



Wetlands/Coastal Dune Board

Regular Meeting

Civic Center

September 26, 2016

4:00 p.m.

At approximately 4:00 p.m., Chairwoman Ann Hayward Walker, having established a quorum, called to order the Wetlands/Coastal Dune Board Meeting. Board members Russ Dunton, Joe Fehrer, Bill Prickett and Bob Roche were in attendance. Also present were Town Planner Larry DiRe and Town Clerk Libby Hume. There were no members of the public in attendance.

The Pledge of Allegiance was recited by all in attendance.

CONSENT AGENDA

Motion made by Russ Dunton, seconded by Bob Roche, to approve the agenda as presented. The motion was approved by unanimous vote.

The Board reviewed the minutes for the August 25, 2016 Reconvened Meeting and the August 31, 2016 Work Session.

Motion made by Bill Prickett, seconded by Russ Dunton, to approve the minutes from the August 25, 2016 Reconvened Meeting and the August 31, 2016 Work Session as presented. The motion was approved by unanimous vote.

NEW BUSINESS

There was no New Business to review.

OLD BUSINESS

A. *Approval of Final Public Beach Recommendations to Send to Town Council:*

Ann Hayward Walker informed the Board that she made the following modifications to the recommendations presentation that was included in the agenda packet: i) She added the names of the board members to the cover slide; and ii) She added the cost estimates for routine monitoring by the Virginia Institute of Marine Science (VIMS) and aerial photography. There was much discussion regarding the presentation. (Please see attached.)

Motion made by Joe Fehrer, seconded by Russ Dunton, to change the cover slide to include the names of the board members and item 29 to include the information received from Scott Hardaway and the VIMS. The motion was approved by unanimous vote.

Motion made by Bill Prickett, seconded by Bob Roche, to submit the report, with the two changes, to the town. The motion was approved by unanimous vote.

Ann Hayward Walker stated that she would follow-up with the U.S. Army Corps of Engineers (USACE) and ask that they contact her if it was decided to plant earlier than November 15, 2016. There was much discussion regarding the following: i) The entire north end needed vegetation from the sand fence to the boardwalk; ii) The large area to the south needed vegetation as well and it was hopeful that there would be enough plants to close the large area; iii) The USACE would fill in the landward side. If the fence was moved to the recommended location prior to planting, it should be fine. Ann Hayward Walker would send an email to the town manager with items needing to be done by town

staff urging him to make it a priority for the Public Works crew. The list did not include anything that had not previously been discussed and the costs to the town to move the fence posts would be minimal; iv) Board members would be available to answer any questions from staff; v) The costs to keep the sand off the walkways and sidewalk were also minimal, but the costs would be higher to reconstruct the walkways and for beach nourishment when needed. Per FEMA, the town must include funding in the annual budget for beach maintenance/replenishment in order to remain eligible for FEMA assistance. Inclusion of funding for beach replenishment was also included in the recommendations to Council; vi) The beach project had the attention of the Town Council and staff mostly due to the work of the Wetlands Board and the beach maintenance plan needed to remain a high priority; and vii) The Board would follow-up periodically to ensure that the critical items were being done. If they weren't done in a timely manner, it would be a waste of money and resources.

The Board agreed to reconvene after the USACE completed the beach grass planting.

There was some discussion regarding the Board's request to update its charter. Russ Dunton stated that the Wetlands Board was created under state code and it would be more practical to have the Town Council designate the Wetlands Board as the Beach Management Advisory Board.

The Board members expressed their appreciation to Ann Hayward Walker for all her hard work in putting the presentation together. It was noted that having Mr. Lee Perkins, with his 30 years of experience, come to town to provide his assistance was a huge help.

Motion made by Joe Fehrer, seconded by Bob Roche, to adjourn the Wetlands/Coastal Dune Board Meeting. The motion was approved by unanimous vote.

The meeting adjourned at 4:33 p.m.

Chairwoman Ann Hayward Walker

Town Clerk

Public Beach Recommendations

Cape Charles Wetlands – Coastal Dune Board

September 26, 2016

Ann Hayward Walker, Chair; Russ Dunton; Joe Fehrer; Bill Prickett; Bob Roche

Final Recommendations

1

Immediate Recommendations – page 1

(Prior to USACE planting of ABG, which will be “no earlier than Nov. 15” per the contractor Planting Plan)

1. Town – To protect pier from drifting sand, make permanent access for people and equipment next to the pier. To do this, adjust the new sand fence to the new permanent access opening (away from the pier and against the toe of the dune) **NO LATER THAN NOV 1st**.
2. Town - Close the existing access between Mason and Randolph by adjusting the new sand fence to be in front of it **NO LATER THAN NOV 1st** (optional – fill in the gap in the middle of the dune with sand). Leave the large flat area in front for gathering/picnic tables on the boardwalk side.
3. Town – Adjust new sand fence at Jefferson to open access pathway there **NO LATER THAN NOV. 1st**.
4. Town - Close access at Neptune statue (adjust new sand fence and fill in); also widen access for pedestrians and equipment at the foot of Washington Ave. (near where the stones protect the outfall) **NO LATER NOV. 1st**
5. Town - Move volleyball courts away from the base of the dunes to the south and higher areas with more sand **NO LATER NOV. 1st**
6. Town – At Madison Ave., extend sand fences and angle access walkway away from the north winds **NO LATER NOV. 1st**

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Final Recommendations

2

Immediate Recommendations – page 2

(Prior to USACE planting of ABG, which will be “no earlier than Nov. 15” per ERM Planting Plan)

7. Board to request for clarification from USACE **NLT Oct. 7th**. Paragraph 2 of “Installation Summary early to mid winter” - there is no dune per se, therefore suggest to clarify to contractor to vegetate from boardwalk to fence for the area from Stations 0+00 to 6+00
8. Town - Remove temporary silt fence at north end **when the USACE begins planting** so area can be completely planted
9. Town - **Purchase now** /order ABG to be planted later – need to order in advance so grass can be grown! (about \$70 for 1000 scrapes/plants; Norfolk source: Peter McClintock, Emerald Forest in Norfolk for ABG and other plants <http://www.emeraldforestnursery.com/>) ; also see suppliers in USACE Planting Plan. Larry DiRe and John Lockwood to calculate number of plants needed.
10. Town – Spray to kill the sedge grass **ASAP** before it goes dormant. Use Round up with dye. See photos of sedge on the next page; don’t spray other plants. Joe Fehrer has the dye and will accompany Public Works Superintendent, John Lockwood.

9/20/2016

Final Recommendations

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Recommendations to implement fall 2016, **prior to Jan. 15, 2017**

11. Town – To prevent sand from blowing into the pier and harbor, install 3-4 rows of sand fencing running east-west mid-beach (not all the way to the water) between Randolph Ave. and the jetty, just for the winter months. Remove this fence before beach season.
12. Town – Monitor the sand at the north end. If it starts to blow and move, install silt fencing to mitigate sand blowing during the winter, in layout to be discussed with Board
13. Town – Identify volunteers to plant ABG in Jan.-Feb. Possibilities – The Nature Conservancy, schools, New Roots, others
14. Town – Public Works Superintendent to develop a winter sand maintenance plan, with Board review, to keep sand out of street, clear sidewalks, and install winter fencing

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Final Recommendations

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Recommendations for Jan. - Mar. 2017

page 1

15. Town – Plant ABG where thick grass growth is needed to create lower /wider dunes in the broad parts of the beach (photos on slide 12). Board will provide recommendations on locations needing more ABG.
16. Town – According to the plan (Rec. #14), stay on top of keeping boardwalk, street/curbs, and all sidewalks clear of sand for pedestrian safety, e.g., Bay Ave. sidewalk in front of 1 Madison Ave. Deposit sand back on the north end of the beach.
 - This is not the responsibility of property owners!
17. Board/Town – Review City of Norfolk slides 46-48 at <http://www.norfolk.gov/DocumentCenter/View/20818> for details on plant cost (and other slides for related issues, benefits, access)

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Final Recommendations

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Recommendations for Jan.- Mar. 2017

page 2

18. Town – Purchase 1000 *Spartina patens* springs to catch sand and build up beach in low area between Monroe and Madison Aves. (which is prone to over wash, e.g., storm on 9/3). Board (Dunton lead) to assist with planting a 4' strip of *Spartina patens* seaward about 35' dune.

- This grass will tolerate salt water which ABG will not.
- This will give ABG space and time to extend seaward and build lower, wider dune.

One small patch of *Spartina patens* is on beach in that area now. Photo 9/10/16



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Final Recommendations

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Recommendations for Spring and Summer 2017

19. Town – Stop grooming/any mechanical activity in the upper beach near dunes; grooming lower beach by the water is OK during the summer season
20. Town - For any newly forming dunes at the north end on boardwalk side, leave/clear at least 5' buffer between toe of dune and the boardwalk
21. Town - Refine/replant street side of dunes (in 5' minimum path next to boardwalk). Town planner, Board to develop a vegetation plan for the length of the boardwalk. Example plant considerations:
 - Panicum amarum 'Dewey Blue' Switchgrass or beach grass is good on the street/back side of the dune (doesn't like salt and wind as much as ABG)
 - Remove trumpet vine that is encroaching on boardwalk to simplify maintenance, plant other suitable plants
 - Review Norfolk guide, visit 27th St. demo site for ideas about plants (next slide) <http://www.norfolk.gov/DocumentCenter/View/3830> .

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Final Recommendations

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Additional Recommendations Going Forward – page 1

22. Town – When any excess sand is recovered, deposit on the north end
23. Town and board - Develop good practice guidance about using mechanical equipment on the beach for equipment operators and train, e.g., avoid emerging vegetation on beach
24. Plan and budget (equipment and labor) for ongoing maintenance - routine, preventative and proactive before storms, e.g.,
 - Keep boardwalk, streets/curbs, and sidewalks clear of sand (not the responsibility of property owners); perhaps rent Dan Dabinet's small front end loader
 - Annual planting of ABG as needed
 - After the tourist season, let beach naturalize over the winter (don't remove seaweed)
 - Budget for regular sand nourishment (regularly groom USACE spoil area to sustain as viable sand supply source, or sell and designate those funds for sand renourishment)
25. Town and board to develop new signage with positive wording (e.g., respect the dunes) and roped paths to protect dunes from foot traffic and mechanical equipment

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Final Recommendations

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Additional Recommendations – page 2

26. Update the Cape Charles Wetlands and Coastal Dune Board charter
 - Board to suggest wording in response to Councilwoman Natali's request; we suggest that the town establish Beach Advisory Board and ask this board to serve in that capacity, and to provide beach status report at the end of the tourist season (September) and at the end of the winter season (March) to advise before the summer season.
27. Town should develop a beach/sand/dune management plan
 - Board is willing to develop an initial suggested outline
 - Include recommendations for ongoing beach nourishment
 - Review gathered references and plans from other areas (provided by Board)
28. Ask USACE for their dune survey data; share with VIMS
29. Ask VIMS for a cost estimate to routinely monitor (and recommend frequency) the beach and dunes using their established GPS stations, the timing should mesh with the beach status report (Rec. #26)
 - VIMS rough estimate (9/26/16) to routinely survey (~ \$7,000) and monitor (aerial photographic monitoring ~ \$1500); twice a year and after major storms has been the general methodology for public beaches
30. Plan for/budget to construct dune-appropriate (open pile) walkways across the dunes (going forward the town should not cut thru the dunes to provide access but use fencing to direct people over the dune)

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Final Recommendations

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Background (Staff report 6/1/16)

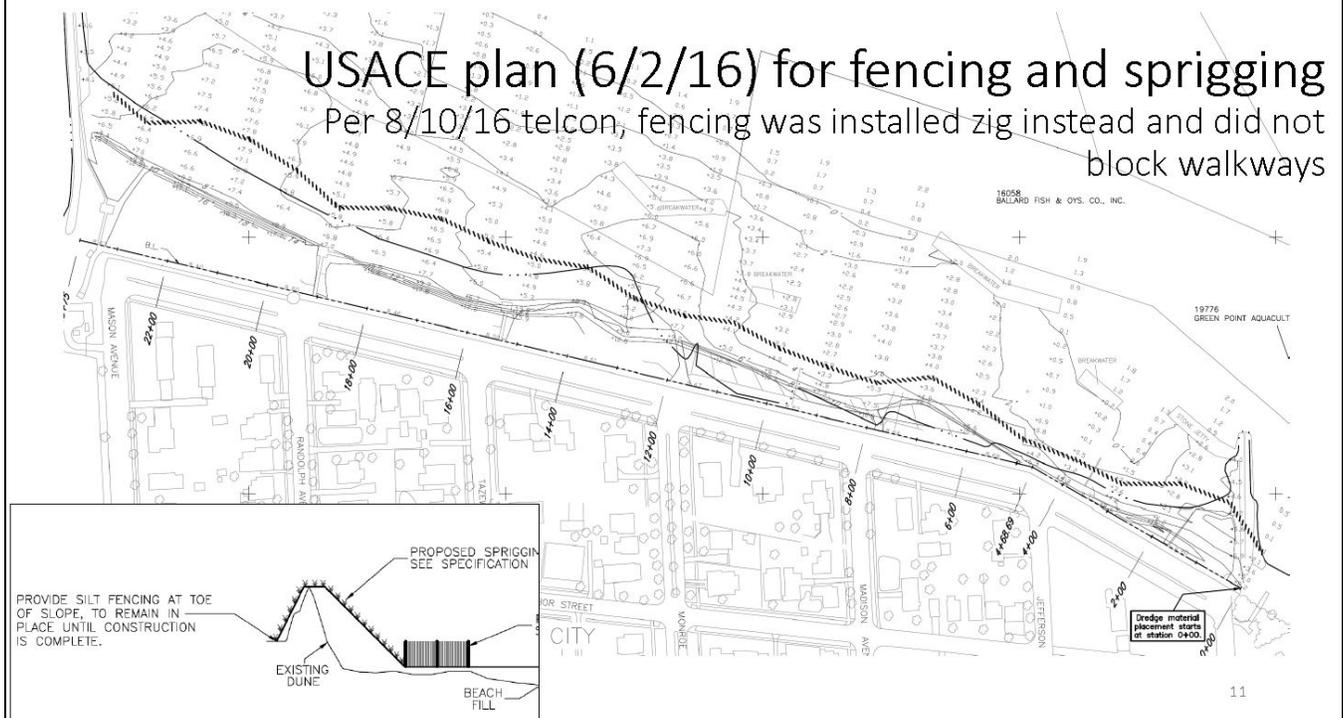
- Over the past several years the Town has taken various steps as part of an overall beach sand management practices strategy. These include gathering data on dune height and using the public works department to perform regular cleaning and maintenance of the beach.
- Since March 2015 the Town beach has been the deposit site for approximately 80,000 cubic yards of dredge material as part of the US Army Corps of Engineers' federal harbor dredging project. The final phase in the current dredging cycle was carried out and an additional 30,000 cubic yards of dredge material was deposited at the north end of the beach.
 - USACE will install both fencing and sprigging as sand management practices following the deposition of dredge material (sand).
- The town asked the Board to review past and currently employed beach sand management practices and to make appropriate recommendations to Town Council:
 - Provide an opportunity for residents' input into the scale of the sand wind erosion problem,
 - Identify potential practices to mitigate future wind erosion events, and
 - Consider/identify possible synergies with the USACE sand deposition, fencing and sprigging.

9/10/2016

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USACE plan (6/2/16) for fencing and sprigging

Per 8/10/16 telcon, fencing was installed zig instead and did not block walkways



Our “Homework”

(Key references attached)

- Review of applicable guidance and science
 - Cape Charles Dune Ordinance (1994)
 - Cape Charles Comprehensive Plan (2009)
 - Town files for past dune/sand management monitoring and reports to FEMA
 - Virginia Dune Guidelines (1993)
 - Shoreline Evolution Chesapeake Bay Shoreline Northampton County, Virginia (VIMS 2004)
http://web.vims.edu/physical/research/shoreline/docs/dune_evolution/Northampton/NHShoreEvolutionReport.pdf NOTE: Cape Charles is “Reach II”
 - The Dune Book – North Carolina Sea Grant
http://www.seagrants.umaine.edu/files/chg/RogersNashdune_booklet.pdf
- Review of beach, dune, sand management plans of other coastal towns (approximately 23 plans, plus > 35 additional documents)
 - Ocean vs. sheltered/enclosed waters
 - Norfolk, Virginia Beach

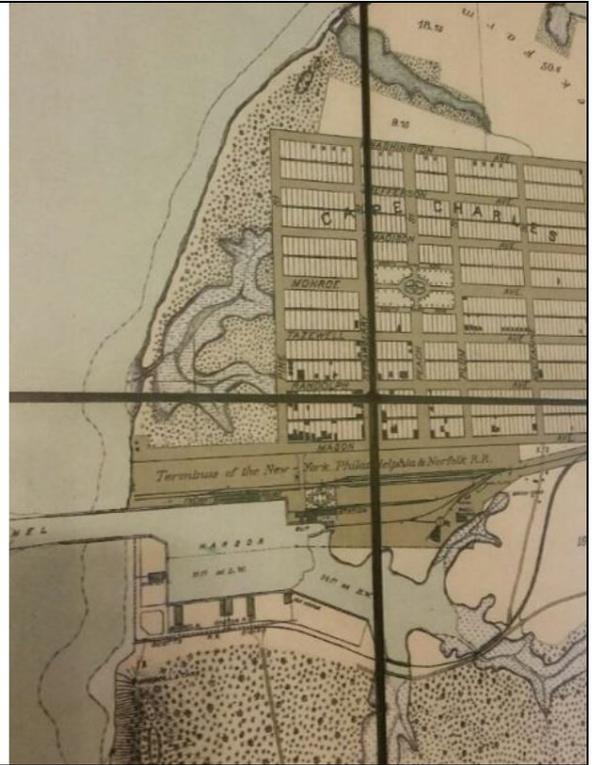
VIMS Report (Hardaway, 2004)

*Shoreline Evolution Chesapeake Bay Shoreline
Northampton County, Virginia*

- The Chesapeake Bay coast of Northampton County is very dynamic in terms of shoreline change and sediment transport processes.
- The overall net movement of sands along the coast is to the south. Long term trend for the county is about -1.0ft/year. Shoreline recession is the overall trend.
- Cape Charles = Reach II. Conventional thinking would indicate that the addition of large amount of sand from 1940s harbor dredging would enhance and provide large volumes of sand to the southern, "downdrift" shorelines, possibly even causing more infilling to Old Plantation Creek. It appears, however, that the opposite has happened. The dredge material has moved mostly offshore to form a large shoal which, in turn, may have impacted the local wave climate. The sand fill has been reduced but remains a significant headland.

9/10/2016

Part of survey map of Scott Estate, 1887



Additional Activities

- Public input
 - Information Meeting – June 15, 2016
 - Questionnaire
- City of Norfolk Rep Visit – July 26, 2016 (with Board)
 - Pre-sand deposition
- Board working sessions – June 1, July 20, August 31
- Board beach walks – 10, 19 Sept. 2016
 - Post-sand deposition and post-fence installation

9/20/2016

(Town logo)

Wetlands and Coastal Dune Board—Public Comment—Sand Management
June 15, 2016

Please take this opportunity to express your thoughts, interests, and/or concerns regarding the management of the sand and dunes along the public beach in our town of Cape Charles, VA. We look forward to reviewing your comments and thank you for your interest in our community!

Name: _____ (you can choose to remain anonymous)
Address: _____
How long have you lived in/visited Cape Charles? _____

- 1) How is the beach important to you?
- 2) Has the blowing sand and/or dunes affected your property or business? If so, how?
- 3) What questions or concerns do you have regarding the sand dunes, given the dynamic nature of sand movement by high winds and storm surge?
- 4) Do you have any historical observations about the beach, sand, and/or dunes that you believe are important to future planning?
- 5) Other comments, suggestions:

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Relevant Language from the CC Comp Plan

(no particular order)

- Protect public beach from degradation (continue with beach nourishment) for present and future generations
- Preserve the integrity of and accessibility to the water's edge
- Control dune, beach and shoreline erosion
- Enhance the beach as an amenity for residents and visitors
- Protect amenity - views of beach (and harbor)
- Natural erosion of the shoreline must be abated to maintain the safety of the residents' homes, welfare and recreational opportunities
- Protect and preserve the coastal dunes
- Establish a plan for funding continual maintenance and sand replenishment of the beach

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Multiple Town Goals and Priorities

(some competing priorities)

- Make the best of the USACE beach nourishment opportunity
- Town beach is known for sunset views – especially at north end
- Beach is vital town asset (both resident recreation and tourism-based economy)
- Sand management - Maximize sand retention on beach, prevent sand migration landward to Bay Ave.
- Dune management - Stabilize dunes for wave attenuation and protection of public property by low, wide dune profile going forward
- Implement actions to avoid jeopardizing FEMA funding when needed after storms

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Noteworthy Points from Review

(Public questionnaires scanned & attached)

- Highlights of public questionnaires (7 returned)
 - Importance of view; dunes block view; need to keep sand off streets, sidewalks, and property; sand has caused property damage and blocked beach and fishing pier access; diminished view; preferred height of dunes (some suggested NTE 3' above boardwalk); disbelief of dunes preventing danger from storms; also some recognized value of dunes and to keep people off them
- City of Norfolk, Manager of Environmental Services (30+ years beach and dune mgmt.)
 - Bay front shore; similar beach/sand/dune management issues, including dunes blocking view by adjacent traditional houses
 - Difference – public boardwalk and street is next to dunes, then houses
 - Provided specific guidance points for managing the sand, beach, and dunes
 - **The essential value of dunes is to attenuate waves and mitigate damage.**
 - In case of Cape Charles – protect public property of boardwalk and street

9/10/2016

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About Dune Height

- The Board has given serious consideration to citizens requests for establishing a set dune height, e. g, 3' above boardwalk which is 8.5' above sea level, to be maintained
- After reviewing the many gathered plans, guidelines, and studies, as well as speaking with both scientific (Scott Hardaway at VIMS) and practitioner experts (Lee Perkins, City of Norfolk), this board is unable to justify the lowering of existing dunes to a specific height
 - Leave existing dunes, extend them seaward AND PLANT with American Beach Grass (ABG) to trap sand on beach and prevent the dunes from becoming taller

9/10/2016

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Beach and sand movement is dynamic, therefore

- Beach sand needs continuing management and nourishment
- Dunes with plants help stabilize sand migration landward

8/9/2015



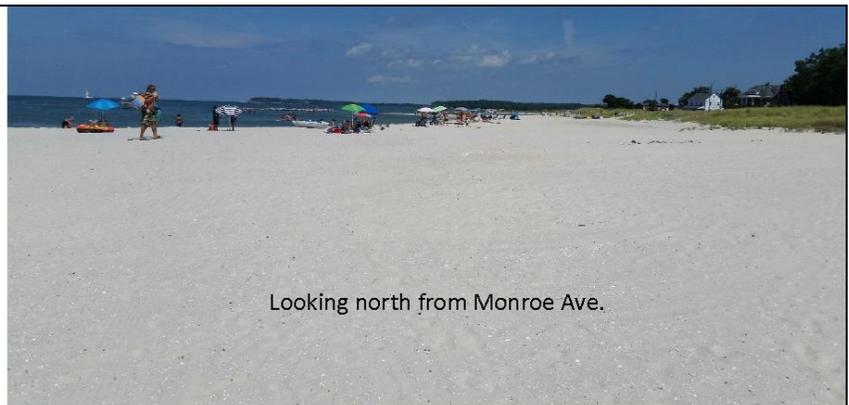
8/30/2016



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Considerations and Observations

- Public uses beach at water's edge, not the entire beach face
- There is adequate space to extend low dunes to mid-beach to help retain sand and prevent sand migration (as Norfolk has done successfully)



Looking north from Monroe Ave.



Looking south from Monroe Ave.

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Norfolk has extended dunes seaward, lower and wider, to attenuate wave damage and stabilize sand



East Ocean View

East Beach dunes 2004



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City of Norfolk – Approach and Results



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About Dune Plants

- American Beach Grass (ABG) is best for seaward side of dune
 - Cost is about \$70 for 1,000 plants
 - Planting density – Plant 9” deep, and 3 colms minimum per hole (they compete to take hold) – promotes thicker growth faster
 - Best time to plant – Jan-Feb; they should hit their peak growth by the end of June. Takes about 3-5 years for ABG planting to mature.
- Other plants for the landward side
 - Panicum amarum 'Dewey Blue' Switchgrass or beach grass is good on the street/back side of the dune (doesn't like salt and wind as much as ABG)
 - 3-leaf vine is dune bean



9/10/2016

Invasive Plant at South End

Japanese Sedge –photo below from town beach (7/26/16)

Root secretion kills ABG



Spike grows, hardens, is a safety hazard



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Eradicate Japanese Sedge by Round-up (See Norfolk slides 111-119)

Photos on CC beach 9/10/11

