



## **Proposal to Prepare a Sanitary Sewer and Water Utility Consolidation Study Scope of Services**

This proposal is for services related to Item No. 2 in our letter dated April 13, 2009. This study will consist of three basic components: an engineering evaluation of water and sanitary sewer system facilities needs; preparation of a preliminary estimate of full-time equivalent staffing needs and operation and maintenance costs for merged sewer and water utilities; and a financial analysis of projected future utility cash flows, revenue requirements and overall rate impacts.

The overall purposes of this analysis will be to evaluate how the water and sanitary sewer systems could be connected; to quantify any future capital cost avoidance that could be achieved by merging the sewer and water utilities; to determine how much of the existing Village utility reserves could be used for tax rate reduction for a consolidated municipality; to estimate the likely impacts on future user charge rates of withdrawing utility reserves; and to determine whether it would be more advantageous for City utility customers to keep the utilities financially separate (i.e. different user charge rates for City customers vs. Village customers) versus merging the utility finances (same rates for City and Village customers).

It is proposed that Ruekert & Mielke will provide these services, with assistance from City and Village staff for the preparation of the estimated O&M budget, as described below.

### **Task 1: Engineering Evaluation**

The purpose of this portion of the study is to identify and analyze the need for new water utility facilities to meet future demands under separate and consolidated utility conditions. In addition, a review of the sanitary sewer facilities will be completed to determine whether planned capital improvements will be impacted by consolidation. Utility facilities that will be considered in this study will include sanitary pumping systems, water supply, water pumping, water storage and water distribution facilities. The analysis will look at the utility facility needs for both communities under independent and merged conditions.

#### **A. Water Utility Work Tasks:**

##### **1. Identify Service Areas**

The draft SEWRPC Regional Water Supply Plan (RWSP) assumed the Village would supply future development in the City north and west of the Village. The service areas will be reviewed to determine if the communities agree with SEWRPC's assumptions.

##### **2. Develop Future Demands**

Future water demand projections will be based on those developed by SEWRPC as part of the draft RWSP. Using SEWRPC's projections (modified, if necessary, from Task 1 above), determine future water demands. SEWRPC's projections are



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for 2035. Pro rate demand projections also for an intermediate time frame, say, 2015.

3. Assess the Capabilities of the Existing Facilities

Review and confirm capacities of all water supply, pumping and storage facilities for both communities.

4. Create/Update the Distribution System Computer Model

Updated computer models are necessary to analyze each system separately and both systems combined. Having accurate models of both systems will allow us to determine the sizes and locations for large diameter water mains needed in the case where the systems remain separate or if they are combined. Our existing model of the City's system may need some minor updating.

We currently do not have a model of the Village's system. However, we maintain the Village Geographic Information System and will be able to use this information to create the initial model.

Our existing model of the City's system is calibrated and adding the few new mains not currently included in the model is not likely to throw off the calibration. We have included a total of 12 hours to calibrate the models for both communities. We have also included one day of hydrant flow testing for both systems in order to check the model calibration. If field results reasonably match model results, the model is accurate enough to represent the distribution system for predicting the flow rates and pressures associated with any proposed system improvements.

Sometimes field results don't match model results. A common reason for this is closed valves in the distribution system. When results don't match, additional time may be required to determine the reason. Sometimes additional field testing is needed to find closed valves. Additional time to calibrate the systems in excess of those hours listed above are outside of the scope of this proposal and can be provided, in addition to this agreement, at our current hourly rates.

5. Analyze the Adequacy of Existing Facilities

Knowing the projected water demands and the capabilities of existing water supply, pumping and storage facilities, determine whether the existing facilities are capable of meeting projected demands. An analysis for both separate and combined systems will be completed.



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6. Propose New Facilities and Analyze their Adequacy

Assuming the analyses of existing facilities shows that new facilities are needed to meet projected demands, propose appropriate new facilities. Analyze system capacities with the proposed new facilities in place to verify that projected demands will be met. New facilities will be proposed and analyzed for separate systems within each community as well as for a combined system.

7. Estimate Capital Costs

Develop capital cost estimates for all recommended new facilities. For this planning level study, cost estimates are expected to vary from actual costs by a factor of plus or minus 25 percent.

B. Sanitary Sewer Utility Work Tasks:

1. Review Previous Studies and Pending Study Proposals

Obtain previous studies and pending study proposals from each community. Review recommendations in previous studies and proposals for engineering impacts resulting from a utility merger. A study is currently proposed within the boundaries of the City of Pewaukee to analyze local service for development proposed in the City's northwest side. Because the development will also be served by the Village's collection system, there is another study proposed within the boundaries of the Village to analyze the impacts of the proposed development on its system. Development in this area of the City is currently on hold. As a result, the pending study proposal efforts for this area are also on hold. We recommend the northwest area studies be completed before this study is conducted. However, if both communities desire to delay the northwest area studies, then conceptual future service area assumptions will be made in their absence.

2. Review Existing Agreements

Obtain and review existing sewer service, conveyance or treatment agreements that the Village and City have entered into to assess whether potential capital improvement impacts would result from a utility merger.

3. Identify Service Areas

Existing service areas will be based on sanitary sewer service areas approved by SEWRPC for each community. Topography, planned land use and development interest will be reviewed to develop future potential service area expansions.



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Proposed future service area expansions will be reviewed against existing agreements between the two communities and the current facilities plan for the Fox River Water Pollution Control Facility in the City of Brookfield. The review will assess whether potential capital improvement impacts would result from a utility merger.

4. Assess Treatment Capacity

Obtain the amount of treatment capacity allocated to each community by the Fox River Water Pollution Control Facility in the City of Brookfield as well as the amount of treatment capacity currently used by each. Determine the remaining available treatment capacity for each community to estimate the amount of growth that can be achieved under any existing agreements.

5. Summarize Existing Flow Data

Obtain and summarize existing sewage pumping record data that is readily available from each community. If existing flow data is not known at a desired critical point of the collection system, the data can be determined by monitoring flows and/or applying SEWRPC sewage flow factors to estimated residential population and area of non-residential development. Determining existing flow data is outside of the scope of this study and can be provided, in addition to this agreement, at our current hourly rates.

6. Analyze the Capacity of Existing Facilities

Staff from each community indicated that their existing sanitary sewer collection facilities are currently operating below their design capacity limits. Obtain from each community any records of sewer surcharging or bypassing that may have occurred under dry or wet weather flow conditions. Obtain the pumping capacities of sewage pump stations from each community. Existing pumping record data will be reviewed against design capacities and summarized in the report.

7. Capital Improvement Plan Review

As previously stated, existing sanitary sewer collection facilities are reported to be operating below design capacity. Unlike water supply and distribution facilities, sewage collection facilities do not typically have redundant systems. Therefore, this study assumes that future capital improvements for each system will be limited to maintenance of existing facilities, extension of existing facilities to serve new areas or expansion of existing facilities to serve new areas. Based on that assumption, capital improvements to either community's system will not be



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impacted by consolidation. However, existing capital improvement plans from each community will be reviewed to verify the assumption.

Developing a capital improvement plan for the collection systems is outside of the scope of this study and can be provided, in addition to this agreement, at our current hourly rates.

C. Report:

1. Prepare a Preliminary Report

Prepare a preliminary report explaining the study methodology including projected water demands and wastewater flows, analysis of existing and proposed facility capabilities and estimates of capital costs for any proposed facilities. The report will include exhibits showing the general location of existing facilities analyzed as well as proposed facilities using digital utility base mapping provided by each community. Provide copies of the preliminary report to the Director of Public Works for each community for their review.

2. Prepare a Final Report

Incorporate review comments from both Directors of Public Works. Provide copies of the final report to the Merger Advisory Committee members and Director of Public Works for each community. Attend a meeting of the Merger Advisory Committee and present findings of the report.

Services specifically excluded from the water and sanitary sewer work tasks include: design phase services, construction phase services, system model calibration services unless specifically listed above, work proposed to be completed by other studies yet to be conducted, determination of existing sewage flow data, development of a sanitary sewer collection capital improvement plan and reimbursable expenses such as printing, reproduction and mileage.

Task 2: Prepare a Preliminary Plan for Utility Staffing and Proposed Merged Operation and Maintenance Budgets

It is assumed that the City and Village Directors of Public Works will work together to prepare a preliminary estimate of the full-time equivalent staffing needs and estimated operation and maintenance budgets for the merged sewer and water utilities. It is suggested that City and Village staff prepare a one-year budget based on the Village and City utilities' actual 2009 budgets, similar to the analysis that was prepared for the Merged 2009 General Fund budget. Our role in this process will be limited to facilitating this discussion as needed, and reviewing the proposed budgets put together by City and Village staff.



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### Task 3: Financial Analysis and Rate Analysis

#### A. Data Gathering

We will work with City and Village staff to obtain and review the proposed merged utility budgets, the 2006 - 2008 audited financial statements for the water and sewer utilities, the last 3 years' history of the number of customers, water demand and billable wastewater flow, as well as any other information that may be determined to be necessary.

#### B. Financial Forecasts if the Utilities Remain Financially Separate

This analysis will be based on the scenario that the sewer utility functions as a single entity, maintained by the same staff, and that the water utility similarly functions as a single entity, maintained by the same staff and physically connected. However, there would be separate utility district budget accounts for purposes of maintaining different user charge rates. The utility district serving customers in what is now the City will be referred to in this proposal as the "City" utilities, while the utility district serving customers in the current Village will be referred to as the "Village" utilities.

1. Develop a methodology and allocate the proposed merged O&M budgets for sewer service and water service between the "City" utilities and the "Village" utilities.
2. Develop a methodology and allocate each of the future capital projects between the "City" utilities and the "Village" utilities.
3. Prepare forecasts of future O&M budgets for each of the four utilities, using the allocated costs as a beginning point and applying an inflationary factor.
4. Prepare forecasts of the number of customers, water demand and wastewater flow for the utilities, based on the projected future demand and future flows developed for the engineering analysis described above.
5. Prepare forecasts of other, non-user charge revenues for each utility.
6. Prepare forecasts of future capital costs, taking into account debt service for existing bonds and notes, plus estimated debt service for each utility's allocated portion of future capital costs.



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7. Prepare forecasts of net revenue requirements for each utility (O&M plus capital costs, less other revenues).
8. Prepare forecasts of user charge revenues from existing rates based on the forecasts of customers, water demand and wastewater flow.
9. Prepare a ten-year cash flow projection for each utility, showing revenues, expenses, net income and reserve balances. Show the timing and approximate magnitude of projected future user charge rate increases.
10. Prepare several alternative cash flow projections for the Village water and sewer utilities showing different levels of withdrawal from existing reserve balances for creation of a tax rate reduction fund. For each scenario, show the timing and approximate magnitude of projected future user charge rate increases.

C. Financial Forecasts if the Utilities are Completely Merged

For this analysis, we will prepare financial forecasts and projected future rate adjustments for the scenario where the utilities would be merged financially as well as physically, and all customers, whether in the current City area or current Village area, would have the same user charge rates.

1. Prepare forecasts of future O&M budgets for the sewer and water utilities, using the allocated costs as a beginning point and applying an inflationary factor.
2. Prepare forecasts of the number of customers, water demand and wastewater flow for the utilities, based on the projected future demand and future flows developed for the engineering analysis described above.
3. Prepare forecasts of other, non-user charge revenues for the sewer and water utilities.
4. Prepare forecasts of future capital costs, taking into account debt service for existing bonds and notes, plus estimated debt service for each utility's allocated portion of future capital costs.
5. Prepare forecasts of net revenue requirements for the sewer and water utilities (O&M plus capital costs, less other revenues).
6. Prepare forecasts of user charge revenues from existing user charge rates based on the forecasted customers, water demand and wastewater flow.



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7. Prepare a ten-year cash flow projection for each utility (sewer and water), showing revenues, expenses, net income and reserve balances. Show the timing and approximate magnitude of projected future user charge rate increases.
8. Prepare several alternative cash flow projections for the merged water and sewer utilities showing different levels of withdrawal from existing Village reserve balances for creation of a tax rate reduction fund. For each scenario, show the timing and approximate magnitude of projected future user charge rate increases.

D. Develop Recommendations

Based on the analysis described above, we will prepare recommendations regarding the amount of funds that could feasibly be withdrawn from existing Village utility reserves. We will also make a recommendation as to whether the consolidated municipality should maintain financially separate (but physically connected) "City" and "Village" utility districts, if the City and Village decide to pursue the use of existing Village utility reserve funds as part of a plan to consolidate.

Task 4:Report

A. Prepare a Preliminary Report

Prepare a preliminary report explaining the study methodology and findings. Provide copies of the preliminary report to the Administrator and Director of Public Works for each community for their review.

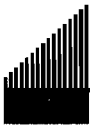
B. Prepare a Final Report

Incorporate review comments from both Village and City staff. Provide copies of the final report to the Merger Advisory Committee members, Administrators and Director of Public Works for each community. Attend a meeting of the Merger Advisory Committee and present the findings of the report.

Deliverables

Deliverables for this process will include the following:

1. Report on the engineering evaluation of both the water and sanitary sewer systems of the Village and City, as described above.
2. Report on the financial analysis for the water and sewer utilities, as described above.



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Cost

Ruekert & Mielke's estimated costs to complete all of the items included in this proposal are as follows:

Engineering evaluation of the City and Village water utility systems (including report preparation)	\$28,000
Engineering evaluation of the City and Village sewer utility systems (including report preparation)	\$15,000
Financial analysis related to the consolidation of Village and City sewer and water utilities (including report preparation)	\$16,000
Total	\$59,000.