

U.S. Army Corps of Engineers Minnesota Point Beach Nourishment Debris Mitigation and Cleanup Plan

March 1, 2021

The U.S. Army Corps of Engineers (USACE), Detroit District is authorized with maintaining the Duluth-Superior federal navigation channel. USACE dredges approximately 110,000 CY of dredged material from the Duluth-Superior Harbor every year just to keep the federal navigation channels open. Over the last eight years we worked closely with harbor stakeholders to beneficially place 1.3M cubic yards of dredged material in shallow unconfined or nearshore environments in the harbor that supported habitat restoration and remediation projects in the harbor.

In 2019 we continued working closely with harbor stakeholders to identify beneficial uses for the Duluth-Superior Harbor dredged material. Following on the success of beneficially using approximately 53,000 cubic yards of dredged material to temporarily stabilize the eroded shoreline at the south end of Minnesota Point in 2019, the City of Duluth expressed interest in using the 2020 dredged material to nourish the north end of Minnesota Point shoreline. USACE coordinated closely with project partners to place approximately 49,000 cubic yards of dredged material along the eroded shoreline between 7th Street and 10th Street in 2020. The benefits of the beach nourishment project include temporarily stabilizing the eroded shoreline and dune habitat along MN Point, as well as providing habitat for beach grass and other endangered and threatened species.

USACE's maintenance dredging contractor began dredging and beach nourishment operations in early August 2020 and completed operations on September 22, 2020. On September 14, 2020 the contractor collected 20-30 cans and glass bottles on the grating at the transfer box location. The debris was removed and disposed of offsite in accordance with the contract requirements. During subsequent site visits to the placement area, USACE found two cans on the beach in the graded material and provided them to the bulldozer operator for disposal. No other observations of debris occurred until the contractor performed a final cleanup of the placement site on September 25, 2020 which revealed minimal debris. However, approximately one month after placement operations were complete additional aluminum cans and can fragments were found within and adjacent to the beach nourishment area. USACE reviewed the daily construction reports, debris monitoring reports, and information provided by the residents and concluded that the aluminum cans and can fragments likely resulted from the dredge hitting a pocket of disposed cans in a small area of the harbor near the end of the dredging/placement operations. Unfortunately, the cans likely passed through the transfer box grating, through the pump and were inadvertently placed with the dredged material. As the placed material was graded the aluminum cans and fragments were unknowingly covered; however, as the placed material was moved by the wind and waves, the cans and can fragments were exposed. USACE takes this situation very seriously and has developed a plan to mitigate the likelihood of encountering debris and/or placing debris fragments on the beach during 2021 beach nourishment operations. We have also established a plan to clean up the aluminum cans and can fragments unintentionally placed on Minnesota Point during the dredging and placement operations in 2020. Elements of the plan include:

Evaluating Dredging Areas:

- USACE'S mission is to maintain navigation in the harbor within authorized channels limits and we must dredge shipping industry-identified critical shoals; however, USACE will be more

selective when evaluating which non-maintained areas of the harbor to dredge given the potential for debris in those areas.

- Priority dredge areas are determined by the shipping industry; depending on the budget there may be an opportunity to dredge additional areas of the harbor that haven't been routinely maintained as we continue to reduce the amount of dredging backlog in the harbor.
- USACE met with the shipping industry to review condition surveys and identify priority dredge areas for 2021. The shipping industry identified two critical shoals in the maintained areas of the harbor that will be dredged in 2021 (these areas are routinely dredged); the remaining budget will be used to dredge material from the East Gate Basin. Dredged material from the East Gate Basin has been beneficially used for several restoration projects in the Duluth-Superior Harbor. The area of the East Gate Basin identified for 2021 maintenance dredging was used as source material for the 40th Avenue West restoration project. In 2018, the top 5 feet of material was removed from the East Gate Basin and placed at the 40th Avenue West project. Prior to 2018, this area of the East Gate Basin had not been dredged so we would expect that if debris were discarded in the harbor it would've likely been found within the top 5 feet of material given the rate at which shoals develop in Duluth-Superior Harbor. Therefore, we do not expect to encounter debris in the remaining 15 foot of sand that lays beneath the top 5 feet of material removed from the East Gate Basin in 2018.
- The two critical shoals identified by the shipping industry as 2021 priority dredge areas are in the maintained areas of the harbor, which have previously been dredged. Therefore, we do not expect to encounter historic debris in these dredge areas.
- USACE is investigating equipment capable of detecting debris in dredge areas. The dredge areas could then be surveyed or assessed using the selected equipment to determine if debris is present in the dredge area prior to dredging operations.

2021 Contract Requirements to Mitigate Debris Resulting from Dredging and Placement Operations:

- The Contractor is required to submit a detailed plan indicating the actions that will be taken to reduce the likelihood of man-made debris from reaching final placement at the specified placement area.
- If the Contractor elects to utilize mechanical equipment as means to place dredged material, the Contractor shall at a minimum utilize the following practices for minimizing placement of man-made debris, unless otherwise approved by the contracting officer's representative (COR.)
 - During the dredging and placement operations, the Contractor shall continuously and closely monitor the material being collected from the dredge areas and placed in the identified placement area for any man-made debris. Any man-made debris observed within the dredged material shall be immediately removed either from the scow/material transport vessel or immediately after placement and appropriately discarded off site.
 - During placement operations and final grading of material at the specified placement area, the Contractor shall continuously and closely monitor the material being graded for man-made debris. Any man-made debris observed within the placement area shall be picked up and appropriately discarded off site.

- If man-made debris is encountered, the Contractor shall immediately notify the COR and stop operations. The Government reserves the right to enforce additional debris management requirements if current requirements are deemed by the Government to be insufficient.
- If the Contractor elects to utilize hydraulic equipment as means to place dredged material, the Contractor shall at a minimum utilize the following practices for minimizing placement of man-made debris, unless otherwise approved by the COR.
 - During the dredging and placement operations, the Contractor shall continuously and closely monitor the material being collected from the dredge areas for man-made debris. Any man-made debris observed within the dredged material shall be immediately removed from the scow/material transport vessel and appropriately discarded off site.
 - Use of hydraulic conveyance methods for material transport shall incorporate a screen capable of capturing man-made debris with maximum grid openings of 2-inches. The smallest diameter of an aluminum beverage can is approximately 2- ¼ inches; therefore, 2-inch grate openings should prevent cans from entering the hydraulic pump and pipeline. A reduction in the size of the grate openings reduces the production rate, which impacts the ability to remove critical shoals from the federal navigation channel during the construction season. As a result, there must be a balance between the grate size and the production rate to ensure USACE is able to accomplish mission requirements. The Contractor shall regularly check the screen for man-made debris. Any man-made or natural debris captured on the required screen shall be removed and appropriately discarded.
 - If man-made debris is encountered, the Contractor shall immediately notify the COR and stop operations. The Government reserves the right to enforce additional debris management requirements if current requirements are deemed by the Government to be insufficient.

USACE Duluth Area Office staff continues to monitor the beach nourishment site and collect debris generated during 2020 placement operations as weather conditions allow. Additionally, USACE is developing a focused cleanup plan to address the aluminum cans and can fragments inadvertently placed during 2020 beach nourishment operations. Signs will temporarily be placed in the 2020 nourishment area warning pedestrians of the aluminum cans and can fragments. The 2020 beach nourishment area will be surveyed this spring (2021) to delineate the extent of placed material containing the aluminum cans and can fragments. The survey equipment may not function properly with snow, ice, or temperatures below 32 degrees Fahrenheit; therefore, it's unlikely the survey can be completed this winter as previously planned. Once the survey is complete, USACE will begin a focused cleanup within the delineated area likely utilizing mechanical equipment to remove the aluminum cans and can fragments from the placed material. The type of mechanical equipment selected for cleanup will depend on the size/extent of the delineated concentrated debris area; however, we intend to complete the focused cleanup prior to 2021 beach nourishment operations beginning. If the survey indicates that the aluminum cans and can fragments were placed throughout the larger 2020 beach nourishment area, USACE will begin cleaning up the area planned for 2021 beach nourishment prior to 2021 dredging and placement operations. The remainder of the 2020 beach nourishment area containing aluminum cans and can fragments will be cleaned up throughout the remainder of the

year(s) as weather conditions allow. USACE acknowledges there are likely aluminum cans and can fragments that migrated from the placement area and we will continue routine monitoring and cleanup efforts to address the migrated debris until 2021 beach nourishment operations begin. We appreciate the outstanding support the residents and the Park Point Community Committee members are providing toward the cleanup effort.

We are confident that we have taken the necessary corrective actions to mitigate the risk of encountering and placing historic man-made debris during 2021 dredging and beach nourishment operations. USACE Duluth Area Office staff are working hard to clean up the debris that was inadvertently placed on Minnesota Point during 2020 beach nourishment operations.