September 23, 2014

The U.S. Army Corps of Engineers, New York District
Planning Division-Environmental Branch (ATTN: Mr. Robert Smith)
26 Federal Plaza, New York, New York 10278-0090

RE: Downtown Montauk Stabilization Project

Submitted by: Robert S. Young, PhD, PG
Director, Program for the Study of Developed Shorelines

Please consider the following comments as you evaluate the DEA of the proposed geotextile bag/sand dune construction project. I am a coastal geologist with 25 years of experience in coastal science, coastal management, and the evaluation of coastal engineering design. I have national and international experience along with significant experience locally along the beaches of Long Island through my work with Trustees of the Town of Southampton, the National Park Service at Fire Island, and The Nature Conservancy of Long Island. This evaluation was performed by me at the request of the Eastern Long Island Chapter of the Surfrider Foundation. I am a licensed professional geologist.

In short, I have reviewed all documents and maps related to the project and the Draft Environmental Assessment. I conclude that the project design is ill conceived. The berm will not last and the geotextile bags will be uncovered far before the design life of the project is reached. If the geotextile bags are not destroyed in a storm, they will act as a seawall, narrowing the beach until it disappears (through passive erosion). There is a very high likelihood that the public beach will be lost as the project erodes. The project will provide only moderate protection for infrastructure in a very small storm. The project will be constructed using sand that is of questionable compatibility. In a large storm, the beach will be littered with bags that will be very difficult to remove. The Town will be setting a very bad precedent in sacrificing the public beach for the protection of private property.

Project Design

The project will attempt to move slightly more than 3000ft of shoreline seaward of its current position. This will create an unsustainable bulge in the shoreline. The design berm will be redistributed alongshore at a faster rate than neighboring shorelines. Even a small storm will exhume and uncover the geotextile bags, leaving behind what is effectively, a seawall. It should be made very clear that, as long as the bags are in place, they will act as a seawall and they will have the same detrimental effects.

Seawalls are shore parallel structures designed to protect property from coastal erosion. Any structure that is designed to combat storm erosion by reflecting waves and surge is effectively a seawall. If a line of geotextile bags remains in tact during storm wave attack, then the bags are acting like a seawall and will have identical impacts. Many

states have recognized this fact and codified it. Florida recognizes that geotextile walls fall into the same category as other types of coastal armoring:

> *COASTAL ARMORING POLICY and GUIDELINES: Section 161.085, Florida Statutes and Chapter 62B-33, Florida Administrative Code.*
>
> *COASTAL ARMORING: A manmade structure designed to either prevent erosion of the upland property or protect eligible structures from the effects of coastal wave and current action. Examples include seawalls, revetments, bulkheads, retaining walls, sloped boulder revetments, sloped geotextile revetments, geotextile dune scour protection, or other similar structures.*

So, one must keep in mind that if the geotextile bags works as designed, that wall will have the same impacts as a seawall.

1) When placed on an eroding or retreating beach or bluff, they will cause that beach to narrow and eventually disappear.

2) Erosion (especially during storms) will be increased at the ends of the wall, the so-called "end effect." The end effect is the result of waves diffracting around the edges of the wall during storms or high water events. It results in a clear increase in erosion at the margins of the geotextile bag wall.

It is my opinion that the project will be likely to result in the loss of the public recreational beach well before the design life is reached.

Alternatives

For reasons that are difficult to understand, the DEA did not evaluate the simple construction of dunes and berm reconfiguration without a geotextile bag core. Even though such a project would not provide the same level of protection as a geotextile bag wall, this alternative should have been evaluated because the negative impacts described above would be eliminated. Cost savings would be significant. In fact, if a desirable upland source of sand could be identified, the dunes could be constructed multiple times over the 15-year lifespan of the project.

Sand Quality

The DEA is relatively silent on the compatibility of the sand identified for the project. There is a brief mention of similar average grain size, but no details on the percentage of fine-grained sediments or mention of color differences. One photograph is presented which appears to show material of very different color with additional fine sediments. Those concerned about the potential environmental impacts of the project sand and the aesthetic appeal of a beach potentially composed of this material should demand further investigation and explanation. At the very least, a much closer examination of the material being proposed for the project should be conducted.

Storms Exceeding Project Design

All parties must consider the possibility that a storm exceeding project design will occur during the planned lifespan of the project. In a significant storm, the bags will be scattered along the beach, buried further into the berm, and tossed landward. Removal of the debris could be quite difficult and will have its own environmental consequences. Who will be responsible for the cleanup? Coastal storms have destroyed geotextile walls in other locations leaving a problematic mess.

Precedent

Is this project to become the design precedent for the entire Town of East Hampton? Is the Town ready to make this the model for shoreline management? Clearly, there is an issue with a certain number of buildings impinging on the public, recreational beach that is utilized by residents and tourists alike. All coastal communities must balance the need to protect economically important oceanfront development with the need to protect the economic value of the Town's beaches (which also serve the economic interests of the entire community). In my experience, once you travel down the road of seawall construction (geotextile or otherwise), there is no turning back. The property owners along the Montauk project area will always expect at least this level of protection, and other property owners in East Hampton will also expect the right to construct similar structures. Careful consideration must be given to the development of a vision for what future Town beaches will look like, and where the Town's priorities will lie. Eventually, you will need to decide between protecting oceanfront property, and protecting the beach. This is not a suggestion that one should entertain the possibility of abandoning the coast: not at all. It is not an either or choice. But, there is an opportunity here to consider changing vulnerability "footprint" of the community, and to examine in a fair way, the economics of attempting to hold the shoreline in place forever while severely degrading the beach. This discussion should take place whether the project proceeds or not.

In summary, it is my opinion that the project design is flawed. The geotextile wall will be exposed well before the projected lifespan is reached. The project will likely result in significant degradation of the public beach, while providing little protection for property. All reasonable alternatives were not considered in the DEA. The sand quality of the proposed upland source needs to be examined in greater detail. Above all, the Town of East Hampton will be setting a terrible precedent for future coastal management.

Thanks very much for the opportunity to comment on the DEA. Please contact me with any questions

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