Introducing last year’s Spring 2016 issue, the “Topsail Tides” town crier announced the first BIS Community Forum, held in May last year. It was an informative overview of Topsail Beach’s long efforts to adopt a reliable and affordable program to maintain our beach – the heart of our local economy. Many questions were answered by the Beach, Inlet, & Sound (BIS) Committee and by Chris Gibson our coastal engineer. They also outlined various options being explored to significantly broaden the beach program beyond regular maintenance (“nourishment”) into one also offering reasonable protection to the whole town from hurricane storm surge (“storm damage reduction” or SDR), plus keeping Topsail Inlet and the channels of our Sound navigable.

Community Forum #2
BUILDING OUR BEACH
TO
PROTECT OUR TOWN
Saturday September 16, 2017
at 10am
Topsail Beach Town Hall

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Well, our crier is back! He’s announcing the second BIS Community Forum, 10 am Saturday September 16th at the Topsail Beach Town Hall. This one will look to the future. Chris and the Committee will highlight their considerable work over the past year toward a true SDR, maintainable, and tailored to our town’s unique geography and resources. Though still a work-in-progress, it suggests the feasibility of a Local project not necessarily defined by federal templates and procedures.

Forum Preview:

When the Town of Topsail Beach adopted our current Local Beach Plan it envisioned an immediate beach stabilization phase I, with a possible SDR phase II later. Each phase had its own physical characteristics and financial requirements.

Physical Characteristics:

Three nourishment projects from 2011 – 2015 [described in Fall 2014 Topsail Tides pp. 8-11] have widened the beach and successfully stabilized it from further serious erosion, winning national recognition early this year. Since completing those projects, we have not lost so much as a set of steps to the storms that have come our way! This ‘recreational beach’ condition (Phase I) could be maintained by periodic spot nourishments as needed, but would not provide the broader benefits of an SDR project (Phase II potentially).

A true Storm Damage Eeduction project has two components: the beach itself and a robust dune system behind it. Once the beach had been stabilized, the Local Plan envisioned starting to rehabilitate the dune structure that had been lost over the years. The dune structure is an important part of the protecting the town.

Our wide stabilized beach does offer sufficient protection in small storms by providing a broad run-out for their modest waves. But that’s not enough for bigger storms. While we all hope not to have a category 2 or higher storm, we also know that sooner or later it is going to happen. When we encounter a storm with significant surge, the size and shape of a well-designed SDR dune structure becomes the primary means of dissipating the wave energy. Chris will explain how this works.

On-site insight: BIS Committee gets perspective on SDR design from Chris Gibson, coastal engineer

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**Financial requirements**

Money was the prime challenge to the Town when the Local Plan was implemented. While the property tax portion of the BIS fund (along with substantial state and county funding) could handle the Phase I stabilization and maintenance of the beach, the funds needed for the Phase II dune restoration and SDR construction were beyond the Town’s resources. This was why the Town continued to pursue the Federal Project through its lengthy process of application, cost/benefit evaluation, presidential authorization, Congressional appropriation, and Corps of Engineers (USACE) selection. If this process could be completed within a given statutory timeframe, it would supply much of the funds needed for initial construction of the SDR dune system, though per USACE’s design and management. Unfortunately our Federal Project, though authorized now, has not had any monies appropriated.

However, a few things have changed in the funding landscape which have opened the door to funding Phase II as a Local Project:

- A big benefit to the Town was earning qualification of our beach as a FEMA Engineered Beach. They require the Town to have a plan for regular beach maintenance and to have a local funding source for it (BIS fund). In return, FEMA reimburses the Town for sand lost during named storms in counties that are declared a federal disaster. Our sand loss damage caused by Hurricane Matthew last fall qualified, and as a result we stand to receive significant reimbursement.

- A key strategy at the core of the Local Plan is to maintain Topsail Inlet and the Sound’s channels by dredging them for the high-quality sand needed in both phases of the Plan. The State of North Carolina has recognized that local coastal entities need a source of reliable funding to keep their waterways open for the public. Through its new Shallow Draft Inlet Fund, for a small town like Topsail Beach in Pender County, the state will pay 2/3 of the Town’s cost to keep our Inlet and Sound navigable.

Our last nourishment project in ’14-’15 was the first attempt to open a channel that would be durable enough to remain open for 4-5 years. The results thus far show that while the main inlet channel has moved, it has remained open. But we are seeing some shoaling in other areas, and it appears that the scope of each inlet dredging will have to be enlarged if we want to limit it to every 4-5 years. This interval is important to limit how often we dredge, to minimize overall mobilization costs as well as temporary environmental damage from the dredging itself.

So in many ways, the Town is experiencing a favorable “perfect storm”. Even though the Federal Project funding is still stuck, the increase in reliable state funding, FEMA storm compensation, and the local fund have given the Town an opportunity to move on to Phase II of our Local Plan. If the Town does so, it is not overlooking a federal project should Congressional funding occur at some point. The BIS Committee, Town Manager, and Chris Gibson

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continue to work with the USACE to adapt the Federal Project to optimize its efficiency and cost based on the results of our past three Local beach and inlet projects.

Come, Listen, Learn, Ask

Please join the BIS team and Chris Gibson for Community Forum #2 on September 16th. They will expand on this preview, including details of the SDR design, projected timing, and open issues, then answer your questions and seek your input.

Note: If you wish to refresh your thoughts about anything at the Forum, or cannot attend at all, a video of it will be available on the Meetings archive of the Town website Topsailbeach.org. All issues of Topsail Tides are available on the site’s Newsletters page.

IN MEMORY: JULIAN BONE

The Town of Topsail Beach mourns the loss of Commissioner Julian Bone, who passed away on August 8, 2017. Julian was a dedicated public servant for Topsail Beach, serving in many capacities. In addition to serving as a member of the Board of Commissioners since 2009, Julian was a member of the original Topsail Beach Rescue Squad and a member of the Topsail Beach Volunteer Fire Department. He was also a member of the Topsail Island Kiwanis. Julian was a strong advocate for Beach Nourishment and Inlet maintenance for the Town, helping Topsail Beach gain national recognition for our efforts.

Above all else, Julian was a devoted husband and loving family man. Julian will be greatly missed by his family, friends, and the Topsail Beach community.

LONG RANGE PLANNING HELPS TOPSAIL BEACH MEET ITS GOALS

There are many different aspects to municipal government. When most of us think about what's involved in running a Town, we think of the day-to-day responsibilities like Police and Fire protection, trash collection, utility services, and the overall maintenance of our community. We may even think of zoning and development issues, code enforcement, or road maintenance. These are the core services that a municipality provides and are critical to the well-being of its residents, businesses, and property owners. But in addition to making sure that these daily needs are met, a town must also consider the future by taking a comprehensive look at its long term needs.

Every year prior to developing and adopting a Town Budget, the Board of Commissioners hold

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a planning retreat to take a look at both the operational needs of the Town and the long range needs. As critical as it is to ensure the daily operations are funded, it is just as important to plan for your needs five or ten years down the road, or even longer. This usually consists of identifying policies and goals and determining how best to plan for the financial needs. Often this leads to identifying the Town’s future capital needs. Planning for capital needs is part of a long range plan that reflects the Town's policy regarding physical and economic development. By providing a planned schedule of public improvements, the Town can identify present and future public needs and priorities. A capital improvement is generally defined as expenditures for any equipment, buildings, infrastructure, major plans, land acquisition or project in which the cost exceeds $5,000 and the estimated useful life is greater than one year.

During this year's retreat, the Board identified its goals and priorities for the upcoming year and beyond. This included discussion of operational needs, such as code enforcement, adding an additional police officer, maintenance of public property, and similar services. But it also included setting goals for bigger improvements. This included addressing improvements to Storm Water systems, identifying and scheduling major road resurfacing projects, review of potential utility improvements, and future facility needs. Of course, it also included broad planning for inlet maintenance and beach nourishment needs with input from the Beach, Inlet, and Sound Committee.

Often this means moving forward with specific projects. For example, there are plans in place for road resurfacing projects to be completed this spring in conjunction with NCDOT. It includes upgrades to public beach accesses that will provide both safe and attractive access to our ocean and our sound. But it also includes studies that help determine what improvements are necessary and how much it will cost. For example, storm water efforts are underway to help determine what improvements can be made to help minimize the impacts of flooding on the island. This includes preparing a plan for emergency flood water pumping. The Town is working with Cape Fear Council of Governments to review our existing facilities and determine what improvements will be needed in the future. Additionally, the Town will look at future water and wastewater improvements necessary to provide safe water for drinking and recreational purposes. This just highlights some of the key goals for the Town moving forward.

This past year, the Commissioners established a Capital Reserve Fund to act as a funding source toward the payment of future needs. By doing so, this helps the Town plan ahead financially for these improvements, which in turns helps utilize available funds much more efficiently and effectively. By starting with long range planning, Topsail Beach is not only

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likely to meet its goals, but do so with sound financial practices that will keep the Town strong for many years to come.

If you have questions about any particular project or goal, please contact Town Hall and the staff will happily answer your questions.

BUILDING A BRIDGE THE HARD WAY
(But the best way when time is tight)

No, most of those two low structures we see just south of the swing bridge, stretching out from the mainland and from the island, to almost meet at the center of the Waterway, are not parts of a new bridge. They’re just temporary trestles, built to keep the bridge builders and their equipment dry later as construction of the real bridge proceeds. Confusing? We’ll explain, but first a bit of background.

Topsail Island’s iconic swing bridge was a marvelous new link with the mainland when it opened in 1955. For families living inland, the end of each trek here for vacations, and weekends as we could, was announced by that first whiff of salt air and the familiar welcoming rumble of tires against bridge pavers. Slumbering kids and pets awoke and perked up in anticipation.

We love it for those memories, and loathe it for the ever-growing hourly traffic back-ups, but either way by early fall 2019 our elderly mechanical marvel will be retired. Its familiar motors, gears, gates, traffic lights, and full-time attendants will give way to the new fixed-span high-rise bridge now being built. It too will be a marvel, not so much for its sweeping curved design and spectacular view from atop, but for the engineering and logistical planning needed to build it, quickly.

NC Dept. of Transportation’s (DOT) decision to replace the swing bridge nearly a decade ago started a deliberate planning process. Over a dozen combinations of different bridge types/locations were drafted, then gradually narrowed to a final choice.

DOT held public reviews after each key stage, presented pros/cons and estimated costs of the remaining alternatives, and solicited citizen input to the next stage. Their final choice won broad public support because of its comparatively low cost ($54 million), modest impact on developed land at both ends, inclines not too steep, and no impact on Surf City’s new Soundside

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Park. DOT developed an on-line animated graphic of the design, showing the location, shape, and traffic flow on it: go to www.youtube.com, enter Topsail Bridge Animation in the search box.

The detailed design and bid-letting were done in record time, shaving at least two years off the timeframe for this phase of most bridge projects.

Key bridge facts:

- A “roundabout” at each end (aka ‘traffic circle’ or ‘rotary traffic’ elsewhere).
- Overall length: 3773 feet (looping over the Waterway, 1100 feet south of the swing bridge’s location), plus the two roundabouts.
- Vessel clearance: 65 feet (standard for fixed spans over the Waterway).
- Overall width: 50 feet:
- 12 foot roadway + 7.5 foot bike path, in each direction (39 feet total).
- For hurricane evacuations or emergencies, can be converted quickly to 2 lanes off the island and 1 lane on.
- 10 foot protected walkway/multipurpose lane’ on one side.
- The roadway’s elevated portion requires 176 concrete supporting columns, each set into bedrock 100 feet below the water’s surface and extending above to its needed height.

DOT awarded the contract to Balfour Beatty, an Atlanta-based infrastructure company. Specializing in bridges and highways, they have the skills and resources to do this project within the 3-year window specified, while conforming to certain environmental restrictions that prohibit work “in the water” between April 1 and Sept. 30. This demands very detailed planning and scheduling to take advantage of the unrestricted months by preparing for them

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during the six restricted ones.. Hence those temporary trestles built last winter and spring to give the big cranes and heavy machinery an elevated work platform, rather than the large floating barges usually used. This is the engineering marvel part of the project.

The logistical marvel part is the precise year-round scheduling and control required to receive and stage the bulky materials needed, first for the trestles, later for the bridge itself. There is little more storage space available than just the small areas where the two roundabouts will go later. "Just-in-time" materials control is more than a management buzzword for Jay Boyd, operations manager for all Balfour Beatty's road and bridge projects in the Carolinas and Georgia. (Nearby, that also includes currently the 'missing link' southern end of the Wilmington Bypass, with the Military Cutoff link and Hampstead Bypass to follow.)

To get those trestles built and other essential "in the water" work done by April 1, Jay's bridge crew had to schedule, receive, unload, stage, and use over 800 tractor-trailer loads of material: that's an average of one truck every 3 hours, working 24 hours every day for 3-1/2 months! No wonder he considers that to be one of their "bigger challenges." As he says, "I have to be wherever the trouble's at."

Quiz answer: A casing to form the base of one concrete supporting column.

Some of the material for this story is based on articles written by Bill Walsh for the Wilmington Star News and Bill Messer for the Pender Post & Voice, used with permission. Photos contributed by the authors or by Balfour Beatty, Inc.
THE DRUG DISPOSAL DILEMMA:
What to do with your old prescriptions?

Most homes have a collection of unused or outdated prescription medications or supple-
ments. What are the safe and secure ways to dispose of those medicine cabinet discards?
Simply flushing them away or throwing them into the household trash have been common
practices, often even promoted, but both methods spread creeping soil and water contamina-
tion, or expose landfills to growing security risks.
Organized community collection events with security, followed by professional incineration,
are popular where available. Though effective for anonymous collection and for safe dispos-
al, their growth has suffered from being inconvenient --- inconsistent or unhandy locations,
too brief drop-off periods, and scheduled too seldom.
But we Topsailers are fortunate. Since early 2016 Surf City police chief Ron Shanahan and
his staff have been providing a full-time secure dropbox for anonymous deposit of obsolete
medications and supplements, unhampered by any of the ‘special-event’ inconveniences:

<table>
<thead>
<tr>
<th>Location:</th>
<th>Surf City Police Dept.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>304 N. New River Drive (Rt. 210 toward N. Topsail)</td>
</tr>
</tbody>
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| Where: | Front desk (lobby, 2nd floor) |
|        | -Use outside stairs or elevator |

| When: | 8:00 AM – 5:00 PM daily, including weekends (closed on major holidays) |

Also, within the last two months New Hanover Regional Hospital’s new North emergency
facility on Route 17 in Scotts Hill is providing the same service: a secure dropbox at their
pharmacy’s entrance in the ER lobby, available 9:00 AM – 8:00 PM every day year-round.

Thanks to both the SCPE and NHRMC for this needed public service!
FINDING THAT “RIGHT” CHARITY

Beyond local organizations whose work is well known, do you wish there might be some independent “consumer-reports-like” service that objectively rates the ones with a national reach, especially after weather disasters?

www.CharityNavigator.org is just that. It is a well-organized website, with many ways to search, filter, and sort their extensive database. Suggestion: start with the five main categories at the top of their homepage, to get a feel for the site’s organization.

Charity Navigator checks the tax status of each organization to verify it is qualified to receive deductible contributions and has filed the appropriate IRS forms that indicate its financial transparency. The fully-qualified ones also get a star rating (1 – 4) which includes many other criteria. These criteria are fully explained on the website, leading to a “best of” list for the top scorers in each of several categories, including lists for specific disasters like Hurricanes Harvey and Irma.

The destruction left behind a week after Hurricane Harvey

Topsail Tides”is written and edited by a small volunteer team of Topsail Beach NC citizens for the benefit of our residents, non-resident property owners and visitors. It is published by the Town staff on an irregular schedule and posted on the Town’s website: www.topsailbeach.org. Printed copies are available in the Town Hall lobby. Past issues are archived on the website. Focusing on the facts of major Town projects and important smaller issues, we aim to summarize, inform and even amuse.