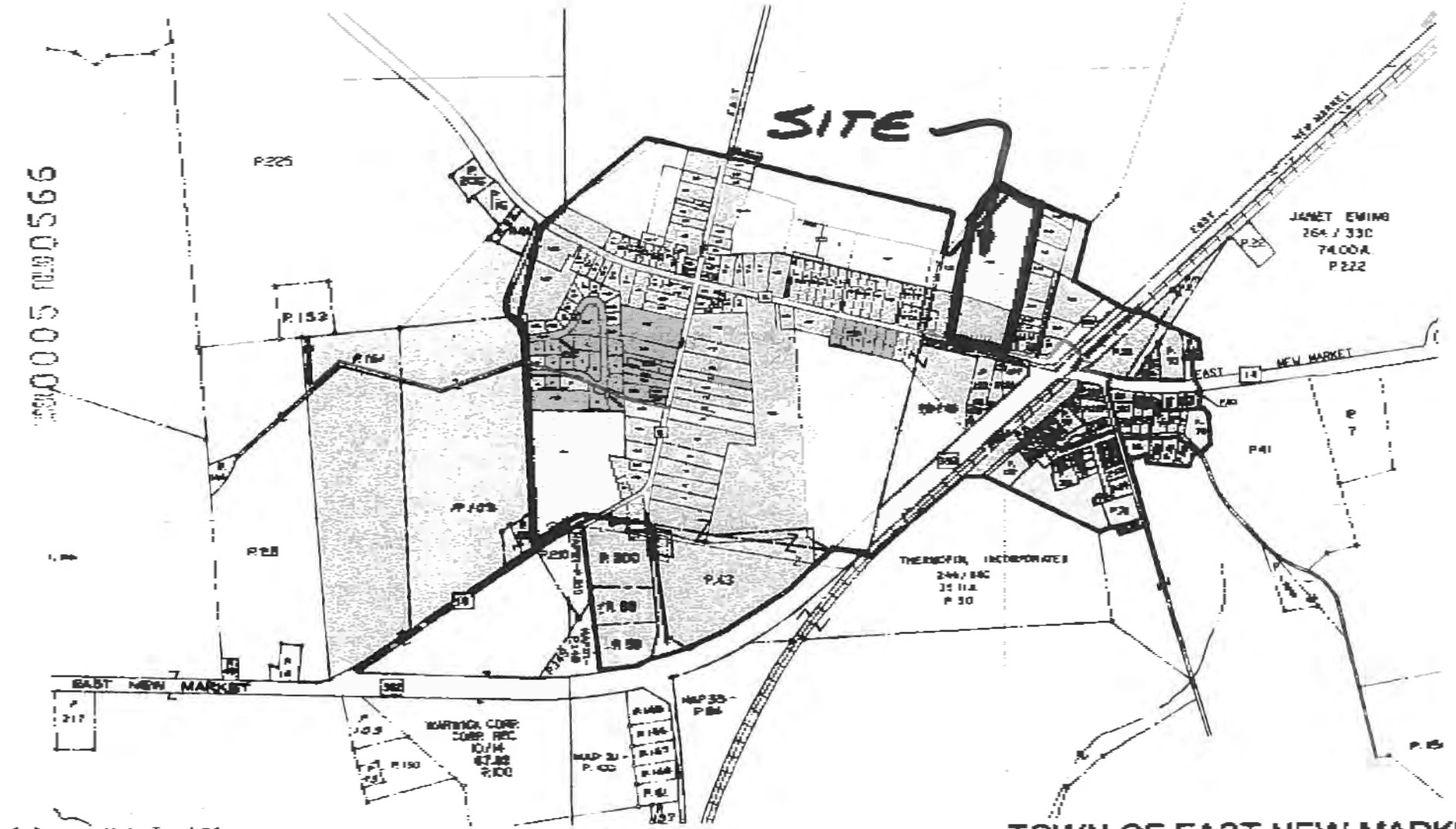
TOWN OF EAST NEW MARKET
COMPREHENSIVE WATER AND SEWER PLAN

WATER SERVICE AREA

Source: MD Property View, Prepared by Dorchester County Planning 6/10/03.
Note: This Water Service Area Map is for determination of water service only. This map is not intended to be used for property boundary determination.

Exhibit 3-B

Resolution No. 439



East New Market Town Limit
Low Pressure Grinder
1.5 inch
2.5 inch
3 inch
Gravity line 10 inch
Gravity line 8 inch
East New Market Sewer
S-1, Existing to 2 years
S-2, 2 to 5 years
S-3, 5 to 10 years

Source: MD Property View, Prepared by Dorchester County Planning on 6/19/03.
Note: This Sewer Service Area Map is for determination of sewer service only. This map is not intended to be used for property boundary determination

TOWN OF EAST NEW MARKET
COMPREHENSIVE WATER AND SEWER PLAN

SEWER SERVICE AREA

Exhibit 4-B

Resolution No. 439

0000 0000 0566

MEMORANDUM

To: Steve Dodd, Director of Planning & Zoning

Rodney Banks, Planner

From: Jane Baynard, County Manager

Date: June 22, 2007

RE: **Resolution No. 441**

At its June 19, 2007 meeting, the County Council adopted **Resolution No. 441** – *A Resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) within the corporate limits of the City of Cambridge and shown on Dorchester County Tax Map 41, Parcels 125 and 19; said land is currently designated as S-2 and W-2, to be amended and changed to S-1 and W-1 which means service existing or planned within a 2 year time period.*

Attached is an executed recorded copy of Resolution No. 441. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

0005 0584

FILED
07 JUN 21 AM 8:51

Resolution Number 441

A resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel(s) located within the corporate limits of the City of Cambridge, MD and shown on Dorchester County Tax Map 41, Parcels 125 and 19; said land is currently designated as S-2 and W-2, to be amended and changed to S-1 and W-1 which means service existing or planned service within a 2 year time period.

Whereas, Maryland State law mandates that all Maryland Counties adopt a Comprehensive Water and Sewer Master Plan; and

Whereas, Dorchester County, Maryland has adopted its most recent and current Water and Sewer Plan on March 16, 2004; and

Whereas, a request was filed to amend the Comprehensive Water and Sewer Plan for certain properties located in the City of Cambridge, MD and identified on the attached exhibits; and

Whereas, the Dorchester County Planning Commission reviewed the application and determined that this amendment is consistent with the Dorchester County Comprehensive Plan; and

Whereas, the County Council of Dorchester County, having held a public hearing regarding this matter on June 5, 2007, and having given careful consideration to the request, voted unanimously to amend the adopted Comprehensive Water and Sewer Plan.

Now therefore, the County Council of Dorchester County does hereby amend the Dorchester County 2004 Comprehensive Water and Sewer Plan as identified on the attached exhibits.

Adopted this 19th day of June, 2007

Attested by:

Jane Baynard
County Manager

The County Council of
Dorchester County

William V. Nichols
President

Resolution No: 441

Cambridge & Vicinity Comprehensive Sewer Service Plan

Cambridge & Vicinity Comprehensive Water Service Plan

RECEIVED JUL 3 0 2007

MEMORANDUM

To: Steve Dodd, Director of Planning & Zoning

Rodney Banks, Planner

From: Jane Baynard, County Manager

Date: July 25, 2007

RE: **Resolution No. 443**

At its July 24, 2007 meeting, the County Council adopted **Resolution No. 443** – *A Resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel located on Dorchester County Tax Map 29, Parcel 11; said land is currently designated as S-3, to be amended and changed to S-1 which means service existing or planned within a 2 year time period.*

Attached is an executed recorded copy of Resolution No. 443. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

Resolution No. 443

A resolution of the County Council of Dorchester County, Maryland amending the 2004 Dorchester County Comprehensive Water and Sewer Plan map(s) by changing the designation of a parcel located on Dorchester County Tax Map 29, Parcel 11; said land is currently designated as S-3, to be amended and changed to S-1 which means service existing or planned within a 2 year time period.

Whereas, Maryland State Law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan and

Whereas, Dorchester County, Maryland has adopted its most recent and current Water and Sewer Plan on March 16, 2004; and

Whereas, a request was filed to amend the Comprehensive Water and Sewer Plan for certain properties located on Horns Point Road, Dorchester County, MD and identified on the attached exhibits.

Whereas, the Dorchester County Planning Commission reviewed the application and determined that this amendment is consistent with the Dorchester County Comprehensive Plan; and

Whereas, the County Council of Dorchester County, having held a public hearing regarding this matter on July 10, 2007, and having given careful consideration to the request, voted unanimously to amend the adopted Comprehensive Water and Sewer Plan.

Now, therefore, the County Council of Dorchester County does hereby amend the 2004 Dorchester County Comprehensive Water and Sewer Plan as identified on the attached exhibits.

Adopted this 24th day of July, 2007.

Attested by:

Jane Baynard
County Manager

The County Council of
Dorchester County

Guy Newcomb
President

FILED

07 JUL 26 AM 9: 13

APPENDIX D

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 307
Cambridge, MD 21613

A. Type of Amendment X Map ____ Text

1. Map Amendment

a. Sewer: From S-3 To S-1
b. Water: From ____ To ____
c. Other: ____
d. Map number(s) to be changed: ____

2. Text Amendment: Section and page number(s) to be changed: ____

B. Character of Amendment:

____ Addition ____ Deletion X Change

C. Property Identification:

1. Tax Map/Block/Parcel number 29 / 6 / 11
2. Election District ____ Zoning District ____
3. Critical Areas ____ Yes ____ Designation ____ No

D. Description and Purpose of Change

1. Name of Project or Subdivision Clearview at Horns Point
2. Location, including Road name Horns Point Road & Clearview Key
3. Approximate population served N/A (15,000 Gal. Per Day)
4. Other Failing Septic System & Agreement with the City of Cambridge

E. Estimated Design and Construction Costs $100,000

F. Estimated Design/Construction Dates ASAP

Revised June 1992

G. Applicants Name, Address, Phone

Clearview at Horns Point

5650 Clearview Way

P.O. Box 367

Cambridge, Maryland 21613

H. Owners Name, Address, Phone

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Certifier's Name & Title — Date: 05/30/07

J. Signatures

Applicant — Date: 5/15/07

Owner — Date: 5/15/07

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

SITE
AP

RECEIVED JUL 0 2 2009

MEMORANDUM

To: Rodney Banks

Cc: Steve Dodd

Sandy McAllister, Miles & Stockbridge

From: Jane Baynard, County Manager

Date: July 1, 2009

RE: Resolution No. 465

At its June 30, 2009 meeting, the County Council adopted Resolution No. 465 – *A Resolution of the County Council of Dorchester County amending the provisions of certain tables of and adopting maps for the 2004 Dorchester County Comprehensive Water and Sewer Plan ("Plan") to establish water and sewer service areas for certain properties located at the northwest corner of Routes 50 and 16 (hereinafter, the "Crystal Lake Service Area"), more specifically Parcels 64, 65, 69 and 153 of Tax Map 31 and Parcels 345, 346 and 347 of Tax Map 42. The Crystal Lake Service Area will be served by water and wastewater systems having average daily capacities of 45,500 gallons.*

Please note that Council adopted the Planning Commissions Finding of Fact as an exhibit to Resolution No. 465.

Attached is a copy of Resolution No. 465. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

APPENDIX D

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 307
Cambridge, MD 21613

A. Type of Amendment X Map X Text

1. Map Amendment

a. Sewer: From No Planned Service To S-1
b. Water: From No Planned Service To S-2
c. Other:
d. Map number(s) to be changed: New maps to be added: 3-I and 4-J

2. Text Amendment: Section and page number(s) to be changed: Sections 3.3.14 (p. 3-31) and 4.4.14 (p. 4-49) and Tables 3.4, 3.5, 4.5 and 4.6.

B. Character of Amendment:

X Addition ___ Deletion ___ Change

C. Property Identification:

1. Tax Map/Block/Parcel number / / See attached.
2. Election District 14 Zoning District RR and B-2
3. Critical Areas X Yes LDA Designation ___ No

D. Description and Purpose of Change

1. Name of Project or Subdivision Crystal Lake
2. Location, including Road name NW corner of intersection of Rts. 16 and 50
3. Approximate population served Commercial uses - 50,000 gpd or 200 EDUs
4. Other

E. Estimated Design and Construction Costs TBD

F. Estimated Design/Construction Dates TBD On or after 6/09

Revised June 1992

G. Applicants Name, Address, Phone

William W. McAllister, Jr.

Miles & Stockbridge, P.C.

300 Academy Street

Cambridge, MD 21613

(410) 228-4545

H. Owners Name, Address, Phone

Crystal Lake, LLC

Robert Pascal

P.O. Box 653

Stevensville, MD 21666

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

N/A

Certifier's Name & Title

Date

J. Signatures

Applicant Date 11/14/08

Bob Pascal

Owner Date 11/14/08

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

Attachment to Request for Amendment to the
Dorchester County Water and Sewerage Plan

Tax Map	Grid	Parcel
31	23	64
31	23	65
31	23	69
31	23	153
42	5	345
42	5	346
42	5	347

PROPOSED ADDITIONS TO DORCHESTER COMPREHENSIVE WATER AND SEWERAGE PLAN TEXT
CRYSTAL LAKE

Section 3.3.14 (p. 3-31 insert after first full paragraph)

The Crystal Lake commercial development is planned to be served by a community water system comprised of 1-2 wells, an equalization tank and any necessary treatment system(s) located within the Crystal Lake service area depicted by Map 3-I. The system will have projected average daily flows of 50,000 gpd or 200 EDUs. Preliminary site plan approval for several restaurants, a bank, gas station, several retail stores and an open air market was granted in July 2008. Development of this commercial center is anticipated to occur in phases.

Section 4.4.14 (p. 4-49 insert after last paragraph in this section)

The Crystal Lake commercial development is planned to be served by a community wastewater system providing tertiary levels of treatment that discharges treated effluent by land application. The wastewater treatment plant and disposal area(s) will be located within the Crystal Lake service area, as conceptually depicted by Map 4-J. The system will have projected average daily of 50,000 gpd or 200 EDUs. Preliminary site plan approval for several restaurants, a bank, gas station, several retail stores and an open air market was granted in July 2008. Development of this commercial center is anticipated to occur in phases.

JER0006 FOL0069

FILED

2009 JUL -1 PM 4:20

CIRCUIT COURT
DORCHESTER COUNTY

Resolution No. 465

A resolution of the County Council of Dorchester County amending the provisions of certain tables of and adopting additional maps for the 2004 Dorchester County Comprehensive Water and Sewer Plan ("Plan") to establish water and sewer service areas for certain properties located at the northwest corner of Routes 50 and 16 (hereinafter, the "Crystal Lake Service Area"), more specifically Parcels 64, 65, 69 and 153 of Tax Map 31 and Parcels 345, 346 and 347 of Tax Map 42. The Crystal Lake Service Area will be served by water and wastewater systems having average daily capacities of 45,500 gallons.

Whereas, State law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

Whereas, Dorchester County adopted its most current Plan on March 16, 2004; and

Whereas, a request was filed to amend the provisions of tables and maps of the Plan to accommodate the establishment of the Crystal Lake Service Area, as indicated on the following exhibits (collectively, the "Proposed Amendments"), which are attached hereto and incorporated herein:

1. "Table 3-2 (S.H.D.-6) Inventory of Existing Public and/or Private Community and other Multi-Use Water Treatment Facilities",
2. "Table 3-4 (S.H.D-3) Projected Water Demands and Planned Capacity for Existing and/or Planned Public or Private Community Water Systems",
3. "Table 3-5 Immediate, 5 and 10 Year Priorities for Water Development",
4. "Table 4-5 (S.H.D.-9) Projected Sewerage Demands and Planned Capacities for Community and Multi-Use Sewerage Systems",
5. "Table 4-6 (S.H.D.-13) Immediate, 5 and 10 Year Priorities for Sewerage Development",
6. "Water Service Area-Crystal Lake", labeled as "Exhibit 3-J", prepared by The Tech Group, Inc. and dated November 2008, and
7. "Sewer Service Area-Crystal Lake", labeled as "Exhibit 4-J", prepared by The Tech Group, Inc. and dated November 2008; and

Whereas, on June 3, 2009 the Dorchester County Planning Commission certified that the Proposed Amendments are consistent with the Dorchester County Comprehensive Plan and the Planning Commission's Findings of Fact, which are attached as Exhibit A are hereby adopted and incorporated herein; and

Whereas, the County Council of Dorchester County, having held a public hearing on this matter on June 30, 2009, and having given careful consideration to the matter, voted unanimously to adopt the Proposed Amendments.

Now therefore, the County Council of Dorchester County does hereby amend the Dorchester County 2004 Comprehensive Water and Sewer Plan, as set forth on the attached Proposed Amendments.

Adopted this 30th day of June, 2009.

Attested by:

Jane Baynard
County Manager

The County Council of
Dorchester County

Jay L. Newcomb

William V. Nichols

Ricky Travers

Rick Price

Effie M. Elzey

TABLE 3-2 (S.H.D.-6)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY
AND OTHER MULTI-USE WATER TREATMENT FACILITIES

Owner-Operating Agency	Water Source	Type of Treatment	Plant Coordinate Location	Related Plant Capacity (MGD)	Average Production (MGD)	Max. Peak Flow (MGD)	Storage Capacity (MGD)	Planned Expansion & Date	Method of Sludge Disposal
B. Private Community									
Crystal Lake	**1-2 well(s)**	**TBD based on test well water quality**		**0.0455**	**0.0455**		**0.00225**	**Construction projected to occur upon approval of requisite permits (2009-10)**	

Inserted text is indicated by bold underlining

IBD0006 000071

Proposed Additions to TABLE 3-4 (S.H.D.-3)

PROJECTED WATER DEMANDS AND PLANNED CAPACITY FOR EXISTING AND/OR PLANNED PUBLIC OR PRIVATE COMMUNITY WATER SYSTEMS

WATER SERVICE AREA	1990					2000					2010				
	POPULATION			CAPACITY		POPULATION			CAPACITY		POPULATION			CAPACITY	
	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned	Total	Served	Unserved	Demand	Planned
* * *															
Linkwood District															
S.D. # 2 Bonnie Brook															
Bay Country MHP															
Dorchester MHP															
Beaver Run MHP															
Linkwood Landing MHP															
Crystal Lake (commercial)	-	-	-			-	-	-			**0 residents**	**0 residents**	**0 residents**	**0.0455**	**0.0455**
* * *															

Inserted text is indicated by bold underlining

BOOK 6 PAGE 72

Proposed Addition to TABLE 3-5

IMMEDIATE, 5 AND 10 YEAR PRIORITIES FOR WATER DEVELOPMENT

Project Name & Description	Location Md. Coord. North/East	Estimated Cost			Projected Years to Completion	Remarks
		Total	Fed. and/or State	Local		
H. Crystal Lake Private on-site water system, including 1-2 wells, storage/equalization tank and treatment (if necessary)	**N325,720 E1,597,120**	**TBD - Private developer funding**			**1-4**	**Initial system construction to occur upon approval of requisite permits (2009-10). Construction may be phased.**

Inserted text is indicated by bold underlining

BR0006 00073

Proposed Addition to TABLE 4-5 (S.H.D.-9)

PROJECTED SEWERAGE DEMANDS AND PLANNED CAPACITIES FOR COMMUNITY AND MULTI-USE SEWERAGE SYSTEMS

Fig. No.	Sewage Service Area	GPCD gals EDU (*)	1994				2000				2010			
			Population EDU (*)		Capacity (MGD)		Population EDU (*)		Capacity (MGD)		Population EDU (*)		Capacity (MGD)	
			Total	Served	Demand	Planned	Total	Served	Demand	Planned	Total	Served	Demand	Planned
	Christ Rock **		150	255	**	**								
	Linkwood Landing MHP						13	13	0.0069	0.0081	250	250	0.065	0.065
	Neck District		916	0			958	125			1002	216		
	Church Creek Dist		567	0	**	**	579	356	**	**	593	380	**	**
	Church Creek Town & Environs		124	0			356	356			382	380		
	Straits Neck Dist		521	0			459	0			404	0		
	Drawbridge District		82	0			70	0			61	0		
	Williamsburg Dist		1026	0			1043	0			1053	0		
	Bucktown District		482	0			453	0			426	0		
	Linkwood District		2591	300			3254	405			3605	483		
	S.D. # 4 Jacktown		300	300	0.38	0.52	405	409	0.42	0.52	481	483	0.5	0.52
	Warlock District		3272	1706	0.8	4	2131	2131	0.95	4	2262	2252		
	Madison District		401	0			450	57			506	114		
	Salem District		222	0			202	0			184	0		
	Elliott Island Dist		79	0			69	0			58	0		
	Crystal Lake (commercial uses only)										182	181	0.0455	0.0455

Inserted text is indicated by bold underlining

RESOLUTION NO. 465

R0006 M0074

Proposed Addition to Table 4-6 (S.H.D.-13)

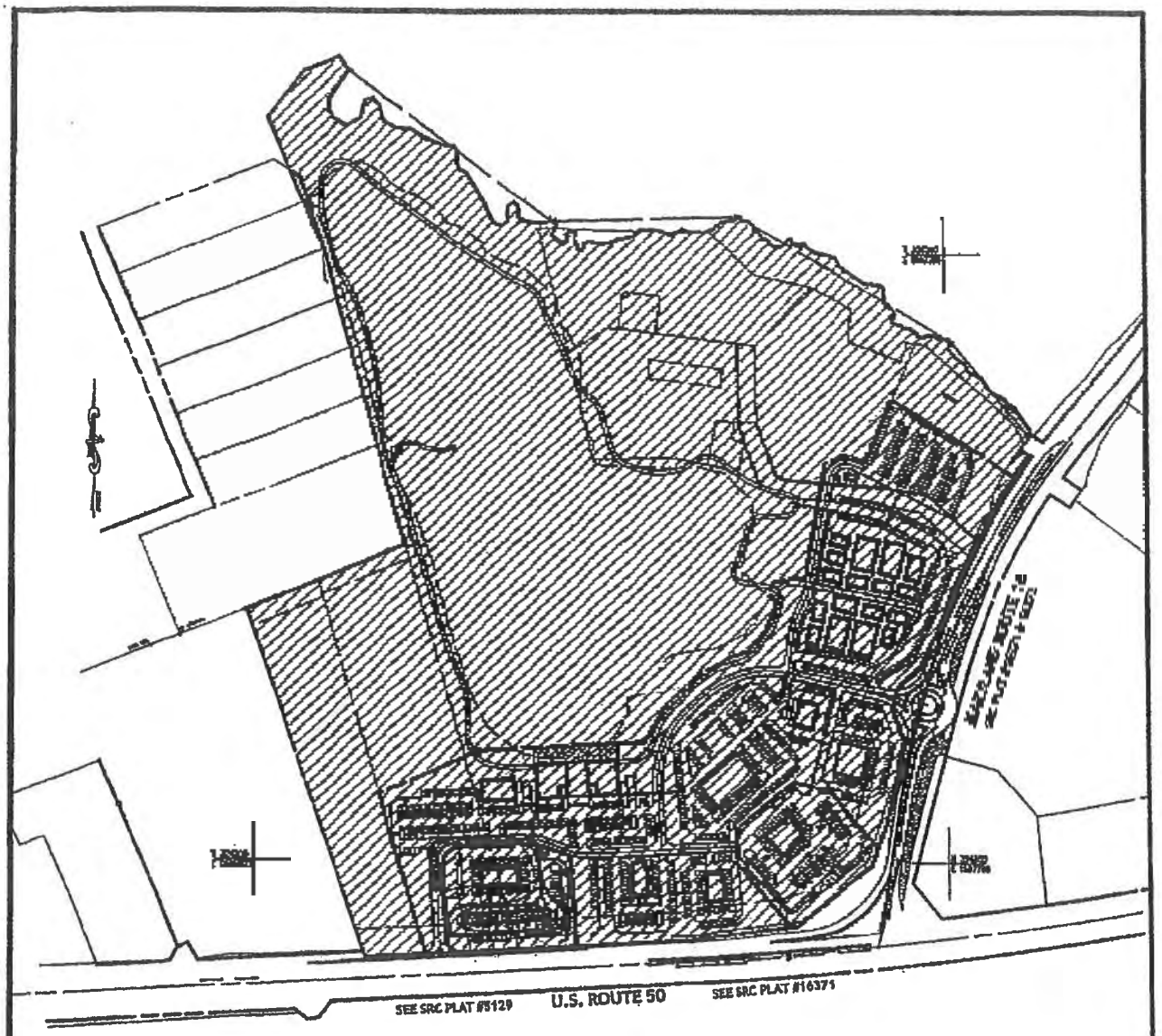
IMMEDIATE, 5 AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

Project Name & Description	Location Md. Coord. North/East	County Priority Assigned	Estimated Cost						Project Schedule			
			Total	Eligibility		Other Funding		Local	Prelim Plans	Final Plans	Start Constr	Complete Constr
				Fed.	State	Fed	State					
III. Private **B. Crystal Lake** **Construction of WWTP for approx. 182 EDUs w/land application disposal**	**N325,720** **E1,597,120**	**S-1**	**TBD**	**Private developer funding for entire project**					**2009**	**2009**	**2009**	**2011**

Inserted text is indicated by bold underlining

RESOLUTION NO. 465

BR0006 FR00075



Existing Planned

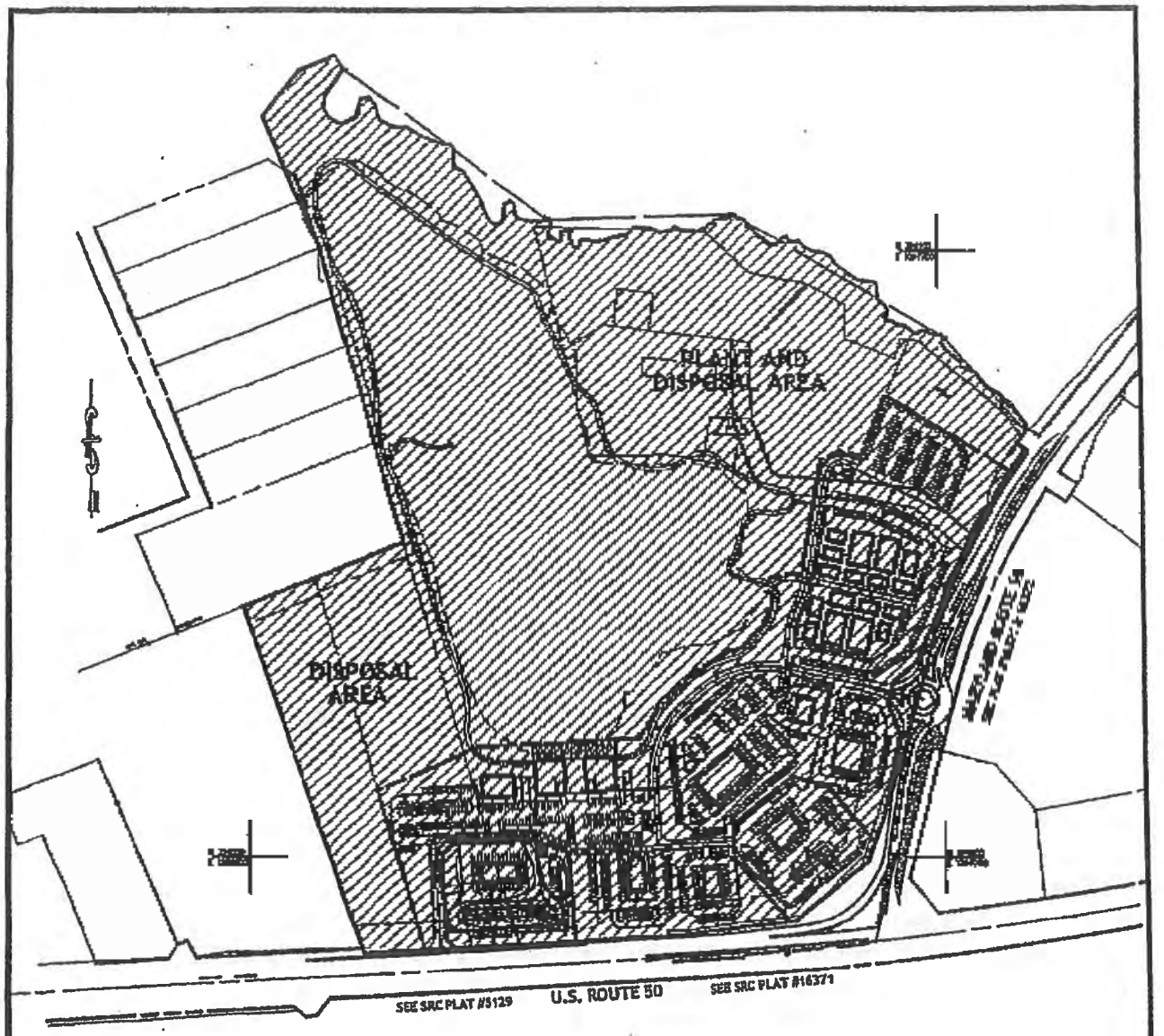
N/A Private Community System
W-1, Existing to 2 years

WATER SERVICE AREA
CRYSTAL LAKE
INTX. U.S. RTE. 50 AND MD. RTE. 16
DORCHESTER COUNTY, MARYLAND

THE TECH GROUP, INC.
ENGINEERS • PLANNERS • SURVEYORS
GEOTECHNICAL • ENVIRONMENTAL
MATERIALS CONSULTANTS • FACILITIES
1111 Benfield Blvd.
Suite 100
Millersville, Maryland 21108
Ph. (410) 987-3450
Fax (410) 987-3457

DESIGNED: P.W.	DATE: NOVEMBER, 2008	EXHIBIT J-1
DRAWN: D.B.	SCALE: 1"=400'	
CHECKED: R.T.M.	JOB# 507025	

506046/DWG/SHEETS/WS/WATER-EXHIBIT



Existing		Planned
N/A	▨	Private Community System S-1, Existing to 2 years
N/A	△	Sewage Treatment Plant

SEWER SERVICE AREA

CRYSTAL LAKE

INTX. U.S. RTE. 50 AND MD. RTE. 16
DORCHESTER COUNTY, MARYLAND

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Fax (410) 987-3457

DESIGNED: P.W.	DATE: NOVEMBER, 2008	EXHIBIT 4-J
DRAWN: D.B.	SCALE: 1"=400'	
CHECKED: R.T.M.	JOB# 507025	

508048/DWG/SHEETS/WS/SEWER-EXHIBIT

EXHIBIT

A

THE DORCHESTER COUNTY PLANNING COMMISSION

FINDINGS OF FACT

In RE: Dorchester County Comprehensive Water & Sewer Plan Amendment Crystal Lake, LLC

Applicant: Crystal Lake, LLC (Miles & Stockbridge, P.C.)

Requested Change: The applicant and owner Crystal Lake, LLC (Miles & Stockbridge, P.C.) is requesting water and sewer plan map and text amendments to the county Comprehensive Water & Sewer Plan. The applicant is proposing the addition of a new water service area as shown on map exhibit 3-I and identified as a W-1, existing to 2 years service timeframe. The applicant is also proposing the addition of a new sewer service area as shown on map exhibit 4-J and identified as an S-1, existing to 2 years service timeframe. The text and chart amendments describe the proposed developments community or multiple-use single ownership water and sewer facilities. Projected average daily water flows and projected average daily wastewater discharges are also given.

Area affected: The area affected is within unincorporated Dorchester County and is identified as Tax Map 31, Grid 23, Parcels 64, 65, 69 & 153, and Tax Map 42, Grid 5, Parcels 345, 346, & 347. The site contains approximately 78.24 acres of land and was formally used as a sand and gravel operation. The actual pit or excavation site is now filled with water and the surface area encompasses approximately 16.39 acres. A portion of the property approximately 57.69 acres is within the Chesapeake Bay Critical Area in a Limited Development Area (LDA). The property is located approximately 2-3 miles east of the municipal boundary of the City of Cambridge.

Planning Commission Findings: After considering the submitted text and map amendment for the proposed commercial development which is planned to be served by a privately owned multi-user water distribution system, and a privately owned multi-user wastewater system, we make the following findings relative to the application before us:

1. At the public hearing the Planning Commission heard from staff of the Office of Planning & Zoning. The planning staff gave the Commission details on the application and background information on the reason why the text amendment was requested. The Planning Commission **finds** that the proposed commercial development is planned to be served by a private multi-user water distribution system with up to two wells, storage tank, and as needed a water treatment system.

The Planning Commission also **finds** that the proposed privately owned wastewater system will provide tertiary treatment of discharged effluent by land application. From the staff report the Planning Commission **finds** that each system will have projected average daily flows of approximately 45,500-50,000 gallons.

2. The Planning Commission heard from planning staff and **finds** that the current county Comprehensive Plan identifies the subject property as, a county "Development District", and is shown as such on the Land Use Concept Plan (Figure 2-1). One of the Comprehensive Plan goals for Development Districts is to "allow for and encourage rural-residential, affordable and move-up housing in selected rural areas, without overburdening roads and schools" (page 2-8). The Planning Commission **finds** that while the "Development District (Areas)" section in the Land Use Chapter of the Comprehensive Plan encourages residential development, it has no absolute prohibition on commercial development. The Planning Commission **finds** that the subject property has a B-2, General Business zoning district designation which has been in effect since the last Comprehensive Rezoning in 1998-99. Prior to this zoning the property carried a B-3, General Business zoning which was placed on the property as a result of an approved rezoning request in 1984. Therefore the Planning Commission also **finds** that the property's business zoning was in effect prior to (pre-date) the current 1996 Comprehensive Plan.

3. The Planning Commission was made aware by staff and **finds** that under the Land Use Section (pages 2-5 & 2-6) of the Comprehensive Plan growth is encouraged within the existing City and Towns themselves with water and sewer such as the City of Cambridge. In fact, directing growth to the towns is said to be "essential to the success of other Comprehensive Plan goals including preservation of rural areas, and providing government services efficiently and at minimum cost". The Planning Commission **finds** that the subject site will not be connected to public utilities and thus will not be served by municipal water and sewer. In fact the current County Comprehensive Water & Sewer Plan identifies the subject property as a parcel with no planned service.

4. The Planning Commission learned from planning staff testimony and **finds** that the goal of the "Business, Retail and Service Uses" section of the Comprehensive Plan (page 3-19) is to: Accommodate business, retail and service uses in appropriate locations in the County. Furthermore, the policy of this Comprehensive Plan is to limit strip development and encourage business uses to locate in the incorporated towns. Therefore, as stated in the Comprehensive Plan: "Further expansion of business zoning along Route 50 should be discouraged" (page 3-20). While the applicant's preliminary site plan is not a component of the water & sewer plan amendment request, the Planning Commission has reviewed the site plan at a prior hearing and **finds** that the proposed entrance to the site with its limited access points and interior road network is not considered strip development.

5. The Planning Commission heard the applicant's attorneys Mr. McAllister and Mr. Showalter (Miles & Stockbridge, P.C.) who testified in favor of the text amendment request. The Planning Commission also heard from the applicant Mr. Pascal (Crystal Lake, LLC) as well as other members of his support team, Bob DiAlso (Tech Group Engineering), John Smith (Apex Water & Sewer Design), who spoke in favor of the request. Mr. McAllister reminded the Planning Commission of their prior preliminary approval (July 2008) of a commercial site plan for the property. He further discussed the development history of the property (subject site of the water & sewer plan amendment) and the past and current zoning of the land. The Planning Commission **finds** that the subject site is zoned RR, Rural Residential and B-2, General Business.

6. The Planning Commission heard from Mr. Showalter who informed them of their responsibility to evaluate the amendment approval in light of the overall policies and objectives set forth in the Comprehensive Plan, as well as the uses permitted by existing Dorchester County zoning. Mr. Showalter stated that the proposed amendment is consistent with the general policies and objectives of the Comprehensive Plan. He further explained that the amendment is consistent with the land use recommendations for the geographic area where the property is located, as well as specific policy recommendations concerning matters such as economic development, transportation and site design. The Planning Commission **finds** that the amendment request was supported by the testimony given.

7. The Planning Commission **finds** that there was no one present at the public hearing from the audience who spoke against the amendment request, and therefore there was no public comment of opposition to the amendment.

8. Review agency comment letters were received from the Dorchester County Department of Public Works, Sanitary District, and Health Department. The Planning Commission **finds** that each of those agencies had no comment or no objection to the water & sewer plan amendment request. The Health Department recommended that a water & sewer system of this size and type should be owned and operated by a public entity. They also stated that it has yet to be determined if sufficient capacity exists on site to support the sewage disposal needs of this proposal. The Planning Commission **finds** that further evaluation of the site (wet season) will be required.

9. The Planning Commission **finds** based upon the relevant information submitted and the testimony given at the Comprehensive Water & Sewer Plan amendment public hearing, and the prior related Crystal Lake commercial site plan approval hearing (preliminary approval), as well as the documented historic use of the associated property and the long-standing commercial zoning, that the Comprehensive Water & Sewer Plan text and map amendment request as presented and reviewed is consistent with the current 1996 Dorchester County Comprehensive Plan.

Chairman Loeffler asked for a motion on the text amendment to forward a favorable recommendation to the County Council. Commission member Mr. Lewis made that motion which was seconded by Mr. Dockins. A unanimous vote was cast (6-0) to send a **favorable recommendation** to the County Council.

Respectfully submitted,

Joy Loeffler

Joy Loeffler, Chairman
Dorchester County Planning Commission

RECEIVED FEB 0 5 2010

MEMORANDUM

To: Steve Dodd

Cc: K.D. Applegarth, Sanitary District

From: Jane Bayrard

Date: February 3, 2010

RE: **Resolution No. 480**

At its February 2, 2010 meeting, the County Council adopted **Resolution No. 480** –*A Resolution of the County Council of Dorchester County, Maryland, amending the 2004 Dorchester County Comprehensive Water and Sewer Plan (The "Plan") to add or delete certain parcels to/from Table 4-1 (entitled Woolford-Madison Sewer Project Wastewater Allocation Estimate) of the Plan.*

Attached is a copy of Resolution No. 480. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

RESOLUTION NO. 480 LIBER 0006 FOLIO 0214

A RESOLUTION OF THE COUNTY COUNCIL OF DORCHESTER COUNTY, MARYLAND AMENDING THE 2004 DORCHESTER COUNTY COMPREHENSIVE WATER AND SEWER PLAN (THE "PLAN") TO ADD OR DELETE CERTAIN PARCELS TO/FROM TABLE 4-1 (ENTITLED "WOOLFORD-MADISON SEWER PROJECT WASTEWATER ALLOCATION ESTIMATE) OF THE PLAN.

WHEREAS, State law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

WHEREAS, Dorchester County adopted its most current Plan on March 16, 2004; and

WHEREAS, the Dorchester County Sanitary District, Inc. filed to amend Table 4-1 of the Plan in order to correct or update the list of properties which will be eligible for connection to Sanitary District #7, said list being attached hereto and incorporated herein; and

WHEREAS, on December 2, 2009, the Dorchester County Planning Commission certified that the proposed amendments are consistent with the Dorchester County Comprehensive Plan; and

WHEREAS, the County Council of Dorchester County, having held a public hearing on this matter on January 19, 2010, and having given careful consideration to the matter, voted unanimously to adopt the proposed amendments.

NOW THEREFORE, BE IT RESOLVED, the County Council of Dorchester County, Maryland does hereby amend the 2004 Dorchester County Comprehensive Water and Sewer Plan, as set forth on the attached amendment.

PASSED AND ADOPTED THIS 2nd DAY OF February, 2010

ATTEST:

Jane Baynard
Jane Baynard
County Manager

FILED
2010 FEB -3 AM 11:16
CIRCUIT COURT
DORCHESTER COUNTY

COUNTY COUNCIL OF DORCHESTER COUNTY

Jay L. Newcomb, President

Effie M. Elzey, Vice President

William V. Nichols

Rick Price

Ricky Travers

Amendment(s) to Table 4-1

Add the following parcels/lots:

911Num	911Rd	Tax Map	Parcel	Lot	SbNm	OwnFNa	OwnLNa	NewBdUs	WWAlloc
1502	DeepPoin	39	24	-	-	Roy	Harrison	Res	250
916	ParsonsDr	49	21	18	-	Brian	Teagarden	Res	250
4911	LaurieLn	50	27	-	-	Frank	Whirley	Res	250
1530	TaylorsIsl	50	204	1-4	-	John	Mowbray	Res	250
1424	TaylorsIsl	50	236	-	-	William	Swann	Res	250
1652	TaylorsIsl	51	28	-	-	George	Hubbard	Res	250
1658	TaylorsIsl	51	199	-	-	Tony	LeCompte	Res	250

Delete the following parcel/lot:

911Num	911Rd	Tax Map	Parcel	Lot	SbNm	OwnFNa	OwnLNa	NewBdUs	WWAlloc
N/A	Harrisville	50	153	-	-	Sandra	Cornish	N/A	N/A

RESOLUTION NO. 494

A RESOLUTION OF THE COUNTY COUNCIL OF DORCHESTER COUNTY, AMENDING COUNTY COUNCIL RESOLUTION 480 PASSED ON FEBRUARY 2, 2010 AMENDING THE 2004 DORCHESTER COUNTY COMPREHENSIVE WATER AND SEWER PLAN (THE "PLAN") TO ADD OR DELETE CERTAIN PARCELS TO/FROM TABLE 4-1 (ENTITLED "WOOLFORD-MADISON SEWER PROJECT WASTEWATER ALLOCATION ESTIMATE) OF THE PLAN.

WHEREAS, the County Council of Dorchester County, Maryland (the "County") passed Resolution No. 480 (the "Resolution") on February 2, 2010; and

WHEREAS, the Resolution amended the Plan to add or delete certain parcels to/from Table 4-1 (Entitled "Woolford-Madison Sewer Project wastewater allocation estimate) of the Plan; and

WHEREAS, in accordance with Environmental Article 9-507(a)(4) and as set forth in Exhibit A (attached hereto), the Maryland Department of the Environment the modified amendment to Table 4-1 of the Plan for the "Woolford-Madison sewer service area, Dorchester County Sanitary District #7", which was adopted by the County on February 2, 2010 by Resolution No. 480; and

WHEREAS, the County desires to conform to the modifications to the Resolution made by the Maryland Department of Environment.

NOW THEREFORE, BE IT RESOLVED, the County Council of Dorchester County, Maryland does hereby amend the 2004 Dorchester County Comprehensive Water and Sewer Plan, as set for in Exhibit A attached hereto and hereby incorporated herein by reference.

PASSED AND ADOPTED this 5th day of October, 2010.

ATTEST:

Jane Baynard
County Manager

COUNTY COUNCIL OF
DORCHESTER COUNTY, MARYLAND

Jay Newcomb, President

Effie M. Elzey, Vice President

William V. Nichols

Rick Price

Rick Travers

FILED
2010 OCT -7 AM 10:41
CIRCUIT COURT
DORCHESTER COUNTY

cd2:Sept.10
Resolution-480Amd/bmk

In accordance with Environmental Article 9-507(a)(4) and as set forth below, the Maryland Department of the Environment hereby modifies the amendment to Table 4-1 of the Dorchester County Master Water and Sewer Plan for the "Woolford-Madison sewer service area, Dorchester County Sanitary District #7," which was adopted by the Council of Dorchester County on February 2, 2010 by Resolution No. 480.

Effective Date of Amendment Modification: August 20, 2010.

August 20, 2010
Dorchester County Water and Sewer Plan

MDE Modified Text Amendment - Table 4-1

Add the following parcels/lots:

911 Number/Road	Tax Map	Parcel	Lot	Owner	Wastewater Allocation GPD)
1502/Deep Point	39	24	-	Roy Harrison	250
4911/Laurie Lane	50	27	-	Frank Whirley	250
1530/Taylors Island Road	50	204	1-4	John Mowbray	250
1424/ "	50	236	-	William Swann	250
1652/ "	51	28	-	George Hubbard	250

Delete the following parcel/lot:

911 Number/Road	Tax Map	Parcel	Lot	Owner	Wastewater Allocation GPD)
NA/Harrisville	50	153	-	Sandra Cornish	-

APPENDIX D

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 307
Cambridge, MD 21613

A. Type of Amendment ✓ Map ✓ Text

1. Map Amendment

a. Sewer: From No Service To S-1
b. Water: From _____ To _____
c. Other: _____
d. Map number(s) to be changed: _____
Exhibit 4-E

2. Text Amendment: Section and page number(s) to be changed: Section 4.4.9.1, Table 4.1 beginning on page 4-39

B. Character of Amendment: Adding existing parcels with septic systems, and removing vacant parcels in Sanitary District No. 7

✓ Addition ✓ Deletion _____ Change

C. Property Identification:

See attached table

1. Tax Map/Block/Parcel number ___/___/___
2. Election District _____ Zoning District _____
3. Critical Areas _____ Yes _____ Designation _____ No

D. Description and Purpose of Change

See attached table

1. Name of Project or Subdivision _____
2. Location, including Road name _____
3. Approximate population served _____
4. Other _____

E. Estimated Design and Construction Costs Design $0; Construction $63,245
See attached table

F. Estimated Design/Construction Dates Design complete; Construction in 2010

Revised June 1992

G. Applicants Name, Address, Phone

Dorchester County Sanitary District, Inc.

501 Court Lane

Room 209

Cambridge, MD 21613

(410) 228-6222

H. Owners Name, Address, Phone

I. If property is located within the corporate limits of a municipality or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Certifier's Name & Title

Date

J. Signatures

Applicant Date 11/2/19

Owner Date

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

Water and Sewer Plan Amendment

Madison-Woolford-Susquehanna Point Sanitary District No. 7

This application for amendment to the Dorchester County Water and Sewer plan is being requested by the Dorchester County Sanitary District, Inc. (DCSD). The DCSD has recently completed the process of creating Sanitary District No. 7, which will serve the Madison, Woolford and Susquehanna Point communities. The project to install the sewer system will begin construction in December 2009.

During the process of establishing the new sanitary district, some parcels were identified to have existing septic systems, however they were not included in the original list of parcels in the 2004 Dorchester County Water and Sewer plan. Other parcels were identified because they were included in the plan, however the structure has since been demolished.

The list of parcels proposed to be added and proposed to be removed from the plan is attached. Also attached are tax maps and aerial images of all of the parcels.

By serving the seven (7) additional parcels with septic systems, the project will succeed in removing all septic system from the service area. Of the seven parcels proposed to be added, six are located within the Critical Areas.

By removing the two (2) parcels that no longer have structures, the project will be as accurate as possible assuring that no new growth results from this project.

The construction costs associated with serving the seven additional parcels is estimated at a total cost of $63,245.00, which is based on an average cost per unit of $9,035.00. The unit prices used in the cost estimate are from the actual bid of the low bidder on the construction contract. The cost estimate is attached.

Wacker-Wootton
Dorchester County Sanitary District
Water and Sewer Plan Amendment Parcels

Construction Cost Estimate

Item No	Description	Size or Depth	Unit	Quantity	Unit Price	Total Price
1	Install Simplex Grinder Pump Station	-	EA	1	2,350.00	2,350.00
2	Furnish and Install HDPE Low Pressure Sewer	1 1/4"	LF	200	7.30	1,460.00
3	Abandon Septic Tanks		EA	1	1,250.00	1,250.00
4	Furnish Simplex Grinder Pump E-One Model Number D-07-74	-	EA	1	3,975.00	3,975.00
Total Estimated Construction Cost per parcel						**$9,035.00**
# of Parcels in proposed WSS Plan Amendment						7
Total Estimated Construction Cost for Parcels to be Added						**$63,245.00**

Unit prices are actual bid prices per the low bidder David A. Bramble, Inc.

Stephanie Simmons

From: Stephanie Simmons
Sent: Wednesday, August 17, 2011 11:25 AM
To: Steve Dodd
Cc: Rodney Banks; Donna Lane
Subject: Resolution Acceptance-Wtr & Sewer Plan Amendment-Bryan

Tracking:

Recipient	Delivery
Steve Dodd	Delivered: 8/17/2011 11:25 AM
Rodney Banks	Delivered: 8/17/2011 11:25 AM
Donna Lane	Delivered: 8/17/2011 11:25 AM

Steve,

At its August 16, 2011 meeting, the Council agreed to execute a Resolution amending the 2004 Dorchester County Comprehensive Water and Sewer Plan to amend the Town of Secretary water service area map and sewer service area map for certain properties located east of the Town of Secretary. The Council acknowledged that at its August 2, 2011 meeting they approved the proposed amendment to the Plan filed by Perry Otwell on behalf of Mark Bryan to change the destination of two parcels abutting the easterly boundary of the Town of Secretary on Tax Map 21, Parcels 37 and 157 from S-2, W-2 to S-1, W-1.

Please note that a fully executed/recorded copy of the Resolution will be placed in your mailbox.

Jane Baynard
County Manager
Dorchester County Council
501 Court Lane
Cambridge, Maryland 21613

This e-mail was approved by Jane Baynard, County Manager.

APPENDIX D

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 107
Cambridge, MD 21613

A. Type of Amendment ✓ Map ____ Text

1. Map Amendment

a. Sewer: From S2 To S1 Par. 378157
b. Water: From W2 To W1 Par 378157
c. Other: ____
d. Map number(s) to be changed: 21

2. Text Amendment: Section and page number(s) to be changed: ____

B. Character of Amendment:

____ Addition ____ Deletion ____ Change

C. Property Identification:

1. Tax Map/Block/Parcel number 21 / 11 / 378157
2. Election District 2nd Zoning District SR + SR-RCA
3. Critical Areas ✓ Yes RCA Designation ____ No
Partially in Critical Area

D. Description and Purpose of Change

1. Name of Project or Subdivision Mark Bryan Property
2. Location, including Road name MD Rte 14 Town of Secretary
3. Approximate population served 49 total lots = 196 people
4. Other ____

E. Estimated Design and Construction Costs $600,000 (APPX.)

F. Estimated Design/Construction Dates Design - ongoing
Construction - 2012-13

Revised June 1992

G. Applicants Name, Address, Phone

Otwell Engineering
c/o Perry Otwell
8709 Brooks Dr Suite 1
Easton, Md 21601

H. Owners Name, Address, Phone

Mark Bryan
3628 Warwick Rd
East New Market Md 21631

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Henry S. Moat Mayor
Certifier's Name & Title

4/26/11
Date

J. Signatures

Perry A. Otwell 3-10-11
Applicant Date

Owner 3-10-11
Date

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

RESOLUTION NO. 505

A RESOLUTION of the County Council of Dorchester County amending the 2004 Dorchester County Comprehensive Water and Sewer Plan (the "Plan") to amend the Town of Secretary Water Service Area Map (Exhibit 3-C) and Sewer Service Area Map (Exhibit 4-C) for certain properties located east of the Town of Secretary, more specifically identified on Dorchester County Tax Map 21, as Parcel(s) 37 and 157.

WHEREAS, State law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

WHEREAS, Dorchester County adopted its most current Plan on March 16, 2004; and

WHEREAS, a request was filed by Mark Bryan to amend the aforementioned Map(s) to accommodate the extension of municipal water and sewer to the parcels indicated on the attached exhibits; and

WHEREAS, on July 13, 2011 the Dorchester County Planning Commission certified that the proposed amendment(s) is consistent with the Dorchester County Comprehensive Plan; and

WHEREAS, the County Council of Dorchester County, having held a public hearing on this matter on August 2, 2011 and having given careful consideration to the matter, voted unanimously to adopt the proposed amendment(s).

NOW, THEREFORE, the County Council of Dorchester County does hereby amend the Dorchester County 2004 Comprehensive Water and Sewer Plan, as set forth on the attached exhibits.

Adopted this 16th day of August, 2011.

Attested by:

Jane Baynard
County Manager

The County Council
of Dorchester County

Jay L. Newcomb

William V. Nichols

WN

TOWN OF SECRETARY
SEWER SERVICE AREA
Exhibit 4-C

TOWN OF SECRETARY
W WATER SERVICE AREA
Exhibit 3-C

and
map.

MEMORANDUM

To: Steve Dodd, Planning & Zoning Director

cc: Rodney Banks, Assistant Planning & Zoning Director

From: Jane Baynard, County Manager

Date: January 18, 2012

RE: **Resolution No. 514**

At its January 17, 2012 meeting, the County Council adopted **Resolution No. 514** – *A Resolution of the County Council of Dorchester County amending the 2004 Dorchester County Comprehensive Water and Sewer Plan (the "Plan") to amend the text and charts within the plan to identify the Town of Secretary's request for a replacement of the existing Waste Water Treatment Plant which is shared between the Towns of Secretary and East New Market. In addition to increasing the capacity of the plant, the new system will provide for enhanced nutrient removal (ENR), which provides for improved water quality benefits and will contribute toward the County achieving its TMDL goals.*

Attached is an executed recorded copy of Resolution No. 514. Should you have any questions, please contact me.

Thank you.

JB:ss

Attachment

LIBER 0006 FOLIO 0454

FILED

2012 JAN 18 AM 9:46

CIRCUIT COURT
DORCHESTER COUNTY

County Council of Dorchester County, Maryland

Resolution No. 514

6

A RESOLUTION of the County Council of Dorchester County amending the 2004 Dorchester County Comprehensive Water and Sewer Plan (the "Plan") to amend the text and charts within the plan to identify the Town of Secretary's request for a replacement of the existing Waste Water Treatment Plant which is shared between the Towns of Secretary and East New Market. In addition to increasing the capacity of the plant, the new system will provide for enhanced nutrient removal (ENR), which provides for improved water quality benefits and will contribute toward the County achieving its TMDL goals.

WHEREAS, State law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

WHEREAS, Dorchester County adopted its most current Plan on March 16, 2004; and

WHEREAS, a request was filed by the Town of Secretary to amend the aforementioned Plan to accommodate the replacement of the existing Waste Water Treatment Plant located on Green Point Road as indicated on the attached exhibits; and

WHEREAS, on December 7, 2011 the Dorchester County Planning Commission certified that the proposed amendment(s) is consistent with the Dorchester County Comprehensive Plan; and

WHEREAS, the County Council of Dorchester County, having held a public hearing on this matter on January 3, 2012 and having given careful consideration to the matter, voted unanimously to adopt the proposed amendment(s).

NOW, THEREFORE, the County Council of Dorchester County does hereby amend the Dorchester County 2004 Comprehensive Water and Sewer Plan, as set forth on the attached exhibits.

Adopted this **17th** day of **January, 2012**.

Attest:

Jane Baynard
County Manager

The County Council of Dorchester County

Jay L. Newcomb

William V. Nichols

Ricky Travers

Absent
Rick Price

Absent
Tom Bradshaw

Resolution No. 514

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 207
Cambridge, MD 21613

A. Type of Amendment X Map X Text

1. Map Amendment

a. Sewer: From _____ To _____
b. Water: From _____ To _____
c. Other: See attached information
d. Map number(s) to be changed: _____

2. Text Amendment: Section and page number(s) to be changed: _____
See attached information

B. Character of Amendment:

X Addition _____ Deletion _____ Change

C. Property Identification:

1. Tax Map/Block/Parcel number 0021/0015/0109
2. Election District 02 Zoning District Suburban Res.
3. Critical Areas _____ Yes _____ Designation X No

D. Description and Purpose of Change

1. Name of Project or Subdivision New Wastewater Treatment Plant
2. Location, including Road name 3723 Green Pt Rd, 2000' east of Rt. 14
3. Approximate population served ~~800 (Secretary & E. New~~ Mkt)
4. Other _____

E. Estimated Design and Construction Costs $8,000,000

F. Estimated Design/Construction Dates Design - 2011/2012
Construction - 2012/2013

Revised June 1992

G. Applicants Name, Address, Phone

Town of Secretary
P.O. Box 248
Secretary, MD 21664
(410) 943-3113

H. Owners Name, Address, Phone

Town of Secretary
P.O. Box 248
Secretary, MD 21664
(410) 943-3113

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Certifier's Name & Title — Date: 6/14/11

J. Signatures

Applicant — Date: 6/14/11

Owner: Town of Secretary — Date: 6/14/11

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

Reason for Change to Dorchester County
Water and Sewer Plan

In 2007, the Twin Cities Commission, which oversees the operation of the Secretary wastewater treatment plant, commissioned an engineering evaluation of the Town's water and sewer collection and treatment systems. The Secretary wastewater treatment plant receives wastewater flow from Secretary, East New Market, and isolated areas in the County such as Green Point Road. The average daily flow to the existing treatment plant is 200,000 GPD. The plant is currently designed for 281,600 GPD. After considering a reserve capacity for inflow and infiltration, the remaining treatment capacity to serve future growth is severely limited. Moreover, the Maryland Department of Environment may impose more stringent discharge limits, which respect to nitrogen and phosphorus removal in the future.

Recognizing the lack of future capacity, the potential for more stringent effluent limits, past BOD violations at the plant and the treatment limitations of the existing lagoon to achieve nutrient removal, the 2007 study by the Town recommended a new wastewater treatment plant be designed and constructed on the same parcel as the existing plant on Green Point Road, with a design capacity of 0.4-0.5 MGD. The new plant will be designed to achieve enhanced nutrient removal. The future capacity is based on growth projections over a planning horizon of 20 years. The new plant will be physically located between Green Point Road and the existing plant on the same parcel as the existing plant, allowing the existing plant to remain in operation while the new plant is constructed. The existing lagoons would then be taken off line once the new plant is operating satisfactorily.

The purpose of amending the County Water and Sewer Plan is to reflect the replacement of the

existing 0.281 MGD wastewater treatment lagoon with a new ENR (enhanced nutrient removal) treatment plant at the same location on Green Point Road with a minimum average day capacity of 0.4 MGD.

Table 2-4
Municipal Wastewater Treatment Capacity

Municipal WWTP	Permitted MGD	2001 Average Flow MGD	Projected 2020 Flow MGD
City of Cambridge	8.1	4.714	7.0
Town of Hurlock	1.022	.833	1.062
Town of Vienna	.137	.051	.137
*Twin Cities WWTP	.28	.090	0.505

Source: Dorchester County Health Department
City of Cambridge

*Note: Average Day Flow for most recent 3 years as of July 1, 2007 for Twin Cities WWTP was 0.199 MGD.

main that transmits all of East New Market's wastewater to the upgraded treatment plant in Secretary.

East New Market has provided the local share of funds to construct the pumping station, force main and necessary improvements to Secretary's existing treatment system. Financing of the improvement was through a 75% grant from the Environmental Protection Agency, 12-1/2% grant from the Maryland State Health Department with the remaining 12- ½% financed with a combination grant/loan from Farmers Home Administration. Under a joint agreement, the costs for operation and maintenance of the Secretary treatment plant is shared by the two towns based on the metered flows from each. Each town is responsible for the operation and maintenance costs of their respective sewage collection and pumping systems.

The town of East New Market replaced the sewer line from Main Street to the Pumping Station with a 10" P.V.C. line. At the same time larger motors were installed at the Pumping Station, which is not capable of pumping 300+ G.P.M.

Eddie Powell constructed a system to service an 18-lot subdvision on Creamery Road. A sewer line was extended across Railroad Avenue, just east of Farm Credit property, and then run easterly along Railroad Avenue to service a planned development in that area.

In 2000, the town replaced the original collection system throughout the town with an 8' gravity system. At the same time, a low pressure grinder system pumping into the gravity system on Railroad Avenue was constructed in the "Depot" area to service the area annexed into the town. A low pressure grinder pump system pumping into the gravity system on Main Street was constructed down Linkwood Road to service this newly annexed area.

The town of Secretary installed a wastewater collection and treatment system in 1971. The collection system is comprised of 8 and 10-inch gravity sewers that flow to a pumping station at the foot of Gordon Street.

The Gordon Street Pump Station was upgraded in 2007 and included new duplex pumps with a capacity of 325 G.P.M. each, new internal piping, new comminutor, new emergency storage wetwell and new electrical controls and instrumentation. A new 100 Kw emergency generator was installed in 2006 for this pump station. The Gordon Street pump station discharges to the existing wastewater treatment facility via a 6-inch force main under the South Branch of the Warwick River. The Town of Secretary also has a small pneumatic pump station located on Poplar Street, and a small station on Goodwill Avenue that serves a limited number of properties and pumps flow through a 4-inch force main up to the primary gravity system.

Both of these small pump stations are in need of replacement or upgrading due to the existing condition and age of the pumps, valves and piping. The Town has submitted a grant application to MDE for the upgrade to these stations.

The I/I Analysis in the Step I Facilities Plan identified severe problems and showed that during wet weather months, the existing system is subject to approximately 35% infiltration and is overloaded. Subsequently, in 1978, under a HUD Community Block Grant the Town conducted a television inspection program of a limited portion (20%) of the sewer system. This revealed several broken joints, several dips (settled pipe sections) and a segment of collapsed pipe (in Wes Road). Subsequently, in 2004 and 2008, I/I improvements were performed by the Town after conducting an updated I/I study. The 2004 effort was known as Phase I and 2008 was Phase II, funded through a grant from MDE. The I/I work included relining certain pipe sections, grouting, replacement of certain pipe segments and rehabilitating manholes.

Following a feasibility study in 1994, the Town of Secretary added a collection system consisting of grinder pumps and a low pressure sewer system to serve approximately 40 homes in the Green Point Road area. At this time approximately 12 unused connections remain.

A joint treatment system for the two Towns at the improved treatment facility in Secretary was completed in the fall of 1981 (Twin Cities). The improvements included converting Secretary's primary pond to an aerated lagoon by installing four 7-1/2 hp. surface aerators and increasing the normal operating depth to six feet. The second pond was converted to a polishing pond and recirculation facilities are present to satisfy a portion of the influent BOD, thus enhancing operational efficiency. New chlorination facilities were constructed which provide a minimum of 30 minutes contact time at the anticipated peak flow of 0.54 MGD. Rapid mixing, de-chlorination with sulfur dioxide and post aeration is also present. A new control building, complete laboratory facilities and a new 25 GPM well were also constructed. Subsequently in 2009, several minor repairs were made to the existing lagoon including replacement of the mixers, repair of the telescopic valves and baffle repair in the secondary cell.

In 2007, the Twin Cities Commission, which oversees the operation of the Secretary wastewater treatment plant, commissioned an engineering evaluation of the Town's water and sewer collection and treatment systems. The Secretary wastewater treatment plant receives wastewater flow from Secretary, East New Market, and isolated areas in the County such as

Green Point Road. The average daily flow to the existing treatment plant is 199,000 GPD. The plant is currently designed for 281,000 GPD. After considering a reserve capacity for inflow and infiltration, and approved but not yet constructed developments, the remaining treatment capacity to serve future growth is severely limited. Moreover, the Maryland Department of Environment may impose more stringent discharge limits, which respect to nitrogen and phosphorus removal in the future.

Recognizing the lack of future capacity, the potential for more stringent effluent limits, past BOD violations at the plant and the treatment limitations of the existing lagoon to achieve nutrient removal, the 2007 study by the Town recommended a new wastewater treatment plant be designed and constructed on the same parcel as the existing plant on Green Point Road, with a design capacity of 0.4-0.5 MGD. The new plant will be designed to achieve enhanced nutrient removal. The future capacity is based on growth projections over a planning horizon of 20 years. The new plant will be physically located between Green Point Road and the existing plant on the same parcel as the existing plant, allowing the existing plant to remain in operation while the new plant is constructed. The existing lagoons would then be taken off line once the new plant is operating satisfactorily. The Town of Secretary has made an application to MDE for an $8.5 million grant to finance a new wastewater treatment plant.

Future improvements in the East New Market District are limited to those contemplated for the Towns of Secretary and East New Market.

Future improvements for sewerage collection would include the extension of lines to the depot area and a gravity collection system along Maryland Route 392 and 14 and connecting roads as shown in Exhibit 4-B. A pump station and force main would transport the sewage to the existing gravity line at Maryland Route 16 and Linkwood Road.

The East New Market system is presently servicing Phase I of the Heritage Mobile Home Park consisting of 39 units with a gravity sewer connected to the East New Market collection system at manhole #32. A second phase is planned for 40 units which would also connect to the gravity sewer.

Small concentrations of septic tank failures have been identified by the Health Department in Thompsontown, the Depot area near East New Market and along the Choptank River on Green Point Road near Secretary. The Depot area and Green Point Road area were studied as part of the Facilities Plan for East New Market and Secretary. The Plan

recommended that both areas be served through the joint treatment plant expansion. As noted above, the Depot area is planned for correction as part of East New Market's program.

Thompsontown was not studied as part of the Step I Facilities Plan. The extent of failing septic systems has also not been documented. It is recommended that Thompsontown be placed in category S-3 pending a detailed sanitary survey by the Local Health Department. If the suspected individual system failures are confirmed, the area could be studied as part of a Facilities Plan including Rhodesdale, Reids Grove and an unnamed development between the latter two settlements. All have septic tank failures.

TABLE 4-3 (S.H.D. – 10)
INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
6. Town of Secretary Commissioners (Twin Cities)	Aerated Lagoon with Polishing Pond	Issued MD0065352	282,000 1,097,000	3.3	-	Warwick River	.281	.281	.287	.199	0.565	New 0.4 – 0.5 MGD WWTP
7. Dor. Co. Sanitary Dist. #4 Jackson- Lovejoy	Pumping Station Force Main	N/A	264,000 1,074,000	-	-	Cambridge STP	-	-	500 GPM	.058	.180	
II. PRIVATE COMMUNITY OR INSTITUTIONAL												
1. South Dorchester K-8 Center Board of Education	Septic Tank & Bermed Inf. Pd.	Being Processed S83PO543	207,000 1,033,000	2.0	-	Groundwater	-	-		-	-	
2. University of Maryland Horn Point CEES	N/A	Issued MD0051403	280,000 1,046,000	-	-	Tributary of Choptank River	N/A	N/A	N/A	N/A	-	Discharge from oyster hatchery
3. Eastern Corp. Campground	Septic Tank & Leachfield	N/A	E 6590 N 4120	6		Ground	N/A	N/A	N/A	N/A	012	
III. INDUSTRIAL												
1. Ms. Williams Canning Co.	Settling	Expired 12-DP-0396	287,250 1,104,500	N/A	N/A	Spray Irrigation	N/A	N/A	N/A	N/A	-	
2. W.F.D. Creamery	Settling	No permit needed	291,250 1,054,500	N/A	N/A	No discharge	N/A	N/A	N/A	N/A	-	
3. DeCecco Inc.	Screening	Issued MD0061015	268,000 1,134,000	5	.5	Spray Irrigation	N/A	N/A	N/A	N/A	-	

TABLE 4-5 (S.H.D. -9)

PROJECTED SEWERAGE DEMANDS AND PLANNED CAPACITIES FOR COMMUNITY AND MULTI-USE SEWERAGE SYSTEMS

FIG NO	SEWERAGE SERVICE AREA	GPCD gals EDU (*)	1994				2000				2010			
			POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)		POPULATION (EDU)		CAPACITY (EDU)	
			TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED
	Fack District		1825	0			1855	0			1874	0		
	Brackview Town		64	0			55	0			50	0		
	Eldorado Town		49	0			45	0			40	0		
	Galestown Town		123	0			114	0			99	0		
	ENM District		2023	681			2055	778			2075	844		
	Twin Cities		681	681	0.262	0.280					819	819	.199	.281
	East New Market Tn		153	153	*	*	178	178	.23	.28	164	164	.21	.28
	Secretary Town		528	528	*	*	600	600	*	*	680	680	*	*
	Depot			0										
	Greenpoint			0										
	Heritage MHP		334	128										
	Thompsontown			0										
	Vienna District		929	254			369	240			847	218		
	Vienna Town		264	264	0.055	.06	240	240	.06	.06	218	218	.06	.06
	Taylors Island Dist		269	0			242	153			218	85		
	Lakes District		478	0			539	0			503	0		
	Hoopers Island Dist		650	0			582	0			530	0		
	Cambridge District**		13,913	13,114			15,222	14,165			14,557	14,585		
	City of Cambridge		11,514	11,514	3.9	8.1	11,701	11,701	4.7	8.1	11,819	11,819	4.9	12.8
	SDSI**		1600	1600	23	**	2159	2159	31		2386	2386	.34	

* East New Market and Secretary are known as Twin Cities ** Connected to Cambridge

TABLE 4-5 (S.H.D.-9)
PROJECTED SEWERAGE DEMANDS AND PLANNED CAPACITIES FOR COMMUNITY AND MULTI-USE SEWERAGE SYSTEMS

FIG NO	SEWERAGE SERVICE AREA	GPCD gals EDU (*)	1994				2006				2012			
			POPULATION EDU (*)		CAPACITY (MGD)		POPULATION EDU (*)		CAPACITY (MGD)		POPULATION (EDU)		CAPACITY (EDU)	
			TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED	TOTAL	SERVED	DEMAND	PLANNED
	Crystal Rock **		150	135	**	**								
	Lakewood Manor MHP						15	12	.0039	.0061	625	625	.0625	.0625
	Eldorado Town		515	0			958	125			1,002	215		
	Church Creek District		597	0	**	**	375	355	**	**	953	350	**	**
	Church Creek Town & Revisions		124	0			366	325			380	380		
	Street Nook District		521	0			455	2			424	2		
	Dawbridge District		82	0			72	2			61	2		
	Williamsburg District		1025	0			1245	2			1,263	2		
	Richardson District		482	0			433	2			425	2		
	Lakewood District		2951	500			3254	489			3,969	483		
	SD #1 Hoonsboro		330	336	38	52	498	439	42	52	483	483	52	52
	Hurlock District		3202	1756	82	41	2131	2131	55	41	2262	2262		
	Mannerly District		421	0			452	57			556	174		
	Salem District		222	0			200	8			184	2		
	Elliott Island Dist		75	0			99	2			58	2		

* East New Market and Secretary are known as Two Cities ** Connected to Cambridge

TABLE 4-6 (S.H.D. -13)

IMMEDIATE, 5, AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

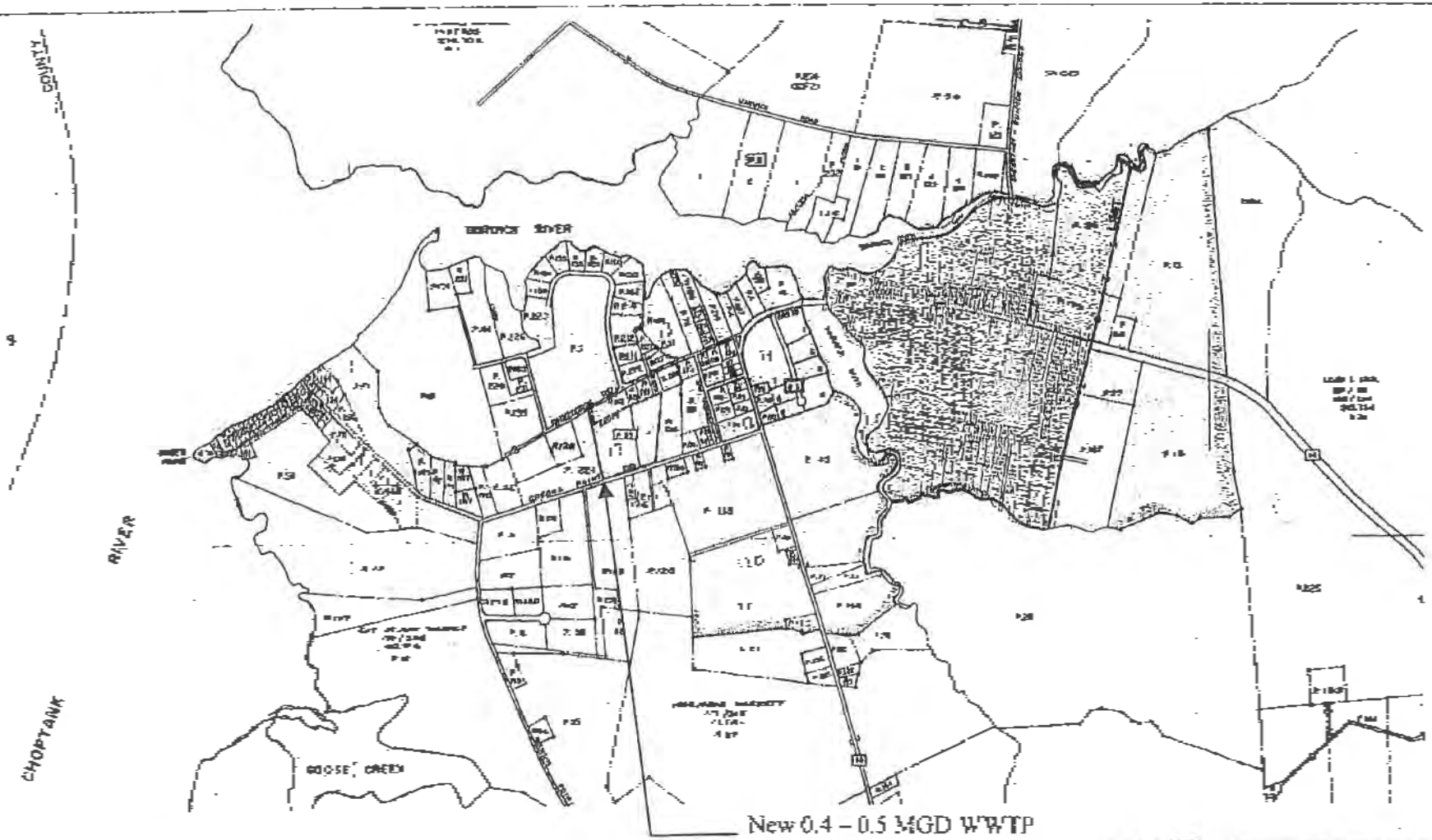
PROJECT NAME & DESCRIPTION	COORDINATE LOCATION (NORTH EAST)	COUNTY PRIORITY ASSIGNED	ESTIMATED COSTS					PROJECT SCHEDULE				
			TOTAL	ELIGIBILITY		OTHER FUNDING		LOCAL	PRELIM PLANS	FINAL PLANS	START CONSTR	COMPLETE CONSTR
				FED	STATE	FED	STATE					
I. Community												
A. Cambridge												
1. Combined Sewer Separation Project	278,000 1,065,000		3,500,000		150,000 per year	-	-	5,000,000	1995	1996	1998	2010
2. BNR			7,456,000		3,400,500			4,055,500	1998	1999	1999	2001
3. Bayly Road Sewer Extension	261,000 1,060,000		216,000		200,000						1994	1994
B. Hurlock			32,000							2004	2004	2004
1. Industrial Park Sewer Extension and Electrical Upgrade		S-1										
2. ENR Upgrade		S-1	4.5 million							2002	2003	2004
3. Delmarva Community Services		S-1								2002	2003	2004
4. North Dorchester School Complex Extension		S-1	$655,100				445,970	BOE 191,130	2003	2004	2005	2005
5. SDI Extension		S-1							2004	2005	2005	2006
6. Thompson Ave Ext		S-1	$55,000						Deferred	Until	Sewer	Developed
C. Twin Cities (ENM Secretary)												
1. Extend sewer to Depot Area	280,000 1,110,000	S-1		736,000	125,000					1995	1995	1996
		Deferred until 21 correct in ENM										
2. Extend sewer to Linwood Road (future annex area)	277,000 1,136,000		N/A								S-3	

REVISED JUNE 2011

TABLE 4-6 (S.H.D. -13)
IMMEDIATE, 5, AND 10 YEAR PRIORITIES FOR SEWERAGE DEVELOPMENT

PROJECT NAME & DESCRIPTION	COORDINATE LOCATION (NORTH EAST)	COUNTY PRIORITY ASSIGNED	ESTIMATED COSTS						PROJECT SCHEDULE			
			TOTAL	ELIGIBILITY		OTHER FUNDING		LOCAL	PRELIM PLANS	FINAL PLANS	START CONSTR.	COMPLETE CONSTR.
				FED	STATE	FED	STATE					
C. Twin Cities (cont'd) East New Market/Secretary												
3. Twin Cities New WWTP	282,000 1,097,000	S-1	8,500,000		8,500,000				2012	2013	2013	2014
4. Sewer line extension for apartments Xebec, Inc.												
D. Secretary												
1. Rehab Poplar Street Pump Station	285,000 1,110,000	S-1	410,000		410,000				2011	2012	2012	2012
2. Rehab Goodwill St. Pump Station	282,000 1,110,000	S-1	260,000		260,000				2012	2012	2012	2013
E. Vienna												
1. WWTP Upgrade	248,000 1,136,000	S-1	2,500,000	97,500	350,000			16,250	1994		1995	
2. Rehab of existing sewers		Deferred S-3	130,000		16,250							
F. Buckstown												
1. Buckstown Failing Septics			457,000									
G. Hoopers Island												
1. Hooper Island Failing Septics			1,473,000									
H. Linkwood												
1. Linkwood Sanitary District #3		S-3	1,112,000									
I. Madison												
1. Madison Failing Septics			622,000									

REVISED JUNE 2011



Secretary Water

- W-1, Existing to 2 years
- W-2, 2 to 5 yrs.
- W-3, 5 to 10 yrs.

TOWN OF SECRETARY
COMPREHENSIVE WATER AND SEWER PLAN

WATER SERVICE AREA

Exhibit 3-C

Source: MD Property View, Prepared by Dorchester County Planning 6/2003.
Note: This Water Service Area Map for determination of water service only. This map is not intended to be used for property boundary determination.

FILED

2014 FEB 20 AM 10:56

CIRCUIT COURT
DORCHESTER COUNTY

RESOLUTION NO. 550

A RESOLUTION of the County Council of Dorchester County amending the 2004 Dorchester County Comprehensive Water and Sewer Plan (the "Plan") by changing the designation of an area of land located east of Beaver Neck Village Road, and shown on Tax Map 43, Grid 9, Parcels 197, 198 and 201. Said land being known as the Beaver Neck Village Mobile Home Park. The mobile home park requests amendments to Chapter 4, Newage, Chapter 4, Table 4-3, and to add a Sewer Service Area Map (no planned service to S-1 and S 2). S 1, means that community sewer is available now, or will be made available within 2 years, and S-2 means that community sewer is planned to be available for the subject parcels within a 2 to 5 year timeframe.

WHEREAS, State law mandates that all Maryland counties adopt a Comprehensive Water and Sewer Master Plan; and

WHEREAS, Dorchester County adopted its most current Plan on March 16, 2004; and

WHEREAS, a request was filed by ACG Maryland, LLC (landowners) to amend the aforementioned text, chart and map to accommodate plans to upgrade the existing systems by constructing an advanced wastewater treatment plant and replacement drainfields for the parcels indicated on the attached exhibits; and

WHEREAS, on December 4, 2013 the Dorchester County Planning Commission certified that the proposed amendment(s) is consistent with the Dorchester County Comprehensive Plan; and

WHEREAS, the County Council of Dorchester County, having held a public hearing on this matter on February 18, 2014 and having given careful consideration to the matter, voted unanimously to adopt the proposed amendment(s).

NOW, THEREFORE, the County Council of Dorchester County does hereby amend the Dorchester County 2004 Comprehensive Water and Sewer Plan, as set forth on the attached exhibits.

Adopted this 18 day of February, 2014.

Attested by:

~~Jay L. Newcomb~~ Donna F Lane
~~Acting County Manager~~
Executive Administrative Specialist

The County Council
of Dorchester County

Jay L. Newcomb

William V. Nichols

Ricky Travers

Rick Price

Tom Bradshaw

APPENDIX D

REQUEST FOR AMENDMENT TO THE
DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or Present Completed Application to:

Dorchester County Planning and Zoning
P.O. Box 807
Cambridge, MD 21613

A. Type of Amendment ✓ Map ✓ Text

1. Map Amendment

a. Sewer: From NO PLANNED SERVICE To S-1 + S-2
b. Water: From _____ To _____
c. Other: _____
d. Map number(s) to be changed:
4-F SEE ATTACHED

2. Text Amendment: Section and page number(s) to be changed: CHAP. 4-SEWAGE PAGE 4-49
CHAP. 4 TABLE 4-3 PAGE 4-70
SEE ATTACHED

B. Character of Amendment:

TEXT Addition _____ Deletion MAP Change

C. Property Identification:

1. Tax Map/Block/Parcel number 43 / 9 / 197, 198, 201
2. Election District 14 Zoning District _____
3. Critical Areas _____ Yes _____ Designation ✓ No

D. Description and Purpose of Change

1. Name of Project or Subdivision BEAVER RUN MOBILE HOME PARK
2. Location, including Road name BEAVER NECK VILLAGE RD
3. Approximate population served _____
4. Other ADVANCED W/WTP AND REPLACEMENT DRAINFIELDS

E. Estimated Design and Construction Costs _____

F. Estimated Design/Construction Dates 2013-2014

Revised June 1992

G. Applicants Name, Address, Phone

ROBERT BURGIN, P.E.
BURGIN ENGINEERING, INC.
PO BOX 1804
IRMO, SC 29063

H. Owners Name, Address, Phone

ACG MARYLAND LLC
301 FIELDSTAR WAY
CARY, NC 27518-0000

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above are proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Certifier's Name & Title _____ Date _____

J. Signatures

Applicant _____ Date 11/15/13

Owner _____ Date 11/15/13

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

W1, S1	Service existing or planned within two years
W2, S2	Service planned within two to five years
W3, S3	Service planned within five to ten years
No designated service area	No service planned within ten years

Proposed Text Amendment

Chapter 4 – Sewage

4.4 Sewer Service Areas

4.4.14 Linkwood (District 14) page 4-49

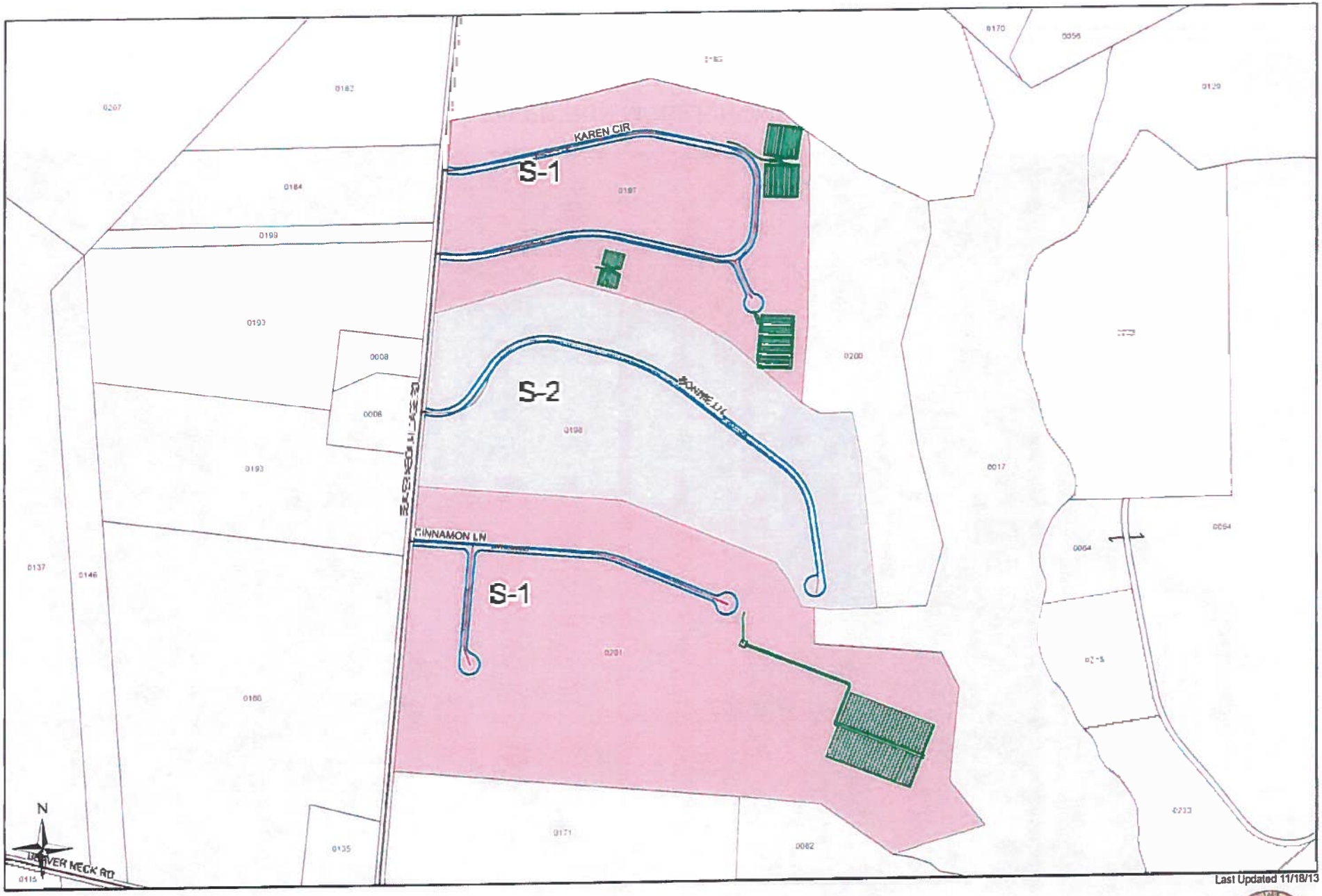
Insert:

Beaver Run Mobile Home Park was developed in 6 phases which are served by a mix of privately owned individual and multi-use onsite sewerage systems. Phases 1 and 2 (Bonnie Lane) include 42 units which are served by individual sewerage systems. Phases 3, 4, and 5 (Karen Circle) include 45 units which are served by 3 multi-use sewerage systems. Phase 6 (Cinnamon & Sunflower Lanes) includes 32 units which are served by one multi-use sewerage system. The total estimated average flow for all phases is 36,900 gpd. The multi-use sewerage systems serving Phases 3 and 5 have failed and are currently operated on a pump and haul basis. The multi-use sewerage system serving Phase 4 is near failure. The owner has submitted plans to construct an advanced wastewater treatment plant and replacement drainfields to serve Phases 3, 4, and 5. Phases 1 and 2 of this facility are classified S-2. Phases 3, 4, 5 and 6 of this facility are classified S-1.

TABLE 4-3 (S.H.D. - 10)

INVENTORY OF EXISTING PUBLIC AND/OR PRIVATE COMMUNITY AND OTHER MULTI-USE SEWAGE TREATMENT PLANTS

OWNER AND OPERATING AGENCY	TYPE OF TREATMENT	NPDES PERMIT NUMBER	PLANT SIZE				MAX SITE CAPACITY (MGD)		EXISTING CONDITIONS			PLANNED EXPANSION
			COORDINATE LOCATION	SIZE (ACRES)		POINT OF DISCHARGE	SEC	ADV	CAPACITY (MGD)	FLOWS (MGD)		
				OCCUPIED	VAC					AVG	PEAK	
IV. MULTI-USE												
Ray Gustin, Jr. - Ray Gustin III E/S Morris Neck Ed #8	Home Aeration Jet 431 units	N/A	274,000 1,033,000			Bermed infiltration pond			2 homes			Unknown
Vernon M. Webb–Terry L. Groves - Wm. C. Lewis N/S Rt. 16-ED #9	Home Aeration Jet- J-117 units	N/A	2,455,000 13,315,000			Evapotranspiration seepage bed			3 homes (1300 gpd)			No expansion-abandonment when C.C San
Frank C. Thorne-Alton T. Morris E/S Maple Dam Rd. Ed#1	Home Aeration Jet 101 FP	N/A	254,000 13,605,000			Bermed infiltration pond			2 homes			Unknown
Lawrence Gillet-Wm. Lewis Sr. E/S Corners Wharf Rd. ED #8	Home Aeration Jet J-151 unit	N/A	202,000 1,934,000			Bermed infiltration pond			2 homes			1979-completion
William Yates–Charles Hillyer S/S Rt. 343 ED #7	Home Aeration Flygt #4391-4	N/A	272,000 1,039,000			Bermed infiltration pond			2 homes			Unknown
C. Webster W/S Todd Point Road ED #8	Septic Tank/ Effluent Pond	N/A	284,000 1,015,000			Bermed infiltration pond			3 homes			Unknown
Beaver Run Mobile Home Park, Phases 3, 4, & 5 Karen Circle	Proposed Adv. Treatment Nitrogen Red.	Pending	N 360,900 E 1,097,500			Drainfields to Groundwater			43 homes	0.013		No
Beaver Run Mobile Home Park, Phase 6 Cinnamon Lane	Septic Tank	NA	N 259,500 E 1,097,500			Drainfields to Groundwater			33 homes	0.010		No



Last Updated 11/18/13

Drain Lines
Pavement
Sewer Service Area
S-1, Existing to 2 years
S-2, 2 to 5 years
S-3, 5 to 10 years

BEAVER RUN MOBILE HOME PARK
SEWER SERVICE AREA (PROPOSED)
EXHIBIT 4-F

This map was created by Dorchester County Planning and Zoning
Dorchester County makes no warranty as to the accuracy of the data used to produce this map

Last Updated 11/18/13

Drain Lines
Pavement
Sewer Service Area
S-1, Existing to 2 years
S-2, 2 to 5 years
S-3, 5 to 10 years

BEAVER RUN MOBILE HOME PARK
SEWER SERVICE AREA (PROPOSED)
EXHIBIT 4-F

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Dorchester County makes no warranty as to the accuracy of the data used to produce this map

TOWN OF VIENNA

APPENDIX D

REQUEST FOR AMENDMENT TO THE DORCHESTER COUNTY WATER AND SEWERAGE PLAN

Mail or present completed application to:

Dorchester County Planning and Zoning
P. O. Box 1107
Cambridge MD 21613

A. Type of Amendment: _X_ **Map** _X_ **Text**

1. Map Amendment

   a. Sewer: From S-3 and undesignated to S-2 (Legg and Phillips Farms)
   b. Water: From W-3 and undesignated to W-2 (Legg and Phillips Farms)
   c. Other: _____
   d. Map number(s) to be changed: Maps 3-A and 4-A

2. Text Amendment: Section and page number(s) to be changed: Section 2.3.2 on page 2-10, Section 3.3.3 on pages 3-14 thru 3-18, and Section 4.4.3 on pages 4-14 thru 4-16

B. Character of Amendment:

_____Addition _____ Deletion ____X_____ Change

C. Property Identification:

1. Tax Map / Block / Parcel number: Map 66, Grids 4 & 10, Parcels 28 & 16
2. Election District: 3_ Zoning District: SR/RCA
3. Critical Areas ___X__ Yes RCA Designation _____ No

D. Description and Purpose of Change:

1. Name of project or subdivision: Vienna Village

2. Location, including road name: NW and SE Sides of Elliotts Island Road

3. Approximate population served: Approximately 750 people

4. Other: _____

E. **Estimated design and construction costs:** To Be Determined / At Developer's Expense

F. **Estimated design / construction dates:** Unknown at this Time

G. **Applicant's name, address, phone:**

Elm Street Development
6820 Elm Street, Suite 200
McLean, Virginia 22101
(703) 734-9730

H. **Owner's name, address, phone:**

Layton Farm, LLC (443) 521-4848
P.O. Box 615 Cambridge, MD 21613
Guy, Doris, & Jeffrey Phillips (410) 376-3372
3901 Elliott's Island Road, Vienna, MD 21869
Phillips Farm, LLC (443) 521-4848
P.O. Box 615
Cambridge, Maryland 21613

I. If property is located within the corporate limits of a municipality, or if the parcel(s) referenced above is proposed to be served by a municipality's water supply or sewerage system, the Municipal Planning Commission certifies that the requested amendment is consistent with the municipality's comprehensive plan.

Paul B. Dorsey
Certifier's Name and Title

11/28/05
Date

J. **Signatures:**

12-14-05
Applicant — Date

KAREN McJUNKIN
ELM STREET DEVELOPMENT

Layton Farm, LLC
By William A. Larmer, Mgr 12-6-05
Owner — Date

Phillips Farm, LLC
By William A. Larmer, Mgr 12-6-05
Owner — Date

Guy Steele Phillips 12/8/05
Owner Guy Steele Phillips — Date

Doris Phillips 12/8/05
Owner Doris Phillips — Date

Jeffrey S. Phillips 12/8/2005
Owner Jeffrey Phillips — Date

Instructions:

1. Complete all applicable sections of this form.
2. A copy of the proposed revised map and/or text must be attached to each application.
3. Sixteen (16) sets of this application, including attachments, must be submitted to the Office of Planning and Zoning before it is processed.
4. Attach the application fee ($125.00) to the application.
5. Applications are accepted biannually and due no later than May 15th and November 15th.
6. For map amendments, the following categories apply:

   W1, S1: Service existing or planned within two years.
   W2, S2: Service planned within two to five years.
   W3, S3: Service planned within five to ten years.
   No designated service area: No service planned within ten years.

MDP

Maryland Department of Planning

Robert L. Ehrlich, Jr.
Governor

Michael S. Steele
Lt. Governor

Audrey E. Scott
Secretary

Florence K. Burian
Deputy Secretary

January 23, 2006

Mr. Steve Dodd, Planning Director
Dorchester County Planning and Zoning
501 Court Lane, P.O. Box 107
Cambridge, Maryland 21613

Re: Vienna Water and Sewer Plan Amendment

Dear ~~Mr. Dodd~~ Steve:

On behalf of the Town of Vienna, enclosed please find an application package for a municipal water and sewer plan amendment for the Town of Vienna. As you are aware, the purpose of this amendment is to update the text and redefine the water and sewer service areas for the Town consistent with Vienna's Comprehensive Plan and Community Vision Plan, and in anticipation of the pending Elm Street annexation and planned residential development.

The Town Planning Commission and Mayor and Town Commissioners held a joint public hearing on this amendment on November 28, 2005. The Planning Commission found the amendment consistent with the Town's comprehensive plan and forwarded a favorable recommendation to the Mayor and Town Commissioners, who subsequently passed the amendment by resolution.

Included in this submittal are the following documents:

- Appendix D: Request for Amendment to the Dorchester County Water & Sewer Plan;
- Application Fee (Check #623026 for $125.00);
- Notice of Public Hearing;
- Agenda for Town November 28th Meeting;
- Planning Commission Recommendation Letter to Mayor & Commissioners;
- Mayor and Town Commissioners Resolution #2005-03;
- Revised Water and Sewer Plan Text; and,
- Revised Water and Sewer Plan Maps.

Lower Eastern Shore Regional Office
Salisbury Multi-Service Center
201 Baptist Street • Suite 24 • Salisbury, Maryland 21801-4974
Telephone: 410.713-3460 • Fax: 410.713-3470
Internet: www.MDP.state.md.us

As we discussed via email a couple of months ago, the text has been revised and submitted for County review in a standard type format for ease of reference. Per your suggestion, the strike-out and bold face format was not utilized as it was anticipated that it would prove too cumbersome to decipher.

The Maryland Department of Planning is acting as a paid consultant to the Town of Vienna on this project. I will serve as the contact person for the Town and would appreciate it if you could let me know of any meetings or public hearings that the County schedules with respect to this amendment request. As always, time is of the essence. My email is tgordy@mdp.state.md.us and telephone number is (410) 713-3460.

Please feel free to contact me should you have any questions or need additional information. Thank you in advance for your cooperation and I look forward to hearing from you.

Sincerely,

Tracey

Tracey Gordy
Regional Planner/Circuit Rider

Enclosures

Cc: Russ Brinsfield
Ed Baker
Steve Horne
Keith O'Connor

NOTICE OF PUBLIC HEARING
TOWN OF VIENNA WATER AND SEWER SERVICE AREA AMENDMENT
VIENNA, MARYLAND

The Mayor and Town Commissioners of Vienna and the Vienna Planning Commission will hold a joint public hearing to consider a requested amendment to the Vienna water and sewer service area. The application is to amend the current water and sewer map to designate the Legg Farm and a portion of the Phillips Farm as a W-2, S-2 service area. This service category proposes service within a two to five year period. The text pertaining to the Vienna water and sewer service area will also be updated as part of this amendment.

The public hearing on this proposed amendment will be held on
MONDAY, NOVEMBER 28, 2005
AT 7:00 P.M.
AT THE VIENNA TOWN HALL

Interested parties may review the amendment at Town Hall on Mondays between the hours of 12:00 p.m. and 9:00 p.m.

AGENDA FOR NOVEMBER 28, 2005

I. Call the Meeting to Order and Hear Announcements
Conduct of Business

II. Additions to Agenda and Agenda Approval

III. Appropriate Action on Minutes of November 14, 2005 Meeting

PUBLIC HEARING/ WATER/SEWER AMENDMENT PROPOSAL

IV. Committee Reports
- A. Planning & Zoning
- B. Public Works
- C. Town Manager
- D. Business Manager

V. Old Business

- A. Middle Street Project: RFP Status
- B. Waterfront Park - Warehouse Future
- C. Signing Ordinance 2005-02 DRRA Legislation
- D.
- E.
- F.

VI. New Business

- A. Elm Street Project: Status Report
- B. Water/Sewer Amendment
- C. Verizon Wireless Lease Agreement
- D. 300th Celebration - Donations
- E. Decorations for new Lamp Posts
- F.
- G.
- H.

VII. Public Comments

VIII. Reading of Bills
Appropriate Action on Bills

IX. Closed Session (if needed to be announced)

X. Adjournment

Town of Vienna
Planning and Zoning Commission
November 28, 2005

Commissioners of Vienna
P.O. Box 86
Vienna, MD 21869

Subject: A Public Hearing to consider a requested amendment to the Town of Vienna water and sewer service area map and text by extending coverage to the Legg Farm, and a portion of the Phillips Farm.

Members present: Paul Davenport, chairman, Linda Settles, Steve Hurst, secretary.
Members absent: Frank Gosnell, Richard Yobst.

Dear Commissioners:

The Planning and Zoning Commission held a public hearing on November 28, 2005 at 7 PM at the Vienna Town Hall to address a requested amendment to the Town of Vienna water and wastewater service area map and text.

The amendment would bring the Legg Farm and a portion of the Phillips Farm, which are located south of Vienna, into the town's water and wastewater service area in anticipation of future annexation and development.

Mrs. Tracey Gordy from the Maryland Department of Planning made the presentation to the Planning and Zoning Commission.

Two technical corrections were made by Mr. Danny McCumbers, Vienna Public Works Manager. The Planning Committee suggests that Mr. McCumbers review the entire document as soon as possible, and if other technical errors are found, that they be forwarded to Mrs. Gordy.

There was no comment on the amendment from the public attending the hearing.

Committee member Linda Settles made a motion that a letter of favorable recommendation for the amendment, as presented by Tracey Gordy of Maryland Planning, and including the technical corrections suggested by Danny McCumbers, be forwarded to the Commissioners of Vienna. The motion was seconded by Steve Hurst, and passed.

The Planning and Zoning Commission unanimously recommends that the Commissioners of Vienna adopt the revised amendment to the Town of Vienna water and wastewater service area master plan.

Sincerely,

Steve Hurst

Steve Hurst, secretary

Cc: Mrs. Tracey Gordy

TOWN OF VIENNA

RESOLUTION 2005 - 03

A RESOLUTION AMENDING THE TOWN'S WATER AND WASTEWATER MASTER PLAN

WHEREAS, the Town of Vienna is required to have an accurate master plan for water and wastewater; and

WHEREAS, changes to the planned annexation area require an amendment to the town's water and wastewater plan to accurately reflect the proposed development of these properties; and

WHEREAS, to acknowledge these changes, the Commissioners of Vienna have reviewed and approved an amendment to the Vienna water and wastewater plan text and maps; and,

NOW, THEREFORE LET IT BE RESOLVED, that the Commissioners of Vienna, at their meeting of November 28, 2005, approved the amendment to the text and maps to reflect the necessary changes.

ADOPTED THIS 28th DAY OF NOVEMBER, 2005

MAYOR

TOWN COMMISSIONER

TOWN COMMISSIONER

ATTESTED TO

TOWN CLERK

result, Hurlock is the only municipality in Dorchester to have a record of substantial growth from 1970 to 2000.

The Town of Vienna is preparing to introduce a petition for annexation for a new major development project located on the south end of town which could ultimately add an additional 300 dwelling units to the housing stock. If approved, this single project would consume essentially all of the Town's excess capacity. The smaller towns of Secretary and East New Market each have limited capacity (East New Market and Secretary share a single treatment plant) for growth, and it is likely that neither town sees itself as a regional growth center. These small towns are more concerned with maintaining their "small town" atmosphere and with providing basic service to existing residents and infill properties.

2.3.3 Projected Water and Sewer Capacity Needs

One of the primary functions of water and sewer planning is to ensure that existing systems are adequate to serve existing and planned growth within a 10 year planning period. Projecting the exact location and timing of this growth is difficult since the private market drives these matters. As stated earlier, the County does not own or operate any wastewater treatment plant. There is no County capital budget for the planning or construction of wastewater conveyance systems for planned service areas. To a large extent, the same can be said for the municipalities with wastewater treatment facilities – extensions to their systems are typically privately funded as part of the cost to the developer requesting extension of services. Because of

3.3.3 Vienna District (District 3)

The Vienna District is located at the eastern end of Dorchester County. It is bounded to the north by US Route 50, the intersection of US Route 50 and Route 731 (Old Ocean Gateway) to the west, and runs one lot deep along Route 731 to the Vienna Elementary School. The district then runs south along the corporate boundaries of Vienna and includes the Phillips Farm as the southwestern boundary, and the Legg Farm to the south. The easternmost boundary is the Nanticoke River.

Forest, agricultural and residential uses dominate the area with some marshland along the Nanticoke River. The current and proposed service area has a combined population of approximately 518 residents according to the Census 2000 population figures. A concentration of 280 residents exists in the Town of Vienna and approximately 238 residents live in West Vienna and throughout the remaining unincorporated portions of the service area.

The entire water service area is approximately 792 acres in size, of which approximately 110 acres are within the current corporate limit of Vienna. The W-l area west of Vienna, known as West Vienna, and located outside of the corporate limit is zoned Suburban Residential with a small area zoned Neighborhood Business. The proposed W-1 and W-2 areas southwest of town are zoned either Suburban Residential, Suburban Residential-Resource Conservation Area, or Resource Conservation. The W-3 area northeast of town is zoned as Light Industrial and Heavy Industrial.

Vienna's water system was upgraded in 1998. Service was extended to West Vienna as part of the upgrade, however the West Vienna system is not in a Sanitary District. The Dorchester County Council in a "Memorandum of Understanding" has

guaranteed to reimburse the Town of Vienna for any losses that may result from non-payment of service bills for this part of the service area.

While the existing distribution system consists mostly of six (6) inch pipe, it does have ten (10) inch mains along Market Street, between Market Street and Gay Street, and extending along Route 331 to Back Street. There is an elevated 150,000 gallon storage tank and two 65 foot wells in the Manokin aquifer. Each well produces 175 gpm and has high iron content. The water treatment plant was reconditioned in 1998. It uses two manganese greensand filters to remove iron. Because of the high concentration, bleed through of iron sometimes occurs. Although this is not a public health problem, there are occasional complaints from consumers about red discoloration caused by the water. The Town is interested in finding an aquifer with less iron. There are potentially four deeper aquifers ranging in depth from 250 to 500 feet. The deepest of this is Piney Point, which is known to contain high chloride in the Vienna area. Two or three test wells are needed to investigate the yield and water quality of the intermediate aquifers. In order of depth, the possibilities are the Frederica (Choptank), the Federalsburg, and the Cheswold aquifers. If the results of the test wells are positive, the next step will be to drill one or two new wells.

Current use of water is 38,000 gallons per day with a capacity of 80,000 before a back flush is required. The treatment includes chlorination and filtration to remove iron and manganese. The system requires the plant to feed potassium permanganate, and chlorine to remove the insoluble precipitates in the water through filtration.

The rebuilding of the water plant and the construction of a new wastewater plant has allowed the moratorium on development to be lifted in the town. With the NRG Power Plant now only operating as a "peaker" plant, the future of Vienna is focused on the development of tourism as the economic backbone of the community with limited residential and commercial development to serve visitor and resident need alike.

Vienna is currently working with a developer on an annexation request for the Phillips and Legg Farms. The proposed development is a planned residential development featuring a mix of residential uses. A maximum of 300 dwelling units is proposed.

The current remaining capacity of the water plant is approximately 42,000 gallons per day. If the farms proposed for annexation are developed at a maximum of 300 dwelling units with an estimated usage rate of 250 gallons per day per dwelling, the additional demand on the water plant will total 75,000 gallons per day, which will exceed the current remaining capacity by 33,000 gallons.

As previously mentioned, Vienna has an existing water quality problem that contributes significantly to the stated anticipated deficiencies. The Town currently uses approximately 77,000 gallons a week to backwash, however the flushing volume and frequency would be greatly reduced if a higher quality water source were located. The Mayor and Town Commissioners have made it a priority project to drill a deeper aquifer for this very purpose, which would by default, free up additional water capacity for future community use. In keeping with this commitment, the Mayor and Town

Commissioners signed a memorandum of Understanding (MOU) on July 25, 2005, with the developer of the pending annexation, which outlines the developer's responsibilities for the improvement or expansion of all public facilities impacted by the proposed development. The MOU further requires a development impact study, commissioned by the Town and paid for by the developer, which will address all public utility needs. These needs will be adequately addressed at the sole expense of the developer. Aside from the capacity issue, it is also appropriate to mention that in order for this development to come to fruition, it must successfully progress through the regulatory process.

4.4.3 Vienna (District 3)

Soils in the northern portion of the Vienna District (north of U.S. Route 50) are derived from course grained Pleistocene deposits. The major soils series are the coarse textured Downer, Hammontown, and Hurlock soils. The moderately well, to well drained soils are generally suitable for individual soil absorption systems. South of U.S. Route 50, Elkton and Othello soils series are encountered. These fine to medium textured soils are poorly drained, have very high seasonal water tables and slow permeability. These conditions preclude the use of individual soil absorption systems.

The Local Health Department has identified four areas above U.S. Route 50 as known, or suspected septic system failure areas. These are Rhodesdale, Reids Grove, an unnamed settlement on Maryland Route 331 between these communities, and the area west of Vienna. Each of these areas requires a detailed survey to quantify the extent of septic system failure.

The Vienna District is located at the eastern end of Dorchester County. It is bounded to the north by US Route 50, the intersection of US Route 50 and Route 731 (Old Ocean Gateway) to the west, and runs one lot deep along Route 731 to the Vienna Elementary School. The district then runs south along the corporate boundaries of Vienna and includes the Phillips Farm as the southwestern boundary, and the Legg Farm to the south. The easternmost boundary is the Nanticoke River.

Forest, agricultural and residential uses dominate the area with some marshland along the Nanticoke River. The current and proposed service area has a combined population of approximately 518 residents according to the Census 2000 population figures. A concentration of 280 residents exists in the Town of Vienna and

approximately 238 residents live in West Vienna and throughout the remaining unincorporated portions of the service area.

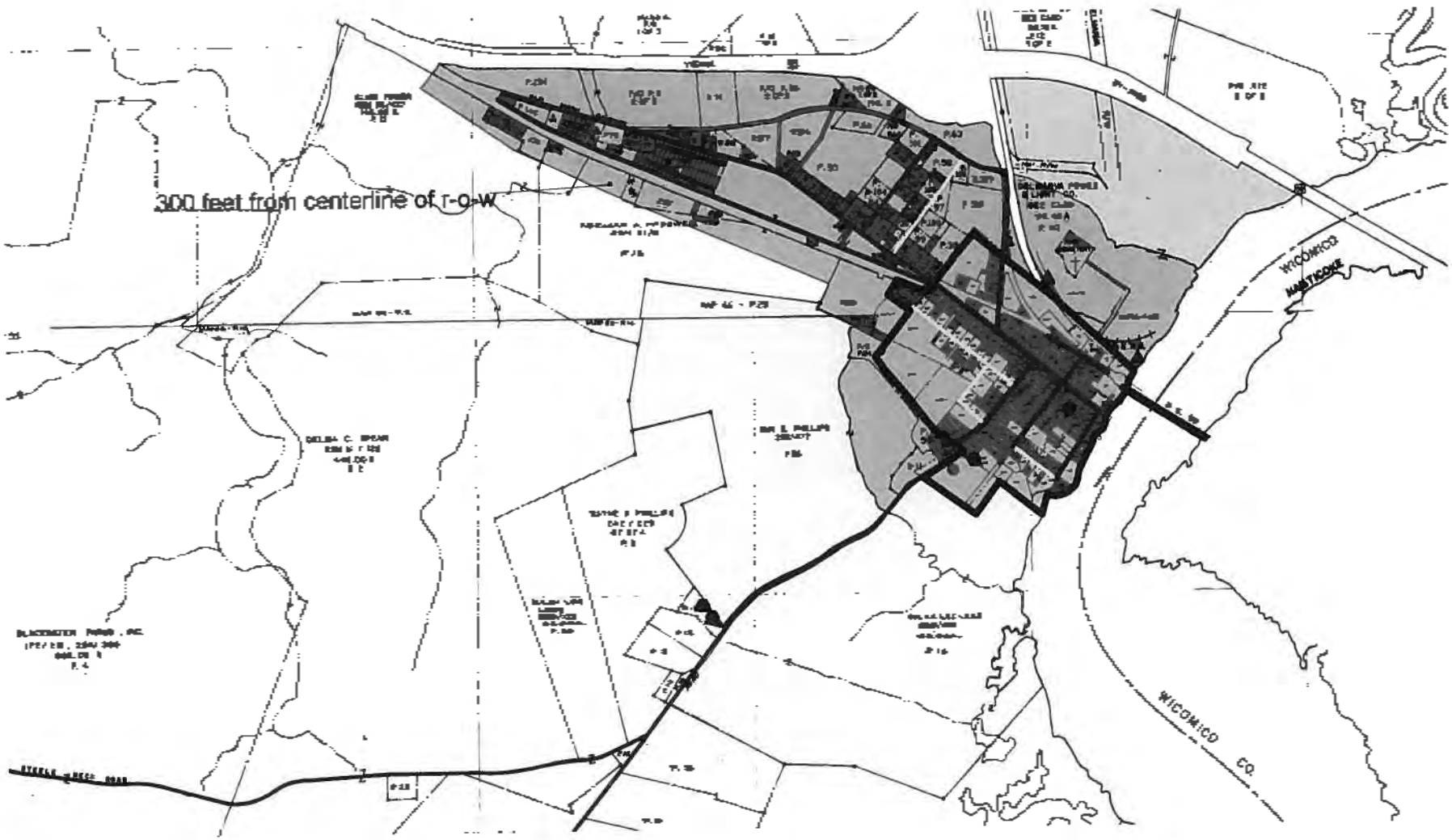
The entire service area is approximately 792 acres in size, of which approximately 110 acres are within the current corporate limit of Vienna. The S-1 area west of Vienna, known as West Vienna, and located outside of the corporate limit is not designated as a Sanitary District. The Dorchester County Council in a "Memorandum of Understanding" has guaranteed to reimburse the Town of Vienna for any losses that may result from non-payment of wastewater bills for this part of the service area. West Vienna is zoned Suburban Residential with a small area zoned Neighborhood Business. The proposed S-1 and S-2 areas southwest of town are zoned either Suburban Residential, Suburban Residential-Resource Conservation Area, or Resource Conservation. The S-3 area northeast of town is zoned as Light Industrial and Heavy Industrial.

The Town of Vienna rebuilt its wastewater treatment plant in 1998. It tore down the old plant, which was located directly on the Nanticoke River and also within the floodplain. The new plant is located along Route 331 and Ocean Gateway. The new plant designed by Davis, Bowen and Friedel has a design capacity of 0.137 mgd and a permitted capacity of 0.137 mgd. Its 2001 calendar year average flow was 0.046 mgd. It is a Biolac System with enough capacity to serve an additional 310 homes. The system is still plagued with an inflow and infiltration problem, which is being addressed by local officials. The collection system has three (3) lift pump stations and has a collection system of eight (8) inch pipes throughout the service area.

The completion of the new wastewater treatment plant and the rebuilding of the water plant have allowed the moratorium on development to be lifted in the town. With the recent completion of the "Community Vision Plan" by the Conservation Fund and the adoption of a new comprehensive plan, Vienna is poised for development.

One such development currently under consideration is an annexation request for the Phillips and Legg Farms. The developer is proposing a planned residential development. The developer has agreed to a maximum of 300 new dwelling units, which is below the current available plant capacity to serve an additional 310 homes. The projected plant capacity also takes into account existing vacant infill lots.

Aside from the capacity issue, it is also appropriate to mention that the Mayor and Town Commissioners signed a memorandum of Understanding (MOU) on July 25, 2005, with the developer of the pending annexation, which outlines the developer's responsibilities for the improvement or expansion of all public facilities impacted by the proposed development. The MOU further requires a development impact study, commissioned by the Town and paid for by the developer, which will address all public utility needs. These needs will be adequately addressed at the sole expense of the developer. In addition, in order for this development to come to fruition, it must successfully progress through the regulatory process.

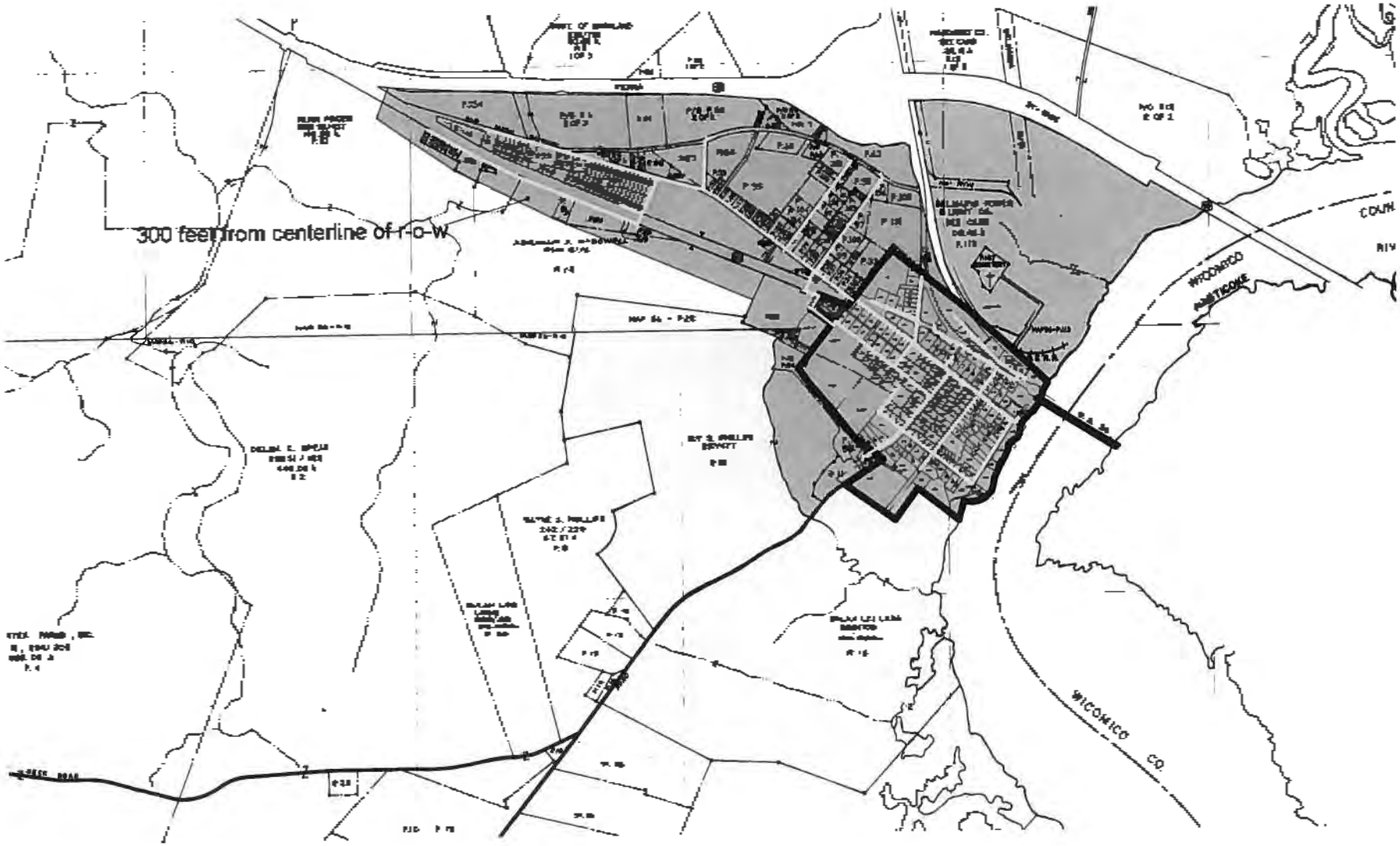


TOWN OF VIENNA
COMPREHENSIVE WATER AND SEWER PLAN

Vienna Town Boundary
Transmission line (8 in.)
Transmission line (6 inch)
Treatment Plant
Storage tank
Well & pump
Vienna Water Service
W-1, Existing to 2 years
W-2, 2 to 5 years
W-3, 5 to 10 years

WATER SERVICE AREA
Exhibit 3-A

Source: MD Property View, Prepared by Dorchester County Planning on 6/5/03. Revised on 11/5/05.
Note: This Water Service Area Map is for determination of water service only. This map is not intended to be used for property boundary determination.



TOWN OF VIENNA
COMPREHENSIVE WATER AND SEWER PLAN

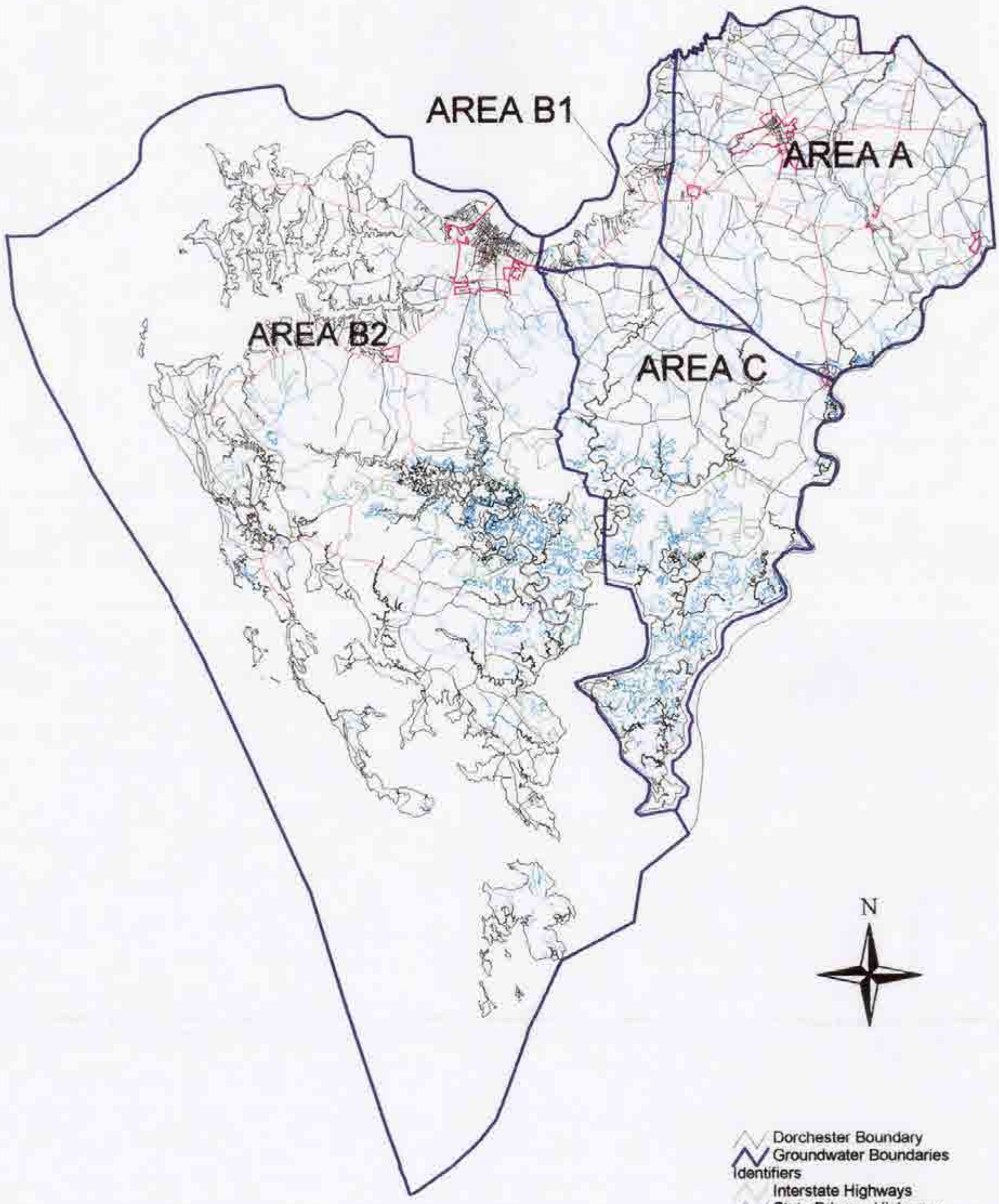
Vienna Sewer Lines
Vienna Town Boundary
Sewer Service Vienna
S-1, Existing to 2 years
S-2, 2 to 5 yrs.
S-3, 5 to 10 yrs.

N

SEWER SERVICE AREA
Exhibit 4-A

Source: MD Property View, Prepared by Dorchester County Planning on 6/6/03. Revised 11/05/05.
Note: This Sewer Service Area MAp is for determination of sewer service only. This map is not intended to be used for property boundary determination.

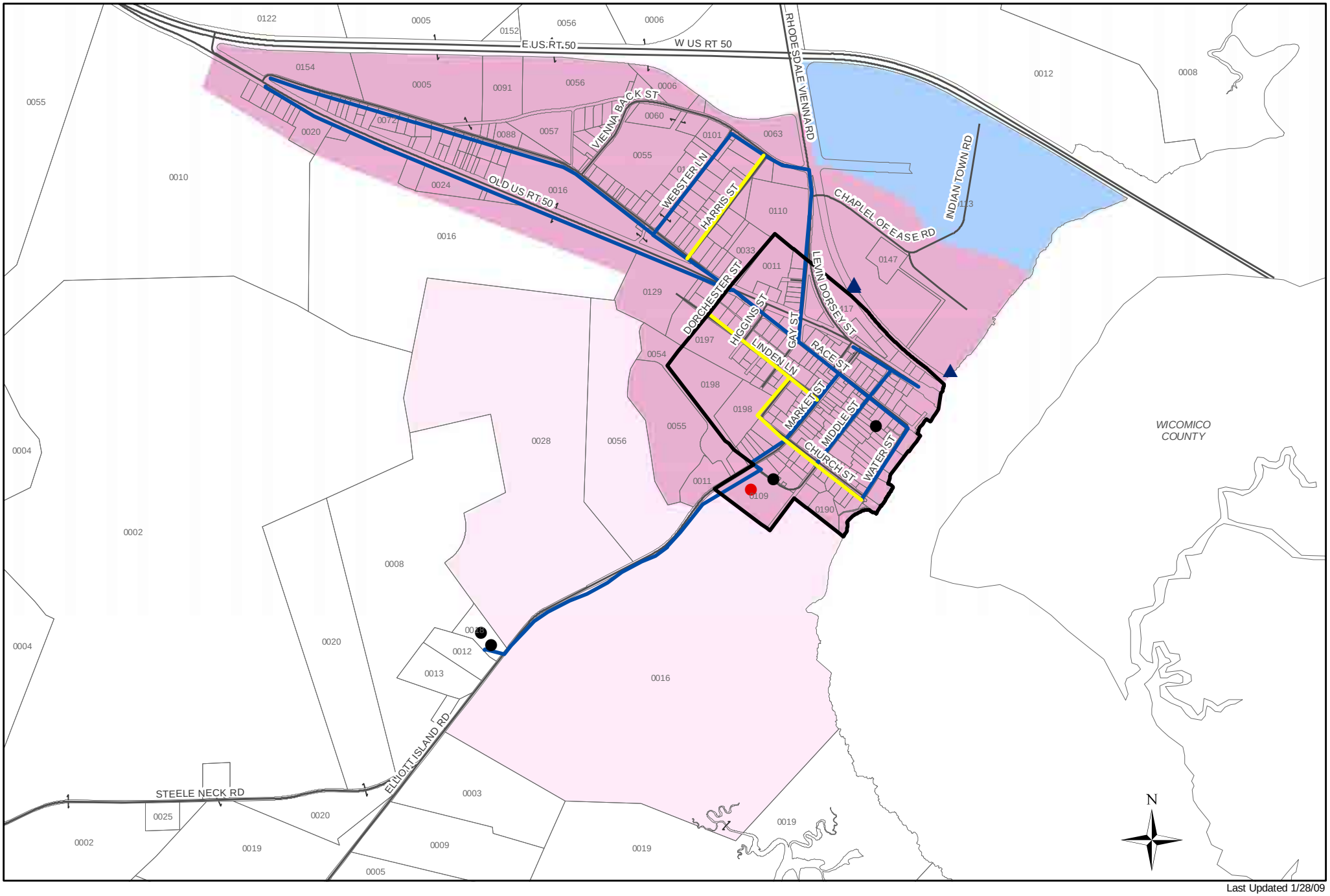
GROUNDWATER MANAGEMENT AREA BOUNDARIES



Sources: MD Property View 2003
Groundwater Protection Report for Dorchester County, June 1988

Prepared by: Dorchester County Planning and Zoning Office

Exhibit 2A



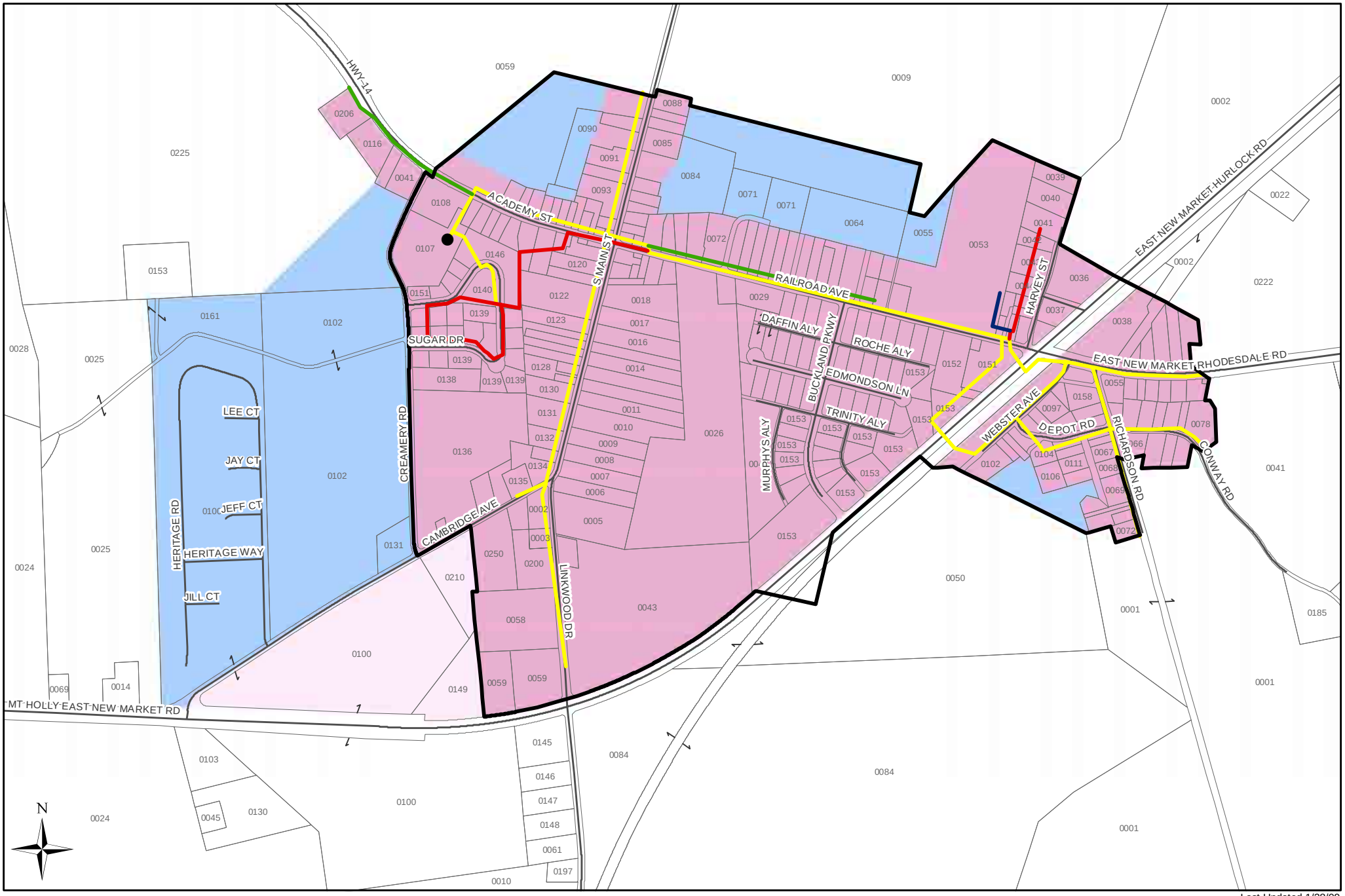
Last Updated 1/28/09

Municipal Boundary
Treatment Plant
Storage Tank
Well & Pump
Transmission Line (6 inch)
Transmission Line (8 inch)

Water Service Area
W-1, Existing to 2 years
W-2, 2 to 5 years
W-3, 5 to 10 years

TOWN OF VIENNA
WATER SERVICE AREA
Exhibit 3-A

This map was created by Dorchester County Planning and Zoning.
Dorchester County makes no warranty as to the accuracy of the data used to produce this map.



Municipal Boundary
Water Tank

Water Lines
1.5 inch
4 inch
6 inch
8 inch

Water Service Area
W-1, Existing to 2 years
W-2, 2 to 5 years
W-3, 5 to 10 years

TOWN OF EAST NEW MARKET
WATER SERVICE AREA
Exhibit 3-B

Last Updated 1/28/09

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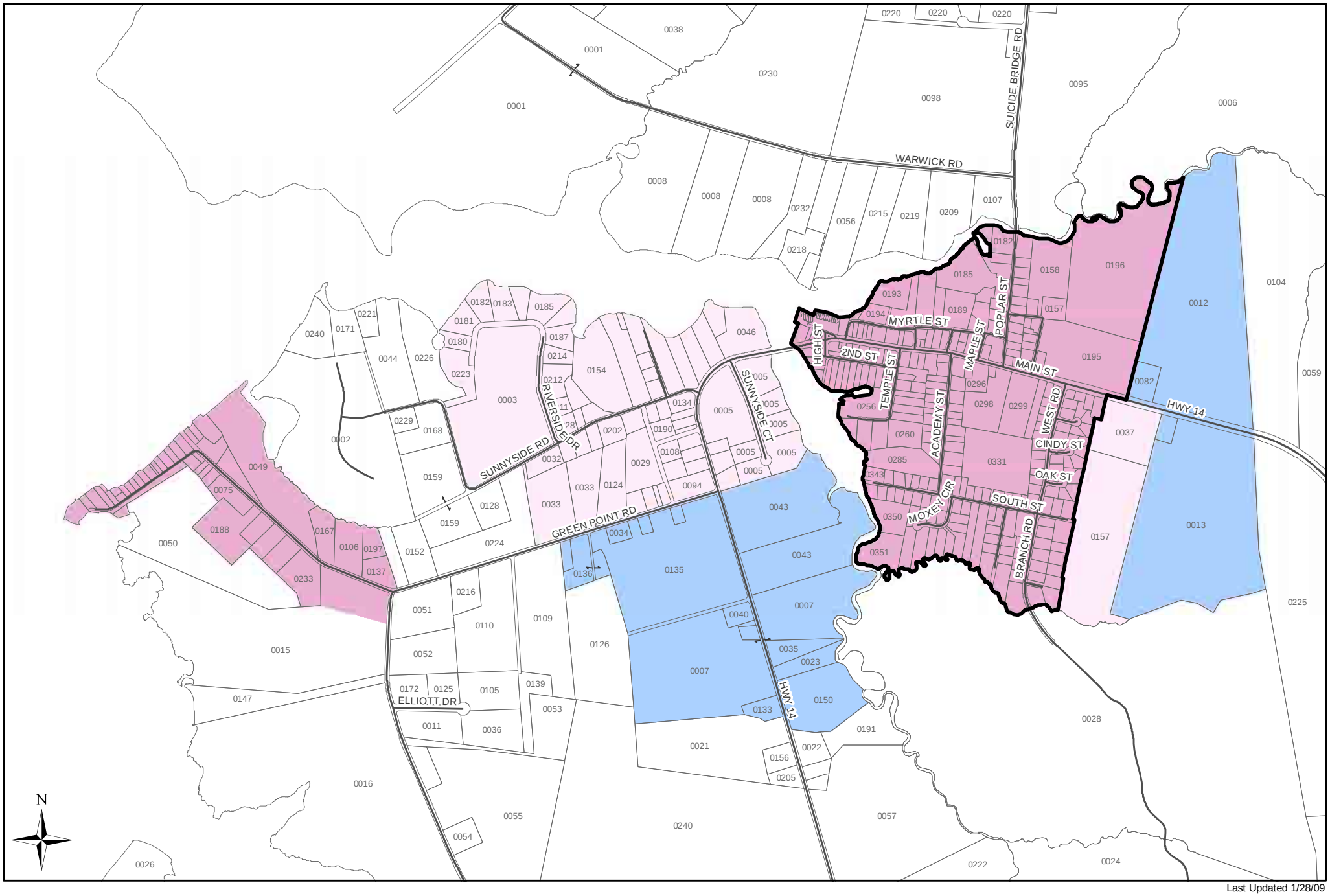

Last Updated 1/28/09

Municipal Boundary

Water Service Area

- W-1, Existing to 2 years
- W-2, 2 to 5 years
- W-3, 5 to 10 years

TOWN OF SECRETARY
WATER SERVICE AREA
Exhibit 3-C

This map was created by Dorchester County Planning and Zoning.
Dorchester County makes no warranty as to the accuracy of the data used to produce this map.

Municipal Boundary
Denied Access Force Main
Sanitary Dist 1
Sanitary Dist 2
Sanitary Dist 3
Sanitary Dist 4
Lodgecliff System

Water Service Area
W-1, Existing to 2 years
W-2, 2 to 5 years
W-3, 5 to 10 years

CITY OF CAMBRIDGE AND VICINITY WATER SERVICE AREA

Exhibit 3-D

Last Updated 1/28/09

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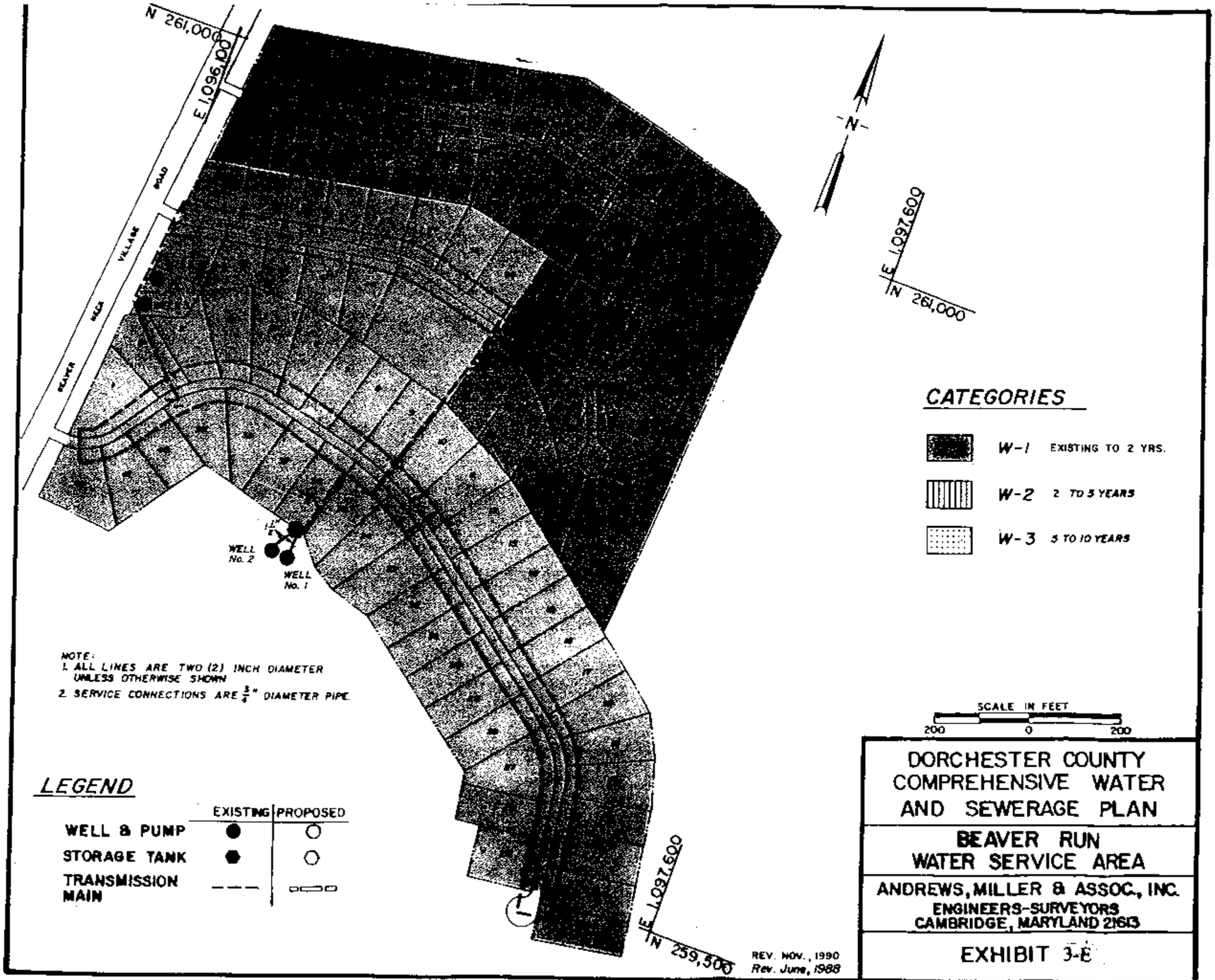
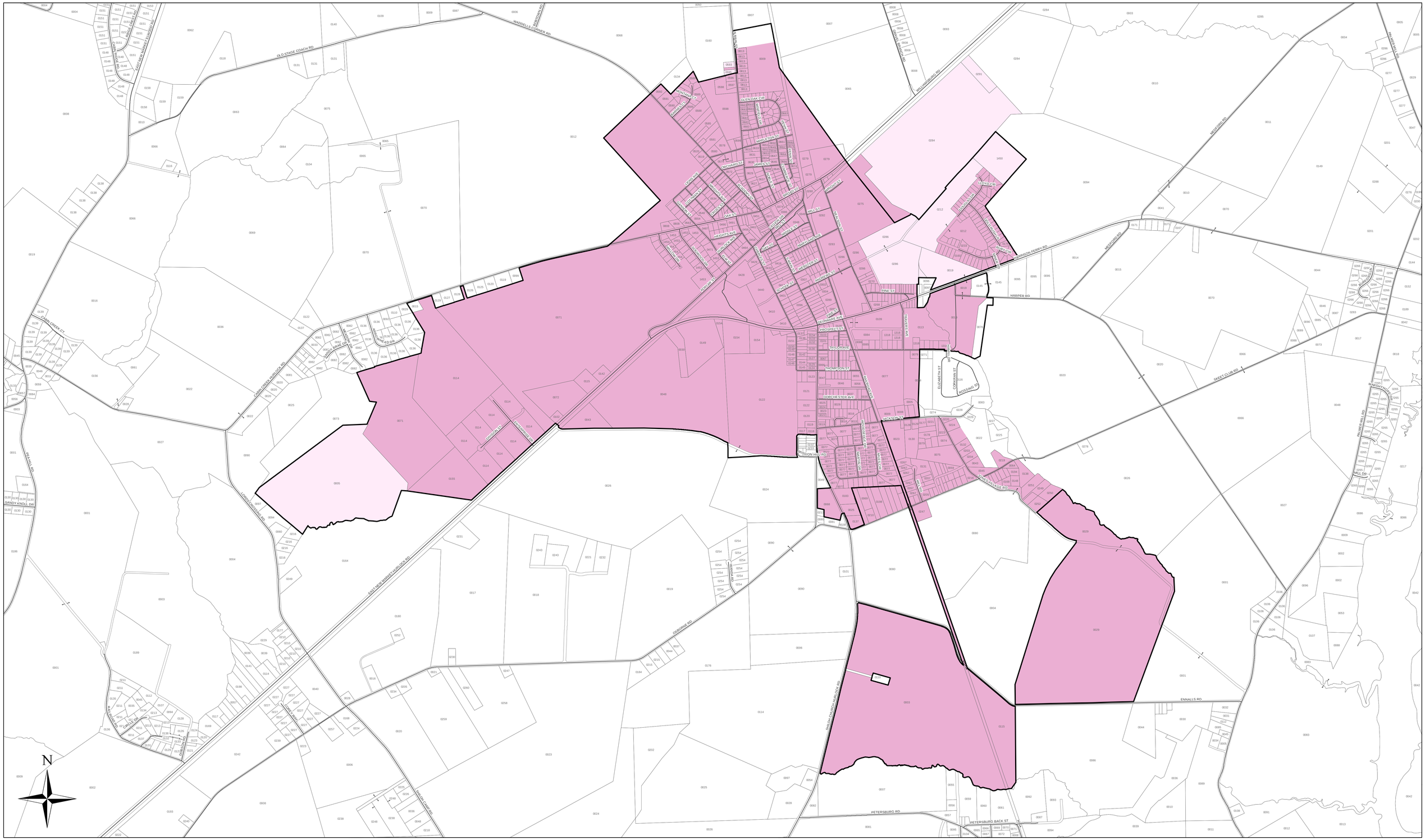


REV. DECEMBER 1983



Last Updated 1/28/09

Municipal Boundary

Water Service Area

- W-1, Existing to 2 years
- W-2, 2 to 5 years
- W-3, 5 to 10 years

TOWN OF HURLOCK
WATER SERVICE AREA

Exhibit 3-F

This map was created by Dorchester County Planning and Zoning.
Dorchester County makes no warranty as to the accuracy of the data used to produce this map.

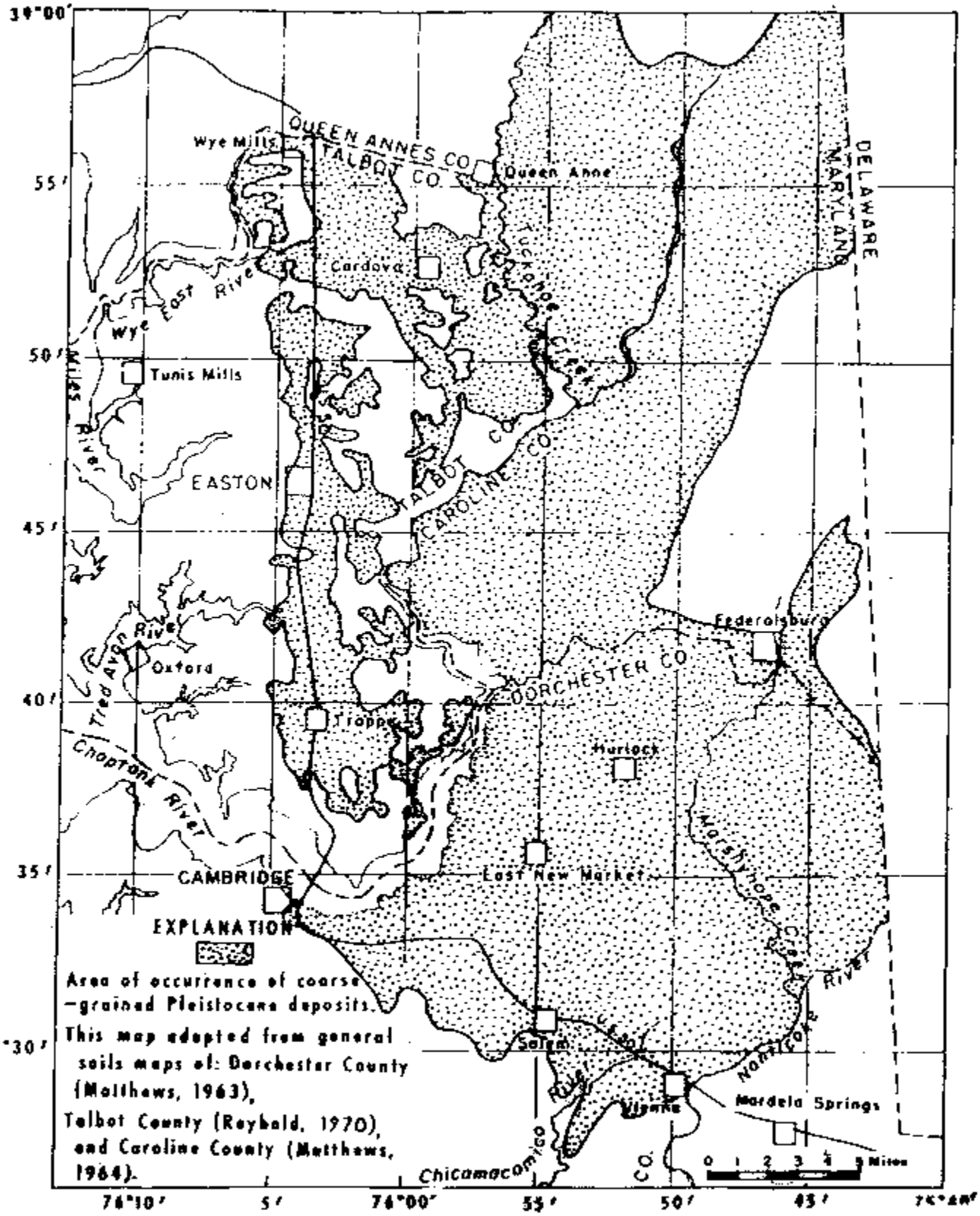
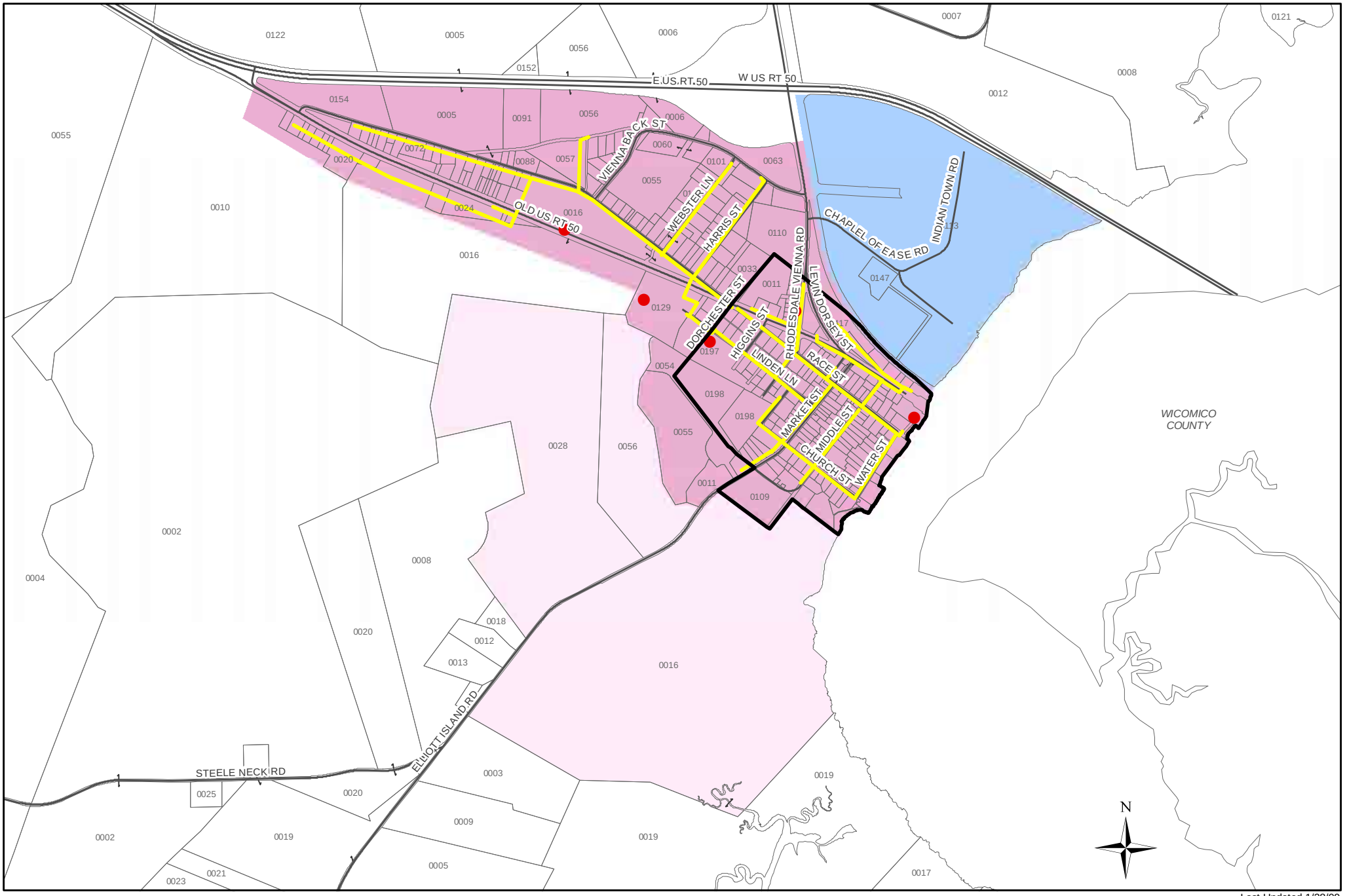


EXHIBIT 3-G
AREAL EXTENT OF PLEISTOCENE DEPOSITS



Last Updated 1/28/09

Municipal Boundary
Pump Station
Sewer Line
Sewer Service Area
S-1, Existing to 2 years
S-2, 2 to 5 years
S-3, 5 to 10 years

TOWN OF VIENNA
SEWER SERVICE AREA
Exhibit 4-A

This map was created by Dorchester County Planning and Zoning.
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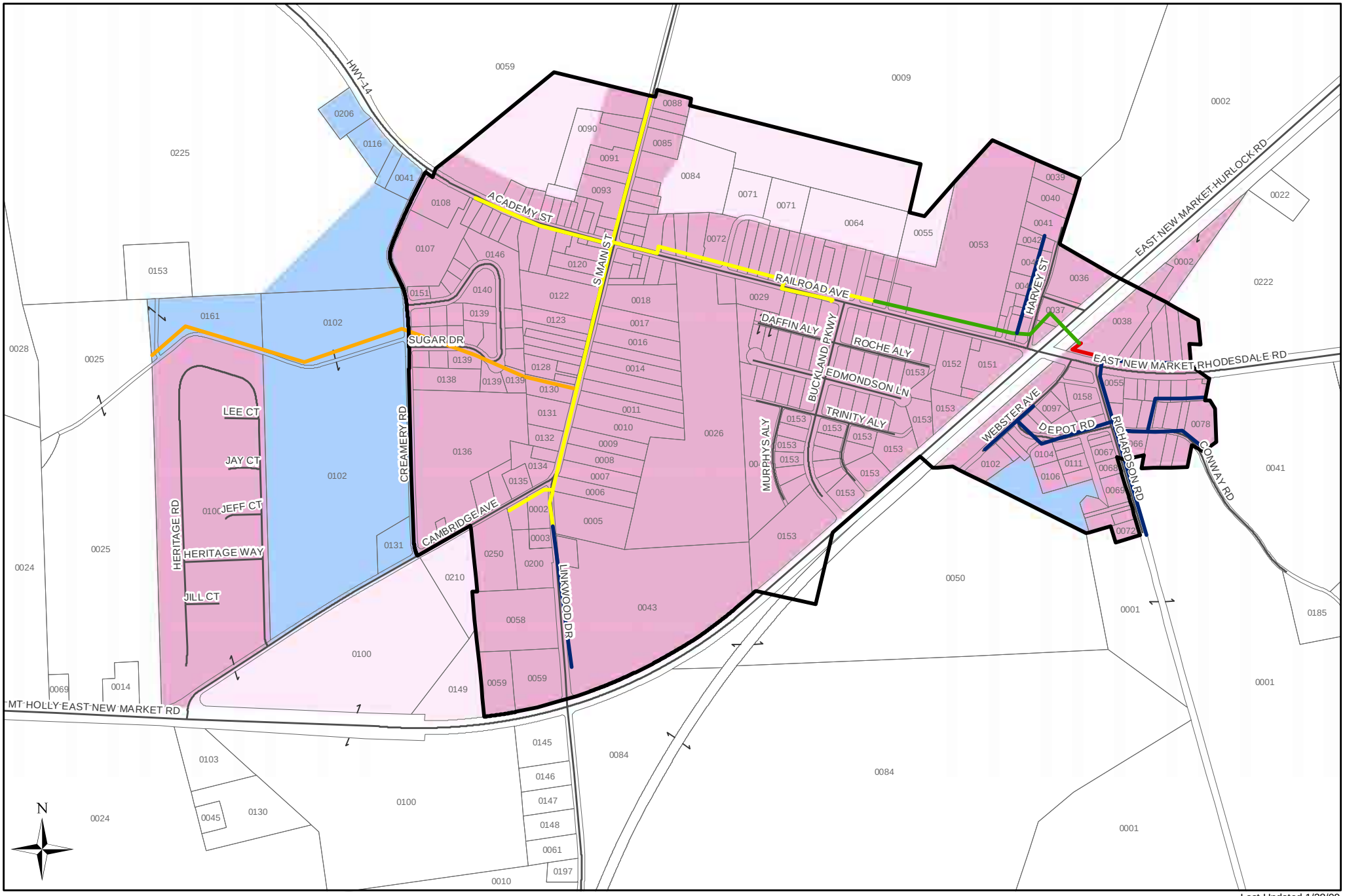

Municipal Boundary

Sewer Service Area

Low Pressure Grinder

- 1.5 inch
- 2.5 inch
- 3 inch
- Gravity Line 8 inch
- Gravity Line 10 inch

- S-1, Existing to 2 years
- S-2, 2 to 5 years
- S-3, 5 to 10 years

TOWN OF EAST NEW MARKET
SEWER SERVICE AREA
Exhibit 4-B

Last Updated 1/28/09

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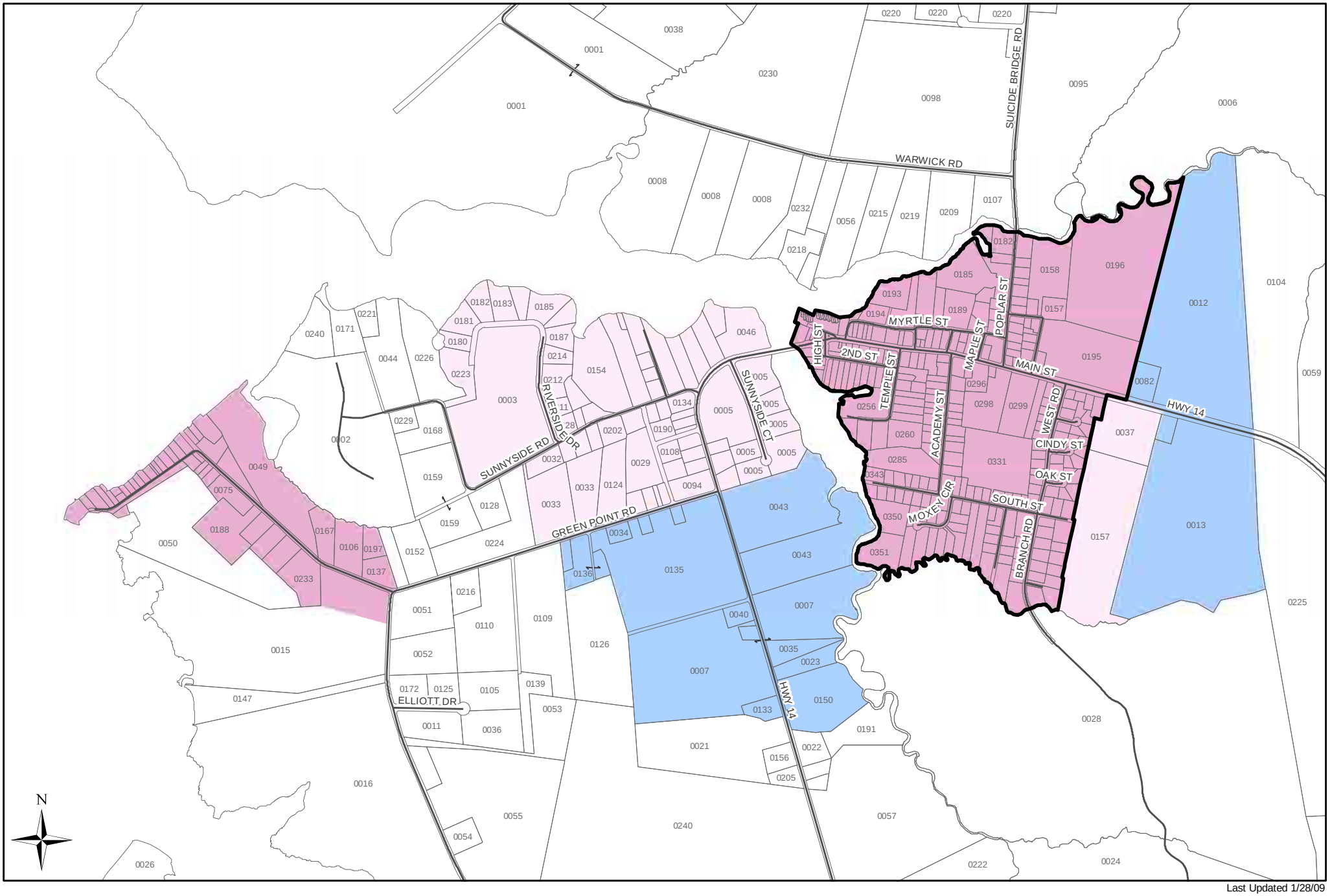

Last Updated 1/28/09

Municipal Boundary

Sewer Service Area

- S-1, Existing to 2 years
- S-2, 2 to 5 years
- S-3, 5 to 10 years

TOWN OF SECRETARY
SEWER SERVICE AREA
Exhibit 4-C

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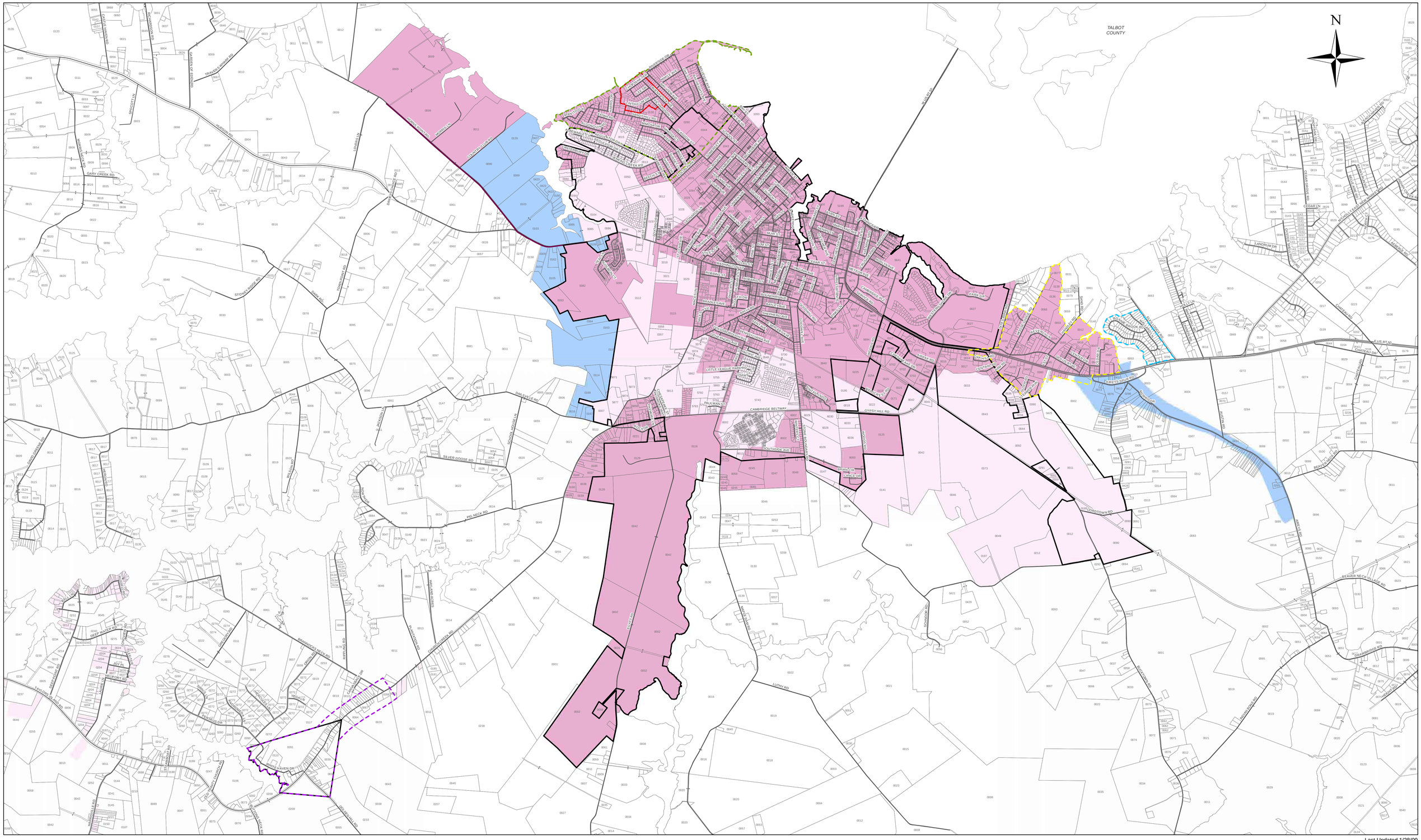

Last Updated 1/28/09

CITY OF CAMBRIDGE AND VICINITY SEWER SERVICE AREA

Exhibit 4-D

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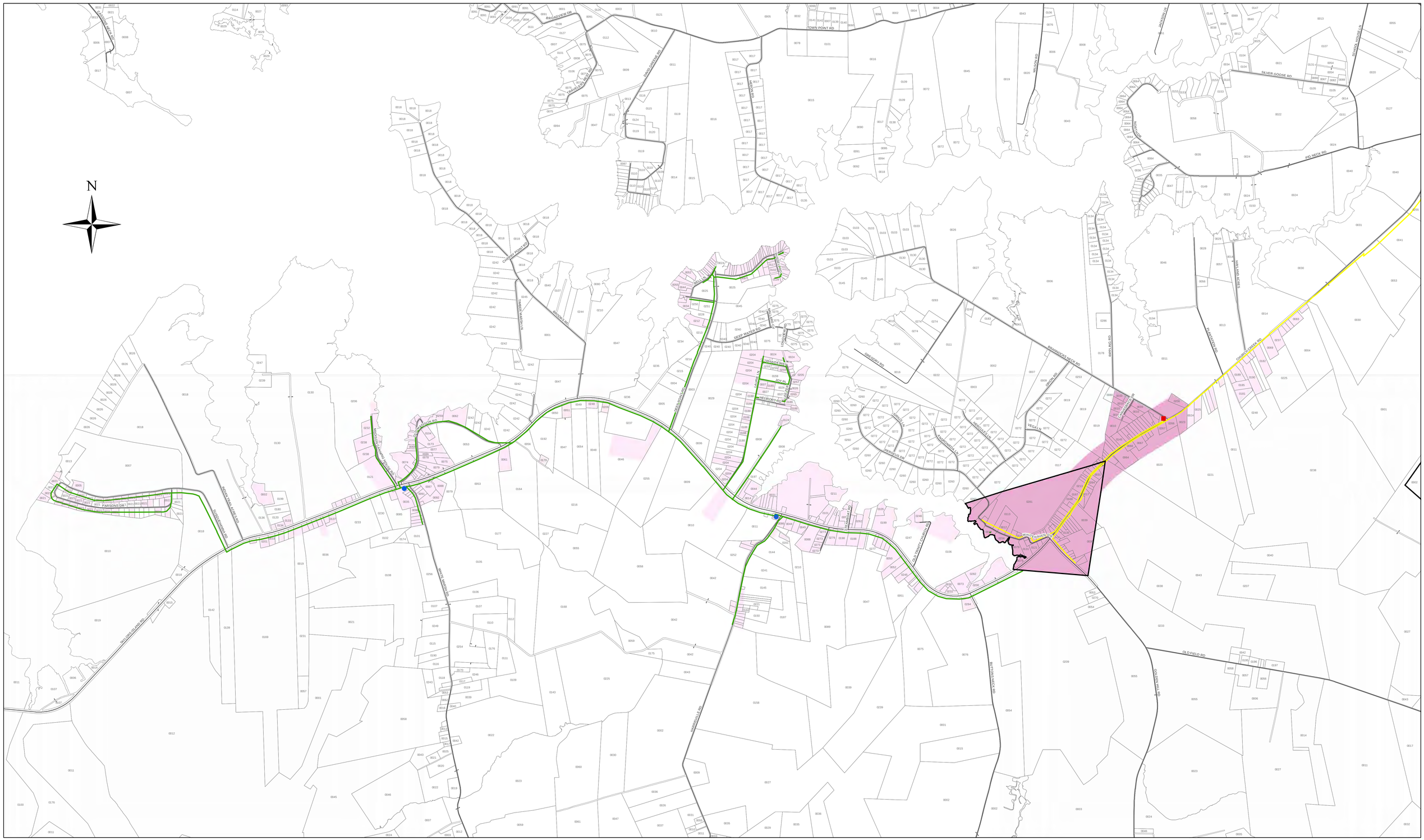

Last Updated 1/28/09

Municipal Boundary
Pump Station
Proposed Pump Station
Force Main
Proposed Low Pressure Sewer

Sewer Service Area
S-1, Existing to 2 years
S-2, 2 to 5 years
S-3, 5 to 10 years

TOWN OF CHURCH CREEK AND VICINITY SEWER SERVICE AREA

Exhibit 4-E

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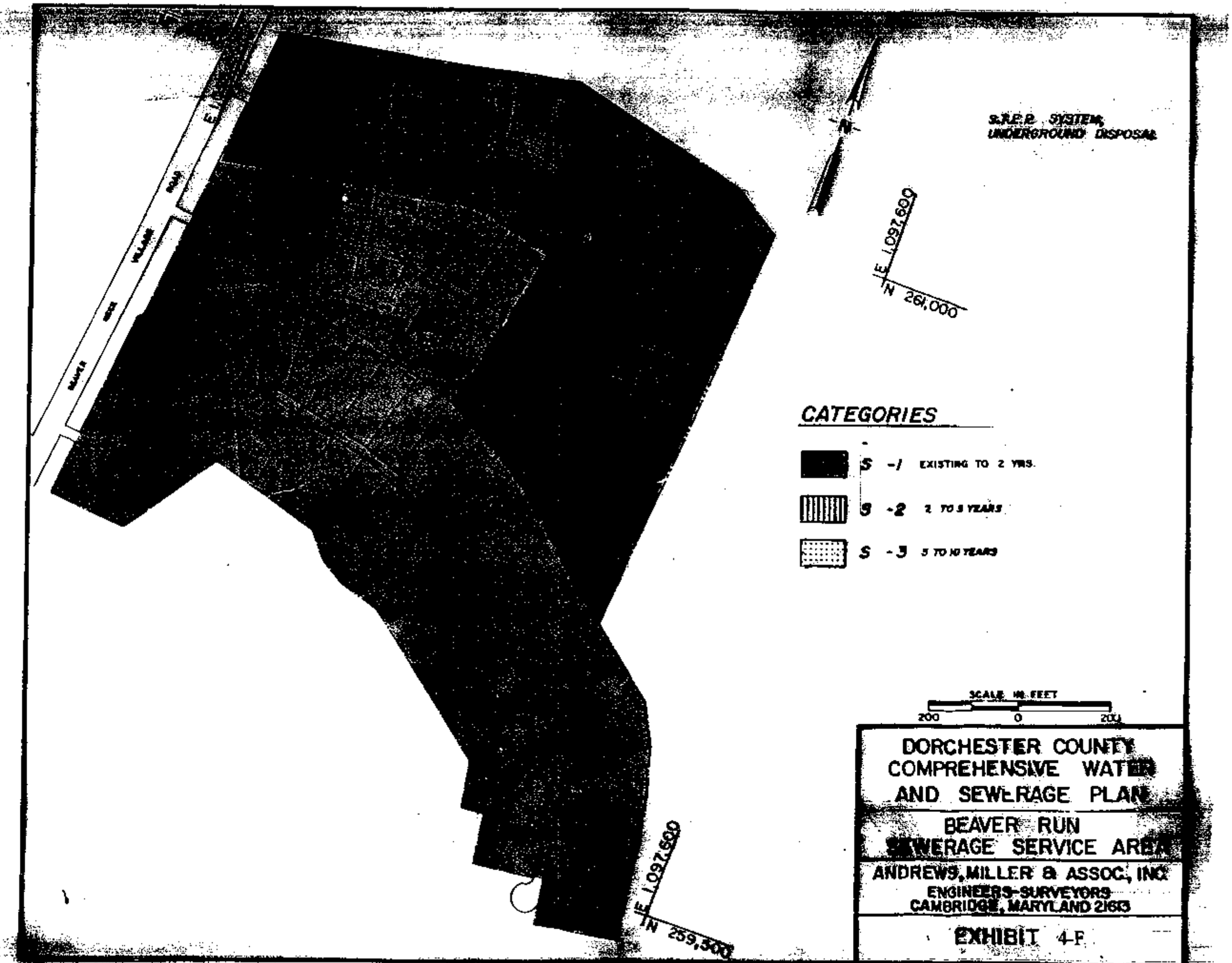
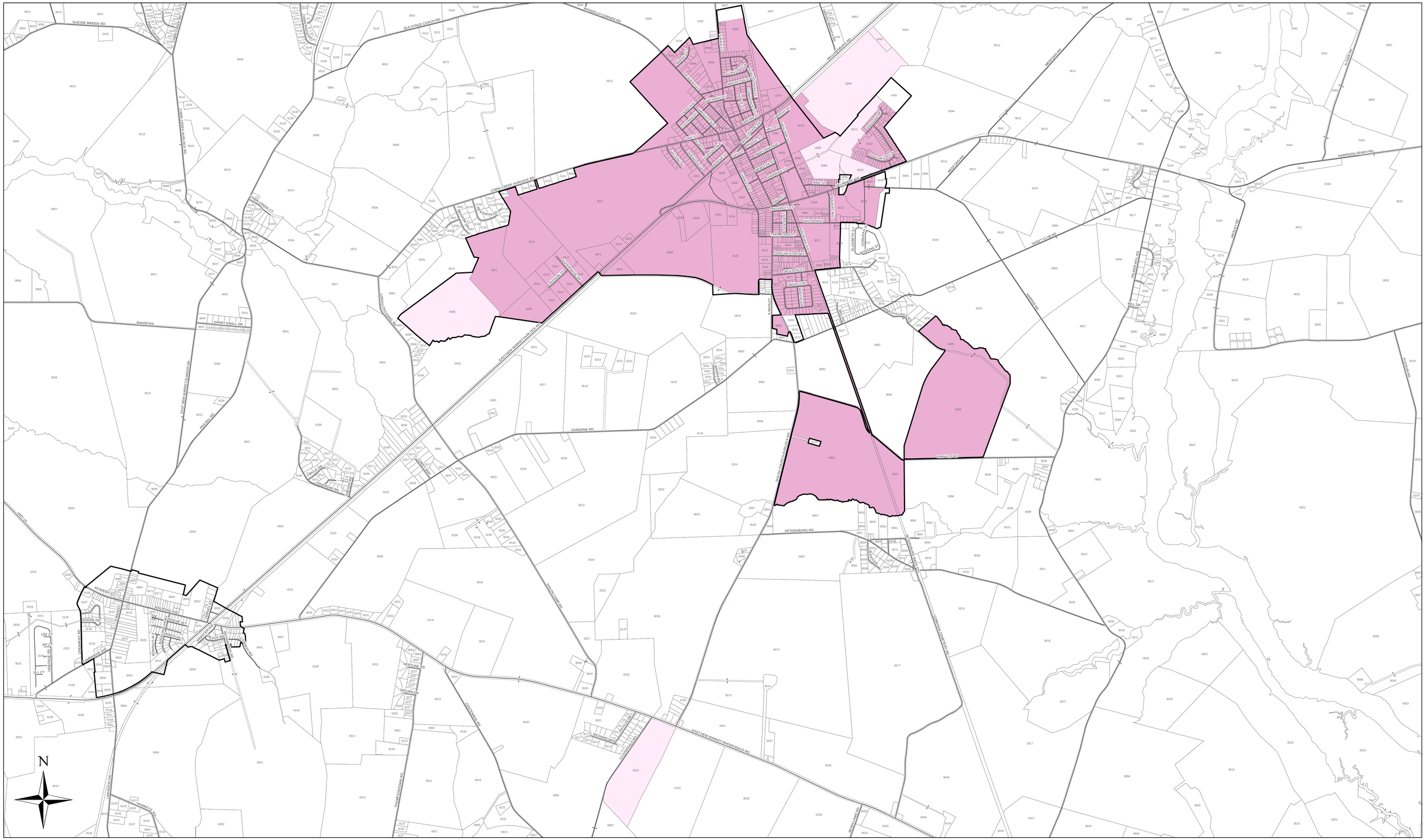

S.R.P.P. SYSTEM
UNDERGROUND DISPOSAL
N
E 1,097,609
N 261,000
CATEGORIES
S -1 EXISTING TO 2 YRS.
S -2 2 TO 5 YEARS
S -3 5 TO 10 YEARS
SCALE IN FEET
200 0 200
E 1,097,500
N 259,500
DORCHESTER COUNTY
COMPREHENSIVE WATER
AND SEWERAGE PLAN
BEAVER RUN
SEWERAGE SERVICE AREA
ANDREWS, MILLER & ASSOC., INC.
ENGINEERS-SURVEYORS
CAMBRIDGE, MARYLAND 21613
EXHIBIT 4-F
REV. NOV., 1990
REV. DECEMBER 1993



Last Updated 1/28/09

Municipal Boundary

Sewer Service Area

- S-1, Existing to 2 years
- S-2, 2 to 5 years
- S-3, 5 to 10 years

TOWN OF HURLOCK
SEWER SERVICE AREA

Exhibit 4-G

This map was created by Dorchester County Planning and Zoning.
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City of Cambridge

Cambridge, Maryland 21613

EXECUTIVE DEPARTMENT

AREA CODE 410
TELEPHONE 228-4020
MD RELAY WITH TE OR 1-800-735-2258

October 31, 2003

Hon. Glenn L. Bramble, Vice-President
Dorchester County Council
Court Lane
Cambridge, Maryland 21613

RE: Expansion Church Creek Sanitary District

Dear Councilman Bramble:

This letter shall serve as the city's formal response to your letter dated September 22, 2003, and a letter from Steve Dodd, dated October 29, 2003, regarding the county's request to expand the Church Creek Sanitary District to include Woolford, Madison and other surrounding areas.

The city will agree to dedicate a 100,000 gallon per day allocation to the expansion, subject to the following: (1) the city must receive verification that the same conditions and prerequisites apply to this expansion as applied to the Church Creek Sanitary District when it was originally created (i.e., a written statement from the appropriate state agency mandating that the area be served by the city's sewer system due to health and/or environmental concerns), (2) the city council formally reviewing and approving the platted area of expansion and the allocation dedication at its next regularly scheduled meeting, and (3) final agreement and approval of specific terms and conditions related to the expansion, including, but not limited to the costs and fees to be charged,

It is my understanding that this formal notification of allocation dedication is needed immediately for the purposes of amendments to the county's comprehensive water and sewer plan.

If you should have any questions, please do not hesitate to contact me at 410-228-4020.

Sincerely,

Cleveland L. Hippons

EXHIBIT 4-H