

ELECTRIC PROGRAM

The Electric Program is administered by the Electric division in the Utilities Department. The program is designed to achieve five primary strategic objectives:

- 1) Replace and or rehabilitate aging infrastructure;
- 2) Maintain or increase system reliability;
- 3) Ensure regulatory compliance;
- 4) Improve system efficiency; and
- 5) Address growth in the system

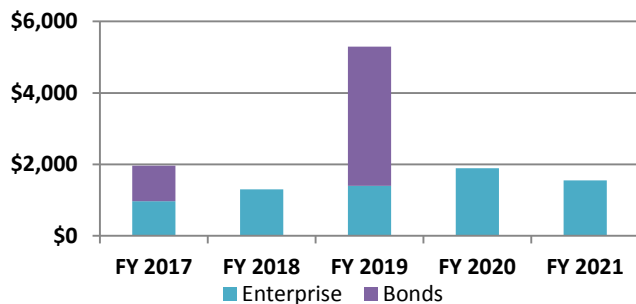
Each capital project is reviewed by staff to ensure it is both economically justifiable and consistent with the Utilities Strategic Plan. Projects are coordinated with Public Works to ensure that relocations and underground projects are accomplished together with transportation projects so community disruptions are minimized.

The City owns and maintains the electric distribution system within the City limits. The electrical system consists of 205 miles of primary lines; 15,150 electric meters, six electric substations, and 31 diesel generators that are used to reduce electric costs in the City. The annual peak electric load is 140 megawatts (MW).

THE FIVE-YEAR PLAN (FY 2017 – FY 2021)

The FY 2017 Adopted Five-Year Capital Improvement Program (CIP) includes \$7,105,000 of Enterprise Funds (Electric Fund) and \$4,900,000 in Bonds.

FY 2017 funding consists of a \$965,000 Transfer from the Electric Fund and \$1,000,000 in Bonds.



(Dollars in Thousands)

FY 2017 CAPITAL PROJECTS

Efforts to relocate overhead electric services to underground services will continue. In FY 2017, E-001 includes the undergrounding of services on Battle Street and Route 28/Nokesville Road. Services will also be relocated on Dean Drive from Foster Dr. to Wellington Rd. (E-019). Unrelated to transportation

projects (E-033) services will be relocated on Landgreen Street from Weems Rd to Weir Pl.

While no additional funding is provided for in the CIP, work will continue on the Airport Substation Expansion project (E-021). The project is estimated to be completed in June 2017.



Underground Cable and Termination Replacement (E-030) was introduced into the CIP in 2010 in response to an above average number of failures on the 15KV main feeder circuits due to aged cable. FY 2017 calls for the replacement of cable along Confederate Trail.

New Generation Initiatives (E-031) has continued funding for planning purposes.

New Fiber Optic Loop/Ring (E-032) calls for the installation of new fiber optic cable to provide redundancy/looping. If FY2017, cable will be replaced from VMEA to Quarry.

LED Streetlight Replacement (E-034) will begin in FY 2017 with the planning stages for upgrading all city streetlights to LED lights over the next seven years.

FY 2017 MAINTENANCE CAPITAL PROJECTS

Replace/Automate Pad Mount Fuse Cabinets in the only maintenance capital project for the program.

NEW PROJECTS

LED Street Light Replacement (E-034) is a new project for the FY 2017 CIP. It is planned to start in FY 2017.

SUMMARY OF ELECTRIC CAPITAL PROJECTS

(\$ in Thousands)

CostEstimates:	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project	5-Year CIP
Planning	1,230	210	10	10	10	10	30	1,510	250
Land	-	-	-	-	-	-	-	-	-
Construction	15,109	1,755	1,290	5,285	1,885	1,540	1,655	28,519	11,755
Total Cost	16,339	1,965	1,300	5,295	1,895	1,550	1,685	30,029	12,005
Funding Sources:									
General Fund	-	-	-	-	-	-	-	-	-
Enterprise Funds	12,339	965	1,300	1,395	1,895	1,550	1,685	21,129	7,105
School Fund	-	-	-	-	-	-	-	-	-
Bonds	4,000	1,000	-	3,900	-	-	-	8,900	4,900
Other Government	-	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total Funding	16,339	1,965	1,300	5,295	1,895	1,550	1,685	30,029	12,005
Operating Impacts:									
Revenue Offset	-	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-	-
Program (Costs) Saving	-	-	-	-	-	-	-	-	-
Debt Service	-	-	(78)	(78)	(380)	(380)	(6,679)	(7,595)	(916)
Net Revenue	-	-	(78)	(78)	(380)	(380)	(6,679)	(7,595)	(916)

Program Highlights

The FY 2017 Adopted Five-Year CIP includes \$12,005,000 for the Electric Program, which reflects an increase of \$4,635,000 or 63%. Some of the increases in the program can be found in increased cost estimates for NVTA Place Overhead Lines Underground (E-001) and Liberia Avenue Widening (E-026); moving Grant Avenue (Prince William Street to Byrd Drive) (E-015) from future years; and a new project for LED Streetlight Replacement (E-034). Offsetting some of these increases was a decrease in the estimated cost of New Generation Initiatives.

ELECTRIC CAPITAL PROJECT LISTING

(\$ in Thousands)

Project Name	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project	5-Year CIP
NVTA Place Overhead L	668	1,010	-	100	195	250	100	2,323	1,555
Dumfries Rd Northbound	-	-	-	-	-	-	400	400	-
Prince William Street (Gr	1,021	-	-	-	-	-	-	1,021	-
Grant Avenue (Prince Wi	-	-	-	-	600	-	-	600	600
Dean Drive Extended	50	85	-	-	-	-	-	135	85
Airport Substation Expan	5,600	-	-	-	-	-	-	5,600	-
Liberia Avenue Widenin	-	-	-	3,900	-	-	-	3,900	3,900
Advanced Meter Infrastr	6,020	-	-	-	-	-	-	6,020	-
Underground Cable and	2,280	260	400	400	400	400	400	4,540	1,860
New Generation Initiativ	700	150	300	300	300	300	-	2,050	1,350
New Fiber Optic Loop/Ri	-	160	-	195	-	-	-	355	355
Place Overhead Lines U	-	250	500	300	300	500	585	2,435	1,850
LED Streetlight Replace	-	50	100	100	100	100	200	650	450
Total	16,339	1,965	1,300	5,295	1,895	1,550	1,685	30,029	12,005

E-001 NVTA Place Overhead Lines Underground

Year Introduced: 1987
Change: Expanded Scope
Associated Proj: T063;T042;W042;T070
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 7.6.3

Est. Start: 7/1/2013
Est. Complete: 6/30/2017



Description:

This project is for City overhead electric, telephone, fiber, and cable lines to be relocated underground based on Transportation improvement projects. This will improve reliability and aesthetics and lower maintenance costs. FY 2017 - Battle St from Quarry to Portner and Portner from Sudley to Longstreet
 FY 2017/2018 - Rt 28 / Nokesville Road Widening and West Street Streetscape (Norfolk Southern RR to Church St)

PROJECT-TO-DATE	
<i>Account #</i>	<i>CP3611</i>
Budget:	\$ 668,278
Expend. / PO:	\$ 494,249
Balance:	\$ 174,029

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	668	1,010	-	100	195	250	100	2,323
Total Cost	668	1,010	-	100	195	250	100	2,323

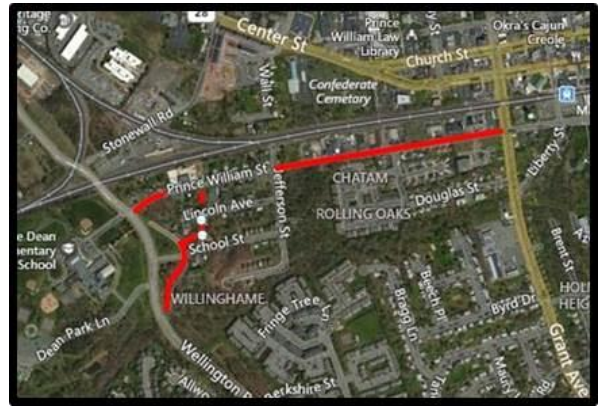
Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	668	10	-	100	195	250	100	1,323
School Fund	-	-	-	-	-	-	-	-
Bonds	-	1,000	-	-	-	-	-	1,000
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	668	1,010	-	100	195	250	100	2,323

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	(78)	(78)	(78)	(78)	(1,238)	(1,550)
Net Revenue	-	-	(78)	(78)	(78)	(78)	(1,238)	(1,550)

E-014 Prince William Street (Grant Avenue to Wellington Road)

Year Introduced: 2003
Change: No change
Associated Proj: T019;S017;W063;D025
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 7.6.3
 Comprehensive Plan 7.7
 Old Town Sector Plan

Est. Start: 7/1/2015
Est. Complete: 6/30/2017



Description:

Underground OH Distribution facilities on Prince William Street from Wellington Road to Grant Avenue. Remove 21 spans of overhead 3-phase distribution and install 3,300' of 3-phase underground distribution. Install 32 aluminum street light poles.

PROJECT-TO-DATE	
Account #	CP3635
Budget:	\$ 1,021,000
Expend. / PO:	\$ 930,000
Balance:	\$ 91,000

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	30	-	-	-	-	-	-	30
Land	-	-	-	-	-	-	-	-
Construction	991	-	-	-	-	-	-	991
Total Cost	1,021	-	-	-	-	-	-	1,021

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	1,021	-	-	-	-	-	-	1,021
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	1,021	-	-	-	-	-	-	1,021

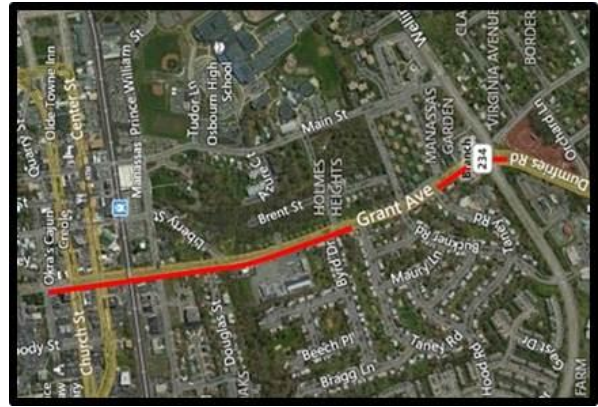
Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-015 Grant Avenue (Prince William Street to Byrd Drive)

Year Introduced: 2003
Change: Moved From Future
Associated Proj: T021;S018;W061
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.6.3
 Comprehensive Plan 7.7
 Old Town Sector Plan

Est. Start: 7/1/2019
Est. Complete: 7/1/2021



Description:

Underground OH distribution facilities on Grant Avenue from Prince William Street to Byrd Drive. Remove 12 spans of OH 3-phase distribution and install 3,000' of 3-phase underground distribution. Install 10 aluminum street light poles. This will improve reliability and aesthetics and lower maintenance costs.

PROJECT-TO-DATE	
Account #	N/A
Budget:	\$ -
Expend. / PO:	\$ -
Balance:	\$ -

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	-	600	-	-	600
Total Cost	-	-	-	-	600	-	-	600

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	-	-	-	-	600	-	-	600
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	-	-	-	-	600	-	-	600

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-019 Dean Drive Extended

Year Introduced: 2005
Change: No change
Associated Proj: T030;W050
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.6.3
 Comprehensive Plan 7.7

Est. Start: 7/1/2016
Est. Complete: 6/30/2018



Description:

Relocate up to six spans of overhead lines to underground to provide clearance for Dean Drive to be connected to Nokesville Road.

PROJECT-TO-DATE		
Account # CP3649		
Budget:	\$	50,000
Expend. / PO:	\$	4,074
Balance:	\$	45,926

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	50	-	-	-	-	-	-	50
Land	-	-	-	-	-	-	-	-
Construction	-	85	-	-	-	-	-	85
Total Cost	50	85	-	-	-	-	-	135

Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	50	85	-	-	-	-	-	135
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	50	85	-	-	-	-	-	135

Operating Impacts: (\$ in 1,000s)								
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-021 Airport Substation Expansion

Year Introduced: 2006
Change: No change
Associated Proj: N/A
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 7.7

Est. Start: 7/1/2005
Est. Complete: 6/30/2017



Description:

Upgrade 115KV to 230KV system and upgrade substation transfer. Reconfigure circuit 301 to split the overhead portion (Water Plant) from underground portion (Airport) & add 1+ distribution circuit(s) if justifiable. Substation expansion will provide adequate capacity for the electric system as yearly peak loading continues to increase and as commercial development of Route 28 corridor advances. Project was accelerated due to the new 230KV transmission line being planned by Dominion VA Power from Cannon Branch Substation to New Cloverhill Substation in PWC.

PROJECT-TO-DATE	
<i>Account #</i>	<i>CP3640</i>
Budget:	\$ 5,600,000
Expend. / PO:	\$ 2,730,354
Balance:	\$ 2,869,646

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	800	-	-	-	-	-	-	800
Land	-	-	-	-	-	-	-	-
Construction	4,800	-	-	-	-	-	-	4,800
Total Cost	5,600	-	-	-	-	-	-	5,600

Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	1,600	-	-	-	-	-	-	1,600
School Fund	-	-	-	-	-	-	-	-
Bonds	4,000	-	-	-	-	-	-	4,000
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	5,600	-	-	-	-	-	-	5,600

Operating Impacts: (\$ in 1,000s)								
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-026 Liberia Avenue Widening

Year Introduced: 2008
Change: Increased Estimate
Associated Proj: T046;W048
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.6.3
 Comprehensive Plan 7.7

Est. Start: 7/1/2018
Est. Complete: 6/30/2022



Description:

Relocate existing underground electric lines and move existing overhead lines to underground to allow widening of Liberia Avenue from four lanes to six lanes.

PROJECT-TO-DATE	
Account #	N/A
Budget:	\$ -
Expend. / PO:	\$ -
Balance:	\$ -

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	-	-	-	3,900	-	-	-	3,900
Total Cost	-	-	-	3,900	-	-	-	3,900

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	-	-	-	-	-	-	-	-
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	3,900	-	-	-	3,900
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	-	-	-	3,900	-	-	-	3,900

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	(302)	(302)	(5,441)	(6,045)
Net Revenue	-	-	-	-	(302)	(302)	(5,441)	(6,045)

E-029 Advanced Meter Infrastructure (AMI)

Year Introduced: 2009
Change: No change
Associated Proj: W-044
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.7
 Comprehensive Plan 8.3

Est. Start: 9/1/2014
Est. Complete: 9/1/2016



Description:

Provide a fixed network 2-way communications system to implement full AMI supporting Demand Response, Remote Disconnect/Reconnect, Outage Notification & Management, Tampering, etc. This will reduce expenses and improve meter reading accuracy and reliability. Customers will be able to monitor their usage via web portal access.

PROJECT-TO-DATE	
<i>Account #</i>	<i>CP3665</i>
Budget:	\$ 6,020,000
Expend. / PO:	\$ 4,794,226
Balance:	\$ 1,225,774

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	6,020	-	-	-	-	-	-	6,020
Total Cost	6,020	-	-	-	-	-	-	6,020

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	6,020	-	-	-	-	-	-	6,020
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	6,020	-	-	-	-	-	-	6,020

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-030 Underground Cable and Termination Replacement

Year Introduced: 2010
 Change: No change
 Associated Proj: N/A
 Program Area: Electric
 Managing Dept: Utilities
 Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.7

Est. Start: 7/1/2010
 Est. Complete: 6/30/2022



Description:

The utility has experience an above average number of failures on the 15KV main feeder circuits because cable has been in use long past its expected service life. This is a formal program for replacing cables and terminations based on test results, age, and the number of faults experienced.

FY 2017 - Confederate Trail
 FY 2018 - Rolling Road
 FY 2019 - Liberia Avenue
 FY 2020-2021 - Georgetown Tie Point

PROJECT-TO-DATE	
Account #	CP3667
Budget:	\$ 2,280,000
Expend. / PO:	\$ 1,883,393
Balance:	\$ 396,607

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	200	10	10	10	10	10	10	260
Land	-	-	-	-	-	-	-	-
Construction	2,080	250	390	390	390	390	390	4,280
Total Cost	2,280	260	400	400	400	400	400	4,540

Funding Sources: (\$ in 1,000s)

General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	2,280	260	400	400	400	400	400	4,540
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	2,280	260	400	400	400	400	400	4,540

Operating Impacts: (\$ in 1,000s)

Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-031 New Generation Initiatives

Year Introduced: 2011
Change: Decreased Estimate
Associated Proj: N/A
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones

Plan Conformance:
 Comprehensive Plan 7.7 **Est. Start:** 7/1/2010
 Comprehensive Plan 8.3 **Est. Complete:** 6/30/2022



Description:

Phase II -Engineering study and site evaluation of generator options for Church Street Generation Site.
 Phase III -A cost-benefit analysis will be conducted before any replacement/construction activity. Current emission standards and anticipated legislation will require cleaner initiatives and reductions in emissions.

PROJECT-TO-DATE	
<i>Account #</i>	<i>CP3686</i>
Budget:	\$ 700,000
Expend. / PO:	\$ 270,852
Balance:	\$ 429,148

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	150	150	-	-	-	-	-	300
Land	-	-	-	-	-	-	-	-
Construction	550	-	300	300	300	300	-	1,750
Total Cost	700	150	300	300	300	300	-	2,050

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	700	150	300	300	300	300	-	2,050
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	700	150	300	300	300	300	-	2,050

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-032 New Fiber Optic Loop/Ring

Year Introduced: 2015
Change: No change
Associated Proj: N/A
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 7.7

Est. Start: 7/1/2016
Est. Complete: 6/20/2021



Description:

Identify needs of self-healing rings/loops using fiber optic paths for priority services. Install new fiber optic cabling to provide priority services the necessary redundancy loops/rings. This will improve reliability of critical infrastructure networks and public safety services. FY 2017 - VMEA to Quarry (28,000' for \$160,000); FY 2019 - Point of Woods to VMEA (20,000' for \$115,000); FY 2019 - Ball Field to Micron (1,200' for \$5,000); FY 2019 - Prince William to Buckner (12,100' for \$75,000)

PROJECT-TO-DATE	
Account #	CP3694
Budget:	\$ -
Expend. / PO:	\$ -
Balance:	\$ -

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	-	160	-	195	-	-	-	355
Total Cost	-	160	-	195	-	-	-	355

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	-	160	-	195	-	-	-	355
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	-	160	-	195	-	-	-	355

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-033 Place Overhead Lines Underground (Non-Transportation)

Year Introduced: 2016
Change: No change
Associated Proj: N/A
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 7.6.3

Est. Start: 7/1/2016
Est. Complete: 6/30/2022



Description:

Place overhead electric, telephone, cable, and fiber lines underground, improving reliability and aesthetics and lowering maintenance costs.
 FY 2017 - Landgreen St from Weems to Weir
 FY 2018 - Landgreen St from Liberia to Weems
 FY 2019 and FY 2020 - Foster Dr from Technology to Dean
 FY 2021 - Sudley Rd from Stonewall to Digges

PROJECT-TO-DATE	
<i>Account #</i>	CP3693
Budget:	\$ -
Expend. / PO:	\$ -
Balance:	\$ -

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	-	-	-	-	-	-	-
Land	-	-	-	-	-	-	-	-
Construction	-	250	500	300	300	500	585	2,435
Total Cost	-	250	500	300	300	500	585	2,435

Funding Sources: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	-	250	500	300	300	500	585	2,435
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	-	250	500	300	300	500	585	2,435

Operating Impacts: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

E-034 LED Streetlight Replacement

Year Introduced: 2017
Change: New Project
Associated Proj: N/A
Program Area: Electric
Managing Dept: Utilities
Manager: D. Jones
Plan Conformance:
 Comprehensive Plan 8.3

Est. Start: 7/1/2016
Est. Complete: 6/30/2024



Description:

Upgrade all Manassas City streetlights to LED over seven years. First year is planning, design and specifications of fixtures to include public input and investigation of other local municipalities that have changed to LED.

PROJECT-TO-DATE	
<i>Account #</i>	<i>CP3695</i>
Budget:	\$ -
Expend. / PO:	\$ -
Balance:	\$ -

Cost Estimate: (\$ in 1,000s)	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project
Planning	-	50	-	-	-	-	-	50
Land	-	-	-	-	-	-	-	-
Construction	-	-	100	100	100	100	200	600
Total Cost	-	50	100	100	100	100	200	650

Funding Sources: (\$ in 1,000s)								
General Fund	-	-	-	-	-	-	-	-
Enterprise Funds	-	50	100	100	100	100	200	650
School Fund	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total Funding	-	50	100	100	100	100	200	650

Operating Impacts: (\$ in 1,000s)								
Revenue Offset	-	-	-	-	-	-	-	-
Personnel	-	-	-	-	-	-	-	-
Facility (Costs) Savings	-	-	-	-	-	-	-	-
Program (Costs) Savings	-	-	-	-	-	-	-	-
Debt Service	-	-	-	-	-	-	-	-
Net Revenue	-	-	-	-	-	-	-	-

ELECTRIC FUTURE YEARS PROJECTS SUMMARY*(\$ in Thousands)*

Project #	Project Name and Description	COST	SOURCE
E-013	Dumfries Rd Northbound 3rd Lane (Wellington to Hastings) Underground OH distribution facilities on Dumfries Road from Hastings Drive to Orchard Lane. Remove 18 spans of 3-phase overhead distribution and install 1,900' of underground 3-phase distribution. Install 28 aluminum street lights.	\$ 400	Electric Fund

ELECTRIC MAINTENANCE CAPITAL PROJECT LISTING

(\$ in Thousands)

The City identifies Capital Projects as projects with a cost greater than \$100,000 **and** a useful life of 10+ years. The City recognizes that there are additional projects/needs that are capital in nature but do not meet the requirement set forth for a capital project. These additional projects/needs are considered Maintenance Capital Projects, a list of which is provided below for the Electric Program.

Project Name	Prior Years	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Future	Total Project	5-Year CIP
Replace/Automate Pad	263	55	55	55	55	55	55	593	275
Total Cost	263	55	55	55	55	55	55	593	275

Funding Sources

General Fund	-	-	-	-	-	-	-	-	-
Enterprise Funds	263	55	55	55	55	55	55	593	275
School Fund	-	-	-	-	-	-	-	-	-
Bonds	-	-	-	-	-	-	-	-	-
Other Government	-	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-
Gas Taxes	-	-	-	-	-	-	-	-	-
Proffers	-	-	-	-	-	-	-	-	-
Stormwater Escrows	-	-	-	-	-	-	-	-	-
NVTA	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total Funding	263	55	55	55	55	55	55	593	275

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