

Present: Chairman Jay Putnam, DeeDee Holt, John Geiger, Paul Chamberlin, Billie Bates, Conservation Agent Kristin Andres and Secretary Mary Fougere.

Commissioner Carol Scott was absent; Commissioner Scott has recused herself from the Eastward Ho! Hearings.

325 Fox Hill Road, Eastward Ho! Country Club, SE 10-2534: The hearing was re-opened for a Notice of Intent for the proposed shoreline protection at 325 Fox Hill Road, Assessors Map 10M parcel 1. Roy Okurowski/Coastal Engineering Co Inc and Jack Farrell represented the applicant. The Commission had asked that a consultant review the Notice of Intent (NOI) due to the size and complexity of the project. The Commission had selected John Ramsey of Applied Coastal Research and Engineering Inc, who submitted a written summary of his findings, dated August 31, 2009.

Overall, the project entails approximately 2260 linear feet of rock armoring with fiber rolls in limited areas. Mr Ramsey visited the site with several Commissioners on July 7, 2009. In general Mr Ramsey felt that the NOI lacked quantitative information regarding the basis for the design, as well as anticipated impacts associated with the planned coastal engineering structures. In addition he felt that the NOI and follow-up documents (Tide Data and Alternatives Analysis dated March 27, 2009) lacked a comprehensive assessment of shore protection alternatives. Furthermore, the design decisions reached in the NOI are not supported by an appropriate analysis of coastal processes; therefore, the need for the level of shore protection proposed is not supported.

Mr Ramsey reviewed the NOI focusing on five areas of concern:

- ◆ Shoreline erosion Rate and Beach Nourishment Requirements
- ◆ Need for Armoring and/or Slope Stabilization along the Majority of the Coastal Bank
- ◆ Construction Methodology-There is a presumption that all work will be done from the top of the coastal bank since the existing salt marsh areas are too wide to allow passage on the beach
- ◆ Tides Utilized to Determine Increase in MHW
- ◆ Status and location of existing Fiber Rolls

Discussion ensued regarding tidal range changes since the new break in North Beach. Commissioners Putnam, Chamberlin and Geiger wished for clarification on Mr Okurowski's statement that there is a .8 ft change in tidal range in this area. Mr Ramsey clarifies in his report that there is actually a total increase of 0.6 ft change in tidal range in West Pleasant Bay from pre to post -2007 breach conditions. The total increase results from a 0.3 increase in MHW and a 0.3 decrease in MLW. It did not appear that the tide was higher due to less sediment on the beach from erosion plus the higher tides. The applicant is attempting to keep all proposed work above MHW rather than go below MHW to avoid a Chapter 91 license application.

In response to Mr Ramsey's disagreement regarding the tidal range, Mr Okurowski stated that he used Dr Graham Guise data; his tide gauge data indicates the old high tide level was at 3.2 ft and the new high tide level is 4.0 ft, resulting in a 0.8 difference. Mr Okurowski also stated that the work will be conducted from the beach areas utilizing the current access along the beach.

Commissioner Bates questioned the loss of nesting area for burrowing birds; currently there are several Kingfishers in the eroding bank in Area 4 (as shown on the full set of plans reviewed by the Commission on April 29, 2009). She felt that if the bank was re-shaped and re-vetted with rocks. The bird nesting area would not be restored. Mr Ramsey, acknowledging that ecology is not his forte, stated initially there would be loss of nesting area but as soon as the area started to re-vegetate above the rocks, habitat for some wildlife would be restored.

Commissioner Chamberlin questioned whether there were any areas that did not require any treatment at this time and whether there was any historical data on accretion. It was thought that the existing

photographic, historical records of Pleasant Bay go back quite a way to show that Jackknife Harbor has been relatively stable. Additionally, the littoral shift of sands is towards the road (Rt 28 and the culvert should be monitored to assure that it continues to work well

Mr Ramsey offered the following suggestions in going forward with the NOI hearing:

- ◆ Trigger points would have to be established in determining the timing for beach nourishment as related to erosion rate
- ◆ The plans must show the location of existing vegetation and the location of existing scarp. It appears that the areas where turf re-enforcement is currently proposed, the banks are steep, but stable
- ◆ Fiber rolls can be maintained but the use of turf re-enforcement mat, as proposed, is not recommended. The fiber rolls should be made of bio-degradable materials, although Mr Okurowski maintained that nylon netting only works well in areas where there is no severe wave action.
- ◆ Nourishment could be completed on a pro-active, selective basis; however wave calculations should be provided by the applicant. The waves in Pleasant Bay are wind generated, not Flood dominant and there is probably not much wind fetch on a normal basis unless a storm occurs. Shift from nourishment sands will not block the creek outlet.

From the audience, Coastal Resources Director, Ted Keon, expressed his concern regarding the location of beach nourishment. He felt that there were two obvious areas that would benefit from nourishment, 1 area to the east and 1 further towards Rt 28. He asked if there were examples of areas that stabilized where scarped areas were left to erode and only minimally nourished. In response from a question from Commissioner Bates, Mr Keon noted that the heights of the revetment could be tapered to eliminate scour (especially on this property since the club owns such an expanse of shoreline).

Peter Rosen, Coastal Geologist from Geo/Plan Associates, representing Eastward Ho! and consultant to Coastal Engineering Company Inc, had submitted his written report dated September 1, 2009. The Commissioners had copies but had not yet reviewed them. Mr Rosen spoke in depth about the site characteristics, most of it already reviewed by the Commission at its April 29, 2009 meeting.

In Summary Mr Rosen stressed the following points:

- ◆ The dynamics of the shoreline have changed over the past several years and likely will continue to change in the future. There is presently a shoreline erosion crisis, but shoreline erosion will continue on the site at the same rate. The relatively low wave impact from wind driven waves will remain.
- ◆ Small scarping of the base of coastal banks leads to oversteepening and slumping at the top of the bank. The top of the bank and the bank is stabilized by preventing this scarping from taking place.
- ◆ The proposed on-going nourishment will protect the interests of the Wetlands Protection Act and will protect the values of the beach system while stabilizing the shoreline position. He suggested including a component of gravel in the sand as it is part of the natural sediment as it plays a significant role in beach function when sand is returned in storms.
- ◆ Mr Rosen recommended construction of a sacrificial dune at the east end of Jackknife Harbor to insure a continuing sand supply to this recreational barrier. The only issue is the amount of sand (2500 cu yds is proposed); Mr Rosen disagreed with Mr Ramsey's suggestion that the Commission needed to seek additional data regarding the amount of nourishment needed, since he was not sure what could be learned from an analysis. Commissioner Chamberlin asked if Mr Rosen's felt it would be wise to focus treatment on critical areas since the whole shoreline/beach system under discussion is in a state of flux.
- ◆ Fringing salt marsh has a range of values and must be protected as part of the management of this shoreline. Spartina grasses respond to burial and to gradual changes to beach elevations. When established, salt marshes diminish wave energy on the beach and mitigate sand losses.

- ◆ Using a trigger system for re-nourishment is most effective in this setting as conditions vary and as much sand as is necessary for the beach to maintain its form will be added annually by the applicant.
- ◆ Fiber rolls and stone revetment/toestones function in a similar manner. Stone is more effective at shore protection and is justifiable if nourishment/management of the system is insured.

From the audience, Mr Farrell admitted that the entire project has become extremely complicated. Several club members are not convinced that the entire project be done or is necessary, but the club as a whole is committed to an on-going Management Plan, to be established as a result of the on-going discussions.

Discussion ensued on the various criteria for bench marks, the location of the trigger points and the criteria for trigger points to be established in different areas of the shoreline and sediment types. Commissioner Geiger asked if there was any thought on the part of the applicant to make changes to the existing structures for erosion control.

It was moved, seconded and voted to continue the hearing to September 9, 2009 to allow Commissioners to review the data that had been presented. At the September 9 meeting, the Commission would set a date for a Special Meeting to review the application.

Adjournment: It was moved, seconded and voted to adjourn the meeting at 9:00 PM.

Respectfully submitted,
Mary Fougere, Secretary