

**Capital Improvement Plan
Fiscal Year 2014-2015 through 2018-2019
Project Description**

I. Requesting Department: IT

II. Project Title: Fire Station 21 LAN Connection

III. Project Description:

Reduce connection cost for Fire Station 21 by replacing leased fiber with a wireless backhaul connection.

IV. Project Justification: (What need is being met, how does this project address the need?)

Fire Station 21 is currently connected to the Nags Head Town Hall via in-ground optical fiber cable that is leased from Charter Cable. The five year contract for this fiber connection expired in September 2010 and the provider has stated they no longer offer this type of service (leased dark fiber).

This service has continued on a month to month basis. However, the service could be terminated on short notice at any time forcing the Town to replace the connection with a more expensive solution.

Return on investment calculations based on an assumed 2% cost of capital and 10 years of service life indicate an initial payback of the original investment into this project in 5 years. We expect the proposed solution to be adequate for a minimum of 7 years and possibly longer. Assuming that the equipment would be replaced or upgraded in year seven at a cost of \$25,000 yields a 123% return on investment in year ten. (See attached ROI analysis sheet for year by year analysis.)

V. What Board Goals Does This Project Meet?

- Fiscally Responsible
- Supportive Infrastructure
- Choose an item.
- Choose an item.
- Choose an item.
- Choose an item.

VI. Project Location: (Attach a map if applicable)

Transceivers will be installed at Fire Station 21 and on the Nags Head Town Hall cell tower.

VII. Department Priority: (Choose One) Does the requested project:

- | | | |
|--|---|-----------------------------|
| a. Correct an unsatisfactory level of service? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| b. Maintain a current level of service? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| c. Increase a level of service? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| d. Represent a "vision"? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

VIII. Departmental Rank: (Prioritize your request in relation to other departmental project request)

1 of 1

IX. Project Alternatives:

Over the past few years the IT Department has priced several different replacement solutions from many different providers. These solutions included other wireless point to point connections, copper connections, and Virtual Private Network connections offered by the phone company, cable company, and various other private contractors. All solutions considered were either higher in monthly cost or involved much higher initial costs.

X. Project Dependency:

The project does not depend on other factors.

XI. Negative Impacts:

**CAPITAL IMPROVEMENT PROGRAM
ITEM/PROJECT DESCRIPTION FORM**

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This wireless backhaul solution is more susceptible to failure from storm (wind) damage than the existing in-ground fiber cable. The Town will own this equipment so repair, replacement, and upgrade cost will be the Town's responsibility. Unusually intense rain can slow the connection somewhat, but the connection should remain adequate.

XII. Other Considerations:

XIII. Additional Funding Sources:

Are there grants or additional funds which might be used in conjunction with the CIP to fund this project:

Yes No If YES, describe:

XIV. ESTIMATED COSTS

a. Capital/ One Time Costs	Description of Capital/One Time Costs	Cost (Round to Nearest \$)
	Initial Purchase and Installation	\$ 31,000
	TOTAL Capital (One Time Costs)	\$ 31,000
b. Continuing Annual Operating Costs	Description of Continuing Annual Operating Costs	
		\$
	TOTAL Continuing Annual Operating Costs	\$

XV. Fiscal Year Requested:

FY 2014-2015

Priority Recommendation: (By CIP Committee)

The Town of Nags Head
 Capital budgeting—return-on-investment (ROI) analysis
 2/26/2014

Data cell key
Formula cells: Totals are calculated and filled in automatically.

Investment overview
Project name: Replace Leased Fiber - Town Hall/Fire Station 21
Project sponsor: Information Technology Dept
Date of request: February 26, 2014
General description of benefits: Eliminate the ongoing \$600 monthly cost of leased fiber connecting Nags Head Town Hall with Fire Station 21 by replacing the current connection with a wireless backhaul solution.

Cash flow and ROI statement												
BENEFIT DRIVERS	YEAR											
	0	1	2	3	4	5	6	7	8	9	10	
Annual Savings Over Current Lease Agreement		\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200
Total annual benefits		\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200
Implementation filter		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total benefits realized		\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200	\$7,200

Costs	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total	\$31,000	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000	\$0	\$0	\$0

Benefits	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Annual benefit flow	(\$31,000.00)	\$7,200.00	\$7,200.00	\$7,200.00	\$7,200.00	\$7,200.00	\$7,200.00	(\$17,800.00)	\$7,200.00	\$7,200.00	\$7,200.00
Cumulative benefit flow	(\$31,000.00)	(\$23,800.00)	(\$16,600.00)	(\$9,400.00)	(\$2,200.00)	\$5,000.00	\$12,200.00	(\$5,600.00)	\$1,600.00	\$8,800.00	\$16,000.00

Discounted benefit flow	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Discounted costs	\$31,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$21,764.00	\$0.00	\$0.00	\$0.00
Discounted benefits	\$0.00	\$7,058.82	\$6,920.42	\$6,784.72	\$6,651.69	\$6,521.26	\$6,393.39	\$6,268.03	\$6,145.13	\$6,024.64	\$5,906.51
Total discounted benefit flow	(\$31,000.00)	\$7,058.82	\$6,920.42	\$6,784.72	\$6,651.69	\$6,521.26	\$6,393.39	(\$15,495.97)	\$6,145.13	\$6,024.64	\$5,906.51
Total cumulative discounted benefit flow	(\$31,000.00)	(\$23,941.18)	(\$17,020.76)	(\$10,236.04)	(\$3,584.35)	\$2,936.91	\$9,330.30	(\$6,165.67)	(\$20.54)	\$6,004.10	\$11,910.61

Initial investment	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Initial investment (Installation and Equipment Cost)	\$31,000										
Replacement/Upgrade of Transceivers in 7th Year								\$25,000			
Total costs	\$31,000	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000	\$0	\$0	\$0

ROI measures											
Cost of capital	2%										
Net present value	\$11,910.61										
Return on investment		23%	45%	67%	88%	109%	130%	88%	100%	111%	123%
Payback (in years)	7.78										