



QUEEN ANNE'S COUNTY  
**PUBLIC WORKS ADVISORY BOARD**

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J. Michael Warring, PE  
Chairman

David T. Azar,  
Vice-Chairman

Lloyd E. Barron, Secretary

August 9, 2011

**Department of Public Works Advisory Board  
Recommendation #01-2011  
Southern Kent Island Sanitary Project**

**Introduction**

The Department of Public Works Advisory Board has spent considerable time and effort over the past 4-years working with the Sanitary Commission, County Staff, Citizens and Johnson Mirmiran & Thompson, Inc., a professional engineering consultant, to study the failing septic systems plaguing the oldest subdivisions located along the middle and southern extent of Maryland Route 8. Our collective objectives were: 1) determine a means to permanently resolve the failing septic issue, 2) determine if public water is necessary 3) determine a cost estimate for serving the communities, 4) determine the environmental impacts of serving the area including various scenarios concerning vacant lot in-fill, and 5) develop an estimate of any ancillary costs which the County may incur due to any in-fill development.

**Background**

The Department of Public Works' Advisory Board began this task in March 2007 by evaluating the sanitary conditions within nine (9) existing communities on Southern Kent Island. These communities include, Matapeake Estates, Normans, Sunny Isle of Kent, Chesapeake Estates, Kentmorr, Queen Anne's Colony, Kent Island Estates, Romancoke on the Bay, and Tower Gardens. Many of these subdivisions were platted prior to the County having any sort of zoning code or other minimum performance standards.

Based on a recent letter dated July 8, 2011 from the Director of Environmental Health Services (attached as Exhibit A) and the Rubin Report<sup>1</sup>, the initial opinions presented unanimously by the Public Works Advisory Board to the County Commissioners in Recommendation #06-2007 have been validated as follows:

1. There is a significant number of failing septic systems on South Kent Island. These failing septic systems are polluting the groundwater of the Chesapeake Bay and pose a potential health problem to citizens of the area.
2. Public collection and treatment of sewerage is warranted.

After the passage of Recommendation #06-2007, County Staff prepared a comprehensive technical scope of services based on the content of the Advisory Board's recommendation (which was to serve the area with a County/Public Operated sewer system) and received bids on a project study. Members of the Advisory Board were involved to develop the scope of work, review the bids and assisted with the selection of the successful consultant team lead by the firm of Johnson Mirmiran & Thompson (JMT).

JMT has now concluded the project Report<sup>2</sup> which included presentations at two (well attended) Public Information Meetings (PIM) at the Kent Island High School. Overall the Report as presented provides a wealth of technical, financial and supporting information consistent with the prescribed scope of work, and it will serve as an excellent comprehensive reference document for the County Leadership.

In addition, the following facts, points and programs have lead the majority of the Advisory Board to conclude that the extension of a public sewer line from the County operated KN/S/G Enhanced Nutrient Removal Wastewater Treatment Plant (ENR Plant) to these nine existing communities is the best and most responsible solution to address this longstanding sewerage disposal issue.

I. Current approved Best Available Technology (BAT) septic systems cannot overcome the existing conditions that are chronic of the target area including, high water tables, small lot sizes, poor soil permeability and poor surface drainage (Refer to Exhibit A). While these BAT septic systems do reduce the amount of nitrogen entering the environment, they do nothing to improve the hydraulic functioning of the septic system nor do they typically result in any pathogen reduction.

II. As referenced in the Summary and Recommendations Report by the Advisory Board's Options Sub-committee dated 11-14-2007, "On-lot treatment methods should not be further considered due to poor soils, high water table and small lots".

III. Conclusions from the Rubin Report<sup>1</sup>, Executive Summary:

- a) "Over 2,000 onsite septic system permits reviewed indicated trench depths of over 8 feet".
- b) "Review of soils information and original siting (sic) data from the permits indicate seasonal saturation was encountered at depths of less than 4 feet".
- c) "This suggest that domestic wastewater is placed directly into groundwater which ultimately flows into the Bay".
- d) "It is recognized that the number and intensity of these system failures will only increase with time".
- e) "Since no large scale dispersed treatment options are available, use of the Public Utility District facility appears most cost effective".
- f) "Use of this centrally managed facility also offers the greatest potential for assuring assets are available to improve treatment levels in the future".

IV. From a nutrient management perspective, BAT septic systems cannot compete with the KN/S/G ENR Wastewater Treatment Plant. BAT septic systems, *assuming they are properly operated by individual homeowners*, discharge approximately ten times the amount of nitrogen as compared to the ENR Plant, specifically 20-30 mg/liter vs. 2.5-3.0 mg/liter respectively (refer to Exhibit A).

V. The County Commissioners have reserved 500,000 gallons of public sewer treatment capacity at the ENR Plant for these communities (Resolution #04-68).

VI. The “Economic Benefit Premium” assessment program provides a means to balance the project costs between homeowners and vacant lot owners. This program should be considered for use in order to differentiate between unbuildable vacant lots and existing homes that receive sewer service. This method has been used successfully on other County sewer projects to ensure fair and equitable assessments based on the actual benefit that is received by the respective property owner (refer to Exhibit B - handout from June 24<sup>th</sup> PIM).

VII. The establishment of a “denied access” sewer line to serve *only* the nine existing communities has documented legal precedence in our County and it is consistent with applicable Maryland Law (see MD Attorney General Opinion, April 13, 2005).

VIII. The costs associated with certain infrastructure and community services that are ancillary to the costs of providing public sewer to the study area should not be the responsibility of the existing homeowners that receive sewer service. The cost of these services which include schools, fire protection and parks should continue to be provided with Impact Fees that have historically been paid by vacant lot owners at the time a building permit is issued.

IX. The costs associated with local drainage, stormwater management and county road upgrades (from private to public) should be considered within the project as an additional “assessable cost” to property owners that receive sewer service. These improvements can be assessed using the same methods which have already been employed in these and other communities on a “road by road” or a “community” basis<sup>3</sup>.

X. State Highway upgrades to any state road improvements that may be needed as a result of any new home construction should remain a State responsibility. This is based on the fact that these are “lots of record” which have been on the books for many decades (many since the 1950’s). The State should continue to provide needed roadway improvements for any new homes just like they have for all of the existing homes that have been built in this region to date<sup>4</sup>.

XI. A competing scenario to serving the community with a denied access “trunk-line” along Route 8, which was the basis for JMT’s study, was a “trifurcated” scenario in which the service area was split into three regions; northern, central, and southern. The intent of this evaluation was to determine if there were a more economical means of providing public sewer to the area. The “trifurcated” scenario was to service the northern region via a smaller diameter “trunk-line” connecting that area to the ENR Plant. The central and southern region would be serviced via either one or two new small wastewater treatment plants.

This scenario was rejected due to the following:

- a) In order to be considered by MDE for such a permit, the County would be required to allocate additional funding to study the viability of locating a second suitable outfall to

discharge treated wastewater on South Kent Island. This process would take several years and is in no way a guarantee that a permit would ever be issued. This permit process involves a public hearing and it is subject to legal challenge, which could further delay implementing any corrective actions for many more years.

- b) There is no significant cost savings between building new satellite wastewater treatment plant(s) versus pumping the collected sewerage to the existing ENR Plant. In addition, any economies of scale are lost by operating multiple treatment plants for the target communities (see SKI Finance Subcommittee Report & Cost Summary dated 3-31-2011).

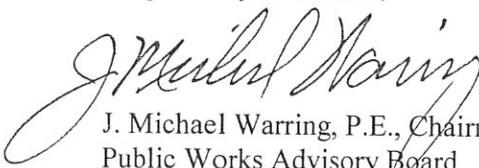
XII. The ongoing development of the Total Maximum Daily Loads (TMDL) for the main stem of the Chesapeake Bay, and its associated Waterway Implementation Plans (WIP), may greatly impact what can, and cannot, be done in this area. In addition the WIP may provide significant funding sources as the 2020 deadline is approached and the goals required to meet the TMDL remain unattained (one goal of the Phase 1 WIP is to remove 930 failing septic systems statewide and connect them to an ENR WWTP - SKI alone has over 1,000 in the critical area).

### **Recommendation**

It is the recommendation of the Public Works Advisory Board that Southern Kent Island be served with public sewer service via a denied access "trunk line" with the following stipulations:

1. The County should work with MDE and/or other funding agency to identify and secure grant funding of sufficient value to construct a public sewer "trunk line" in order to reduce the financial burden and carrying costs associated with this component of a public sewer extension.
2. The service area should be limited to the nine communities (Matapeake Estates, Normans, Sunny Isle of Kent, Chesapeake Estates, Kentmorr, Queen Anne's Colony, Kent Island Estates, Romancoke on the Bay, and Tower Gardens) identified with uncorrectable failing septic systems.
3. Once the trunk line has been installed, the project can be further implemented via a multi-phased approach (i.e. community-by-community or by groups of communities) in order to responsibly pace any infill development that may result with the extension of public sewer.
4. Service to vacant lots within each community should be determined at such time that a new phase or community project is initiated.

Respectfully Submitted,

  
J. Michael Warring, P.E., Chairman  
Public Works Advisory Board

## Footnotes:

<sup>1</sup> The Rubin Report entitled "Project Report, Kent Island and Rural Queen Anne's County, Queen Anne's County Onsite and Decentralized Wastewater Study" was compiled by Dr. A. Robert Rubin to assess the types and functionality of onsite wastewater system prevalent in the Kent Island Area. Rubin has provided national leadership in water quality and wastewater management. Rubin was presented the "Bronze Medal for Commendable Service" by the US EPA in 2003 as a tribute to his work enhancing the performance and reliability of wastewater treatment systems.

<sup>2</sup> There has been some criticism that the JMT report did not fully evaluate on-site solutions. This was never within JMT's scope of work or the original direction given to the Advisory Board (see County Commissioner meeting minutes dated 3-7-2007). This is due to the fact that on-site solutions were deemed not to be a "permanent solution" to the problem as on-site options could not overcome the hydraulic issues that are inherent to the septic system failures in the target communities. It also should be noted that as on-site disposal systems are solely the domain of the State Environmental Health Office, not the Department of Public Works, and by extension the Public Works Advisory Board.

<sup>3</sup> Currently there are 151 homeowners and vacant lot owners that are paying a special benefit assessment for County Road and stormwater upgrades in the Kent Island Estates Community. The cost for these improvements ranged from \$3,722 to \$6,582 per owner. Improvements were completed in the time period between 2004 and 2006.

<sup>4</sup> SHA has already acquired the majority of the right-of-way needed to add additional lanes along Maryland Route 8 and the northernmost segment (from Route 50 to south of Bay City Drive) is included in the State Highway Needs Inventory for QAC.



Queen Anne's County Health Department  
State of Maryland

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ENVIRONMENTAL HEALTH SERVICES

7/8/11

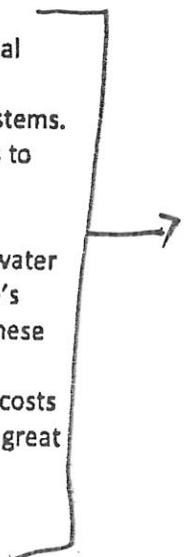
Mr. J. Michael Warring PE, Chairman  
Queen Anne's Co. Public Works Advisory Board  
P.O. Box 31  
Queenstown, MD 21658

Re: (S.K.I.) Southern Kent Island Sewage Concerns

Mr. Warring,

After attending the 6/1/11 Public Works Advisory Board Meeting the following comments are offered for your consideration:

1. It was evident to me there are members of the Board you chair that understand the scientific facts of the issues regarding the S.K.I. sewage disposal problems. There are others who question the scientific facts and even the testimony of those recognized as experts.
2. I base my final decisions upon the best known scientific facts available to me as "Approving Authority" for on-site waste disposal in Queen Anne's County. The Judicial system has upheld my decisions based upon scientific facts. Those facts have not changed no matter what developers, individual lot owners or individual citizens choose to understand.
3. The following facts continue to exist:
  - (a) Seasonal high water tables causing severe limitations to on-site waste disposal systems.
  - (b) Small lot sizes and small lot areas to accommodate on-site waste disposal systems.
  - (c) Slowly permeable soil conditions which limit the ability of the sewage wastes to percolate through the upper soil strata.
  - (d) Poor surface drainage.
  - (e) Failing septic systems needing a permanent solution to the property's wastewater disposal needs as on-site remedies require continual penetration of the State's Groundwater with sewage wastes. Less and less available lot area for even these types of system repairs.
  - (f) The impractical solution of "holding Tanks" because of homeowner pumping costs and enforcement problems. In addition, the sewage still has to be trucked at great energy and money costs to the K.N.S.G. sewage treatment plant versus being transported by a sewer main.



4. When our office overturned previously approved percolation tests the Administrative Judicial System upheld our decisions based upon testimony regarding failing septic systems. The Maryland Department of Environment provided technical and legal support of the denied septic system permit applications. It is to be noted, if there were no septic system failure problems then many of the existing vacant lots would be able to obtain a permit to build.
5. One of your Board members suggested each home could have their own "little sewage treatment plant" in lieu of one well run County Operated Sewage Treatment Plant. These "little package treatment plants" historically were produced by manufacturers at the requests of developers and builders. The developers were seeking some method to overcome the denial of building permits because of unsuitable lot and soil conditions for on-site waste disposal. Some states allow these technologies to treat and surface discharge the treated sewage wastes. My professional opinion is that it is unsound thinking to conclude that ultimately 1500+ individual homes each having their own little sewage treatment plant would operate correctly as a permanent wastewater disposal solution versus one main sewer collection pipe transporting the sewage wastes to a properly run E.N.R. Sewage Treatment Plant. In addition, 500,000 gallons of the County owned Plant (K.N.S.G.) is dedicated to the S.K.I. sewage disposal problem. The E.P.A. concludes that individual homeowner managed treatment plants across the nation are a failure because of lack of maintenance and lack of enforcement capabilities to assure their proper operation. The majority of these small treatment plants at best provide partial secondary treatment and not tertiary treatment to remove all the pathogenic organisms. Also, if these individual treatment units were a permanent wastewater disposal option, then it would be plausible the vacant lot owners could utilize the same technology to exercise their right to build.
6. Comments made at the 6/1/11 meeting suggested that "mound systems" were the solution to the septic system failure problem. Mound systems are a disposal technique that is site specific. They are not a "cure all" for all lot soil and site conditions; otherwise many of the vacant lots would be using this technology. When our office evaluates a vacant lot of record for on-site waste disposal and an existing home's septic system repair or replacement options, mound system potential is taken into consideration as an option.

Vacant lots have failed mound tests because of slowly permeable soils within the first 2 feet from ground surface. Infiltration rates ranged from 1/8 inch in 600 minutes to 1/4 inch in 800 minutes. Conventional mounds for subdivision of ground require infiltration rates no slower than 1 inch in 60 minutes. Alternative mounds for lots of record require infiltration rates no slower than 1 inch in 120 minutes. Innovative mounds for existing septic system repair require infiltration rates no slower than 1 inch in 240 minutes. All mounds require a seasonal high water table no closer than 2 feet from ground surface.

Soil conditions on Southern Kent Island in the first 2 feet from ground surface are clay, clay loams, silts, silt loams and sandy clay loams with poor soil structure. These soils normally will not pass mound tests. Even if soils could be found to pass infiltration tests, most lots have insufficient lot area and lot configuration to accommodate a mound system.

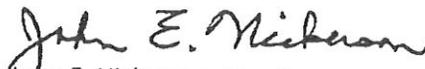
What our office has approved are elevated low pressure dosed sand lined trenches directly penetrating the groundwater into the water bearing sand strata. These trenches are elevated in an attempt to overcome high water tables. They help shed surface water, but typically adversely impact surrounding land by diverting rainwater to lower areas. Lay people and homeowners sometimes think these systems are "mound systems".

7. A regular septic system discharges approximately 60 mg/liter of nitrogen. A Best Available Technology ("BAT") septic system discharges approximately 20-30 mg/liter of nitrogen. The County owned KSNB enhanced nutrient reduction sewage treatment plant discharges approximately 2.5-3.0 mg/liter of nitrogen. Connecting septic systems to public sewer is an EPA and State of Maryland priority to help reduce nutrient pollution to the Chesapeake Bay and its Tributaries.
8. The State of Maryland's Revolving Loan fund and Grant finding should be sought to help defray the costs of the public sewer. Because of the public health concern the project should qualify for eligibility requirements even though it currently is not a priority funding area.
9. The County listed these failing septic system areas in their Master Water and Sewer Plan for over 30 years. The 1990 Master Water and Sewer Plan indicated the Kent Island Estate-Romancoke on the Bay area would be served with public sewer starting construction in Fy 1994. (Table 3-8 enclosed) The local Department of Health has been placed in the awkward position of responding to septic system repairs and failures, attempting to keep sewage wastes from ponding directly on the ground surface or running into drainage areas, while believing the County would follow their own Master Water and Sewer Plan and provide public sewer as a permanent solution.

In conclusion, it is my professional opinion public sewer is the proper permanent solution to the S.K.I. sewage disposal issues. The County already has a well run E.N.R. Sewage Treatment Plant with 500,000 Gallons of its capacity dedicated for this purpose. }

If I can be of further service please call me at 410-758-2281.

Sincerely,

  
John E. Nickerson, Director  
Environmental Health Services

CC: The Honorable Queen Anne's County Commissioners  
Mr. Gregg Todd, County Administrator, Queen Anne's County  
Mr. Todd Mohn, Director Queen Anne's County Dept. of Public Works  
Mr. Alan Quimby, Chief Sanitary District Engineer, Queen Anne's County  
Dr. Robert Summers, Secretary Maryland Dept. of Environment  
Dr. Chinnadurai Devadason, Health Officer, Queen Anne's County

TABLE 3-8

QUEEN ANNE'S COUNTY  
IMMEDIATE, 5- AND 10-YEAR PRIORITIES FOR  
SEWERAGE DEVELOPMENT

Fiscal Year and Project Number	County Priority	Coordinate Location	Description	Total \$ (x 1000)	COSTS			PROJECT SCHEDULE			
					PL 600 Eligibility	Other Federal	Local	Preliminary Plans	Financial Plans	Start Construction	Complete Construction
1990-01	1	425N 997E	Cloverfields	7,605				FY 1990	FY 1992	FY 1993	FY 1995
1990-02	2	413N 987E	Bay City	6,072				FY 1991	FY 1993	FY 1994	FY 1996
1992-01	3	Plant 397N 982E Overall 396W 975E	Southern Kent Island	6,621 7,661				FY 1992	FY 1993	FY 1994	FY 1998
1998-01	4	405M 1005E	Dominion Marling Farms	6,070				FY1998	FY 2000	FY 2000	FY 2002

Southern Kent Island Sanitary Project  
**Sanitary Sewer Service Only**  
**Estimated Costs per Connection**

Scenario Plan	Estimated Number of Connections	Economic Benefit Premium Cost <sup>(1)</sup>	Sanitary Sewer Service Base Cost <sup>(2)</sup>	Sewer Cost Paid Up Front <sup>(4)</sup>
<u>Plan A</u> - Serves All Lots Existing Homes =	1,512	\$0	\$10,584	\$10,584
Vacant Lots: 1,612 x 85% <sup>(3)</sup> =	1,370	\$30,000	\$10,584	\$40,584
<u>Plan B</u> - Excludes Large Blocks of Vacant Lots Existing Homes =	1,512	\$0	\$14,555	\$14,555
Vacant Lots: 1,052 x 90% <sup>(3)</sup> =	947	\$30,000	\$14,555	\$44,555
<u>Plan C</u> - Plan B + Excludes Lots with 40% Wetlands coverage Existing Homes =	1,512	\$0	\$18,917	\$18,917
Vacant Lots: 841 x 90% <sup>(3)</sup> =	757	\$30,000	\$18,917	\$48,917
<u>Plan D</u> - Plan C + Excludes Lots with 90% Floodplain coverage Existing Homes =	1,512	\$0	\$22,623	\$22,623
Vacant Lots: 593 x 90% <sup>(3)</sup> =	534	\$30,000	\$22,623	\$52,623
<u>Plan E</u> - Only Serves Existing Homes =	1,512	\$0	\$38,161	\$38,161
<u>Plan F</u> - Only Serves Existing Homes (STEP System & Satellite WWTP) =	1,512	\$0	\$53,552	\$53,552

(1) Economic Benefit Premium (EBP) cost may be assessed to vacant lots (similar to Cloverfields and Bay City Projects). The actual amount to be charged will be determined via a future property appraisal study.

The \$30,000 value is used for demonstration purposes.

(2) Plans A through E include \$5,950 Sewer Allocation Fee for KNSG Wastewater Treatment Plant. Plan F includes cost to construct new local wastewater treatment plants and STEP collection system.

(3) Plan A assumes a connection reduction of 15% and Plans B, C, & D assume a connection reduction of 10%. Connection reductions are at property owner's discretion (due to vacant lot combinations for example) or as may be required by other site constraints.

(4) Estimated cost for local plumber to abandon, disconnect and decommission existing On-Lot Septic Tank and connect property to public wastewater system (from home to street) is estimated to cost an additional \$2,500 to \$4,000 depending on field conditions.

" JMT

Southern Kent Island Sanitary Project  
**Sanitary Sewer Service Only**  
 PLAN

Estimated Annual Financing, Operation and Maintenance Costs

ESTIMATES

Scenario Plan	Estimated Number of Connections	Sewer & EBP <sup>(1)</sup> Costs Financed	Annual Debt Service (Sewer & EBP Costs) <sup>(2)</sup>	Annual O&M Costs	Total Annual Cost	Monthly Sewer Cost <sup>4</sup>
<u>Plan A</u> - Serves All Lots Existing Homes = Vacant Lots: 1,612 x 85% <sup>(3)</sup> =	1,512	\$10,584	\$904	\$485	\$1,389	\$116
<u>Plan B</u> - Excludes Large Blocks of Vacant Lots Existing Homes = Vacant Lots: 1,052 x 90% <sup>(3)</sup> =	1,370	\$40,584	\$1,243 103.5	\$485	\$3,952	\$329
<u>Plan C</u> - Plan B + Excludes Lots with 40% Wetlands coverage Existing Homes = Vacant Lots: 841 x 90% <sup>(3)</sup> =	1,512	\$14,555	\$1,243 103.5	\$485	\$1,728	\$144
<u>Plan D</u> - Plan C + Excludes Lots with 90% Floodplain coverage Existing Homes = Vacant Lots: 593 x 90% <sup>(3)</sup> =	947	\$44,555	\$3,806 317	\$485 40	\$4,291	\$358
<u>Plan E</u> - Only Serves Existing Homes	1,512	\$18,917	\$1,616	\$485	\$2,101	\$175
<u>Plan F</u> - Only Serves Existing Homes (STEP System & Satellite WWTP)	757	\$48,917	\$4,179	\$485	\$4,664	\$389
	1,512	\$22,623	\$1,933	\$485	\$2,418	\$201
	534	\$52,623	\$4,495	\$485	\$4,980	\$415
	1,512	\$38,161	\$3,260	\$485	\$3,745	\$312
	1,512	\$53,552	\$4,575	\$485	\$5,060	\$422

(1) Economic Benefit Premium (EBP) cost may be assessed to vacant lots (similar to Cloverfields and Bay City Projects).  
 The actual amount to be charged will be determined via a future property appraisal study.

(2) Annual Debt Service (Financing Cost) based on 20-Year term and 5.75% interest rate.  
 The \$30,000 value is used for demonstration purposes.

(3) Plan A assumes a connection reduction of 15% and Plans B, C, & D assume a connection reduction of 10%. Connection reductions are at property owner's discretion (due to vacant lot combinations for example) or as may be required by other site constraints.

(4) Estimated sewer costs shown do not include other potential infrastructure costs which may be required including water services, road upgrades, drainage work or stormwater management systems.

## SKI Finance Sub-Committee Report

March 31, 2011

The SKI-Finance Sub-Committee hereby submits this report to the SKI-Options & Construction Committee for review and consideration.

### Background

At the November 10, 2010 Public Works Advisory Board meeting, the SKI-Options & Construction Subcommittee presented their preliminary recommendations concerning the overall SKI Sanitary Project. This report is attached for reference as appendix 1. Public Works Advisory Board Chairman, Mike Warring, requested the SKI-Finance Subcommittee, chaired by Nick Stoer, to further review this suggested "three region" approach and report back with the following analysis:

1. Using the JMT Report, derive and quantify the respective costs associated with the Three Region approach to provide public sewer to the communities in the study area, and
2. Compare the total cost of the Three Region approach to Options A thru E as summarized in the JMT Report.

### Discussion

The attached cost summary provides the requested breakdown and comparison of the various original options A thru F, entitled "Route 8 Force Main Scenario" and the recommendations from the SKI-Options & Construction Committee, entitled "Three-Region Scenario". Furthermore, the following points are included to assist with and to further clarify this summary.

1. The estimated costs shown are for sewer service only.
2. The "Route 8 Force Main Scenario" cost options have been adjusted to reflect the no service recommendation to Tower Gardens (see appendix 1 report) as well as updating the treatment costs to 2011 dollars and reducing the number of vacant lots to be served due to potential lot combinations.
3. The "Three Region Scenario" recommends the construction of at least one additional small local "package" treatment plant. One for the Southern Region including the Kent Island Estate and Romancoke communities and possibly a second package plant for the Central Region which includes the Kentmorr and Queen Anne Colony Communities. Any expenses associated with staffing needs and life-cycle replacement costs for any particular type of package treatment plant are not included.
4. A funding package may be more easily obtainable if the overall scope of the "total" project is reduced. For example, if only one of the three regions is targeted for public sewer service. For Example, the Southern Region (Kent Island Estates and Romancoke) exhibits the greatest number of existing homes and vacant lots with an estimated 1,529 overall. This equals over 50-percent of the nine community study area. The total cost for a "Southern Region Only" scenario will be less expensive and may be easier for State and Federal Agencies to support and to allocate needed grant funding.
5. The Planning, design, permitting and solicitation of potential grant funding sources will consume an estimated 5-years based on a CPM Analysis conducted by the Finance Sub-Committee.
6. All estimates shown are representative of expenses relative to 2011 dollars.

## SKI Finance Subcommittee Cost Summary

3/30/2011

Issue: Given the costs indicated below, comparing the original scenario to service all communities (less Tower Gardens) via a 'trunk' force main along Rt 8 with the Regional option, which means of service is more desirable FROM A COST BASIS ONLY.

### Route 8 Force Main Scenario

<u>Plan</u>		<u>Cost (in \$M)<sup>1, 2</sup></u>	<u>Connections</u>	<u>Cost/Connection</u>
A	(all vacants)	65.1	2,657	\$ 24,501
B		58.5	2,369	\$ 24,694
C		59.9	2,128	\$ 28,148
D		56.7	1,880	\$ 30,160
E	(no vacants)	52.5	1,317	\$ 39,863
F		81.0	1,317	\$ 61,503

### Three Region Scenario

<u>Region</u>	<u>Plan</u>		<u>Cost (in \$M)</u>	<u>Connections</u>	<u>Cost/Connection</u>
Southern	Plan A	(all vacants)	35.3	1,529	\$ 23,087
	Plan E	(no vacants)	26.6	773	\$ 34,411
Central	Plan A	(all vacants)	17.1	711	\$ 24,051
	Plan E	(no vacants)	12.8	339	\$ 37,758
Northern <sup>2</sup>	Plan A	(all vacants)	15.1	417	\$ 36,211
	Plan E	(no vacants)	12.8	205	\$ 62,439
<b>Total</b>	<b>Plan A</b>	<b>(all vacants)</b>	<b>67.5</b>	<b>2,657</b>	<b>\$ 25,405</b>
	<b>Plan E</b>	<b>(no vacants)</b>	<b>52.2</b>	<b>1,317</b>	<b>\$ 39,636</b>

<sup>1</sup>Note: The Rt 8 values are derived by modifying the costs presented in Appendix 4 of the May 2010 JMT draft by deleting the infrastructure to serve Tower Gardens and by reducing the overall number of homes and lots. The cost estimates are further modified by reducing the number of vacant lots by 15% (Plan A) or 10% (Plans B-D) to present an equivalent comparison.

<sup>2</sup>Note: All KNSG allocation fees set to \$6,250 per property.

August 9, 2011

The Queen Anne's County Sanitary Commission met on this date and those present were:

Steven J. Arentz  
David L. Dunmyer  
Bob Simmons  
Philip L. Dumenil  
Dave Olds

Mr. Todd Mohn, Director of the Department of Public Works, Mr. Alan Quimby, Chief Sanitary Engineer and Mr. Shane Moore, Chief Roads Engineer met with the Board.

On a motion made by Commissioner Dunmyer, seconded by Commissioner Simmons, the Board unanimously agreed to approve the Sanitary minutes of the July 12, 2011 meeting and ordered them stand as recorded.

**SOUTHERN KENT ISLAND SANITARY PROJECT:**

Mr. Michael Warring, Public Works Advisory Board Chairman and Mr. David Azar presented to the Board for their review of Southern Kent Island Sanitary Project.

The Public Works Advisory Board met July 13, 2011 and approved "Recommendation 01-2011 Southern Kent Island Sanitary Project".

The subject of serving the Southern Kent Island (SKI) communities was both complex and controversial. Opinions and emotions on both sides of the issue were strong. On one side, existing residents were concerned by new in-fill growth and the cost of providing the sewer service. On the other side, vacant lot owners have been anticipating sewer service in order to make their properties usable as they have been paying property taxes for many decades. There was even an attempt by some members of the Advisory Board, as well as the public, to discredit even the basic premise that there was in fact a septic problem in the area despite repeated expert testimony to the contrary. In the end, this viewpoint was soundly rejected by the majority of the Advisory Board.

In order to complete this task, which has taken in excess of four years involving dozens of Advisory Board subcommittee meetings, the engineering firm Johnson Mirmiran & Thompson, Inc. (JMT) was contracted to provide technical assistance and develop a report detailing their findings. This report has been available on the County's web page for many

months. In addition, in order to keep the public informed and to gather feedback, two Public Informational Meetings were held during the study period. These meetings were very well attended and are documented in the final JMT Report. This was an extremely complex undertaking and while staff presents recommendations, there was a multitude of remaining tasks that need to be cooperatively undertaken by various State and County Agencies in order to initiate, and bring this project to fruition.

It is the recommendation of the Public Works Advisory Board that Southern Kent Island be served with public sewer service via a denied access "trunk line" with the following stipulations:

1. The County should work with MDE and/or other funding agencies to identify and secure grant funding of sufficient value to construct a public sewer "trunk line" in order to reduce the financial burden and carrying costs associated with this component of a public sewer extension.
2. The service area should be limited to the nine communities (Matapeake Estates, Normans, Sunny Isle of Kent, Chesapeake Estates, Kentmorr, Queen Anne's Colony, Kent Island Estates, Romancoke on the Bay, and Tower Gardens) identified with uncorrectable failing septic systems.
3. Once the trunk line has been installed, the project can be further implemented via a multi-phased approach (i.e. community-by-community or by groups of communities) in order to responsibly pace any infill development that may result with the extension of public sewer.
4. Service to vacant lots within each community should be determined at such time that a new phase or community project is initiated.

After a discussion, on a motion made by Commissioner Dumenil, seconded by Commissioner Olds, Commissioners Dunmyer and Simmons opposed, the Board agreed to direct staff to proceed with recommendation #1.

Commissioners	Yes	No
Arentz	x	
Dunmyer		x
Simmons	x	x
Dumenil	x	
Olds	x	

**PUBLIC WORKS ADVISORY BOARD:**

After a discussion, on a motion made by Commissioner Arentz, seconded by Commissioner Dumenil, Commissioner Simmons and Dunmyer opposed, the Board agreed to dissolve the Public Works Advisory Board, thank them for their time and service and if we do need another PWA Board, appoint one at that time.

Commissioners	Yes	No
Arentz	x	
Dunmyer		x
Simmons		x
Dumenil	x	
Olds	x	

**SOLIDWASTE**

**TRANSFER STATION SERVICE REDUCTION REPORT:**

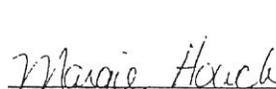
Mr. Moore presented to the Board for their review of the April 2011 through June 2011 Transfer Station Service Reduction Analysis.

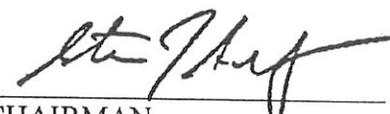
This analysis uses both Labor Costs and Tonnages comparisons to Quantify results of the 48% reduction in transfer station operational hours, effective March 28, 2011. As part of the analysis the last Quarter of fiscal year 2011 (April - June) were compared to the same time period of fiscal year 2010.

Transfer station service hour reductions have resulted in 24% reduction in labor costs and a 19% reduction in tonnages.

Staff will continue to monitor the program and provide updates on a periodic basis.

There being no further business, the Board adjourned to meet again on Tuesday, September 13, 2011.

 <sup>(L)</sup>  
 EXECUTIVE ASSISTANT

  
 CHAIRMAN