

2.06.18

**2018 SWAC
Meeting #6**

Meeting Topics (review)

1. Extent of Service (EOS) recap
2. Level of Service (LOS)
3. Funding Sources and Revenue Options
4. Structural BMP's
5. Stormwater/Watershed Planning
6. Water Quality Compliance
7. Floodplain Management
8. Regulatory Reforms/Ordinances

Extent of Service (recap)

- Extent of Service – (Where/What)
 - Geographical Boundaries (City Limits, ETJ and beyond)
 - Public vs Private Property
 - Components of System
 - Streams, pipes, lakes, dams, stormwater control measures (SCM's/BMP's)

Recap of Extent of Service decisions

- Will consider drainage assistance outside of City Limits on a case-by-case basis when there is a demonstrated benefit to the City
- Will “maintain” drainage systems provided conveys runoff from public property
- The City will not maintain stormwater control measures (SCM’s/BMP’s)
- Funding for leaf collection will remain under the Sanitation Division

Level of Service

Level of Service

- Type and magnitude of benefits derived from the City's Stormwater Program
- Can be used to evaluate the performance of stormwater programs
 - Is the program inadequate, adequate or should the level of service be increased?
- For discussion, stormwater programs can be generalized or broken down into individual components

General Categories

- Program Management – Administration & regulatory responsibilities
- Operation and Maintenance - Day to day maintenance of the drainage system
- Capital Improvement - Large investments in drainage improvements

Program Management

- Typical activities can include
 - Administration (budget, personnel, billing, audit)
 - New development plan review, inspection, enforcement
 - Strategic Planning (watershed or neighborhood studies)
 - Water Quality Compliance (federal and NC rules)
 - Floodplain regulation
 - Citizen complaint / information request response
 - Asset management / inventory

Program Management

- Proactive vs. Reactive Management
- Upfront investment may save on Capital Expenditures (CIP)
 - Construction inspection to ensure correct design and installation
 - Floodplain regulation to keep improvements out of harm's way
 - Asset management to identify needs

Operation and Maintenance

- Typical activities can include
 - Open System (streams/ditches) - Remove nuisance vegetation, debris, sediment that can impede flow
 - Closed System - Clean catch basins & flush pipes
 - Minor repairs to catch basins and pipes
 - Street sweeping
 - Maintaining City owned stormwater controls (BMP's)
 - Private drainage system assistance (when conveys runoff from public property)

Operation & Maintenance

- Proactive vs. reactive maintenance
- Upfront costs associated with proactive maintenance - staff and equipment
- Proactive maintenance provides long term cost savings
 - Reduction in damages during storm events
 - Rehabilitation and maintenance costs typically less than replacement when fails – can be planned

Evaluating Level of Service

- To facilitate evaluation and consideration of alternative levels of service, a letter grading system is suggested
 - “A” thru “E”
 - For each program component, the stakeholder group may determine the current level & consider if a higher or lower level is desired

Level of Service "Grades" for General Program Categories			
Level of Service "Grade"	General Program Categories		
	Program Management & Regulatory Compliance	Operation & Maintenance	Capital Improvement (CIP)
A	comprehensive program planning, aggressive state and federal regulatory compliance that exceeds minimum requirements in all cases, state of the art practices, full program implementation	fully preventative and proactive maintenance , state of the art practices	all known CIP needs completed in 10 years
B	basin master planning, above average state and federal regulatory compliance that exceeds minimum requirements in most cases, systematic program implementation	fully routine & partially inspection based maintenance	all known CIP needs completed in 20 years
C	limited planning, average state and federal regulatory compliance that exceeds minimum requirements in some cases, priority program implementation	limited routine maintenance, limited inspection based maintenance, partially reactive maintenance	all known CIP needs completed in 30 years
D	minimal planning, minimum required state and federal compliance, partial program implementation	no routine or inspection based maintenance, reactive maintenance only	all known CIP needs completed in 40 years
E	no planning, minimum required state and federal compliance, minimal program implementation	limited reactive maintenance	all known CIP needs completed in 50+ years

Program Management	current level of service	promised level of service	desired level of service per SWAC
Administration/management			
Billing/finance/auditing			
Stormwater complaint/information request response			
Planning (strategic and master planning)			
Floodplain regulation			
Design			
Construction project management			
Water quality/NPDES compliance			
Illicit discharge detection, elimination, and enforcement			
Construction and post-construction inspection/enforcement			
Asset management/system inventory			

Annual Operations and Maintenance	current level of service	promised level of service	desired level of service per SWAC
Inlet/manhole (closed system) inspection, cleaning and minor repairs			
Pipe (closed system) inspection, cleaning, and minor repairs			
Roadway culvert (open system) inspection, cleaning and minor repairs			
Bridge (open system) inspection and minor repairs			
Ditch (open system) inspection and cleaning			
Public dam inspection and minor repairs			
Public BMP inspection and minor repairs			
Stream inspection and clearing			
Street sweeping/litter control			
Private drainage assistance			

Capital Improvement Program (CIP)	current level of service	promised level of service	desired level of service per SWAC
Engineering & construction for replacement of aging and failing pipe systems			
Engineering & construction for increasing capacity of primary (major) open channel systems, pipe systems, and culverts under roadways			
Engineering & construction for increasing capacity of secondary neighborhood pipe systems and ditches			
Engineering and new construction of water quality retrofits			
Restoration and stabilization of eroding streams			

Evaluating Level of Service

- Review of responses
 - Comparison of SWAC & Staff

	CURRENT		PROMISED		DESIRED	
	SWAC	Staff	SWAC	Staff	SWAC	Staff
Program Management						
Administration / management	C+	B-	B-	B-	B+	B+
Billing / finance / auditing	C+	D	C+	B-	B	B+
Stormwater complaint / information request response	C	C+	B	B	B	A-
Planning (strategic and master planning)	C+	B-	B-	B-	B	A-
Floodplain regulation	C+	C+	B-	B	B	B+
Design	B-	C	B	C+	B	B-
Construction project management	C+	C+	B-	C+	B	B-
Water quality / NPDES compliance	C+	C-	B	C+	B	B+
Illicit discharge elimination / violation enforcement	C+	D+	B-	C	B	B+
Construction and post-construction inspection / enforcement	B-	D	B-	C	B	A-
Asset management / system inventory	C+	D+	B-	C	B	B+
Average for all Program Mang	C+	C	B-	C+	B	B+

	CURRENT		PROMISED		DESIRED	
	SWAC	Staff	SWAC	Staff	SWAC	Staff
Annual Operations and Maintenance						
Inlet / manhole (closed system) inspection, cleaning and minor repairs	B-	C+	B-	C+	B	B
Pipe (closed system) inspection, cleaning, and minor repairs	C+	C+	B-	C+	B	B
Roadway culvert (open system) inspection, cleaning and minor repairs	C	B-	B-	B-	B-	B+
Bridge (open system) inspection and minor repairs	C	B-	B-	B-	B	B+
Ditch (open system) inspection and cleaning	C-	B	B-	B	B	B+
Public dam inspection and minor repairs	C	C-	C+	C	B-	C+
Public BMP inspection and minor repairs	B-	D-	B-	B-	B	B
Stream inspection and clearing	C-	B-	C+	B	B	B
Street sweeping/litter control	B	B	B	B	B	B
Private drainage assistance	C-	E+	C-	D	C+	D-
Average for all O&M	C	C	C+	C+	B	B

	CURRENT		PROMISED		DESIRED	
	SWAC	Staff	SWAC	Staff	SWAC	Staff
Capital Improvement Program (CIP)						
Engineering & construction for replacement of aging and failing pipe systems	B-	D+	B	C-	B+	C+
Engineering & construction for increasing capacity of primary open channel systems and culverts	C	E	C	D-	B	C
Engineering & construction for increasing capacity of secondary neighborhood pipe systems and ditches	C-	E+	B-	D-	B	C
Engineering and new construction of water quality retrofits	C	E	B+	D-	B-	C
Restoration and stabilization of eroding streams	C-	C	B-	C	B	B
Average for all CIP	C	D-	B	D	B	C+

Greenville CIP Needs

Total Capital Imp. Costs \$ 150-170M

- Flood Control Primary \$ 80-95M
- Flood Control Secondary \$ 40M
- Streambank Stabilization \$ 12.5M
- Water Quality \$ 20.5M

LOS CIP Funding

A	10 years	\$17 M/yr
B	20 years	\$8.5 M/yr
C	30 years	\$5.7 M/yr
D	40 years	\$4.3 M/yr
E	50 years	\$3.4 M/yr

Current annual revenue = \$6.3 M/yr
34% allocated to CIP = \$2.1 M/yr

Program Management & Regulatory Compliance			
Level of Service "Grade"	Current	Promised	Desired
A	comprehensive program planning, aggressive state and federal regulatory compliance that exceeds minimum requirements in all cases, state of the art practices, full program implementation	comprehensive program planning, aggressive state and federal regulatory compliance that exceeds minimum requirements in all cases, state of the art practices, full program implementation	comprehensive program planning, aggressive state and federal regulatory compliance that exceeds minimum requirements in all cases, state of the art practices, full program implementation
B	basin master planning, above average state and federal regulatory compliance that exceeds minimum requirements in most cases, systematic program implementation	basin master planning, above average state and federal regulatory compliance that exceeds minimum requirements in most cases, systematic program implementation	basin master planning, above average state and federal regulatory compliance that exceeds minimum requirements in most cases, systematic program implementation
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D	minimal planning, minimum required state and federal compliance, partial program implementation	minimal planning, minimum required state and federal compliance, partial program implementation	minimal planning, minimum required state and federal compliance, partial program implementation
E	no planning, minimum required state and federal compliance, minimal program implementation	no planning, minimum required state and federal compliance, minimal program implementation	no planning, minimum required state and federal compliance, minimal program implementation
	SWAC ranking		
	Staff ranking		
	Same ranking		

Annual Operations and Maintenance

Level of Service "Grade"	Current	Promised	Desired
A	fully preventative and proactive maintenance , state of the art practices	fully preventative and proactive maintenance , state of the art practices	fully preventative and proactive maintenance , state of the art practices
B	fully routine & partially inspection based maintenance	fully routine & partially inspection based maintenance	fully routine & partially inspection based maintenance
C	limited routine maintenance, limited inspection based maintenance, partially reactive maintenance	limited routine maintenance, limited inspection based maintenance, partially reactive maintenance	limited routine maintenance, limited inspection based maintenance, partially reactive maintenance
D	no routine or inspection based maintenance, reactive maintenance only	no routine or inspection based maintenance, reactive maintenance only	no routine or inspection based maintenance, reactive maintenance only
E	limited reactive maintenance	limited reactive maintenance	limited reactive maintenance
	SWAC ranking		
	Staff ranking		
	Same ranking		

Capital Improvement (CIP)

Level of Service "Grade"	Current	Promised	Desired
A	all known CIP needs completed in 10 years	all known CIP needs completed in 10 years	all known CIP needs completed in 10 years
B	all known CIP needs completed in 20 years	all known CIP needs completed in 20 years	all known CIP needs completed in 20 years
C	all known CIP needs completed in 30 years	all known CIP needs completed in 30 years	all known CIP needs completed in 30 years
D	all known CIP needs completed in 40 years	all known CIP needs completed in 40 years	all known CIP needs completed in 40 years
E	all known CIP needs completed in 50+ years	all known CIP needs completed in 50+ years	all known CIP needs completed in 50+ years
	SWAC ranking		
	Staff ranking		
	Same ranking		

Evaluating Level of Service

- Consensus on Desired LOS

Questions and/or Comments