UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
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Memorandum

DATE: November 17, 2022
SUBJ: 10/25/2022 inspection of Upper Harbor sediment caps, NBHSS
FROM: David Dickerson, Remedial Project Manager
To: Site file (7.5)

DAVID DICKERSON Digitally signed by DAVID DICKERSON Date: 2022.11.17 13:32:18 -05'00'

This memo documents the visual shoreline inspection of all Upper Harbor (UH) sediment caps performed by D. Dickerson on 10/25/2022. The inspections took place between approximately one hour before and one hour after a -0.2 ft low tide at 2:09 pm that day, since only the intertidal portions of the caps can be seen visually. Wind was calm though a SE breeze started at about the time of low tide. Two caps, 0-711 and L-114, were completely subtidal and thus could not be seen. At the Parcel 265 cap, only the very top few stones of the cap could be seen (Figure 17 below). Bathymetric and topographic surveys performed earlier in fall 2022 will augment this visual feature inspection.

Figure 1 below shows the locations of the seven UH sediment caps installed in 2020. North to south, these caps are: 0-711, Crib, L-014, L-114, pilot CDF shoreline, Cogg-East and Cogg-West. The Parcel 265 cap, located between the pilot CDF shoreline cap and the Cogg-West cap (see Figure 1) was installed in 2015 as part of the subtidal dredging operations in that area. Not shown on Figure 1 is the Aerovox sediment cap (just to the north of the Figure 1 boundary) that was also inspected on 10/25/2022.

Figures 2 through 24 below are photos of these caps running north to south taken during this inspection.

Based on this inspection the UH sediment caps continue to appear in good shape with only one action item required (a place-holder remaining from the May 2022 cap inspection):

- At the Crib cap, when implementing the upcoming West Zone 2/3 remedial action in 2023/2024, consider using the excavator bucket to create a more uniform, smoother (less undulating) stone surface within the reach of the excavator from shore. This would aid in visually detecting potential stone displacement moving forward during O&M to minimize the need for topographic/bathymetric surveys during O&M. Additional stone could be added if necessary to help create this uniform, smoother surface.

Figure 1: **Sediment Cap Locations**

← 0-711 cap

← Crib cap

← L-014 cap
← L-114 cap

← Pilot CDF shoreline cap

← Parcel 265 stone cap
← Cogg-W and Cogg-E caps

Figure 2: **Aerovox cap** looking south from the northern area of the cap. The oil boom is from the ongoing Aerovox 21E work. The brown color is a seaweed mat.

Figure 3: **Aerovox cap** looking south along the toe of slope. Note the north trench outfall in foreground (still plugged per the 21E cleanup).

Figure 4: **Aerovox cap** looking south. Note native high tide bush (*Iva frutescens)* emerging at top of slope. Underlying this part of the armor stone is the original, large-stone-size seawall, thus non-woody vegetation such as this is fine (and may help stabilize the surface).

Figure 5: **Aerovox cap** looking northwest showing the new south trench outfall. This former trench will now be an HDPE pipe covered with concrete (with similar invert elevation). Note marsh grass (*Spartina alterniflora?)* emerging in foreground.

Figure 6: **Aerovox cap** looking east from the southern edge of the cap. Foreground is the east end of the large Hadley Street storm drain.

Figure 7: **Crib cap** looking north from the south end of the cap. White pole is the location of an outfall pipe (extended through cap during cap construction).

Figure 8: **Crib cap** looking south. White pole is the location of the outfall pipe.

Figure 9: **Crib cap** looking west from the NE corner of the cap.

Figure 10: **Crib cap** showing very small area of exposed sand (app. 2 sq ft) 20-25' south of the white pole noted in Figures 7 and 8 above.

Armor stone from obvious nearby high spots were used to fill in this small area during the inspection.

Figure 11: **L-014 cap** looking north, after "smoothing" operations during WZ4 Remedial Action (RA) in May 2022. Restored WZ4 saltmarsh is in the background.

Figure 12: **L-014 cap** looking west, showing drainage swale and topsoil washed onto cap surface. Restored WZ4 saltmarsh in background.

Figure 13: **L-014 cap** looking south from north end of the cap.

Figure 14: **Pilot CDF Shoreline Cap** looking north from south end of the cap. Boat ramp and Parcel 265 plantings in foreground.

Figure 15: **Pilot CDF Shoreline Cap** looking north.

Figure 16: **Pilot CDF Shoreline Cap** looking west from the NE corner of the cap.

Figure 17: **Parcel 265 stone cap** looking northeast (only a few emergent stones cap be seen at low tide). Parcel 265 restoration plantings in foreground and background.

Figure 18: **Cogg-West Cap** looking east.

Figure 19: **Cogg-West Cap** looking west from the bridge opening. Shoreline outfall structure in the background (with chain link fence) is the relocated Sawyer Steet CSO.

Figure 20: **Cogg-West Cap**. Small school of 3-4" minnows observed facing into the outgoing current on the shallow shelf provided by the cap at this tide (approximate location noted above in Figure 19 by the red arrow).

Figure 21: **Cogg-East Cap** looking east from bridge opening.

Figure 22: **Cogg-East Cap** looking north. Photo taken from road level.

Figure 23: **Cogg-East Cap** looking north from the eastern edge of the cap.

Figure 24: **Cogg-East Cap** looking east from near the bridge opening.