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January 23, 2013

Scott Furman,Esq
Tannenbaum Helpern etal
900 Third Avenue
New York NY 10022

Attorney Draft Work Product, Privileged and Confidential

Does this document comply with the SMP and the guidance in DER-10?

Formatted: Justified

Comment [N1]: As stated by Bill Seevers this workplan is in the state in which it was submitted to Scott Furman who at the time was the attorney for Jason Halpern but is now no more.

Re: Sound Pointe Seawall evaluation

Dear Mr. Furman

On January 18th, 2013 Mr. Michael Simon, PE of J.R. Holzmacher P.E., LLC and Mr. William Seevers of ETG visited the above referenced site to investigate failures and identify potential areas of repair to the seawall located on the West side of the site . The purpose of the site visit was to document damages to the seawall caused by tidal surge and wave action from superstorm Sandy.

Comment [N2]: Is the seawall the only area damaged by Superstorm Sandy?

The seawall is a mixture of rip rap, broken concrete and stone slabs interlocked in a random fashion. The wall is also interlaid with demolition debris and what appears to be urban fill. At the top of the slope, concrete Jersey Barrier is placed and locked together, which retains approximately 2 feet of clean fill and landscape treatments such as fence and walking paths.

The wave action has undermined areas of the Jersey barrier, causing washout and collapse. The loss of material from beneath the barrier has allowed several to shift and move, causing failure of the retained soil from behind it. This progressive loss of soil has caused section of the fence and walking path to be lost. We examined the full length of the seawall along the property and noted several areas where washout is beginning to occur, but failure was limited to a section of approximately 140 feet in the West section of the property.

Our recommendation for remediation is twofold, taking cost into consideration. The ideal solution would be a driven sheet pile wall surrounding the property which would prevent movement of the soil and fill during heavy storm wave action. This solution would likely be prohibitively expensive and also prove difficult to successfully accomplish due to the extent of concrete debris and fill that was visible. A more economical solution would be to armor the seawall with three to five ton stones at the toe, and infill behind with broken concrete and riprap. The stone armoring at the toe would be designed to break the energy of the incoming waves, and the rip rap would then protect the slope. As soil is already being lost, we further recommend that the Jersey barrier be held in place through the use of driven H piles. The driving of theses piles is recommended as the barriers are not set on a foundation, and will continue to move and likely fail as the slope below is eroded. Furthermore, if the area experiences tidal surge, as happened during Sandy, the submersion of soils in the water will weaken both their bearing capacity and are more likely to be drawn from under the barriers as the tidal surge rapidly recedes.

Comment [N3]: If used the armor stones mustnnot have joints, fractures or if sedimentary rocks theymust not have bedding planes

Comment [N4]: We need more detail on the H piles

There also was a failure of the large concrete block gravity retaining wall. These blocks failed due to loss of the soil from beneath the bottom course of block. It is this loss of material that will be the cause of failure around the site. During our inspection of the remaining sections of seawall, we found the Jersey barrier detail to occur throughout the top of the slopes. It was noted on the Northern end that erosion was beginning to occur.

Comment [N5]: More detail will be needed including calcs regarding a new concrete block gravito retaining wall

We do not recommend attempting to repair the walkway until the seawall is properly reinforced, including reinforcing of the Jersey Barriers. Further movement of the barriers will cause additional loss of soil and loss and walkway around the site. Repairs should occur in the near future as the slope has been compromised and will be weakened by runoff from rain and further wave action during severe storms.

Comment [N6]: In the end. How will this be determined

If you have any questions, please contact us.

Very truly yours,
J.R. Holzmacher P.E., LLC

Michael C. Simon, P.E.
Principal

MCS:mcs
Encl.

Figure 1 - Bing Maps aerial showing locations of erosion (arrows) and slope failure (red circle).

Photograph 1 – Walkway and fence sections lost to erosion of the seawall.

Photograph 2 – Sinkhole forming in walking path where soil was washed out below.

Photograph 3 – Addition of rip rap alone will not secure the Jersey barrier nor prevent future movement.

Photograph 4– Failure of the slope due to wave action and erosion caused failure of the Jersey barrier and subsequent movement of the retaining wall.

Photograph 5 – Visible strata of fill and debris evident.

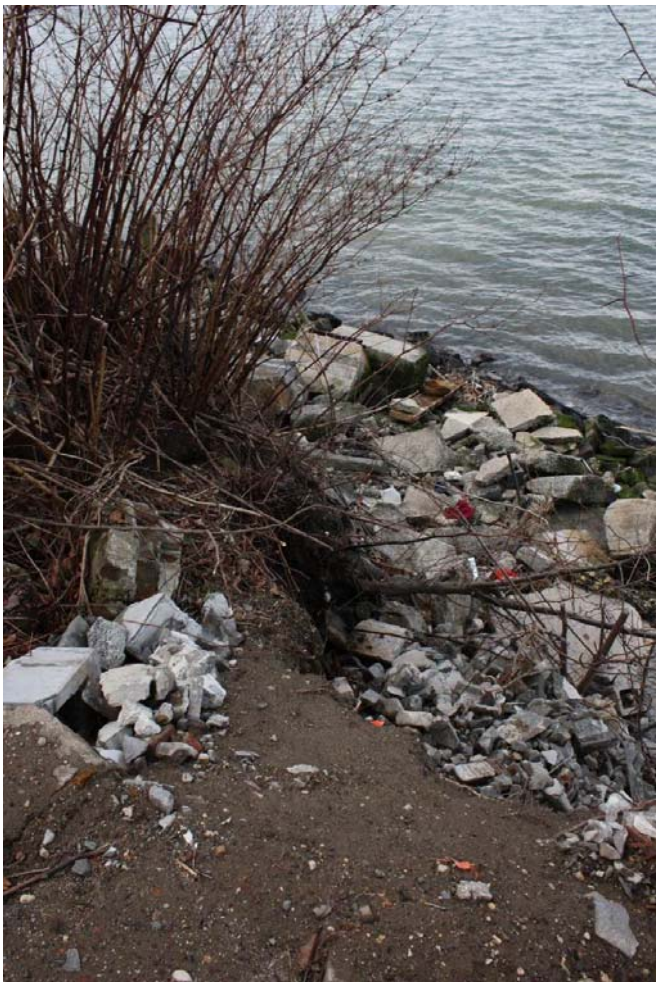
Photograph 6 – Soil erosion due to wave action responsible for the collapse. Gravel setting bed is being undermined by erosion of soil.

Photograph 7 – Erosion of soil will cause Jersey barrier to collapse in the near future.

Photograph 8– Failure of the slope due to wave action and erosion caused failure of the Jersey barrier.

Photograph 9 – Failure of the slope due to wave action and erosion caused failure of the Jersey barrier.

Photograph 10 – Jersey barrier being used as retaining wall is beginning to become undermined and shift seaward.



Photograph 11 – Washout of North side slope will lead to failure of seawall rip rap and leave townhouses exposed to the East River.

Photograph 12 – Movement of North side of slope requires remediation before the failure extend back to the homes.

Photograph 13 – Movement of walkway on property to the East indicates movement of the slope.