City of Eden – EPA Administrative Order

Effective January 3, 2012

Brad Corcoran, City Manager
Terry Shelton, Director of Environmental Services

Budget/Planning Retreat February 25, 2012

EPA Administrative Order

- In 2008, Bill Harvey, former Superintendent for C & D completed a required survey sent to him by the EPA Region 4 regarding Sewer Overflows.
- The EPA reviewed this survey in the spring of 2011 and Eden was placed on a list of 140 Cities that would be required to participate in a *Show Cause Hearing* for why we are still having overflows and why we shouldn't be penalized for them.

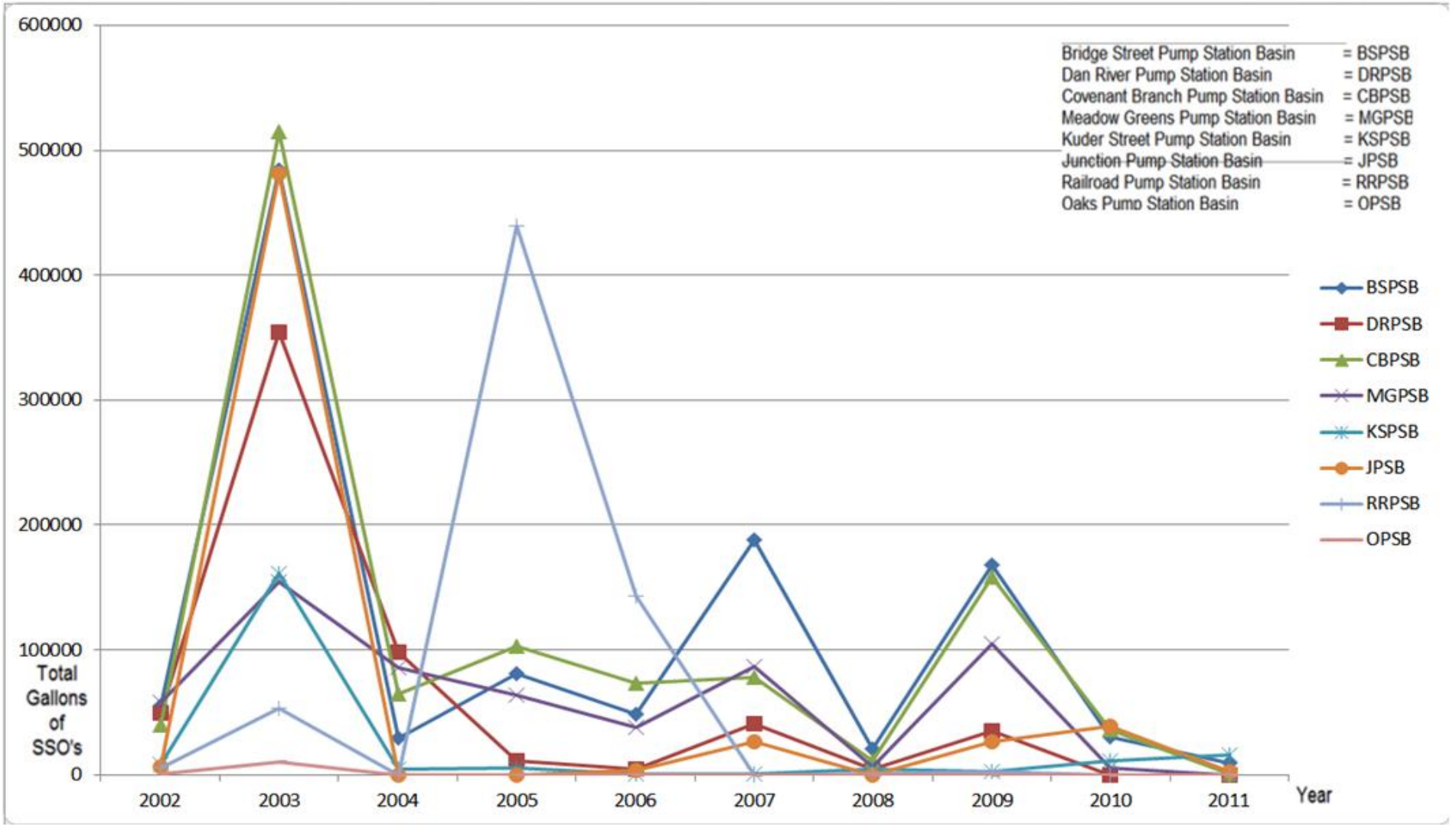
EPA Administrative Order

- Although we've made great strides in reducing both the frequency and volume of sewer overflows, the EPA judges full compliance as having **NO** discharges.
- Typical causes of sewer overflows include:
  - Blockages
  - Inflow and Infiltration
  - Mechanical Failures of Equipment
  - Vandalism

EPA Administrative Order

- Since my arrival in February 2001 the City has spent approximately $13,399,000 (of which $1,362,078 was in the form of grant money) on improvements to our sewer collection system.
- The graph on the next slide illustrates the City's sewer overflows during the last nine years,
- You will note that there has been a significant reduction in the gallon volume of the discharges annually over this entire period of time.

Graph of SSOs History 2002 to 2011 Trend of Improvement
Total Gallons Overflowed per Pump Station Basin



EPA Administrative Order

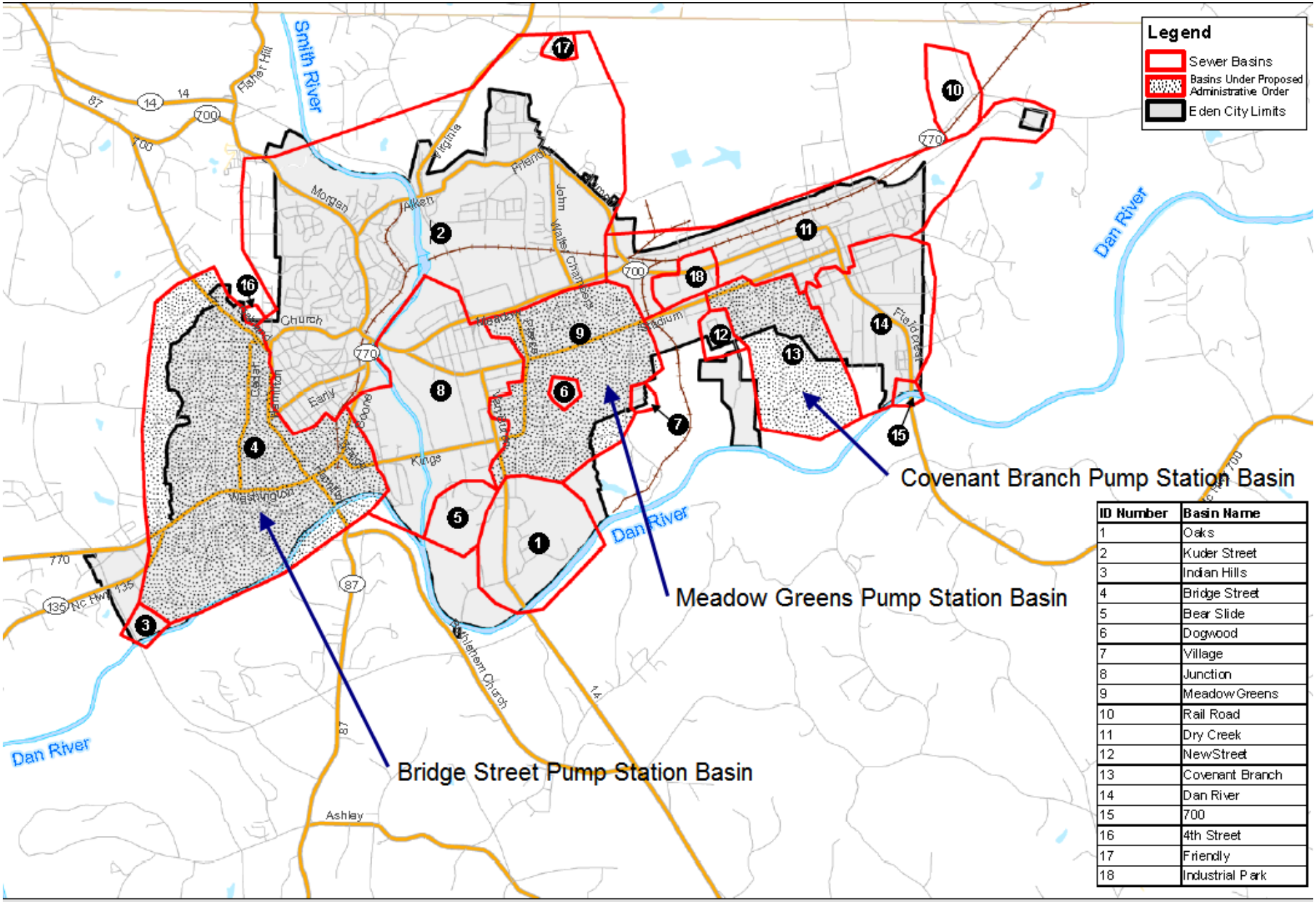
- On August 4, 2011 a *Show Cause Hearing* was held during which we presented evidence outlining our diligent efforts to control and stop additional Sewer System Overflows (SSOs).
- After several months of reviewing and analyzing the evidence we presented, the EPA sent a draft Administrative Order (AO) for our review that surprisingly enough covered our entire Citywide Collection System.

EPA Administrative Order

- Through numerous discussions we continued to argue that our extensive rehabilitation efforts over the course of the past nine years had already reduced our SSOs considerably.
- The EPA listened to our argument and I am glad to report that the Administrative Order was actually reduced from covering the entire City Collection System to just three critical basins with recurring SSOs.

EPA Administrative Order

- The Administrative Order as issued will be applied to the critical basins of the following pump stations:
  - Covenant Branch
  - Meadow Greens
  - Bridge Street
- These will be the only critical basins provided we can establish through flow monitoring and evaluation that these are our only basins with significant issues.
- The next slide is a map which shows the location of these three critical basins.



ID Number	Basin Name
1	Oaks
2	Kuder Street
3	Indian Hills
4	Bridge Street
5	Bear Slide
6	Dogwood
7	Village
8	Junction
9	Meadow Greens
10	Rail Road
11	Dry Creek
12	NewStreet
13	Covenant Branch
14	Dan River
15	700
16	4th Street
17	Friendly
18	Industrial Park

WK DICKSON
community infrastructure consultants

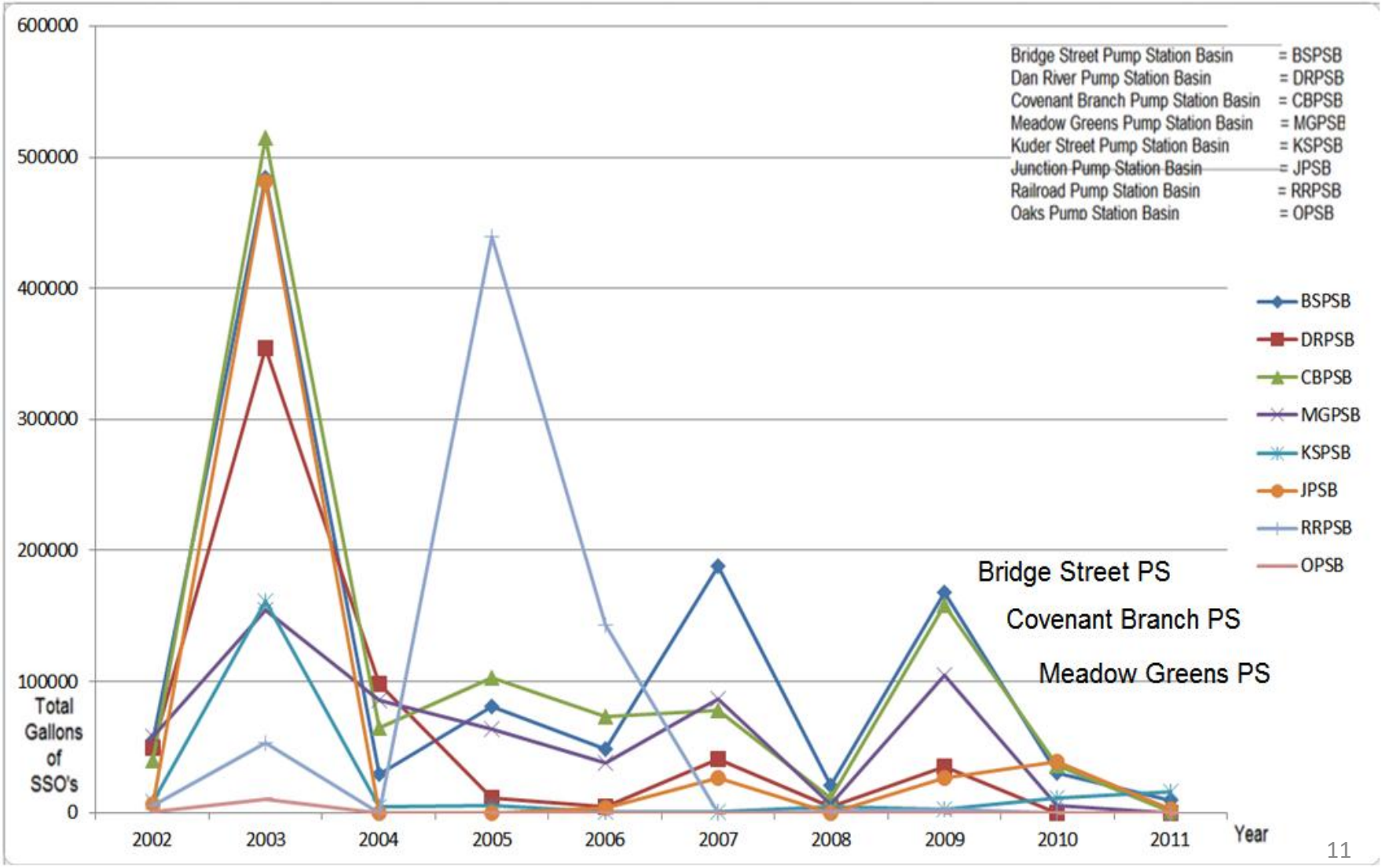
City of Eden
Sewershed Map

0 0.5 1 Miles
1 in = 1 miles

EPA Administrative Order

- Let's pause for a minute and take a second look at the historical graph of SSOs for the past nine years.
- You will note that these same three critical basins (Covenant Branch, Meadow Greens and Bridge Street) have had the largest volume of SSOs in the last three years but each of these areas has continued to see improvement as well.

Graph of SSOs History 2002 to 2011 Trend of Improvement Total Gallons Overflowed per Pump Station Basin



EPA Administrative Order

- The official start date for the Administrative Order was January 3, 2012.
- We've already initiated our work to comply with each of the programs and requirements outlined in the Administrative Order. Currently, we are in the process of preparing the Pump Station Operations Program and the Sewer Overflow Response Plan.
- The programs that are listed in the Administrative Order are very comprehensive and will require significant staff and engineering consultant time to complete.
- The next five slides show dates and names of the programs and plans we will need to produce for submittal.

EPA Administrative Order
Calendar and Schedule of Compliance

Time Line & Critical Dates (Dates posted are due dates for programs or plans)

January 3, 2012 – Administrative Order received by certified mail and the official compliance clock start date

April 1, 2012 – (within 90 days) Pump Station Operations Program (PSOP)

* Scheduled Pump Station Operations Program
* Emergency Pump Station Operations Program
* Full implementation of the PSOP within 3 months of EPA approval

April 1, 2012 – (within 90 days) Sewer Overflow Response Plan (SORP)

* Response Plans for responding to SSOs including Building Backups
* Training for employees responsible for responding to SSOs.
* Listing SSO locations within each basin that's been recorded as overflowing more than once in a twelve month period.
* Full implementation of the SORP within 3 months of EPA approval

EPA Administrative Order
Calendar and Schedule of Compliance

July 3, 2012 – (Six Months) Capacity Assessment Plan (CAP) must be submitted to EPA for review and EPA approval

* If the CAP is approved by the EPA within two months (9/3/2012) the Capacity Assessment Report is due by 12/03/2013 (fifteen months after the CAP approval).

July 3, 2012 – (Six Months) Sewer System Evaluation Survey (SSES) Work Plan must be submitted to EPA for EPA review and approval.

* The SSES will be completed within twelve months after the EPA approval of the SSES Work Plan. Also, the SSES results shall be submitted within two months after completion of the survey.

EPA Administrative Order
Calendar and Schedule of Compliance

August 1, 2012 – Within 30 days of the Capacity Assessment Plan (CAP) submittal the City will submit additional information that substantiates the selection of the basins it considers critical.

September 3, 2012 – (within 9 months) Pump Station Preventative Maintenance Program (PSPMP). The PSPMP must include a schedule for full implementation within twelve months.

EPA Administrative Order
Calendar and Schedule of Compliance

January 3, 2013 – (within 12 months) Short-Term Pump Station Repair Program (must certify all pump stations are in "working order" and are in state of "good repair"). This program is composed of:

1) Electrical Maintenance Program
2) Mechanical Maintenance Program
3) Physical Maintenance Program

December 3, 2013 – Capacity Assessment Report

* If Community Assessment Plan (CAP) was submitted and approved by the EPA by 9/3/2012, the Capacity Assessment Report (CAR) would be due fifteen months later or 12/3/2013.

EPA Administrative Order
Calendar and Schedule of Compliance

February 3, 2014 – Wastewater Collection & Transmission System (WCTS) Remediation Plan

* The WCTS Remediation Plan must be submitted for EPA review and approval two months (12/3/2013) after submission of the Capacity Assessment Report (CAR).

February 3, 2016 – Construction of the remediation measures as outlined in the approved WCTS Remediation Plan must be initiated no later than two years after the submission of the WCTS Remediation Plan.

EPA Administrative Order

- As you can see – there is a tremendous amount of work that must be completed in order to comply with this order.
- While much of this work can be done in-house with existing staff, there is no denying that it's labor intensive and will draw seriously on already stretched internal resources.

EPA Administrative Order

- The Capacity Assessment Plan (CAP) and the Capacity Assessment Report (CAR) will require the most work and expense. This plan and report will be prepared primarily through our engineering consultant.

- There will be a significant amount of field work involving surveying and evaluation, TV camera work, flow monitoring, impact of rainfall analysis, and extensive analysis of all collected data to be used for the final Remediation Plan.

EPA Administrative Order

- The engineering related work to comply with this order will cost an estimated $1,113,195 over the next three years in Flow Monitoring, Analysis, Engineering Reports, Assessment Plans, and the Development of a WTCS Remediation Plan.

EPA Administrative Order

Engineering Related Work Cost Projections

A.	Capacity Assessment Plan	$ 70,914
B.	Capacity Assessment Report	$200,000
C.	Sanitary Sewer System Evaluation Survey	$ 71,716
D.	Flow Monitoring	$360,565
E.	Pipe Condition Assessment	$310,000
F.	Development of Remediation Plan	$ 50,000
G.	Contingency	$ 50,000
	Total	**$1,113,195**

EPA Administrative Order

- The projected cost for engineering related services will be spread over the next three budget years as follows:

FY11-12	Budget	$391,680
FY12-13	Budget	$671,515
FY13-14	Budget	$ 50,000
		Total $1,113,195

EPA Administrative Order

- Once the Wastewater Collection and Transmission System (WCTS) Remediation Plan is completed, construction and rehabilitation projects will most assuredly be required to reach final compliance with the Administrative Order.

- During the course of working toward compliance with the Administrative Order, we will be applying for low interest loans and grant money to fund improvements that will be needed to correct deficiencies in our wastewater collection system.

- However, the possible costs associated with the implementation of the Remediation Plan are likely to be quite significant!

EPA Administrative Order

- In October 2011 our consulting engineer, Mr. Mark Fisher, PE of W. K. Dickson and Associates prepared a *"what if"* scenario with rough cost estimates in order to communicate the potential magnitude of this Administrative Order.

- As previously noted in one of my weekly reports, the estimated costs associated with the implementation of the Remediation Plan was roughly $14,795,000.

- Even if we assume the eventual acquisition of a $2,000,000 grant we would still be faced with financing $12,795,000. Based on an interest rate of 2.375% the estimated annual debt service would be $804,300. If we had 6,520 sewer customers the annual rate increase that would be needed per customer is $123.36 or a monthly rate increase per customer of $10.28.

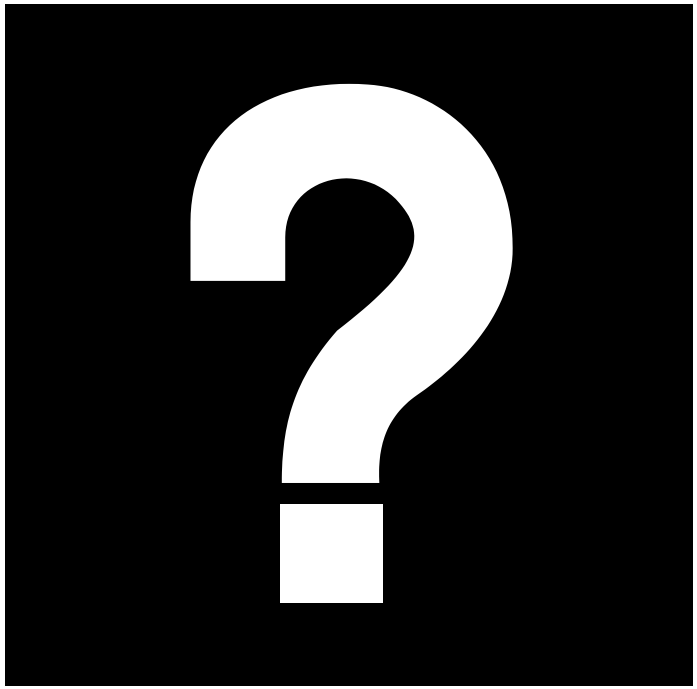
EPA Administrative Order

- Final compliance with all of the requirements of the Administrative Order are likely to take five years (2012 – 2017) to complete according to what EPA personnel told us during our negotiations with them. If additional time is needed we do have the right to submit a formal request for extension.

- Please rest assured that we plan to address all of the required submittals as rapidly as possible.

- It's important to remember that violations of an Administrative Order can be subjected to a civil penalty of up to $37,500 per day for each violation as well as possible criminal penalties.

EPA Administrative Order



Questions