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**MUNICIPALITY OF MONROEVILLE**

**RESOLUTION NO. 0161**

**RESOLUTION OF THE MUNICIPALITY OF MONROEVILLE  
REQUESTING THE MONROEVILLE WATER AUTHORITY TO  
INITIATE AN STUDY ANALYSIS AND EVALUATION OF  
THE MONROEVILLE SANITARY SEWER FACILITIES AND  
UPDATE SAID SANITARY SEWER SYSTEM  
INFRASTRUCTURE**

**WHEREAS**, the Monroeville Sanitary Sewer Committee recommends that the Monroeville Water Authority be tasked with providing a study analysis and evaluation that would evaluate the Sanitary Sewer System in Monroeville and provide an estimation of value; and

**WHEREAS**, such a study is in the general health, safety and welfare of the Community.

**NOW, THEREFORE, BE IT RESOLVED**, by Council for the Municipality of Monroeville, as follows:


1. The Monroeville Water Authority initiate a study, analysis and evaluation of the Monroeville Sanitary Sewer System and provide an estimation of value for the same consistent with the terms and conditions of the March 7, 2001 outline, which is attached hereto marked Exhibit "A" and made part of this Resolution.
2. The proper Municipal officials are instructed to notify the Monroeville Water Authority and provide them with a copy of this instant Resolution.
3. All Articles, Amendments, Resolutions or parts thereof that are inconsistent with this Resolution shall be repealed to the extent that they are inconsistent herewith.
4. If any sentence, clause, section, or part of this Resolution is for any reason found to be unconstitutional, illegal or invalid, such

unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts of this Resolution. It is hereby declared as the intent of the Municipal Council that this Resolution would have been adopted had such unconstitutional, illegal or invalid sentence, clause, section or part thereof not been included herein.

**BE IT RESOLVED AND ENACTED**, this 10th day of July, 2001.

ATTEST:

  
Marshall Bond, Municipal Manager

  
Abe Comunale, Mayor

ENTERED INTO LEGAL BOOK : July 20, 2001

## Task 1: Estimate the Value of the Existing Facilities

The purpose of this task is to produce an estimate of the current value of the existing facilities. The value of the facilities will be one factor to be considered in the determination of an appropriate transfer price.

### Task 1.A: Develop an Inventory of the Sewage Collection Facilities

#### Task 1.A.1: Obtain the Current GIS Mapping of the Sewage Collection System

The Municipality has developed GIS mapping of the sewage collection facilities. This consists of a map of manholes and sewer lines. This information is not complete and is not completely accurate. However, it appears that as much as 90 percent of the sewer system is contained in this mapping system and any errors are relatively minor in nature. Therefore, the existing GIS mapping will serve as an adequate basis for this analysis.

#### Task 1.A.2: Obtain Information Relative to Sizes and Materials of Construction of Collector Sewers

The existing GIS does not contain information relative to pipe sizes. Therefore, information defining the sizes and materials of construction of the sewers comprising the collection system will be obtained from the Municipality. Based upon preliminary discussions with Municipal personnel, we anticipate that this information will take the form of a marked up copy of an overall plan view base map of the system produced using the GIS. The diameters of all sewers and the materials of construction, where known, will be indicated on the map. The marked up map will be delivered to us so that the known sewer line diameters can be placed in the existing GIS.

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**Task 1.A.3: Add Pipe Size and Materials of Construction Information to the GIS**

The GIS will be updated using the information provided by the Municipality under Task 1.A.2 to include pipe size and materials of construction information for the mapped pipe segments.

**Task 1.A.4: Obtain Information Relative to the Ages of the Collector Sewers and Manholes**

The existing GIS does not contain information relative to the dates of installation of the sewer facilities. Therefore, information defining the approximate age of the sewers comprising the collection system will be obtained from the Municipality. Based upon preliminary discussions with Municipal personnel, we anticipate that this information will take the form of a marked up copy of the base map of the system produced using the GIS. The approximate dates of installation of sewers throughout the Municipality will be indicated on the map. The marked up map will be delivered to us and the information will be added to the GIS database.

**Task 1.A.5: Obtain Information Describing the Materials of Construction of Manholes**

The existing GIS does not contain information relative to the materials of construction of manholes. Therefore, this information will be obtained from the municipality. It is anticipated that this information will be provided as a marked up copy of the base map of the system produced using the GIS. The materials of construction of manholes will be indicated on the map. The marked up map will be delivered to us and the information will be added to the GIS database.

**Task 1.A.6: Add Age Information to the GIS**

The GIS will be updated using the information provided by the Municipality under Task 1.A.4 to include dates of installation for the sewage collection facilities.

**Task 1.A.7: Assemble an Inventory of Sewage Collection Facilities**

The GIS will be used to develop an inventory of the Municipality's sewage collection facilities based upon the mapping completed to date. This inventory will present the total lengths of sewers by size, materials of construction, and age categories. The inventory will also

contain a count of manholes by materials of construction and age categories.

**Task 1.B: Develop an Inventory of Sewage Pumping Stations**

**Task 1.B.1: Obtain Information Describing Each Sewage Pumping Station**

A listing of the sewage pumping stations in the system will be obtained from the Municipality. This listing will include information relative to the nominal pumping capacity of each station and the number and capacities pumps in each station. Information obtained from the Municipality will also include the dates of original construction and the dates of any subsequent major rehabilitation projects for each station.

**Task 1.B.2: Assemble an Inventory of the Sewage Pumping Stations**

The information obtained under Task 1.B.1 will be assembled into an inventory of pumping stations.

**Task 1.C: Develop an Inventory of Real Property and Rights-of-Way to be Transferred**

**Task 1.C.1: Obtain a Listing of Real Property and Rights-of-Way to be Transferred**

A listing of any real property and rights-of-way that would be transferred as part of the sewerage system will be obtained from the Municipality. This information should identify specific parcels and associated parcel identification numbers.

**Task 1.C.2: Develop an Inventory of Real Property**

The information obtained under Task 1.C.1 will be compiled into a tabular inventory of real property and rights-of-way to be transferred.

**Task 1.D: Develop an Inventory of Major Equipment and Materials to be Transferred**

**Task 1.D.1: Obtain a Listing of Major Equipment and Materials to be Transferred**

A listing of major equipment and materials to be transferred as part of the sewerage system will be obtained from the Municipality. This

listing should include major equipment and vehicles, including model and type, date of purchase, and age.

#### Task 1.D.2: Assemble an Inventory of Major Equipment and Materials

A tabular inventory listing of the major equipment and materials to be transferred will be developed using the information obtained under Task 1.D.1. This inventory will include specific equipment models and dates of purchase.

#### Task 1.E: Estimate Replacement Costs for Each System Component

Replacement cost estimates will be developed for each of the following system components: collection system sewers and manholes, pumping stations, and major equipment and materials. Costs will be estimated based upon the sizes and lengths of sewers, the number of manholes, and the number and capacity of the pumping stations contained in the inventory of existing facilities. Cost estimates will be prepared using costing data contained in published cost estimating guides and our experience with similar projects.

Replacement costs for major equipment items will be based upon current prices for similar equipment.

#### Task 1.F: Estimate the Current Value of Each System Component

Using accepted procedures, the replacement value of each system component will be determined by depreciating the replacement cost according to the age of each component and its associated expected useful life. This will produce an estimate of the current (depreciated replacement) value of each system component.

#### Task 1.G: Determine the Assessed Value of Real Property

Current (latest County tax assessment ) property assessment data will be used to establish the value of real property to be transferred as part of the sewerage system.

#### Task 1.H: Calculate the Estimated Total Replacement and Depreciated Value of the Existing System

The current replacement value and depreciated value of each component of the sewerage system will be summed to produce estimates of the total value of the existing facilities, equipment and materials, and property.

### Task 2: Estimate the Cost of Anticipated Required Near-Term Capital Improvements

The purpose of this task will be to produce an estimate of near term major capital improvements that are expected to be required within the next 5 and 10 years. The nature and scope of the required improvements will be based upon the following general categories:

- Improvements required to address existing system performance. Typically, such problems include general system capacity deficiencies; wet weather surcharging and flooding within the system; and major equipment replacement requirements (typically pumps, motors, starters, etc.).
- Improvements required to comply with existing and anticipated state, local, and federal regulations.
- Improvements to existing Water Authority facilities required in order to assimilate sewerage system operations. This would include, but not necessarily be limited to, a review of the existing Water Authority buildings and properties in order to determine what improvements may be needed in order to integrate sewerage system operations into these facilities.

#### Task 2A: Identify Improvements to Address Existing System Performance Problems

##### Task 2.A.1: Interview Key Sewerage System Operating Personnel

Key personnel knowledgeable with the operations of the sewerage system will be interviewed. The purpose of these interviews will be to obtain information relative to the overall performance and condition of the system, identify specific problems, and solicit input into the identification of specific improvement project needs.

##### Task 2.A.2: Obtain and Review Available Engineering Reports

Engineering reports prepared during the past 40 years will be obtained and reviewed in order to assist in characterizing system performance and identifying improvement needs. Reports to be obtained and reviewed will include, Act 537 Facilities Planning Studies, Chapter 94 Wasteload Management Reports, Section 308 Sanitary Sewerage System EPA Flow Monitoring Reports, and miscellaneous engineering feasibility studies. It is anticipated that these reports will identify specific system improvement needs. They will also provide general information useful in assessing system performance and conditions.

**Task 2.A.3: Obtain and Review Listings of Proposed Immediate and Future Capital Expenditure Projects**

Relevant portions of the Municipal budget reports for the last ten years will be obtained and reviewed to identify specific capital expenditure projects (and associated budgets) that have been proposed during the last ten years. This listing of projects will be reviewed with Municipal personnel to identify proposed capital projects that have not yet been implemented.

**Task 2.A.4: Obtain and Review Customer Complaint Records**

Tabulations of records of customer complaints covering the past ten years will be obtained and reviewed. It is anticipated that this analysis will identify any persistent problem locations that should be addressed during the near term.

**Task 2.A.5 Complete an Inspection of Pumping Stations to Assess Conditions and Compliance with Current Standards**

Inspections of each of the sewage pumping stations will be completed for the purpose of characterizing the conditions of the stations and associated equipment and identifying any required near term improvement requirements.

**Task 2.A.6: Obtain an Inventory of Bypasses and Overflows**

An inventory of existing sewage bypasses and overflows will be obtained from the Municipality. To the extent that the information is provided by the Municipality, the inventory will include information defining the locations, causes, frequency of occurrence, and durations and volumes of bypasses/overflows.

**Task 2.A.7: Assemble a Preliminary Set of System Performance Improvement Projects**

The information obtained in the preceding tasks will be used to assemble a set of system performance improvement projects. Costs associated with these improvements will also be developed. This set of improvements and associated cost estimates will be preliminary and conceptual in nature and limited by the amount of available information.



### Task 2B: Identify Improvements Required for Regulatory Compliance

Current and anticipated regulations relative to the operation of separate sanitary sewer systems, separate sanitary sewer overflow regulations and initiatives, and combined sewer overflow issues (particularly in regard to ALCOSAN's CSO Long Term Control Plan) will be reviewed. The likely impact of these regulations on the operations of the Monroeville system and associated capital improvements will be identified as much as they can be. General concept level cost estimates will be developed for capital improvements required to meet anticipated regulatory requirements.

### Task 2.C: Identify Improvements to Existing Water Authority Facilities Required to Assimilate Sewerage System Operations

The transfer of the sewer system to the Water Authority may create needs for additional office, garage, and storage space. The ability to provide adequate additional space in existing Water Authority facilities will be evaluated and any requirements for additional space will be identified. Preliminary cost estimates will be developed for providing such space. The existing 25-year capital improvement plan for the Water Authority will also be reviewed so that long term capital improvements identified within that plan that may affect the incorporation of the sewerage system operations can be included within the scope for future improvements.

### Task 2.D: Calculate the Total Capital Cost for Anticipated Required Near-Term Improvements

The estimated costs for each of the three categories of near-term improvements will be summed to produce a total project estimate for anticipated required near-term improvements.

### Task 3: Estimate Annual Operating Costs

Annual operation and maintenance costs will be estimated based upon an analysis of current and anticipated future costs.

#### Task 3.A: Obtain and Review Municipal Budget Information

Municipal budget information for the past ten years relative to the operations of the sewerage system will be obtained. This information will be reviewed to extract data detailing the cost of operating the sewerage system. This will include labor, materials, equipment, administrative, and treatment costs.

#### Task 3.B: Describe the Existing Sewer System Operations Staffing Organization

The existing staffing and organization of the personnel involved in existing sewer system operations will be described.

**Task 3.C: Identify Appropriate Staffing Levels and Organization**

A benchmarking analysis will be conducted using information obtained from sewerage utilities of a similar size and nature. EPA Standards documents for appropriate staffing levels will also be consulted. This analysis will identify staffing levels and organizational structures typical of similar operations. This information will be compared to the current organization. Anticipated future staffing levels and organizational structure will be developed based upon this analysis.

**Task 3.D: Identify Typical Sewerage System Operating Costs**

A benchmarking analysis will be conducted using information obtained for sewerage utilities of a similar size and nature. This analysis will identify typical operating costs of similar municipal sewerage systems. This information will be considered in the adjusting of the existing operating costs to reflect future operations.

**Task 3.F: Estimate Future Annual Operating Cost**

Future annual operating costs will be estimated based upon the information developed under Tasks 3.A through 3.D. A five year projection will be provided for planning purposes.

**Task 4: Estimate the User Charges Required to Finance the Transfer of the Sewerage Facilities**

This task will produce an estimate of the impact the transfer of the sewerage facilities will have on the existing sewer user charges. The analysis will be performed based upon the following assumptions:

- The facilities will be transferred at a charge equivalent to the estimated current value (as established under Task 1)
- The identified near-term improvements (as identified under Task 2), together with the facilities transfer charge, will be financed via the sale of revenue bonds at the time of the transfer.
- The user charge will be sufficient to cover the annual operating costs (estimated under Task 3) and debt service on the revenue bonds.

**Task 4.A: Obtain Current Rate Structure and Billing Information**

Information describing the existing schedule of user charges and customer billing information will be obtained.

**Task 4.B: Estimate Annual Revenue Bonds Debt Service Costs**

The annual debt service costs for a revenue bond issue covering the cost of the transfer of the facilities and the implementation of the identified near-term improvements will be estimated. Annual debt service costs will be calculated based upon prevailing revenue bond market interest rates.

**Task 4.C: Estimate the Total Annual Revenue Requirement**

Total annual revenue requirements will be estimated by summing the debt service and operating costs.

**Task 4.D: Calculate the User Charges Required to Meet the Annual Revenue Requirement**

The existing rate structure and billing records will be analyzed to determine what changes (if any) to the existing user charge rate structure will be required to finance the transfer and operation of the sewerage system.

**Task 4.E: Adjustment of Potential User Charges Based on Acceptable Threshold for User Charges**

This task will serve to provide an estimation of the system transfer cost or price that can be supported by acceptable user charges.

If the calculated or estimated user charges (determined under Task 4.D) exceed what the Water Authority and/or Municipality believe is an acceptable charge to the Sewer System Customers, then a mutually acceptable estimation of allowable user charges will need to be obtained from the Water Authority and Municipality. This estimation of allowable user charges will be utilized to develop an estimate of operating annual revenue from which estimated annual operating and debt service charges can be subtracted from. An acceptable system transfer cost that can be supported by the resulting estimate of net operating revenues can then be estimated.

**Task 5: Prepare and Present a Preliminary Summary Report**

A preliminary summary report will be prepared and presented. This report will present a summary of the investigations and findings performed during this study.