

COMPREHENSIVE SHORELINE PROTECTION STRATEGY

Submitted by the Village Shoreline Protection Committee

Final Document

March 19, 2010

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Background:

The letter sent last April to potential participants in the “Brain Sail” to be conducted later that July included the assertion that “the threat from erosion, both natural and man-made, is relentless and the financial and political background, against which solutions must be fashioned, is daunting.” Now, ten months later, even with taxpayer-paid dredgers recovering sand lost from our beaches to temporarily restore them to health, the erosion of our shoreline continues to represent a real threat to the future of Bald Head Island. The letter went on, “if unchecked, asset value will plummet, natural habitats will vanish, costs associated with both defensive and remedial actions will sky-rocket, quality-enhancing amenities will be threatened and a foundational necessity for vitality will disappear.” The stakes are still as high, and there is no time for idleness or wishful thinking.

That “Brain Sail”, which was a community-wide effort in collaboration with the Village government, produced a “Strategic Action Plan”, setting in place a suggested organizational structure and detailing the consensus thinking around an overarching strategy consisting of different streams of tactics to address the erosion challenge. An independent Shoreline Preservation Steering Committee was formed, sub-committees focusing on separate tactics were created, and progress was achieved against that plan.

At this point, the independent SPSG has dissolved and the Village Council has appointed a Village Shoreline Protection Committee, as a standing committee, to support its efforts to address the erosion challenge. This committee, accountable to the Village Council and the island stakeholders, prepared a “Comprehensive Shoreline Protection Strategy” which defines five “Prime Objectives” of a successful outcome as well as nine “Enabling Objectives” which support success in reaching these prime objectives. Viewed in total, the objectives are:

“Prime Objectives”

1. Modify the Wilmington Harbor Navigation Channel
2. Modify the Sand Management Plan
3. Attend to specific projects to preserve shoreline, including:
 - South Beach Groins
 - Harbor Groins
 - Harbor Jetty
 - Terminal Groin
 - Dredge Creek mouth

- Inclusion in “50 Year Beach Plan”
 - Other Shoreline Projects that will arise
4. Protect and Preserve BHI Shoreline Including Ocean and Estuarine Environment and Related Natural Resources and Habitats
 5. Develop Village Position on NCIT

“Enabling Objectives”

1. Understand and manage shoreline protection by:
 - Establishing a Village “standing committee” with public accountability for shoreline preservation
 - Creating a Village “Shoreline Manager” employee position with collateral duties relating to other natural resource matters
2. Pursue negotiated solutions necessary to resolve BHI Shoreline issues
3. Preserve and protect all legal rights
4. Engage and manage an effective Federal and State lobbying effort
5. Take necessary steps to model Cape Fear River and Inlet conditions
6. Create and project a BHI “message”
7. Create reliable and meaningful Village communications effort
8. Develop appropriate contingency plans
9. Secure superior technical guidance and support
10. Identify and Facilitate Shoreline Project Funding Opportunities

Implementation details or action steps were created for each of these prime and enabling objectives listed above. Recommendations are made, all predicated on the notion that the arrival of purchased sand on our south and west beaches provides no comfort for the future. It may, in fact, provide only “breathing room” needed for the Village government to address this problem with fresh energy and intensity. What follows is a summary of the overall strategy.

SHORELINE PROTECTION STRATEGY SUMMARY

DEFINITION OF THE PROBLEM.

Non-natural, accelerated beach erosion resulting from USACE actions in support of the Wilmington Harbor shipping channel resulting in loss of property values, habitat, tourism and buffer protection from storms, threatening the viability and sustainability of the Island.

Put simply, as dramatically demonstrated in 2009, Bald Head Island's morphology is permanently changing as a result of repeated USACE dredging, particularly where dredging is not accompanied by sand placement on Bald Head Island. This "gap" in the Sand Management Plan occurs every third regular maintenance dredging, or approximately every six (6) years. Bald Head Island is scheduled to receive sand from dredging in 2010-2011 and 2012-2013. However, a modification of the Sand Management Plan, change in dredging practice, or other major change must occur by 2014-2015, or the Island will again face destructive erosion as it did in 2004 and 2009.

A community wide planning meeting known as the Brainsail was conducted in 2009 to identify the problem and discuss solutions and strategy. As a result of the Brainsail effort, the Village Council formed a Shoreline Protection Committee as an official working group of the Village. Through data gathering and recommendations, it is hoped that this Committee will provide helpful support for Island efforts to combat erosion.

Additional issues and challenges are presented by the proposed North Carolina International Terminal ("NCIT") at Southport. If it obtains regulatory approvals and the necessary public and private funding, this will be a very large shipping container terminal. While it may present an opportunity for the shipping channel to be relocated further from Bald Head, thus potentially helping the erosion problem, the increased channel size necessary to accommodate larger vessels, as well as the increased shipping traffic, may pose threats to the Island. The issue clearly requires further study and public input from BHI as the process moves forward.

STRATEGY

The Island's actions must be deliberate, well considered and practical. Overall, the Village strategy will be to (1) obtain necessary environmental and technical data; (2) identify possible solutions; and (3) coordinate with other governmental agencies and stakeholders to obtain approval and funding for construction of necessary solutions. The solution will likely be expensive and will require regulatory approvals and funding beyond the capability and control of Bald Head Island itself.

I. DATA GATHERING

A. Entrance Channel. Need to understand Cape Fear River entrance and shipping channel dynamics, including dredging and inlet processes. The Village is likely to contract its long-time coastal engineer, Erik Olsen, to provide a very extensive and detailed computer model of the channel entrance. Assigned to Olsen Associates, Inc., coastal engineers.

B. Data Regarding Environmental and Property Harm. Conduct regular, beach and environmental monitoring and gather historical data. This will also include creation of a Village maintained data base of channel related information. Assigned to Shoreline Protection Committee, BHI Conservancy, Village Staff and Olsen Associates.

C. Obtain Data and Monitor the Regulatory Progress of the NCIT. Take an informed position on the NCIT and seek a place at the table for BHI in related deliberations. Assigned to Shoreline Protection Committee.

II. IDENTIFY APPROPRIATE SOLUTIONS

Obtain consultant input and build consensus among other stakeholders and agencies regarding solutions. Solutions under consideration include:

A. Amend Sand Management Plan to provide necessary sand to Bald Head Island every two (2) years/each dredging event.

B. Construct one or more terminal groins or other environmental structures at the terminus of the Island adjacent the shipping channel to mitigate sand loss and erosion. This also avoids substantial cost of regularly replacing the existing cloth groinfield tubes. However, even with terminal groins, the Island will require regular sand placement.

C. Relocate channel west of Bald Head Island. This may be extremely expensive and long in coming but may also be necessary to accommodate the larger vessels contemplated by the NCIT.

Tasks are assigned to Village Council; Shoreline Protection Committee; Olsen Associates, Inc.; federal lobby firm, Akerman Senterfitt; state lobby firm, McGuire Woods; legal team, George W. House of Brooks, Pierce, McLendon, Humphrey & Leonard, L.L.P. and Village Attorney Charles S. Baldwin, IV of Rountree, Losee & Baldwin, L.L.P.;

III. OBTAIN STAKEHOLDER AND AGENCY SUPPORT, ENVIRONMENTAL APPROVALS AND FUNDING FOR PROPOSED SOLUTION(S)

This will involve state and federal lobbying efforts for project authorization and funding. Much coordination and planning is required with USACE, NC Water Resources Division, regulatory agencies, and other beach communities and stakeholders.

Assigned to Village Council; Shoreline Protection Committee; Olsen Associates, Inc.; Akerman Senterfitt; McGuire Woods; George W. House, Esquire and Village Attorney Charles S. Baldwin, IV.

ADDITIONAL ACTIONS AND PHILOSOPHY

Erosion should be addressed in a systematic and Island-wide manner. This will involve cooperation and coordination with other stakeholders, agencies and Island groups, including the Conservancy, Property Owners Associations, Bald Head Island Club, Bald Head Island Limited and property owners. Because of potential legal claims against the USACE, certain information must be maintained in confidence, though public input and communication will be an important part of this process. Communications via emails, newsletters and public forums are contemplated. We believe it important that the Island speak with a common voice on these issues. While most of our attention has been directed to erosion on the South and West Beaches, our strategy includes issues related to the BHI estuarine environment.

Natural erosion will continue to be treated with prudent sand management practices and severe storm damage to South and West beaches may trigger recovery under FEMA's obligations to "engineered" beaches. Storm damage to other beaches will be treated on an "as needed" basis. At the same time, "contingency planning" is part of the strategy recommendations.

To affect these outcomes, we believe we must organize ourselves for effective community focus, urgency, and unity; to staff and fund appropriately to the challenge; to impose expectations on our legal representatives reflecting a practical, effective legal stance; to engage appropriate supporting expertise as respects lobbying, public relations, technical expertise, etc.; and to create or cause to be created the science-based modeling of the Cape Fear River and inlet dynamics that portray cause and effect and solutions.

Moreover, our overall strategy is to take all reasonable actions to mitigate and reduce the erosion in those areas of our shoreline where groins and jetties may be effectively deployed, recognizing the obstacles imposed by legal and regulatory restrictions and by science.

Fully informing BHI stakeholders on those strategic and tactical intentions that can be disclosed prudently is part of our overall strategy, as is making known accountable progress against those intentions. The costs, environmental and real estate value implications associated with the solution to this Island-wide challenge are significant and those bearing those costs have a right to be kept informed. Likewise, the Village has a

need to look to those stakeholders for support and for input into the thinking that drives direction.

Lastly, successfully managing this challenge requires a highly energized effort, one showing an understanding of the implications of failure. Critical success factors include the final positions taken by the USACE and other agencies, finite financial resources, the capability of the Village to execute this strategy, the support of all stakeholders, and “luck” in avoiding setbacks beyond our control. There has to be stubborn pursuit of outcomes and constant attention to both planning and execution. There has to be evident leadership on those elected, hired or volunteering to lead.

DETAILS

**COMPREHENSIVE SHORELINE PROTECTION
STRATEGY**

Submitted by the Village Shoreline Protection Committee

March 19, 2010

COMPREHENSIVE SHORELINE PROTECTION STRATEGY

The Details

The Comprehensive Shoreline Protection Strategy has been divided into five Prime Objectives and eight Enabling Objectives; in the detail that follows, each of these objectives is presented in a series of tasks and timelines that are minimally necessary in order to achieve desired outcomes. Achievement of the five Prime Objectives can only be effectively insured with success in achievement of the underpinning Enabling Objectives and with effective management of the entire process. The timelines presented are demanding short and are suggested to indicate what just might be possible.

The task detail presented is not intended to be prescriptive or fully complete; it is intended to provoke the logical thought necessary to plan, monitor, and produce the progress required to successfully deliver necessary outcomes in an efficient and effective manner. Included with the detailed task discussions for each objective are Gantt Charts intended to provide visual summary of the steps, timing, and action sequencing plans for each objective identified in the Comprehensive Shoreline Strategy.

The resource requirements inherent in achievement of the strategic objectives are significant as one would expect given the overall magnitude of the Shoreline Project as compared, for example, to the annual Village Budget. Success in achieving Shoreline objectives is essential and is inarguably the top Village priority. Management and execution of the tasks comprising the Shoreline Project are not routine Village operating tasks – the Village must be properly directed and managed and so must the Comprehensive Shoreline Strategy. Additional resources will continue to be required in order to achieve optimal Shoreline progress; perhaps some of the associated costs can be shifted from lower priority Village endeavors in order to hold Village government costs at tolerable levels.

These detail plans for each Prime and Enabling Shoreline Objective cry out for a dedicated, formalized, and actively urgent project management process to be put in place to oversee all of the diverse and often complex details that, in total, make up the overall Shoreline activity. Periodic project status meetings will play a significant role in successful and effective project management activity and serve to provide both the focus and drive necessary to achieve optimal results at optimal cost.

As one considers this detail, it is important to maintain focus upon the key variables or critical success factors inherent within the Comprehensive Protection Strategy. These few factors, critical to the achievement of overall Shoreline success, include:

1. Adequate resources, including a strong project management capability, to effectively execute the agreed Shoreline strategy
2. Convincing the USACE and the State of North Carolina to acknowledge and address BHI damage resulting from certain technical problems related to the navigation channel and its maintenance

3. Obtaining the funding necessary to fully address and resolve shoreline issues
4. Maintaining a continuing strong sense of urgency
5. Assuring continuing stakeholder involvement and support

These critical success factors are not explicitly addressed in the details that follow but are inherent in all objectives; it is unlikely that any Shoreline Protection Strategy can be fully successful in the absence of success in any one of these five critical success areas.

Finally, it is thought that Shoreline Project success can be delivered; contingency planning, therefore, is about keeping the Shoreline efforts on track and moving toward full problem resolution rather than retreat or acceptance that we can do nothing but yield to the ultimate impact of continuing shoreline erosion exacerbated by USACE and State actions in conjunction with the navigation channel.

SHORELINE PROTECTION STRATEGY

PRIME OBJECTIVES

Submitted by the Village Shoreline Protection Committee

March 19, 2010

Prime Objective 1: Modify the Wilmington Harbor Navigation Channel

It is believed that moving the channel west of Bald Head Island will decrease the erosion resulting from the natural conflict between the shipping channel contours and the toe/base of the Island. The Village, in coordination with the USACE, NCDENR, Oak Island and Caswell Beach, is attempting to obtain State and Federal funds and undertake Delft3D Modeling Study by the Village Coastal Engineer, Erik Olsen, to investigate the issues and identify potential solutions, including relocating the channel.

Construction of an improved channel will necessarily include coordination with other government agencies and stakeholders and obtaining approval and funding for construction of necessary solutions. This solution will likely be expensive and will require regulatory approvals and funding beyond the capability and control of Bald Head Island itself.

At this point, this study and developing commonality of stakeholder interests and goals are at the forefront of Village negotiation and lobbying efforts.

Prime Objective 2: Modify Sand Management Plan

The channel entrance was widened in 2000, bringing the channel much closer to the Island's southwest beaches. The dredging practices of USACE in maintaining the channel - North Carolina's most active shipping channel – appear to have intensified the on-going erosion to Bald Head Island into the Cape Fear River. The Sand Management Plan agreed by the Village and the Corps, among others, in 2000 was intended to protect the beaches on both sides of the channel from harm caused by the Corps' activities. The Sand Management Plan has failed to do that.

As such, under the terms of the Sand Management Plan and the Settlement Agreement which the Village reached with the Corps in March 2005, the Village, the Corps, Oak Island and Caswell Beach are in discussions about amending the Sand Management Plan. There is tension between Caswell Beach and Oak Island, which have hired attorneys, and Bald Head Island, over the limited quantum of dredged sand. The USACE intends to produce a report concerning its proposed amendment to the Sand Management Plan by March 2011.

Amendment of the Sand Management Plan is the most pressing agenda item and is being actively and diligently pursued by the Village Council, Village Shoreline Protection Committee, and Village legal counsel.

Prime Objective 3: Attend to BHI Specific Projects to Preserve Shorelines

Background: While the larger projects involving the BHI beaches directly involve the USACE, several “stand alone” projects are controlled and accomplished by the Village. Most of these require approval by various state agencies, but these approvals are at the request of BHI. These projects are all “BHI Shoreline-related” and are important parts of the overall shoreline strategy.

SUB-TASKS AND TIME LINES:

1. BHIV repairs and replaces the South Beach groins.
 - a. Approval of state agency has been accomplished.
 - b. Contract for work has been let.
 - c. Work is underway and scheduled to be completed in March.

2. The four harbor groins are repaired/replaced.
 - a. BHI reaches agreement with the Harbor POA and Limited in exchange for a public easement access to replace these groins at Village expense on a “stand-alone” basis (not linked to extension of Marina jetty, etc.).
Time Line: March 2010
 - b. Engineering is performed.
Time Line: April 2010
 - c. Legal Easements are drafted.
Time Line: April 2010
 - d. Contract is let by BHI, Ltd.
Time Line: May 2010
 - e. Work is completed.
Time Line: July, 2010

3. Extend the south BHI Marina Jetty.
 - a. Erik Olsen to provide technical input concerning the possible impact upon by-pass dredging and other sand transfer considerations from extension of south harbor entrance jetty for navigational purposes.
Time Line: March 2010
 - b. Olsen completes his analysis and makes recommendation to BHIV
 - It is noted that the permit for the jetty extension (held by BHI Limited) is based on improved navigational safety and not on sand management/erosion control.
 - Olsen could wish to see how the repaired Harbor Groins perform prior to making a recommendation on the marina jetty extension.
Time Line: April 2010

- c. BHIV decides to accept or reject Olsen's recommendation.
Time Line: May, 2010
 - d. BHI Limited, BHI Club, BHIV and other stakeholders agree on work.
 - e. Jetty extension work is initiated or abandoned.
Time Line: September 2010
 - f. If project is initiated, design and completion should take less than 6 months.
Time Line: March 2011
4. Dredge the mouth of Bald Head Creek.
 - a. CAMA approval is sought.
Time Line: May 2010
 - b. CAMA approval is obtained.
Time Line: September 2010
 - c. Contract is let.
Time Line: October 2010
 - d. Work is completed.
Time Line: February 2011
 5. Investigate utility of creek mouth jetty.
 - a. Significant regulatory and permitting considerations would have to be addressed.
 6. If no adverse impact to the SMP agreement is likely, BHIV pushes for inclusion in the "50 Year Beach Plan".
 - a. Need Congressional \$100,000. appropriations for USACE Reconnaissance Study
 - b. With Akerman Senterfitt, BHIV lobbies federal officials.
 - c. With McGuire Woods, BHIV lobbies state officials.
Time Line for b. and c: 2010
 - c. BHI is included in "50 Year Beach Plan".
Time Line: 2013
 7. BHIV becomes more active and pro-active in Coastal and Brunswick County beach and community organizations to draw increased County attention and funding to shoreline issues impacting Brunswick County beaches.
 - a. NC-BIMP involvement.
 8. Persuade Brunswick County to hire/participate in costs associated with BHIV Shoreline Manager to work on behalf of all Brunswick County beach communities.
Time Line: 2011
 9. Pursue terminal groin acceptability and possible application on BHI.
 - a. Pursue acceptability and permitability with the State.
 - b. Model the potential impact of a terminal groin near the River Point.

Time Line: On-going

10. Other Shoreline Projects.

- a. Additional projects, unidentified at this time, will be arising in future.
- b. As they become known and defined these projects will be managed within the Shoreline Project Management process.

Time Line: On-going

Prime Objective 4: Protect and Preserve Shoreline Including Ocean and Estuarine Environment and Related Natural Resources and Habitats

Background: BHI is bordered by undeveloped, State-owned, ocean and estuarine waters, coastal wetlands, tidal creeks, salt marshes and several small islands. These waters and lands are protected by State and Federal legislation. It is proven that the Wilmington Harbor Project navigation channel expansion of 2000 did much environmental damage to the entire lower Cape Fear River from the Wilmington area to Bald Head Island. This past damage has, despite State and USACE promises and commitments, never been fully mitigated. Any future deepening, widening, or re-alignment of the navigation channel either on its own or as part of the NCIT may have further adverse impact on this large expanse of environmentally significant area that includes the Fort Fisher State Recreation Area, the Zeke's Island Estuarine Research Reserve, the Bald Head Island State Natural Area, and the Bald Head Woods Coastal Reserve. The environmental damage admittedly caused by the 2000 expansion of the navigation channel is an excellent legislative "attention getter" and should be pursued. It is noted that there is potential National Park interest in the area between and including Fort Fisher and undeveloped portions of Bald Head Island.

SUB-TASKS and TIME LINES:

1. BHIV develops and agrees on an environmental strategy that is part of the overall Shoreline Protection Strategy.
Timeline: April, 2010
2. BHIV considers the addition of the area of adverse environmental impact to its list of complaints following from expansion of the navigation channel as part of the Wilmington Harbor Act of 1996 and decides to request that the BHI Conservancy assist in this activity. It is thought that the addition of environmental protection as a key, active concern will result in greater support from environmentalists, and should be an effective position from which to seek corrective actions. The primary focus of this effort may be Bald Head Creek, an estuarine area that is protected at both the State and Federal levels.
 - a. Obtain Conservancy support and involvement.
 - b. Develop a detailed, fully defined plan for approaching this matter.
 - c. Put the necessary resources in place.
 - d. Publicly disseminate information about environmental harm caused by the channel dredging and use this information to garner increasingly widespread public support for the overall BHI position.Time Line: May 2010
3. BHIV supports BHI Conservancy in an initiative to meet jointly with appropriate NC Parks and Recreation, NC Wildlife Resource Commission, NC Fish and Wildlife, NC Coastal Resources Commission, the National

Audubon Society, and US Fish and Wildlife Service personnel to determine the following:

- a. Environmental significance of this area (see map) with specific emphases on the Bald Head Island State Natural Area which abuts BHI.
- b. Boundaries and responsibilities for various parts of area.
- c. Perceived environmental deterioration impacted by the navigation channel expansion of 2000 including silting of Bald Head Creek mouth and its eventual impact and the increased growth rate in the entire flood tide shoals system resulting from the past deepening and widening of the navigation channel.
- d. Likely further deterioration resulting from further navigation channel expansion in the area of Zeke's Island and the BHI State Natural Area.
- e. Determine areas of direct and indirect environmental concern to BHI and estimate potential impact.

Time Line: April 2010

- 4.. Erik Olsen to address data requirements necessary to use Delft 3D model to evaluate certain sediment flows that are seen to have adverse impact on environment – especially those in the flood tide delta including Bald Head Creek and the area between BHI and Battery Island.
 - a. BHI Conservancy to work with State environmental agencies to define and to obtain data for model input.
 - b. BHIV and Conservancy may use this project as a means of attracting Federal or State financial support for leasing and operating the Delft3D model.
 - c. Olsen confirms navigation channel impact on certain areas of the flood tide delta, Bald Head Creek, etc..

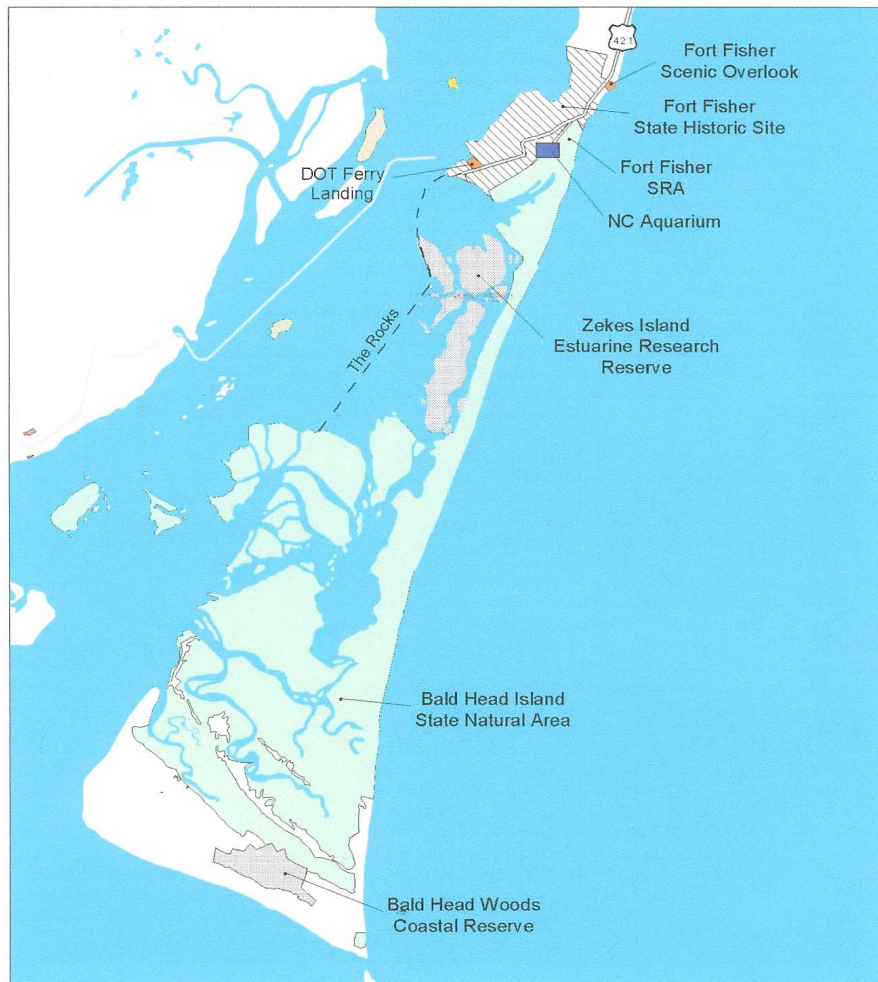
Time Line: May, 2010

5. Environmental findings and expectations shared as part of the BHI public communications message with USACE, Caswell Beach, Oak Island, NPSP, Legislators, etc..
 - a. Either the Village or the Conservancy should take the lead on the environmental communications effort.
 - b. Build state-wide support for “fixing” the problems resulting from navigation channel maintenance and expansion.
 - c. Village stakeholders to be kept informed.

Time Line: April, 2010

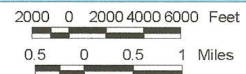
6. Modeling results are obtained and evaluated.

Time Line: 24 months from project start



Fort Fisher
State Recreation Area

- Division of Parks & Recreation
- North Carolina Aquarium
- Dept. of Cultural Resources
- Division of Coastal Management
- Dept. of Transportation



Division of Parks and Recreation

Figure IX-1.

IX-2

Prime Objective 5: Develop VBHI Position on the North Carolina International Terminal (NCIT)

Background: Recent expansion and re-alignment of the Federal navigation channel in the area of Bald Head Island has resulted in significant increase in the rate of erosion on BHI beaches and in protective off-shore shoals. Navigation channel expansion increases the instantaneous rate of tidal water flows past the tip of BHI and enables the flowing waters to dislodge and transport increased amounts of sand or sediment away from BHI. Sand has been lost from beaches, private property and public property and this accelerating rate of loss threatens the viability and sustainability of Bald Head Island and its public beaches environmentally, economically, and functionally. The North Carolina State Ports Authority is proposing that a new port, the NCIT, serving the largest container ships and requiring a wider, deeper navigation channel, be built near Southport. It is believed that such an expansion may cause even more accelerated erosion on and around BHI and that such a port would also adversely impact the tourism, recreation, and retirement economies that people find so appealing about Brunswick County beaches. It is thought that BHIV should study available information concerning the NCIT and develop a position regarding construction of the NCIT.

This objective may be assigned to a group other than or in addition to the VSPC for further development and execution.

SUB-TASKS and TIME LINES:

1. Assemble all available data concerning the positive and negative impacts of the Wilmington Harbor Project of 2000 and concerning the NCIT project currently under study by the USACE.
 - Meet with NCIT reps.
 - USACE, NPSP, Olsen and Associates, NC Ports Authority, USFWS, NC-DENR, NC-WRC, NC-CRC, etc. are considered good informational resources
 - NCIT will likely have economic and environmental impact on BHI over and above any navigational channel changes – air and water quality, light and noise pollution, possible homeland security issues, impact on Brunswick County tourism, recreation and retirement attractiveness, area life style impact, and so on.

Time Line: March - April 2010

2. Present impact summary to BHI Village Council along with request that Council take a public stand on any further widening, deepening and re-alignment of the navigation channel in the area of BHI and on the proposed NCIT project.
 - target presentation date is February Village Council Meeting.

Time Line: Depends upon investigation results.

3. Village of BHI indicates its position on the NCIT.
 - Confer with NCIT reps.
 - Prepare well-constructed, comprehensive news release linking the navigation channel and accelerated local beach erosion and area environmental damage.
 - Newspapers (State Port Pilot, N&O, Star News) and media (local TV)
 - Advise USACE, area neighbors and all NC beach communities
 - Letters to Rep. McIntyre, Sen. Hagan, Sen. Burr, Gov. Perdue, and secretaries of NC-DENR and NC-Commerce and the NC Ports Authority.

Time Line: Depends upon investigation results.

4. Monitor USACE Reconnaissance Study on NCIT.
 - Make input as appropriate.
 - Take active role in monitoring No Port – Southport activities; Village to appoint representatives to No Port – Southport.
 - Continue to pursue understanding of local environmental impact of past navigation channel expansion, maintenance, etc. and, from this historical factual base, predict impact of future channel construction and maintenance.
 - Obtain and fully review final Recon Study report.
 - If report finds NCIT is “feasible” obtain information concerning the NCIT Feasibility Study that will follow.
 - If appropriate, Village should publically speak out in opposition to continuing effort in support of NCIT.
 - Recognize adverse environmental impact that the Wilmington Harbor Project of 2000 had on BHI and the neighboring, protected estuarine preserve and insure that this damage is mitigated and that there is no adverse impact from the NCIT and its expanded navigation channel.

Time Line: Depends on USACE work timetable and investigation results.

5. Maintain linkage with area governmental entities regarding NCIT.

Time Line: On-going Until NCIT Activity is abandoned

6. Use NCIT newsworthiness as means of keeping BHI Shoreline issues in the public eye>
 - Build larger, more wide-spread public support for BHI case.

SHORELINE PROTECTION STRATEGY

ENABLING OBJECTIVES

Submitted by Village Shoreline Protection Committee

March 19, 2010

Enabling Objective 1: Understand and Manage Shoreline Preservation Process

Background: The full, long-term magnitude and impact of the increasing BHI Shoreline issues is easily under-estimated as a short-term requirement for additional beach sand. In reality, the accelerated erosion that is being experienced is threatening the very viability and sustainability of BHI as a home and destination for both people and nature. BHI taxpayer funded expenditures on shoreline activities approach \$25 million; USACE expended Federal and State taxpayer funds total another \$25 million just for BHI beach sand nourishment and perhaps more than \$100 million if navigation channel construction costs in BHI vicinity are considered. Increasing amounts of sand displacement from BHI beaches and shoals is resulting in increasing frequency, urgency and cost in channel dredging to remove this same sand and maintain the channel depth. The accelerating cost and damage resulting from this expanding and faster-moving cycle must be brought under control – both sediment transfer control and financial control.

Shoreline management and preservation is the single most costly and most impactful area of concern for the BHI Village government and must receive appropriate and commensurate resource, expertise and attention allocation from the Village government. This is not to say that the Village must raise additional tax revenue and spend additional funds on shoreline matters but it is to say that perhaps other, less vital, village expenditures should decline in order to help fully and effectively resource the necessary shoreline activities.

Our recent history of accelerated beach erosion has been met with a series of sand nourishment “band-aids” that have done little to increase full understanding of the problem or to ameliorate and control the pace and extent of the problem. Developing both a lasting accommodation of beach erosion and implementation of solutions that permanently reverse the rate of on-going erosion must receive appropriate attention and resources.

As shoreline management is the single most important issue being faced by BHIV, this activity is in need of special attention and appropriately high levels of project management skill. Improved communication, greater interaction and understanding of State and Federal avenues for enhancing our chances of lasting shoreline success, greater cooperation and involvement with local County beach communities, and additional County support are but a few of the areas that appear to require greater BHIV attention.

Key Shoreline areas requiring additional, more focused attention include the following factors that are critical to our success in shoreline endeavors:

- USACE assistance and positive relations and joint activities
- Attracting and influencing Federal and State funding for shoreline projects
- Optimal marshalling of necessary human resources to maximize progress on Shoreline projects
- Shared sense of urgency

- Positive stakeholder support

SUB-TASKS and TIMELINES:

1. Locate and Recruit a Shoreline Manager

- Retain an experienced, assistant Village Manager level, person to manage all shoreline and related activities; look to the model followed by other NC ocean fronting counties.
- Develop detailed job description including broad environmental experience, project management skills, USACE working relationship experience (retired USACE engineer?), experience in public sector with obtaining funding assistance, permitting process experience, communications skills, etc..
- Longevity and institutional knowledge at this position will be key to receiving value. Therefore, the potential employee's ability to be on the job long-term should be considered.
- This individual might be able to increase the productivity and benefit of the BHIV-BHI Conservancy alliance.
- This is a key Village position and a very demanding job description must be developed and fully filled.

Time Line: On the Job in June, 2010

2. Establish a BHIV Management Process for all Shoreline Projects.

- Village Council and the Village Manager establish and follow one visible and standard "project management" process for all shoreline projects with all roles and all expectations clearly defined and communicated.
- Shoreline Manager to be the "working" shoreline link between the Village, its constituents, BHI organizations, as well as the State and the District USACE offices.
- Summary shoreline project progress to be made available to all via the Village website.
- This process will include a monthly Shoreline Planning and Progress Review Meeting that is used to drive all Shoreline projects and insure that contractors and consultants (technical, lobbying, legal, et al) are meeting agreed delivery dates.
- This visible and predictable "management process" should be put into place as soon as possible and then adjusted by the Shoreline Manager post his/her hiring.

Time Line: Establish Process February and "complete" in July, 2010

3. Expand Shoreline-focused Relations with Other NC Communities, USACE and Relevant NC Departments.

- Shoreline Manager, through links with other Brunswick County beach communities might, if seen to be effective, be partially funded by other communities and Brunswick County.

- Remit could include full awareness and involvement in WRDA and other potential beach funding legislation on behalf of all County beaches and could assist in BHI inclusion in 50 Year Beach Plan.
- A key effort would be to convince the County to return additional beach tax revenues to the beaches in order to protect and grow the important County financial impact from tourism.
- Another key activity would be to work closely with other County beach communities and with the USACE to insure that local beaches obtain all possible support from State and Federal funding sources.
- Shoreline Manager would develop and “work” relationships in order to facilitate achievement of optimal support from non-BHI governmental entities.

Time Line: Initial overtures made to neighbors by March, 2010

4. Village staff to assist and facilitate Shoreline Protection work

Enabling Objective 2: Pursue Negotiated Solutions Necessary to Resolve BHI Shoreline Issues

Erosion issues facing Bald Head Island are substantial and involve many stakeholders at the Federal, State, County, and municipal levels. The solution(s) are certain to be expensive and will require regulatory approvals and funding beyond the capability and control of Bald Head Island itself. As such, consensus and relationship building among the Village and stakeholders will be key to the success of this effort. Village staff, representatives and consultants must coordinate with other governmental agencies and stakeholders to obtain approval and funding for construction of necessary solutions.

Enabling Objective 3: Preserve and Protect all Legal Rights

While success of the Village effort to control shoreline erosion will depend upon relationships, negotiation and consensus building among the Village, other government agencies and the stakeholders, the Village should not inadvertently waive deadlines or rights it has with respect to claims arising from the Wilmington Harbor shipping channel erosion. The Village should be vigilant in preserving, such as through a tolling agreement, and protecting its legal rights and pursuing legal remedies where appropriate and necessary.

Enabling Objective 4: Engage and Manage an Effective Federal and State Lobbying Effort

Background: For the foreseeable future, the Village's federal lobbying activities should be focused on activities outlined in Prime Objective 1 (Modifying the WHNC) and 2 (Modifying the Current Sand Management Plan). State lobbying activities also need to support these activities as well as obtaining \$5 million in state appropriations that was previously ear-marked for BHI beach re-nourishment projects but subsequently omitted from the 2009 state budget. State-level lobbying could be effective in increasing legislator awareness of BHI area environmental issues and seeking funds for the Delft3D modeling study.

SUB-TASKS and TIME LINES

1. BHIV retains the services of Federal and State lobbyists to assist the Village in identifying and implementing government actions needed to mitigate unnatural beach erosion on BHI that has resulted from USACE dredging of the Wilmington Harbor Navigation Channel.
 - a. Akerman Senterfitt retained to represent BHIV before the Congress and pertinent Federal agencies.
 - b. McGuire Woods retained to secure \$5M in state funding for BHI beach re-nourishment projects in the 2010 state budget and possibly advise how environmental assistance might best be pursued.
Time Line: Aug-Oct 2009

2. BHIV identifies and prioritizes key Federal and state lobbying activities.
 - a. BHIV hosts a day long Shoreline Stabilization Workshop with Akerman Senterfitt, BHIV legal counsel, and Olsen Associates to agree on legally and politically practical ways for the USACE to address beach erosion problems on BHI.
 - b. BHIV instructs McGuire Woods to proceed with efforts to include the \$5M appropriation for BHI re-nourishment projects in the 2010 state budget.
Time Line: Sept-Nov 2009

3. BHIV establishes a process for managing and coordinating Federal and state lobbying activities, including:
 - a. Weekly or bi-weekly conference calls with the Akerman Senterfitt, BHIV legal counsel, and the Mayor to review on-going progress on agreed upon tasks (outlined in Prime Objectives 1 & 2) and next steps.
 - b. A definitive, practical time line for negotiating reasonable progress on Prime Objectives 1 and 2 while holding in abeyance BHIVs pending law suit against the USACE (with the clear understanding that if sufficient progress milestones have not been satisfied by agreed upon dates, the suit will be filed).
 - c. A follow-on (quarterly) all-day Shoreline Preservation Workshop designed to review progress and to make any necessary adjustments to Federal and state lobbying strategies.
Time Line: Jan-Mar 2010

4. BHIV prepares a list of all Federal and state permits, authorization and appropriations required to implement Prime Objective 1 (Modify the WHNC) and 2 (Modify current SMP).
 - a. Identify a Federal and state public official who would be willing to assume a lead role in helping BHIV acquire requisite permits.
 - b. Environmental damage resulting from USACE channel activities should be influential at the State level
Time Line: Mar-June 2010

5. BHIV prepares a sound public interest case for modifying the current SMP and making structural changes to the WHNC that would mitigate unnatural beach erosion on BHI.
 - a. BHIV prepares a comprehensive analysis of the economic benefits and costs of preserving BHI shoreline by implementing Prime Objective 1 and 2.
 - b. BHIC undertakes a thorough assessment of the environmental damage done to the Island and its wildlife habitats by USACE dredging of the WHNC.
Time Line Mar-Aug 2010

Enabling Objective 5: Model Cape Fear River Inlet Conditions

Background: In order to understand conditions and solutions in and around the navigation channel in the area of Bald Head Island it is necessary to have a reproducible physical or computer model of the water flows, winds, etc. in the Cape Fear River inlet to enable one to validate causal relationships using historic data, predict future events under varying conditions, and, in short, to fully understand the river inlet process in terms of sediment transport, wave impact on sediment transport, and many other variables at work in and around the navigation channel. The model can predict the magnitude and impact of further change, and provide mathematical credibility (or the opposite) within the highly complex, multi-variant environment in and around the navigation channel and beaches.

The model recommended by Olsen is the Delft3D model developed by Delft University in Holland; the cost of such a model could exceed \$500,000 but is fully necessary.

SUB-TASKS and TIME LINES

1. Approve the Olsen recommendation to proceed with the Delft3D Model and authorize the necessary funds.
 - Authorize Olsen to move forward with the appropriate model.
 - Seek financial support but move forward with the model.

Time Line: March 2010
2. Work cooperatively with the USACE on the modeling activity.
 - It is possible the USACE will develop its own model.
 - We do not wish to fight over which model is best and we wish to use jointly supported data, techniques, and assumptions so as to not make the model say what each party wants it to say.
 - Agreement with the USACE has reportedly been sought but details are not known.
 - Even if the USACE can not assist with model funding the Village needs to move forward cooperatively with the USACE as soon as can be agreed.
 - It is suggested that Olsen and the USACE work side-by-side to build and test their models and that they agree to utilize the same sets of input data for both models

Time Line: Obtain USACE agreement by March, 2010
3. Discuss modeling approach with Caswell Beach and Oak Island to determine their interest in participating.
 - A model of the entire Cape Fear River inlet is and will continue to be a powerful tool that should be helpful to all three beach communities.
 - The model can predict increased storm impact in certain situations and this should be helpful in obtaining storm protection funding.
 - It is suggested that BHIV proceed with the modeling work even if beach neighbors decline the opportunity to partially fund the related modeling costs.

Time Line: Have initial discussions before April, 2010

4. While recognizing that the model is a “macro” view of conditions, not a “micro” view, consider what application, if any, it might offer to model sediment transfer in Bald Head Creek, Bald Head Creek mouth, the marina entrance, and in both flood and ebb tide delta areas that could have significant adverse environmental impact.
 - Olsen to consider and report prior to placement of order with Delft.
 - Modeling Bald Head Creek could be inexpensive and easy and could yield very interesting information in support of environmental damage related to the (expanded) navigation channel.

Time Line: March, 2010

5. Develop assumptions, gather data, and utilize model.
 - Olsen to be tasked with this activity.
 - Periodic progress reports made into project management “process” monthly or more often if appropriate.
 - Data from USACE final 10-year analysis of Wilmington Harbor Project is targeted for October, 2010 availability (has this been agreed with the USACE?) and may present a key correlation step for the model.
 - Full exploitation of the modeling capability will take time and full results are not expected until 24 months after project start.

Time Line: On-going into 2011- 2012

Enabling Objective 6: Create and Project BHI Message

Background: A clear, concise PR message setting the BHI scene and summarizing the adverse impact that the expanded navigation channel has had on BHI and the surrounding areas is necessary to facilitate communication of the problem to decision-makers at all levels. This “Message” will summarize past and projected damages and suggest actions necessary to mitigate and eliminate the continuing damages in order to re-establish the economic and environmental sustainability of BHI as well as the on-going viability and availability of the vast public beach area located there. The professional and customized delivery of this message will be targeted on many different decision-makers who must be influenced to take actions necessary for the long-term restoration, stabilization and protection of the BHI shoreline.

SUB-TASKS and TIME LINES:

1. VSPC to recommend an appropriate BHI Message outline and development plan to BHIV
 - Recommend message outline to Village for their consideration along with an appropriate message development plan.
 - Clearly point out areas where additional effort and information is necessary in order to maximize effectiveness of the message to be developed.
 - Obtain agreement as to the availability and responsibility of all resources required to fully scope and define the message as well as outside assistance in maximizing message impact and professionally packaging it for delivery.

Time Line: February, 2010

2. Develop a series of pictures over time that clearly and forcefully illustrate the beach erosion problem on BHI.
 - Collect available aerial photos, digitize, and develop time-lapse sequencing.
 - USACE is likely to have best photos of river mouth.
 - Coordinate sand placement timing with photos.

Timeline: March, 2010

3. Obtain additional views concerning the impact of the expanded navigation channel:

- Caswell Beach, Oak Island, Southport, etc plus other Brunswick Co. beaches.
- Cape Fear Pilots Assn., Coast Guard views and concerns.
- USACE – Recon Study and possible Feasibility Study.
- NC Ports Authority views.

Time Line: April 2010

4. Prepare Communications Plan and map target audiences.

- Determine to whom the message will be delivered – also delivered by whom, where and how?
- Develop bespoke presentation for each audience selected.

Time Line: on-going attention through 2010; completed in January 2011

5. Develop an economic impact summary illustrating the positive benefit generated through a healthy and sustainable BHI.

- Magnitude and importance of tourism, recreation, retirement, and beach-related revenue streams at the local, county, state and national levels
- Compare and contrast the existing Brunswick County tourism, recreation and retirement economic drivers with the likely future impact of the NCIT.

Time Line: October, 2010

6. Turn information over to professional PR firm for finalization of message and preparation of copy/slide show/etc. to assist in message delivery

- This sub-task will take about 30 days once all relevant and available information is collected, summarized and delivered

Time Line: December, 2010

7. Make presentations to target audiences

- Mayor to make presentations with support and assistance from Village Council

Time Line: On-going

Enabling Objective 7: Create Reliable and Meaningful Village Communications Effort

Background: The Shoreline Stabilization activities of the Village of BHI are the largest project ever undertaken by the Village and the project costs (paid by local taxpayers) approach a level some three times greater than the average annual Village Budget. Given the magnitude, cost, and vital importance of the shoreline efforts, Village property owners expect the Village to keep them meaningfully informed of the overall shoreline plan and progress against this plan. The bulk of the work on this task will likely be done not by the Shoreline Protection Committee but by the Village Communications Committee.

SUB-TASKS and TIMELINES:

1. Develop an all-inclusive listing of property owners and their e-mail addresses.
 - Good progress has been reported by the Communication Working Group on the development of a “master” e-mail listing for all BHI property owners
 - This “master” listing” is the property of the Village and should be formally “turned over” to the Village at some point.
 - Under Village ownership, this “master list” must be fully completed and maintained.

Time Line: Listing and responsibility ready for turn-over to the Village

2. Develop a cost effective process for communicating with all interested BHI property owners including two-way communications.
 - E-mail communication is judged to be the most cost-effective way to stay in touch with Village property owners but all methods of communication appropriate to the message sent should be fully considered.
 - The Village website can be used to collect and to distribute responses to shoreline questions and comments received from property owners.
 - Communications should happen routinely every two weeks through May, 2010 and then be reduced to monthly frequency
 - Volunteer assistance can be utilized by the Village to ease the burden of these communications tasks.
 - The Village should fully scope and define the shoreline communications process that they commit to implement and maintain.

Time Line: Full Village ownership by April 1, 2010

3. The Village accepts responsibility for the maintenance of the contact list and for the periodic communications activities.

Time Line: April 1, 2010

Enabling Objective 8: Develop Appropriate Shoreline Contingency Plans

Background: In addition to the known shoreline problems with known timings, BHIV should be prepared to handle unanticipated difficulties that occur at as yet unknown times.

SUB-TASKS AND TIME LINES:

1. Establish a fund balance for shoreline emergencies.
Sub-task background: BHIV has a well established and annually funded unrestricted fund balance that serves BHIV well. The restricted beach fund is annually funded with accommodation tax receipts of between \$500K and \$600K. Since the Village now has a significant shoreline loan, a larger fund for emergencies, but not for new or additional construction would be useful.
 - a. Village Council approves establishing an annual addition to a fund balance restricted to shoreline emergencies; an annual amount of \$250,000 is suggested.
Time Line April 2010
 - b. Village Council approves the 2010-2011 budget with the emergency fund balance.
Time Line: June 2011

2. Establish a plan to replace S. Baldhead Wynd and relocate utilities
Sub-task background: If a major storm destroys a portion of S. Baldhead Wynd and its attendant utilities and if CAMA does not permit their replacement, the Village needs to be prepared to replace their function.
 - a. Village assigns responsibility for the plan
Time Line: March 2010
 - b. Involved entities are identified and plans for dealing with them are completed.
Time Line: September 2010
 - c. Project is completed
Time Line: November 2010

3. Seek terminal groin approval opportunity
 - a. BHIV and lobbyists urge related state agencies to approve terminal groins for use near navigation channels
Time Line: Ongoing from January 2010
 - b. If approved, seek assistance in planning and constructing an appropriate terminal groin
Time Line: At approval

Note: Corps and BHIV may construct a hardened structure under existing NC law for WHSC navigation purposes.

Enabling Objective 9: Full Provision of Superior Technical Guidance and Support

The Village is totally reliant on Olsen and Associates for its technical understanding and expertise. To date, the support of Olsen and Associates appears to be of the highest caliber and it appears that BHIV is fully satisfied with the technical support requested and received.

Going forward, it is certain that the technical role will expand in size and will become even more important as the key influencing factor in successfully eliminating accelerated erosion, etc., and in returning BHI beaches to affordable, physical stability. It is essential that BHIV be very clear and well-focused on the appropriate technical assistance needed and that the significant technical support costs be wisely and productively managed and monitored.

KEY SUB-TASKS and TIMELINES

1. BHIV continues to rely on Olsen & Associates for technical support and assistance.
 - Erik has been and continues to perform well as the BHIV technical leader on Shoreline matters.
Timeline: On-going and continuing
2. BHIV develops, with Olsen, a full and comprehensive work plan including deliverables, timelines, budgets, etc..
 - Hold technical planning workshop (like the Lobbying workshop) to discuss in detail and agree on the technical support strategy and work plan.
 - Review technical progress every two weeks and amend plan as necessary.
 - This technical management activity should be incorporated into the periodic project management review process to insure that all facets of the Shoreline activities are fully and properly integrated.
Timeline: Workshop to be held before February 2010 with scheduled review meetings to commence two weeks after the workshop
3. If and when appropriate BHIV supplements Olsen & Associates technical support and expertise with additional assistance
 - Any added assistance should complement Olsen & Associates and should fit easily into and complement on-going negotiation/litigation plans.
 - Critical path analysis of overall Shoreline planning should be helpful in determining if technical progress is the factor limiting overall progress.
Timeline: Monitor on on-going basis

4. Insure that detailed Delft3D modeling work fully addresses all agreed upon BHIV needs.

Enabling Objective 10: Identify and Facilitate Shoreline Project Funding Opportunities

Background: The on-going protection, preservation and enhancement of the Bald Head Island shoreline, including its public beaches and its coastal and estuarine environs, require access to State and Federal funding. Often, this funding requires the involvement and approval of the USACE, other Federal agencies and certain State agencies. The procurement of governmental funding support for the BHI will be an on-going task for the Village of Bald Head Island.

In addition to having adequate resources to pursue governmental funding, VBHI must have a well-thought out, long term funding plan that is appropriately prioritized and effectively linked with government regulatory, budget planning, and appropriations activities

Simply stated, it is VBHI strategy to gain full and maximum access to all available State and Federal funding required to maintain, preserve, and enhance the BHI shoreline.

SUB TASKS and TIME LINES

1. Shoreline Protection Committee to obtain VBHI support for the development of a Shoreline Protection Funding Strategy.
(March 2010)
2. Shoreline Manager, assisted by the Shoreline Protection Committee, develops a Shoreline Funding Plan for approval by Village Council.
 - Develop initial Funding Plan as a “working document” for the VSPC and present to Village Council. (April 2010)
 - Maintain an updated Funding Plan as on-going working plan documentation.
 - Refine the Funding Plan and submit to Village Council as a portion of the FY11 Village budget and financial plan.
(May 2010 & annually thereafter)
3. On a continuing basis, the Shoreline Manager will identify, pursue, and exploit all appropriate, targeted shoreline funding support opportunities and will establish and maintain productive relationships with all agencies involved in the approval, expenditure, and monitoring of funds expended. (On-going)
4. The Shoreline Manager will monitor and record all BHI Shoreline expenditures regardless of the source of funds expended so as to have readily available an accurate record of Shoreline expenditures. (On-going)

