



# City of Hartford

CITY HALL - 109 NORTH MAIN STREET · HARTFORD, WI 53027-1591

## AGENDA

### CITY OF HARTFORD UTILITY COMMITTEE

### CITY HALL COUNCIL CHAMBERS

Monday, January 4, 2016

5:30 pm

This is a regularly scheduled meeting of the Utility Committee of the City of Hartford. Prior to this meeting, notice was given to the public by posting an agenda on the City Office Meeting Board, Library Bulletin Board, and Police Bulletin Board. In addition, the Daily News (the official City newspaper) was given notice of this meeting and an agenda was placed in their City Office mailbox at least 24 hours ago.

- 1) Call to Order
- 2) Public Comment Period
- 3) Update on electric service interruptions and water main breaks
- 4) Update on the phosphorus preliminary facilities plan (DNR preliminary report attached)
- 5) Discussion and consideration of accepting the proposal from Superior Engineering, LLC to help develop and implement the City's required Capacity Management, Operations and Maintenance Plan at a cost not to exceed \$9,900 (Executive Summary attached)
- 6) Adjournment

"Persons with disabilities requiring special accommodations for attendance at the meeting should contact the City Clerk at least one (1) business day prior to the meeting."

"Members of the Common Council may attend the above meeting. Pursuant to State ex rel. Badke v. Greendale Village Board, 173 Wis. 2d 553, 494 N.W.2d 408 (1993) such attendance may be considered a meeting of the Common Council. This notice is given so that members of the Common Council may attend the meeting without violating the open meeting law."

## Phosphorus Checklist to Completeness: Third Year Preliminary Report

Pg. 1 of 5

Notice: This checklist is meant to be a tool to help wastewater engineers or specialists analyze phosphorus compliance decisions and Preliminary Study of Feasible Alternatives, or Preliminary Facilities Plan submittals. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.).

### Section 1. General Information

Facility Name: City of Hartford WWTF

Permit Number: WI-0020192

Facility Type  Major  Minor

Date Received: 07/13/2015

Updates Received: Yes, 12/10/2015

### Section 2. Background Information

Y N NA

- Existing treatment plant process is described including biosolids treatment. Flow diagram included.
- Existing collection system information is included (ie. miles of sewer, status of CMOM program).
- Current influent flows and loadings are summarized.
- Current effluent phosphorus mass is summarized. Annual offset is calculated based on total annual mass and final limits. Problem months are identified.

Deficiencies/Comments:

Although current effluent mass is summarized, offsets are not calculated. Also, information regarding miles of sewer and status of CMOM program are not included although some discussions regarding tributary communities are included.

### Section 3. Optimization Plan Summary

Y N NA

- Summary of the Optimization Actions was included. Details regarding the action plans should be included with a conclusion of the actions. If the facility can meet the final limits based on actions performed, the rest of the checklist does not need to be completed.

Deficiencies/Comments:

Hartford submitted the first two permit required reports on phosphorus optimization studies and status report in June 2013 and June 2014 respectively, and summarized in this report. The reports are considered satisfactory. Implementation of optimization actions and pilot studies - using cerium chloride (rare earth) in lieu of ferric chloride - has resulted in phosphorus reduction. The report, however indicates that the facility cannot meet the final P limit of 0.075 mg/L with optimization alone. The report suggests that the use of cerium chloride in combination with enhanced Bio-P may be a viable option for long-term phosphorus compliance, depending on future availability of the rare earth chemical.

## Phosphorus Checklist to Completeness: Third Year Preliminary Report

### Section 4. Building Treatment Alternatives

Y N NA

- Current issues regarding treatment plant has been discussed. This should include facility age and infrastructure deficiencies. Other upgrades besides phosphorus needs should be discussed.
- Biological and chemical phosphorus treatment should be evaluated.
- New treatment technologies have been evaluated.
- For those facilities with no current phosphorus treatment, an evaluation of a treatment plant upgrade to reach a 1.0 mg/L (TBEL) has been included. (minor upgrade)
- Were alternative discharge locations evaluated? This would include a different surface water or groundwater.
- Was regionalization evaluated? What municipalities/industries would be joined?
- Estimated cost is included.
- Route the report to the plan reviewer (or Central Office Industrial Permit Drafter) for comments regarding the preliminary facility plan.

Deficiencies/Comments:

Issues regarding the plant are not included in this report. The Department does not currently see any issue with the plant. It is in good condition and operating well. Plant age is 16 yrs (1999), and no upgrades needed at this time except for meeting phosphorus final effluent limits. Several phosphorus compliance options are evaluated, including new treatment technologies, individual variance, regionalization, site specific criteria, watershed-based programs (WQT and AM) and alternative discharge location. Plan reviewing is not needed at this time because facility upgrade is not the selected alternative.

### Section 5. Watershed Information

Y N NA

- Watershed description is included with detailed information. Items to include/discuss HUC 12 watershed map, available phosphorus data at point of compliance, other point sources in HUC 12, MS4s in HUC 12, PRESTO result (NPS:PS ratio)
- Potential projects have been discussed, EVAAL results and windshield survey included

Deficiencies/Comments:

A generic watershed feasibility analysis was carried in the first two required reports. AM and WQT options were evaluated using Department guidance, but detailed information were not included. Watershed options were not considered as the best alternatives. The report concluded that AM or WQT may be used as secondary compliance strategy to provide a credit buffer or reduce the extent of a plant upgrade, if finally selected. The disadvantages of lack of control and liability of these options were significant factors cited in the report. See below.

## Phosphorus Checklist to Completeness: Third Year Preliminary Report

### Section 6. Adaptive Management (AM)

Y N NA

- Is the facility eligible for AM? Discussion included regarding the eligibility requirements.
- What are the needed load reductions for AM to be successful (page 35 calculations)?
- Potential partners (MS4s or other treatment plants) are discussed/listed.
- Was the County Land and Water Conservation Department contacted for discussion of potential projects, interest, and participation?
- Practicality of alternative is included. Items to be discussed in addition to above items are local support and local leadership.
- Estimated cost is included. Can be based by minimum reductions needed or total project cost.
- If AM was selected for a compliance option was form 3400-139 (AM request form) included?
- If not determined as a viable option is justification and reason provided?
- Route the report to the AM/WQT Coordinator for comments regarding the selected alternative and request form.

Deficiencies/Comments:

Hartford did a study on implementing watershed-based activities (AM and WQT). The study determined that, for AM implementation, needed phosphorus reduction to meet the Rubicon River water quality criterion for total phosphorus of 0.075 mg/L is 4,248 pounds per year. The report however concludes that since just over 50% of the total P pollutant loading upstream of the plant is from non-point sources, the success of an AM program implementation is limited, and the AM option is not considered viable.

### Section 7. Water Quality Trading (WQT)

Y N NA

- Offset needed has been calculated and included.
- Was the County Land and Water Conservation Department contacted for discussion of potential projects, interest, and participation?
- Where stormwater practices or stream bank restoration evaluated in addition to agricultural practices?
- Practicality of alternative is included. Items to be discussed in addition to above items are local support and local leadership.
- Estimated cost is included.
- If WQT was selected for a compliance option was a NOI (notice of intent) included?

## Phosphorus Checklist to Completeness: Third Year Preliminary Report

- If not determined as a viable option is justification and reason provided?
- Route the report to the AM/WQT Coordinator for comments regarding the selected alternative and Notice of Intent form.

Deficiencies/Comments:

Hartford used a field-level model - SNAP PLUS - for evaluating the feasibility of the WQT option, and some discussions on agricultural practices is included. Although the report concluded that WQT could be useful in helping Hartford achieve the last portion of the P removal, it is not considered the best alternative, because of liability, which the report states, rests with the City, i.e. the City is still responsible for WPDES permit compliance even if trading partners are not implementing necessary measures.

### Section 8. Individual s. 283 Variance

Y N NA

- Were all alternatives evaluated and costs estimated?
- Was the variance option concluded to be the most cost effective option?
- If seeking a variance, was documentation obtained and provided, demonstrating the most cost effective option would result in widespread social and economic impacts?

Deficiencies/Comments:

Alternatives were evaluated and the costs estimated. The multi discharger variance was discussed in some details and its net present value included. The potential for an individual variance was not seriously evaluated. The report indicated that demonstrating that the impact of upgrading the facility would cause rates to increase by more than 2% would be difficult and that the individual variance option is only a short-term alternative.

### Section 9. Financials for Municipalities

Y N NA

- A discussion regarding the current wastewater utility budget was included.
- The user rates compared to the Median Household Income (MHI) has been included.
- Discussion regarding the status of debt and new capital costs has been included.
- Discussion regarding other economic indicators (ie. impact to unemployment, population decreases, loss of jobs, etc.) has been included.

Deficiencies/Comments:

the report did not include discussions on the financial impact to the municipality of meeting the P limit, but cost comparisons for all alternatives, especially various technologies were included.

## Phosphorus Checklist to Completeness: Third Year Preliminary Report

### Section 10. Miscellaneous

Y N NA

- Was in-stream monitoring performed? If so, was the information included?
- Is in-stream monitoring being considered? If so, then is a monitoring plan following page 7 of the AM handbook included?
- Have new low flows been received by USGS?
- Are final limits being recalculated? Is the facility requesting new limits to be calculated by the Department?

#### Deficiencies/Comments:

Department's General Comments: Hartford's 3rd year (Preliminary Facilities Plan) report substantially meets Dept's requirements. The report did not include discussions on Hartford's finances and the financial impact of meeting the 0.075 P limit (e.g. user rates, etc).

To meet the 0.075 mg/L limit, the report recommends the use of enhanced Bio-P in conjunction with cerium chloride or SorbX 100 (rare earth chemical). This is the alternative with the lowest net present value (NPV). But the problem, the report states, is the uncertainty of rare earth long-term availability and the Dept's position on the use of the chemical. However, on December 10, 2015, Hartford provided additional information on its use of rare earth in conjunction with Bio-P, which indicates that after 15 months of trial, the combination of the rare earth chemical and Bio-P continues to provide very positive results. Also, future availability of the rare earth product appears to be assured.

Hartford has back-up plans for meeting the limit should the selected option of enhanced Bio-P in conjunction with cerium chloride or SorbX 100 (rare earth chemical) is no longer feasible. The back-up options are Cloth Filtration in Disc mode and Continuous Backwash Filter in conjunction with WQT.

Hartford should continue to optimize its operation as approved by the Department to reduce phosphorus. Hartford should also continue the use of the rare earth chemical in conjunction with the on-line enhanced Bio-P system. The DNR is still looking at the long-term use of the chemical before determining its suitability. By the time Hartford submits the Final Facilities Planning Report in June 30, 2016, after about 2 years of using the chemical, it is hoped that additional information would have become available and further developments occurred to help Hartford and the DNR make a final determination on the viability of the use of the chemical for P compliance.

The Department commends Hartford for the efforts put into the submitted phosphorus reports.

Preparer Signature:

Timothy Thompson

Preparer Name

Wastewater Engineer

Job Title

Signature of Preparer

Date

**A copy of this completed checklist should be saved in SWAMP, and a notification of document availability should be sent to the Phosphorus Implementation Coordinator.**

AM handbook included?

Have new low flows been received by USGS?

Are final limits being recalculated? Is the facility requesting new limits to be calculated by Department?

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The Department commends Hartford for the efforts put into the submitted phosphorus reports.

arer Signature:

iothy Thompson

arer Name

Wastewater Engine

Job Title

## EXECUTIVE SUMMARY

**TITLE:** Request for Proposals for the Capacity Management, Operations and Maintenance (CMOM) Plan/Program required by WDNR to be in place by August 2016.

**BACKGROUND:** The City of Hartford is required to develop a Capacity Management, Operations and Maintenance (CMOM) Plan under Wisconsin Administrative Code NR 210.23 and must have this program in place by August 1<sup>ST</sup>, 2016. The purpose of the CMOM program is to assure that a sewage collection system is properly managed, operated and maintained at all times and to establish a formalized management system for the City's collection system.

Requests for proposals from consultant engineers were sent to two companies with experience in this field. Proposals were received as follows:

Superior Engineering, LLC, Muskego, WI	-	\$ 9,900.00
Ruekert-Mielke, Waukesha, WI	-	\$12,000.00

**FISCAL IMPACT:** Approximately **\$9,900.00** from the **\$12,000.00** approved Sewer Utility Capital Improvements Projects for 2015 under Account No. 595.370.536258.59301. The work will be completed in 2016.

**RECOMMENDATION:** Appropriate City Officials are authorized to accept the proposal from *SUPERIOR ENGINEERING, LLC, S75 W13139 Oxford Court, Muskego, WI 53150*, in the estimated amount not to exceed **\$9,900.00**.

PREPARED BY: David R. Piquett 12-30-2015  
Dave Piquett Date  
Plant and Collection Systems Director

REVIEWED BY: Dawn Timm 12-30-15  
Dawn Timm Date  
Finance Director/Treasurer

APPROVED BY: \_\_\_\_\_ Date  
Steve Volkert  
City Administrator

ROUTING: Utility Committee - January 4, 2016  
Common Council - January 12, 2016

## DRAFT SCOPE OF SERVICES

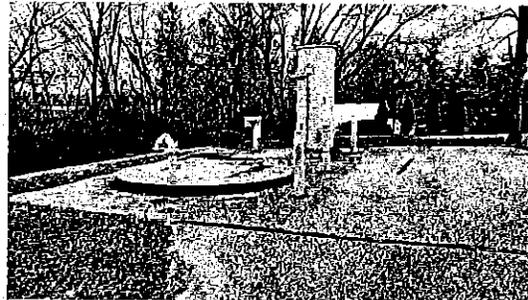
### City of Hartford, WI – Draft CMOM Plan

#### A. General

The City of Hartford recognized a need for some guidance to develop their CMOM Plan and to provide validation of their collection system existing programs including operation, maintenance and rehabilitation. The CMOM Plan is required to be developed under the Wisconsin Department of Natural Resources rule known as the “SSO rule” which was adopted in the Wisconsin Administrative Code under Order WT-23-11 and is in the Register July 2013 No. 691 Code. This rule became effective as of August 1, 2013. Modifications to the rules, specifically NR 110, 208, and 210 were updated. Specific details regarding the SSO /CMOM rule requirements are found in NR 210.23.

The City has many programs in place including an existing inspection and cleaning program, an Operations and Maintenance (O&M) manual for the collection system and a rehabilitation program. The City would like develop a CMOM Plan, validate their practices, discuss other strategies to optimize resources, and to develop an on-going CMOM program that will also assist the City in developing a long-term capital improvements plan (CIP) for the collection system.

Superior Engineering, has developed a scope of services to assist the City in developing their CMOM Plan and to assist in providing a long-term sustainable approach to address the City collection system infrastructure which includes over 89 miles of sanitary sewer ranging from 6 to 42 inches, manholes and 14 pump stations.



#### B. Task 1 – CMOM Plan Elements

Define the critical CMOM Plan components to ensure that the City has a sustainable program. Review existing documents including financial, conduct interviews with existing staff including field staff, and develop a gap analysis for the CMOM Program. CMOM Plan elements will be aligned with the

##### Deliverables:

1. Kickoff workshop with staff to discuss existing programs, outline industry standards and discuss philosophical
2. Gap analysis of the documents and programs.
3. Provide a draft CMOM Plan template – outlining the plan components.
4. Draft performance metrics

### C. Task 2 – Gaps Analysis

This task will involve a 2 to 3 hour workshop to discuss deliverables identified in Task 1, to confirm the gap analysis, finalize performance metrics and to develop a CMOM strategy. This workshop will also address program components that the City will need to develop or enhance. Preparation time and workshop summary are included in this task.

#### Gap Analysis Deliverables:

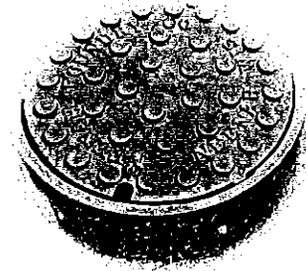
1. Workshop materials and presentation
2. Workshop outcome summary
3. Final performance metrics
4. Define other strategies that need to be developed other than rehabilitation (Task 3)

### D. Task 3 – Rehabilitation Strategy

Develop rehabilitation strategies based on Tasks 1 and 2.

#### Deliverables:

1. Recommendations for a manhole, lift station and sewer rehabilitation program.
2. Provide recommendations for annual budget items for O&M and rehabilitation



### E. Draft CMOM Plan

Based on Tasks 1 through 3, develop a draft CMOM Plan.

#### Deliverables:

1. Draft CMOM Plan – electronic copy

### F. Future Deliverables

Based on the development of the CMOM plan, additional on-going plan components will need to be addressed. These include but are not limited to:

1. Finalize CMOM Plan – electronic and hard copies
2. Update the existing O&M manual
3. Develop SOPs for lift stations
4. Rehabilitation programs
5. Develop private program as required by the SSO rule

Recommendations will be provided for these items based on City staff input on the direction the City needs to implement their CMOM plan.

### G. Schedule/Compensation /Qualifications

- Complete work by June 30th, 2015.
- Not to exceed \$9,900
- See attached resume for Joan B. Hawley, P.E. Superior Engineering, LLC.