

**MCPB
ITEM #
Oct 9, 2003**

October 1, 2003

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Jeff Zyontz, Chief
County-wide Planning Division

FROM: Nazir Baig, for Department of Park and Planning
(301) 494-4549

**SUBJECT: Ten-Year Comprehensive Water Supply and Sewerage Systems Plan
2003- 2012**

STAFF RECOMMENDATIONS

Staff recommends that the Planning Board approve the plan with the following comments:

1. Request the County Council (CC) to defer all category change requests under the provision of Private Institutional Facility (PIF) Policy until a revised policy is adopted which addresses community and environmental impacts.
2. Expand the section on individual on-site system development.. The plan should address some of the relevant issues such as enhanced septic system technologies, mandatory pumping of septic tanks, enhanced enforcement, and development of a management structure to ensure proper maintenance of septic systems.

3. Request inclusion of flow quantity in definition of “hookup” e.g., 300 gpd (gallons per day)

Staff is planning to schedule a meeting of representatives from the County Executive, WSSC, County Council and M-NCPPC staff to resolve other technical issues.

DESCRIPTION OF THE PLAN

Pursuant to the requirements of Environmental Article, Sections 9503 through 9506 and 9515 through 9516, of the Annotated Code of Maryland, the County Executive has submitted to the Council the recommended draft of Montgomery County’s Comprehensive Water Supply and Sewerage Systems Plan. The Plan comprehensively addresses major water and sewer issues, as follows:

- **Chapter 1: Objective and Policies** provides the legal requirements of the plan; the county's overall objectives for water and sewer service; the policies addressing the provision of water and sewer service from community, multi-use and individual systems; and the procedures by which the plan is adopted, amended, and administered.
- **Chapter 2: General Background** provides background information on the county's natural and man-made environment relevant to the provision of water and sewer service by both community and individual systems.
- **Chapter 3: Water Supply Systems** provides information on the county's existing water supply systems and plans, to ensure the county's mid- and long-term objectives. This chapter also addresses the county’s regional water supply planning issues.
- **Chapter 4: Sewerage Systems** provides information on the county's existing sewerage systems and on planning efforts to ensure that the county's mid- and long-term sewage disposal needs are satisfied in a manner consistent with public policy and the plan’s objectives. This chapter also addresses the county’s regional sewerage planning issues.
- **Appendix A: Water and Sewer Capital Projects** provides a summary of the major water and sewer projects approved for the county in the current capital improvements programs for the Washington Suburban Sanitary Commission (WSSC) and for local municipalities.
- **Water and Sewer Service Area Category Maps** provide the service area categories designated in this plan for all properties within the county, updated to June 2003.

STAFF EVALUATION

The reorganization, reformatting and the annotations make the Water and Sewer Plan a more readable and useful document. Staff has been working continually with the

Executive in the formulation of this draft. We provided an extensive amount of comments to the preliminary draft and suggested a meeting to discuss and resolve the differences. Staff also participated in several interagency meetings to resolve issues related to the PIF policies.

We wish to apprise the Board on three major issues:

- * PIF Policy
- * Policies regarding developments on septic systems
- * Clarification of definition of hookup as used in water and sewer planning.

THE PIF Policy (Refer to pages 1-22 to 1-25 of Water and Sewerage System Plan See insert below)

In February 2002, the Montgomery County Council requested that a review of the county's Private Institutional Facilities (PIF) policy be conducted by appropriate agencies (MCDEP, M-NCPPC, WSSC, etc.). The County Council stated its desire to take action on the PIF policy, in part, on how it relates to a pending water and sewer category change request (WSSCCR 01A GWC-03), which was submitted to the council prior to the council's August 2002 Council recess.

The Water and Sewerage Plan defines PIF as buildings constructed for an organization which qualifies as federal tax exempt under the provisions of section 501 of Title 26 of the United States Code.

However, in recent years, increases in activity levels, particularly at places of worship and religious schools, have begun to generate major traffic congestion, parking overflow, community incompatibility due to the scale of numerous PIFs, and other related problems that dramatically alter neighborhoods. The cumulative size and land use intensity of some of these representative facilities in residential areas are vastly out of scale with surrounding single-family residential uses. Excerpted from the Water and Sewer Plan as follows:

4. Community Service for Private Institutional Facilities -- This Plan defines private institutional facilities (PIFs) as buildings constructed for an organization which qualifies for a federal tax exemption under the provisions of Section 501 of Title 26 of the United States Code (Internal Revenue Service). The provision of community water and/or sewer service to such facilities shall be addressed on a case-by-case basis by the following policies:

a. Facilities Located Within the Community Service Envelopes -- For private institutional facilities located within the acknowledged water and/or sewer envelopes, service area category changes may be approved by DEP through the administrative delegation process (Section V.F.1.a.: Consistent with Existing Plans). For a specific site, the acknowledged

water and sewer service envelopes may differ due to the general water and sewer service policies (Section II.D.) included in this Plan .

**b. Facilities Located Outside the Community Service Envelopes -
- For existing or proposed PIF uses located outside the acknowledged water and/or sewer envelopes, the County Council shall consider requests for the provision of community service for PIF uses according to the following criteria:**

i. Sites Abutting Existing Water and/or Sewer Mains – For cases where existing or approved water or sewer mains abut or will abut a property, the following criteria shall apply:

- Service area category amendments may be approved for sites with an existing PIF use, including those located within the RDT Zone.**
- Service area category amendments may be approved for sites proposed for a new or relocating PIF use, excluding those sites located within the RDT Zone (For additional information concerning sites zoned RDT, see subsection e., below).**

ii. Sites Requiring New Water and/or Sewer Mains Extensions – For cases where the provision of community service for a PIF use requires new water and/or sewer mains, the following criteria shall apply:

- For existing PIF uses, service area category amendments may be approved for sites only where required water and/or sewer main extensions do not threaten to open undeveloped land to development contrary to the intent of the relevant local area master plan.**

- *For new or relocating PIF uses, service area category amendments may be approved for sites only where required water and/or sewer main extensions will abut only properties which are otherwise eligible for community service under the general policies of this plan. Sites located within the RDT Zone are not eligible for service under this policy provision at this time (see subsection e., below).*

c. Main Extensions for PIF Uses -- Main extensions outside the acknowledged community service envelopes, where required, shall be designated "Limited Access" consistent with the Limited Access Water and Sewer Mains policy (see Section III.A.2). Where community sewer service for a PIF use will be provided by low-pressure mains, those mains shall be dedicated only to that PIF use and generally not eligible for additional service connections. The County and WSSC may make limited exceptions to this requirement to allow for the relief of failed septic systems, where such service is technically feasible.

PIF uses may receive service from limited access water or sewer mains where the Council has specifically approved access to those mains. The provision of community service under this policy shall not be used as justification for the connection of intervening or nearby lots or parcels if they would not otherwise be entitled to connect to community systems.

Under its Systems Extension Permit (SEP) process, WSSC now requires that all commercial and institutional service applicants construct and pay for the community systems main extensions needed to serve their projects. In cases where more than one PIF use proposes to locate on a site requiring a pump and low-pressure main extension, WSSC requires that each institutional facility have a separate pump and pressure main system. The County and WSSC shall not support the provision of community sewer service for a PIF use where that service will require a WSSC-owned and operated wastewater pumping station which does not also support community sewer service for other non-PIF uses consistent with the service policies of this Plan.

d. PIF Uses in Existing Residential Structures -- The Council may deny service area category amendments for PIF uses located outside the acknowledged water and/or sewer envelopes where main extensions are required for private institutional facilities seeking community service for existing residential structures. This could result in the extension of community water and/or sewer service for structures which would not otherwise be eligible for such service, and which could return to residential use.

e. PIF Policy Directions -- The Council originally adopted a Water and Sewer Plan service policy addressing PIF uses with three primary goals in mind:

- To continue to support, where the provision of community service is reasonable, the county's private institutional facilities, which the Council recognized as having an important role in their communities and for their residents;**
- To provide more objective and consistent criteria in evaluating PIF cases; and**
- To limit the potential impact of water and sewer main extensions outside the community service envelopes to support PIF uses.**

The PIF policy has accomplished the preceding goals, at least to some extent. However, it has also created unintended concerns, involving complex relationships between differing public policies and affecting private institutions needing space to locate and grow within an often fiercely competitive Real Estate market. This makes less costly land, usually located outside of the community water and sewer service envelopes and zoned for lower-density development, more attractive to institutional uses. Among the concerns which have come to the attention of both the County Council and County agency staff are the following:

- The policy has resulted in the clustering of PIF uses at the edge and outside of the acknowledged community water and/or sewer service envelopes.**
- The policy has facilitated the siting of PIF uses on properties where the institutional use and its ancillary needs, especially parking, can create imperviousness far in excess of that normally resulting from residential uses, leaving little open space and creating water quality problems.**

- *The policy has facilitated the siting of PIF uses within the county's RDT-zoned agricultural preserve areas.*
- *The policy has promoted speculative interest in sites because of their potential ability to satisfy the PIF policy requirements, not because a specific private institution has a need for that site.*
- *The policy does not provide guidance concerning institutional subdivisions, where two or more PIF uses subdivide and locate on an existing property approved for community service.*
- *The policy can not address issues beyond the scope of the Water and Sewer Plan, such as community compatibility, traffic congestion, and alternate facility uses.*

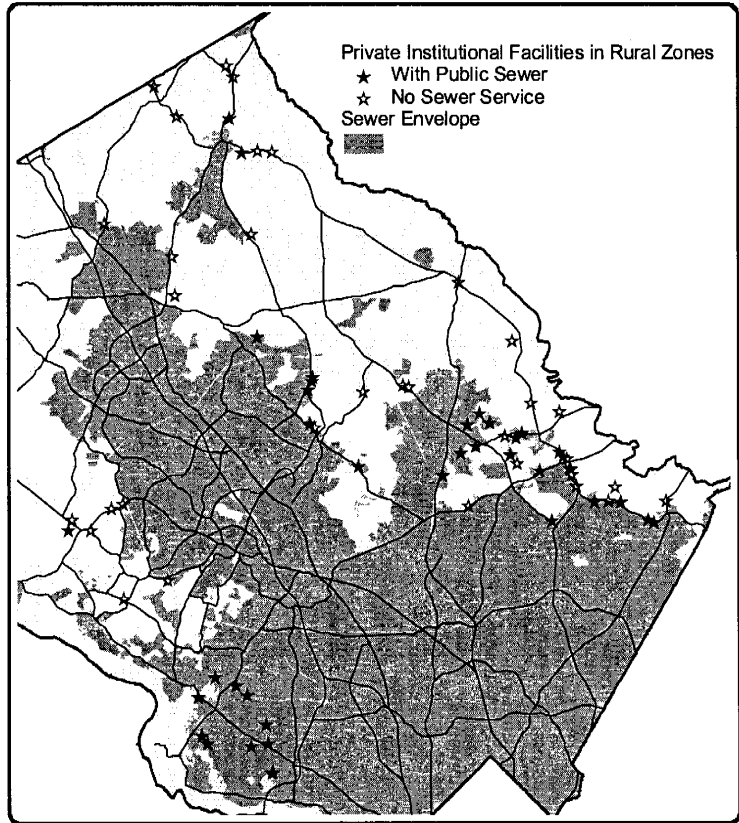
DEP, other County agency, and County Council staff representatives have begun a review of the PIF policy, with particular attention to the preceding issues. The PIF policy adopted in this Water and Sewer Plan contains changes from the original PIF policy which address some of these concerns. Among these are restrictions preventing public support for community service to PIF uses where WSSC pumping facilities would be required, and policies requiring private institutions to act as the applicants for PIF-based service area change requests (see subsection c., above.) However, further interagency work on the impact of PIF uses is needed not only in the context of the Water and Sewer Plan, but also in other County plans and policies.

Water and Sewer Plan Recommendation

The County cannot address the all of the issues affecting private institutional uses only within the context of the Water and Sewer Plan. Addressing these issues will involve considering changes to other aspects of the County's land use planning, zoning and water quality protection processes. The County will likely need to address these institutional uses in the context of its master plans, zoning and subdivision ordinances, and water quality regulations.

The size(s), intensity, proliferation and associated impacts of PIF cases were not previously envisioned, planned or anticipated by adopted master plans. Modifications to the regulatory review process for private institutional facility (PIF) uses permitted in the one-family residential and agricultural zones are needed to control and minimize deleterious environmental and quality of life effects. Negative impacts of the PIF Policy include:

- Traffic congestion/parking overflow during times of peak facility use.
- Cumulative size and intensity of select PIF uses in residential areas that are out of scale with surrounding single-family residential uses.
- Significantly increased impervious area for PIF, when compared with development for underlying base zoning.



The adverse effects of increases in impervious areas in the headwaters portions of watersheds are apparent, well documented and understood. The effects include: degraded water quality, aquatic habitat impairment, decreased groundwater recharge, increased thermal pollution, decreased stream base flows and increased storm flows.

PIF policies are particularly damaging to water quality and maintaining normal hydrologic condition, as PIF sites have been typically situated in headwater areas at the fringe of existing water and sewer infrastructure. Headwaters, because of their position at the beginning of watersheds, offer the greatest impact for protection for stream systems (i.e. preservation at the low end of a watershed does nothing to protect upstream water quality; protection of headwater systems affords cumulative protection downstream).

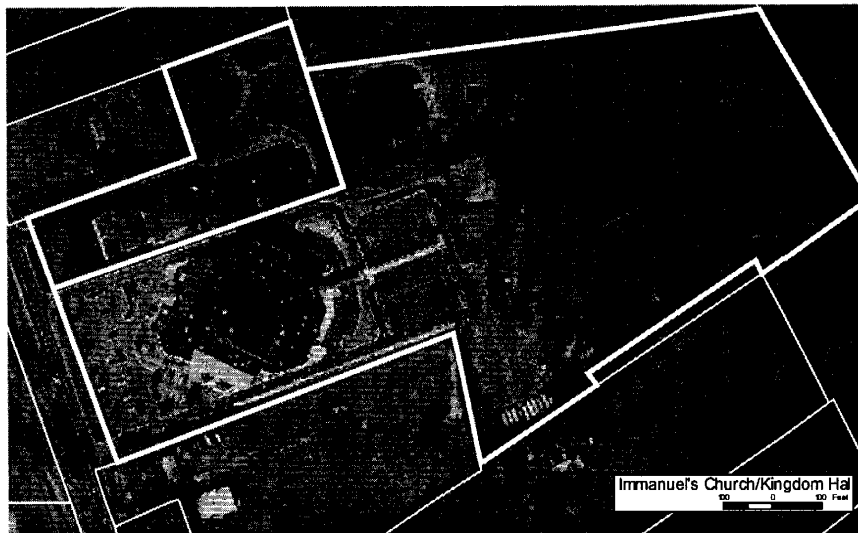
The table below shows how uses approved under the PIF sewer policy have dramatically altered and intensified land uses and associated imperviousness in areas where land use policies specifically recommend low intensity zoning/land uses to protect the environmental resources.

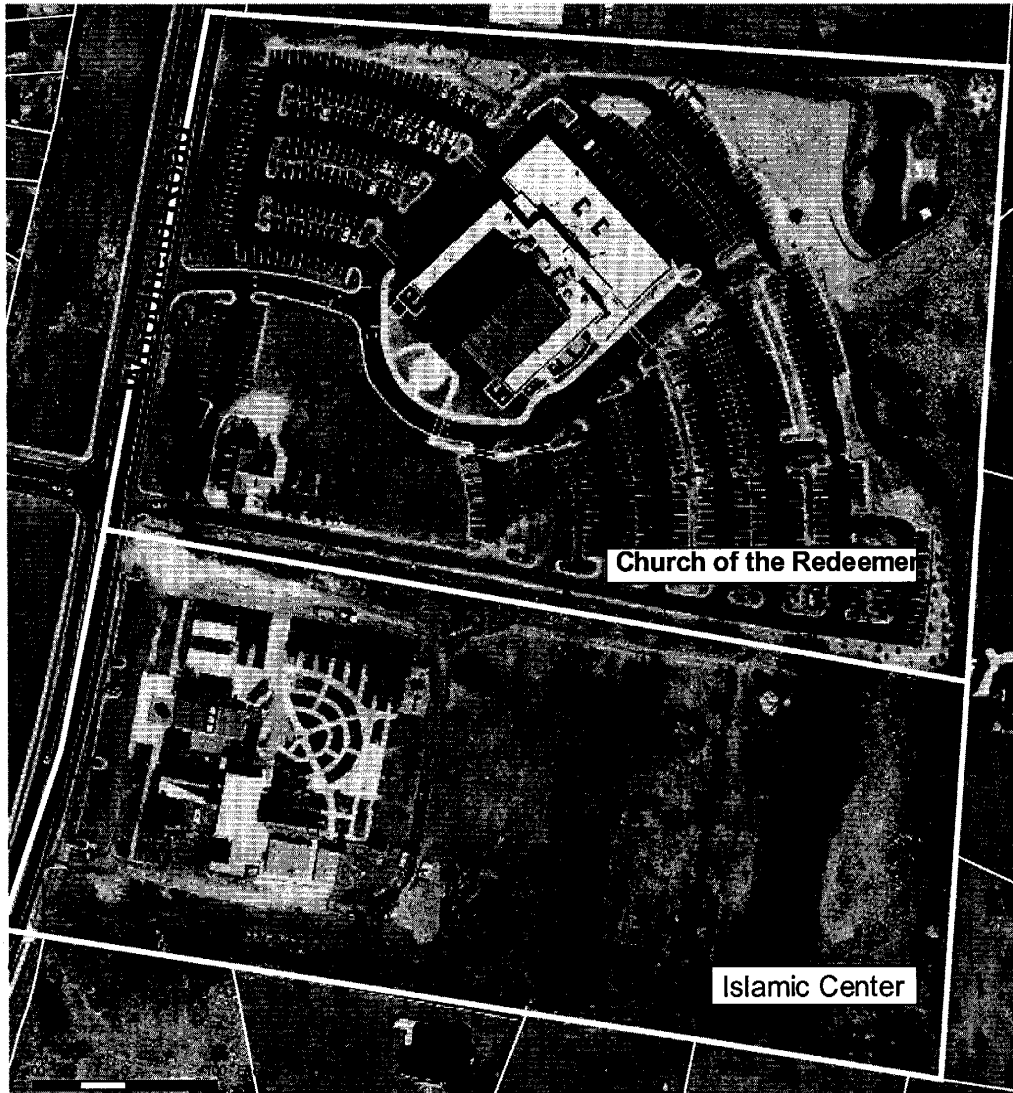
IMPERVIOUS AREA For SELECT Private Institutional Facilities

(Impervious Percentages are approximate based on GIS analysis of 1998 and 2001 aerial photographs)

Institution	Acreage	Impervious Area	Underlying Zoning/ Typical % Impervious	Comments
Covenant Life, Muncaster Mill Road, Redland	43	9.2 acres 21% impervious	RE-1/14	8 acres of impervious parking, with minimal temporal use. Muncaster Mill Road has significant traffic congestion.
Immanuel's Church, Route 650 Spencerville	19.7	7 acres; 37% impervious	RC /14	Facility footprint is 1.7 acres. Patuxent watershed
Kingdom Hall Jehovah's Witness, Route 650 Spencerville	3.5	1.6 acres 46% impervious	RC/10.6-14.3	Patuxent River Watershed
Seventh Day* Adventist, Route 650 Spencerville	7.18	3.8 acres 53% impervious	RC/10.6-14.3	Northwest Branch and Patuxent River Drainage.
Islamic Center of Maryland (Proposed Improvements as of Oct. 2001)	9.9	7.8 acres 79% impervious	RE-1/6-11	Afforestation requirements are proposed off-site.
Church of the Redeemer, Route 124 Gaithersburg	12.4	9 acres 65% impervious	RE-1/6-11	Preliminary analysis, awaiting current aerial imagery.
*Not on community sewer				

PIF facilities have clearly demonstrated significant impervious area increases over the allowed underlying base zones.





An recent application (WSCCR 01A GWC-03) is seeking sewer connection in the RDT zone under the PIF policy provisions was the 119-acre Mardirossian property off Brink Road in Germantown. This request was based on the applicants stated intent to divide this 119-acre property into 4 parcels of over 25 acres each, to build a 1000 seat church and school on each property. The property is zoned for 25-acre lots to preserve Montgomery County's farmland and open space. The applicant proposed, what has been reported in the media, development of a "church park," to be home to four yet-to-be-named religious institutions and ancillary schools and infrastructure. If developed on water and sewer, the property could exceed an estimated 65 percent imperviousness area, or 77 acres of impervious area in an area zoned to protect Montgomery County's Farmland and Open Space that would normally result in only four to seven percent imperviousness.

For this property, the M-NCPPC Community Based Planning staff believes that the stated purpose is not consistent with the intent of the private institutional facility guidelines since no church is applying for this category change. The private institutional facility guidelines were not intended for applicants to develop speculatively property for use by religious institutions. PIF guidelines were developed to assist specific religious institutions on a case-by-case basis. As WSCCR 01A GWC-03 is an apparent speculative venture, counter to the intent of the PIF policy, Planning staff recommended denial of this application. This application was subsequently withdrawn at the request of the applicant.

Uses approved via the PIF sewer policy have dramatically altered and intensified land uses and associated imperviousness in areas where land use policies specifically recommend low intensity zoning/land uses to protect environmental resources. PIF implications for land use and the environment represent a significant loophole in the development review and land planning process.

As an example, the highest water quality (Use III), Upper Rock Creek, was zoned RE-1 and RE-2 for environmental protection without sewer service, so the net residential density would result in no more than 1 or 2 acres per lot. However, due solely to the PIF policy, the entire eastern frontage along Rte. 124 is undergoing an intense level of private institutional development in the headwaters of Upper Rock Creek, which is completely contrary to the environmental intent of the zoning to protect water resources in that area. Recent significant examples of PIF sites with high levels of imperviousness include:

- Church of the Redeemer, Route 124, Gaithersburg, Upper Rock Creek Watershed, **65% imperviousness**
- Kingdom Hall Jehovah's Witness, Route 650, Spencerville, Patuxent Watershed, **46% imperviousness**
- Islamic Center of Maryland (Proposed Additions) Route 124, Gaithersburg, Upper Rock Creek Watershed, **79% imperviousness**

If the PIF policy continues unaltered, private institutional development may be expected to continue in every context allowed under the current PIF sewer policy, in many cases resulting in excessively high levels of imperviousness in environmentally sensitive areas. The draft Water and Sewerage System Plan recommends:

The County cannot address all of the issues affecting private institutional uses within the context of the Water and Sewer Plan. Addressing these issues will involve considering changes to other aspects of the County's land use planning, zoning and water quality protection processes. The County will likely need to address these institutional uses in the context of its master plans, zoning and subdivision ordinances, and water quality regulations.

Staff believes this recommendation is basically sound, but is too general and broad as written. Staff, therefore, recommends that specific actions and appropriate changes be formulated to expand on the draft Water and Sewerage System Plan

recommendation. Approval of the County Executive's recommendation, without deferral of pending applications, will result in continued degradation of sensitive watersheds in areas targeted for special protection, increased traffic congestion, and probably significant adverse effects on agricultural preservation in Montgomery County. The application of the existing PIF policy can no longer be dealt with on an ad hoc basis without exacerbating the unintended negative consequences that have highlighted a conflict in public policy. This situation should be corrected before additional projects proceed. Staff recommends that:

- The PIF policy be modified to limit the imperviousness to that allowed by permitted uses for underlying zoning without sewer.
- The Planning Board request the Council to defer action on all category change requests pertaining to PIF cases until the County Council finds that sufficient land use planning, zoning and water quality protection measures are adopted and implemented.

Policies Regarding Developments on Septic System [Development on On-Site Systems]

The Water and Sewerage System Plan should be revised to include a more detailed description of on-site systems. On-site systems are primarily groundwater wells and septic disposal systems serving most of western Montgomery County and the Patuxent Basin. Research and on-going studies suggest that septic systems help create eutrophic systems, rich in nutrients that encourage excessive plant growth. Affected water kills life dependent on oxygen, and is a major source of harmful nutrients in groundwater and surface water. General estimates suggest that septic fields may contribute up to 20 to 25% of the total nutrient load in tributaries dominated by septic systems, and from five to nine% of the total nutrient load to the Chesapeake Bay.

- Patuxent River – Studies by the Maryland Department of the Environment (MDE) have determined that both water supply reservoirs on the Patuxent River are eutrophic, and do not currently meet water quality standards. Under requirements of the federal Clean Water Act, MDE is currently developing estimates of the Total Maximum Daily Loads (TMDL's) for nutrients in the Patuxent River.
- Western Montgomery County – There is a lack of adequate sanitation capability that threatens the Agricultural Preserve Program in western Montgomery County due to extreme soil constraints and poor permeability.

The Planning Board has supported the County Executive's initiative in developing a "Countywide Ground Water Protection Strategy." Staff recommends that the Planning Board support recommends a broader discussion of its relationship to the Water and Sewer Plan.

The Water and Sewer Plan is not the only source of control on septic systems. The county's regulations for on-site systems are old, and need to be reviewed for potential updating and enhancement. Currently there is no effective management structure or regulatory basis for maintaining existing septic systems, much less systems with enhanced septic technologies, which particularly require regular maintenance to function properly.

Staff recommends that the Council direct the Department of Permitting Services to re-examine the existing on-site system program and regulations, considering the potential for including enhanced septic system technologies, mandatory pumping, regulatory enforcement, and the development of an effective management structure for ensuring septic system maintenance. This will further the goal of reducing nutrient loads to ground and surface water. We recognize that while these efforts may initially be expensive, they would certainly provide long-term environmental and economic benefits to the county.

Clarification of Definition of Hookup as Used in Water and Sewer Planning

Recently, numerous instances of confusion have arisen over use of the term hookup as applied to the Water and Sewer Plan, due almost entirely to the fact that no flow quantity is now associated with it designation.

In the context of the original Water and Sewer Plan, abutting properties eligible to connect to water and/or sewerage systems were given an amount equivalent of a single family structure, which today is approximately 300 gallons per day by sewage flow. To help prevent such confusion in the future, staff proposes such a limitation, when eligible properties are granted a hookup.

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Attachment

As a related matter, staff recommends that the Council to direct the Department of Permitting Services to review its existing policies and regulations pertaining to individual and on-site sewerage systems in light of efforts being made by Tributary Strategies planning to reduce nutrient loadings to the Bay.

1. Triennial Review of Comprehensive Water Supply and Sewerage Systems Plan**Staff Recommendation:** Transmit comments to County Council and County Executive.**BOARD ACTION****Motion:** PERDUE/WELLINGTON**Vote:****Yea:** 4-1**Nay:** BRYANT**Other:****Action:** APPROVED STAFF RECOMMENDATION TO TRANSMIT COMMENTS TO THE COUNTY COUNCIL AND COUNTY EXECUTIVE AS STATED IN THE LETTER OF TRANSMITTAL.

Environmental Planning division staff gave a detailed presentation of the Triennial Review of Comprehensive Water Supply and the Sewerage System Plan, accompanied by a multi-media presentation. Staff noted that in February 2002, the Montgomery County Council requested that a review of the county's Private Institutional Facilities (PIF) policy be conducted by appropriate agencies. The County Council stated its desire to take action on the PIF policy, in part, on how it relates to a pending water and sewer category change request that was submitted to the Council prior to the Council's August recess.

Staff recommends that the Planning Board approve the plan with the following comments: (i) Request the County Council to defer all category change requests under the provision of Public Institutional Facility (PIF) Policy until a revised policy is adopted which addresses community and environmental impacts; (ii) Expand the section on individual on-site system development; and (iii) Request inclusion of flow quantity in definition of "hookup".

Commissioner Bryant voted against approving the staff recommendation, stating that he is not against the basic principles, but is concerned about the unanswered questions and the impact that this could have on what is in the pipeline right now. He also added that most importantly, when it comes to the policy itself, there is no declaration on when this policy will be in effect, so that people who are impacted will have an idea of what to expect in the future.