2021 ANNUAL STOCKPILE INSPECTION
KALAELOA BARBERS POINT HARBOR
STATE OF HAWAII OF TRANSPORTATION, HARBORS DIVISION

Date of Inspection: December 22, 2021 **Inspector (HAR-EE)**: Joy Zhang

An annual inspection of the coral stockpiles 2A, 2B, 2C, 3, 4, and 5 at Kalaeloa Barbers Point Harbor (KBPH) was conducted to determine the general condition of the chemical stabilization, sediment barriers and natural vegetation barriers. As mentioned in previous reports, Stockpile 1 was completely removed by Kapolei Development back in 2015 and its current site condition is also included in this report. Chemical stabilization and sediment barriers were last applied to Stockpiles 3 and 4 in November 2012. Stockpile 5 received chemical stabilization treatment in February 2014. Following the cease of removal, Stockpile 2A was chemically stabilized in August 2018, in conjunction with existing runoff control BMPs to enhance on-site infiltration.

Natural vegetation growth increased substantially at most of the stockpiles due to rainfall received over the past year. Vegetation growth has stabilized much of the bottom slope areas and reduces bio-socks exposure to the elements – enhancing and prolonging their effectiveness. Vegetation growth has also served to stabilize most of the sloped areas around the remaining stockpiles.

Stockpile 1: This stockpile was completely removed by Kapolei Development back in 2015. As shown in Photos 1 and 2, the site is sloped inward to retain runoff and vegetation has been continuously growing over the site. In addition, soil berms were formed in the past year.

Photo 1: Overview of former site of Stockpile 1 from entrance (facing west). Sparse vegetation and soil berm were observed on-site.

Photo 2: Overview of former site of Stockpile 1 from the top of Stockpile 2A (facing west).

Stockpile 2A: As reported in previous Annual Compliance Report (ACR), D.R. Horton obtained approval of their National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) C permit and submitted relevant Storm Water Pollution Prevention Plan (SWPPP) and other necessary documents to State of Hawaii Department of Transportation (HDOT) Harbors Division (hereinafter referred to as “Harbors”). They commenced removal of stockpile material from Stockpile 2A in March 2017. Removal operations continued through August 2018 and regular inspections (i.e., bimonthly from April to September and biweekly during the rest of the year) by Harbors Property Management (HAR-PM) and the Engineering Environmental Section (HAR-EE) were conducted to ensure compliance with the Right-of-Entry (ROE) Agreement and to promote the compliance with the NPDES NOI-C permit. A detailed discuss could be found in 2018 Stockpile Inspection Report, which is included in the 2018 ACR.

The current condition of Stockpile 2A is shown in Photos 3 to 8. Signs of runoff erosion were observed along the side of driving ramp to the top of Stockpile 2A (Photo 5). Vegetation growth continued at the top of Stockpile 2A (Photos 6 and 8). Majority of south and north sides of the slope were continuing to be matted by thick vegetation (Photo 3). Even though, evident of runoff erosion was observed, the raised-berm along the top edge, existing vegetation, and oil stabilizer appeared to efficient in minimizing wind erosion. Therefore, re-application of chemical stabilization is not recommended at this time.

Photo 3: Remainder of Stockpile 2A sit on the right side of the paved road, heavily vegetated on the south side, with biosocks placed at the foot of the hill (facing northwest).

Photo 4: View of entrance to former site of Stockpile 1 and Stockpile 2A, blocked with one piece of hexagon concrete foundation pile (facing northwest).

Photo 5: View of access road to the top of Stockpile 2A. Loose gravel likely brought down by heavy rain scattered down the slope (facing east-southeast).

Photo 6: Top of Stockpile 2A along raised-berm perimeter, covered by sparse vegetation.

Photo 7: View of the top of Stockpile 2A (facing southeast).

Photo 8: Another view of the top of Stockpile 2A (facing northwest). Piles of rocks and two pieces of biosocks left on site.

Stockpiles 2B and 2C: Vegetation growth seems to be continued around and between Stockpiles 2B and 2C (Photos 9 and 11). There were no signs of erosion - so re-application of chemical stabilization is not recommended.

Photo 9: Overview of north end of Stockpile 2B and 2C, heavily vegetated (facing southeast).

Photo 10: View of east side of Stockpiles 2B and 2C, heavily vegetated (facing west).

Photo 11: South side of Stockpile 2C, heavily vegetated (facing north).

Stockpile 3: The vegetation growth was again found to be heavy at the base of and along the slope of Stockpile 3 as was observed in the past and continues to provide very effective, natural erosion control (Photos 12 to 20). The heavy vegetation is also protecting the bio-socks from the elements. The bio-socks which are laid inside concrete pile butts are hardly visible but in good condition and do not require replacement.

Following the issuance of Construction ROS in February 2021, Royal Contracting Company Ltd started to removing soil materials at Stockpile 3 since this May. Regular inspection by HAR-EE were conducted to ensure compliance with the issued ROE Agreement and to promote the compliance with the NPDES NOI-C permit.

Photos 12: View of the west side of Stockpile 3, heavily vegetated (facing northeast).

Photos 13: Overview of the south side of Stockpile 3 (facing northeast).

Photo 14: View of the driving entrance to Stockpile 3, heavily vegetated on both sides (facing southeast).

Photo 15: Overview of Stockpile 3 in the process of being excavated (facing northeast). Large boulders piles on the side.

Photo 16: Portable toilet staged on-site (facing northeast).

Photo 17: North entrance to Stockpile 3 bermed with biosocks (facing northeast).

Photo 18: View of the north end of Stockpile 3 (facing north).

Photo 19: Another overview of Stockpile 3 from north end (facing southwest).

Photo 20: View of stabilized ingress/egress to Stockpile 3 (facing northwest). KBPH Shed is in the background.

Stockpile 4: The vegetation growth around the base perimeter of Stockpile 4 continued to stay thick and tall (Photos 21 and 22), if not less. The thick vegetative growth provides effective erosion control and protects the bio-socks from the elements. The small size of this stockpile combined with the vegetation growth and lack of any evidence of erosion precludes the need to re-apply chemical stabilization to this stockpile at this time.

Photo 21: Heavy vegetation growth around north side of Stockpile 4 (facing southwest).

Photo 22: Heavy vegetation along west side of Stockpile 4 (facing southeast).

Removal of Stockpiles 2A, 2B, 2C, 3 & 4. As documented in 2019 ACR, Harbors terminated the Department of Hawaiian Home Lands (DHHL) Right-of-Entry (ROE) due to inactivity in 2017. Feasibility of re-purposing the dredged material at Stockpiles 3 & 4 – as well as Stockpiles 2A, 2B & 2C - in support of the development of KBPH in accordance with its 2040 master plan, is still underway. Removal of Stockpiles 3 & 4 is essential as their current locations will impede the development of the eastern side of KBPH.

Stockpile 5: Stockpile 5 was merely covered by sparse vegetation (Photos 23 to 32), and again found to have signs of runoff erosion (Photos 24 and 30) and possibly wind erosion as well. This Stockpile is abutted with thick vegetation on both west and east sides. The sediment from storm water erosion is contained in a downstream drainage/retention basin (Photo 32) with considerable vegetative growth and quite far from the ocean - thus minimizing the risk of the stockpile material reaching nearby waterways and the ocean. At the time of inspection, breezy to moderate eastern windy condition about 10 to 20 miles per hours persisted. No airborne-dust condition was observed on-site. Therefore, chemical stabilization reapplication at Stockpile 5 are not recommended. However, when airborne-dust becomes a concern in the near future, topsoil stabilization should be implemented.

Photo 23: View of entrance to Stockpile 5 from Malakole Street, blocked by large-size boulders (facing east-northeast).

Photo 24: Overview of deteriorated entrance to Stockpile 5, covered by sparse vegetation (facing east).

Photo 25: Continued view of entrance to Stockpile 5, both sides covered by thick vegetation (facing east).

Photo 26: Another continued view routing to Stockpile 5 (facing east).

Photo 27: Dump truck observed coming from northeast direction (south end of Grace Pacific HMA Plant).

Photo 28: Overview of Stockpile 5, with truck-driving route in the front (facing northeast).

Photo 29: Another overview of Stockpile 5, covered with sparse vegetation (facing north).

Photo 30: View of eroded section (facing northeast).

Photo 31: View of the north portion of Stockpile 5, covered with sparse vegetation (facing northeast).

Photo 32: View of the open trench running along Stockpile 5 on the east (facing east-northeast).

Summary & Recommendations: It appears that the rain precipitation at Kalaeloa Barbers Point Harbor during 2021 sustained vegetative growth on and around former Stockpile 1 area, and Stockpiles 2A, 2B, 2C, 3 & 4 and continued to stabilize the stockpiles, in conjunction with existing BMPs (concrete pile butts and bio-socks), provide adequate wind and soil erosion protection. This sustaining vegetation growth largely eliminates the need for re-application of

chemical or other stabilizing agents at majority of the stockpiles. The vegetation has also served to prolong the life of most of the bio-socks by limiting their exposure to the elements.

Top-soil stabilization at Stockpile 5 may be considered. Re-purposing of the remaining Stockpile 2A material as well as those from other KBPH stockpiles is still underway for potential use by Harbors and other local community development projects.