US Army Corps of Engineers Regulatory Program Requirements

Veterans Drive (Route 30) Phase II from West of Kronprindsens Taver Gade to West of Hospital Gade (Phase 2), Charlotte Amalie, St. Thomas, U.S. Virgin Islands

1.1 Applicant: The Government of the Virgin Islands Department of Public Works
Derek Gabriel
Commissioner
8244 Sub Base
St. Thomas, US Virgin Islands 00802

1.2 Location and Affected Waterway: The U.S. Virgin Islands Department of Public Works (DPW) is proposing to make improvements to Veterans Drive (Route 30) Veterans Drive (Route 30) from west of Kronprindsens Taver Gade to west of Hospital Gade (Phase 2., Charlotte Amalie, St. Thomas, U.S. Virgin Islands. This is Phase II of the Veterans Drive Project.

The proposed project will be constructed in two phases:

- Phase I which has been completed which limits were Long Bay Road/W.G. Lewis Lane/Lovers Lane (Route 314) to west of Hospital Gade,
- Phase II limits are from Kronprindsens Tvaer Gade (Windward Passage Hotel) to Hospital Gade, an approximate distance of 0.92 miles.

The project is located along the shoreline of Charlotte Amalie Harbor in St. Thomas, US Virgin Islands.

Approximate Central Coordinates: The approximate central project coordinates fof Phase II are:

Latitude: 18.339678°N
Longitude: -64.933965°W

1.3 Existing conditions: Veterans Drive is the major east-west arterial in St. Thomas and plays an important role in connecting the eastern and western sections of the island, as an evacuation route and for emergency response vehicles. The roadway is the main access into Charlotte Amalie from the southern coastline of St. Thomas and is the primary route between the cruise ship port and the main shopping district.

Phase I of Veterans Drive has been completed from Long Bay Road/W.G. Lewis Lane/Lovers Lane (Route 314) to west of west of Hospital Gade and the roadway is now 4 lane to this point where it constricts to 2 lanes around the Virgin Islands Legislature.

Veterans Drive is currently a four-lane undivided roadway from the western end of the project at Windward Passage to Tolbod Gade (west of the VI Legislature). The existing lane-widths west of the legislature are substandard on this major roadway connecting the eastern and western end of the island of St. Thomas. The facility currently lies adjacent to an aging and deteriorating bulkhead used as a pedestrian pathway and landing facility for ferries and private boats.

The roadway currently has several deficiencies including inadequate current and future capacity; unsafe vehicular driving conditions; and a lack of a continuous pedestrian connection. It is also one of the most highly traveled roadways in the territory.

The area offshore of the bulkhead, Charlotte Amalie Harbor, has been an active marine port since historic times. The marine environment has been highly impacted by man's use. The western half of the project area has been heavily scoured by the use of the bulkhead by ferries, tenders and motor vessels. There is limited benthic colonization within the western portion of the project area.

1.3.1 Project History: Several studies to mitigate traffic congestion on St. Thomas have been undertaken since the late 1960s. A 1973 study outlined a proposed Capital Improvements Program for the U.S. Virgin Islands, and a 1975 Draft Environmental Impact Statement (EIS) called for highway improvements on Veterans Drive (Route 30) within the present-day study area. After some delays, a supplemental Draft EIS was completed and circulated in 1982, and a Final EIS was released in 1984.

In 1997, the FHWA requested a re-evaluation of the 1984 FEIS on grounds that the project would require too much fill, a concern that generated a negative reaction from the public. In response to this request, an Environmental Assessment (EA) was completed and approved for "Plan 8," an alternative developed for Section 2 (the area between Tolbod Gade and Long Bay Road) required 5.78 acres of fill - significantly less than the original 1984 plan. The 1997 Re-evaluation was approved after the project was modified to reduce the deepwater habitat impact in the St. Thomas Harbor.

An EA was prepared and approved as part of the 1997 Re-evaluation for Section 2 of Veterans Drive (Route 30).

The Veterans Drive Expansion went through a period of extended dormancy from a public workshop held in May 1999, which was sponsored by the Government of the Virgin Islands and the St. Thomas/St. John Chamber of Commerce, to when the project was restarted by the Government of the Virgin Islands in 2006. The 1999 public workshop resulted in the formation of a Blue-Ribbon Commission to make recommendations as to how to modify the roadway as designed. After the project was restarted, a public workshop was held in April 2009 to revisit the roadway as it went around the Legislature's Peninsula.

The Department of Public Works held numerous public presentations between 2007 and 2012 on the status and design of the Veterans Drive Expansion. The groups presented to include: Upstreet Inc., V.I. Taxi Association, St. Thomas/St. John Historic Preservation Commission, Charlotte Amalie Downtown Revitalization Initiative, St. Thomas/St. John Chamber of Commerce and the St. Thomas Historical Trust. Another public workshop was sponsored by the St. Thomas/St. John Chamber of Commerce in 2009 where the Department of Public Works also presented an update on the Veterans Drive Expansion.

In December 2010, DPW in conjunction with Department of Planning and Natural Resources (DPNR) sponsored public forums related to the development of "The Town's Blueprint," a form-based code for Charlotte Amalie. Public input was sought from a diverse section of the population of St. Thomas, which resulted in further improvements in the alignment of the Veterans Drive Expansion. The design as it stands today represents a culmination of the input from the public in these many forums over the past 15 years.

On August 27, 2013, DPW officials and members of the consulting team met informally with representatives of National Marine Fisheries (NMFS) and discussed measures to reduce impacts on the marine environment. The final design presented incorporated steps to avoid, minimize and mitigate environmental impacts. SAJ-1996-01450 was issued on July 27, 2017.

The project was divided in two segments (described in Section 1.2) to facilitate the allocation of the construction funds.

Phase I of the project was completed in July of 2021.

1.4 Work Proposed: The USVI through the Department of Public Works is proposing to complete Phase II of the previously approved project which includes the widening and revitalization of Veterans Drive to provide a tree-lined four-lane divided road with a waterfront pedestrian promenade that simultaneously addresses Charlotte Amalie's congestion problems and create a signature pedestrian friendly environment. The remaining work will cover a total area of 0.92 miles.

Phase II of Veterans Drive is currently a 4-lane roadway with no median. The proposed Veterans Drive is a 4-lane roadway divided by an 11-foot-wide raised median. Additionally, in order to enhance the aesthetics of the roadway, a four (4) foot landscaped buffer along with a twenty-six (26) foot promenade will be developed. The proposed promenade width between Palm Passage and Tolbod Gade varies from 30 foot to 50 foot to allocate space for a double tree row. Because of the limited upland area available to construct the project, the proposed improvement will be accomplished by placing a new seawall resulting in the placement of approximately 50 foot (average) wide section of fill into the harbor. The majority of the work will be performed from the harbor. The barge access route has been designed to avoid the cruise ship mooring area, and to the greatest extent possible, private moorings within the bay.

The total project required the dredging of 39,252 cubic yards from the bottom of Charlotte Amelie Harbor and 8.57 acres of fill. The total project results in the impact of 4.45 acres of mud bottom, 1.15 acres of seagrass beds, and 2.97 acres of coral colonized hard bottom in the Charlotte Amalie Harbor including 1.97 acres of impact to critical habitat of acropoid corals. The mitigation for these resources has been completed. The compensatory mitigation for unavoidable impacts has been completed and has a final year of monitoring to complete. Phase I has been completed and Phase II requires 22,008cy of dredging to allow for placement of wall sections and 54,577cy of fill.

1.5 Avoidance and Minimization Statement: The project footprint was reduced through the removal of riprap to avoid impacts to aquatic resources. In order to minimize the impact to the marine environment and critical habitats from roadway improvements proposed along Veterans Drive (Route 30) a transplant mitigation plan was proposed and has been implemented. Corals, seagrass and boulders within the area of impact (which extends beyond the direct impact footprint) were transplanted prior to construction of Phase I. Improvements to drainage structures along the waterfront were made in Phase I and will be made in Phase II to improve water quality of runoff into the Charlotte Amalie Harbor. Mooring and informational buoys were installed to protect the transplant areas and to protect existing seagrass and corals. Information signage will also be placed along the waterfront promenade to educate residents and tourists alike on the importance of our marine resources. National Marine Fisheries' (NMFS) guidelines for marine construction and marine vessels movements were followed in Phase I and are being incorporated in the construction plans for Phase II. NMFS guidelines for pile driving will be followed.

1.6 Compensatory Mitigation: As part of a compensatory mitigation plan for impacts that cannot be avoided, improvements to drainage structures along the waterfront were made in Phase I and will be made in Phase II to help improve water quality of runoff into the bay. Mooring and informational buoys will be installed to protect the coral and seagrass transplant areas and to protect existing seagrass and corals within those areas. The buoys have been lost during the passage of hurricanes (helix anchors are still in place) and will be replaced at the time of installation of the Triangle Reef buoys. Information signage will be placed along the waterfront promenade to educate residents and tourists alike on the importance of our marine resources. A two-acre restoration project was undertaken that repaired existing vessel strike damage on Triangle Reef. Scattered broken corals were re-attached to the substrate. Buoys will also be installed following completion of monitoring to help prevent future impacts to this habitat. The compensatory mitigation is in its 5th year of monitoring. The final monitoring will occur in 2024. A cleanup of 1500sq.ft. of debris from an area of 0.3 acres of seagrass bed was undertaken to allow for recolonization as compensation for unavoidable impacts from spudding and for impacts resulting from the relocation of moorings.

1.7 Purpose and Need:

1.7.1 Basic project purpose: Roadway improvements. This is a land-based transportation project.

1.7.2 Water-dependency determination: The proposed project is not water dependent.

1.7.3 Overall project purpose: Improve traffic, safety and pedestrian access conditions at Veterans Drive (Route 30), along the waterfront of Charlotte Amalie, St. Thomas, Virgin Islands.

1.7.4 Additional Information Provided by the Applicant: The applicant's stated project purpose is to improve the overall flow of traffic in the corridor while creating a signature pedestrian friendly environment. The proposed improvements to the facility are needed to: 1.) alleviate existing traffic congestion, 2.) provide additional capacity, 3.) improve safety and mobility for motorists and pedestrians, and 4.) enhance the aesthetics of the waterfront. The project goal is to improve the overall flow of traffic in the corridor while creating a signature pedestrian friendly environment. The intent is to upgrade Veterans Drive to current highway design standards to provide additional traffic capacity. Motorist and pedestrian safety and mobility will be improved by increasing lane widths, providing for a median to separate the flows of traffic, and by providing a continuous sidewalk on both sides of the roadway for the length of the project. The promenade and lookouts will provide active and passive recreation opportunities. Another goal is to improve public safety and emergency services response time.

The Phase I Waterfront is heavily used by pedestrians, and for active and passive recreation.

2.0 Authority

The project is subject to U.S. Army Corps of Engineers (USACE) regulation under Section 10 of the Rivers and Harbors Act since it will involve require work in navigable waters. The project is also subject to USACE regulation under Section 404 of Clean Water Act since it will require discharges of fill material in waters of the U.S.

3.0 Scope of Analysis: *The Scope of Analysis listed in this section represents the scope of the final project description.*

3.1 National Environmental Policy Act (NEPA): Scope determination for NEPA review is found at 33 CFR 325, Appendix B, Paragraph 7.b. The following factors are considered in determining whether sufficient federal "control and responsibility" exists:

3.1.1 Factors:

a. Whether or not the regulated activity comprises "merely a link" in a corridor type project – Rationale: The proposed project is not part of a larger, corridor type project and does not provide or serve as a connection or link to other projects.

b. Whether there are aspects of the upland facility in the immediate vicinity of the regulated activity that affect the location and configuration of the regulated activity – Rationale: The historic town of Charlotte Amalie lies immediately north of the existing roadway prohibiting the road from being widened inland.

c. The extent to which the entire project will be within USACE jurisdiction – Rationale: Approximately 50% of the new roadway will be placed within waters of the U.S., the project also encompasses uplands along the existing Veteran's Drive and apron.

d. The extent of cumulative Federal control and responsibility – Rationale: The footprint of the proposed project includes areas that are within waters of the United States and is under Federal control and responsibility because it is subject to USACE regulatory jurisdiction pursuant to Section 10 of the RHA and Section 404 of the CWA. Direct, indirect and cumulative physical water-related impacts caused by the proposed project to marine habitats on the bottom of Charlotte Amalie Harbor outside of the project footprint would need to be evaluated by the USACE to reach a final decision on the permit application. The marine bottom of Charlotte Amalie Harbor supports ESA listed corals and fish species and seagrass beds, which provide foraging habitat to sea turtles protected under the Endangered Species Act (ESA). The Federal Highway Authority (FHWA) was required to engage in Section 7 of the ESA consultation with the National Marine Fisheries Service (NMFS) to address potential direct and indirect impacts of the project to the ESA listed corals and sea turtles foraging in Charlotte Amalie Harbor. Therefore, the marine bottom of Charlotte Amalie Harbor is also under Federal control and responsibility. A significant amount of earthwork is proposed immediately adjacent to Charlotte Amalie Harbor which will create the potential for sedimentation and erosion which could adversely impact the marine environment. In addition, historic buildings and structures are in uplands within and immediately adjacent to the project corridor. The FHWA was required to engage in Section 106 of the National Historic Preservation Act consultation with the Virgin Islands State Historic Preservation Office to address potential impacts to those historic resources. Therefore, the upland portion of the project and its immediately adjacent uplands are also subject to Federal control and responsibility.

3.1.2 Determination of scope Based on an examination of NEPA (33 CFR Part 325, Appendix B) and applicable program guidance (e.g. Council on Environmental Quality's (CEQ) *Considering Cumulative Effects Under National Environmental Policy Act and the Standard Operating Procedures for the U.S. Army Corps of Engineers Regulatory Program, July 2009*), the USACE has determined that the appropriate scope for this project is: explained below
Explanation: The entire proposed project corridor (including waters of the United States and uplands), its immediately adjacent upland areas, and the marine bottom of Charlotte Amalie Harbor.

3.2 National Historic Preservation Act (NHPA) "Permit Area" The NHPA scope is defined as "permit area". The permit area for an undertaking is defined in 33 CFR 325, Appendix C. The following three (3) tests must all be satisfied for an activity undertaken outside of waters of the United States to be included within the "permit area".

3.2.1 Tests (check all that apply):

☒ a. The activity outside of waters of the United States would not occur but for the authorization of the work or structures within waters of the United States.

Explanation: The proposed project corridor includes both aquatic areas (waters of the U.S.) and uplands. The improvements to the existing upland areas would not be undertaken without the expansion of the project into the harbor.

☒ b. The activity outside waters of the United States is integrally related to the proposed work or structures within waters of the United States (or, conversely, the proposed work or structures within waters of the United States must be essential to the completeness of the overall project or program).
Explanation: There is insufficient area to create the width of the roadway and the promenade without extending the project into waters of the U. S. In order to accomplish the proposed goal both the existing roadway and apron and the near shore waters must be developed.

☒ c. The activity outside waters of the United States is directly associated (first order impact) with the proposed work or structures within waters of the United States.
Explanation: The development of both the existing roadway and the proposed fill area in the waters of the U.S. is necessary to create the roadway and promenade.

3.2.2 Scope Determination: Activities outside waters of the United States are included because all of the above tests apply to this project.

3.2.3 NHPA Scope Summary and Description: The entire proposed project corridor, including waters of the United States and uplands, and its immediately adjacent upland areas.

3.3 Endangered Species Act (ESA) "Action Area": – The ESA scope is defined as “action area”. The action area means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action; and, is defined in for an undertaking is defined in 50 CFR 402.02, Definitions.

3.3.1 Determined Scope: The entire proposed project corridor (including waters of the United States and uplands), its immediately adjacent upland areas, and the marine bottom of Charlotte Amalie Harbor.

4.0 Public Involvement:

An extensive public involvement program was developed by the Department of Public Works for this project to present the changes from the original plan to the public. The changes were well received by the public at large and the various agencies and stakeholders in the community. Summaries of the meetings are included in Appendix 3 of the Environmental Assessment prepared by FHWA for the project.

The Veterans Drive Expansion went through a period of extended dormancy from a public workshop held in May 1999 that was sponsored by the Government of the Virgin Islands and the St. Thomas/St. John Chamber of Commerce to when the project was restarted by the Government of the Virgin Islands in 2006. The 1999 public workshop resulted in the formation of a Blue-Ribbon Commission to make recommendations as to how to modify the roadway as designed. After the project was restarted, a public

workshop was held in April 2009 to revisit the roadway as it went around the Legislature's Peninsula.

The Department of Public Works held many public meetings between 2007 and 2012 on the status and design of the Veterans Drive Expansion. The groups presented to include: We From Upstreet Inc., V.I. Taxi Association, St. Thomas/St. John Historic Preservation Commission, Charlotte Amalie Downtown Revitalization Initiative, St. Thomas/St. John Chamber of Commerce and the St. Thomas Historical Trust. Another public workshop was sponsored by the St. Thomas/St. John Chamber of Commerce in 2009 where the Department of Public Works also presented an update on the Veterans Drive Expansion.

In December 2010, DPW in conjunction with DPNR sponsored public forums related to the development of "The Town's Blueprint," a form-based code for Charlotte Amalie. Public input was sought from a diverse section of the population of St. Thomas, which resulted in further improvements in the alignment of the Veterans Drive Expansion. The design represents a culmination of the input from the public in these many forums over 15 years.

Public hearings for this project were held by DPNR Coastal Zone Management in November and December 2012 (Phase I) and July 15 and September 2014 (Phase II). Town Hall meetings were also held in July and November 2013.

On March 8, 2017, DPW issued a notice of availability of the 2017 Environmental Assessment Report on the Virgin Islands Daily News. Additionally, on March 13, 2017 DPW sent electronic mail correspondence to all federal agencies, local agencies and private stakeholders with a notice of availability of the 2017 Environmental Assessment Report. No comments were received during the 30-day public comment period.

5.0 Alternative Analysis

Numerous alternatives have been considered over the last 30 years as the project has been refined to the final proposed selected alternative. In the 1984 Environmental Impact Statement nine alternative layouts were evaluated prior to the selection of an alternative which involved the filling of 20 acres of harbor. In the 1986 Environmental Assessment the selected alternative was re-evaluated, and three alternatives were considered which reduced the amount of fill within the harbor. The project was further re-evaluated and redesigned to address impacts in the 1997 Re-Evaluation and reduce the fill to 7.21 acres. In 2010 and Environmental Studies Report was approved in response to the State Historic Preservation Office's request to preserve the original shoreline at the promontory of the legislature building. The resulting approved alternative under this study consisted of a bridge option along the promontory. In 2012 and 2014 the project was re-evaluated further with a roadway on fill option and riprap option, respectively. The 2012 and 2014 alternatives addressed the public's aesthetic concerns, the requirements of the State Historic Preservation Office and the ESA listing of several coral species which occur in the project footprint and vicinity. The 2012 roadway on fill alternative is similar to the 1997 Re-Evaluation selected alternative, with the exception of a water feature at the southwest corner of the promontory. The 2014

option included riprap and increased the harbor's impacted area to 9.75 acres in an effort to preserve the historic shoreline of the promontory as requested by the State Historic Preservation Office and stakeholders. The 2017 alternative further reduced impacts by replacing the riprap with a quay wall, thereby decreasing the harbor impact to 8.57 acres. A detailed discussion of the alternative analysis is provided in the FHWA Environmental Assessment in Section 3.00 Alternatives Considered.

6.0 Evaluation of the 404(b)(1) Guidelines:

During the dredging of the unsuitable material from the project footprint the return water from the dredge spoils will have the potential to impact marine water quality.

The fill to be used in this project is to be clean material that will contain no contaminants. If used, gravel or crushed stone backfill will be clean and free of organic material, debris, and other deleterious substances. The placement of the fill behind the seawall will have the potential to impact marine water quality.

6.1 Potential effects on physical and chemical characteristics of the aquatic ecosystem

6.1.1 The project will have a Major (Significant) Effect on the Substrate. The total proposed improvements required 8.57 acres of fill in the marine environment which included filling 4.45 acres of mud bottom, 1.15 acres of seagrass, and 2.97 acres of exposed rock outcroppings, rock boulders and cobble. Phase I filled 2 acres and Phase II will fill the final 6.57 acres. Mitigation has already been completed for the impact to resources within the entire footprint.

6.1.2 The project will have a Minor Short Term Effect on Suspended Particulates and Turbidity: The project involves marine work which includes dredging and filling the seabed. Any time marine work is undertaken, there is a significant potential for the re-suspension of bottom sediments, especially in a situation such as the shallow muddy harbor.

Unsuitable material will be dredged from the seafloor. Return water from the dredge spoils will be turbid. Two layers of turbidity barriers will be placed around the point of discharge from the barge. A seawall will be constructed and then fill will be placed behind the seawall. The turbid displaced water will slowly be discharged through a defined point into the harbor. Proper length turbidity barriers (1ft from sea floor) will be installed to enclose all areas where sediments may be re-suspended and where de-watering activities will occur. The protected nature of the project area will facilitate the enclosure of the work area and the containment of turbid water. A water quality monitoring plan will monitor the project throughout all marine work and will monitor the control features as well as the turbidity of the surrounding area. During Phase I the monitoring was very successful in work with the contractor to maintain water quality.

Measures will be taken during upland construction of the project to control sedimentation and erosion. The runoff from the proposed project will be directed into the same conduits as the sediment-laden stormwater runoff from the inland areas directed via culverts and guts that cross the proposed project. Measures will be taken to control and mitigate erosion from the construction site. A water quality monitoring program will

be instituted which will involve not only daily monitoring of water quality, but also monitoring of the erosion control devices.

It will be difficult to differentiate between the turbidity caused by general erosion from upland areas and turbidity caused by the proposed project construction activities. As part of the mitigation for this project, improvements to the drainage and runoff treatment from upland areas are proposed. The Water Quality Monitoring Plan is attached.

Barges will be used to excavate, fill and construct the quay wall. Barges will follow a designated route and impacts due to spudding the barges will be monitored and impacts mitigated through the filling of holes and re-rooting seagrass where possible. Turbidity barriers of proper length will be deployed around all areas of in-water work and around all areas of de-watering. A water quality monitoring plan will monitor the devices as well as the water quality. When deficiencies are noted or turbidities rise, control devices will be repaired, replaced or better measures implemented. Excavation spoils will be de-watered on the barge and will then be transferred to the shore where they will be carried to the disposal site at the landfill to be used as cover. If spoils must be stored for any length of time they will be surrounded by silt fencing.

6.1.3 The project will have a Minor Effect (short term) on Water Quality: Water quality within the harbor is currently relatively poor, and the bottom is primarily fine silt mixed with grey sand and is easily re-suspended. Cruise ship traffic, terrestrial runoff and previous dredging activities have resulted in reduced clarity of the surrounding waters. According to the EPA, the total Maximum Daily Load (TMDL) updated in September of 2010 identifies three criteria of concern in the harbor. These are low dissolved oxygen, fecal coliform, and enterococci bacteria.

Water quality was excellent in the 1960s as reported by long term residents, many who once lived in the harbor on vessels. But the quality degraded significantly in the 1970s. A 1973 EPA report stated that nearly 3 million gallons of raw sewage are discharged into the harbor daily. Since that time, improvements made to the sewage collection and treatment systems has discontinued sewage discharges into the harbor.

Two sediment samples were taken along the route of the Veterans Drive Improvements to assess potential impacts of excavation within the area to remove poor quality sediments before filling. The locations of sampling were those areas most likely to be impacted by upland runoff.

Samples were analyzed for heavy metals, mercury, pesticides, PAH, hydrocarbons and PCBs. Elutriate testing was also done to access the potential impacts of suspending the soils in the water column during excavation.

The results of the sediment analysis can be compared against NOAA's Sediment Quality Guidelines. NOAA has established Effects Ranges where adverse effects were identified. From the ascending data tables, the 10th percentile and the 50th percentile (median) of the effects database were identified for each contaminant. The 10th percentile values were named the "Effects Range-Low" (ERL), indicative of concentrations below which adverse effects rarely occur. The 50th percentiles were

named the “Effects Range-Median” (ERM) values, representative of concentrations above which effects frequently occur.

No hydrocarbons were detected in either soil sample. Both samples had extremely high Aluminum levels at 6800mg/kg and 7000mg/kg for station 1 and 2, respectively. But only 21ppb was released into the water column during the elutriate test for Station 1 and no aluminum was released into the water column at station 2. This was not surprising based on the number of aluminum cans that are present in both areas. Aluminum is not listed on the Effects range tables. Copper was higher than the ERL of 34ppm for both samples but well under the ERM of 270ppm at 45mg/kg (ppm) and 50mg/kg(pp) for stations 1 and 2, respectively. Zinc was right at the ERL of 150ppm for station 1 and only slightly above it at 170ppm at station 2. The ERM for zinc is 410ppm. PCBs were not detected in either sample.

The excavation of the material and its disposal in an appropriate upland area should have a negligible impact on water quality and the environment.

The fill material will only be clean fill and should not introduce nutrients or contaminants into the marine environment.

During the Covid pandemic when cruise ship traffic and vessel mooring in the harbor decreased there was an overall improvement in water quality.

6.1.4 The project should have a negligible impact on Current Patterns & Water Circulation: The expansion of the front should not result in a change in water flow through Charlotte Amalie Harbor due to the openness of the harbor and the limited tidal range in the Virgin Islands. The fill will be placed uniformly along the waterfront creating no obstructions or changes in the existing shoreline configuration.

6.1.5 The project should have a negligible impact on Normal Water Fluctuations. The proposed fill will have a negligible impact on tidal flows in and out of the harbor. The fill will be placed uniformly along the shoreline and will not result in any constrictions of water flow. The harbor is open and the changes in the shoreline will not affect the normal tidal water fluctuation.

6.1.6 The project will have no impact on Salinity Gradients: The project does not have any components that affect salinity and therefore do not affect salinity gradients.

6.2 Potential effects on biological characteristics of the aquatic ecosystem:

6.2.1 Threatened or Endangered Species:

The National Marine Fisheries Service (NMFS) has concluded that the proposed Veterans Drive Improvements project will have no effect on leatherback sea turtles; and is not likely to adversely affect green, loggerhead, and hawksbill sea turtles; elkhorn, staghorn, boulder star, mountainous star and rough cactus corals; and elkhorn and staghorn coral critical habitat. NMFS also concluded that the project is likely to adversely affect but not likely to jeopardize the continued existence of lobed star and pillar corals. Lastly, NMFS concluded that the project is not likely to affect the Nassau

grouper. A copy of the Biological Opinion (BO) prepared by NMFS is included in this project Environmental Assessment as Attachment O. Since the BO the Giant Manta has been listed and the Queen Conch is proposed for listing and critical habitat for the five non-acropoid corals and Nassau Grouper has been designated. The project will have no effect on Giant Mantas which occur offshore, or Queen Conch which do not occur along the existing bulkhead. The project area is not within Nassau Grouper critical habitat (see updated BA).

The Fish and Wildlife Service in their February 10, 2014, correspondence (see Attachment C(q)) stated that they have provided technical assistance regarding the project proposal since 1995 and that Section 7 consultation under ESA was concluded for species under their jurisdiction and no additional adverse effects to these species are anticipated.

6.2.1.1 Sea Turtles - Hawksbill (*Eretmochelys imbricata*), Leatherbacks *(Dermochelys coriacea)* and Green turtles (*Chelonia mydas*): Leatherback sea turtles are an offshore species that are rarely observed close to shore except during their nesting season. According to NMFS Biological Opinion, no leatherback nesting habitat is present in Charlotte Amalie Harbor, and there have been no reported sightings of this species in the harbor. Therefore, leatherbacks are not expected to be present in the action area, and the project is not expected to result in any effects on leatherback sea turtles. On the other hand, Green and hawksbill sea turtles are reported in the action area. According to NMFS Biological Opinion, recent dredging projects in Charlotte Amalie Harbor have reported various sightings per day for both species. Based on the sightings information from other recent construction projects in Charlotte Amalie Harbor, sea turtles are not common close to shore but rather are more commonly found in waters around Hassel Island, Water Island, and the entrances to the harbor. The proposed project may affect, but is not likely to adversely affect Green and Hawksbill sea turtles.

The potential adverse effects that the proposed project could have on Green and Hawskbill sea turtles would be related to impacts due to injuries and collisions from in-water equipment and vessel traffic and impacts to turtle foraging habitat both directly and through water quality impacts, and potential impacts to turtles due to the ensonification of the area during the driving of piles. There is also the potential that turtles may become entangled in the turbidity and noise control curtains. Special precautions would be used to minimize these potential impacts. Coral and Seagrass Transplants, Water Quality Control and Monitoring and Acoustic Impact Mitigation are proposed.

Mitigation efforts have been proposed to minimize and abate impacts to sea turtles and their foraging habitat. The project will be constructed in strict observance of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, as well as NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners*. The implementation of the construction conditions will provide protection to sea turtles by requiring temporary work stoppages to protect any sea turtles sighted within 50 ft of the in-water work footprint. The avoidance measures will require all vessels to operate at low speeds, have sea turtle and marine mammal observers, and maintain safe distances from sea turtles.

NMFS has also determined that installation of metal sheet piles by vibratory hammer will not result in any form of physical injurious noise effects and that the potential for adverse noise behavioral effects would be insignificant. On the other hand, if impact hammer use is determined to be necessary, prior to using this technique, the contractor will be required to coordinate with NMFS to determine whether additional mitigation measures are needed. The design does not include the use of an impact hammer.

6.2.1.2 Elkhorn coral, Staghorn, Rough Cactus, Boulder Star, and Mountainous Star Corals

FHWA and DPW consultants surveyed various locations in Charlotte Amalie Harbor, including around Hassel Island and on reefs near the eastern channel harbor entrance for the Veterans Drive project to develop navigation routes and mitigation sites, and found elkhorn colonies at various locations. None of these elkhorn coral colonies are within the in-water work footprint of the project, or within the area to be included in the expanded roadway. The nearest elkhorn coral colonies are near Hassel Island, approximately 550 m from the westernmost end of the Veterans Drive project. No staghorn, rough cactus, boulder star, or mountainous star corals were observed during the benthic surveys conducted for this project. NMFS files for other projects in Charlotte Amalie Harbor confirmed the same information. However, these 4 coral species may be present around Hassel Island or in reefs near the harbor entrance outside of the surveyed areas. Phase II of the project is farther removed from these corals than Phase I which has been completed.

Acropora palmata occurs on Rupert's Rock which is located in Charlotte Amalie harbor about 0.69 miles to the south-southeast of the project area, on the southern shore of Hassel Island further to the south, and around Muhlenfels Point.

The proposed project will not directly impact any *Acropora* corals. The nearest elkhorn coral colonies are near Hassel Island, approximately 550 m from the westernmost end of the Veterans Drive project. Elkhorn coral colonies could be affected by the transit of work vessels to and from the in-water construction site if a work vessel was to ground on a shallow reef or colonized hard bottom area containing these corals. However due to measures proposed by the applicant, including limiting work to daytime and marking navigation routes, NMFS believes the potential for accidental groundings impacting elkhorn coral colonies highly unlikely and therefore the effect of vessel grounding is discountable. NMFS also believes that staghorn, rough cactus, boulder star, and mountainous star coral colonies do not have the potential to be impacted by accidental groundings associated with this project. Navigation routes were surveyed as part of benthic surveys conducted for the Veterans Drive project and these 4 species of corals were not observed. The project may result in impacts to elkhorn, staghorn, rough cactus, boulder star, and mountainous star corals that may be in the action area due to the transport of sediment and land-based pollutants from stormwater discharges outside the in-water work footprint. The use of turbidity barriers around the in-water work footprint is expected to minimize the transport of sediments outside the construction footprint. Contractors will also be required to implement a water quality monitoring plan. The plan is meant to ensure that the barriers are effective in minimizing the transport of sediments outside the in-water work footprint and that stormwater control measures are

effective in minimizing the transport of land-based pollutants to nearshore waters. These measures will protect ESA-listed elkhorn, staghorn, rough cactus, boulder star, and mountainous star corals that may be in the action area from the impacts of resuspended marine sediments and land-based sources of pollutants being transported to nearshore waters in the action area. Under the plan, DPW also will monitor the condition of seagrass and corals in the area adjacent to the in-water work footprint to ensure that sediment and stormwater control measures are effective in minimizing the transport of pollutants outside the construction area. Thus, NMFS believes that it is very unlikely that the transport of sediments and stormwater from the in-water and terrestrial work footprints will impact elkhorn, staghorn, rough cactus, boulder star, and mountainous star corals and therefore the effect of sediment and stormwater transport will be discountable.

The St. Thomas Harbor is one of the areas excluded from *Acropora* critical habitat [50 CFR 226.216(c)(3)(xi)]. Therefore, the hard bottom habitat that will be directly affected by the placement of fill for the roadway expansion in the St. Thomas Harbor is not elkhorn and staghorn coral critical habitat. It should also be noted that due to the elevated nutrients in the harbor, there is extremely dense algal cover on most hard substrates and the remaining hardbottom has very little surface area which is free of the thick algal mat.

NMFS believes it is unlikely that elkhorn and staghorn coral critical habitat outside the excluded area will be affected by transport of sediments from the in-water work footprint and stormwater from the upland demolition, construction site, and operation of the new roadway; therefore this effect will be discountable.

6.2.1.3 Lobed star coral (*Orbicella annularis*) *Orbicella annularis* are present within the project footprint on the rocky outcropping and boulders which extend around the Pump House and the U.S. Virgin Islands Legislature Building.

Prior to any in-water construction activities, The lobed star coral colonies were relocated outside of the in-water work footprint to a reef site off Hassel Island, which is within the VINP and managed by NPS. NMFS believed that 1 lobed star coral colony could suffer mortality due to the stress of relocation given the expected 10% mortality of transplanted corals based on information from recent projects. The additional the lobed star colonies that will be transplanted could suffer temporary effects from the stress of transplant such as partial tissue mortality, bleaching, or a lack of sexual reproduction within the first year following transplant. If lobed star coral recruits are present in the in-water work footprint and are too small to be observed during pre-construction surveys or too small to be transplanted, they could suffer mortality due to in-water construction activities. NMFS believed the effects of in-water construction on lobed star coral recruits are discountable due to the lack of evidence that lobed star coral colonies in the in-water work footprint are generating recruits. Temporary impacts to corals that are not observed during pre-construction surveys could also occur due to barge spudding, anchoring of turbidity barriers, and the installation of temporary marker buoys. Lobed star corals could also be affected by accidental grounding of work vessels transiting in the action area. NMFS believed the potential effects of spudding and anchoring of barriers and buoys will be discountable because the locations for spudding and

anchoring of turbidity barriers and temporary marker buoys will be determined by divers to avoid ESA-listed corals and other benthic resources. NMFS believes the potential effects of accidental groundings will be discountable because navigation routes will be marked prior to any in-water construction and work vessels will not operate at night and will anchor at Yacht Haven Grande when not in use. The project may result in impacts to additional lobed star coral colonies outside the in-water work footprint due to the transport of sediment from dredging and in-water fill placement and land-based pollutants from stormwater discharges during shoreline demolition, construction activities, and operation of the expanded roadway. NMFS believes these effects will be discountable because of the planned in-water and terrestrial pollutant and sediment controls and monitoring that will be required during construction and operation of the roadway. Phase II is located farther from existing lobbed star coral than Phase I.

In conclusion, NMFS has determined that the anticipated level of lethal (1 colony) and nonlethal incidental take (11 colonies) of lobed star corals, is not likely to jeopardize their continued existence. Only 6 viable *Obricella* were found prior to construction due to the passage of the hurricanes in 2017. The six corals which were transplanted did extremely well through the transplant but were affected by Stoney Coral Tissue Loss Disease (SCTLD) which devasted corals throughout the Caribbean. Despite the disease, although several of the corals have lost some tissue due to SCTLD, 6 lobed star corals are still viable within the transplant 5 years post relocation. During the transplant 3 *Orbicella* found at the transplant site which had been knocked loose by the storms were found and repaired. All three of those corals are still viable.

6.2.1.4 Pillar coral (*Dendrogyra cylindrus*) A *Dendrogyra cylindrus* is present within the project footprint on the rocky outcropping which extends around the U.S. Virgin Islands Legislature Building.

Dendrogyra cylindrus occur within the project footprint and in the immediate area. There is a single *Dendrogyra cylindrus* present within the project footprint and the area of potential impact. This coral colony was transplanted to an area well outside the impact footprint.

NMFS believed that 1 pillar coral colony could suffer mortality due to the stress of relocation given the expected 10% mortality of transplanted corals based on information from recent projects. The pillar coral colony that will be transplanted could suffer temporary effects from the stress of transplant such as partial tissue mortality, bleaching, or a lack of sexual reproduction within the first year following transplant. If pillar coral recruits are present in the in-water work footprint and are too small to be observed during pre-construction surveys or too small to be transplanted, they could suffer mortality due to in-water construction activities. NMFS believed the effects of in-water construction on pillar coral recruits are discountable due to the lack of evidence that the pillar coral colonies in the in-water work footprint are generating recruits. Temporary impacts to corals that are not observed during pre-construction surveys could also occur due to barge spudding, anchoring of turbidity barriers, and the installation of temporary marker buoys. Pillar corals could also be affected by accidental grounding of work vessels transiting in the action area. NMFS believed the potential effects of spudding and anchoring of barriers and buoys will be discountable because

the locations for spudding and anchoring of turbidity barriers and temporary marker buoys will be determined by divers to avoid ESA-listed corals and other benthic resources. Similarly, NMFS believed the potential effects of accidental groundings will be discountable because navigation routes will be marked prior to any in-water construction and work vessels will not operate at night and will anchor at Yacht Haven Grande when not in use. The project may result in impacts to additional pillar coral colonies outside the in-water work footprint due to the transport of sediment from dredging and in-water fill placement and land-based pollutants from stormwater discharges during shoreline demolition, construction activities, and operation of the expanded roadway. NMFS believed these effects will be discountable because of the planned in-water and terrestrial pollutant and sediment controls and monitoring that will be required during construction and operation of the roadway. NMFS has determined that the anticipated level of lethal take of 1 colony of pillar coral and temporary effects to 1 additional pillar coral colony is not likely to jeopardize the continued existence of the species.

The pillar coral was lost between the time of the project survey and start of the project due to hurricanes Irma and Maria in 2017.

6.2.1.5 Nassau Grouper (*Epinephelus striatus*) Nassau Groupers were seen in 2016 off the Pump House and off the Legislature within the rocky hardbottom areas.

The Nassau Groupers will most probably not be directly injured during the construction activities and will move to other areas of hardbottom when disturbance begins. Habitat for these fish in the harbor will however be lost. The transplant of the corals and the boulders will help minimize impact to this species. NMFS believes the effects of permanent impacts from project construction to seagrass and coral areas that may be used as habitat by juvenile Nassau grouper will be insignificant as will the temporary and permanent impacts to habitat associated with sediments from in-water construction and land-based contaminants from stormwater discharge during demolition, construction, and operation of the roadway expansion.

Critical habitat has recently been designated for the Nassau Grouper, the project areas is not within that footprint.

6.2.1.6 Giant Manta Ray (Manta birostris) A Giant manta ray was seen once in Great Bay, St. Thomas during surveys in 2000 and has been seen in 2021 in Brewers Bay, St. Thomas, and off the end of the Charlotte Amalie channel to the south. These are open water animals and are extremely unlikely to come along Veterans Drive bulkhead.

6.2.1.7 Queen Conch (Strombus gigas) The Queen Conch (*Strombus gigas (Alger gigas*) has been listed, Queen Conch were not seen in the area of Phase II and the Phase II footprint does not contain habitat typically utilized by Queen Conch.

6.2.1.8 Effects Determinations on ESA Species:

NMFS issued a Biological Opinion (BO) for the project on July 20, 2016. NFMS' BO is attached as Attachment O. Fish and Wildlife Services letter concluding consultation is attached as Attachment C(q).

Sea Turtles - Hawksbill (*Eretmochelys imbricata*), Leatherbacks (*Dermochelys coriacea*) and Green sea turtles (*Chelonia mydas*) NMFS concluded that the proposed action will have no effect on leatherback sea turtles (Dermochelys coriacea); and is not likely to adversely affect green (Chelonia mydas; South Atlantic distinct population segment), and hawksbill (Eretmochelys imbricata) sea turtles.

Elkhorn coral (*Acropora palmata*), Staghorn coral (Acropora cervicornis), Boulder star coral (*Orbicella franksi*), Mountainous star coral (Orbicella faveolata), Rough cactus coral (Mycetophyllia ferox) NMFS concluded that the proposed action is not likely to adversely affect elkhorn (Acropora palmata), staghorn (Acropora cervicornis), boulder star (Orbicella franksi), mountainous star (Orbicella faveolata), and rough cactus (Mycetophyllia ferox) corals; and elkhorn and staghorn coral critical habitat.

Lobed star coral (Orbicella annularis) and Pillar coral (*Dendrogyra cylindrus*)

NMFS has determined that the anticipated level of lethal (1 colony) and nonlethal incidental take (11 colonies) of lobed star corals (Orbicella annularis), is likely to adversely affect but is not likely to jeopardize the continued existence of this species. Exceeding the estimated take will trigger the need for re-initiation of ESA consultation with NMFS.

NMFS has determined that the anticipated level of lethal take of 1 colony of pillar coral and temporary effects to 1 additional pillar coral colony (Dendrogyra cylindrus) is likely to adversely affect but not likely to jeopardize the continued existence of the species. Exceeding the estimated take will trigger the need for re-initiation of ESA consultation with NMFS.

The hurricanes of 2017 had a tremendous impact on the island of St. Thomas. Only six *Orbicella faveolata* were still viable post hurricane in the project footprint and potential impact area and all were transplanted. The *Dendrogyra* within the project footprint was no longer viable.

Nassau Grouper (*Epinephelus striatus*) NMFS has determined that the proposed action is not likely to adversely affect the Nassau grouper (Epinephelus striatus).

Giant Manta Ray (Manta birostris) These are open water animals and are extremely unlikely to come along Veterans Drive bulkhead. The project should have No Effect on the Giant Manta.

Queen Conch (Strombus gigas) Queen Conch were not seen in the area of Phase II and the Phase II footprint does not contain habitat typically utilized by Queen Conch. Phase II should have No Effect on Queen Conch.

6.2.2 The project will have a Minor Effect (long term) on Fish, Crustaceans, Mollusks, and Other Aquatic Organisms. The project involves direct and indirect impacts to the marine environment and habitats which are habitat to fish and invertebrates. Phase II will directly effect 6.57 acres of submerged aquatic habitat. Phase I impacted total of 1.15 acres of seagrass, and 0.85 acres of coral colonized hard

bottom. All mitigation for both Phase I and II as well as the compensatory mitigation has been completed.

The seagrass and corals, which are essential fish habitat and forage habitat to sea turtles, were transplanted outside of the project area to help avoid impact. Corals and seagrass were transplanted out of the project footprint and also out of the anticipated impact footprint which is anticipated to extend 10 feet beyond the project footprint. If the additional seagrass was not transplanted, it would most likely be lost due to wave turbulence against the bulkhead.

Due to the in-water work (bulkhead placement, excavation, and filling) it is anticipated that there would some short-term water quality impacts. Stringent sedimentation and erosion control methods would be implemented and a water quality monitoring plan would be implemented during construction.

The barges will be staged during construction off of Yacht Haven Grande, which is located on the eastern end of the project area. The contractor would be allowed to moor or anchor the barges at this location at night or when they are not in use. The proposed mooring area is minimally colonized by algal species.

It is anticipated that the contractor would use spuds to keep the barge in place and would continue spudding down along the length of the project as needed. Spuds would directly impact the seagrass bed or hard bottom by their placement. A minimum of two spuds are needed to hold a barge in location, and depending on seas and conditions sometimes three or four spuds are utilized. Spud diameters typically range from 12 to 18 inches. A spud resembles a large pipe, and due to its weight penetrates the bottom several feet, destroying the benthic community within the footprint. Spuds need to be placed in sediment rather than in rock to hold well, so care would be taken with their placement and it is unlikely any spuds would be placed within the delineated hard bottom. However, there are scattered corals beyond the edge of the hard bottom and it is possible that one of these corals could be impacted by spud placement. Therefore, corals within this area were relocated as part of the Benthic Mitigation Program.

While the seagrass which is within the impact zone of wave turbulence were also transplanted reducing the seagrass within some of the spudding footprint, there would still be seagrass beds which fall within the barge spudding areas. It would not be practical to move all the seagrass from this area as the spuds would only be impacting a small fraction of that area. And seagrass transplant survival rate during previous dredging projects have shown losses of 15 to 20% prior to the seagrass becoming stabilized and spreading and the loss of transplanting the entire area would be far greater than the damage that will be done by scattered spud placement. Using large sod units, the literature reports 70 to 75% survival (Lewis et al.,19were 6; Balestri et al., 1998). The spuds would impact their footprint and depending on the movement of the barge in the waves a few inches surrounding the hole. The bay is well protected but wind chop is a common occurrence within the bay and could result in some slight movement of the barge and there will therefore result in an overall diameter of impact of 20 inches to 24 inches for each spud. The amount of spudding could not be accurately predicted, but as much as 0.01 acres (450 ft^2) of additional seagrass bed would be

impacted that was not be transplanted. If the entire area were relocated and there were only a 10% loss of seagrass during the transplant the loss would be over 5000 ft^2 far more than the 450 ft^2.

Weather permitting, it is recommended that the contractor keep the barge in place overnight as long as they are not going to be in place for more than two to three days. This could potentially avoid multiple spud impacts. During previous projects, while monitoring barge shading impacts (Lovango Cay Dock Construction), it was noted that corals did not show signs of stress (bleaching) until the barge had been in place more than seven days. If barges are allowed to stay in place for no more than three days, this potentially would not create a negative shading impact and could prevent multiple scars in seagrass which would occur with repeated spudding. There is minimal seagrass outside the footprint of most of Phase II so this impact should be negligible.

The bulkhead will be of precast quay block construction with the blocks stacked in place in the water. Therefore, no pile driving or dewatering is proposed during construction of the bulkhead. The process of building the bulkhead begins with excavating existing soils in the wet for the bulkhead leveling pad. Dewatering of the excavated soils will occur through a controlled discharge point surrounded by double sets of turbidity barriers. The excavated material will be removed and disposed of in an upland landfill. The fill material for the leveling pad will be #57 stone or gravel. This is a clean, open-graded and self-compacting aggregate averaging ¾ inches in size. Once the leveling pad is complete, the quay blocks will be placed on top of the pad and subsequently stacked on top of each other. As the blocks are stacked fill material will be placed behind the bulkhead. The fill material immediately behind the bulkhead will be imported drainage fill or #4 stone. This is a clean, open-graded and self-compacting aggregate ranging in size from ¾ inches to 2 inches. The void behind the drainage fill and up to the water level will be filled with clean gravel backfill that is self-compacting and with the following gradation:

Sieve Size	Percent Passing
1-1/2 inch	100
1 inch	95-100
½ inch	45-65
No. 4	5-15
No. 16	0-4

The void behind the drainage fill and above the water level will be filled with clean select granular backfill that will be vibro-compacted and will have the following gradation:

Sieve Size	Percent Passing
1 inch	100
No. 4	35-100
No. 40	15-70
No. 200	0-15

No. 16	0-4

All invertebrates encountered within the area of impact, conch, and starfish and if possible lobster and other small invertebrates were relocated as part of the relocation process. It is however probable that not all juveniles were found and relocated. Fish species will be able to leave the area as impacts occur and there are abundant seagrass beds and coral colonized hard bottoms to the south in the harbor to which they can relocate. Many of the smaller fish and invertebrates are inadvertently be transplanted as corals and seagrass are moved. During previous transplants, wrasses and damsels frequently followed corals into baskets and moved with the coral to the new site.

The project will result in the loss of essential fish habitat in the immediate area. Compensatory mitigation measures to protect other EFHs in the area and to educate the public on EFH were also implemented. The Compensatory Mitigation Plan was developed approved and implemented. The Compensatory Mitigation is in its 5th year of monitoring.

NMFS Habitat Conservation Division provided the Essential Fish Habitat Assessment for the Veterans Drive Improvements Project on February 6, 2015. NMFS HCD concluded that FHWA has largely addressed their information needs and EFH conservation recommendations. As FHWA and DPW finalize plans and prepare the USACE permit application, NMFS recommends:

- FHWA and DPW develop selection criteria for the fill material to ensure it has characteristics (e.g., grain size distribution) that minimize the potential for turbidity plumes once the material is placed in the water. This was implemented.

- FHWA and DPW include monitoring of the seagrass habitats work barges may impact by spudding to ensure both the temporary and permanent losses to seagrass habitat are fully mitigated. – Monitoring and mitigation of spudding impacts was made part of the monitoring and mitigation plans.

- FHWA and DPW identify Best Management Practices for the pile installation. – If piles are driven a vibratory hammer will be used if at all possible. An Acoustic Mitigation Plan has been developed and proposed in the event impact hammers are required.

- FHWA and DPW amend the coral and seagrass transplantation monitoring frequency as requested. – The monitoring frequency meets HCD request.

6.2.3 The project will have a Minor (short term) Effect on Other Wildlife: The project area is an urbanized waterfront and does not contain any forested areas which would serve as habitat to wildlife. There are some shorebirds which utilize the apron as a resting area while foraging in the harbor. These birds will continue to use the area once the project is complete. Fish and Wildlife has not identified any concerns in regard to other species in their letter concluding Section 7 consultation.

6.3 Potential Effects on Special Aquatic Sites:

6.3.1 The project will have No Effect on Sanctuaries and Refuges: There are no sanctuaries or refuges within the project area.

6.3.2 The project will have No Effect on Wetlands. The USACE defines wetlands as "those areas that are periodically inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, marshes and similar areas." (U.S. Army Corps of Engineers, 1986). There are no wetlands within the project area.

6.3.3 The project will have No Effect on Mud Flats: There are no mud flats within the project area.

6.3.4 The project will have a Minor (long term) Effect on Vegetated Shallows. Despite repeated disturbance and alterations over the years Charlotte Amalie Harbor still supports a diverse and abundant benthic community. While there are areas of un-colonized or minimally colonized course sand or silty muddy sand in the inner reaches of the harbor, there are also densely colonized seagrass beds and algal meadows. The project will be directly impacting 8.57 acres of submerged aquatic habitat. A total of 1.15 acres of seagrass was directed impacted. The seagrass was relocated.

The barges will be staged during construction off Yacht Haven Grande. The contractor will be allowed to moor or anchor the barges at night or when they are not in use in that area. The proposed mooring area is minimally colonized by algal species. It is anticipated that the contractor will use spuds to keep the barge in place and will continue spudding down along the length of the project as needed. Spuds will directly impact the seagrass bed or hard bottom by their placement. A minimum of two spuds are needed to hold a barge in location, and depending on seas and conditions sometimes 3 or 4 spuds are utilized. Spud diameters typically range from 12" to 18". A spud resembles a large pipe pile, and due to its weight penetrates the bottom several feet, destroying the benthic community within the footprint. Spuds need to be placed in sediment rather than in rock to hold well so care will be taken with their placement, and it is unlikely any spuds will be placed within the delineated hardbottom. However, there are scattered corals beyond the edge of the hard bottom, and it is possible that one of these corals could be impacted by spud placement. Therefore, corals within this area were relocated as part of the Benthic Mitigation program.

While the seagrass which is within the impact zone of wave turbulence will also be transplanted reducing the seagrass within the spudding footprint, there will still be seagrass beds which fall within the barge spudding areas. It would not be practical to move all the seagrass from this area as that the spuds will only be impacting a fraction of that area. The spuds will impact their footprint and depending on the movement of the barge in the waves a few inches surrounding the hole. The bay is well protected but wind chop is a common occurrence within the bay will result in some slight movement of the barge and there will an overall diameter of impact of 20" to 24". The number of spudding cannot be accurate predicted, but as much as 2% or 0.0064 acres (280sq.ft.) may be impacted.

Weather permitting, it is recommended that the contractor keep the barge in place overnight as long as they are not going to be in place for more than 2 to 3 days, this will avoid multiple spud impacts. During previous projects while monitoring barge shading impacts (Lovango Cay Dock Construction), it was noted that corals did not show signs of stress (bleaching) until the barge had been in place more than 7 days. If barges are allowed to stay in place for no more than 3 days this should not create a negative shading impact and should prevent multiple scars in seagrass which would occur with repeated spudding.

The project limits will be marked to minimize the potential for impacts outside the project area, and to prevent boaters from entering the project area.

Prior to any in-water construction, approximately 8 moored vessels within the in-water work footprint were relocated. The relocation fell under the responsibility of the Division of Environmental Enforcement of the DPNR, was informed of the need to relocate the vessels and will be responsible for ensuring these vessels are relocated. Due to the presence of extensive seagrass beds in the project area, it was possible that the relocation of these vessels would impact seagrass due to vessel anchoring. The potential additional impact was calculated to be 0.3 ac. To minimize impacts FHWA and DPW implemented the conservation measures recommended by NMFS HCD in their February 6, 2015 correspondence and in NMFS PRD Biological Opinion dated July 20, 2016.

6.3.5 The project will have a Minor (short-term) Effect on Coral Reefs: – The NOAA NOS Benthic Habitat Map Panel 10 shows Reef/Colonized Bedrock at the rocky points within the project area, the dense continuous seagrass beds just to the west of the pump house, less dense seagrass beds to the west and the mud bottom further offshore and to the east of the pump stations. This mapping was found to be fairly accurate during the benthic surveys that were conducted in 2008 and 2012.

The hard bottom areas which extend from around the pump house and around the Virgin Islands Legislature building are colonized hard and soft coral species. Extending beyond the hard bottom, there are large scattered coral heads including *Siderastrea siderea, Diploria strigosa* and *Orbicella annularis*.

A portion of the shoreline is bulkheaded from the Legislature Building to where the rip-rap begins in front of the Federal Building. Within this area there is coral rubble and cobble immediately along the shoreline, this is minimally colonized by corals (*Siderastrea siderea* and *S. radians*) and algae.

Where the culvert discharges at Hospital Gade there is a large minimally colonized area which is created by turbulence of the culvert discharge, a large accumulation of aluminum cans rolling around on the bottom and deposition of sediment. This area is minimally colonized by algal species. To the east of the sediment delta the seagrass become dense and continuous. To the east approaching the pump house there are coral heads (*Diploria strigosa, Stephanocoenia michilini,* and *Siderastrea siderea*) widely scattered within the seagrass.

The rip-rap which begins at the Federal Building, has become coral colonized and *Diploria strigosa, Orbicella annularis, Porites astreoides* and *Siderastrea siderea* are present. The density of corals increases to the east. As the shoreline nears the pump house, the bottom becomes rocky and there are coral colonized boulders and large coral heads. *Diploria strigosa, Stephanocoenia michilini* and *Siderastrea siderea* are found as large free-standing heads, and the boulders and rocky substrate is colonized by *Diploria strigosa, Stephanocoenia michilini, Siderastrea siderea, S. radians, Porites* and *Porites astreoides*.

To the east of the pump house the riprap resumes along the shoreline and again is minimally colonized by *Siderastrea siderea* and *S. radians*. Offshore of the riprap, as shown on the NOS habitat map is a muddy bottom with minimal algal colonization.

Continuing to the west beyond the hard bottom the bottom becomes muddy and there is minimal algal colonization by *Halimeda, Udotea, Avrainvillea, Dictyota, Penicillus, Hypnea* and *Laurencia*.

The bulkhead which runs through the remainder of the project area, has an occasional *Siderastrea radians*, or *Siderastrea siderea* all of which noted encrusting and the largest was 8” in diameter. Most were 6” and under. Only one *Diploria strigosa* was noted.

The project involved direct and indirect impacts to the marine environment. The project will be directly impacting 8.57 acres of submerged aquatic habitat which includes 2.97 acres of coral colonized hard bottom. A number of *Orbicella*, and one *Dendrogyra cylindrus* occur within the project footprint and these corals are ESA listed species. However post 2017 only 6 Orbicella were viable in the project area and the Dendrogyra had been lost.

The corals within the project footprint and within the area of potential impact were transplanted. To minimized hardbottom, and critical habitat impact, un-colonized boulders were also relocated and stabilized and make excellent substrates for corals, including ESA dete species and EFH species of concern. There are approximately 25 boulders that can be moved with a surface area ranging from 100 sq. ft. to 250 sq. ft. each for a reduction of critical habitat impact of 5,000 sq. ft. leaving 1.86 acres of critical habitat impact. The Biological Assessment and Essential Fish Habitat Assessment are attached which describe in detail the habitats, project impact to the habitats and mitigation to minimize impact. The Compensatory Mitigation Plan outlines measures to compensate for unavoidable impacts.

A total of 631 corals were located from the project area and potential area of impact and 25 hardbottom boulders were relocated.

To minimize impacts FHWA and DPW implemented the conservation measures recommended by NMFS HCD in their February 6, 2015 correspondence and in NMFS PRD Biological Opinion dated July 20, 2016 and will implement these measure in Phase II.

NMFS has provided an Incidental Take Statement (ITS) with the Opinion. The ITS describes the reasonable and prudent measures that NMFS considers necessary or

appropriate to minimize the impact of incidental take associated with this action. The ITS also specifies nondiscretionary terms and conditions, including monitoring and reporting requirements with which FHWA and USACE must comply to carry out the reasonable and prudent measures.

6.3.6 The project will have No Effect on Riffle and Pool Complexes. There are no riffles or pool complexes in the project area.

6.4 Potential effects on human use characteristics:

6.4.1 The project will have a Minor Effect (short term) on Municipal and Private Water Supplies: There are Virgin Islands Water and Power Authority underground water main, sanitary sewer and electric lines on the north side of Veterans Drive. Water main line runs from west of Hospital Gade to Kanal Gade, sanitary sewer line turns north on the east entrance of the Federal Building and electric buried conduit continue on the north side of Veterans drive along the corridor limits. In Phase 1, a new water main extension is being proposed. Connection of this line to the existing potable water system will be performed using wet taps. Therefore, all work will be done without interruption of service. Considering that most of the proposed improvements are on fill in the harbor, it is anticipated that there will be minimal impacts to utilities during construction of Phase 1. In Phase 2, relocation of a water main is required. See: Environmental Assessment, Attachment E, Status of Commitments, Page 2.

6.4.2 The project will have a Minor Effect (short term) on Recreational and Commercial Fisheries: The project will not result in any long-term negative impacts on recreational use of the area. The shoreline is used for walking and running, and in some cases hand line fishing. During the construction, some of these activities will be temporarily displaced from the project area. During the second phase pedestrians will use the existing walkway on the northern side of Veterans Drive.

Once completed, the project will create a positive impact by providing an improved continuous promenade that is suitable for walking and jogging. This is a highly transited area by cruise ship passengers going to and from the cruise ships dock at Haven Site to St. Thomas' main shopping district and points of interest. Improving this promenade will enhance the visitor experience. And provide a safer, more enjoyable area for walking and running. Since completion the Phase I promenade is continually in use.

No commercial fishing occurs along the waterfront, however several commercial fishers sell their fish along the western portion of the waterfront, this activity will be displaced during construction in Phase II of the project. These fishermen will have to sell their catches at either the open-air market in town or in Frenchtown or in an area where work has been completed. The Status of Commitments for this project, which is part of the Environmental Assessment prepared by the FHWA discusses these effects in more detail.

6.4.3 The project will have a Minor Effect (short term) on Water-related Recreation. The waterfront is currently used for some hand line fishing, and is periodically used by recreational vessels to pick up or drop off passengers or to allow

boaters to pick up something from town. These activities will be displaced during the construction of the project. As only a portion of the project will be underway at any given time, these activities will be displaced to an area where work has not yet begun or to area that have been completed. The Status of Commitments for this project, which is part of the Environmental Assessment prepared by the FHWA discusses these effects in more detail.

The project will also require the relocation of moored vessels within the project footprint and work area. The applicant will work with the USVI – DPNR Division of Environmental Enforcement to relocate the vessels to areas with minimal impact on the benthic community.

6.4.4 The project will have a Major Long Term Effect on the Aesthetics of the Water Front. The water front of St. Thomas is a beautiful historic landscape. However, as the population grows, traffic and waterfront activity have drastically increased, which is contributing to extreme congestion.

Through coordination with VISHPO and ACHP, the project has been designed to enhance the historic nature of Charlotte Amalie and accommodate the vehicular and pedestrian traffic. Design elements, including the promenade, have been made as a result of such coordination. VISHPO approved inclusion of water feature as part of the landscape design with an intent to be symbolic and signify the main entry and greeting point of the King's Wharf area for Charlotte Amalie. Additionally, street features and furniture will complement the local character. The end result will be a dramatic, user-friendly waterfront which serves the purpose for which the project is intended.

Coordination with VISHPO and ACHP has been ongoing throughout the duration of the project. Design elements, including the promenade, have been made as a result of such coordination. VISHPO approved inclusion of water feature as part of the landscape design with an intent to be symbolic and signify the main entry and greeting point of the King's Wharf area for Charlotte Amalie. Additionally, street features and furniture will complement the local character.

One of the main objects of the project is to beautify the Charlotte Amalie waterfront while respecting its historic nature. The project will create a dramatic visually appealing landscape for both residents and visitors to the island.

During construction, there will be a short-term negative impact on the aesthetics of the area as the construction is undertaken.

6.5 Evaluation and testing (Subpart G):

6.5.1 General Evaluation of Dredged or Fill Material:

All fill material utilized within in the project will contain no contaminants. Gravel or crushed stone backfill will be clean and free of organic material, debris, and other deleterious substances. The fill material for the bulkhead leveling pad will be #57 stone or gravel. This is a clean, open-graded and self-compacting aggregate averaging ¾ inches in size. The fill material immediately behind the bulkhead will be imported

drainage fill or #4 stone. This is a clean, open-graded and self-compacting aggregate ranging in size from ¾ inches to 2 inches. The void behind the drainage fill and up to the water level will be filled with clean gravel backfill that is self-compacting and with the following gradation:

Sieve Size	**Percent Passing**
1-1/2 inch	100
1 inch	95-100
½ inch	45-65
No. 4	5-15
No. 16	0-4

The void behind the drainage fill and above the water level will be filled with clean select granular backfill that will be vibro-compacted and will have the following gradation:

Sieve Size	**Percent Passing**
1 inch	100
No. 4	35-100
No. 40	15-70
No. 200	0-15
No. 16	0-4

There are areas within the proposed fill area with sediment which are structurally unacceptable for supporting the new bulkhead and therefore require its removal. All of this material will be disposed at an upland landfill. However, suspended particles and water from the dredged material will return to the marine environment as the material is excavated and dewatered on the barge. For this reason, sediment samples were taken to determine the effects these sediments may have on the marine environment. This information is also necessary to determine how these sediments should be handled.

Two sediment samples were taken along the route of the Veterans Drive Improvements to assess potential impacts of excavation within the area to remove poor quality sediments before filling. The locations of sampling were those areas most likely to be impacted by upland runoff. Samples were analyzed for heavy metals, mercury, pesticides, PAH, hydrocarbons and PCBs. Elutriate testing was also done to access the potential impacts of suspending the soils in the water column during excavation.

The result of the sediment analysis was compared against NOAA's Sediment Quality Guidelines. NOAA has established Effects Ranges where adverse effects were

identified. From the ascending data tables, the 10th percentile and the 50th percentile (median) of the effects database were identified for each contaminant. The 10th percentile values were named the “Effects Range-Low” (ERL), indicative of concentrations below which adverse effects rarely occur. The 50th percentiles were named the “Effects Range-Median” (ERM) values, representative of concentrations above which effects frequently occur.

No hydrocarbons were detected in either sediment sample. Both samples had extremely high Aluminum levels at 6800mg/kg and 7000mg/kg for station 1 and 2 respectively. But only 21ppb was released into the water column during the elutriate test for Station 1 and no aluminum was released into the water column at station 2. This was not surprising based on the number of aluminum cans that are present in both areas. Aluminum is not listed on the Effects range tables. Copper was higher than the ERL of 34ppm for both samples but well under the ERM of 270ppm at 45mg/kg (ppm) and 50mg/kg(pp) for stations 1 and 2 respectively. Zinc right at the ERL of 150ppm for station 1 and only slightly above it at 170ppm at station 2. The ERM for zinc is 410ppm. PCBs were not detected in either sample.

The excavation of sediments within the proposed fill area will not result in the discharge of significant contaminants in the marine environment or into marine waters during the dewatering of the dredge spoils. The excavation of the sediment and its disposal in an appropriate upland area should have a negligible impact on water quality and the environment. The sediment meets the criteria for disposal at the Bovoni Landfill. The Virgin Islands Waste Management Authority requires TCLP testing for soils and sediments believed to have heavy metals or other contaminants found on EPA’s list for Evaluating Solid Waste. The sediment did not contain any of the RCRA 8 Heavy Metals, or other contaminants of concern found on the US EPA’s TCLP list. The material did contain high levels of aluminum as noted above which is not a contaminant of concern. VIWMA reviewed and approved DPW’s request to dispose of the dredge spoils from Charlotte Amalie Harbor at the Bovoni Landfill. A Non-hazardous Waste Permit will have to be issued by VIWMA once DPW is ready to dispose of the material. DPW has obtained written confirmation from WMA that they will accept disposal of the dredge spoils at the Bovoni Landfill (see Attachment C(v) of the Environmental Assessment).

Testing Exclusion: The proposed fill material does meet the exclusion criteria set forth at 40 CFR 230.60. As indicated above, the material will be clean fill taken from an area with no known recognized environmental concerns and without contaminants or organic debris. Based on the above, the material is not a carrier of contaminants.

The sediment to be excavated does not meet the testing exclusion criteria set forth at 40 CFR 230.60. However, as indicated above this material will not be redeposited in the marine environment.

6.5.2 Chemical, Biological, and Physical Evaluation and Testing: Two sediment samples were taken along the route of the Veterans Drive Improvements to assess potential impacts of excavation within the area to remove poor quality sediments before

filling. The locations of sampling were those areas most likely to be impacted by upland runoff the greatest potential for introduction of contaminants.

Samples were analyzed for heavy metals, mercury, pesticides, PAH, hydrocarbons and PCBs, the contaminants which potentially could be present due to runoff. Elutriate testing was also done to access the potential impacts of suspending the soils in the water column during excavation.

6.6 Actions to minimize adverse effects: During both dredging and filling activities seafloor length turbidity barriers will be installed to contain sediment laden waters either discharging from the barge during dewatering or discharging from the area being filled. A double set of barriers will be installed. Water Quality Monitoring will be implemented which will monitor not only the water quality but the conditions of the control devices. If the devices are found to be insufficient additional measures will have to be implemented which include stopping work until turbidities return to ambient levels or limited dredge and fill times.

6.7 Factual Determinations – (Subpart B, section 230.11) ***The determinations below are based on the determination of effects described in detail in sections 6.1 – 6.6 above*****:**

6.7.1 Physical substrate: Major (Significant) Effect
The proposed improvements required at total of 8.57 acres of fill in the marine environment. This includes filling 4.45 acres of mud bottom, 1.15 acres of seagrass, and 2.97 acres of exposed rock outcroppings, rock boulders and cobble. Phase I filled approximately 2 acre and Phase II will fill the additional 6.57 acres.

6.7.2 Water circulation, fluctuation and salinity: No Effect

The filling will not result in any impact to water circulation, fluctuation or salinity.

6.7.3 Suspended particulates/turbidity: Minor Effect (short term) The dredging and filling will have a Minor (short term) Effect on Suspended particulates/turbidity.

During filling sediments will be suspended as water is displaced and will be discharged into the marine environment. During excavation and dewatering the excavated spoils will impact the turbidity of the surrounding near-shore waters when some of the sediments are returned to the marine environment. Turbidity barriers will be deployed to minimize the impact of this effect. A Water Quality and Environmental Monitoring Plan will be implemented throughout all in-water during Phase II and upland construction and during the excavation and dewatering. This monitoring includes monitoring of control features as well as water quality. If negative impacts are noted additional control features will be implemented.

6.7.4 Contaminants: Minor Effect (short term) The excavation and filling will have a Minor Effect (short term) on Contaminants in the environment.

All fill material to be used as backfill within the water column will be clean gravel or crushed stone free of organic material, debris, contaminants and other deleterious

substances. No hydrocarbons were detected in either sediment sample taken from the areas to be dredged. Both samples had extremely high Aluminum levels at 6800mg/kg and 7000mg/kg for station 1 and 2 respectively. But only 21ppb was released into the water column during the elutriate test for Station 1 and no aluminum was released into the water column at station 2. This was not surprising based on the number of aluminum cans that are present in both areas. Aluminum is not listed on the Effects range tables. Copper was higher than the ERL of 34ppm for both samples but well under the ERM of 270ppm at 45mg/kg (ppm) and 50mg/kg(pp) for stations 1 and 2 respectively. Zinc right at the ERL of 150ppm for station 1 and only slightly above it at 170ppm at station 2. The ERM for zinc is 410ppm. PCBs were not detected in either sample. Therefore discharge of the return water from the dredging will only have a minor effect on contaminants in the environment and based on elutriate results pollutants will not be released into the environment.

6.7.5 Aquatic ecosystem and organisms: Minor Effect (short term).

The filling and excavation will have a Minor Effect (short term) Aquatic ecosystem and organisms. The seagrass which occurred in the area has been removed prior to any in water work. During filling, excavation and dewatering the excavated spoils will impact the turbidity of the surrounding near-shore waters and thus the surrounding aquatic ecosystems and organisms. Turbidity barriers will be deployed to minimize the impact of this effect. A Water Quality and Environmental Monitoring Plan will be implemented throughout all in-water and upland construction and during the excavation and dewatering. This monitoring includes monitoring of control features as well as water quality. If negative impacts are noted additional control features will be implemented.

6.7.6 Proposed disposal site**:** No Effect

The excavated material will be disposed of at the Bovoni Landfill and will be used as daily cover. VIWMA reviewed DPW's request to dispose of the dredge spoils from Charlotte Amalie Harbor at the Bovoni Landfill. Sampling of the material was conducted and chemical test results were provided to VIWMA for consideration. It was determined by VIWMA the material can be disposed at the landfill. A Non-hazardous Waste Permit will have to be issued by VIWMA once DPW is ready to dispose of the material. DPW has obtained written confirmation from VIWMA that they will accept disposal of the dredge spoils at the Bovoni Landfill (see Attachment C (v) of the Environmental Assessment).

The fill will be placed in areas which are already significantly disturbed. No fill material will be placed in wetlands. The parameters accepted at the landfill are attached. The levels in the sediment to be excavated are within these parameters.

6.7.7 Cumulative effects on the aquatic ecosystem: Minor Effect (short term) – Cumulative effects are discussed in section 9 of this document.

The excavation and dewatering represent a small component of the activities associated with the project the proposed areas of excavation will be filled once the structurally unacceptable fill material is removed. The benthic resources within the fill

footprint will be relocated prior to the excavation and then filling of the area. This resulted in filling 1.15 acres of seagrass beds and 2.97 acres of hard bottom with sparse coral colonization (all seagrass and corals were relocated). This represents a reduction of impact from the previous design which required 9.75 acres of fill and an impact to 1.84 acres of seagrass and 3.66 acres of coral colonized hard bottom. It is anticipated that there will also be impacts due to construction activity. As much as 450 sq. ft. of additional seagrass may be lost due to the use of barge spuds. Compensatory mitigation was proposed for those impacts that could not be avoided. The compensatory mitigation has been completed. The project requires the total filling 8.57 acres of Charlotte Amalie Harbor. Phase I included the filling of 2 acres and Phase II will include the filling of 6.57 acres.

There are other dredging projects which are currently in the permitting process, i.e. Maintenance Dredging of the WICO basin and dredging of the Charlotte Amalie Harbor entrance channel. These projects also involve impact to SAV, and the SAV from these areas will be transplanted out of the project area.

The excavation will result in the short-term loss of SAV within the harbor. Seagrass is starting to re-colonize the area along the edge of Phase I, Halophila stipulaceae, an exotic seavine which has become abundant in the last few years in Charlotte Amalie Harbor, Crown Bay and the surrounding area is also colonizing not only the seafloor but is found on the new quaywall.

6.7.8 Secondary effects on the aquatic ecosystem: Minor Effect (short term) – Secondary effects are discussed in section 9 of this document.

The project will result in turbidity impacts during construction. Stringent sedimentation and erosion controls have been proposed and will be implemented throughout Phase II of the project. The Water Quality and Environmental Monitoring Plan will be implemented to help minimize short term impacts on water quality.

The project is proposing improvements to existing drainage features along Phase II waterfront which will hopefully improve discharge water quality in the future once the project is complete.

6.8 Restrictions on Discharges: There are no available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into “waters of the US” or at other locations within waters of the US.

The project is in a special aquatic site and is not water-dependent, however the applicant has clearly demonstrated that there are no practicable alternative that do not involve other potential impact to the special aquatic site while meeting the project objectives.

The discharge will not violate territorially water quality standards, if the proposed turbidity and sediment control measures are implemented and water quality monitoring plan is undertaken.

The discharge will not violate toxic effluent standards (under Section 307 of the Act), potential contaminants are not present at levels that would result in violation.

The discharge will not jeopardize endangered or threatened species or their critical habitat, if the proposed turbidity and sediment control measures are implemented and water quality monitoring plan is undertaken.

The discharge will not violate standards set by the Department of Commerce to protect marine sanctuaries.

The discharge will not contribute to significant degradation of "waters of the US" through adverse impacts to Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites, if the proposed turbidity and sediment control measures are implemented and water quality plan is undertaken.

The discharge will not contribute to significant degradation of "waters of the US" through adverse impacts to life stages of aquatic life and other wildlife, if the proposed turbidity and sediment control measures are implemented and water quality plan is undertaken.

The discharge will not contribute to significant degradation of "waters of the US" through adverse impacts to recreational, aesthetic, and economic values.

All appropriate and practicable steps (40 CFR 23.70-77) have been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem.

6.9 Compliance with the 404(b)(1) Guidelines *(Reference section 12 of this document)*:

Based on the information provided and discussed in this document, FHWA understands that the USACE will be able to determine that the proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable conditions to minimize pollution or adverse effects to the affected ecosystem.

FHWA has determined that the proposed action is the Least Environmentally Damaging Practicable Alternative (LEDPA) that meets the project Objectives. Based on the information provided and discussed in this document FHWA understands that the USACE will be able to make a similar determination in accordance with the requirements of the USACE Regulatory Program.

7.0 General Public Interest Review - *All public interest factors have been reviewed and summarized below. Both cumulative and secondary impacts on the public interest have been considered.*

Public Interest Factors Considered:

a. Conservation: Adverse (minor) – The project did and will result in impacts the benthic resources in the project area. Corals and seagrass were found within the project footprint. The project will require minor dredging and then subsequent filling of a total of 8.57 acres of Charlotte Amalie Harbor (Phase I and Phase II). This will result in

filling 1.15 acres of seagrass beds and 2.97 acres of hard bottom with sparse coral colonization. The seagrasses and corals from the project footprint were transplanted prior to commencement of Phase I. This represents a reduction of impact from the previous design which required 9.75 acres of fill and an impact to 1.84 acres of seagrass and 3.66 acres of coral colonized hard bottom. It is anticipated that there will also be impacts due to construction activity. As much as an additional 450 sq. ft. of seagrass was lost due to the use of barge spuds. Measures were implemented to the greatest extent possible to avoid, minimize and mitigate these adverse impacts that could not be avoided. Compensatory mitigation has been undertaken for these impacts. Phase II has limited seagrass offshore. All of the seagrass in the Phase II are is mixed with H. stipulaece.

b. Economics: Beneficial (major) –Tourism is the primary economic activity, accounting for 80% of GDP and employment. In 2008 the islands hosted 2.6 million visitors, and in 2009 the amount of visitors dropped 13.1 percent to 2.2 million visitors. However, the tourism sector shows signs of a modest recovery from the downturn, as the rate of decline has stabilized since. (US Virgin Islands 2009 Economic Review and 2010 Outlook, US Bureau of Economic Research) The manufacturing sector consists of petroleum refining, textiles, electronics, pharmaceuticals, and watch assembly. The agricultural sector is small, with most food being imported. International business and financial services are small but growing components of the economy. An improved Veterans Drive will allow for the faster movement of goods and services, as well as consumers and tourists, thereby potentially influencing the economy in a positive manner. The expected increase in travel will also allow tourists additional time to shop in downtown Charlotte Amalie prior to their return to the cruise ship terminal in Havensight.

c. Aesthetics: Beneficial (major) – The Veterans Drive improvements include significant upgrades to the aesthetics of the current roadway in Charlotte Amalie. In addition to the capacity and traffic flow upgrades, the project also includes the construction of a tree-lined pedestrian promenade along the waterfront. The project seeks to create a signature waterfront setting for the community. The excavation has the potential of changing the water quality which in turn can affect recreation, and aesthetics. Water quality impacts will be short term and stringent sedimentation and erosion control will be implemented to prevent degradation of water quality and the aesthetics of the harbor.

d. General Environmental Concerns: Adverse (minor) –The project has the potential to negatively impact water quality in the harbor during construction. Measures are proposed to minimize this impact. The project will also have impacts on air quality during construction due to the use of heavy equipment (combustion engines) and dust. Both will be short term and limited to the length of construction and dust control including dampening and planting will be implemented during construction. Post construction air impacts due to combustion engines (automobiles) should decrease as vehicles will no longer be forced to idle while stuck in traffic.

e. Wetlands: None – The project will have no impact on terrestrial wetlands. Both Phase I and Phase II combined will result in the filling 8.57 acres of Charlotte Amalie Harbor which are classified as deepwater wetlands.

f. Historic Properties: No Adverse Effect – There are numerous historic properties along the waterfront and the entire project has been designed to protect and highlight these properties. The Department of Public Works has rehabilitated Fort Christian. This historic site is located on Veterans Drive and DPW will develop a monitoring system to be implemented during the project's construction. No adverse effect is anticipated to any historic site. The project has worked in close coordination with VISHPO and has completed consultation. The consultation letter is attached herewith.

g. Fish and Wildlife Values: Adverse (minor) – The project will result in the loss of marine habitat. Phase I and II together require filling 8.57 acres of Charlotte Amalie Harbor resulting in the filling of 1.15 acres of seagrass beds and 2.97 acres of hard bottom with sparse coral colonization. This represents a reduction of impact from the previous design which required 9.75 acres of fill and an impact to 1.84 acres of seagrass and 3.66 acres of coral colonized hard bottom. It is anticipated that there will also be impacts due to the construction activity. As much as an additional 450 sq. ft. of seagrass may be lost due to the use of barge spuds. In order to mitigate these impacts to ESA species and EFH, corals and seagrass within the area of impact (which extends beyond the direct impact foot) were transplanted prior to construction of Phase I. Barge spud impacts were and will be monitored and where possible impacts to seagrass beds will be mitigated. Coral rock boulders were also relocated to the mitigation area to reduce the impact on critical habitat. Improvements to drainage structures along the waterfront will also be made to help improve water quality of runoff into the bay. Phase I improvement in drainage already are noted to have made and improvement in water quality. During construction a Water Quality Monitoring plan will be implemented.

The Biological Assessment and Compensatory Mitigation Plan are part of the Environmental Assessment prepared by the FHWA for this project.

h. Flood Hazards: None - The project will construct better drainage structures along the waterfront allowing for better conveyance of stormwater from the waterfront. The project will have no impact on flood hazards.

i. Floodplain Values: None - The entire project area is urbanized and developed. The vast majority of the area is hardscape. There are no floodplain areas that provide habitat or water quality benefits within the project area.

j. Land use: Beneficial (major) - The project will result in a significant long term change in land use from submerged lands to filled lands in urban use for a highway and promenade.

The project will result in a major long term beneficial use of the uplands. The project is along a completely developed urban area. The project will not change the existing land use. Land use within the project area is guided by zoning regulations from the Virgin Islands Zoning Law. The project area contains four designations: Public, Business-

Central Business District, Business-Scattered and Waterfront-Pleasure. The U.S.V.I. Comprehensive Land and Water Use Plan map, June 2004, shows that the northern side of Veterans Drive abuts a zone of District 5-Urban, while the southern side is adjacent to 6W-Waterfront-Industrial, from Tolbod Gade to Kings Wharf, and 3W-Waterfront-Moderate Density from Kings Wharf to Long Bay Road (U.S.V.I. CLWUP, 2004). The Coastal Zone Management Plan recognizes St. Thomas Harbor near Charlotte Amalie as an area suitable for development of transportation facilities. Additionally, one of the U.S.V.I. goals set forth for the comprehensive plan states the achievement of an adequate level of public services and facilities. Objectives for the goal include: provision of new or expanded transportation facilities only where needed to implement specific development projects; elimination of gaps in the overall road system and correction of safety deficiencies, reduction of congestion and travel times (1997 EA). Future development may increase due to the project; however, any such development would be in-fill or renovation of existing properties. It is anticipated that the project would not influence any current land use changes due to current zoning and other regulations for the Virgin Islands. According to the US Fish and Wildlife, the area is not subject to the Coastal Barrier Resources Act, as the area had a higher development density than is set forth in the Act (USFWS).

k. Navigation: Adverse (minor) - The project will result in a minor adverse impact as a result of the construction activities along the waterfront. The project is within an area of intense marine use, and will be altering an area used for mooring along the water front. The project will temporarily impact activities along the waterfront during construction. These activities will be displaced during construction and Public Works will work with ferries, cruise ship tenders and other users of the apron to temporarily relocate those activities during this disruption. Once complete, the project will provide improved facilities for these uses.

l. Shore Erosion and Accretion: Negligible - The project will have a negligible effect on shoreline erosion and accretion. Revetment is currently located along shoreline and due to the nature of the harbor there is no littoral movement of material along the waterfront. Revetment will be placed along the shoreline throughout the length of the project to continue to the shoreline.

m. Recreation: Beneficial (major) - The project will have a Major Beneficial impact on recreational use of the waterfront. The project will provide significant major beneficial upgrades to recreational facilities with the expanded promenade and lookout points along the waterfront. Phase I is enjoying tremendous use by tourists and local residents.

n. Water Supply and Conservation: None - The project will not impact the public water supply or water conservation. Fresh water resources, perennial or intermittent, do not exist within the project area. The only fresh, flowing water in the vicinity comes from storm water runoff following rain events. The public water supply is a mix of potable water supply from the Water and Power Authority and roof catchment. The public utility intakes its water in Krum Bay which is located 1.5 miles to the west of the project area. The project will have no impact on the water source. The project will have no affect water conservation.

o. Water Quality: Adverse (minor) - The project will have a Minor Adverse impact on water quality in the short term there will be the potential for negative impact to water quality in the harbor due to the excavation, filling and upland construction. During construction water quality control measures such as turbidity barriers will be installed and as discussed in more detail in other sections of this document a Water Quality Monitoring plan will be implemented. Once complete, the improvements to the drainage and runoff treatment from upland areas will help improve water quality within the harbor.

p. Energy Needs: None - The project will not have an impact on energy needs. The project is a roadway improvement project and will not require energy beyond that required for lighting, traffic and safety controls. This will be provided from the public utility.

q. Safety: Beneficial (major) - The project will have a Major Beneficial impact on safety. Veterans Drive currently has substandard land sizes which results in the heavy traffic moving in close proximity. Accidents and pedestrian injuries are not uncommon. The project will provide adequate capacity for traffic movement and safe pedestrian access and crossing to and from the promenade.

r. Food and Fiber Production: None - The project will have no impact on food or fiber production. No food or fiber projection occurs within the project area.

s. Mineral Needs: N/A - There are no special mineral needs associated with this project.

t. Consideration of Property Ownership: Beneficial (minor) - The project will have a Minor Beneficial impact on property owners along the waterfront. The project is entirely within the public right of way and on government held land. Therefore no direct impact to private property. The project will improve the aesthetics of the adjacent property and therefore improve property values.

u. Needs and Welfare of the People: Beneficial (major) - The highway project will have a Major Beneficial impact on the needs and welfare of the people. An improved Veterans Drive will allow for the faster movement of goods and services, as well as consumers and tourists, thereby potentially influencing the economy in a positive manner. Travel times for emergency services will be improved. The project will benefit the community in reducing traffic congestion, improve safety for motorists and pedestrians, and enhance the aesthetics of the waterfront. The promenade and lookouts will provide for active and passive recreation opportunities.

7.1 The relative extent of the public and private need for the proposed structure or work: Widening to a four-lane roadway will greatly enhance the visitors' experience on St. Thomas and will improve traffic flow to and from the town of Charlotte Amalie. The improvements include the development of a landscape promenade along the waterfront for the enjoyment of visitors and residents alike. The improvements to Veterans Drive are needed to help alleviate traffic congestion along the waterfront. Improvements have been completed further to the east on Long Bay Road and are ongoing near Mandela Circle and to the east which have made significant steps towards

lessening the congestion which occurs due to busy cruise ship port and main means of egress into the town of Charlotte Amalie.

Public and private uses include transportation, boating, anchoring, navigation, recreation. Short term there will be minor adverse impacts due to construction, which will affect recreation and transportation through town, however long term these minor short term impacts will be outweighed by the improvement in traffic flow, the improvement of the promenade and the improved access to the shoreline. There will be a permanent long-term loss of waters of the US. The loss of water has been minimized and mitigated to the greatest extent possible while maintaining the objectives of the project and addressing the concerns of VISHPO.

7.2 Are there unresolved conflicts as to resource use? No
If so, are there reasonable and practicable alternative locations and/or methods to accomplish the objectives of the proposed action? NA

7.3 The extent and permanence of the beneficial and/or detrimental effects, which the proposed work is likely to have on the public and private use to which the area is suited: The project will result in the permanent loss of waters of the United States. However, through implementation of avoidance and minimization measures, potential adverse effects on the aquatic ecosystem will be significantly reduced and mainly temporary. Similarly, corals and seagrasses located within the project footprint and impact areas would be permanently relocated. However, through the mitigation plan to be implemented these corals and seagrasses will be monitored and are expected to continue providing permanent services and functions to the aquatic ecosystem at their relocation site. The view shed of Charlotte Amalie Harbor will also be altered permanently. However, through consultation with VISHO the project was designed to prevent that such alteration would result in adverse effects to historic properties in Charlotte Amalie and along the shoreline of the bay. In addition, the project has been designed to permanently enhance the aesthetics of the Charlotte Amalie waterfront. The project will have a net beneficial permanent effects on the public and private use of the waterfront. Main permanent beneficial effects of the project include improved traffic management, levels of service and safety along Veteran's Drive; as well as enhance pedestrian accessibility, which were the objectives of the project.

8.0 Mitigation – *33 CFR 320.4 (r); 33 CFR 332; 40 CFR 230.70-77; 40 CFR 230.90-99 and 40 CFR 1504.12(f):*

8.1 Avoidance – Avoidance measures indicated by the applicant in Section 1.5 of this document.

8.2 Minimization – Minimization measures indicated by the applicant in Section 1.5 of this document. In addition to the minimization measures indicated by the applicant in Section 1.5 of this document, other measures have been and would be implemented during construction to reduce potential impacts to the aquatic ecosystem, including: abidance to a stringent water quality control and monitoring plan; evaluation and testing of sediments to ensure that no contaminants would be released into the aquatic

ecosystem; and implementation of sea turtle monitoring plan during in water work with provisions to stop all in-water work if sea turtles are observed in proximity to project areas.

8.3 Compensatory Mitigation:

8.3.1 Is Compensatory Mitigation required?
☐ No
(If No, provide explanation here. Do not complete [delete] rest of Section 8, Mitigation. If Yes, indicate N/A here):
☒ Yes
(If yes, complete the remainder of Section 8, Mitigation).

8.3.2 Are the impacts to jurisdictional aquatic resources in the service area of an approved mitigation bank? No. There are no mitigation banks within the Territory of U.S. Virgin Islands.

8.3.3 Does the mitigation bank have the appropriate number and resource type or credits available? NA

8.3.4 Are the impacts to the jurisdictional aquatic resources in the service area of an approved in-lieu fee program? No

8.3.5 Does the in-lieu fee program have the appropriate number and resource type or credits available? NA

8.3.6 Identify the selected compensatory mitigation options(s):

☐ mitigation bank credits

☐ in-lieu fee program credits

☐ permittee-responsible mitigation under a watershed approach

☒ permittee-responsible mitigation, on-site

☒ permittee-responsible mitigation, off-site

8.3.7 As the selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6) and/or incorporates permittee-responsible mitigation, explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) and §332.4(c)(2)-(14) as follows:

8.3.7.1 Description of the compensatory mitigation: Corals and seagrass within the area of impact (which extends beyond the direct impact foot) were transplanted prior to construction of Phase I. Coral rock boulders were relocated to the mitigation area to reduce the impact on critical habitat. Improvement to protect the coral and seagrass transplant areas and to protect existing seagrass and corals within those areas.

Information signage will be placed along the waterfront promenade to educate residents and tourists alike on the importance of our marine resources. And a two-acre restoration project was undertaken which repaired existing vessel strike damage on Triangle Reef. Buoys will also be installed to help prevent future impacts to this habitat at the conclusion of monitoring (2024) As compensation for spudding and mooring relocations 1500sq ft. of debris was cleaned up from 0.3 acres of seagrass beds within the harbor. As part of a compensatory mitigation plan for impact that cannot be avoided improvements to drainage structures along the waterfront were installed in Phase I and will be installed in Phase II to help improve water quality of runoff into the bay, mooring and informational buoys have been installed to protect the coral and seagrass transplant areas and to protect existing seagrass and corals within those areas. Information signage will be placed along the waterfront promenade to educate local residents and tourists alike on the importance of our marine resources.

8.3.7.2 Selection of the Compensatory Mitigation

a. Uncertainty and Risk:

Permittee-responsible: The Virgin Islands Department of Public Works is committed to put forth the greatest effort to see that the relocation is successful and that they obtain the greatest potential survival of transplanted and reattached organisms. The mitigation plan was designed to restore, enhance and/or replace the aquatic environment functions and services that would be lost or temporarily impacted for the construction and operation of the proposed project. Coral transplants in the Virgin Islands have been very successful with survival rates in the 95 percent range (Frederiksted Pier Extension, Enighed Pond, Mangrove Lagoon WWTP Outfall). Seagrass transplants are usually less successful. Compensatory mitigation has been proposed for those impacts which could not be avoided or minimized. No mitigation effort is 100% successful, as there is always some loss of organisms during the activity. It is the intent of this transplanting and reattachment program to obtain a minimum of 85 percent survival of the transplanted corals and seagrass. To reduce uncertainty and risk a monitoring and reporting plan was followed to ensure the mitigation progresses as expected and that adequate contingency measures are implemented to correct any problems which may arise in obtaining the expected and established performance standards and criteria for the mitigation. The Virgin Islands Department of Public Works obtained a mitigation bond in the amount of $928,000.00 to ensure the implementation of the mitigation programs. At five years 91% of the corals were viable and overall 87% of the seagrass is viable.

b. Size and ecological value of parcel; watershed approach [how the site is ecologically suitable for providing desired functions – consider the physical characteristics, watershed scale features, size, and location; compatibility with adjacent land uses; and, likely effects on important resources]:

Permittee-responsible: The watershed approach is not applicable to compensatory projects for marine resources. However, the mitigation areas are in close proximity to the impact areas and many of the marine species utilizing the project areas are

also reasonably expected to be able to use and benefit from the mitigation areas and their enhancement or restoration. The diversity of the mitigation actions proposed as well as the size and location of the areas that would be restored, enhanced or protected ensure adequate compensation for the project impacts.

c. Temporal loss [the time between the initiation of the mitigation plan and the maturation of anticipated ecological functions at a compensatory mitigation site]:

Permittee-responsible: Several components of the proposed compensatory mitigation plan, mainly the relocation of corals and seagrasses, begin prior to Phase I project construction, thereby preventing or minimizing temporal loss of the functions and services provided by those resources. The corals which are transplanted and or are reattached on triangle reef immediately provide viable habitat to marine organisms. In addition, the compensatory mitigation plan includes elements, such as restoration of damaged corals and reefs, enhance functions and services of aquatic resources in areas that would not be impacted by the project, but that are in sufficient proximity to offset some of the impacts of the project without delays associated to temporal loss due to maturation of mitigation areas. Certain functions and services of the transplanted corals and seagrasses are lost due to minimal expected mortality. However, the other components of the mitigation including the restoration of damage reef areas, the implementation of runoff controls, and deployment of buoys to prevent further damages to benthic areas adequately offset those losses.

d. Scientific/technical analysis, planning, and implementation *[as commensurate with the amount and type of impact, the level of scientific/technical evaluation required to appropriately and adequately assess the likelihood for ecological success and sustainability; the location of the compensation site and the significance in the watershed; and, other factors presented in a complete mitigation plan]:*

Permittee-responsible: The proposed compensatory approaches and techniques have been documented to be viable and successful in similar compensatory mitigation projects in the Virgin Islands. The recipient sites and the restoration site are all viable habitats supporting the same species. The proposed plan takes in consideration the needs and conditions of the marine resources in Charlotte Amalie Harbor and their relationship with the proposed areas for restoration, enhancement and protection. Their location in proximity to the impact areas and the similar conditions and habitats found in the impact areas and the mitigation areas ensure likelihood of ecological success and sustainability of the mitigation. The proposed mitigation performance standards are based on objective and verifiable attributes that measure functional capacity. The proposed management strategies anticipate likely challenges and provides for the implementation of adaptive management measures to address those challenges. The proposed management strategies for the mitigation areas also allow for modifications to the components of the mitigation plan that may be needed to address unanticipated issues or problems.

e. Long-term viability of mitigation/mitigation site [how the compensatory mitigation project will be managed after performance standards have been achieved to ensure long-term sustainability of the resource]:

Permittee-responsible: Navigational aid buoys will be placed at both recipient sites and Triangle Reef notifying boaters of the presence of important resources and the need for caution while boating and requesting that the boats not anchor.

f. Site Protection:

Permittee Responsible: Navigational aid buoys will be placed at both transplant recipient sites notifying boaters of the presence of important resources and the need for caution while boating and requesting that the boats do not anchor. Three mooring buoys will be placed near the seagrass transplant site to protect the area from future anchor damage. Additional informational buoys will be placed off of Triangle Reef where habitat restoration will be undertaken as part of the compensatory mitigation plan. USVI Department of Planning and Natural Resources will be responsible for the long-term maintenance of these buoys. Acceptance of responsibility by USVI Department of Planning and Natural Resources to maintain the buoys is evidenced by their letter contained in Attachment C(u) of the Environmental Assessment.

g. Financial Assurances:

Permittee Responsible: The U.S. Virgin Islands Department of Public Works is committed to conduct this compensative mitigation plan and guarantee that the mitigation plan, maintenance and monitoring has and will occur as proposed. Virgin Islands Department of Public Works provided financial assurance as per the USACE guidance documents the amount of the cost of the mitigation program, compensatory mitigation and subsequent monitoring throughout the implementation and monitoring periods. The Financial Assurance will follow the guidelines set out by the USACE Guidance Letter No. 50-1, 14 February 2005, SUBJECT: Guidance on the Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds. The permittee acquired a bond in the amount of $928,000.00 which covers both the implementation of the minimization and compensatory mitigation and long-term monitoring.

h. Other relevant factors: N/A

8.3.7.3 Selection relied upon the following aspects of the Mitigation Plan, §332.4(c)(2)-(14): Information regarding each of the components is conveyed below.

a. Objectives: The objective of the minimization mitigation is to minimize the impact of the roadway improvements which are proposed along Veterans Drive (Route 30). In order to mitigate for these impacts corals and seagrass within the area of impact (which extends beyond the direct impact foot) will be transplanted prior to construction. As part

of a compensatory mitigation plan for impact that cannot be avoided improvements to drainage structures along the waterfront will also be made to help improve water quality of runoff into the bay, mooring and informational buoys were installed to protect the coral and seagrass transplant areas and to protect existing seagrass and corals within those areas. Information signage will be placed along the waterfront promenade to educate local residents and tourists alike on the importance of our marine resources. And a two-acre restoration project was undertaken which repaired existing vessel strike damage on Triangle Reef. Buoys will be installed to help prevent future impacts to this habitat at the completion of monitoring (2024) A cleanup of 1500sq.ft. of debris from a 0.3 acre seagrass was implemented to mitigate for spudding and mooring relocation impacts.

b. Site selection: The transplant sites were selected due to their proximity and similarity to the proposed impact sites. Both recipient sites have better water quality than the project site. The coral relocation area off Frederik Point, Hassel Island was chosen since it is of similar rock substrate and there are areas into which corals can be transplanted which are the same depths from which the corals are being taken. There was also available space to relocate the un-colonized coral rock boulders.

All of the coral species being transplanted, *Diploria strigosa, Stephanocoenia michilini, Siderastrea siderea, Montastrea annularis, Porites astreoides, S. radians, Porites porites*, and *Dendrogyra cylindrus* were present within the recipient site area. The recipient site is delineated as the same habitat type, Reef/Colonized Bedrock, of project area on the NOS Benthic Habitat Map.

The seagrass recipient site on the east side of East Gregerie Channel is slightly deeper than most of the project site, but water quality is much better and the transplanted seagrass will not be impacted by a reduction of light availability. Seagrass currently thrive within the area. The recipient site also had numerous scars from boat groundings into which seagrass can be transplanted. The recipient site was delineated as the same habitat type, Seagrass 70-90 percent as about 50 percent of the project area. The area was also the closest area of this habitat type which has better water quality than the harbor.

c. Site protection instrument: Both proposed recipient sites are offshore of Hassel Island adjacent to lands which are held by either the Virgin Islands Government or National Park Service. Any alteration of these areas would require a USACE Permit and a Department of Planning and Natural Resources Water Permit therefore a Site Protection Instrument should not be necessary as that approval for this mitigation plan is being sought through those two agencies. Virgin Islands Department of Public Works placed buoys offshore of each mitigation site indicating the presence of protected species and the necessity of caution while boating or anchoring. Buoys will also be placed at Triangle Reef, the compensatory mitigation site, to protect the repaired corals as well as the 2-acre reef site at the conclusion of monitoring.

d. Baseline information: The seagrass recipient site is located in an embayment just south of Haulover Cut on the western shoreline of Hassel Island. The area has a sandy bottom and varying degrees of seagrass colonization. *Thalassia testudinum,*

Syringodium filiforme and Halodule beaudettei area present as well as Halimeda, Caulerpa, Udotea, Avrainvillea, Laurencia, Hypnea and *Penicillus*. There were blowouts and boat scars in the area which are ideal for transplanting.

The recipient site is on the southeastern corner of Hassel Island. It is composed of bedrock and boulders and is of similar rock composition as the project areas which was impacted. The site had adequate open rock area in the appropriate depths to receive the corals. Within the area are *Acropora palmata, Diploria labyrinthiformis, Diploria strigosa, Stephanocoenia michilini, Siderastrea siderea, Orbicella annularis, Porites astreoides, S. radians, Porites, Millepora alcicornis, M. complanata, Dendrogyra cylindrus, Montastrea cavernosa, Dichocoenia stokesii, Agarica agaricites* and *Meandrina meandrites*.

e. Determination of credits (including assessment of Indirect and Secondary Effects and Impacts in wetlands): There is no mitigation banking in the Virgin Islands. The Department of Public Works has coordinated with the USACE and the National Marine Fisheries Service as to the appropriate amount of compensatory mitigation

f. Mitigation work plan: First divers collected those corals and sessile invertebrates that colonize riprap, cobbles and rocks within the footprint that are of a small enough size to allow hand carrying. Divers wore disposable gloves while working with corals and keep any coral that appear unhealthy or diseased away from other corals. No corals appeared unhealthy or diseased. The corals were placed in underwater bins and these bins were be placed on a transport tray suspended underneath the vessel which was used to relocate the corals. Once the tray was full, the vessel slowly motored to the recipient site. Once on site the corals in their baskets were carried by divers to the seafloor. The coral encrusted rocks and rubble were placed in the recipient site in such a fashion that the rock is stable and will not be subject to movement. Care was taken so that these transplanted materials did not impact existing organisms at the transplant site.

Using lift bags, and ropes divers lifted and transported larger coral colonized rocks, coral heads and un-colonized coral boulders on to a transport tray which was placed on the seafloor. The tray was then lifted with lift bags to the harness below the vessel and firmly secured to the vessel. The vessel then slowly carried the organisms to the recipient site. Once on site lift bags were attached to the tray and was released from the vessel and the tray was carefully lowered to the seafloor. Once on the seafloor the boulder or coral was lifted by lift bag and then placed in its new location. When attaching the corals to the lift bags ropes were placed so that they avoid live coral tissue.

Individual corals that are attached to the pavement or to rocks or boulders that could not be moved were removed with chisels. This included small head and plate corals. These corals were collected in bins and then placed on the underwater transport tray under the vessel. Once the tray was full, the vessel slowly motored to the recipient site. The bins were carried by divers to the seafloor. These corals were then be fixed in placed in their new locations with either two-part underwater epoxy, which sets in a matter of minutes (Slashzone) or hydraulic cement. The base of the coral was carefully

cleaned with a wire brush and the new substrate was cleaned to remove algae and any other material which might interfere with the adhesion of the epoxy or cement. The new locations was either existing un-colonized coral boulders or rubble or bedrock. The coral were carefully placed and held until the epoxy or cement starts to set.

The recipient site is located to the south, the area is a similar habitat type with bedrock and dead coral substrate and has similar water depth to the area from which the corals were be taken (0'-10'). The area is typically less turbid than the site from which the corals are being transplanted from. The area is more open and has more current.

There were a number of large coral rock boulders which are scattered off of the rocky headlands which were within the impact and potential impact footprint which were not colonized some of which are over a meter in diameter.

There were approximately 25 boulders that could be moved with a surface areas ranging from 100 sq. ft. to 250 sq. ft. each for a reduction of critical habitat impact of 5,000 sq. ft. leaving 1.86 acres of critical habitat impact.

The sediment was found to be of sufficient consistency to be relocated with the grass, large sodding squares were be cut from the beds and the sodding units were placed on large metal trays (8'x4') and carried utilizing lift bags to the boat for transport to the recipient site where they were placed in depressions excavated to receive them. The seagrass was covered during transport to avoid grass and sediment loss. The planting units were planted abutting one another to aid in the stability of the newly planted bed. Seagrass staples were utilized to stabilize the planting units.

During the transplanting activity, all invertebrates encountered within the area of impact, conch, starfish and lobster and other small invertebrates were relocated. It is however probable that not all juveniles were found and relocated. Fish species would have been able to leave the area as impacts occur and there are abundant seagrass beds and coral colonized hard bottoms to the south in the harbor to which they could relocate. Many of the smaller fish were inadvertently transplanted as corals and seagrass were moved. During previous transplants, wrasses and damsels frequently followed corals into baskets and move with the coral to the new site.

During construction the spudding impacts of barges were monitored and seagrass which has been torn loose due to spudding impacts was collected and transplanted into the mitigation area. Also spud holes were filled to prevent the entrapment of invertebrates.

As part of the compensatory mitigation for critical habitat, a restoration project was undertaken which will repaired existing vessel strike damage on the reef. Loose corals were reattached within the more than 2 acres of critical habitat.

As compensatory mitigation for spudding and mooring relocations to seagrass beds, 1500sq.ft. of debris was picked up by divers from 0.3 acres of seagrass bed within the harbor.

Eight Information signs will also be placed along the waterfront lookouts to inform visitors of the resources within the harbor and educate them on the importance of protecting the marine environment. VIDPW will coordinate with NMFS on the signage. The informational signage describes the habitat types and the types of species which use the habitats and their importance in fisheries.

Additionally, four (4) information buoys were placed to protect the transplant zones. The informational buoys were placed on helix anchors and floating lines were used to protect the seafloor.

g. Maintenance plan: Divers surveyed the coral recipient site on a bi-weekly basis for the first two months after the transplant to ensure that the corals had not become unattached or shifted. If for any reason the corals became loose or moved, they were re-situated and or reattached. After the first two months, the corals were monitored on a monthly basis, making sure that the rocks remained stable and not shifted, and that corals and sponges have not come loose. If necessary, corals were re-positioned and re-attached.

Divers surveyed the seagrass recipient site on a monthly basis, making sure that the seagrass had not become uprooted and will re-bury seagrass that are coming loose from the substrate.

h. Performance standards: It is the intent of this transplanting program to obtain a minimum of 85 percent survival of the transplanted corals and seagrass. The Virgin Islands Public Works Department is committed to put forth the greatest effort to see that the relocation is successful and that they obtain the greatest potential survival of transplanted organisms. At the end of five years 91% of the corals were viable and 87% of the seagrass was viable. The seagrass survival was impacted by anchoring vessels.

i. Monitoring requirements: As per the guidelines set forth in §230.96 Monitoring the mitigation project will be monitored for a minimum period of 5 years. The fifth years monitoring reports for both the seagrass and corals are attached herewith.

j. Long-term management plan: Navigational buoys placed at both recipient sites and Triangle Reef notifying boaters of the presence of important resources and the need for caution while boating and requesting that the boats not anchor assist in protecting the resources. The USVI Department of Planning and Natural Resources will be responsible for the long-term maintenance of these buoys. Acceptance of responsibility by USVI Department of Planning and Natural Resources to maintain the buoys is evidenced by their letter contained in Attachment C(u) of the Environmental Assessment.

k**.** Adaptive management plan: The mitigation has exceeded 80% survival therefore no alternative plan was required for the seagrass and coral transplant and the Triangle Reef compensatory mitigation is currently over 90%.

l. Financial assurances: The Virgin Islands Department of Public Works is committed to conduct this compensative mitigation plan and will guarantee that the mitigation plan, maintenance and monitoring will occur as proposed. Virgin Islands Department of Public Works secured financial assurance required in the amount of $928,000.00, the cost mitigation program and subsequent monitoring throughout the implementation and monitoring period. The financial assurance will follow the guidelines set out by the USACE Regulatory Guidance Letter No. 50-1, 14 February 2005, SUBJECT: Guidance on the Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds.

m. Other information**:** N/A

8.3.8 Other mitigative actions: Eight Information signs will also be placed along the waterfront lookouts to inform visitors of the resources within the harbor and educate them on the importance of protecting the marine environment as part of the projects compensatory mitigation. VIDPW will coordinate with NMFS on the signage. The informational signage will describe the habitat types and the types of species which use the habitats and their importance in fisheries.

9.0 Cumulative and Secondary Impacts

9.1 Geographic scope: The project will impact the entire Charlotte Amalie Harbor Area from the cruise ship port at Havensight to the waterfront in Frenchtown.

9.2 Temporal scope: The project will have a significant long-term permanent impact on the waterfront. The project will permanently change the existing waterfront through filling.

The temporal scope of this analysis spans from the early 1970's through the 5 years of proposed construction. While there is a large volume of historical data available from the 1700's this data is inadequate to analyze the effects that have occurred to the resources. Actions that may have occurred to the resources during this time frame were not well documented and to determine the cumulative impact on the harbor would be impossible. Starting in the 1970's there are high resolution color aerials available which allow for the identification of habitat types within the harbor. Starting in the 1980's, Bioimpact, Inc., the environmental consultant working on this project started working on projects within the harbor and has detailed knowledge of the impacts which have occurred.

During the continued construction, there will be potential adverse effects to the environment and to the public due to disruptions in traffic flow and access over the 5 years of construction of the project. Long term the project will improve traffic congestion and the aesthetics of the waterfront.

9.3 Historical conditions of the area subject to this analysis: There are significant historic resources included in the Charlotte Amalie Historic District including the Legislature Building, also individually listed on the National Register, and Fort Christian, also individually listed as a National Historic Landmark. The project area is a historic urbanized waterfront, with numerous historic buildings along the waterfront. Charlotte

Amalie Harbor has been subject to impact since its development as a port in the 1700s. It was one of the most important ports in the Caribbean in the 1800's. The shoreline supports piers and bulkheads. In the 1900's in order to stay competitive the Danes dredged the harbor and constructed wharfs along the shoreline. An example of a historic resource which remains along the shoreline of Veterans Drive is King's Wharf, which is located on the west side of the promontory around the legislature building. As part of this project, a Historic American Engineering Record Documentation of the wharf was prepared and accepted by the USVI State Historic Preservation Office (SHPO). Additionally, a Submerged Cultural Resources Survey was performed and accepted by SHPO. The proposed improvements will have a negligible impact on the remaining portion of original pier. During this investigation several potentially significant resources were identified. All but one of these resources is located outside the project's area of potential effect. This target will be relocated outside of the project construction limits to assure no impacts occur from the proposed improvements. Significant fill was placed along the waterfront in the 1970's creating the existing apron. The area around the West Indies Company dock has been subject to periodic maintenance dredging as has the entrance channel into Charlotte Amalie.

Prior to any development within the area there were corals colonizing the hardbottoms fringing the harbor and dense seagrass bed throughout the harbor. The skeletons of corals which once occupied the harbor are present today. Extensive anchoring damaged seagrass beds and hardbottom impacting resources. Channels were dredged and pollutants were released into the bay. When water quality in the harbor became extremely poor, he cut between St. Thomas and Hassel Island was opened. As late as the 1960's the harbors waters were clear and long-term residents speak of snorkeling and diving in the clear waters and of the dense seagrass beds and thriving coral communities around Rupert Rock.

Over the last thirty years there has continued to be heavy marine use and periodic dredging of waterways. There has been continued development of upland areas and increasing sedimentation and erosion into the harbor. Water quality is effected by nutrients and bacteria from upland runoff.

Due to the degrading water quality and heavy sedimentation within the harbor the density of corals remaining within these areas has declined and the species have shifted to more sediment tolerant ones. Seagrass beds have diminished and there are large areas where macro algae is most abundant.

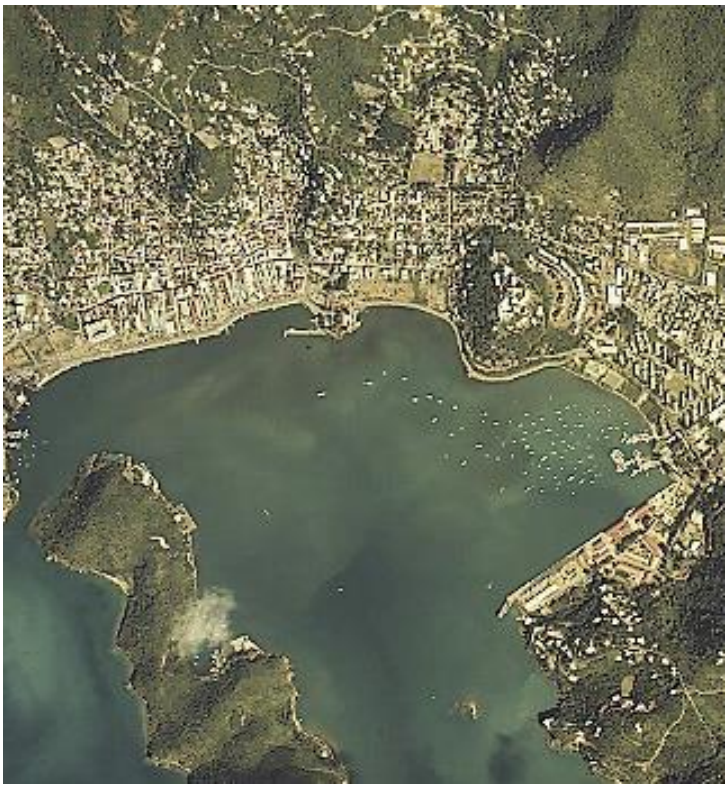
Despite the impacts the harbor still supports a diverse benthic community of seagrass and scattered corals on hardbottom areas.

9.4 Major changes to the area and description of current condition: The waterfront is a heavily used urbanized waterfront and has been since historic times. The harbor is one of the few natural deep-water harbors. The waterfront is currently altered by the existing apron along the front of town, the riprap between the legislature and Havensight and the bulkheaded WICO cruise ship facility. This project will result in additional major changes to the waterfront and harbor through the placement of fill expanding the

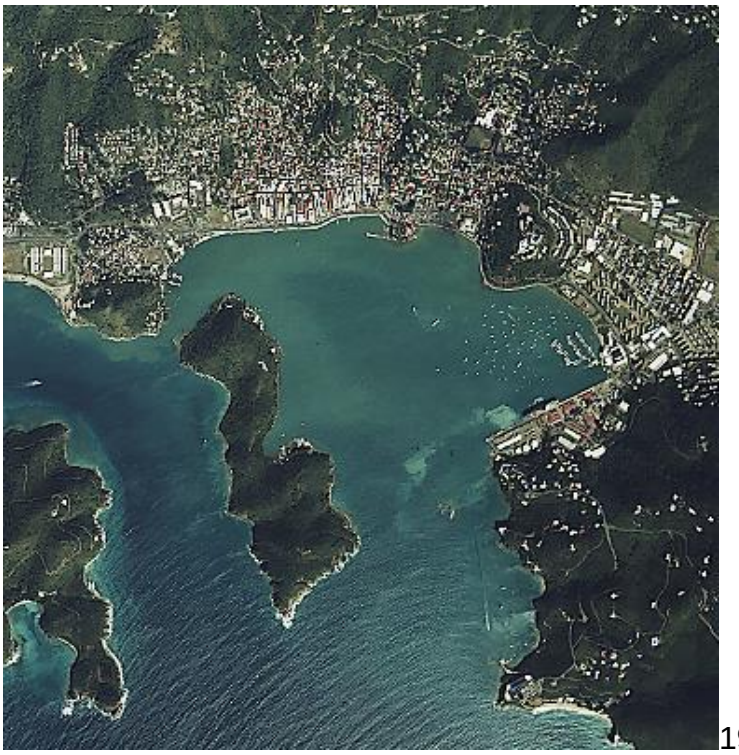
waterfront into the harbor. Phase I and II in total will add an additional 8.57 acres to the waterfront and reduce the same amount from the harbor.


1954 Aerial Service photograph

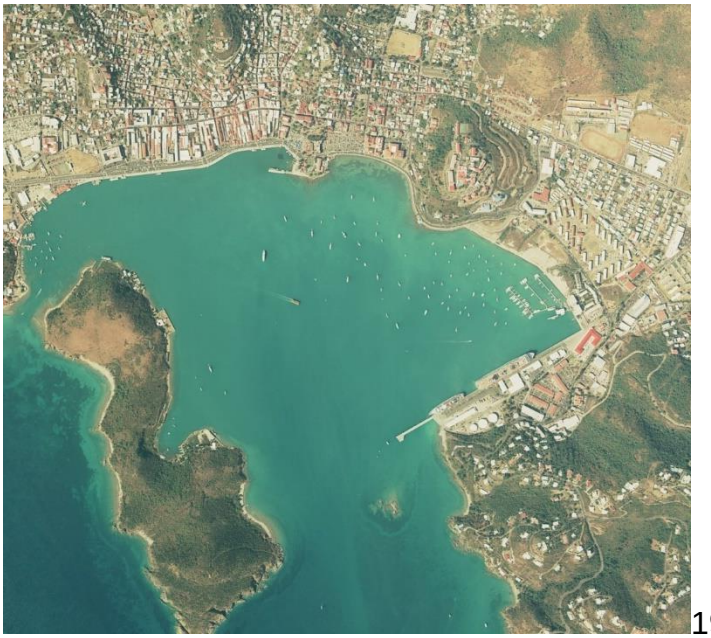
As shown above, even by 1954 the entire area was highly developed and turbidity plumes are visible in the harbor. The bulkhead is present along the waterfront, the Kings Wharf Pier has been constructed and fill material has been placed along the West Indies Company Dock. The shoreline portion of roadway around Frederiksberg Point is not present. These developments in the harbor would have resulted in the loss of seagrasses along the waterfront and the developments around the Legislature Building would have impacted coral colonized hardbottoms. The reduced water quality in the harbor would have a negative impact on the corals, seagrasses and other resources in the harbor.


1971 Aerial Service photograph of the project area.

By 1971 the roadway around Frederiksberg Point has been constructed and the areas both to the east and west of Frederiksberg Point have been filled and have expanded into the harbor. Additional filling has occurred to the west of the Legislature as well with the expansion of the apron in town. The number of vessels in the harbor has significantly increased and there is now a dock development adjacent to the West Indies Company dock. The roadway around the point would have impacted coral colonized hardbottoms and the filling of portions of the harbor would have impacted and reduced the seagrass beds within the harbor. As noted in the photograph above, water quality in the harbor is poor which would have a negative impact on the seagrasses, corals and other resources within the harbor.

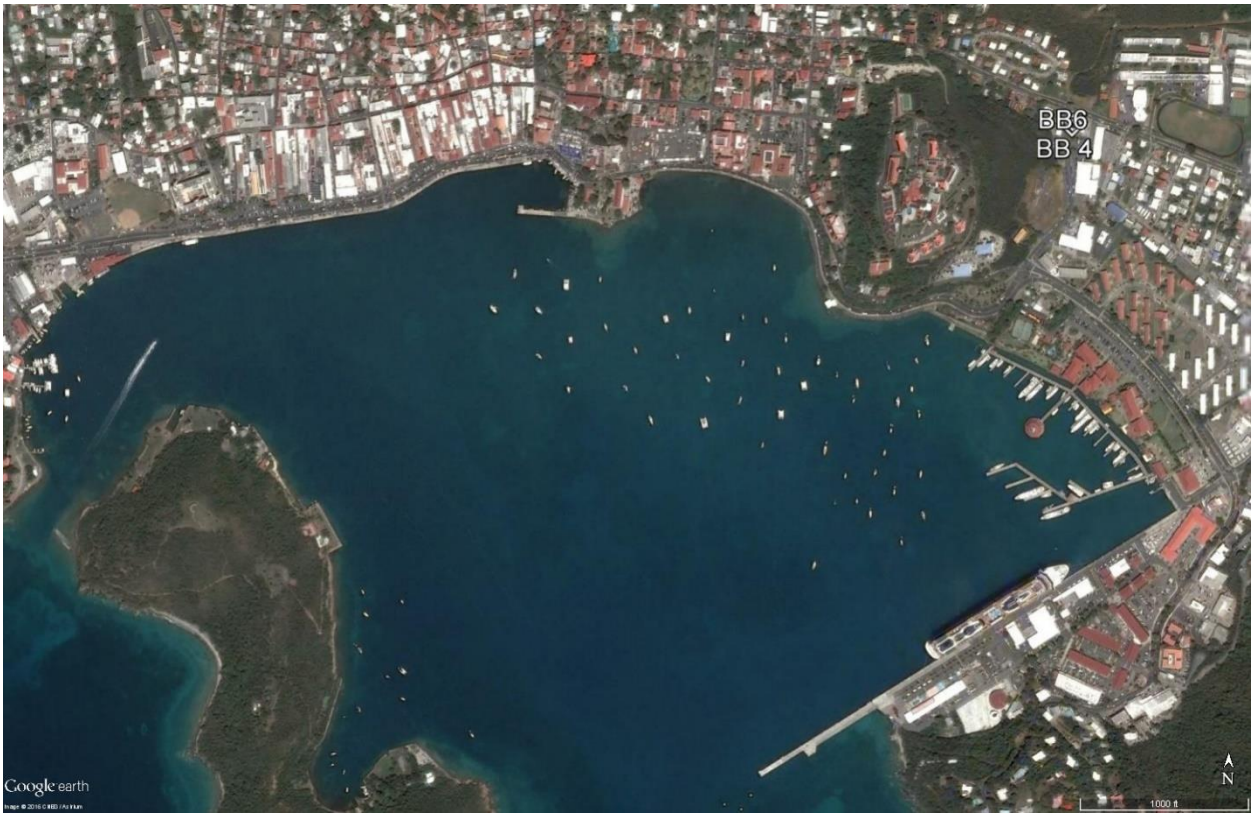

1976 Aerial Service photograph

By 1976 the docks at Yacht Haven have been constructed. There are scattered remnants of seagrass within the area so it is probable that the construction of these docks negatively impacted seagrass beds within the area. Water quality remains poor and it appears that some dredging activity is occurring along the West Indies Company docks impacting water quality within the harbor.


1999 Aerial Service photograph

By 1999 additional filling has occurred to the east of Frederksberg Point and the West Indies Company dock has been extended. The filling would have impacted both

seagrasses and coral colonized hardbottoms. The entrance channel into the harbor was dredging as were areas around the West Indies Company dock. The channel dredging negatively impacted water quality within the harbor. Approximately 2 acres of seagrass was transplanted out of the channel prior to dredging.



2014 Google Earth aerial

This aerial is of course much higher quality and features are more distinct. Since 1999, the West Indies Company Dock has again been expanded and minor maintenance dredging has occurred along their bulkhead and a portion of the sheet piling has been replaced. It is probable that corals were impacted during sheet pile replacement. The Yacht Haven docks have been demolished and rebuilt as the Yacht Haven Grande facility. Minor seagrass impact occurred as part of this activity. Riprap was placed along the shoreline from Yacht Haven Grande to the legislature. This activity would have impacted the sparse corals remaining on the exposed hardbottoms. Water quality has improved from the 1990's with reduction of discharges into the harbor.

The harbor still supports scattered Thalassia and Syringodium, and corals are still present on the remaining areas of hardbottom. A detailed description of resources is provided in FHWA's EA for the project.

9.5 Anticipated cumulative and secondary/indirect impacts (environmental consequences) of the proposed action: Phase I and II in total require filling 8.57 acres of Charlotte Amalie Harbor. In total this resulted in filling 1.15 acres of seagrass beds and 2.97 acres of hardbottom with sparse coral colonization. It is anticipated that

there will also be impacts due to the construction activity as much as an additional 450 sq. ft. of seagrass may be lost due to the use of barge spuds. While mitigation to minimize overall impact was implemented and compensatory mitigation has been undertaken this will result in a loss of marine habitat within the harbor. The seagrasses and corals were transplanted out of the harbor to minimize impact. There were no viable alternatives to transplant seagrass or corals within the harbor. The harbor will continue to have viable seagrass beds and in unaltered areas coral resources. And it is probable that overtime corals will colonize the quay wall. The existing resources will still support a healthy marine community. These activities coupled with those which have occurred over time will further reduce the amount of viable seagrass and coral within the harbor and will reduce the amount of habitat present for fish and invertebrates.

The reduction of open water within the harbor should have no impact on navigation since the only navigation which occurs within the proposed footprint is to the bulkhead to drop off guest or tie up.

The project will have short term water quality impacts during construction but should not have a significant impact long-term on water quality. The proposed drainage improvements may improve the quality of storm water being discharged into the marine environment. This project should continue the trend of improving water quality within the harbor once the construction is completed and the improvements in the drainage ways is complete. Phase I drainage improvements are improving water quality.

West Indies Company replaced 800ft of bulkhead at their dock. More than 11,000 corals were transplanted out of the harbor prior to construction. VIPA is about to start maintenance dredging along the bulkhead, in the turning basin and in the channel. Seagrasses will be impacted and transplant mitigation is proposed. Seagrasses will be transplanted to areas in the southeastern portion of the harbor.

This project coupled with proposed changes at the West Indies Company facility and VIPA maintenance dredging will result in increased loss of seagrass within the harbor. While all these projects are transplanting seagrass much of it will be moved outside the harbor. There will be a cumulative decrease of seagrass within the harbor and a cumulative loss of seagrass within the harbor. It is also probable that the seavine *Halophila stipulacea* will become more abundant as areas are dredged and areas which are slow to be colonized by seagrasses are colonized by the seavine.

These projects will have an impact on water quality during construction, but this should be short term.

The intent of the West Indies Company and VIPA maintenance work is to allow additional cruise vessels to visit the port facility. Even with the deeper channels when the cruise ships are turning and docking their isopods suspend bottom sediments and large turbidity plumes are created. This will further degrade the water quality in the harbor as more cruise vessels visit the West Indies Company facilities. During Covid with the lack of cruise ships water quality in the harbor improved.

9.6 Reasonably foreseeable future actions: Once the Veterans Drive project is completed it will span the entire length of the waterfront, and it is improbable that there will be additional work within the foreseeable future within the project footprint. However, it is probable that additional work will occur in areas in close proximity to the project area which will increase the impact to the overall area.

VI DPW does not have any plans for future development within the area in the foreseeable future and at present there are no other applications, other than the VIPA Dredging project which was just permitted but USACE.

Yacht Haven Grande has permits for the expansion on of their facility and permits for the dredging of some of the footprint will be issued soon.

West Indies Company (WICO) has withdrawn their proposal to construct a new cruise ship dock which would have overlapped with the project area (Long Bay Landing). This project has been temporarily tabled, but due to the need for additional cruise ship space to stay competitive in the cruise ship market, another plan is underway in Crown Bay.

WICO is considering constructing a marina to the east of the cruise ship terminal. This project is only conceptual but if constructed this project would impact hardbottom and seagrass beds. While corals and seagrasses within the project footprint would be transplanted out of the area, this will continue the trend of the loss of habitat within the harbor proper.

It is probably that the Virgin Islands Port Authority will undertake maintenance or improvement projects on the Ferry Terminal and Seaplane facility at the western end of the harbor sometime in the foreseeable future, while no plans have been presented both facilities are old and will eventually need maintenance and upgrades. Both of these facilities are in areas of limited resources, but both have the potential to impact water quality.

No applications have been submitted for any of the marinas which fringe the harbor from Frenchtown.

The Virgin Islands Water and Power Authority is considering supplying the cruise ships at the WICO facility with electrical power while at port. Plans are being considered which would bring a fiber optic cable in and out of the port facility. This should have a minimal impact on benthic resources but could have a positive impact on air quality since ships would not have to run their engines in port.

The National Park Services has recently completed restoration activities on the northwestern side of Hassel Island. These activities had minor impacts to seagrass beds and short-term impacts to water quality.

9.7 Effect of the proposed mitigation, including avoidance and minimization, on reducing the project's contribution to cumulative effects in the region: The intent of the proposed mitigation will reduce the cumulative impacts of the proposed project and to offset impacts which have occurred from other actions in the past. The mitigation moved corals and seagrass from the project footprint and areas of potential impact.

Steps were and will be taken to minimize impacts of temporary construction impact. The project has undertaken the restoration of a damaged hard bottom area and with the placement of buoys at that site and the transplant recipient site, these actions may prevent future impacts to resources. The project will also be installing education signage along the waterfront which will lead to an increased awareness of the surrounding environment and lead to great protection in the future.

The improvements in the drainage system will help to improve runoff water quality in the future and offset the impacts which have occurred overtime degrading the water quality within the harbor. Improving water quality should help to restore the seagrass beds which once thrived in the bay and should allow recolonization of hardbottom areas by corals.

The mitigative minimization efforts along with those which are proposed by VIPA during their proposed projects will help minimize loss of seagrasses and corals within the greater region. All the plans will result in transplants out of the harbor to nearby areas south along the coast of St. Thomas or Hassel Island.

As stated in NOAA EFH's June 17, 2015 letter "The FHWA and DPW have worked conscientiously with the NMFS to allow the project to proceed in a manner that adequately minimizes impacts and provides compensatory mitigation for the unavoidable impacts. As a result of this coordination, the NMFS agrees the goals of the Magnuson-Stevens Fishery Conservation and Management Act and the regulations for implementing the EFH requirements of the Act will be met for this project.

NMFS PRD also concluded in their Biological Opinion "NMFS has analyzed the best available data, the status of the species, environmental baseline, effects of the proposed action, and cumulative effects to determine whether the proposed action is likely to jeopardize the continued existence of pillar and lobed star corals. It is our Opinion that the expansion of Veterans Drive from Long Bay Road to the Windward Passage Hotel is not likely to jeopardize the continued existence of pillar coral or lobed star coral.

In conclusion that the majority of the project impacts are expected to be insignificant, largely due to the avoidance and minimization measures to be implemented. Furthermore, the effects of the proposed compensation in protecting and enhancing the resources to be impacted (seagrass and corals) will not only off set loss of resources, but will enhance the surrounding resources around Charlotte Amalie Harbor and help protect those resources in the future.

9.8 Conclusions: The project will contribute to the cumulative effects within the harbor, the project will reduce the number of viable corals, the amount of coral habitat and seagrass beds in the harbor and in the region. Steps have been taken to avoid, minimize and mitigate these impacts to the greatest extent possible. However, all transplants have some species loss and overall there will be a loss of coral and a loss of seagrass. To offset this loss compensatory mitigation is proposed to restore areas so that corals are not lost, to protect areas so that existing corals and seagrass are not impacted by vessels and to improve water quality so that more corals and seagrass

may colonize to replace those which are lost because of this and other projects. The mitigative actions proposed by this project will help offset the long-term cumulative impacts which have occurred in the harbor in the past and the additional cumulative impacts which will result from this project.

10.0 Other Laws, Policies, and Effects:

10.1 Endangered Species Act (ESA):

10.1.1 Name of Species considered: This project considered the potential for the project to effect on elkhorn (*Acropora palmata*) and staghorn (*Acropora cervicornis*) corals and their designated critical habitat; pillar (*Dendrogyra cylindrus*), lobed star (*Orbicella annularis*), mountainous star (*Orbicella faveolata*), boulder star (*Orbicella franksi*), and rough cactus (*Mycetophyllia ferox*) corals; and hawksbill (*Eretmochelys imbricata*), green (South Atlantic distinct population segment (DPS) (*Chelonia mydas*), and leatherback (*Dermochelys coriacea*) sea turtles. NMFS published a final rule listing Nassau grouper (*Epinephelus striatus*) as threatened on June 29, 2016 (81 FR 42268), therefore this project also analyzed potential project effects on Nassau grouper.

Nassau Grouper critical habitat has been designated and the project is not in the designated habitat. Critical habitat was designate for the 5 additional corals which overlaps acropoid coral critical habitat. Acropoid critical habitat has been mitigated for.

Queen Conch is under evaluation for listing. The areas to be impact in Phase II are not Queen Conch habitat. Phase II is primarily impact to mud bottom with limited colonization.

10.1.2 Effects Determination:

NMFS concluded that the proposed action will have no effect on leatherback sea turtles *(Dermochelys coriacea*); and is not likely to adversely affect green (*Chelonia mydas*, South Atlantic distinct population segment), and hawksbill (*Eretmochelys imbricata*) sea turtles; elkhorn (*Acropora palmata*), staghorn (*Acropora cervicornis*), boulder star (*Orbicella franksi*), mountainous star (*Orbicella faveolata*), and rough cactus (*Mycetophyllia ferox*) corals; and elkhorn and staghorn coral critical habitat. NMFS also concluded that the proposed action is likely to adversely affect but not likely to jeopardize the continued existence of lobed star (*Orbicella annularis*) and pillar (*Dendrogyra cylindrus*) corals. NMFS further concluded that the proposed action is not likely to adversely affect the Nassau grouper.

NMFS has provided an Incidental Take Statement (ITS) with their Opinion. The ITS describes the reasonable and prudent measures that NMFS considers necessary or appropriate to minimize the impact of incidental take associated with this action.

FWS has consulted on the project since 1995 and states in their correspondence of February 10, 2014, Section 7 consultation under the ESA was concluded for the species under our jurisdiction and no additional adverse effects to these species are anticipated.

10.1.3 Basis for determination: A Biological Assessment completed in December 2013 and updated in 2014 and 2016 after the listing of the additional coral species and fish species, this BA was reviewed by NMFS and their recommendations were incorporated into the document.

Sea Turtles - Hawksbill (*Eretmochelys imbricata*), Leatherbacks *(Dermochelys coriacea)* and Green turtles (*Chelonia mydas*): Leatherback sea turtles are an offshore species that are rarely observed close to shore except during their nesting season. According to NMFS Biological Opinion, no leatherback nesting habitat is present in Charlotte Amalie Harbor, and there have been no reported sightings of this species in the harbor. Therefore, leatherbacks are not expected to be present in the action area, and the project is not expected to result in any effects on leatherback sea turtles. On the other hand, Green and hawksbill sea turtles are reported in the action area. According to NMFS Biological Opinion, recent dredging projects in Charlotte Amalie Harbor have reported various sightings per day for both species. Based on the sightings information from other recent construction projects in Charlotte Amalie Harbor, sea turtles are not common close to shore but rather are more commonly found in waters around Hassel Island, Water Island, and the entrances to the harbor. The proposed project may affect but is not likely to adversely affect Green and Hawksbill sea turtles.

The potential adverse effects that the proposed project could have on Green and Hawskbill sea turtles would be related to impacts due to injuries and collisions from in-water equipment and vessel traffic and impacts to turtle foraging habitat both directly and through water quality impacts, and potential impacts to turtles due to the ensonification of the area during the driving of piles. There is also the potential that turtles may become entangled in the turbidity and noise control curtains. Special precautions would be used to minimize these potential impacts. Coral and Seagrass Transplants, Water Quality Control and Monitoring and Acoustic Impact Mitigation are proposed.

Mitigation efforts have been proposed to minimize and abate impacts to sea turtles and their foraging habitat. The project will be constructed in strict observance of NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*, as well as NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners*. The implementation of the construction conditions will provide protection to sea turtles by requiring temporary work stoppages to protect any sea turtles sighted within 50 ft of the in-water work footprint. The avoidance measures will require all vessels to operate at low speeds, have sea turtle and marine mammal observers, and maintain safe distances from sea turtles. NMFS has also determined that installation of metal sheet piles by vibratory hammer will not result in any form of physical injurious noise effects and that the potential for adverse noise behavioral effects would be insignificant. On the other hand, if impact hammer use is determined to be necessary, prior to using this technique, the contractor will be required to coordinate with NMFS to determine whether additional mitigation measures are needed. A pre-cast wall system is proposed and an impact hammer should not be needed.

Based on the above, the potential adverse effects of the project on sea turtles have been determined to be either insignificant or discountable.

Elkhorn, Staghorn, Rough Cactus, Boulder Star, and Mountainous Star Corals

FHWA and DPW consultants surveyed various locations in Charlotte Amalie Harbor, including around Hassel Island and on reefs near the eastern channel harbor entrance for the Veterans Drive project to develop navigation routes and mitigation sites, and found elkhorn colonies at various locations. None of these elkhorn coral colonies are within the in-water work footprint of the project, or within the area to be included in the expanded roadway. The nearest elkhorn coral colonies are near Hassel Island, approximately 550 m from the westernmost end of the Veterans Drive project. No staghorn, rough cactus, boulder star, or mountainous star corals were observed during the benthic surveys conducted for this project. NMFS files for other projects in Charlotte Amalie Harbor confirmed the same information. However, these 4 coral species may be present around Hassel Island or in reefs near the harbor entrance outside of the surveyed areas.

Elkhorn coral (*Acropora palmata*) occurs on Rupert's Rock which is located in Charlotte Amalie harbor about 0.69 miles to the south-southeast of the project area, on the southern shore of Hassel Island further to the south, and around Muhlenfels Point. The proposed project will not directly impact any *Acropora* corals. The nearest elkhorn coral colonies are near Hassel Island, approximately 550 m from the westernmost end of the Veterans Drive project. Elkhorn coral colonies could be affected by the transit of work vessels to and from the in-water construction site if a work vessel was to ground on a shallow reef or colonized hard bottom area containing these corals. However, due to measures proposed by the applicant, including limiting work to daytime and marking navigation routes, NMFS believes the potential for accidental groundings impacting elkhorn coral colonies highly unlikely and therefore the effect of vessel grounding is discountable. NMFS also believes that staghorn, rough cactus, boulder star, and mountainous star coral colonies do not have the potential to be impacted by accidental groundings associated with this project. Navigation routes were surveyed as part of benthic surveys conducted for the Veterans Drive project and these 4 species of corals were not observed. The project may result in impacts to elkhorn, staghorn, rough cactus, boulder star, and mountainous star corals that may be in the action area due to the transport of sediment and land-based pollutants from stormwater discharges outside the in-water work footprint. The use of turbidity barriers around the in-water work footprint is expected to minimize the transport of sediments outside the construction footprint. Contractors will also be required to implement of a water quality monitoring plan. The plan is meant to ensure that the barriers are effective in minimizing the transport of sediments outside the in-water work footprint and that stormwater control measures are effective in minimizing the transport of land based pollutants to nearshore waters. These measures will protect ESA-listed elkhorn, staghorn, rough cactus, and mountainous star corals that may be in the action area from the impacts of resuspended marine sediments and land-based sources of pollutants being transported to nearshore waters in the action area. Under the plan, DPW also will monitor the condition of seagrass and corals in the area adjacent to the in-water work footprint to ensure that

sediment and stormwater control measures are effective in minimizing the transport of pollutants outside the 22 acre construction area. Thus, NMFS believes that it is very unlikely that the transport of sediments and stormwater from the in-water and terrestrial work footprints will impact elkhorn, staghorn, rough cactus, boulder star, and mountainous star corals and therefore the effect of sediment and stormwater transport will be discountable. Phase II is located even farther from these resources.

The St. Thomas Harbor is one of the areas excluded from Acropora critical habitat [50 CFR 226.216(c)(3)(xi)]. Therefore, the hard bottom habitat that will be directly affected by the placement of fill for the roadway expansion in the St. Thomas Harbor is not elkhorn and staghorn coral critical habitat (or critical habitat for the additional corals critical habitat). The remaining hardbottom is currently heavily algal colonized and only limited area is available for coral colonization.

NMFS believes it is unlikely that elkhorn coral critical habitat outside the excluded area will be affected by transport of sediments from the in-water work footprint and stormwater from the upland demolition, construction site, and operation of the new roadway; therefore this effect will be discountable.

Lobed star coral (*Orbicella annularis*) Orbicella *annularis* are present within the project footprint on the rocky outcropping and boulders which extend around the Pump House and the U.S. Virgin Islands Legislature Building.

The Veterans Drive Improvements project could impact up to 6 lobed star coral colonies. There were12 prior to the 2017 passage of Hurricanes Irma and Marina. Pot hurricane only 6 were still viable. Prior to any in-water construction activities, these colonies were relocated outside of the in-water work footprint to a reef site off Hassel Island, which is within the VINP and managed by NPS. NMFS believed that 1 lobed star coral colony could suffer mortality due to the stress of relocation given the expected 10% mortality of transplanted corals based on information from recent projects. The additional 6 lobed star colonies that were transplanted could suffer temporary effects from the stress of transplant such as partial tissue mortality, bleaching, or a lack of sexual reproduction within the first year following transplant. If lobed star coral recruits are present in the in-water work footprint and are too small to be observed during pre-construction surveys or too small to be transplanted, they could suffer mortality due to in-water construction activities. NMFS believed the effects of in-water construction on lobed star coral recruits are discountable due to the lack of evidence that lobed star coral colonies in the in-water work footprint are generating recruits. Temporary impacts to corals that are not observed during pre-construction surveys could also occur due to barge spudding, anchoring of turbidity barriers, and the installation of temporary marker buoys. Lobed star corals could also be affected by accidental grounding of work vessels transiting in the action area. NMFS believed the potential effects of spudding and anchoring of barriers and buoys will be discountable because the locations for spudding and anchoring of turbidity barriers and temporary marker buoys will be determined by divers to avoid ESA-listed corals and other benthic resources. NMFS believed the potential effects of accidental groundings will be discountable because navigation routes will be marked prior to any in-water construction and work vessels will not

operate at night and will anchor at Yacht Haven Grande when not in use. The project may result in impacts to additional lobed star coral colonies outside the in water work footprint due to the transport of sediment from dredging and in-water fill placement and land-based pollutants from stormwater discharges during shoreline demolition, construction activities, and operation of the expanded roadway. NMFS believed these effects will be discountable because of the planned in-water and terrestrial pollutant and sediment controls and monitoring that will be required during construction and operation of the roadway.

In conclusion, NMFS has determined that the anticipated level of lethal (1 colony) and nonlethal incidental take (11 colonies) of lobed star corals, is not likely to jeopardize their continued existence. At the end of 5 years of monitoring all 6 *Orbicella* are still viable and 3 repair *Orbicella* at the recipient site are thriving.

Pillar coral (*Dendrogyra cylindrus*) A *Dendrogyra cylindrus* was present within the project footprint on the rocky outcropping which extends around the U.S. Virgin Islands Legislature Building prior to the 2017 storms, it was not viable post hurricanes.

NMFS believed that 1 pillar coral colony could suffer mortality due to the stress of relocation given the expected 10% mortality of transplanted corals based on information from recent projects. The pillar coral colony that will be transplanted could suffer temporary effects from the stress of transplant such as partial tissue mortality, bleaching, or a lack of sexual reproduction within the first year following transplant. If pillar coral recruits are present in the in-water work footprint and are too small to be observed during pre-construction surveys or too small to be transplanted, they could suffer mortality due to in-water construction activities. NMFS believed the effects of in-water construction on pillar coral recruits are discountable due to the lack of evidence that the pillar coral colonies in the in-water work footprint are generating recruits. Temporary impacts to corals that are not observed during pre-construction surveys could also occur due to barge spudding, anchoring of turbidity barriers, and the installation of temporary marker buoys. Pillar corals could also be affected by accidental grounding of work vessels transiting in the action area. NMFS believes the potential effects of spudding and anchoring of barriers and buoys will be discountable because the locations for spudding and anchoring of turbidity barriers and temporary marker buoys will be determined by divers to avoid ESA-listed corals and other benthic resources. Similarly, NMFS believes the potential effects of accidental groundings will be discountable because navigation routes will be marked prior to any in-water construction and work vessels will not operate at night and will anchor at Yacht Haven Grande when not in use. The project may result in impacts to additional pillar coral colonies outside the in water work footprint due to the transport of sediment from dredging and in-water fill placement and land-based pollutants from stormwater discharges during shoreline demolition, construction activities, and operation of the expanded roadway. NMFS believes these effects will be discountable because of the planned in-water and terrestrial pollutant and sediment controls and monitoring that will be required during construction and operation of the roadway. NMFS has determined that the anticipated level of lethal take of 1 colony of pillar coral and temporary effects to

1 additional pillar coral colony is not likely to jeopardize the continued existence of the species. The pillar coral was not viable prior to transplant.

Nassau Grouper (*Epinephelus striatus*) Nassau Groupers were seen in 2016 off the Pump House and off the Legislature within the rocky hardbottom areas.

The Nassau Groupers will most probably not be directly injured during the construction activities and will move to other areas of hardbottom when disturbance begins. Habitat for these fish in the harbor will however be lost. The transplant of the corals and the boulders will help minimize impact to this species. NMFS believes the effects of permanent impacts from project construction to seagrass and coral areas that may be used as habitat by juvenile Nassau grouper will be insignificant as will the temporary and permanent impacts to habitat associated with sediments from in-water construction and land-based contaminants from stormwater discharge during demolition, construction, and operation of the roadway expansion. Nassau Grouper habitat has been designated, the area is outside the designated habitat.

The Queen Conch (*Strombus gigas (Alger gigas*) is currently being considered for listing, Queen Conch were not seen in the area of Phase II and the Phase II footprint does not contain habitat typically utilized by Queen Conch.

Please refer to the Biological Assessment updated in 2024 for the proposed project.

10.1.4 Consultation: The consultation was formal.

10.1.5 Consultation Response: NMFS concluded that the proposed action will have no effect on leatherback sea turtles *(Dermochelys coriacea*); and is not likely to adversely affect green (*Chelonia mydas*, South Atlantic distinct population segment), loggerhead (*Caretta caretta*, Northwest Atlantic Ocean distinct population segment), and hawksbill (*Eretmochelys imbricata*) sea turtles; elkhorn (*Acropora palmata*), staghorn (*Acropora cervicornis*), boulder star (*Orbicella franksi*), mountainous star (*Orbicella faveolata*), and rough cactus (*Mycetophyllia ferox*) corals; and elkhorn and staghorn coral critical habitat. NMFS also concluded that the proposed action is likely to adversely affect but not likely to jeopardize the continued existence of lobed star (*Orbicella annularis*) and pillar (*Dendrogyra cylindrus*) corals. NMFS further concluded that the proposed action is not likely to adversely affect the Nassau grouper.

NMFS has provided an Incidental Take Statement (ITS) with their Biological Opinion. The ITS describes the reasonable and prudent measures that NMFS considers necessary or appropriate to minimize the impact of incidental take associated with this action.

FWS has consulted on the project since 1995 and states in their correspondence of February 10, 2014, Section 7 consultation under the ESA was concluded for the species under their jurisdiction and no additional adverse effects to these species are anticipated.

10.2 Magnuson-Stevens Act – Essential Fish Habitat (EFH):\

The NMFS EFH concluded in their June 17, 2015 letter "The FHWA and DPW have worked conscientiously with the NMFS to allow the project to proceed in a manner that adequately minimizes impacts and provides compensatory mitigation for the unavoidable impacts. As a result of this coordination, the NMFS agrees the goals of the Magnuson-Stevens Fishery Conservation and Management Act and the regulations for implementing the EFH requirements of the Act will be met for this project. The letter concluding their consultation is found in Attachment C(w) of the Environmental Assessment.

10.2.1 Name of Species considered: The seagrass beds and the hard bottom areas within the proposed project provide habitat to a variety of fish and invertebrates. The following species were considered:

The following table denotes the CFMA managed species within the project area.

Scientific name of species or species group	Common name	Observed	Probable
Panulirus argus	Caribbean spiny lobster	X	
Strombus gigas	Queen conch	X	
Holocentrus ascensionis	Squirrelfish	X	
Holocentrus rufus	Longspine squirrelfish		X
Myripristis jacobus	Blackbar soldierfish	X	
Epinephelus adscensionis	Rock hind		X
Epinephelus cruentatus	Graysby	X	
Epinephelus fulvus	Coney	X	
Epinephelus guttatus	Red hind	X	
Epinephelus striatus	Nassau grouper	X	
Priacanthus arenatus	Bigeye		X

Scientific name of species or species group	Common name	Observed	Probable
Caranx bartholomaei	Yellow jack		X
Caranx crysos	Blue runner	X	
Caranx latus	Horse-eye jack		X
Caranx lugubris	Black jack		X

Scientific name of species or species group	**Common name**	**Observed**	**Probable**
Caranx ruber	Bar jack		X
Lutjanus analis	Mutton snapper	X	
Lutjanus apodus	Schoolmaster		X
Lutjanus griseus	Gray snapper		X
Lutjanus jocu	Dog snapper		X
Lutjanus mahogoni	Mahogany snapper	X	
Lutjanus synagris	Lane snapper		X
Lutjanus vivanus	Silk snapper		X
Ocyurus chrysurus	Yellowtail snapper	X	
Anisotremus virginicus	Porkfish	X	
Haemulon album	Margate	X	
Haemulon aurolineatum	Tomtate		X
Haemulon flavolineatum	French grunt	X	
Haemulon plumieri	White grunt		X

Haemulon sciurus	Bluestriped grunt	X	
Archosargus rhomboidalis	Sea bream		X
Calamus bajonado	Jolthead porgy	X	
Calamus penna	Sheepshead porgy	X	
Mulloidichthys martinicus	Yellow goatfish		X
Pseudupeneus maculatus	Spotted goatfish		X
Holacanthus ciliaris	Queen angelfish	X	
Pomacanthus arcuatus	Gray angelfish	X	
Pomacanthus paru	French angelfish	X	
Bodianus rufus	Spanish hogfish	X	
Halichoeres radiatus	Puddingwife		X
Lachnolaimus maximus	Hogfish		X
Scarus coelestinus	Midnight parrotfish		X
Scarus coeruleus	Blue parrotfish		X
Scarus croicensis	Striped parrotfish		X
Scarus guacamaia	Rainbow parrotfish		X
Scarus taeniopterus	Princess parrotfish	X	
Scarus vetula	Queen parrotfish	X	
Sparisoma viride	Stoplight parrotfish	X	
Acanthurus chirurgus	Doctorfish		X
Acanthurus coeruleus	Blue tang		X
Lactophrys bicaudalis	Spotted trunkfish	X	
Lactophrys polygonia	Honeycomb cowfish		X
Lactophrys quadricornis	Scrawled cowfish		X
Lactophrys trigonus	Trunkfish		X
Lactophrys triqueter	Smooth trunkfish		X
Thalassia testudinum	Turtle Grass	X	
Syringodium filiforme	Manatee Grass	X	
Halophila spp.	Sea vine	X	
Halodule wrightii	Shoal Grass	X	
	Hard Corals	X	
	Soft Corals	X	

10.2.2 Effects Determination:

The project involves direct and indirect impacts to the marine environment and habitats which are habitat to fish and invertebrates. The overall project wwill be directly impacting 8.57 acres of submerged aquatic habitat. A total of 1.15 acres of seagrass, 2.97 acres of coral colonized hard bottom and 4.45 acres of mud bottom which is sparsely colonized would be impacted by both Phases I and II. Seagrass and corals, which are essential fish habitat and forage habitat to endangered sea turtles, were transplanted outside of the project area to help avoid impact. Corals and seagrass were transplanted out of the project footprint and also out of the anticipated impact footprint which is anticipated to extend 10 feet beyond the project footprint. If the additional seagrass is not transplanted, it would most likely be lost due to wave turbulence against the bulkhead. Corals were be transplanted out of the entire potential spud placement footprint which extends some 50 feet from the edge of the project footprint.

Due to the in-water work (bulkhead placement and filling) it is anticipated that there will be short-term water quality impacts. Stringent sedimentation and erosion control methods was implemented during Phase I and will be implemented during Phase II.

The barges would be staged during construction off of Yacht Haven Grande, which is located to the east of the project area. The contractor will be allowed to moor or anchor the barges at this location at night or when they are not in use. The proposed mooring area is minimally colonized by algal species.

It is anticipated that the contractor would use spuds to keep the barge in place and would continue spudding down along the length of the project as needed. Spuds could directly impact the seagrass bed or hard bottom by their placement. A minimum of two spuds are needed to hold a barge in location, and depending on seas and conditions sometimes three or four spuds are utilized. Spud diameters typically range from 12 to 18 inches. A spud resembles a large pile, and due to its weight penetrates the bottom several feet, destroying the benthic community within the footprint. Spuds need to be placed in sediment rather than in rock to hold well, so care would be taken with their placement and it is unlikely any spuds would be placed within the delineated hard bottom. However, there were scattered corals beyond the edge of the hard bottom and it is possible that one of these corals could have been impacted by spud placement. Therefore, corals within this area were relocated as part of the Benthic Mitigation Program implemented prior to Phase I.

While the seagrass which is within the impact zone of wave turbulence was also transplanted reducing the seagrass within some of the spudding footprint, there would still be seagrass beds which fall within the barge spudding areas. It would not be have been practical to move all the seagrass from this area as that the spuds would only be impacting a small fraction of that area. And seagrass transplant survival rate during previous dredging projects have shown losses of 15 to 20% prior to the seagrass becoming stabilized and spreading and the loss of transplanting the entire area would be far greater than the damage that will be done by scattered spud placement. Using large sod units the literature reports 70 to 75% survival (Lewis et al.,1987; Balestri et al., 1998). The spuds would impact their footprint and depending on the movement of the barge in the waves a few inches surrounding the hole. The bay is well protected but wind chop is a common occurrence within the bay and could result in some slight movement of the barge and there will therefore result in an overall diameter of impact of 20 inches to 24 inches for each spud. The number of spudding cannot be accurately predicted, but as much as 0.01 acres (450 ft^2) of additional seagrass bed may be impacted that will not be transplanted. If the entire area were relocated and there were only a 10% loss of seagrass during the transplant the loss would be over 5000 ft^2 far more than the 450 ft^2.

Weather permitting, it is recommended that the contractor keep the barge in place overnight as long as they are not going to be in place for more than two to three days. This could potentially avoid multiple spud impacts. During previous projects, while monitoring barge shading impacts (Lovango Cay Dock Construction), it was noted that corals did not show signs of stress (bleaching) until the barge had been in place more than seven days. If barges are allowed to stay in place for no more than three days, this potentially would not create a negative shading impact and could prevent multiple scars in seagrass which would occur with repeated spudding. There is limited SAV off

shore of Phase II and all of it is intermixed with H. stipulacea and therefore was not transplanted.

The bulkhead will be a pre-cast wall system. No pile driving is proposed. Most of the filling will occur from the landside and the dewatering will occur through a controlled discharge point surrounded by double sets of turbidity barriers. The fill material will be clean fill and will contain no contaminants. The greatest potential impact to water quality will be turbidity.

All invertebrates encountered within the area of impact, conch, starfish and if possible lobster and other small invertebrates were relocated as part of the relocation process. It is however probable that not all juveniles were found and relocated. Fish species will be able to leave the area as impacts occur and there are abundant seagrass beds and coral colonized hard bottoms to the south in the harbor to which they can relocate. Many of the smaller fish and invertebrates were inadvertently transplanted as corals and seagrass are moved. During previous transplants, wrasses and damsels frequently followed corals into baskets and move with the coral to the new site.

In their June 17, 2015 letter NMFS EFH concluded, “The FHWA and DPW have worked conscientiously with the NMFS to allow the project to proceed in a manner that adequately minimizes impacts and provides compensatory mitigation for the unavoidable impacts. As a result of this coordination, the NMFS agrees the goals of the Magnuson-Stevens Fishery Conservation and Management Act and the regulations for implementing the EFH requirements of the Act will be met for this project.”

10.2.3 Basis for determination: At the end of five years post transplant 91% of the transplanted corals are still viable and 87% of the seagrass is viable.

Monitoring occurred to determine if additional impacts to seagrass habitats occur from spud barge placement or construction and filling activities. As much as 0.01 acres of additional seagrass was impacted that was not transplanted. As mitigation for these impacts, the DPW place buoys to protect approximately 0.14 acres of coral and seagrass habitat at the recipient sites from anchoring. Additional buoys would be placed in the harbor entrance at Triangle Reef in sandy bottom area to protect approximately two acres of coral reef. The informational buoys would be installed on helix anchors and have floated lines as to not impact corals and seagrass. Acceptance of responsibility by USVI Department of Planning and Natural Resources to maintain the buoys is evidenced by their letter contained in Attachment C(u) of the Environmental Assessment. The DPW is committed to provide financial assurance in the form of a performance bond to ensure mitigation success. In general, the NMFS supports DPW’s proposed education and outreach efforts via informational signage but does not consider this activity as compensatory mitigation.

In response to requests made by NMFS EFH in letters dated August 4, 2014, and February 6, 2015, additional information was provided.

The Essential Fish Habitat Assessment Report (Attachment N, Figures 2 and 3) were updated to include the habitat acreage. The amended Compensatory Mitigation Plan

(Attachment F(a), Figures 10 and 11) and the Biological Assessment Report (Attachment M, Figures 4 and 5) were also updated accordingly.

While the final source for the fill material has still not been determined; DPW provided a commitment to test the fill material for suitability and quality prior to use of the material. In addition, the DPW also agreed to perform water quality monitoring and implement best management practices to include turbidity barriers, containment booms, and trained environmental monitors. In addition, modifications were made to the project design resulting in the elimination of pile driving, i.e. the bulkhead will be wall system and no piles will be driven.

The use of riprap has been removed from the project design.

And DPW has provided information indicating the U.S. Coast Guard Dock would be modified to include replacement of the eastern portion of the dock with the proposed new roadway while the western section would remain in place and would connect to the new promenade. The DPW has been working extensively with the U.S. Coast Guard on the proposed changes to the dock.

A general construction schedule was also provided.

10.2.4 Consultation with EFH was informal.

10.2.5 Consultation response: In their letter of June 17, 2015 NMFS concluded that FHWA and DPW have worked conscientiously with the NMFS to allow the project to proceed in a manner that adequately minimizes impacts and provides compensatory mitigation for the unavoidable impacts. As a result of the coordination, NMFS agrees the goals of the Manguson-Stevens Fishery Conservation and Management Act and the regulations for implementing the EFH requirements of the Act will be met for this project.

10.3 National Historic Preservation Act – Section 106:

10.3.1 Known sites present: The project is within the Charlotte Amalie Historic District which includes the Legislature Building, also individually listed on the National Register, and Fort Christian, also individually listed as a National Historic Landmark.

10.3.2 Survey required/conducted: Earlier environmental evaluations performed in the later 1990's, and completed in compliance with Section 106 of the National Historic Preservation Act and in consultation with the Virgin Islands State Historic Preservation Officer (VISHPO) and the Advisory Council on Historic Preservation (ACHP) has determined that of the three alternatives originally studied, the alternative selected for this permit, will have the least adverse effects on cultural resources. Between 1998 and 2010 DPW worked in coordination with VISHPO, St. Thomas-St. John Historic Preservation Commission, and other stakeholders to modify the proposed project design in an effort to preserve the original shoreline at the promontory around the legislature building. The bridge option was subsequently replaced by a "roadway on fill" option as a result of extensive coordination with VISHPO, agencies and stakeholders. DPW received a concurrence letter from VISHPO for a roadway on fill alternative in lieu

of the bridge option. This option became the basis from which the preferred alternative has been derived.

As part of this project, a Historic American Engineering Record Documentation of King's Wharf, located on the west side of the promontory around the legislature building, was prepared and accepted by VISHPO on November of 2015 (see Attachment C(o)). The proposed improvements will have a negligible impact on the remaining portion of original pier. Additionally, a Submerged Cultural Resources Survey was performed and accepted by VISHPO in January of 2015 (see attachment C(n)). During this investigation several potentially significant resources were identified. All but one of these resources is located outside the project's area of potential effect. This target was relocated outside of the project construction limits prior to Phase I to assure no impacts occur from the proposed improvements.

10.3.3 Effects Determination: The project will have no adverse effect on these historic properties eligible or listed in the National Register of Historic Places: Charlotte Amalie Historic District which includes the Legislature Building, also individually listed on the National Register, Fort Christian, also individually listed as a National Historic Landmark, and King's Warf.

10.3.4 Rationale for effects determination: Through coordination with the Virgin Islands State Historic Preservation Office, the project design incorporated modifications and measures to avoid and minimize potential adverse effects to the above referenced historic properties, including the preservation of the last remaining segment of the original shoreline located at the promontory of the Legislature Building. On October 3, 2016, the VISHPO concurred with the above effects determinations and concluded that the project is in compliance with the requirements of the National Historic Preservation Act. VISHPO's concurrence and conclusion letter prepared by FHWA for this project is provided in Attachment C(s) of the Environmental Assessment document.

10.3.5 A Memorandum of Agreement was not required as part of the consultation with VISHPO for this project.

10.3.6 Date consultation complete: October 3, 2016. On this date the VISHPO concurred with the above effects determinations and concluded that the project is in compliance with the requirements of the National Historic Preservation Act. VISHPO's concurrence and conclusion letter prepared by FHWA for this project is provided in Attachment C(s) of the Environmental Assessment document.

10.3.7 The project is in compliance with National Historic Preservation Act.

10.4 Corps Wetland Policy: Based on the public interest review (Section 7 of this document), the beneficial effects of the project outweigh the detrimental impacts of the project.

10.5 Water Quality Certification under Section 401 of the Clean Water Act: A Water Quality Certificate has been issued by the Division of Environmental Protection, Department of Planning and Natural Resources (WQC) - WQT-15-001. The Water

Quality Certificate, which was issued for Phase I on October 14, 2014, included a determination that no update was needed for Phase II or the addition of the excavation.

10.6 Coastal Zone Management Consistency under Section 307c of the Coastal Zone Management Act (CZMA): CZT-03-12(L&W) was issued in July 2015 to the Department of Public Works by the Division of Coastal Zone Management.

10.7 Effects on Federal Projects *(33 CFR 320.4(g)(4))*: This project is not located in the vicinity of an authorized federal project.

10.8 Effects on the limits of the territorial seas *(33 CFR 320.4(f))*: In total for both Phase I and II the project will result in the filling of 8.57 acres of water within Charlotte Amalie Harbor. The project will have no effect on the limits of the territorial seas since the harbor is recessed within the island and the filling will not extend beyond existing areas seaward of the project. Hassel Island lies seaward and to the south of the proposed area of fill and the territorial sea limits are set from Hassel Island not the waterfront of Charlotte Amalie.

10.9 Safety of impoundment structures *(33 CFR 320.4(k))*: This proposed project does not include any impoundment structures.

10.10 Activities in Marine Sanctuaries *(33 CFR 320.4(i))*: This proposed project is not located in a marine sanctuary as established by the Secretary of Commerce under authority of Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972.

10.11 Other Authorizations: The project requires the following Authorizations:

- Coastal Zone Management Permits - Issued
- Approval by VI Governor - Approved
- Approved by VI Legislature - Approved

10.12 Significant issues of Overriding National Importance *(33 CFR 320.4(j)(2))*: NA

11.0 Findings and Determinations:

11.1 Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit would not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the USACE's continuing program responsibility and generally cannot be practicably controlled by the USACE. For these reasons, a conformity determination is not required for this permit action.

11.2 Relevant Presidential Executive Orders:

11.2.1 EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians:
This action has no substantial effect on one or more Indian tribes, Alaska or Hawaiian natives.

11.2.2 EO 11988, Floodplain Management: Alternatives to location within the floodplain, minimization and compensatory mitigation of the effects were considered above.

11.2.3 EO 12898, Environmental Justice: The proposed project would not use methods or practices that discriminate on the basis of race, color or national origin nor would it have a disproportionate effect on minority or low-income communities.

11.2.4 EO 13112, Invasive Species: There are no invasive species issues involved in this proposed project.

Halophila stipulacea is found within Charlotte Amalie Harbor, this sea vine has become established since the original surveys for this project. The project will have no impact on the spread or distribution of this species.

11.2.5 EO 13212 and EO 13302, Energy Supply and Availability: The project was not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

11.2.6 EO 13547, Stewardship of the Ocean, Our Coasts, and the Great Lakes: The project would not adversely affect America's stewardship of the ocean, coasts, or Great Lakes.

11.3 Finding regarding the need for an Environmental Impact Statement: FHWA prepared and EIS for this project with the USACE as a cooperating agency. Based on the information provided by the applicant and all interested parties, we recommend that the USACE find that the permit action will not have any additional impacts on the human and natural environment beyond those previously documented in the EIS of which the USACE was a cooperating agency. Therefore, a new or Supplemental EIS will not be required.

11.4 Compliance with the Section 404(b)(1) Guidelines: Based on the information provided and discussed in this document, FHWA understands that the USACE will be able to determine that the proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable conditions to minimize pollution or adverse effects to the affected ecosystem.

11.4.1 FHWA has determined that the proposed action is the Least Environmentally Damaging Practicable Alternative (LEDPA) that meets the project Objectives. Based on the information provided and discussed in this document FHWA understands that the

USACE will be able to make a similar determination in accordance with the requirements of the USACE Regulatory Program.

11.5 Public Interest Determination: On March 3, 2017 the USACE issued a 20-day Public Notice for the project permit application. With the exception of a letter from EPA, no comments were received during the USACE Public Notice period. The letter states that EPA has no objection to the issuance of a USACE permit for the project. A copy of the EPA letter is included in Attachment C of the Environmental Assessment Report. On March 8, 2017 DPW issued a notice of availability of the Environmental Assessment Report on the Virgin Islands Daily News. Additionally, on March 13, 2017 DPW sent electronic mail correspondence to all federal agencies, local agencies and private stakeholders with a notice of availability of the Environmental Assessment Report. No comments were received during the 30-day public comment period. Based on the information provided and discussed in this document, FHWA understands that the USACE will be able to determine that issuance of a Department of the Army Permit for the proposed project will not be contrary to the public interest.