

# Concord, Massachusetts

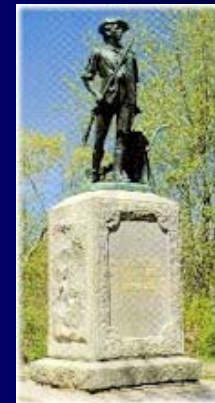


## *Wastewater Planning Services: Phase II*



**November 14, 2002**

**Town-wide  
Informational  
Meeting**



# Concord Wastewater Planning

## Opening Comments

- ✓ What we covered at Previous Neighborhood Meetings:
  - Recapped wastewater planning process
  - Discussed Needs results (934 parcels with on-site disposal issues)
  - Presented the menu of wastewater management options and choices for the different areas of town
  - Obtained neighborhood feedback
  
- What we will cover tonight :
  - Present the Preliminary Recommended Plan
  - Present costs and cost-impacts
  - Present information on the on-site management program
  - Present information on the growth management program
  - Continue to obtain public feedback

# ***Concord Wastewater Planning***

## ***What is a CWMP?***

- A Comprehensive Wastewater Management Plan (CWMP) is a guidance document on the town's wastewater management over the next 20 years.
- A CWMP generally includes:
  - Needs Evaluation
  - Alternatives Evaluation
    - Enhanced on-site program
    - Connection to existing sewer system and WWTP
    - Cluster/Neighborhood Treatment Systems
  - Environmental Impacts Evaluation (including Growth)
  - Costs and Financial Plan

# ***Concord Wastewater Planning***

## ***Why do we need a CWMP?***

- The Town of Concord needs to prepare a CWMP because...
  - It is a legal requirement of the discharge permit for the existing WWTP (off Bedford Street) issued by the EPA and Massachusetts DEP.
  - The Needs Analysis completed in 2000 has identified areas of Town that need an alternative to current wastewater disposal methods.
  - Careful, long-term planning makes sense. Well managed towns plan for their future.

# ***Concord Wastewater Planning***

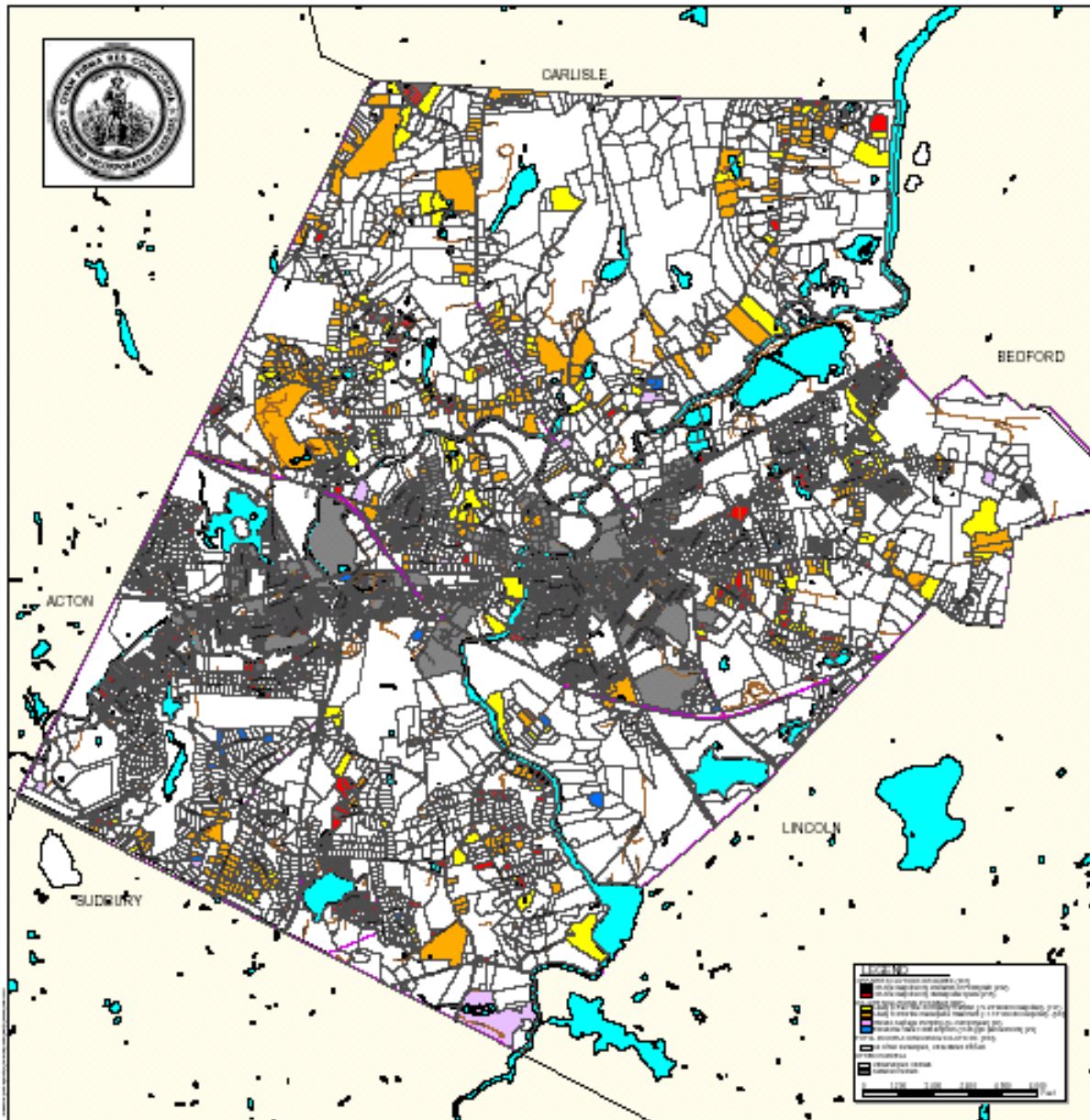
## ***Work Completed in the CWMP***

- The Town Manager appointed a citizen Wastewater Planning Committee (WPC) in 1999—19 meetings held to date.
- 2 published documents were created under the Phase 1 planning effort.
- 11 community meetings were held during CWMP Phase 1, and an additional 4 community meetings have been held to date under Phase 2.
- 15 WPC Newsletters have been distributed to date.

# Concord Wastewater Planning

## Work Completed and Remaining in the CWMP

- ✓ Needs Analysis
  - ✓ Preliminary Alternatives Analysis
- } Work performed 1999-2000
- Final Alternatives Analysis/CWMP
  - Growth Management Plan
  - On-site Systems Management Program
- ↓
- Community & Regulatory Approval
- } Work currently being finalized



NEEDS ASSESSMENT- PARCELS REQUIRING SOLUTIONS  
Comprehensive Wastewater Management Plan  
Concord, Massachusetts

Source: 8/8/03, Town of Concord, Bedford & County, State Environmental Inc., Lombardo & Associates, Inc.



Environmental Engineers/Consultants  
**LOMBARDO ASSOCIATES, INC.**

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

Phase 1 Maximum Plan



Removed areas where on-site solutions  
are feasible and/or appropriate



Re-evaluated some of the previously  
proposed cluster solution areas



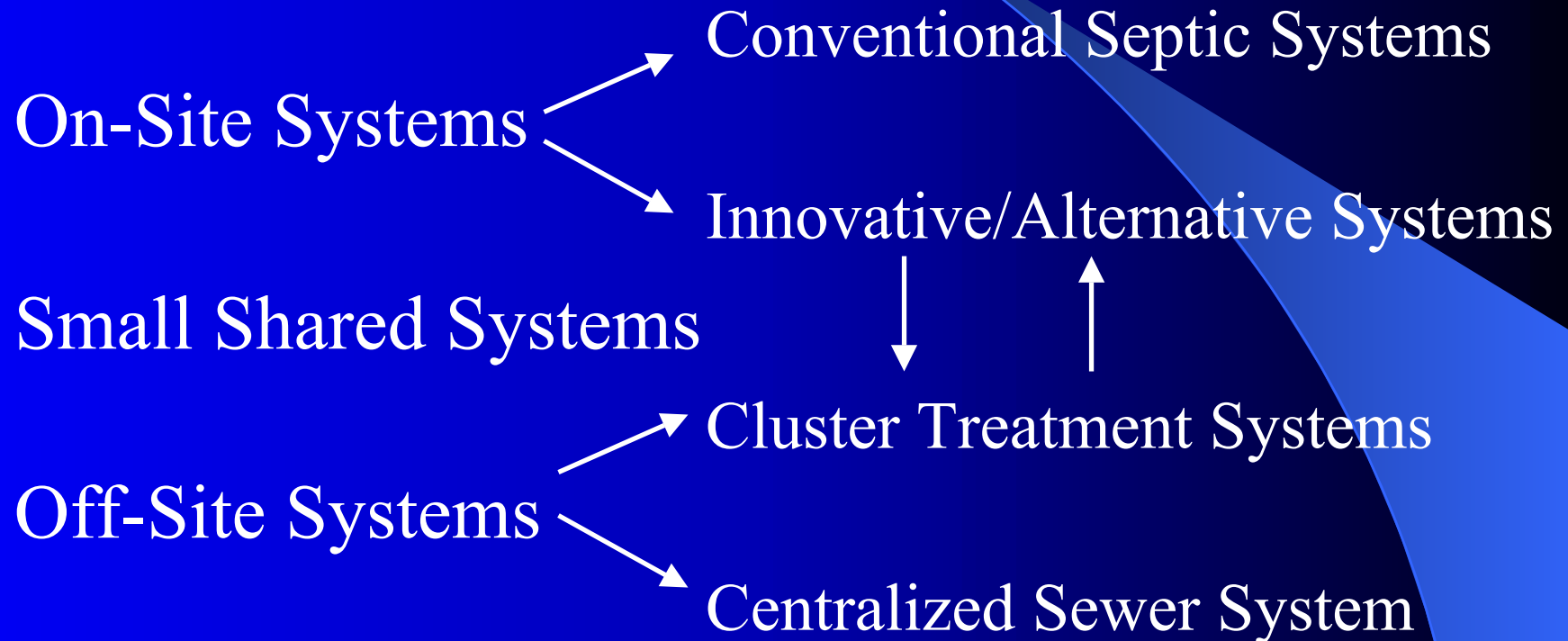
**The Preliminary Recommended Plan**



# Concord Wastewater Planning

## Basic Definitions

The Preliminary Recommended Plan includes:



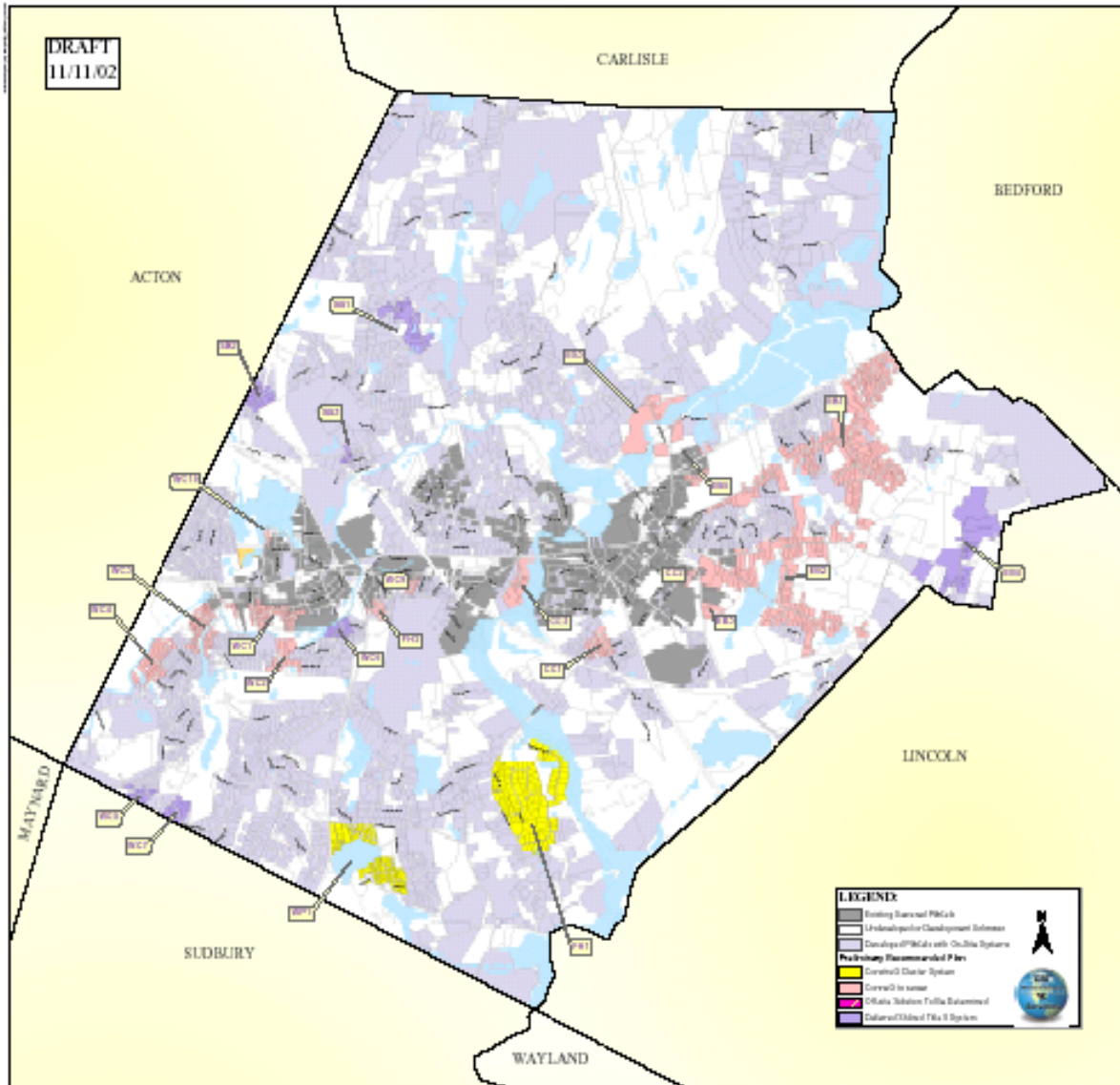
# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **The Preliminary Recommended Plan includes:**

- Sewer connection for several neighborhoods in Elm Brook, Concord Center and West Concord.
- Localized clusters for immediate White Pond Area and for Conantum (Kalmia Woods Association) Area.
- Enhanced on-site management plan for remaining septic systems.

DRAFT  
11/11/02



PRELIMINARY RECOMMENDED PLAN AREAS  
TOWN OF CONCORD, MASSACHUSETTS



Weston & Sampson  
ENGINEERING, INC.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **Summary of Parcels Served in the Preliminary Recommended Plan:**

- 979 Total parcels served under the Plan. (+/-)
- 51% of parcels with identified need for off-site wastewater management served under the Plan.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **Phasing the Recommended Plan:**

#### **Phase 1 (Years 1-4):**

- Sewer for Prairie Street Area and Bedford Street Area.
- 359 parcels served.

#### **Phase 2: (Years 4-6)**

- Sewer for Walden Street Area, Great Meadows Area and Magnolia Street Area.
- Clusters for White Pond and Kalmia Woods Areas.
- 263 parcels served.

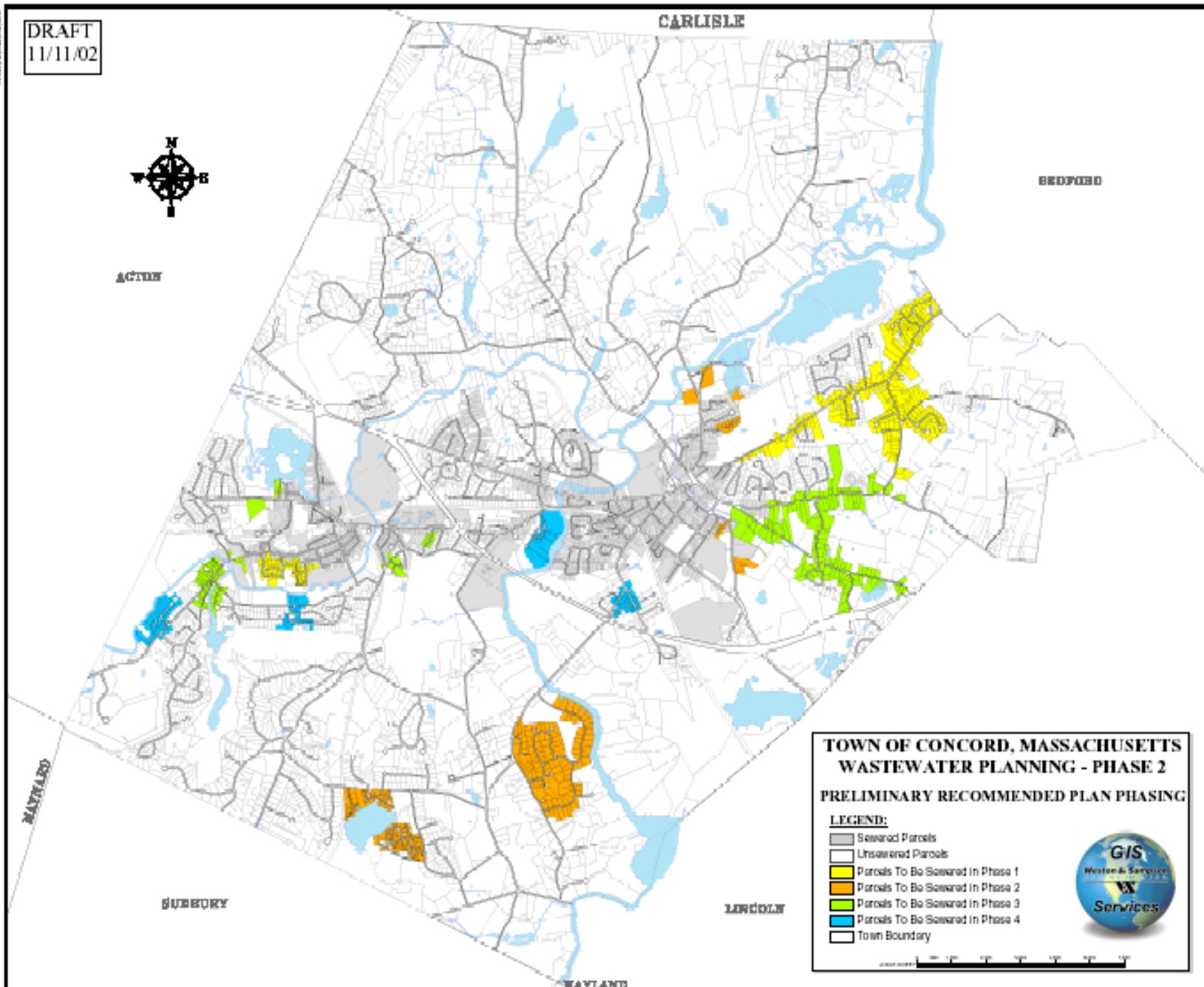
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CARLISLE



ACTON

BEDFORD



**TOWN OF CONCORD, MASSACHUSETTS  
WASTEWATER PLANNING - PHASE 2  
PRELIMINARY RECOMMENDED PLAN PHASING**

- LEGEND:**
- Sewered Parcels
  - Unsewered Parcels
  - Parcels To Be Sewered In Phase 1
  - Parcels To Be Sewered In Phase 2
  - Parcels To Be Sewered In Phase 3
  - Parcels To Be Sewered In Phase 4
  - Town Boundary



# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **Phasing the Recommended Plan *(continued)*:**

#### **Phase 3: (Years 6-8)**

- Sewer for Lexington Road Area, Sunnyside Lane Area, Meadow Ridge Road Area, MacArthur Street Area and Hayward Road Area.
- 243 parcels served.

#### **Phase 4: (Years 8-10)**

- Sewer for Harrington Avenue Area, Coolidge Road Area, Fairhaven Road Area and North Branch Road Area.
- 114 parcels served.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **The Preliminary Recommended Plan Costs:**

What are the costs?

➤ Collection System Costs:	\$ 10.9 million
➤ Transmission System Costs:	\$ 4.1 million
➤ Treatment & Disposal Costs:	\$ 3.1 million
➤ Engineering & Contingency:	<u>\$ 8.2 million</u>
Total	\$ 26.3 million



# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **The Preliminary Recommended Plan Costs:**

#### **On-lot Installation Costs**

- Town-wide On-lot Costs\*: \$2.4 million
- Typical Homeowner's Cost: \$1,500
- Range of Costs: \$1,000 to \$8,000

\* Costs associated with connecting sewers to individual properties. These costs are paid by individual property owners.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

**Cost Allocation:** Who should pay for what portion of the Project Costs?

- Those who are Served/Bettered by the project
  - ❖ Costs that can be attributed to the specific benefit of having an off-site solution available for use.
- Local Taxpayers
  - ❖ Costs attributed to overall town benefits.
- Existing and new Sewer System Users
  - ❖ Costs associated with Sewer System benefits, e.g. contributing flows.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

### **Cost Allocation: What are the benefits?**

#### ➤ **Specific Benefits for those Served**

- ❖ Have an off-site solution available for use.
- ❖ Responsibility for treating and disposing of your wastewater is transferred to the Town.
- ❖ Betterment Cost is off-set by an increase in property equity.

#### ➤ **Overall Town Benefits**

- ❖ Reduced number of Title 5 variances.
- ❖ Increased protection of public health.
- ❖ Improved surface water and groundwater quality.
- ❖ Improvements to existing sewer system.

# ***Concord Wastewater Planning***

## ***Final Alternatives Analysis***

- The proposed allocation of costs...
  - ❖ Betterments: 85% (\$22.4 million)
  - ❖ Local Taxes: 10% (\$2.6 million)
  - ❖ User Charges: 5% (\$1.3 million)
  
- Federal & State Grants – No longer available

# Concord Wastewater Planning

## Final Alternatives Analysis

### Cost Allocation: Costs to Individual Homeowners

	New Sewer User	Current Sewer User	Non-Sewer User
<b>One-time Cost</b>			
Sewer Improvement Fee (3 bedroom home)	\$5,200	-	-
<b>Annual Cost</b>			
Betterment Cost (\$16,000-one time)	\$1,250*	-	-
Local Tax Impact (\$500,000 home)	\$20	\$20	\$20
User Charge Impact	\$650	\$30 increase	-
<b>Total Annual Cost</b>	<b>\$1,920</b>	<b>\$50</b>	<b>\$20</b>

\* Financed over 20 years at 5% interest

# **Concord Wastewater Planning**

## **Final Alternatives Analysis**

### **Cost Allocation: Costs to Varying New Sewer Users**

	<b>Typical Small Home/ Empty Nest</b>	<b>Typical Medium Home</b>	<b>Typical Large Home on Larger Parcel</b>
Number of Bedrooms	2	3	5
Water Use (gallons per day)	110 gpd	160 gpd	270 gpd
Approximate Home Value	\$300,000	\$500,000	\$1,000,000
<b>Sewer Improvement Fee</b>			
Sewer Improvement Fee	\$3,500	\$5,200	\$8,600
<b>Annual Betterment Cost</b>			
Annual Betterment Cost	\$1,250*	\$1,250*	\$1,250*
<b>Annual Local Tax Impact</b>			
Annual Local Tax Impact	\$12	\$20	\$40
<b>Annual User Charge</b>			
Annual User Charge	\$430	\$650	\$1,080

\* Financed over 20 years at 5% interest

# ***Concord Wastewater Planning Break***

**Residents are invited to review:**

- **Needs Map**- Was your lot identified as having a potential need for an off-site alternative?
- **Preliminary Recommended Plan Map**- Is your lot currently proposed to be served by an off-site solution?
- **Preliminary Construction Phasing Map**- If you are considered in the Preliminary Recommended Plan, what phase are you in?

# ***Concord Wastewater Planning***

## ***Growth Management Plan***

- The Phase I Comprehensive Wastewater Planning effort identified the need for a Growth Management Committee and consultant assistance.
- The Planning Board is designated the Growth Management Committee and has hired a consultant to work with them (Horsley & Witten).



# ***Concord Wastewater Planning***

## ***Growth Management Plan***

- Title V

Once a new off-site solution is implemented, regulations no longer apply.
- New off-site solutions require the town and its residents to prepare a growth management plan for their neighborhood.

# ***Concord Wastewater Planning***

## ***Growth Management Plan***

We can't "just say no".

State law and case law:

- Prohibits dictating the size of a single-family residence.
- Allows sewer connections if the sewer is in front of your property.

# ***Concord Wastewater Planning***

## ***Growth Management Plan***

Before we propose growth management tools we need your help:

- To recognize that wastewater planning solutions solve health, environmental and aesthetic problems, but don't limit growth.
- To recognize that we need to manage growth so we don't lose the benefits of wastewater planning solutions.
- To identify neighborhood values.
- To draft appropriate growth management tools .
- To support adoption of these tools at Town Meeting.

# ***Concord Wastewater Planning***

## ***Growth Management Plan***

Three neighborhoods have been identified:

- West Concord
- Elm Brook
- White Pond

Each neighborhood has unique and important characteristics.

# ***Concord Wastewater Planning Growth Management Plan***

Some of the tools used to manage growth include:

- Create new overlay districts
- Increase setbacks
- Extend historic districts (where appropriate)
- Limit development potential of large lots
- Acquire open space
- Require cluster development
- Limit capacity of Neighborhood Treatment Systems to accommodate existing buildings.

# ***Concord Wastewater Planning***

## ***Growth Management Plan***

### **Action Plan**

- Meet with individual neighborhoods
- Distribute a questionnaire to neighborhoods
- Present findings at 2003 Annual Town Meeting
- Prepare growth management options for future Town Meetings

**Prepare growth management options for future  
Town Meetings**

# Concord Wastewater Planning

## On-site Wastewater Management Program

On-Site Wastewater Needs:

Parcels Not Included in the Recommended Plan for Sewers or Cluster Systems

	In an Aquifer Protection Area	Not in an Aquifer Protection Area
Parcels in floodplains or near wetlands	160	60
Parcels with shallow groundwater:		
More than 100 feet from surface water	100	100
Less than 100 feet from surface water	130	30
Parcels with no apparent limitations	900	1350

# ***Concord Wastewater Planning***

## ***On-site Wastewater Management Program***

### On-Site Wastewater Solutions

Board of Health regulation will:

- Identify and prioritize sensitive areas
- Explain how to monitor and correct problems
- Improve licensing and variance procedures
- Offer guidance on contractors and service vendors

Still under review:

- Delaying connections to new sewer or cluster system



# ***Concord Wastewater Planning***

## ***Future Goals***

### ***Real Needs, Recommended Alternatives - Ambitious Schedule***

Our goal is to...

- Complete the planning process
- Obtain community and neighborhood input
- Achieve regulatory approval in time for...

2003 Town Meeting approval of the  
CWMP and funding of Phase 1 design

# ***Concord Wastewater Planning***

***More information is available from...***

- Wastewater Planning Committee Meetings
- Wastewater Planning Committee Binders  
(BOH, CPW, Town House, Libraries)
- Wastewater Planning Committee Newsletters
- Concord Public Works web pages
- Next Community meeting(s) preceding Spring  
2003 Town Meeting

# ***Concord Wastewater Planning***

***Questions and  
Answers***

***Community  
Feedback***