

TOWN OF CHATHAM

Summary of
Draft Comprehensive Wastewater Management
Plan/ Draft Environmental Impact Report
(DCWMP/DEIR) and
Notice of Project Change

Summer Residents Advisory Committee

August 5, 2008

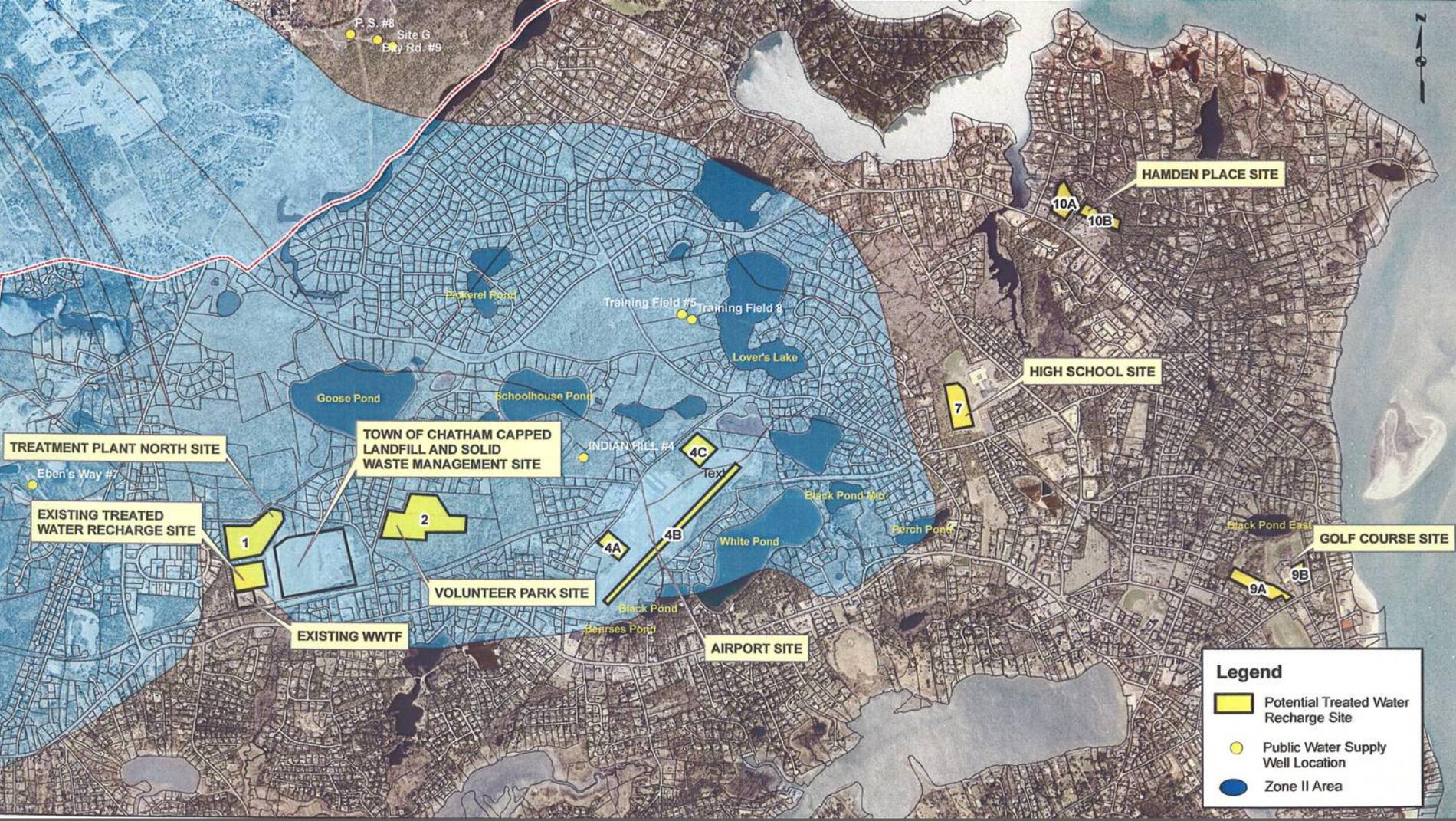
Alternatives Evaluation Summary: Watershed Evaluations



Summary of Typical Nitrogen Removals for the Wastewater Management Options

Technology	Typical Nitrogen Concentration in the Effluent	Typical Percent Removal
Title 5 Septic System	20 to 40 mg/l	23%
Individual Nitrogen Removal Septic System	15 to 25 mg/l	50%
Community/Cluster System	5 to 15 mg/l	75%
Upgraded Chatham WWTF	3 mg/l	93%

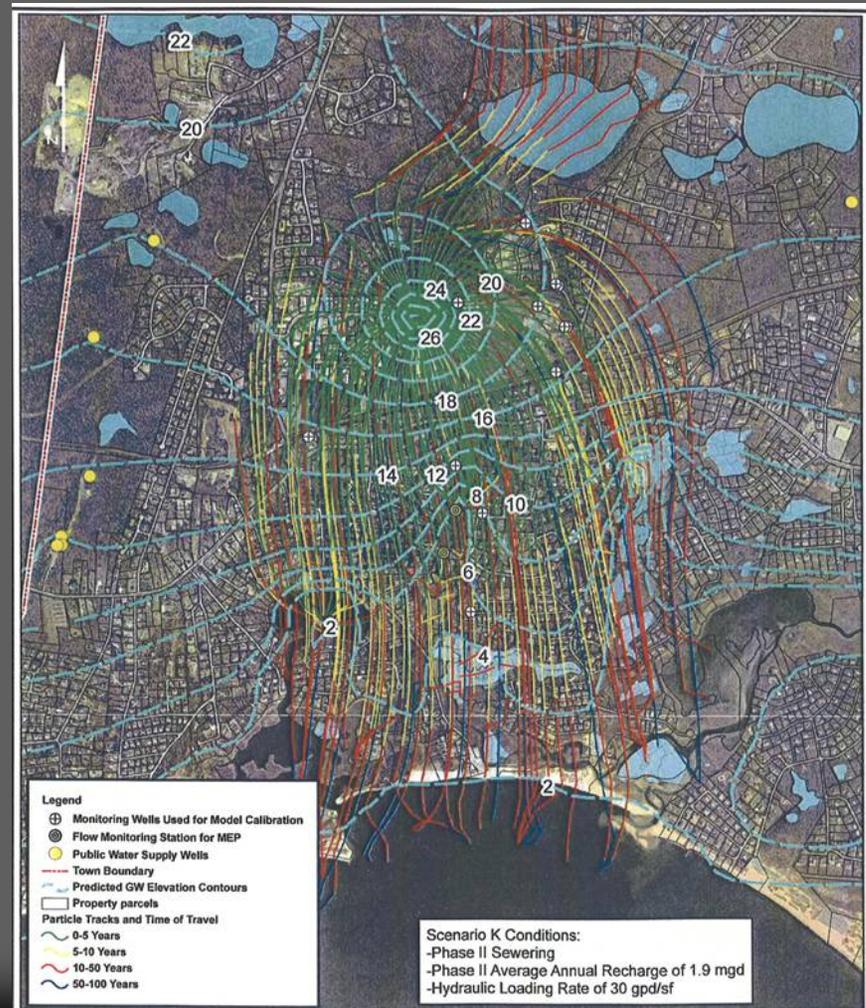
Alternatives Evaluation Summary: Hydrogeologic and Site Evaluations



Alternatives Evaluation Summary: Hydrogeologic and Site Evaluations

⇒ Hydraulic load testing and groundwater modeling demonstrates that:

- The WWTF site can accommodate an expansion to 1.9 mgd with no adverse impacts
- The recharge will not adversely impact the capped landfill or the groundwater at the landfill site



Alternatives Evaluation Summary: Watershed Evaluations

Summary of Findings

- ⇒ Large areas of Chatham need to remove > 50% of the wastewater nitrogen to remediate embayment water quality and the related water resources
 - This nitrogen removal performance is best met with collection and treatment at an Upgraded Chatham WWTF
- ⇒ Plan sewer extensions to meet nitrogen-removal goals, as well as other Town goals of:
 - Low Cost
 - Fiscal Fairness
 - Fewer Raised Systems
 - Address needs in Other Areas of Concern

Alternative Plan Formation and Evaluation

Plan No. 1: No Action Alternative

Plan No. 2: Combination of Sewers and I/A Technology in Selected Watersheds

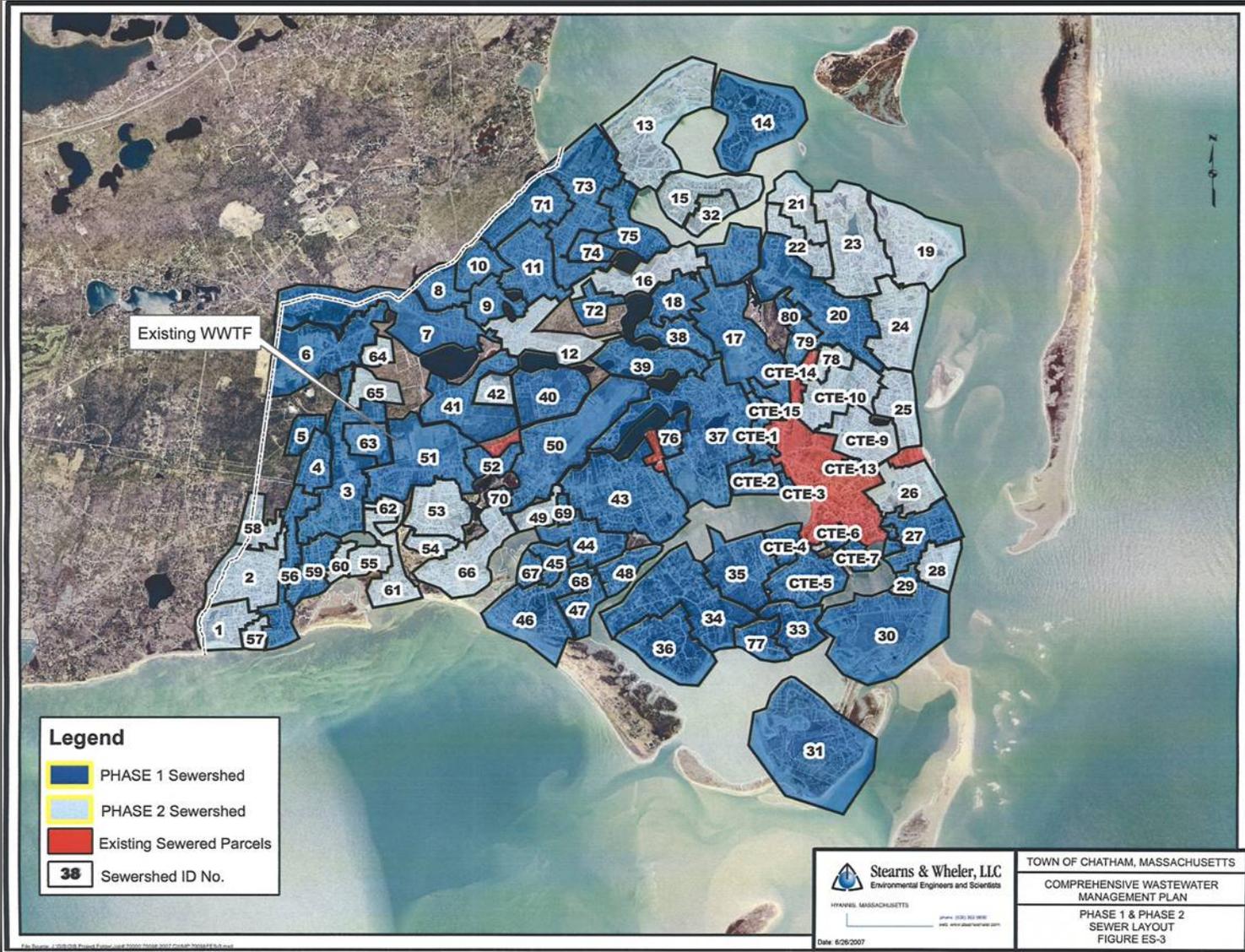
Plan No. 3: Sewer Extension to Meet Nitrogen TMDLs

- Average Annual Flow is ~ 1.3 mgd

Plan No. 4: Town-Wide Sewer Extension

- Average Annual Flow is ~ 1.9 mgd

The Recommended Plan: Phase 1 and 2 Sewer Extension Areas

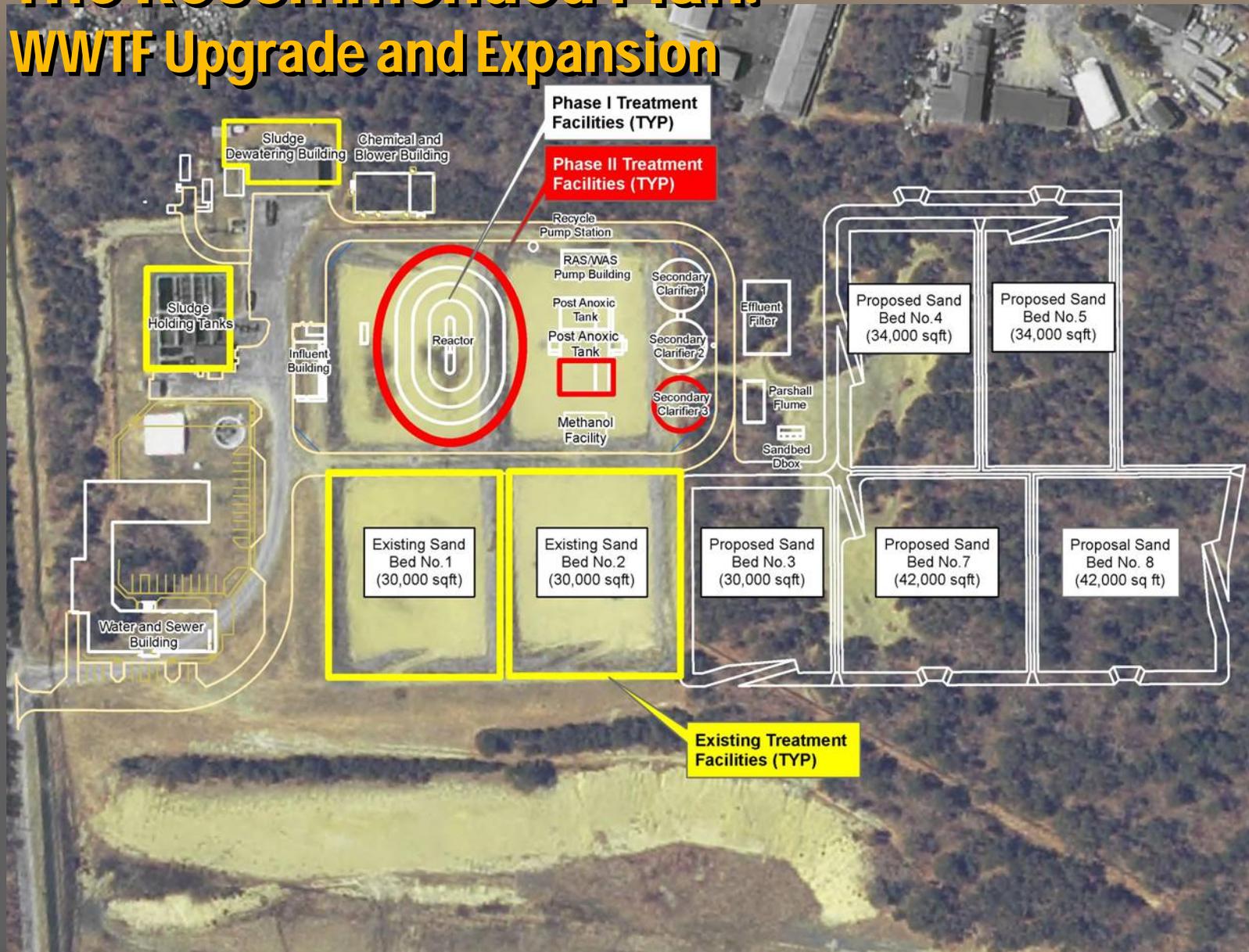


The Recommended Plan:

WWTF Flows

CONDITION	PHASE I FLOWS TOTAL (MGD)	PHASE II FLOWS TOTAL (MGD)
Startup Minimum Month Flow	0.08	0.8
Average Annual Flow	1.3	1.9
Average Summer Design Flow	1.8	2.7
Minimum Month Design Flow	0.8	1.2
Maximum Month Design Flow	2.1	3.1
Peak Day Design Flow	2.3	3.5
Peak Hourly Design Flow	3.5	5.1

The Recommended Plan: WWTF Upgrade and Expansion



The Recommended Plan: WWTF Upgrade and Expansion



The Recommended Plan: Costs

Total Phase 1 and 2 Cost Summary (in Millions of Dollars)			
Component	Capital Costs Phase 1⁽¹⁾	Capital Costs Phase 2 (1)	Capital Costs Total ⁽¹⁾
WWTF upgrade and expansion			
Construction Costs	\$25	\$6.0	\$31
Contingencies	\$5.0	\$1.2	\$6.2
Fiscal, Legal, and Engineering	<u>\$4.9</u>	<u>\$1.6</u>	<u>\$6.5</u>
Total	\$35	\$8.8	\$44
Collection System Expansion			
Construction Costs	\$110	\$60	\$170
Contingencies	\$28	\$14	\$42
Fiscal, Legal, and Engineering	<u>\$28</u>	<u>\$14</u>	<u>\$42</u>
Total	\$170	\$88	\$250

⁽¹⁾ All costs are rounded to two significant digits and are referenced to a date of June 2007.

Fiscal Planning

- ⇒ Town-wide approach
- ⇒ Affordability
- ⇒ Fiscal Credibility
- ⇒ Identify All Costs:
 - Betterment
 - Connection Fees
 - Annual User Charges
 - Tax Rate

“To demonstrate the fiscal impact of the implementation of the Wastewater Plan, and thereby the affordability of the balance of the capital facility plan.”

Demonstrate the worst case fiscal impact to homeowners.

Discuss betterment versus property tax options.

Funding Sources

➤ Local

- Debt Drop-off
- Real Estate Transfer Tax
- Property Tax
 - Deductible
- Betterment
 - Improves Value to Homeowner (some versus all)
 - Payment May be Banked by Town
 - Not Deductible

➤ Federal and State

- State Revolving Fund (SRF)
 - Pending O'Leary Legislation
 - SRF funds targeted to Cape Cod
 - Eligible towns able to borrow @ 0% interest versus current 2%
- USDA, Rural Development, Rural Utilities Service
 - Low interest loans
 - Grants

The Recommended Plan: Implementation Schedule

Short-Term Implementation

- ⇒ April 30, 2008: DCWMP/DEIR Submitted to MEPA
- ⇒ June 13, 2008: Received MEPA comments and prepare Final CWMP/FEIR
- ⇒ September 2008 : Projected Final CWMP/FEIR Submittal to MEPA
- ⇒ November 2008: Expected MEPA approval
- ⇒ December 2008: Expected CCC approval

The Recommended Plan: Implementation Schedule

Phase 1 Implementation for WWTF Upgrade and Expansion

⇒ 24 Months:

- WWTF design
- SRF funding requests
- MassDEP review
- Bidding and award

⇒ 36 Months: Construction



The Recommended Plan: Implementation Schedule

Phase 1 Implementation for Collection System Expansion

⇒ 20 Years in phased approach:

- Design
- SRF funding requests
- MassDEP review
- Bidding and award
- Construction



QUESTIONS

The DCWMP/DEIR and supporting documents are available at the Eldredge Public Library and are located on the Town web site:

http://www.chatham-ma.gov/public_documents/ChathamMa_CWMPPlan/CWMP