PHASE 2 COMPREHENSIVE WASTEWATER MANAGEMENT PLAN (CWMP) & DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)

Town of Mansfield, Massachusetts

Lee Azinheira, DPW
David Young, CDM Smith

November 12, 2014

Purpose of Meeting

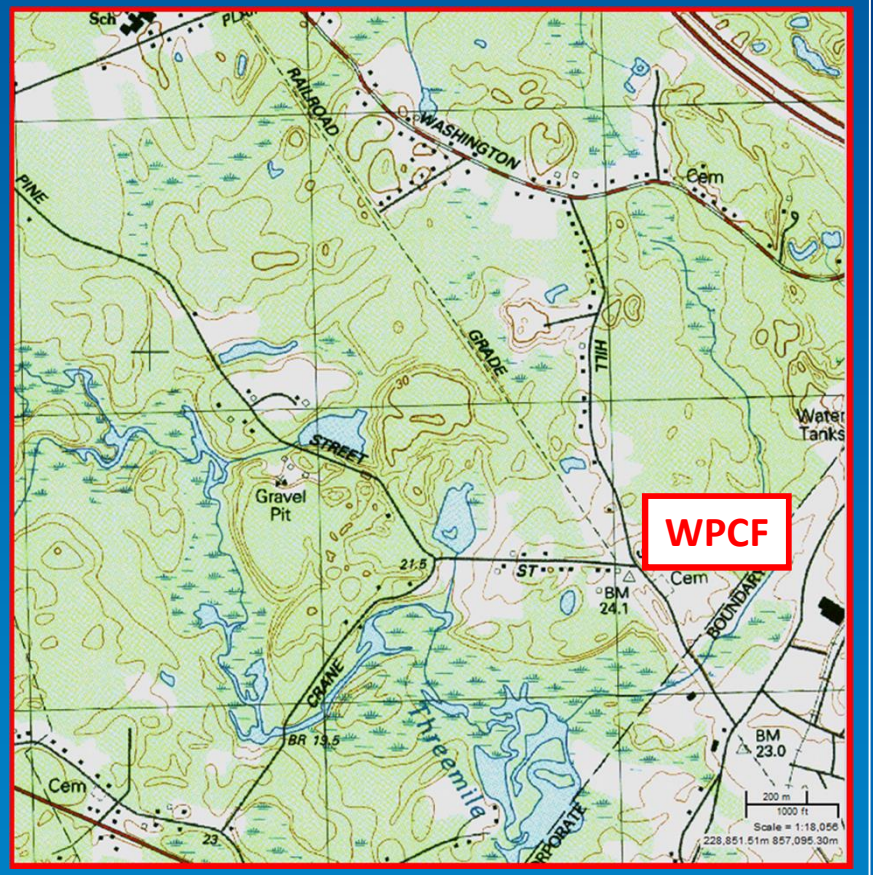
- Update Board of Selectmen (Sewer Commissioners) on status of Phase 2 CWMP/DEIR
- Receive input
- Outline schedule moving forward

Agenda

- Brief history of project
- Phase 2 CWMP/DEIR summary
- Recommended program
- Project schedule
- Questions/answers

Purpose of Project

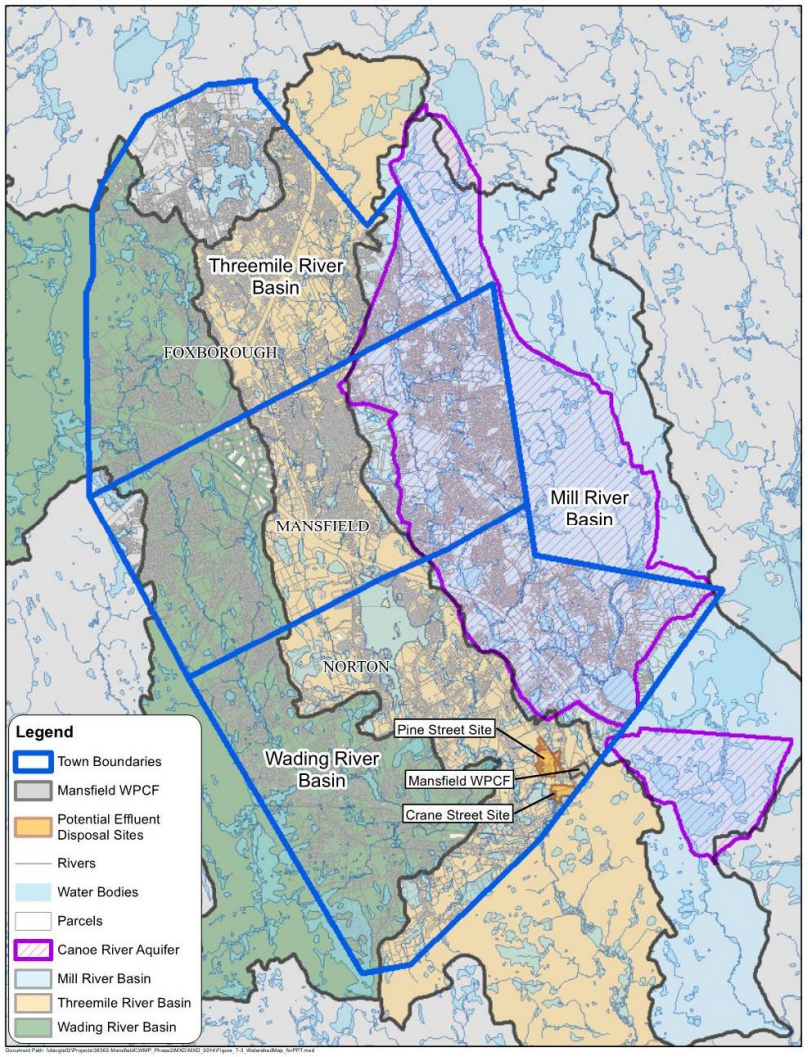
- MFN Regional Wastewater District (as of July 2014) owns the water pollution control facility (WPCF) located in Norton that is reaching its capacity (3.14 mgd)
- Need to determine how best to utilize remaining capacity
- Town will need an additional 500,000 gpd of wastewater treatment and disposal capacity over the next 20 years
- MassDEP required updating the CWMP or would stop issuing future sewer extension permits



Brief Project History

- Town's last approved wastewater facilities plan is dated 1976
- Current WPCF placed on-line in 1985
- CDM Smith began to update the wastewater needs assessment in 1997
- Current CWMP process began in earnest in 2002
- Completed Phase 1 CWMP/ENF in October 2004
- Completed majority of Phase 2 CWMP tasks in Spring 2006

Brief Project History (Con't)



- Town worked with Foxborough and Norton, customers of the WPCF, to develop a regional solution
- All three communities at Spring 2008 town meetings endorsed concept of creating a "Wastewater District"
- Since 2008 three towns have been meeting regularly to develop the details of a "Wastewater District"

CDM Smith

Brief Project History (Con't)

- In July 2014, the MFN Regional Wastewater District Agreement took effect
- Wastewater District Commission consists of members from all three towns
- In September 2014, Town filed its Phase 2 CWMP/DEIR with the Executive Office of Environmental Affairs, as required by the Massachusetts Environmental Policy Act (MEPA)

Agreement Establishing the MFN Regional Wastewater District

June 17, 2014

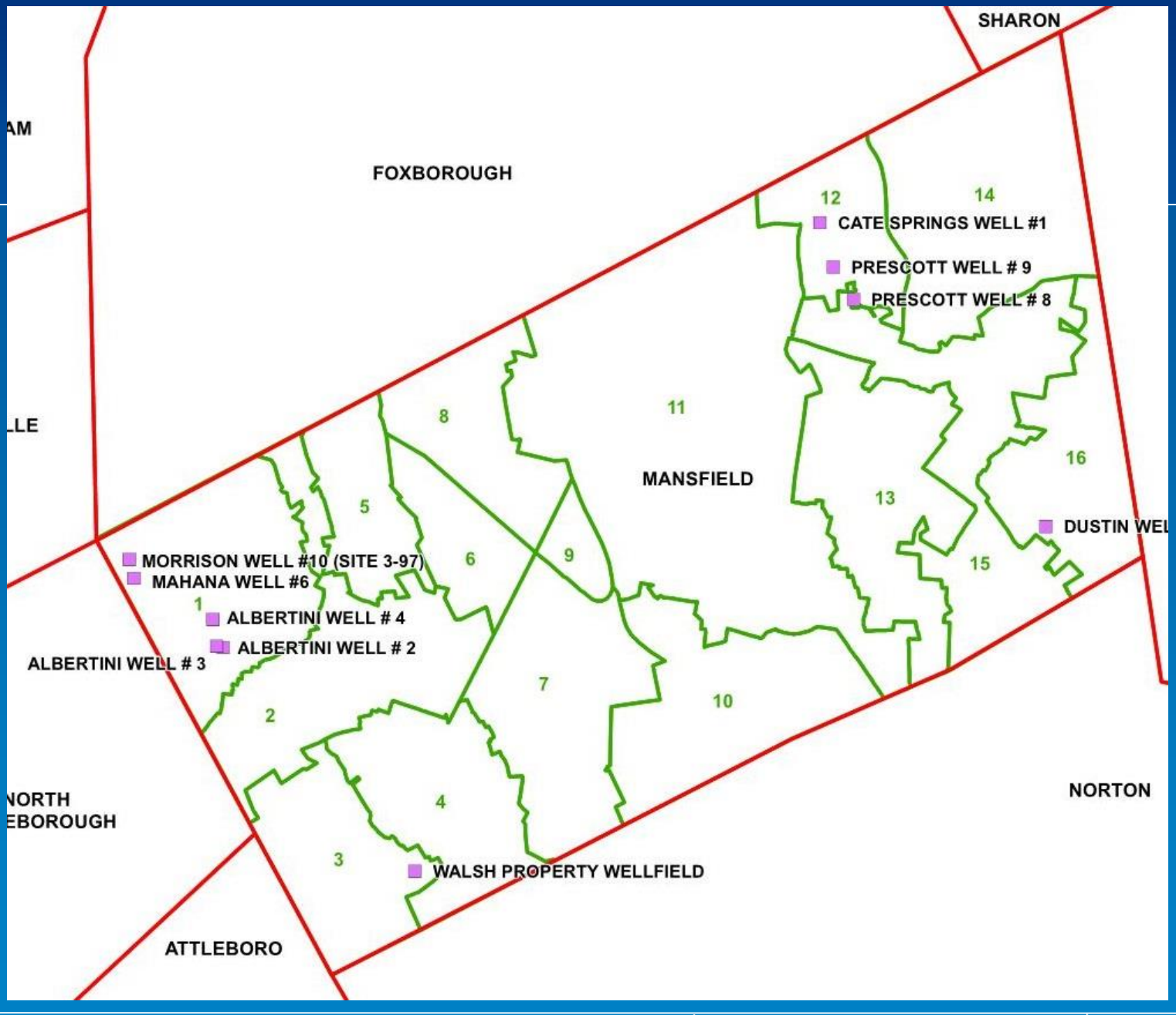
Original

Phase 2 CWMP Scope of Work:

- Evaluate nitrogen impacts on town water supply wells
- Evaluate effluent recharge sites
- Evaluate feasible treatment and disposal alternatives
- Develop overall long-term recommended program
- Prepare Phase 2 CWMP and DEIR

Nitrogen Evaluations

- Evaluated nitrogen impacts on town drinking water wells from septic systems for build-out of areas not recommended for off-site solutions
- Created a computer model to simulate existing nitrogen conditions and current readings in wells
- Some increase projected but well within Drinking Water Standard for nitrogen of 10 mg/l
- Town should sample surface waters and groundwaters periodically to monitor and confirm projections


SHARON
AM
FOXBOROUGH
12
14
CATE SPRINGS WELL #1
PRESCOTT WELL # 9
PRESCOTT WELL # 8
LLE
8
11
16
MANSFIELD
5
13
DUSTIN WEL
MORRISON WELL #10 (SITE 3-97)
MAHANA WELL #6
6
9
15
1
ALBERTINI WELL # 4
ALBERTINI WELL # 2
ALBERTINI WELL # 3
7
10
2
NORTH
EBOROUGH
4
NORTON
3
WALSH PROPERTY WELLFIELD
ATTLEBORO

Effluent Recharge Sites

- Sites Evaluated
  - Airport Property
  - WPCF Property
  - Pine Street Site in Norton (recently purchased by Mansfield)
  - Crane Street Site in Norton (recently purchased by Mansfield)
- Field Work
  - Test pits
  - Borings
  - Infiltration testing
- Recharge Modeling

TOWN OF MANSFIELD
MASSACHUSETTS

PRELIMINARY EFFLUENT RECHARGE SITES -
MANSFIELD AND NORTON

FIGURE 1-3

CDM Smith

Five Alternatives (and various permutations) Evaluated:

1. No additional municipal wastewater treatment capacity
2. Local satellite wastewater facility located in Mansfield
3. Mansfield only expansion of existing WPCF
4. Regional solution with Norton
5. Regional solution with Foxborough and Norton

Development of Recommended Program

- Environmental issues
- Implementation capability
- Regulatory, design and reliability requirements
- Costs

Alternatives Rankings

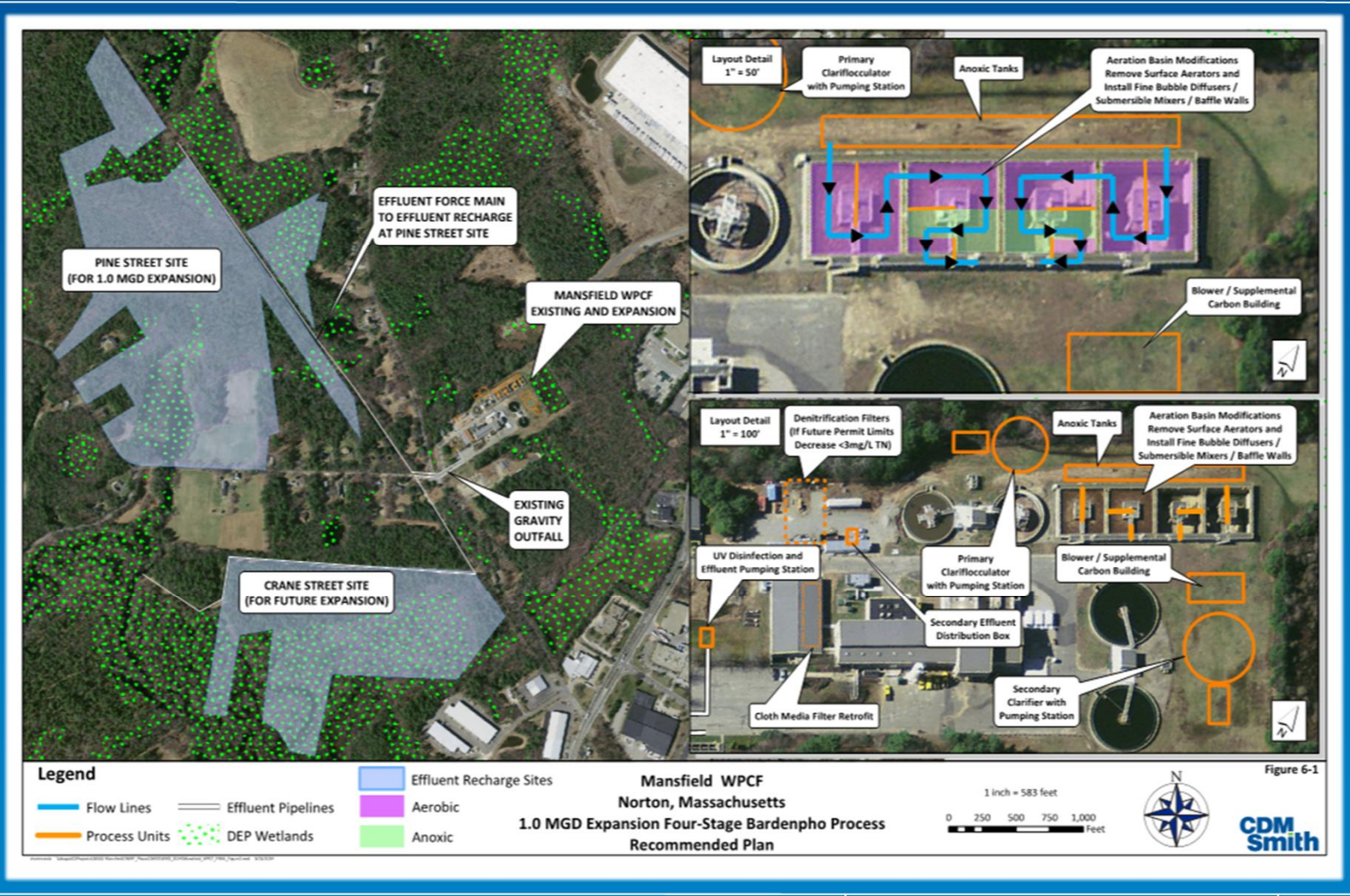
Alternative	Rank
A – No Action	6
B – Satellite Treatment Facility	5
C – WPCF Expansion (0.4 mgd)	3
D – WPCF Expansion (0.73 mgd)	4
E – WPCF Expansion (1.46 mgd)	2
F – WPCF Expansion (0.5 – 1.5 mgd, various NPDES scenario Limits)	1

Note ï Recommended plan is a combination of flows and NPDES permit limit scenarios reviewed under Alternative F.

Recommended Program

- Expansion of the existing WPCF to accommodate an additional 1.0 mgd
- Upgrade of the WPCF with a four-stage Bardenpho process to treat existing and future flows to more stringent nutrient limits detailed in the recently issued WPCF NPDES permit
- Construction of wastewater effluent recharge infiltration basins at the Pine Street site for infiltration of up to 1.0 mgd
- Cap and closure of the Fruit Street Landfill located in Mansfield and previously used for sludge and grit disposal from the WPCF (the WPCF currently contracts with a sludge hauler and no longer uses the landfill)

Recommended Program (Con't)



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Fruit Street Landfill

Wastewater Flows from Each Community

Community	Existing Flow (mgd)	Existing Percentage (%)	Expansion Flow (mgd)	Expansion Percentage (%)	Total Flow (mgd)	Total Percentage (%)
Mansfield	1.98	63.1	0.665 (1)	66.5	2.645	63.9
Foxborough	0.66	21.0	0.170	17.0	0.830	20.0
Norton	0.50	15.9	0.165	16.5	0.665	16.1
Total	**3.14**	**100**	**1.00**	**100**	**4.14**	**100**

(1) Potential 0.165 mgd of Mansfield expansion flow will be sub-allocated to Easton

MFN Regional Wastewater District

- District will be the mechanism used to manage, operate and maintain wastewater treatment and disposal services
- It is a body politic and corporate and political subdivision of the Commonwealth of Massachusetts
- District must comply with the WPCF NPDES Permit and any future Groundwater Discharge Permit(s)
- Powers and duties of the District are vested in and exercised by a Wastewater District Commission whose members are appointed by the member towns for three year appointments

Financing Plan

- The opinion of probable project cost for the recommended plan is $39 Million(1)
- Cost includes:
  - Construction costs with contractor's overhead and profit and construction contingency
  - Engineering and implementation costs
  - Land acquisition costs to acquire land for the infiltration basins

(1) August 2014 dollars. Project costs referenced in MFN District negotiations were in January 2013 dollars, approximately $36 million.

Project Schedule

- DEIR Comments to MEPA – due by November 19, 2014
- MEPA Decision – November 26 2014
- Address Final EIR comments – December 2014
- WPCF preliminary design – Began Fall 2014
- Complete final design – March 2016
- Construction start – September 2016
- Construction – Substantial completion by July 2019
- Permit Compliance – compliance by August 2019
- Design of the Fruit Street Landfill cap and closure will commence on a similar schedule. Construction would last approximately 6 months.

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Questions

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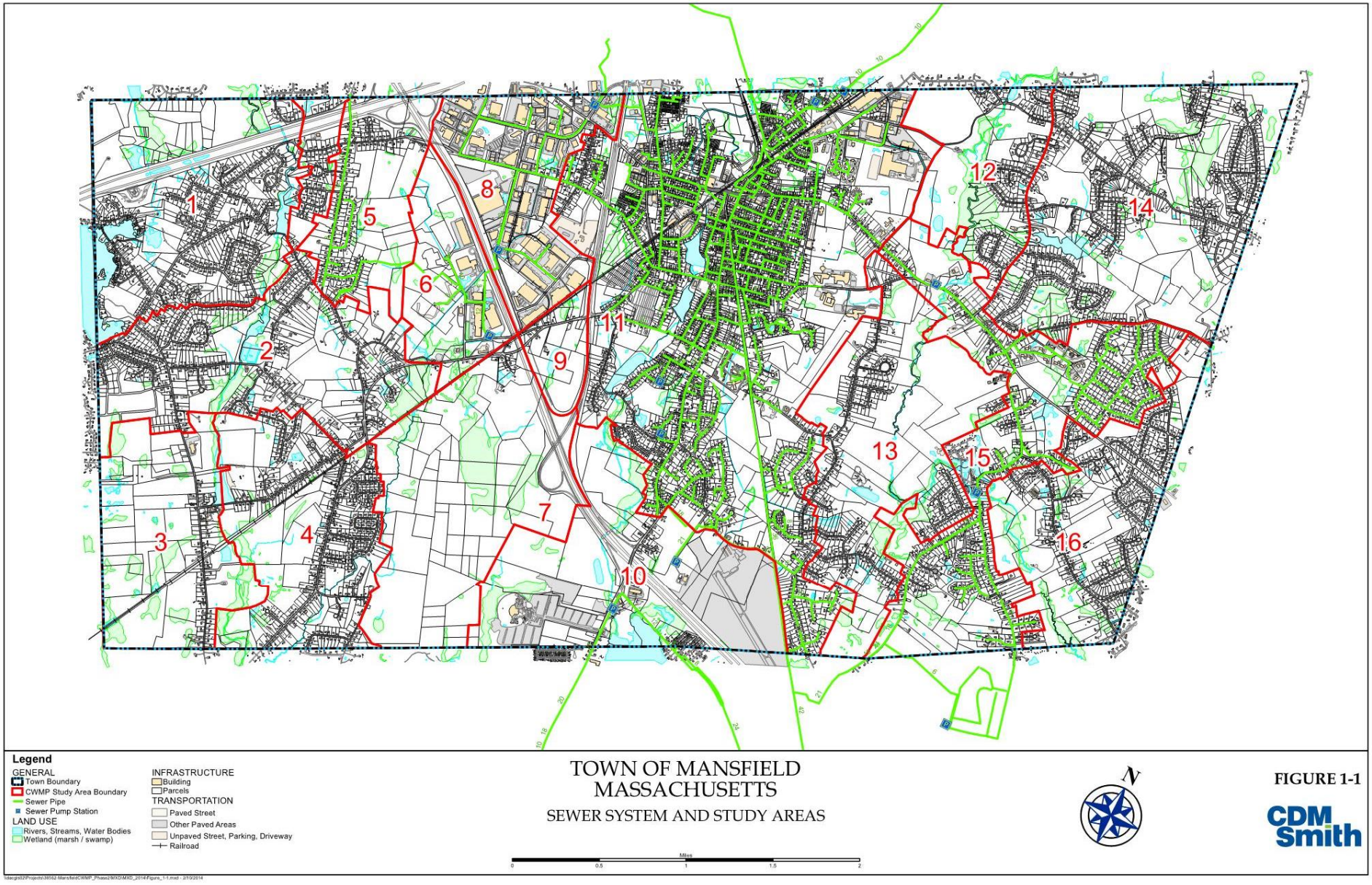
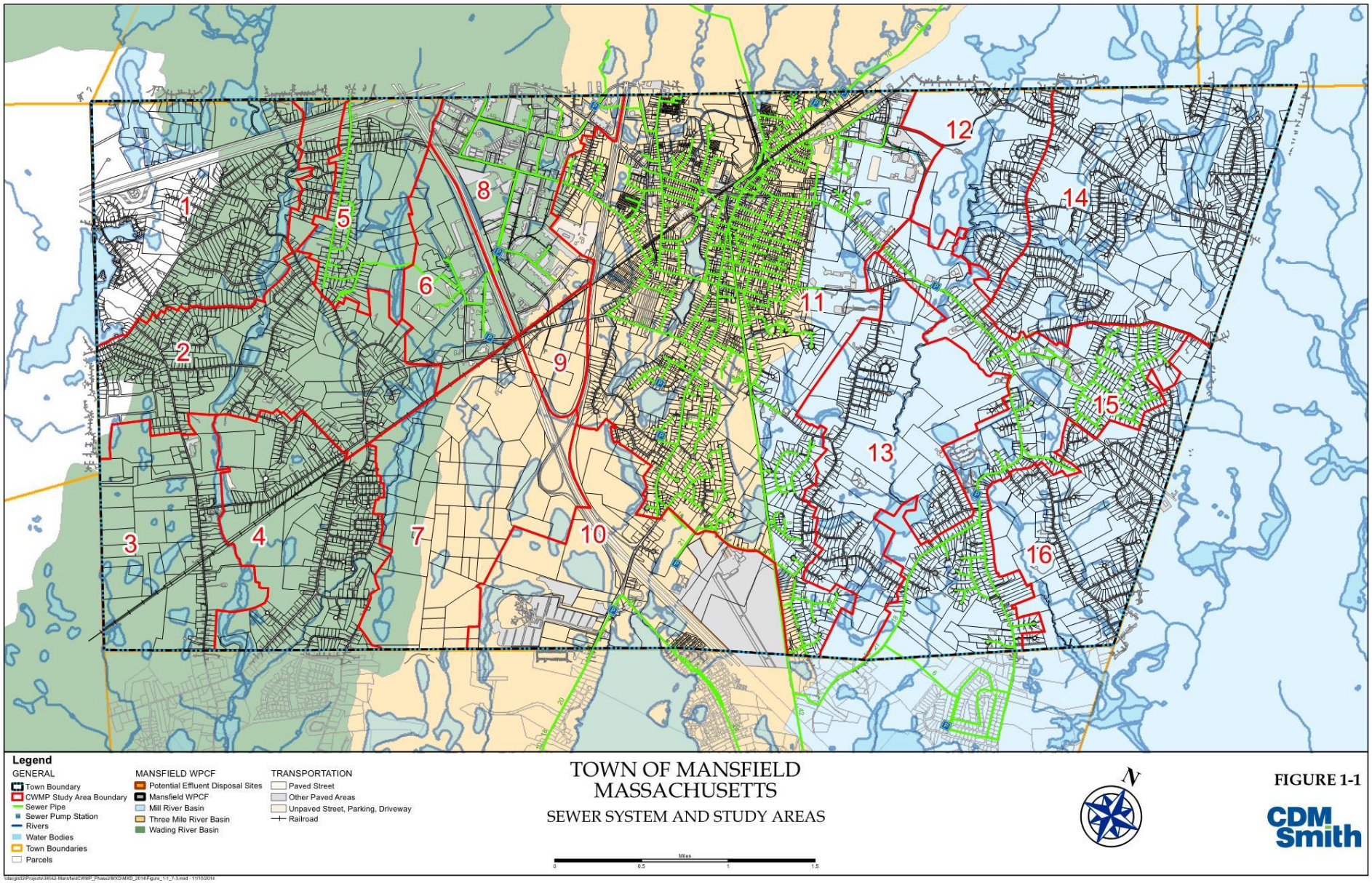
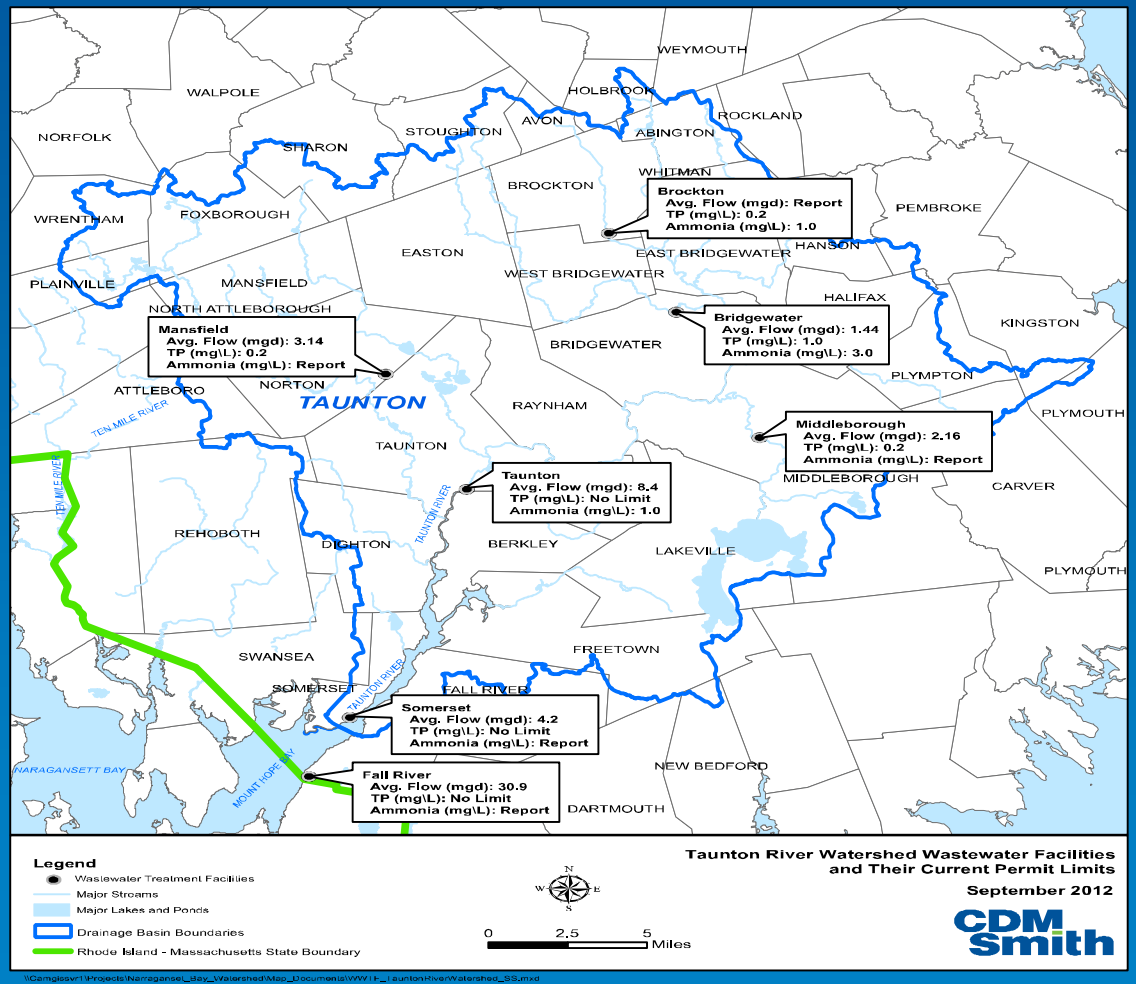
Extra slides

Mansfield Sewer System



Mansfield Sewer System and Watersheds



Treatment Plants in Taunton River Basin