

# ***Stormwater – Overview, Goals, and Objectives***

## **Overview**

The mission of the Stormwater Management Program is to enhance the collection and transport of stormwater through publicly owned infrastructure and, where feasible, implement treatment prior to discharging this stormwater to receiving waters. Elements of the program include maintenance and repair of existing facilities, construction of new facilities where warranted, public education and stormwater studies. These studies would include, but not be limited to, quantity determinations and water quality analyses during various times of the year. The functions of the program are carried out utilizing Town personnel and equipment, contractors when necessary, engineering and scientific consultants, and by working with other local governments and appropriate State agencies.

Stormwater Management in Nags Head is a complex balancing act between several competing factors such as, economic development, natural resource preservation, flood control, and water quality. Development and redevelopment creates a feedback loop with respect to stormwater runoff. As development occurs, stormwater runoff increases from the additional impervious surfaces reducing the amount of pervious surfaces available for infiltration. Evapotranspiration decreases as vegetation is removed and trees are cleared. Furthermore, groundwater elevations tend to increase when vegetation and trees are removed. As groundwater elevations increase, developers are more likely to fill lots to make them buildable thereby eliminating natural drainage features and areas of infiltration. More stormwater runoff enters the system thus continuing the cycle.

Frequent flooding can curtail investment and tourism in a town where tourism is a critical part of the economy. The desire to limit flooding must be tempered by the need to limit pollutant loads to critical waterbodies such as the Roanoke Sound and Atlantic Ocean. Degradation of the waterways can lead to beach closures and shellfishing closures, which can also have an impact on tourism and the economy. The Stormwater Management Program provides the Town with a prioritized list of flood control and water quality capital improvement projects that will help the Town balance competing stormwater management issues and respond to an increasingly strict regulatory environment.

## **Goals**

- Develop environmentally sensitive solutions to drainage infrastructure improvements and maintenance, while maintaining fiscal responsibility. (BOC Values 2, 3, 4 and 5)
- Involve the public in decision-making that balances residential, tourism, and business needs, is fiscally responsible and results in projects that are supportive of community needs. (BOC Values 2, 3, 4 and 5)
- Continually improve customer service and communications. (BOC Values 2, 3 and 5)
- Establish an affordable long range action plan for progressively improving the Town's stormwater drainage infrastructure. (BOC Values 1, 3 and 4)
- Maintain Town-wide visibility of the plan's progress and effectiveness. (BOC Value 2)

# ***Stormwater – Overview, Goals, and Objectives***

## Objectives and Related Performance Indicators

- **Objective** - Improve Town drainage infrastructure through planning, maintenance, or new construction, where appropriate.

### **Performance Indicators -**

1. Continuation of the development of an updated Stormwater CIP through Stormwater Working Group. The focal point will concentrate on potential improvements to the main drainage routes and working back upstream through the neighborhoods identifying areas of concern and the evaluation of potential alternatives.
2. Completion of a Town-wide drainage infrastructure GIS base plan which will map type, size, location of existing drainage features within the Towns rights-of-ways and outfalls.
3. Investigate the potential for assistance and support from NCDOT to address areas of nuisance flooding along S. Virginia Dare Trail (NC 12), S. Old Oregon Inlet Rd, (NCSR 1243) and S. Croatan Hwy. (US Hwy 158) (i.e. Red Drum Ocean Outfall).
4. Continued coordination from NCDOT to provide temporary relief from roadway flooding on S. Old Oregon Inlet Rd. (NCSR 1243) in the vicinity of Milepost 19 with supplemental drainage infrastructure improvements.
5. Continued coordination with NCDOT to reduce tailwater water surface elevations within the connecting upstream ditches along main drainageways.
6. Investigate, plan and replace Town-owned critical drainage facilities, (i.e. Soundside Rd.).
7. Continued coordination with the National Park Service to conduct annual maintenance activities within the outfall portions of the west side NC 1243 drainage system.
8. Purchase of equipment to necessary to conduct systematic annual maintenance, on-demand maintenance, and post- storm maintenance.
9. Continuation in the upfit of the Vista Colony Groundwater Lowering system from a temporary pilot project to a permanent system operation. This shall include implementation of components that will assist in the conversion from manual to an automated operation, via a phased approach.
10. Continue to explore opportunities for public education and outreach via social media, Town's website, public forums and other available media outlets.
11. Maintain an adequate fund reserve operation of equipment and materials to perform necessary maintenance on existing drainage infrastructure.
12. Seek additional funding opportunities from local, state and federal agencies to assist with future stormwater planning and construction efforts.
13. Perform hydraulic and hydrologic analyses of identified areas of concern for appropriate infrastructure sizing, when required.
14. Continue to monitor and evaluate performance of existing drainage infrastructure.

# Stormwater – Budget Highlights

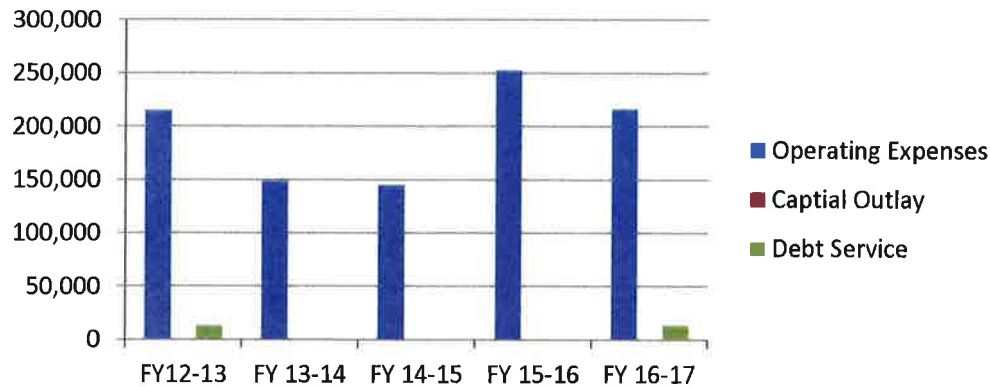
## Highlights

- This stormwater capital reserve fund is financed by a one cent ad valorem tax in lieu of the previous six times per year stormwater fee imposed on each water bill and included in the Water Fund.
- Contracted services includes \$62,500 for the second installment payment towards the North Carolina Department of Transportation’s stormwater outfall in the 2400 block of South Virginia Dare Trail, which will improve drainage in the area.
- Funding of \$57,000 is included for infrastructure mapping and \$57,737 to continue other stormwater work.
- Funds in the amount of \$55,000 are included to purchase a culvert cleaner, which will be financed over three years at \$19,057 per year.

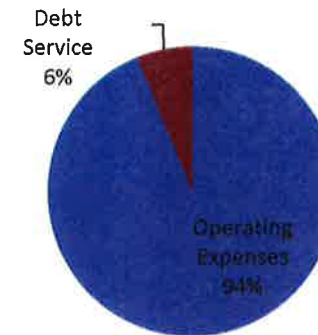
## Expenditures by Function

		FY 2015-2016 <u>Adopted</u>	FY 2016-2017 <u>Recommended</u>	Percent <u>Change</u>
Operating Expenses	\$	252,630	\$ 216,538	-14.29%
Debt Service	\$		\$ 14,366	100.00%
Total	\$	252,630	\$ 230,904	-8.60%

## Fiscal Year 2016-2017 Recommended Expenditures and Adopted Expenditure History



## Fiscal Year 2016-2017 Recommended Expenditures by Function



**Town of Nags Head  
Recommended Budget  
For the Fiscal Year 2016-2017**

<b>Department: Stormwater Management</b>		<b>Departmental</b>	<b>Manager's</b>	<b>Adopted</b>	<b>Adjusted</b>	<b>Estimated Actual</b>	<b>Actual</b>	<b>Actual</b>
<b>Account Number</b>	<b>Account Description</b>	<b>Requested</b>	<b>Recommended</b>	<b>Budget</b>	<b>Budget</b>	<b>Expenditures</b>	<b>Expenditures</b>	<b>Expenditures</b>
		<b>2016-2017</b>	<b>2016-2017</b>	<b>2015-2016</b>	<b>2015-2016</b>	<b>2015-2016</b>	<b>2014-2015</b>	<b>2013-2014</b>
	<b>OPERATIONS</b>							
10-620-0-5323-00	UTILITIES	\$ 2,750	\$ 2,750	\$ 2,750	\$ 2,750	\$ 620	\$ 1,355	\$ 1,967
10-620-0-5431-00	FUEL COSTS	2,000	2,000	3,050	3,050	1,000	2,698	2,088
10-620-0-5433-00	DEPARTMENT SUPPLIES	20,000	20,000	3,300	3,300	1,000	760	2,172
10-620-0-5436-00	MAINT/REPAIR EQUIPMENT	5,000	5,000	3,900	7,900	7,900	2,606	1,625
10-620-0-5440-00	PROFESSIONAL FEES	4,000	4,000	4,000	4,000	4,000	-	1,320
10-620-0-5440-01	PROF FEE/WATER QUALITY TESTING	360	360	360	360	4,000	960	-
10-620-0-5445-00	CONTRACTED SERVICES	182,428	182,428	239,000	235,000	235,000	171,427	76,370
10-620-0-5550-00	DEPRECIATION EXPENSE	-	-	-	-	-	61,748	32,223
	<b>Subtotal Operations</b>	<b>\$ 216,538</b>	<b>\$ 216,538</b>	<b>\$ 256,360</b>	<b>\$ 256,360</b>	<b>\$ 253,520</b>	<b>\$ 241,554</b>	<b>\$ 117,765</b>
	<b>CAPITAL OUTLAY</b>							
10-620-0-5773-00	CAPITAL OUTLAY OTHER	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,650	\$ -
	<b>DEBT SERVICE</b>							
10-620-0-5781-00	L/P PRINCIPAL	\$ 14,366	\$ 14,366	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Subtotal Debt Service</b>	<b>\$ 14,366</b>	<b>\$ 14,366</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
	<b>TOTAL</b>	<b>\$ 230,904</b>	<b>\$ 230,904</b>	<b>\$ 256,360</b>	<b>\$ 256,360</b>	<b>\$ 253,520</b>	<b>\$ 272,204</b>	<b>\$ 117,765</b>

**Town of Nags Head  
Recommended Budget  
For the Fiscal Year 2016-2017**

**Stormwater Management Capital Reserve**

Description of Capital Items	Department Requested 2016 - 2017	Manager's Recommended 2016 - 2017
<i>New Lease Payments</i>		
1. Culvert Cleaner at a cost of \$55,000 (Capital Reserve Funding)	\$ 14,366	\$ 14,366
<b><i>Total New Lease Payments</i></b>	<b>\$ 14,366</b>	<b>\$ 14,366</b>