

DCMP FY2012 Coastal Management Assistance Grant Program

Project Title	Town of South Bethany, Delaware Sea Level Rise Adaptation - Baseline Survey
Organization (Responsible Party)	Town of South Bethany

Enter name of Government Entity, Non-Profit Organization, etc.

Contact Information

Applicant Name/Title	Mr. Melvin Cusick, Town Manager
Project Manager/Title	Dr. George Junkin, Town Council Secretary and Chair, Water Quality Committee
Street Address	402 Evergreen Road
City, State, Zip	South Bethany, DE 19930
Phone Number	302-539-3653 ext. 213
Email	townmanager@southbethany.org

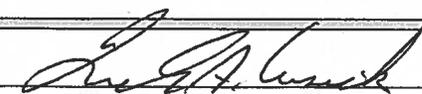
Project Partner(s)	South Bethany Property Owners Association (SBPOA) Linda Lewis, President URS Corporation - Andrew Wishart, PE, Water Resources Engineer 302-781-5884
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List name(s) of partner organization(s) with point of contact, if applicable. Letters of support and agreements to work with responsible party must be submitted with proposal.

Proposed Budget (Total) \$	18,588	Project Duration <input type="text" value="10"/> <i>Months necessary to complete project</i>
Federal Funds Requested	\$ 9,200	
Matching Funds Provided	\$ 9,388	

Project Area	Town of South Bethany, area west of US Route 1 - Sussex County, Delaware
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Identify location and/or geographical extent of project (e.g. site location, municipality, county, etc.)

Project Submitted by:  TOWN MANAGER

Name Title

(Print and submit signature with hard copy)



TOWN OF SOUTH BETHANY

402 Evergreen Road
South Bethany, DE 19930

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E-Mail: townhall@southbethany.org

March 12, 2013

Patricia Hoffman
Delaware Coastal Programs (DCP)
Department of Natural Resources and Environmental Control
5 E. Reed Street, Suite 201
Dover, DE 19901

Dear Ms. Hoffman:

The Town of South Bethany is pleased to have the opportunity to submit our proposal, *Sea Level Rise Adaptation – Baseline Survey*, for a DNREC Coastal Management Assistance Grant. This grant will provide the data required by the Town to further define protection and accommodation options for Sea Level Rise (SLR) adaptation strategies. These planning and design projects will be necessary to adequately address the effects of climate change and sea level rise on the Town and its citizens. This project will also increase the public's awareness of Sea Level Rise through outreach and education.

The Town has been active in its quest to further understand SLR. In 2012, the Town appointed Dr. George Junkin to be the lead person on SLR for the Town of South Bethany. He has been regularly attending SLR Committee Meetings and would be the Town's technical lead on this grant.

The Town has a strong working relationship with the South Bethany Property Owners Association (SBPOA). The Town has partnered with the SBPOA, in the past, to successfully execute water quality improvement grants.

The Town has selected the URS Corporation, a top ranked international firm that has completed many sea level rise vulnerability studies around the County as well as here on the Delmarva Peninsula, to execute the Baseline Survey.

The Town looks forward to working with you and the DCP on this program to better understand the implications of SLR and the adaptations that would be required to mitigate the consequences of SLR.

If you have any questions or require additional information, please contact me or any of the key personnel identified in the proposal.

Sincerely,

Kathy Jankowski
Mayor

DNREC Coastal Management Assistance Grant
Town of South Bethany, Delaware
Sea Level Rise Adaptation – Baseline Survey

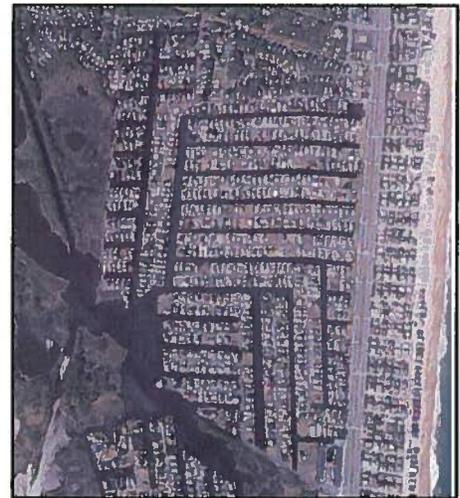
Summary:

The Town of South Bethany is respectfully submitting this application for a DNREC Coastal Management Assistance Grant to perform “Planning and Design of On-the-Ground Adaptation Projects.” The Town envisions the *Sea Level Rise Adaptation Baseline Survey* to be the first step toward further defining protection and accommodation options for Sea Level Rise adaptation strategies. These planning and design projects will be necessary to adequately address the effects of climate change and sea level rise on the Town and its citizens.

A secondary goal of this project is to increase the public’s awareness of Sea Level Rise through outreach and education.

Background and Justification:

The Town of South Bethany (at right) is a densely populated coastal community developed in the 1950s. It consists of approximately 1,200 single family homes situated on 270 acres located in the southeastern part of Sussex County, Delaware, between the Atlantic Coast and the Little Assawoman Bay and the Assawoman Canal. The incorporated towns near South Bethany are Bethany Beach and Ocean View to the north and Fenwick Island to the south. There are urban, unincorporated parts of Sussex County adjacent to the Town’s borders. Delaware State Route 1 bisects the town from north to south.



The Town’s geography and elevation put it at risk to sea level rise and changes in weather patterns, such as more frequent and stronger coastal storms due to climate change. Due to the shape and outflow characteristics of the Little Assawoman Bay, and its effect on Little Bay and Jefferson Creek, the Town regularly experiences tidal flooding and occasionally ocean over-wash flooding during the worst coastal storm events. South Bethany suffered severe damage as a result of Superstorm Sandy, as shown by the 10/31/2012 News Journal photo by Robert Craig (at right), with substantial tidal flooding on the bayside of the Town overtopping local roads and flooding most homes.



In 1999, South Bethany Property Owners Association (SBPOA) member and former Town Council member Lloyd Hughes was instrumental in getting the tide gauge installed in the South Bethany canals. Historical data from that gauge shows that canal tides have been increasing. If the sea level were to rise 2.6 feet, South Bethany would experience flooding, similar to that caused by Sandy, an average of two times per year.

The Town's updated 2005 Comprehensive Development Plan, which has recently been reviewed and accepted by the State, identifies several implementation strategies. One of the most clearly defined infrastructure implementation strategies identified is the evaluation of road elevations and proposed improvements. It should be noted that this Comprehensive Development Plan was approved and certified by the Governor after all the State of Delaware agencies reviewed the document and provided recommendations.

At this time, South Bethany is seeking to obtain accurate and precise elevation data to assist in further defining protection and accommodation options for Sea Level Rise adaptation strategies. These options include raising existing bulkheads, roads and buildings, as well as consideration of new bulkheads and stormwater pumps.

Precise vertical data is required for both the Town's roadways and its bulkheads. This will allow the Town to accurately assess the extent to which protection and accommodation may be required. This data can be uploaded into a GIS database, and will serve as the basis for all future engineering design. The Town realizes this is only a first step in the process, but that it is a necessary and critical first step that sets the stage for future planning.

Scope of Work:

In order to establish an accurate elevation base for this model, URS Corporation is prepared to perform a centerline profile survey along the forty-six (46) road corridors in South Bethany, west of Route 1, as well as the associated bulkheads. The field data will be collected in Delaware State Plane Coordinates (NAD '83 & NAVD '88). URS will assure that all safety protocols will be followed and all the proper safety training for the field personal will be completed as a part of this project. The field survey work and office work will be directly overseen by a Professional Land Surveyor. If any plans or reports are required to be signed, this will be done by a Delaware Professional Land Surveyor.

Project Tasks:

- 1) Perform a centerline profile survey of forty-six (46) road corridors in South Bethany totaling approximately 7.3 miles. This work will be limited to the area west of the Route 1 corridor. This shall consist of GPS survey methods at every 100 foot station along each road, at a minimum.
- 2) Perform a GPS survey of the existing bulkheads associated with the roads described in Item 1. This will consist of a shot on each corner of the bulkheads, and at every

100-foot interval between corners. The total length of bulkhead is approximately 11.0 miles.

- 3) Download field information and develop a GIS based map.
- 4) Educate the community on Sea Level Rise and the Town's efforts to formally evaluate vulnerability, as well as the potential planning and engineering steps that may be required.

Project Feasibility and Technical Merit

The proposed *Sea Level Rise Adaptation Baseline Survey* will be conducted and completed by URS Corporation, by staff from their Millsboro and Newark, Delaware offices, with the assistance of South Bethany Town management and volunteers. URS is among the top-ranked environmental firms in the world, and among the top 10 engineering firms nationally in the areas of water resources, coastal studies, and green engineering. URS has completed many sea level rise vulnerability studies around the County as well as here on the Delmarva Peninsula.

The Town envisions the *Sea Level Rise Adaptation Baseline Survey* to be the first step toward further defining protection and accommodation options for Sea Level Rise adaptation strategies. These planning and design projects will be necessary to adequately address the effects of climate change and sea level rise on the Town and its citizens. Also this project will increase the public's awareness of Sea Level Rise through outreach and education.

Partnership / Cooperation

The Town of South Bethany has in place a working relationship with the volunteers from the SBPOA and with the URS Corporation. The partners are:

- *The Town of South Bethany* – The Town has been providing all the services required to operate a small town, since their incorporation in 1969. The Town has managed numerous grant programs, many of them significantly larger than the proposed survey project. Melvin Cusick (see attached resume), the Town Manager, and Don Chrobot, the Town Maintenance Supervisor, have the expertise and experience required to provide the management and support necessary for the Baseline Survey Project. Dr. George Junkin (see attached resume), an SBPOA member and a Town Council Member, will lead the technical efforts as a volunteer. In addition to his professional responsibilities at Northrup Grumman as Chief Scientist, Dr. Junkin has voluntarily coordinated South Bethany Water Quality initiatives for 6 years.
- *The South Bethany Property Owners Association, Inc. (SBPOA)* – SBPOA, a voluntary organization incorporated in the State of Delaware in 1999, has approximately 800 members and manages an annual budget of \$ 25,000. The 2011 / 2012 budget allocated \$ 5,000 to be expended on water quality issues. The SBPOA is led by its president, Linda Lewis (retired Senior Executive from Accenture.)
- *URS Corporation* – The Town will contract with URS to perform the Baseline Survey. URS is well qualified for the tasks as described above.

The Center for The Inland Bays (CIB) has also expressed their support of the Town in pursuit of this grant opportunity, and a letter detailing that is included.

Time Schedule and Deliverables:

The project scope will consist of the tasks listed above with deliverables and milestone dates as follows:

1. Provide property owners with project summary information and notification of the proposed survey field work schedule.

Work on Item 1 will begin immediately after the Notice-to-Proceed, and will be required prior to beginning the Field Survey.

2. Prepare Sea Level Rise flyer specific to the needs of the Town.

Work on Item 2 will begin immediately after the Notice-to-Proceed, and will be mailed to property owners prior to the “Project Summary” presentation for community leaders and the general public.

3. Perform a centerline profile survey of forty-six (46) road corridors in South Bethany, totaling approximately 7.3 miles.

4. Perform a GPS survey of the existing bulkheads associated with the roads described in Item 3.

Items 3 and 4 will be completed within 6 months of the Notice-to-Proceed.

5. Deliver a GIS based map of field survey information.

Item 5 will be completed within 2 months of the completion of Items 3 and 4, approximately 8 months after the notice to proceed.

6. Present “Project Summary” information to community leaders and the general public.

Item 6 will occur after all other items have been completed.

It is anticipated that the Survey Project will be completed within nine months from the date of notice to proceed.

Project Budget (Part A):

The budget summary for the proposed project is as follows:

Funds Requested:	\$ 9,200
Cash-Match Provided:	\$ 2,135
<u>In-Kind Match Provided:</u>	<u>\$ 7,253</u>
Total Funding	\$ 18,588

Project Costs:

• Public Outreach	\$ 1,717
• GPS field survey of roads and bulkheads (Including Traffic Control)	\$ 9,536
• Survey Project Management	\$ 1,920
• GIS based map of survey field information	\$ 2,000
• Town Financial Mgmt. and Reporting	\$ 2,080
• <u>Public Education</u>	\$ 1,335
Total Project Cost:	\$ 18,588

The cost of **Public Outreach** will be provided by the Town through a combination of “in-kind” match in staff and volunteer time, and Town funding of mailings, postage and advertisements. This will include written property notifications, flyers, newspaper advertisements and website postings.

The cost of the **GPS Field Survey** services and **Survey Project Management** will be contractual, and will account for all office and field work required to obtain the required information. This will be paid for through a combination of grant funding and Town cash-match. Adherence to generally accepted health and safety standards requires a two-man survey crew for work in roadways and along waterways. The costs for this service will be minimized by the “in-kind” match of the Town; volunteer Dr. George Junkin will serve as the second survey crew member. The Town will also provide additional “in-kind” match by providing trained Traffic Control personnel from its DPW staff and volunteer pool.

The cost of the **GIS based map of survey field information** will be contractual, and will be paid for through grant funding. This will include creation of an existing topographic worksheet with survey points, coordinates and elevations, and a GIS based map of the field information.

The costs for **Financial Management and Reporting** will be covered by the Town through “in-kind” match in staff and volunteer time. This task will include tracking of monthly invoices, project budget management, and the preparation and submission of quarterly reports to the grant funding agency.

The cost of **Public Education** will be contributed by the Town through a combination of “in-kind” match in staff and volunteer time, and Town funding of flyers and presentation materials. This task will include the development and distribution of a “Sea Level Rise Educational Flyer,” response to public questions, summary review of Survey data and a final presentation to stakeholders.

The Town of South Bethany and the South Bethany Property Owners Association (SBPOA) have been very successful in providing volunteers on several projects, such as the Route 1 Bio-Retention Initiative and the on-going Water Quality Committee, Water Quality Monitoring Program, Canal Clean-Up and the Adopt-A-Canal Program. Such endeavors reduce Town staff

time, and provide educational value to the citizens of the community while performing an array of tasks related to the projects. Volunteer time is included with the “in-kind” services, in conformance with the criteria established in the RFP.

Project Budget (Part B):

An itemized budget is attached (see next page).

Past Performance

The Town of South Bethany has administered the following federal and non-federal projects in the last 6 years:

Contract June, 2012 – South Bethany Landscaping Improvement Plan. This project encompassed three landscape areas: 1. Rain Gardens at the storm drains along east side of the pedestrian walkway on the west side of Route 1; 2. Landscape areas between the York Beach Mall parking area and the pedestrian walkway; and 3. Circle rain gardens within the Route 1 median at road cross over points. The project was funded by the Delaware Department of Transportation’s Transportation Enhancement Program and the Town of South Bethany. This was a cooperative agreement between the two agencies. The cost of the project was \$ 50,000. The project and all supporting documentation were completed within the time frame specified in the agreement.

Contract January 2011 – Insulated Garage Doors. This project involved the purchase and installation of energy efficient insulated garage doors for the Public Works Department. It also included purchase and installation of energy efficient temperature controls for the Town Hall and Police Department and replacement weather stripping for both buildings. The project was funded through the United States Department of Energy-American Recovery Reinvestment Act (ARRA) and the Delaware Energy Office. The project was subject to Federal regulations, including the Davis-Bacon Act and the Buy American agreement. The cost of the project was \$9,571. The project and all supporting documentation were completed on time.

Contract April, 2008 –Flood Mitigation Project. This project involved the elevation of a residential structure at 202 Carlisle Drive that was prone to periodic flooding. The project was funded through the Federal Emergency Management Agency (FEMA) and Delaware Emergency Management Agency (DEMA) and the private homeowner. The Town applied for the assistance for the homeowner and was responsible for all administration of the project including managing the escrow account for the project on behalf of the homeowner. The cost of the project was \$22,861.98. The project and all supporting documentation were completed on time.

Contract March, 2007 –York Road Pedestrian Walkway Project. This project involved the construction of a pedestrian walkway along York Road in the Town of South Bethany. The project was funded through the Federal Highway Administration and the Delaware Department of Transportation - Transportation Enhancement Program and the Town of South Bethany. This was a cooperative agreement between the three agencies. The cost of the project was \$122,800. The project and all supporting documentation were completed within the time frame specified in the agreement.

Delaware Coastal Program's Request for Proposals - Coastal Management Assistance Grants

Applicant Name: Town of South Bethany, Delaware
 Project Title: SLR Adaptation - Baseline Survey

Budget Item	Budget Category	Qty.	Cost per Item (per hour)	Amount Requested	Cash Match	Source of Cash Match	Status of Cash Match	In-Kind Match	Source of In-Kind Match	Status of In-Kind Match	Total
Survey Office (Pre)	contractual	6	\$ 100.00	\$ 600.00		Town Budget	pledged				\$ 600.00
Survey Crew	contractual	50	\$ 80.00	\$ 3,300.00	\$ 700.00		pledged				\$ 4,000.00
Survey Crew	personnel	50	\$ 22.34					\$ 1,117.00	Volunteer	pledged	\$ 1,117.00
Traffic Control 1	personnel	50	\$ 26.44					\$ 1,322.00	DPW Staff	pledged	\$ 1,322.00
Traffic Control 2	personnel	50	\$ 22.34					\$ 1,117.00	Volunteer	pledged	\$ 1,117.00
GIS/CAD/Drafting	contractual	20	\$ 100.00	\$ 2,000.00							\$ 2,000.00
Survey Office (Post)	contractual	12	\$ 115.00	\$ 1,380.00							\$ 1,380.00
Project Management	contractual	16	\$ 120.00	\$ 1,920.00							\$ 1,920.00
Financia/ Proj Mgmt.	personnel	16	\$ 55.10					\$ 881.60	Town Mgr.	pledged	\$ 881.60
Financial Mgmt.	personnel	19	\$ 31.32					\$ 595.08	Town Fin. Admin.	pledged	\$ 595.08
Reporting	personnel	27	\$ 22.34					\$ 603.18	Volunteer	pledged	\$ 603.18
Public Outreach	personnel	10	\$ 26.52					\$ 265.20	Town Clerk	pledged	\$ 265.20
Public Outreach	personnel	13	\$ 22.34					\$ 290.42	Volunteer	pledged	\$ 290.42
Presentation to Public	personnel	34	\$ 22.34					\$ 759.56	Volunteer	pledged	\$ 759.56
Print Flyers	vendor				\$ 225.00	Town Budget	pledged				\$ 225.00
Presentation Materials	vendor				\$ 350.00	Town Budget	pledged				\$ 350.00
Property Notifications	personnel	8	\$ 26.52					\$ 212.16	Town Clerk	pledged	\$ 212.16
Property Notifications	personnel	4	\$ 22.34					\$ 89.36	Volunteer	pledged	\$ 89.36
Prop. Notification Postage	vendor				\$ 660.00	Town Budget	pledged				\$ 660.00
Prp. Notification Newspaper	vendor				\$ 200.00	Town Budget	pledged				\$ 200.00
TOTAL											\$ 18,588
Total Grant Request	\$ 9,200										
Total Cash Match	\$ 2,135										
Total In-Kind Match	\$ 7,253										
Total Town Match	\$ 9,388										
Total Project Value	\$ 18,588										

DELAWARE



CENTER FOR THE INLAND BAYS

Rehoboth Indian River Little Assawoman

March 14, 2013

Patricia Hoffman
Delaware Coastal Programs (DCP)
Department of Natural Resources and Environmental Control
5 E. Reed Street, Suite 201
Dover, DE 19901

Dear Ms. Hoffman

The Center for The Inland Bays (CIB) is pleased to write this letter in support of the Town of South Bethany's grant proposal, *Sea Level Rise Adaptation – Baseline Survey*, for a DNREC Coastal Management Assistance Grant.

At the Sussex County Association of Towns (SCAT) dinner meeting last night I met with Melvin Cusick, South Bethany's Town Manager; Sue Callaway, Town of South Bethany Mayor Pro-Tem and Chairperson of the South Bethany Community Enhancement Committee; and Debbie Pfell, Senior Planner for the Newark, DE office of the URS Corporation. They educated me about how The Town and URS were teamed with the South Bethany Property Owners Association (SBPOA) to secure a grant from the DCP to develop the baseline survey data that is necessary for them to adequately address the effects of climate change and Sea Level Rise (SLR) on the Town and its citizens. I understand that Dr. George Junkin, Town Council Secretary and Chairperson of the Canal Water Quality Committee will be the Project Manager for the Survey Project. The CIB has worked closely with the Town and the SBPOA in the past on water quality improvement and monitoring projects. I have worked personally with Melvin, George and Sue in the successful completion (performance, cost and schedule) for the following projects;

- Conceptual Pollution and Stormwater Control Strategy for the Anchorage Canal Drainage Area
- Anchorage Canal Watershed Stormwater Drainage – Retrofits Phase II – Rt. 1 Median

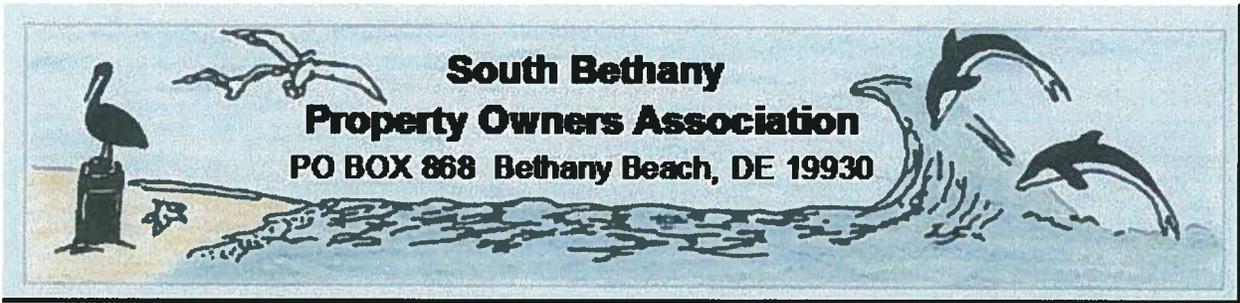
The CIB is well aware that Sea Level Rise, in conjunction with significant storms in the Delaware area, represents the major environmental challenges for the state in the near future.

I was pleased to witness, at the SCAT dinner meeting, the enthusiasm that was shown by the Town and URS toward this very important effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Bason". The signature is fluid and cursive, with a large initial "C" and "B".

Chris Bason
Executive Director



March 10, 2013

Kathy Jankowski, Mayor
Town of South Bethany
402 Evergreen Road
South Bethany, DE 19930

Dear Kathy,

The South Bethany Property Owners Association (SBPOA) looks forward to partnering with the Town of South Bethany in support of the Town's grant proposal prepared in response to the RFP issued by the Delaware Coastal Program (DCP) of the Department of Natural Resources and Environmental Control (DNREC) for Coastal Management Assistance Grants.

SBPOA members were made keenly aware of the implications that could come from Sea Level Rise (SLR) by the flood destruction caused by Hurricane Sandy last year. Many homes had 2 feet of water in their ground level floor and garages due to the bay water rising to a height of 5.44 feet NGVD in the South Bethany Canals. As you know, SBPOA member Lloyd Hughes was instrumental in getting the tide gauge installed in the South Bethany canals in 1999. Historical data from that gauge shows that if the sea level were to rise 2.6 feet South Bethany would flood similar to the flooding caused by Sandy on average two times per year.

Members of the SBPOA are committed to volunteering their time to support the effort to document the elevations of South Bethany's roads and canal bulkheads by assisting with the following tasks; Educational Outreach, Property Notifications and Field Assistance.

The members of SBPOA look forward to attending the community forum/presentation where the results of the Survey Project will be presented. The members understand that the elevation data collected will be needed for future projects that will be used to support SLR vulnerability assessments and adaptation plans.

Sincerely,

Linda Lewis
President SBPOA, Inc.

Resume for Melvin Cusick

Education

- BS Business Administration in 1978 from Salisbury University

Professional Experience

- 1979-1989-Supervisor, Maryland Department of Agriculture, Resource Conservation. Mosquito Control Division. This work involved the management of state county and city programs and cooperative agreements with the Maryland Department of Natural Resources with work on wetland projects.
- 1989-2004-Director, Somerset County Roads and Waterways Division. Responsible for County DPW and Transportation, maintenance and construction projects including roads, bridges, marinas, boat ramps, dredging of harbors and rivers, etc.
- 2001-2003-Building Manager, Guerrieri University Center (Part Time). Responsible for the management of Guerrieri University Center on the campus of Salisbury University.
- 2004-Present-Town Manager, Town of South Bethany. Responsible for operation of Town including Maintenance, Beach Patrol, Building Inspection, Oversight of Town roads and canal network, etc.

Resume for George Junkin, II, PhD

Education

- BS Engineering Mechanics in 1966 from Virginia Polytechnic & State University
- MS Engineering Mechanics in 1967 from Virginia Polytechnic & State University
- PhD Engineering Mechanics in 1969 from Virginia Polytechnic & State University

Professional Experience

- Joined Northrop Grumman, Oceanic & Naval Systems, in 1969
- Started as a Senior Engineer and progressed through Supervisory Engineer, Section Manager, Engineering Program Manager, Advisory Engineer and retired as Chief Scientist
- Managed Internal Research and Development Projects in the tens of millions of dollars
- Managed the engineering content of projects in the tens of million dollars
- Retired to South Bethany in 2005

South Bethany History and Volunteer Experience

- Vacationed in South Bethany since 1952 when father procured property and built a beach cottage.
- Upgraded the beach cottage to a full time residence in 2001
- Member of the South Bethany Property Owners Association since 2001
- Past volunteer on SBPOA Executive Board
- Retired to live full time in South Bethany in 2005
- Founding member of the South Bethany Water Quality Committee in 2007
- Elected as Town Council member to The South Bethany Town Council in 2010
- Appointed as Chairperson of the South Bethany Water Quality Committee in 2010
- Appointed lead person on Sea Level Rise (SLR) for the Town of South Bethany in 2012
- Have been regularly attending SLR Committee Meeting