

## **ARTICLE 12 - STORM WATER MASTER PLAN**

### ***Scope of Work***

The two major components of the Storm water Master Plan will be the Storm Water Facilities Plan and the Storm Water Finance Plan. Details of each effort is provided below and Report requirements are also listed.

### **STORM WATER FACILITIES PLAN**

- Work with the Town's GIS Coordinator to update the storm water GIS layer. The Town's GIS Coordinator will integrate findings and new data into the Town's GIS. The Town's current GIS information will be used as a basis for this work. It is understood that this current data includes topography, drain manholes, catch basins, outfalls, and numerous other physical features such as roadways, parcels, and water ways. The Town's GIS Coordinator will provide this data.
- Conduct field visits to a To Be Determined amount of Town-owned drainage structures, including approximately 1,000 drain manholes, 1,500 catch basins, and 300 outfalls. Note the outfall inspections will be for the purpose of illicit connection potential review. Update the location of drain system components into the Town's GIS and PeopleGIS systems.
- Identification of potential illicit discharges and recommendations for further actions.
- Review all existing Town Drainage information with particular emphasis given to known drainage problem areas. This data is available at the DPW.
- Meet with Town staff and set goals for stormwater design. Develop conceptual level improvements plans for up to 40 existing and/or new drain areas in town. These plans shall include a listing of alternatives, the components of each alternative, and associated costs.
- Recommend solutions for up to 20 existing drainage problems.
- Prepare maps of existing conditions and recommendations for the 20 locations.
- Prepare capital costs and maintenance costs for all improvements for the 20 locations.
- Prepare maintenance costs as appropriate for additional items observed in field.
- Review the Town's existing Phase II Stormwater program and efforts and if additional efforts/tasks/equipment/etc is required to comply with existing requirements. If items are identified, list each item and the capital and O&M costs associated with each outstanding issue. Make a recommendation as to whether these items should be accomplished by Town personnel or private personnel and develop an implementation plan of these outstanding items. The plan should list the item, cost, entity responsible for completion, and date by which item will be completed.
- Provide a listing of the items that will be required of the due to the new Phase II Storm Water requirements that are to go into effect in July 2017. List each item and the capital and O&M costs associated with each issue. Make a recommendation as to whether these items should be accomplished by Town personnel or private personnel

and develop an implementation plan of these items. The plan should list the item, cost, entity responsible for completion, and date by which item will be completed.

- Provide summary table of the work listed above to take place over the next 10 years, from FY19 to FY28. These tables should be broken out into two major categories: Capital and O&M. A total of 20 tables will be created. This intention of this effort is to include this information in future budget requests.

## **STORM WATER FINANCE PLAN**

This effort will involve a review of available finance options to fund the projects included in the Facilities Plan. Options include, but should not be limited to:

- 1) Outside funding Assistance
- 2) Tax Rate
- 3) Sewer Rate
- 4) New Development contributions
- 5) Impact fees
- 6) New Utility Charge

The Finance plan must provide detailed on the options listed above especially on how each of the rates listed above would be impacts by the projects listed in the Facilities Plan. Much existing information exists on items 1 thru 5 listed above. Information is provided below on Item 6 and must be included in the SWMP. This information is provided as a guide as to what will be required. Some of the information listed within it is already to be provided in the Facilities Plan. Therefore it will not have to be recreated as part of the Finance Plan.

### **New Utility Charge**

#### **Task 1 – Program Review**

Meet with Town Staff to:

- Review current programs, organization structure, and practices and procedures
- Interview staff to discuss in detail current conditions and what stormwater elements are currently funded
- Review available documents, permits and budget information

Prior to the Program Review meeting, submit a data request list to solicit information needed for analyses. Readily available information regarding asset inventory, land use, past and ongoing stormwater management activities, and current organizational structure must be reviewed to develop an understanding of current responsibilities, operational costs, databases available for developing customer and billing structures, and watershed boundary limits.

As part of the Program Review, look ahead to the Stormwater Management Program

Development task. Confirm goals and objectives of the study; discuss future growth plans including the impact of the proposed development district; and identify potential organizational models, forecast assumptions and policies to be used in determining the annual revenue requirements for stormwater services, including:

- Capital project and operations & maintenance needs
- Levels of service and funding options
- Potential organizational models

#### Task 1 Deliverables

- *Establish current Level of Service*
- *Summarize existing stormwater management costs*

### **Task 2 – Stormwater Management Program Development**

An organizational model defines an organization through its framework, including lines of authority, communications, duties and resource allocations. A model is driven by the organization's goals and serves as the context in which processes operate and business is done. The ideal model depends on the nature of stormwater requirements and the challenges it faces. Work with Town staff to identify both short and long-term goals and priorities for management of the Town's stormwater system. These may include:

- Flood mitigation
- Regulatory compliance
- Infrastructure expansion/rehabilitation
- Capital backlog
- Acquisition of private stormwater facilities
- Asset management/condition assessment

### **Organizational Structure**

Review the Town's organizational structure and make recommendations in this regard.

### **Program Priorities/Requirements**

The following are specific activities that will be conducted to identify program requirements and priorities:

- Verify program objectives with Town staff.
- Conduct an assessment of program activities and priorities for compliance. The assessment will include administration, operations, regulatory and compliance record

(ordinances, audits, etc.), organization and staffing strategies, stormwater work practices (e.g., permit related activities, plan review, maintenance, CIP, etc.), business processes, information/GIS systems, and data and capital requirements to address flooding and water quality. The assessment will focus on stormwater management regulations, MS4 General Permit, and TMDL requirements,. This review and assessment will facilitate the development of a high- level road map for prioritizing future improvement and permit compliance efforts.

- Estimate the quantity/type of stormwater management infrastructure (system components) and management requirements to be maintained by the Town using available data sources, staff interviews, and limited field work – this infrastructure will include traditional stormwater infrastructure and also road drainage systems and stream restoration activities .
- Define maintenance program costs based on facility types, estimated condition, and Level of Service (LOS) goals related to compliance with the six minimum control measures required by the MS4 regulations. Level of service goals may include:
  - Minimum permit requirements
  - Maintain operations as they
  - Plan for future projects
  - Take ownership of all stormwater facilities
- Develop overall program revenue requirements based on LOS including capital costs, operation and maintenance costs, administrative costs, other service and management costs, and existing debt.

## Financial Plan

Based on the information compiled above, prepare a financial plan forecasting short and anticipated long-term requirements and presenting ten years of revenue requirements for the proposed stormwater utility. The financial plan will include the following elements:

1. **Capital Improvements Program (CIP).** Review the existing planned stormwater projects and identify additional projects required to address flooding, water quality, and regulatory requirements.
2. **Debt Analysis.** Review and incorporate any existing debt service into the financial plan and project future debt based on the capital improvement program and priorities developed herein. The financial plan will comply with all bond and loan covenants.
3. **Funding Sources.** The financial model will identify sources of funds applicable to the CIP that will result in the lowest impact on user fees. Project the most appropriate funding sources for improvements, taking into account grant and low interest loans available on the state and national level.

4. **Revenue Analysis.** Project revenue requirements for ten years. Also consider alternative revenue sources and other factors that may impact revenues (i.e., growth rates, collection rates).

Review direct and indirect operating expenses based on the current conditions' operations and maintenance (O&M) budget and future O&M requirements as well as capital requirements. The forecast must recognize changes in projected operations and cost of implementing regulatory requirements to achieve targeted stormwater infrastructure maintenance and MS4 General Permit requirements and the allocation of costs between the stormwater utility and any other Town department such as sewer division.

Allow for allocation of costs and application of specific assumptions to individual line items of the Town's budget to assess sensitivity of rate impacts to alternative assumptions.

Upon compilation and review of available information and data, facilitate a workshop to examine regulatory requirements, current and proposed levels of service, project priorities, organizational requirements, current and projected capital and operation maintenance costs associated with stormwater management activities, costs associated with the implementation of a stormwater authority and the allocation of such costs. Prepare a memorandum summarizing findings of the workshop and present a ten-year stormwater management financial projection including proposed funding options and projected revenue to be recovered from user fees.

### Task 2 Deliverables

- *Estimate the quantity/type of stormwater infrastructure to be maintained by the Town*
- *Recommend future Level of Service*
- *Develop annual cost estimate for all stormwater program services for next ten years*
- *Develop a high-level road map for prioritizing future improvement/permit compliance efforts*

### Task 3 – Public Outreach / Education

Of all the tasks, the development of a Public Outreach/Education Plan is probably the most critical to achieving acceptance of the Town's Stormwater Program and successful implementation of the stormwater utility. To promote buy-in of elected officials and internal/external stakeholders, this plan must be designed carefully to address the anticipated concerns of the stormwater utility customers.

### Concept Acceptance

Community acceptance of the stormwater programs and funding concept is essential to the

success of the program and to gain endorsement and ultimate adoption of the rate ordinance by the Town. The Consultant must focus on three categories of customers in order to develop the support necessary for this project. First is residential property owners (including small community groups), second is nonresidential property owners (especially large-parcel owners, developers, and consultants), and the third is Town Boards and management staff. Specific strategies for each group will be developed. Representatives from these groups must be part of a Stakeholder Advisory Committee (SAC) discussed later in this section.

### **Outreach Materials and Feedback**

The key for the public outreach/education plan is early implementation and a reliable feedback system. The feedback received from the public, especially the SAC, during implementation will be used to shape the program strategy and make decisions on policy issues. The consultant must prepare brochures, newspaper ads, CDs, web pages, billing inserts, and videos in support of stormwater programs and stormwater utility development efforts. They must work with Town staff to determine the most appropriate materials to be used and provide examples of other materials used in other parts of the country for evaluation and discussion.

### **Presentations and Facilitation**

Work with Town staff to prepare materials for presentations to the SAC, Town and general public. Specifically, we will work with Town staff in the preparation of materials to build on their knowledge of the local stakeholders and needs.

The Consultant shall facilitate a minimum of five public meetings, and additional meetings as required.

All of the elements of this task will form the basis for the preparation of the Public Outreach/Education Plan. Develop and maintain a webpage, in coordination with Town GIS coordinator staff, which will provide current information regarding the project.

#### **Task 3 Deliverables**

- *Develop a Public Outreach/Education Plan for educating and involving the public in the Stormwater Utility development process*
- *Develop and provide brochures, letters and other materials to the Town and public*
- *Develop and maintain a webpage containing current information and detailing the project's status*

### **Task 4 – Stakeholder Advisory Committee**

The SAC will be a sounding board for the ideas and policies developed during the Stormwater

Utility Implementation Study and will provide valuable feedback for the Public Outreach/Education Plan and potential implementation strategy. Most importantly, they will be “champions” to bring the message forward to other key stakeholders and the general public.

#### Task 4 Deliverables

- *Draft and final PowerPoint presentation for each SAC meeting*
- *Facilitation of the SAC meetings, and development and distribution of meeting notes after each meeting*
- *Develop stakeholder evaluation tables for selection of SAC members, if requested*

### Task 5 – Organization and Staffing

Assess the impacts of a Stormwater Utility on the Town’s current organization and staffing. Include a discussion with Town leaders on staffing strategies for addressing stormwater work practices (e.g., permit related activities, plan review, maintenance, CIP, etc.), business processes, information/GIS systems, and data management requirements.

Conduct stormwater work practice interviews with management and staff in order to benchmark policies, procedures, and stormwater activities with “best practices” employed by municipalities of similar scope and size. Recommendations for revisions to the organization, management, and staffing for stormwater related functions will be provided.

#### Task 5 Deliverables

- *Develop a Technical Memo summarizing recommendations for revisions to Town’s stormwater organization, management and staff functions*

### Task 6 – Rate Structure

Assess alternative billing systems and rate structures to develop a conceptual charge system that is in alignment with the program requirements, priorities, and the preferred organizational model and which best meets the Town’s needs for managing stormwater activities and securing required revenues.

Evaluate various alternative stormwater fee structures that will fund the program. Demonstrate the impact of changes in variables, and the impact of changes on stormwater customers. Stormwater fees can be based on several factors, such as:

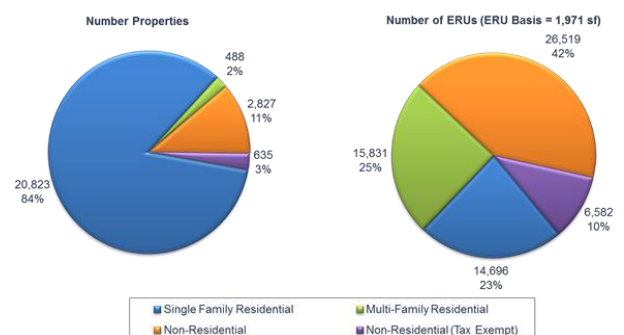


Figure 2. Equitable Contributions Based on Impervious Area Distribution

- Extent to which a property contributes to stormwater runoff
- Type of services provided and cost of stormwater program
- Policy decisions

Provide cost-of-service rationale for creating a utility and assessing user fees to support the funding plan and user fee design. Review recent rulings on the legality of stormwater fees and provide opinion; User fees must be based on cost of service and be defensible and supportable by the stormwater management plan. The cost-causers are determined by assessing fixed and variable costs and the anticipated contribution of stormwater quantity and/or quality from each property or class of property.

As part of this task, identify comparable stormwater utilities in the eastern U.S. and throughout the country and compare these programs to the Town's proposed stormwater fees.

### **Basis of Billing**

Several acceptable approaches for billing stormwater fees exist in the industry. There are three basic approaches:

- Impervious surface
- Land use type
- Property taxes

Impervious surface provides a nexus between the amount of impervious area of a property and the expected runoff. Land use type is also correlated with expected runoff and includes assumptions on concentrations of pollutants. Ad valorem taxes are another means of linking expected type and quantity of stormwater runoff to types of properties based on property values.

The most common cost basis for stormwater program fees is impervious land area of an equivalent residential unit (ERU). Estimate an ERU for Saugus residents based on a review of existing GIS data for residential properties to determine the average property size equal to one typical single family residential unit. The impervious surface associated with average property size will be called an ERU. Impervious surface is typically derived using building footprints, pavement areas, and smaller structures; aerial imagery; customer information system (CIS) data; and desktop and field verification.

*We will utilize the Town's GIS data already available to the greatest extent possible to minimize costs associated with this task.*

Impervious area for other land use types will be estimated from Town data.

Once the ERU size has been finalized in square feet, estimate the number of ERUs from residential and non-residential parcels served by the Town and calculate the billing rate per ERU



based on the cost of the proposed stormwater management plan and the overall capital and O&M revenue requirements.

A comparison of current cost recovery methods to that of a user fee system based on ERU's as well as on land use types based on information from the GIS and/or the property's list valuation shall be conducted and the findings reviewed with the Town at a workshop. Some states have specific data to develop land use type stormwater fees. Average runoff coefficients are determined for commercial, residential, and other land use types based on soils, slopes, etc. A hypothetical billing basis could be developed from these average characteristics in the absence of local runoff coefficients.

### **Rate Structure Alternative**

As part of the Workshop discuss with the Town the option of using rate structure alternatives such as a uniform rate or tiered rates for residential customers, an individually calculated fee for non-residential customers, and a minimum charge for all properties to recover some fixed costs of operations.

#### **Task 6 Deliverables**

- *Develop a Technical Memo detailing a conceptual charge system which best meets the Town's needs for managing stormwater activities and securing required revenue*
- *Facilitate a rate structure workshop with Town staff, including development/distribution of notes*

### **Task 7 – Credit Policy**

Work with the Town to define policies for a potential stormwater system of credits. This type of program serves as an incentive for onsite stormwater management and to enhance the perception of a user fee. Financial credits or fee adjustments are one of the administrative policies typically developed for stormwater utilities. The impact of financial credits on the potential revenues will be incorporated in the development of the revenue requirements and the rate structure.

A successful stormwater utility includes various defensible credit and adjustment policies to further provide equity in cost responsibilities or to effect public policy objectives. These credits will:

- Account for varying levels of onsite stormwater management
- Promote retrofit on older parcels
- Have an annual maximum cap

While the rate-making process shall be relatively well defined, there are ample opportunities to tailor the rate development methodology to address the particular circumstances and policy

objectives of the Town while still establishing a defensible rate structure.

## Policy Considerations

Some of the policy issues related to credits to be addressed are summarized below:

- ***Reduction of Stormwater Impact.*** Should credits be provided to selected customer groups in exchange for in-kind services such as stormwater or water quality education (e.g., schools, churches) or participation in pollution prevention activities (e.g., reduction of lawn fertilizers) that will complement the Town's efforts?
- ***Reduction of the Cost of Stormwater Services.*** Should full or partial credits be provided to residential, non-residential and/or multi-family residential properties that maintain an on-site BMP to manage stormwater runoff? Should full or partial credits be provided to properties with a commercial or industrial land use that can demonstrate management (quantity/ quality) of stormwater runoff through non-structural management measures, such as spill prevention plans or stormwater pollution prevention plans that are required by the General Permit?
- ***Classes of Properties.*** Should full or partial credits be provided to properties that implement and maintain green infrastructure practices based on the ongoing program?
- ***Location of Properties.*** Should credits be given to certain parcels that drain outside of the MS4 area and that do not add costs to the Town? Do the property owners of these parcels benefit from other program components (e.g., flood protection, stream restoration, etc.)?

In coordination with Town staff, identify opportunities to build on existing programs or take advantage of other agency programs. These and similar programs have the potential of reducing the impact of stormwater and build watershed stewardship; therefore, a fee reduction could be granted based on participation in this type of program.

Organize a User Fee Design Workshop to present the findings from the basis of billing analysis, review of alternative rate structures, development of credit policies and the comparison to other stormwater fees.

The goal of the User Fee Design Workshop will be to review the advantages and disadvantages of methodologies and rate structures given the preferred organizational models and to confirm a preferred user fee design for the stormwater authority.

A memorandum summarizing the analysis and findings of the workshop will be prepared.

### Task 7 Deliverables

- *Credit policy considerations will be included in charge system technical memo and rate structure workshop with Town staff*

### Task 8 – Appeals Process

Work with the Town to develop a set of guidelines for allowing rate payers to appeal the stormwater utility fee. General rules of thumb for making adjustments as part of the appeal process include the following:

- Property owners should be responsible for filing the application for a fee adjustment as opposed to having the Town initiate the process
- Partial and maximum fee credits should be established and be scalable based on the volume of stormwater captured
- The applicant should demonstrate the rationale for the adjustment by providing an engineering study
- For members of home-owners associations or watershed districts, adjustments should be issued to individual property owners not the association/district
- GI/BMPs must meet Town design standards and maintenance requirements
- Property owners can have their adjustments revoked if inspection reveals that a GI/BMP is in need of major maintenance and said maintenance is not performed in a timely manner

### Task 8 Deliverables

- *Appeals process guidelines will be included in charge system technical memo and rate structure workshop with Town staff*

### Task 9 – Billing Options

A key step in implementing a stormwater utility is the development of a comprehensive billing database to obtain accurate customer information to bill customers based on the established user fee system. The accuracy of the billing database and customer information will serve to reduce potential challenges and provide assurances for securing the revenue required to pay for the stormwater system expenses. This also may include development of a billing system enlisting a third party billing agency, if required.

### Rate and Charge Schedule

To recover the annual revenue requirements of the stormwater utility, a final cost-of-service

analysis should be completed to prepare a recommended schedule of stormwater fees, including permitting and credit application fees. Operating and capital expenditures from the feasibility study are reviewed to ensure the most up-to-date requirements are used to prepare the fee schedule. This schedule will be based on the billing database developed to account for accurately billing customers and incorporating credits if applied.

#### Task 9 Deliverables

- *Develop a Technical Memo detailing recommended schedule of stormwater fees*

#### Task 10 – Town Stormwater Fee Ordinance

Assist the Town with development and adoption of Town Bylaws and/or resolutions for this project. Two Bylaws are typically proposed; one to establish a stormwater utility and another to establish the rate. Typical Bylaw development tasks include:

- discussions with Town staff on technical input
- development of the draft ordinance
- revisions to the draft ordinance following review by Town staff

The final ordinance/resolution will be compliant with all Town requirements and Massachusetts law governing municipalities.

#### Task 10 Deliverables

- *Develop a stormwater utility ordinance*
- *Develop a stormwater rate structure ordinance*

#### SUMMARY

Keys to successful development of a stormwater utility that provides Saugus with a long term solution for funding of stormwater system improvements to address aging infrastructure, street flooding, and regulatory requirements includes:

- ***Rates Reflect Level of Service*** – A well-defined program will be developed that provides consistent and transparent rates based on the needs of the community.
- ***Stake Holder Involvement in Fee Establishment*** – Commercial, residential, and industrial users will be integrally involved in developing and promoting a fair and equitable rate structure.
- ***Public Education*** – A communication plan will be developed and implemented that engages the public from the start, and provides constant interaction and feedback throughout the process.

- ***Efficient/Clear Billing Mechanism*** – Existing billing systems will be reviewed to determine the most economic and efficient manner to bill for stormwater services.

## **MASTER PLAN REPORT**

- Provide 10 copies of a stormwater master plan bound report.
- Provide recommendations/assistance with grants and/or funding programs.

**ESTIMATED PROJECT COST:** \$350,000.00