

<p style="text-align: center;"><i>For Office Use Only</i> Executive Office of Environmental Affairs</p> <p>MEPA Analyst: <i>11525</i> <i>Bill GAGE</i> Phone: 617-626- <i>1025</i></p>
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NPC

Notice of Project Change

The information requested on this form must be completed to begin MEPA Review of a NPC in accordance with the provisions of the Massachusetts Environmental Policy Act and its implementing regulations (see 301 CMR 11.10(1)).

Project Name: Long-Term CSO Control Plan and Environmental Impact Report		EOEA #: 11525
Street: Multiple streets in the northwest portion of the city of Springfield		
Municipality: Springfield	Watershed: Connecticut River	
Universal Transverse Mercator Coordinates: North American Datum (NAD) 1983	Latitude: 42.12° N Longitude: 72.60° W	
Status of project construction: 0 %complete		
Proponent: Springfield Water and Sewer Commission (SWSC)		
Street: P.O. Box 995		
Municipality: Springfield	State: MA	Zip Code: 01101-0995
Name of Contact Person From Whom Copies of this NPC May Be Obtained: Joseph J. Superneau, Executive Director		
Firm/Agency: SWSC	Street: P.O. Box 995	
Municipality: Springfield	State: MA	Zip Code: 01101-0995
Phone: 413-787-6526 (ext. 152)	Fax: 413-787-6269	E-mail: joe.superneau@waterandsewer.org

In 25 words or less, what is the project change? **The project change involves substitution of sewer separation at outfall 007 (Rowland Street) and increase of the dry weather flow connection capacity from the CSO 049 (Springfield Street) regulator for previously-proposed sewer separation at outfalls 007 (Rowland Street) and 049 (Springfield Street). See full project change description beginning on page 3.**

Date of ENF filing or publication in the Environmental Monitor: **March 11, 1998**

Was an EIR required? Yes No; if yes,
 was a Draft EIR filed? Yes (Date: **March 31, 2000**) No
 was a Final EIR filed? Yes (Date:) No
 was a Single EIR filed? Yes (Date:) No

Have other NPCs been filed? Yes (Date(s): **September 30, 2004 for a new recommended CSO control plan for the Chicopee River tributary area in Springfield. July 28, 2006 for a new**

recommended CSO control plan Phase I for the Connecticut River in Springfield) No

If this is a NPC solely for lapse of time (see 301 CMR 11.10(2)) proceed directly to "ATTACHMENTS & SIGNATURES" on page 4.

PERMITS / FINANCIAL ASSISTANCE / LAND TRANSFER

List or describe all new or modified state permits, financial assistance, or land transfers not previously reviewed: State Revolving Fund

Are you requesting a finding that this project change is insignificant? (see 301 CMR 11.10(6))
 Yes No; if yes, attach justification.

Are you requesting that a Scope in a previously issued Certificate be rescinded?
 Yes No; if yes, attach the Certificate

Are you requesting a change to a Scope in a previously issued Certificate? Yes No; if yes, attach Certificate and describe the change you are requesting:

Summary of Project Size & Environmental Impacts	Previously reviewed	Net Change	Currently Proposed
LAND			
Total site acreage	672 ⁽¹⁾	-384 ⁽¹⁾	288 ⁽¹⁾
Acres of land altered	0.0	0.0	Less than previously reviewed ⁽²⁾
Acres of impervious area	0.0	0.0	0.0 ⁽³⁾
Square feet of bordering vegetated wetlands alteration	0.0	0.0	0.0
Square feet of other wetland alteration	0.0	0.0	0.0
Acres of non-water dependent use of tidelands or waterways	0.0	0.0	0.0
STRUCTURES			
Gross square footage	0.0	0.0	0.0
Number of housing units	0.0	0.0	0.0
Maximum height (in feet)	N/A ⁽⁴⁾	N/A ⁽⁴⁾	N/A ⁽⁴⁾
TRANSPORTATION			
Vehicle trips per day	0.0	0.0	Less than previously reviewed ⁽⁵⁾
Parking spaces	0.0	0.0	0.0

WATER/WASTEWATER			
Gallons/day (GPD) of water use	0.0	0.0	0.0
GPD water withdrawal	0.0	0.0	0.0
GPD wastewater generation/ treatment	0.0	0.0	0.0 ⁽⁵⁾
Length of water/sewer mains (in miles)	60,600	-36,000	24,600

- Notes: (1) Area represents drainage area tributary to sewer separation work.
(2) Work will predominantly be in existing streets. Scope of non-street work similar to previously-reviewed.
(3) Project does not change the quantity of existing impervious area.
(4) Project does not affect long-term traffic; project will have reduced construction-period traffic due to reduced construction scope.
(5) No change in sanitary wastewater flow.

Does the project change involve any new or modified:

1. conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97? Yes No
2. release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction? Yes No
3. impacts on Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities? Yes No
4. impact on any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?
Yes No; if yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? Yes No
5. impact upon an Area of Critical Environmental Concern? Yes No

If you answered 'Yes' to any of these 5 questions, explain below:

PROJECT CHANGE DESCRIPTION (attach additional pages as necessary). The project change description should include:

- (a) a brief description of the project as most recently reviewed
- (b) a description of material changes to the project as previously reviewed,
- (c) the significance of the proposed changes, with specific reference to the factors listed 301 CMR 11.10(6), and
- (d) measures that the project is taking to avoid damage to the environment or to minimize and mitigate unavoidable environmental impacts. If the change will involve modification of any previously issued Section 61 Finding, include a proposed modification of the Section 61 Finding (or it will be required in a Supplemental EIR).

BACKGROUND/DESCRIPTION OF PROJECT MOST RECENTLY REVIEWED

The most recently approved MEPA build condition for SWSC – Connecticut River Project Phase I was sewer separation in the areas tributary to outfalls 007 (Rowland Street) and 049 (Springfield Street) (subsequently referred to as CSO 007/049 sewer separation). The extent of

the proposed build condition in the areas tributary to these outfalls is indicated on the drawing provided in Attachment B. The work primarily involved construction of new storm drains, with some new/replacement sanitary sewers where the existing combined sewers are too large to function as sanitary sewers. Small-diameter water mains adjacent to the new storm drains were proposed to be replaced. No above-ground facilities (pumping, odor control, etc.) were required for the project. The 049 area primarily consists of residential land use, while the 007 area is a mix of commercial, institutional, and residential land uses. The approximate area to be separated and length of new pipe to be installed in each area is presented in Table 1. Parts of the 007 tributary area are currently served by two-pipe systems, where the separate stormwater pipes tie back into the combined system upstream of the CSO regulator.

TABLE 1. EXTENT OF SEWER SEPARATION UPSTREAM OF OUTFALLS 007 AND 049

Outfall	Approximate Area to be Separated (Acres)	Approximate Length of New Pipe to be Installed as Part of Sewer Separation (Lineal Feet)
007 (Rowland Street)	288	24,600
049 (Springfield Street)	384	36,000
Total	672	60,600

The predicted annual average performance in terms of CSO activation and volume reduction of the most recently approved MEPA build condition is presented in Table 2.

TABLE 2. ANNUAL CSO FREQUENCY AND VOLUME FOR THE CONNECTICUT RIVER REGULATORS (TYPICAL YEAR): BASELINE VS. SEPARATION OF CSO 007 AND 049

CSO	Baseline Conditions		Most Recently Approved MEPA Build Condition (CSO 007/049 Sewer Separation)	
	Annual CSO Activations	Annual CSO Volume (MG)	Annual CSO Activations	Annual CSO Volume (MG)
007	37	25.9	0	0.0
008	85	55.0	91	50.1
010	36	60.7	31	56.6
011	2	7.10	2	6.60
011	7	1.68	7	1.70
012	39	96.9	37	94.8
013	3	4.33	3	4.35
014	75	45.0	75	43.9
015	68	13.4	64	13.7
015B	11	3.63	11	3.66
016	42	61.0	42	61.8
018	6	0.63	6	0.67
049	19	3.23	Closed	Closed
Total		378		338

The predicted reduction in annual *E. coli* load to the Connecticut River is presented in Table 3, and the predicted impact on exceedance of Class B criteria for *E. coli* in the Connecticut River in the 3-month, 24-hour storm is presented in Table 4. Figure 1 presents the locations of the points referenced in Table 4.

DESCRIPTION OF MATERIAL CHANGES TO PROJECT PREVIOUSLY REVIEWED

Since the previous MEPA filing, the Commission and our consulting engineers, Metcalf & Eddy (M&E), have completed a preliminary design report (PDR) for the CSO 007/049 Sewer Separation project. The PDR consisted of field investigations that included: cleaning, inspecting, and assessing 95,000 linear feet of sewer and drain; 367 manhole inspections; smoke and dye testing; 960 building inspections; and 110 geotechnical/environmental borings.

This systematic approach to studying the project area included revising the existing collection system model with the information from the field investigations. Using the updated model, a new optimal and cost-effective project was identified that would provide a similar level of CSO control as the CSO 007/049 sewer separation project described in the July 28, 2006 NPC with a substantial reduction in the area affected by construction activities, and at a significantly lower cost. The new project includes sewer separation of the CSO 007 tributary area and enlarging the dry weather flow connection at the CSO 049 regulator, with no sewer separation in the CSO 049 tributary area.

The revised extent of the proposed sewer separation work, and the location of the dry weather flow connection relief for the CSO 049 regulator are indicated on the figure in Attachment C. The scope of the sewer separation work in the CSO 007 tributary area will not change as a result of the deletion of the separation work in the CSO 049 tributary area. Part of the work in the CSO 007 area will include construction of a 48-inch to 54-inch diameter sanitary sewer to convey the flow from the CSO 049 regulator through the CSO 007 area to the Connecticut River Interceptor. The need for this pipe was determined during preliminary design, and this pipe would have been required as part of the most recently approved MEPA build condition (with CSO 049 sewer separation) to convey separated sanitary flows from the 049 area. For the revised plan, the diameter of the pipe increased by 0.5 to 1.0 feet compared to the most recently approved MEPA build condition, to account for the additional wet weather flow conveyed as a result of the increase in dry weather flow connection capacity at the CSO 049 regulator. The base sanitary flows from the CSO 049 area and the population served by the collection system are not changing as a result of this project. No above-ground facilities (pumping, odor control, etc.) will be required for the project. Between the submittal of the July 28, 2006 NPC and completion of the preliminary design, the need for providing new drainage pipes to replace under-sized drains in parts of the CSO 007 area was also identified. These up-sized drains would be required with or without the deletion of the sewer separation work in the CSO 049 area.

The approximate area to be separated and length of new pipe to be installed under the most recently approved MEPA build condition and as part of the revised plan are compared in Table 5. The revised plan will substantially reduce the area affected by construction-related activities, as the project limits and length of pipe installation have significantly decreased.

TABLE 3. COMPARISON OF REDUCTION IN E. COLI LOAD

	Annual Untreated CSO Volume (MG)	Annual Treated CSO Volume (MG)	Total Annual E. coli Load from CSO (cfu x 10E12)	Change in Annual E. coli Load from CSO (cfu x 10E12)	Change in Annual SW Volume (MG)	Change in Annual E. coli Load from SW (cfu x 10E12)	Total Change in Annual E. coli Load (cfu x 10E12)
Baseline	378	0	150	0	0	0	0
Most Recently Approved MEPA Build Condition (CSO 007/049 Sewer Separation)	338	0	134	-16	130	1.12	-15

TABLE 4. COMPARISON OF IMPACT OF ALTERNATIVES ON THE CONNECTICUT RIVER

	3-Month, 24-Hour Storm			
	Baseline Conditions		Most Recently Approved MEPA Build Condition (CSO 007/049 Sewer Separation)	
	Duration of Exceedance (Hrs) ⁽²⁾	Geo. Mean (cfu/100ml) ⁽³⁾	Duration of Exceedance (Hrs) ⁽²⁾	Geo. Mean (cfu/100ml) ⁽³⁾
1 Springfield Chicopee Line	43	563	41	533
2 Below CSO 7	44	801	35	490
3 Below CSO 8	39	642	34	556
4 Below CSO 10	45	721	34	525
5 Riverfront Park	40	635	33	580

- Notes: 1. See Figure 1 for locations.
 2. Duration of exceedance of Class B standard for E. coli (235 cfu/100 ml).
 3. Geometric mean E. coli concentration during period when Class B standard for E. coli (235 cfu/100 ml) is exceeded.

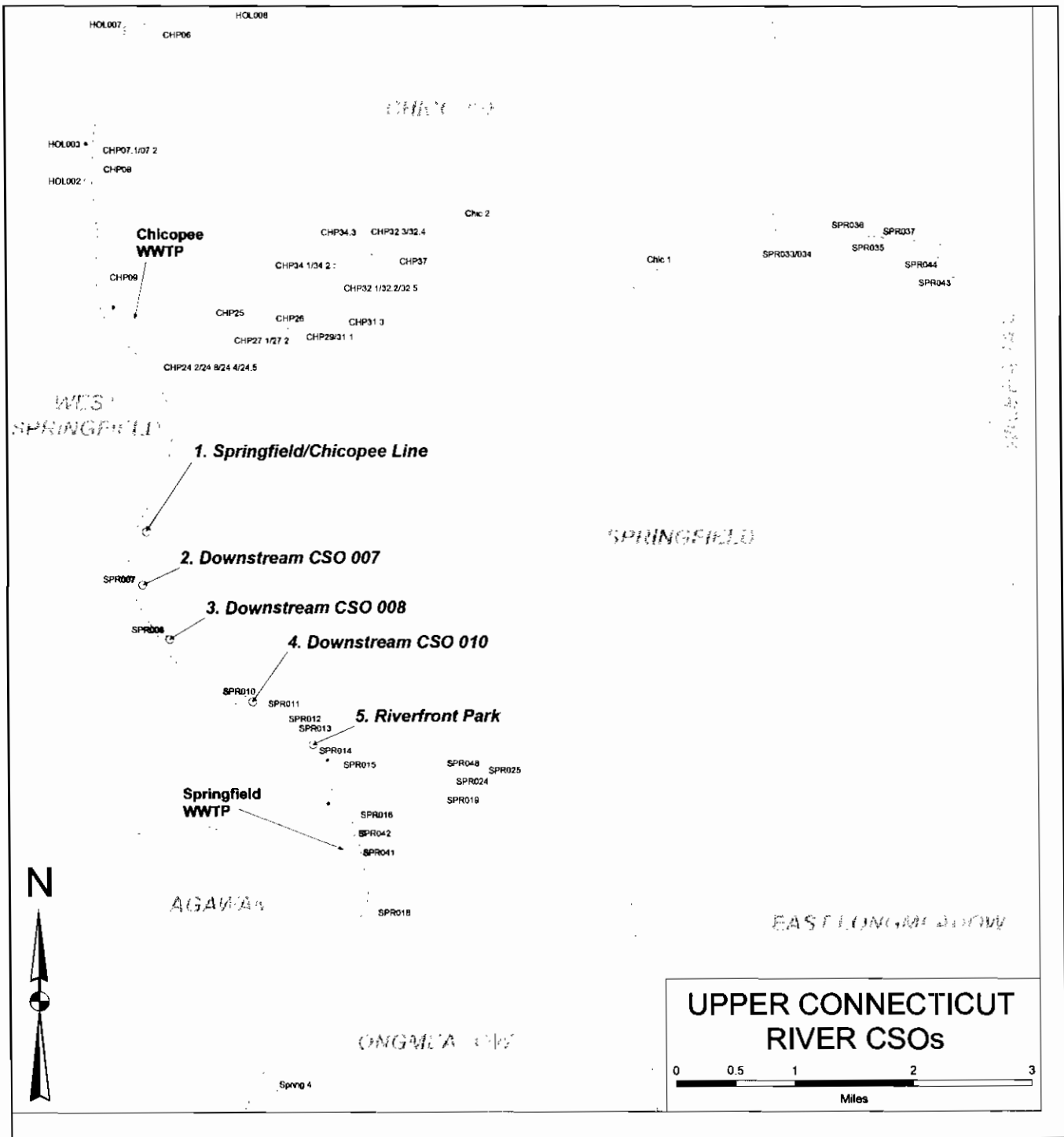


FIGURE 1. LOCATIONS OF POINTS ALONG CONNECTICUT RIVER ASSESSED FOR HOURS OF EXCEEDANCE OF WATER QUALITY STANDARDS

TABLE 5. COMPARISON OF AREA OF SEWER SEPARATION AND LENGTH OF NEW PIPE TO BE INSTALLED

Project	Approximate Area to be Separated (Acres)	Approximate Length of New Pipe to be Installed as Part of Sewer Separation (Lineal Feet)
Most recently approved MEPA build condition (CSO 007 and 049 Sewer Separation)	672	60,600
Revised Plan (CSO 007 Separation, Dry Weather Flow Connection Relief for CSO 049)	288	24,600

The performance of the revised plan in terms of reduction in average annual CSO activations and volumes is presented in Table 6. For comparison, the performance of the most recently approved MEPA build condition (CSO 007/049 Sewer Separation) is also presented in Table 6.

TABLE 6. ANNUAL CSO FREQUENCY AND VOLUME FOR THE CONNECTICUT RIVER REGULATORS (TYPICAL YEAR); BASELINE, SEPARATION OF CSO 007 AND 049, SEPARATION OF CSO 007 AND INCREASE SIZE OF DWF CONNECTION FROM CSO 049

CSO	Baseline Conditions		Most recently approved MEPA build condition (CSO 007/049 Sewer Separation)		Revised Plan (Separation of CSO 007 and Increase DWF Connection at CSO 049)	
	Annual CSO Activations	Annual CSO Volume (MG)	Annual CSO Activations	Annual CSO Volume (MG)	Annual CSO Activations	Annual CSO Volume (MG)
007	37	25.9	0	0.0	1	0.17
008	85	55.0	91	50.1	90	57.4
010	36	60.7	31	56.6	33	58.0
011	2	7.10	2	6.60	2	7.10
011	7	1.68	7	1.70	7	1.71
012	39	96.9	37	94.8	37	95.5
013	3	4.33	3	4.35	3	4.34
014	75	45.0	75	43.9	75	44.2
015	68	13.4	64	13.7	64	13.7
015B	11	3.63	11	3.66	11	3.69
016	42	61.0	42	61.8	42	61.9
018	6	0.63	6	0.67	6	0.63
049	19	3.23	Closed	Closed	1	0.28
Total		378		338		348

The predicted reduction in annual *E. coli* load to the Connecticut River for the revised plan is presented in Table 7, and the predicted impact on exceedance of Class B criteria for *E. coli* in the Connecticut River in the 3-month, 24-hour storm is presented in Table 8. For comparison, the performance of the most recently approved MEPA build condition (CSO 007/049 Sewer Separation) is also presented in Tables 7 and 8. Figure 1 presents the locations of the points referenced in Table 8.

TABLE 7. COMPARISON OF REDUCTION IN *E. COLI* LOAD

	Annual Untreated CSO Volume (MG)	Total Annual <i>E. coli</i> Load from CSO (cfu x 10E12)	Change in Annual <i>E. coli</i> Load from CSO (cfu x 10E12)	Change in Annual SW Volume (MG)	Change in Annual <i>E. coli</i> Load from SW (cfu x 10E12)	Total Change in Annual <i>E. coli</i> Load (cfu x 10E12)
Baseline	378	150	0	0	0	0
Most recently approved MEPA build condition (CSO 007/049 Sewer Separation)	338	134	-16	130	1.12	-15
Revised Plan (CSO 007 Separation, Dry Weather Flow Connection Relief for CSO 049)	348	138	-12	114	0.98	-11

As indicated in Table 6, under the revised plan, the total annual volume of CSO to the Connecticut River in the typical year is predicted to increase by 10 MG, or about 3 percent, compared to the most recently approved MEPA build condition. However, compared to baseline conditions, the revised plan is still predicted to reduce the total annual CSO volume by 30 MG. At outfalls 007 and 049, the total annual CSO volume is predicted to increase by 0.45 MG compared to the most recently approved MEPA build condition. As indicated in Table 7, the revised plan will still achieve a significant reduction in the annual *E. coli* load to the Connecticut River. The resulting load from CSO will be somewhat higher than for the most recently approved MEPA build condition, while the resulting load from stormwater will be somewhat lower. As indicated in Table 8, the impact of the change in *E. coli* load on attainment of Class B criteria in the Connecticut River is predicted to be minimal. With the revised plan, the hours of exceedance of the Class B criteria for *E. coli* are predicted to increase by one hour

TABLE 8. COMPARISON OF IMPACT OF ALTERNATIVES ON THE CONNECTICUT RIVER

	Location ⁽¹⁾	3-Month Storm, 24-Hour Storm					
		Baseline Conditions		Most recently approved MEPA build condition (CSO 007/049 Sewer Separation)		Revised Plan (Separation of CSO 007 and Increase DWF Connection at CSO 049)	
		Duration of Exceedance (Hrs) ⁽²⁾	Geo. Mean (cfu/100ml) ⁽³⁾	Duration of Exceedance (Hrs) ⁽²⁾	Geo. Mean (cfu/100ml) ⁽³⁾	Duration of Exceedance (Hrs) ⁽²⁾	Geo. Mean (cfu/100ml) ⁽³⁾
1	Springfield Chicopee Line	43	563	41	533	41	533
2	Below CSO 7	44	801	35	490	36	484
3	Below CSO 8	39	642	34	556	39	602
4	Below CSO 10	45	721	34	525	34	519
5	Riverfront Park	40	635	33	580	33	580

- Notes: 1. See Figure 1 for locations.
 2. Duration of exceedance of Class B standard for *E. coli* (235 cfu/100 ml).
 3. Geometric mean *E. coli* concentration during period when Class B standard for *E. coli* (235 cfu/100 ml) is exceeded.

at Location 2, and five hours at Location 3. No change in the hours of exceedance are predicted at Locations 1, 4 and 5. The geometric mean *E. coli* concentration during the period when the Class B standard for *E. coli* is exceeded is predicted to increase by 8 percent at Location 3, but is predicted to decrease or not change at Locations 1, 2, 4 and 5.

The revised plan is estimated to result in a cost savings of approximately \$12 million over the most recently approved MEPA build condition. This significant cost savings would be achieved without a significant impact to water quality in the Connecticut River, as described above. In addition, the revised plan would substantially reduce the area affected by construction-related activities due to the reduced scope of construction work compared to the most recently approved MEPA build condition. While there would still be periodic disruption of adjacent land uses and increased levels of noise and dust during construction activity compared to baseline conditions, these short-term effects are typical of local public works projects and can be mitigated using best management practices (BMPs) and by maintaining good communication with local residents and business owners. Mitigation measures, including development of traffic management plans, will be detailed during final design and permitting of the project.

The Commission and M&E attended a meeting with EPA and MADEP on February 6, 2008, where the revised plan was discussed. At that meeting, verbal approval to move forward with this project was given by EPA. It was also noted that representatives of MADEP had previously expressed support for the new project. Following this meeting, EPA sent a letter to the Commission formally accepting the new project (copy of letter Attachment E). It should be noted that the predicted performance of the revised plan presented above is not exactly the same as was presented to DEP and EPA on February 6, 2008. As detailed design progressed,

the weir configurations at the CSO 007 and 049 regulators had to be adjusted to provide protection against peak hydraulic grade lines during extreme storm events. The difference in performance amounts to one activation at CSO 049, and a difference of 0.30 MG in annual CSO volume. This difference does not affect the hours of attainment of water quality standards presented in Table 8, above.

SIGNIFICANCE OF PROJECT CHANGE

The significance of the project change in regard to the factors listed in 301 CMR 11.10(6) is discussed below.

Expansion of the Project

The most recently approved MEPA build condition (CSO 007/049 sewer separation) would have involved construction of approximately 60,600 feet of new sewer and drain pipe within an approximately 672-acre service area. The revised Phase I recommended plan would involve construction of approximately 24,600 feet of new sewer and drain pipe within an approximately 288-acre service area. Both the length of the new sewers and storm drains to be constructed and the extent of the service area affected would therefore be reduced by approximately 60 percent with the revised plan. The revised plan would therefore result in a substantial reduction in the area affected by construction-related activities compared to the most recently approved MEPA build condition.

Generation of Further Impacts

As noted above, it is anticipated the revised plan would result in a decrease in short-term impacts as a result of the reduced scope of construction work. Since all project components would be below ground upon completion, no change in long-term impacts is anticipated in the project area compared to the most recently approved MEPA build condition. As described above, the nominal change in CSO performance associated with the revised plan is not predicted to result in a significant change in water quality conditions in the Connecticut River compared to the most recently approved MEPA build condition (see Table 8 and related discussion above).

Change in Schedule

The current A/O milestone dates for the CSO 007/049 Sewer Separation Project are:

- Submit a Notice of Project Change regarding the CSO 007/049 Sewer Separation Project by July 30, 2006
- Submit design plans of the sewer separation by June 15, 2008
- Award contract/begin construction of the sewer separation by May 15, 2009
- Complete construction of the sewer separation by May 15, 2011

Design plans of the 007 area sewer separation project were submitted to EPA on June 15, 2008 in accordance with the A/O. The revised plan is not anticipated to affect attainment of the A/O dates for start and completion of construction.

Change in Project Site

The revised plan involves sewer separation in the areas tributary to outfall 007. The elimination of sewer separation in the CSO 049 tributary area will result in less impact on infrastructure and traffic than the most recently approved MEPA build condition.

New Permit Application

Construction of the proposed sewer separation will primarily be contained within existing roadways, and it is anticipated that impacts to wetlands will be avoided. The permits outlined in the draft LTCP/EIR were reviewed and no new required state permits have been identified.

Delay of Realization of Benefits

Selection of the revised plan is not anticipated to delay water quality benefits to the Connecticut River.

Lapse of Time


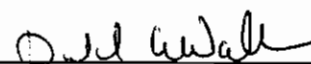
This NPC is not being submitted for a lapse of time in project implementation.

ATTACHMENTS & SIGNATURES

Attachments:

- A. Secretary's most recent Certificate on this project
- B. Plan showing most recent previously-reviewed proposed build condition
- C. Plan showing currently proposed build condition
- D. Original U.S.G.S. map or good quality color copy (8-1/2 x 11 inches or larger) indicating the project location and boundaries
- E. List of all agencies and persons to whom the proponent circulated the NPC, in accordance with 301 CMR 11.10(7)
- F. EPA March 10, 2008 letter in support of changed project

Signatures:

11/4/08		Date	Signature of Responsible Officer or Proponent	11/4/08		Date	Signature of person preparing NPC (if different from above)
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<u>Joseph J. Superneau</u>	<u>Donald E. Walker</u>
Name (print or type)	Name (print or type)

<u>Springfield Water and Sewer Commission</u>	<u>AECOM Water</u>
Firm/Agency	Firm/Agency

<u>P.O. Box 995</u>	<u>701 Edgewater Drive</u>
Street	Street

<u>Springfield, MA 01101-0995</u>	<u>Wakefield, MA 01180-6242</u>
Municipality/State/Zip	Municipality/State/Zip

<u>413-787-6256 (ext. 152)</u>	<u>781-224-6638</u>
Phone	Phone