WASTEWATER ADVISORY COMMITTEE

A G E N D A

TOWN OF CHINCOTEAGUE, VIRGINIA

February 21, 2013, 9:00 A.M. – Council Chambers - Town Hall

CALL TO ORDER

ROLL CALL

AGENDA ADDITIONS OR ADOPTION

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1. Town Council Report Outline
2. Size of the WWTP/Phase One
3. Cost Information Summary from Research Materials
4. Rank Elements from the Matrix of Alternatives
5. Committee Member Comments

ADJOURN

OUTLINE February 15, 2013

REPORT TO THE TOWN COUNCIL OF CHINCOTEAGUE ISLAND

WASTEWATER ADVISORY COMMITTEE

1. **Executive Summary**
2. **Introduction**
   - 2.1 Purpose
   - 2.2 General
   - 2.3 Phase I Wastewater Service Area
3. **Regulations**
   - 3.1 Federal
     - 3.1.1 EPA/Clean Water Act
     - 3.1.2 Natural Estuary Program
     - 3.1.3 US Department of the Interior (NPS/USFWS)
   - 3.2 State (Commonwealth of Virginia)
     - 3.2.1 DEQ
     - 3.2.2 Health Department
     - 3.2.3 VMRC
   - 3.3 Accomack County
   - 3.4 Town of Chincoteague
4. **Collection Systems**
   - 4.1 Gravity
   - 4.2 Vacuum
   - 4.3 Low Pressure
5. **Wastewater Treatment Facility Types**
   - 5.1 Regional
   - 5.2 Centralized
   - 5.3 Decentralized Public
   - 5.4 Decentralized Private
   - 5.5 Individual Private
6. **Methods of Disposal**
   - 6.1 Rapid Infiltration Basins on Mainland
   - 6.2 Deep Well Injection
   - 6.3 Ocean Outfall Pumping
   - 6.4 Ocean Outfall Barges
   - 6.5 Overboard Discharge to Channel or Bay
   - 6.6 Reuse, Land Application, Fowling Gut
7. **Financial**
   - 7.1 Costs
     - 7.1.1 Capital (First) Costs
     - 7.1.2 Recurring (Operating) Costs

7.2 Opportunities
7.2.1 Grants
7.2.2 Loans
7.2.3 Municipal Bonds
7.3 Private vs. Public
7.3.1 Public Service Authority (PSA)
7.3.2 Design/Built/Operate/Transfer
8. Matrix of Alternatives
9. Options, Future Steps and Public Information Strategy
10. Conclusions and Recommendations

Appendix I-Relevant Facts
Appendix II - Opinion Survey
Appendix III- Wastewater Phase I Service Area Map
Appendix IV – Newsletters
Appendix V – Acronyms, Abbreviations and Definitions

Wastewater Advisory Committee

Work Session

1 February 2013

Informational Meeting Notes

Members Present:	Members Absent:
Mr. Spiro Papadopoulos, Chair	
Mr. Kelly Conklin	
	Mr. Scott Chesson
	Mr. Mike Tolbert
	Mr. Tommy Clark
	Mayor Jack Tarr
Guests: None	
Staff: Robert Ritter, Town Manager	
	Harvey Spurlock
William Neville, Planning Director	
Public Present: None	

Chairman Papadopoulos summarized his thoughts and concerns for the need to propose a wastewater management plan on Chincoteague Island that is based on a water conservation approach. Essentially the first step should just consider the proposed Phase One commercial corridors and require the use of water saving fixtures and practices so that the existing water supply system is not overwhelmed.

There was discussion that the economic engine of tourism would benefit from a public wastewater treatment system, however it may also drive the need for a new water tower, additional groundwater supply, and limit options for discharge of the treated water if not carefully planned. Mr. Papadopoulos suggested the following steps to confirm a preferred strategy:

- **Define a realistic size**
- **Define a method of disposal**
- **Define a collection system**
- **Review pros/cons and costs based on available studies**
- **Identify regulatory steps and actions needed**

An initial size for the Phase One wastewater treatment service area was proposed for 100,000 gallons per day (gpd). Other elements of the utility infrastructure may need to be sized in anticipation of future incremental expansions of 100,000 gpd. Completion of the system was proposed to not exceed the current peak water use of 1.2 million gpd.

The subject of a 3rd newsletter was proposed to describe the modular 'one step at a time' approach to design of the wastewater treatment utility system, that connection would be non-mandatory, and what it will cost. This edition should inform the public about the

reasons to pursue this course of action and why it makes sense. It was agreed that the committee's work should be a quick summary of what we have learned and what actions are recommended to keep this effort from becoming another 'report on the shelf'.

Part of the message will need to be that a wastewater treatment system is a basic utility that we need as a Town to meet the needs of the future, and the expectations of new residents, visitors and business owners.

The next meeting of the Committee will be held on February 21, 2013 at 9am.

Cost Information Summary from Research Materials[i]

The following cost information for wastewater treatment system alternatives was compiled from recent research by other similar coastal communities.

Type	Capital Cost (per property served)	Estimated Unit Cost per gpd of capacity	Operations / Maintenance (annual per property served)	Estimated Unit Cost per gpd of capacity	Equivalent Annual Cost (5%, 20 yrs)	Effluent Nitrogen Concentration (mg/l)
Individual Septic tank and drainfield (175 to 350 gpd)	$13,000	$37	$110	$0.31	$1,150	26
Individual system with nitrogen removal	$26,000	$74	$2,000	$6	$4,090	13 to 19
Cluster system (up to 30 homes) 10,000 gpd	$48,300	$70	$1,050	$3	$4,920	8 to 15
De-centralized system (300 homes) 100,000 gpd	$51,300	$35	$1,360	$4	$5,480	6 to 8
Centralized system (3,000 homes) 1 mgd	$42,900	$17	$500	$2	$3,940	5

* Collection System: $17,000 to $20,000 per property

Cape Charles WWTP (1150 customers) 250,000 gpd	$15,652 ($35,000 with new collection system)	$72	$695	$3.20	$1,400	ChesBay TMDL (5)

($10,000 connection fee, $65-85 per month fee for water/wastewater/trash, $14M grants, $5M financed)

[i] ***COMPARISON OF COSTS FOR WASTEWATER MANAGEMENT SYSTEMS APPLICABLE TO CAPE COD***
Guidance to Cape Cod Towns Undertaking Comprehensive Wastewater Management Planning
Prepared by: Barnstable County Wastewater Cost Task Force
April 2010

Matrix of Alternatives

Consideration of pros, cons, and costs should lead the Committee to establish a ranking on a scale of 1-10. Notes and comments will be included to document this process. The combination of alternative portions of a wastewater utility system will lead to several Options that are the most practical and cost effective.

Alternatives Matrix

	Pros	Cons	Costs	Rank	Notes and Comments
Collection System					
Gravity Sewer					
Vacuum Sewer					
Low Pressure Sewer					
Treatment Facility					
Regional					
Centralized					
De-Centralized Public					
De-Centralized Private					
Individual Private					
Method of Disposal					
Rapid Infiltration Basins on Mainland					
Deep Well Injection					
Ocean Outfall					
Overboard Discharge to Channel or Bay					
Reuse, Land Application, Fowling Gut Discharge					
Financing Options					
USDA Rural Development					
EPA/State Revolving Loan Fund					
DHCD/CDBG					
Private PPEA					
Public Service Authority					
Municipal Bond					