



**UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

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Washington, DC 20240



ACTION MEMORANDUM

To: Shawn Mulligan, Environmental Compliance and Cleanup Division Chief

Through: Pedro Ramos, National Park Service, Acting South Atlantic Gulf Regional Director
Nigel Fields, Virgin Islands National Park Superintendent

From: LCDR Kelly Kachurak, Caneel Bay Resort CERCLA Project Coordinator

Subject: Approval of CERCLA Non-Time-Critical Removal Action at Caneel Bay Resort Site, Virgin Islands National Park, U.S. Virgin Islands

Date: October 1, 2021

PURPOSE and OVERVIEW

This Action Memorandum recommends and documents approval of a non-time-critical removal action ("NTCRA") in response to releases and threatened releases of hazardous substances in three Areas at the Caneel Bay Resort Site ("Site"). The Site is located in Virgin Islands National Park ("VIIS"), on the island of St. John. The recommended action is pursuant to the National Park Service's ("NPS") delegated authority under Section 104(a) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 USC § 9601, *et seq.* and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 CFR Part 300.

This memorandum outlines and documents the need for the Proposed Action, the scope of work, and the anticipated costs. The decision to select the response action described in this Action Memorandum is based on the Administrative Record for the Site, located at VIIS and electronically accessible via the Planning, Environment, & Public Comment ("PEPC") website.

Three areas of concern at the Site were evaluated and determined to contain hazardous substances. Area 1 encompasses the area around the wastewater treatment plant. Area 2 encompasses several acres around the Maintenance and Landscaping Area. Area 3 comprises the landfill located near Honeymoon Beach. Based on the findings of the Engineering Evaluation and Cost Analysis ("EE/CA"), no actions are recommended for Area 1. It is recommended contaminated soils in Area 2 are removed and replaced with clean fill, and the landfill waste at Area 3 is entirely removed, with the area regraded and restored to pre-landfill conditions. The EE/CA identified multiple data gaps. These data gaps will be

addressed in an EE/CA Addendum. Subsequent recommendations from the EE/CA Addendum will be issued in a separate Action Memorandum.

The approximate total cost of the NTCRA is \$6 million; NPS has identified potentially responsible parties for the Site and will continue enforcement and cost recovery efforts.

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SITE CONDITIONS AND BACKGROUND

Site Description and History

Caneel Bay Resort is on the northwestern shore of the island of St. John, between North Shore Road and the Atlantic Ocean. This approximately 150-acre vacation resort is located approximately 1 mile northeast of the major port town of Cruz Bay. The Resort is presently operated pursuant to a Retained Use Estate Indenture Agreement ("RUE"). Under the RUE, NPS retains ownership of the land, while the RUE owner, EHI Acquisitions, LLC ("EHI") and its sister entity CBI Acquisitions, LLC ("CBIA") own and operate certain improvements on the property.

The Resort includes the entire 150 acres covered by the RUE and other lands owned and operated by CBIA. The approximate longitude and latitude of the Resort entrance are 18.341497 degrees north, - 64.784298 degrees west.

The Resort occupies a peninsula on the Atlantic Ocean and is surrounded by water to the west and north and by VIIS forest to the south and east, which is crossed by hiking trails and public roads. The popular, publicly accessible Honeymoon Beach is in the southwest part of the Resort. Hawksnest Bay, east of the Resort, also includes multiple public beaches. The Resort is located at the northern edges of Margaret Hill to the southeast and Caneel Hill. The Resort's topography is gently rolling and varies between approximately 140 feet above mean sea level and sea level.

Based on historical investigations and 2016 reconnaissance, NPS established an investigation Site consisting of three areas that encompass the facilities of concern identified in the Level 2 Environmental Site Assessment Report (Barksdale & Associates, 2014 and included as Appendix E) and the Removal Site Evaluation (RSE) report (3E Consultants, 2017). The Areas are described below and shown in Figure 1.

- Area 1: approximately 0.8 acres near the wastewater treatment plant (WWTP) structures, on the southeastern side of the Resort
- Area 2: approximately 5.4 acres that encompass the engineering, maintenance, landscaping, and fuel buildings and facilities, to the southwest of the WWTP
- Area 3: approximately 1.5 acres of land (undeveloped except for a donkey shelter), located immediately east of Honeymoon Beach, which has been used as a landfill

Areas 1 through 3 comprise the approximately 8-acre Site, which is wholly within the 150-acre Resort.

Figure 1. Caneel Bay Resort Site.



Investigations and Actions Taken to Date

To date, NPS has conducted the following investigations:

- Level I Pre-Acquisition Environmental Site Assessment (“ESA”), by Barksdale & Associates, 2012.
- Level II ESA, by Barksdale & Associates, 2014.
- Removal Site Evaluation Report (“RSE”), by 3E Consultants, 2017.
- Engineering Evaluation/Cost Analysis (“EE/CA”) in support of a Non-Time-Critical Removal Action (“NTCRA”), 2021

The Level I ESA identified recognized environmental conditions related to hazardous substances or petroleum at the Resort. Recognized environmental conditions were identified in the maintenance and engineering area, the landscaping and grounds maintenance area, the WWTP, the emergency generator building, the emergency generator fuel tanks, the marina, the former fuel storage tanks for the marina, and the landfill. No samples were collected during the Level I ESA. The marina and its fuel storage tanks, although part of the Resort, are not located on park property and therefore were not investigated further by NPS.

In the Level II ESA, NPS collected samples at locations where recognized environmental conditions were previously identified, to characterize their impacts to soil and groundwater, as appropriate. The following samples were collected in January 2014.

- Area 1: surface soil samples from near the WWTP; analyzed for metals, petroleum organics, polychlorinated biphenyls (“PCBs”), and polycyclic aromatic hydrocarbons (“PAHs”).
- Area 2: surface soil samples from the stormwater runoff areas near the concrete, accumulated sediment in the paved drainage channel, chemical storage areas, near maintenance buildings; analyzed for metals, petroleum organics, PCBs, PAHs, organochlorine and organophosphorus pesticides, and herbicides. Subsurface soil samples were collected from the former underground storage tank (“UST”) footprint and a groundwater sample from downgradient of the former UST; analyzed for metals, PAHs, and a short list of petroleum volatile organic compounds (“VOCs”).
- Area 3: surface soil samples from the landfill; analyzed for metals, PCBs, PAHs, organochlorine and organophosphorus pesticides, and herbicides.

The Level II ESA provided sufficient data to identify preliminary study constituents requiring additional evaluation in the EE/CA investigation.

The 2017 RSE Report found additional CERCLA action was necessary and recommended NPS conduct a non-time-critical removal action. The resulting action began with the EE/CA investigation. The EE/CA investigation contract was originally awarded in 2016. Initiation of field work for the EE/CA was delayed until February 2021 due to Hurricanes Irma and Maria in 2017, and access limitations. The final EE/CA Report was completed in September 2021, after the draft final EE/CA Report and Administrative Record were made available for public review and comment from June 10 through July 24, 2021. NPS selected a NTCRA as a final response action at the Site to address the release or threatened release of hazardous substances at or from the Areas investigated.

In addition to its own investigations, NPS also received a copy of a report prepared by ERTEC on behalf of Chevron regarding a released of diesel fuel in Area 2 in 2010. Review of the 2010 ERTEC Report revealed 1,000 gallons of diesel were estimated to have spilled into the environment. Ten test pits were dug, and based on its investigation of the test pits, ERTEC found that diesel had migrated along the granular pipe and electrical utility line bedding, approximately 3 feet deep. Documentation regarding the spill and cleanup were submitted to the U.S. Virgin Islands Department of Planning and Natural Resources (“DPNR”). Based solely on its review of the submitted documents and premised on the assumption that no information contained in those documents was false or misleading, DPNR issued a letter of No Further Action to Chevron.

Conditions Leading to NTCRA Determination

NPS’s investigation focused on three separate areas, Areas 1, 2, and 3, of the Resort property where releases of hazardous substances were known or suspected to have occurred (the Site).

Areas 1, 2, and 3

Area 1

Area 1 is a gravel area near the WWTP, where equipment and machinery have been stored. Field investigators collected surface soil samples at Area 1. Sampling results show low levels of contaminants in Area 1 soil—possibly from materials stored in the gravel staging area that may have released metals. Arsenic concentrations found in Area 1 soil were above human health-based risk levels based on a potential future residential land use scenario (Area 1 is not currently developed for residential use). However, naturally occurring arsenic is often found in soil at concentrations that are higher than the calculated human risk level; therefore, cleanup levels require consideration of natural background concentrations. After careful review of the background data collected during the EE/CA investigation, NPS decided to defer cleanup decisions in Area 1 until additional background data can be collected.

Area 2

Area 2 is the maintenance, landscaping, and vehicle-fueling part of the Resort. Field investigators collected surface soil samples and one water sample from an existing monitoring well. Investigators also drilled in soil near the fuel dispenser pump. The risk assessment for Area 2 indicates that elevated levels of certain pesticides present in part of Area 2 may pose an unacceptable ecological risk and human health risk, specifically to a future resident or worker. Like at Area 1, arsenic is also present at concentrations that may cause a risk to a future resident. One part of Area 2 may also present an unacceptable ecological risk due to barium concentrations in soil. A paved drainage channel along the northern side of Area 2 increases the potential for impacted soil from Area 2 to be carried towards the ocean during rainstorms. NPS concluded that a removal action is required in Area 2 to address pesticides and metals in soil.

Area 3

Area 3 is the landfill east of Honeymoon Beach. Field investigators collected surface and subsurface soil samples, and installed a monitoring well for possible future groundwater sampling in the wet season. The investigation results for Area 3 reflect the mixed contents of the landfill, where wastes were deposited over decades without proper containment measures (for example, a permitted landfill would now require a liner, leachate collection, and monitoring for contaminant movement). The landfill includes a mixture of benign organic materials, plastics, metals, and CERCLA hazardous substances, including the pesticide DDT and PCBs. NPS concluded that the ecological risk from pesticides and metals in Area 3 are above acceptable levels. In addition, a steep slope of the landfill, which faces Honeymoon Beach and the ocean, is unstable. There is visible evidence of slope failure and erosion, and exposed landfill waste. Contaminated sediment migration from the landfill toward Honeymoon Beach and the potential failure of the landfill slope, which would potentially expose additional hazardous substances, poses an unacceptable risk. This risk will increase with the increased frequency and intensity of storms due to climate change. Therefore, NPS concluded that a removal action is required to address conditions in Area 3.

Other Resort Conditions

The Sampling and Analysis Plan prepared to support the EE/CA investigation was developed based in part on observations made during a site visit in 2016. As a result of severe hurricane damage to the resort in 2017 and with recent citizen input, NPS identified additional concerns related to the potential release of hazardous substances to the environment from building materials in other areas of the resort. Because of pandemic-related travel restrictions and other access constraints, NPS was not able to conduct a post hurricane site visit before starting the EE/CA investigation. Therefore, NPS added a visual inspection of the other Resort areas and limited sampling to screen for additional areas of site

contamination. This screening-level data will be used to plan additional investigation activities outside of Areas 1, 2, and 3.

Site Contaminant Characterization

NPS identified three Removal Action Objectives (“RAOs”): eliminate unacceptable risks to human health and the environment; eliminate or minimize contaminant-related constraints on park resources and allow park resources to be used consistent with NPS mandates; and satisfy federal and state Applicable or Relevant and Appropriate Requirements (“ARARs”) and associated cleanup standards.

To determine recommended removal goals (“RGs”), NPS compared the human health and ecological risk-based cleanup goals (“RBCGs”), ARAR-based goals, and representative background concentrations.

Text Table 1 summarizes the selected RGs and the basis for each.

| Text Table 1 Recommended RG Selection | | | | | | |
|--|-------------------|--------------------------|------------------------|-----------------------|---------------------|-----------------------|
| Contaminant of Concern | Background | Human Health RBCG | Ecological RBCG | ARAR-Based PRG | Basis for RG | Recommended RG |
| <i>Soil (mg/kg)</i> | | | | | | |
| Arsenic | 2* | 0.68 | None | None | Background | To be determined |
| Barium | 83 | None | 185 | None | Ecological | 185 |
| Copper | 85 | None | 99 | None | Ecological | 99 |
| Zinc | 57 | None | 147 | None | Ecological | 147 |
| DDT-Total | 0.049 | None | 0.17 | None | Ecological | 0.17 |
| Aldrin | 0.014 | 0.039 | 0.018 | None | Ecological | 0.018 |
| Chlordane | 0.142 | None | 1.20 | None | Ecological | 1.20 |
| Dieldrin | 0.013 | 0.034 | 0.051 | None | Human health | 0.034 |
| Note: * To reduce uncertainty regarding this background concentration, NPS plans to perform additional background and clean fill source sampling. | | | | | | |

Pesticides and some metals in surface soil in portions of Area 2 are present at concentrations above human health and ecological screening levels. The steepness of the landfill’s side slopes in Area 3 is a concern for future erosion. The resulting exposure of subsurface soil and associated landfill contents, which contain hazardous substances, poses a potential risk to human and ecological receptors.

State and Local Authorities’ Roles

NPS is exercising its delegated CERCLA authority as the lead agency to address the release or threatened release of hazardous substances at the Site.

NPS has been in contact with DPNR during the EE/CA investigation for the Site, including soliciting Territory ARARs related to the Site. NPS has also been in contact with United States Environmental Protection Agency (“USEPA”) regarding the Site.

National Priority List Status

The Site is not listed on the National Priority List and has not been proposed for listing.

STATUTORY AND REGULATORY AUTHORITIES

NPS is authorized under CERCLA, and Executive Order 12580, as amended, to respond as the lead agency to a release or threatened release of hazardous substances and/or a release or threatened release of any pollutant or contaminant that may present an imminent and substantial danger to public health or welfare or the environment on or from land under the jurisdiction, custody, or control of NPS. Section 300.415 of the NCP establishes the process NPS must follow and factors NPS must consider when determining that a removal action is necessary and selecting the appropriate removal action. As required for non-time critical removal actions, NPS has conducted an EE/CA and developed a SAP, including a field sampling plan (FSP) and quality assurance project plan (QAPP).

Pursuant to its authority under CERCLA Section 104(a) and based on its evaluation of the factors set forth in 40 C.F.R. § 300.415(b)(2), NPS has determined that threats to public health, welfare, and the environment at the Site necessitate a NTCRA. The Human Health and Ecological Risk Assessments identified unacceptable risks and hazards from hazardous substances, primarily pesticides and metals associated with direct contact with soil and inhalation of vapors from soil. The Risk Assessment found the Site poses unacceptable risk to human and ecological receptors at Areas 2 and 3. Moreover, NPS has determined that weather conditions, including increased frequency and intensity of storms due to climate change, may cause hazardous substances present in Areas 2 and 3 to migrate or be released.

THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

ENDANGERMENT DETERMINATION

The risk assessments for the Site concluded that the Site poses unacceptable risk and hazard, resulting from releases of hazardous substances, primarily pesticides and metals. Therefore, actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to public health, or welfare, or the environment, 40 CFR § 300.415(b)(2)(i).

Proposed Action and Estimated Costs

Proposed Action

NPS considered multiple alternative technologies including in-situ treatment, stabilizing and capping the landfill by installing physical barriers and applying institutional controls, and removal and off-site disposal of soil and landfill debris. Two removal action alternatives were carried forward for further evaluation. Alternative 1 considered no action, as required by the NCP. Alternative 2 considered removing surface soil in portions of Area 2 and removing soil and landfill contents from Area 3.

The No Action alternative was retained as an option due to NCP requirements. It was used as a baseline comparison for the benefit achieved from Alternative 2. Alternative 2 emerged as the preferred alternative because it achieves the RAOs by removing surface soil in portions of Area 2 and soil and landfill contents from Area 3, limiting the potential for the contact of contaminated soil and landfill contents by human and ecological risk receptors.

The proposed NTCRA is Alternative 2, which includes removal actions at Areas 2 and 3 as described below.

Area 2: Approximately 327 BCY (bank cubic yards) of shallow soil from portions of Area 2 will be removed. During removal action implementation, accumulated sediment in the drainage channel will also be removed for disposal.

Area 3: To remove contaminated materials in the landfill and reduce long-term maintenance requirements, removal actions will excavate approximately 19,267 BCY of soil and waste from the landfill down to bedrock (the presumed bottom of the landfill since the area was previously used as a quarry). This will be followed by grading along the edges of the landfill to return the area to pre-landfill conditions (i.e., historical quarry pit, not the original hillside slope, which could create another unstable slope).

The Final EE/CA Report was made available for a 45-day public comment period. NPS considered and prepared responses to all significant comments. NPS's responses to comments have been added to the Administrative Record for the Site, which has been made available to the public.

Contribution to Long-term Cleanup Performance

In evaluating the appropriateness of a removal action, NPS must consider whether the removal action would contribute to the efficient performance of any anticipated long-term remedial action with respect to the release concerned [NCP § 300.415(d)], as well as the availability of other appropriate federal or state response mechanisms to respond to the release of hazardous substances, [NCP §300.415(b)(2)(vii)].

The proposed NTCRA action is intended to be a final action for Areas 2 and 3 at the Site. While further response actions at Areas 2 and 3 are not anticipated at this time, the preparation of an EE/CA Addendum is planned and may identify the need for additional response actions at the Site. The proposed NTCRA is not expected to impede or conflict with future responses that may be deemed necessary as the result of additional investigation. The proposed action will reduce risks to human and ecological receptors by removing the hazardous substances from the site. While risks will be slightly elevated during construction activities that remove the hazardous substances from the ground and property, Alternative 2 will reduce the risk for off-Site migration of hazardous substances in the long term.

Applicable or Relevant and Appropriate Requirements

Pursuant to the NCP, a removal action shall, to the extent practicable considering the exigencies of the situation, attain ARARs under federal or state environmental laws (40 CFR § 300.415(j)). "Practicability" is based upon the urgency of the situation and the scope of the removal. NPS has identified ARARs for the removal action at the Site, which are discussed in Section 4 of the Final EE/CA Report and are included in EE/CA Tables 4.1, 4.2, and 4.3. As discussed in more detail in the Final EE/CA Report, Alternative 2 is expected to comply with all ARARs.

Description of Proposed Schedule

The proposed NTCRA is projected to start as soon as summer 2022. The target date to complete site cleanup is September 2023. A detailed schedule for implementation of the NTCRA will be developed and included in a Removal Action Work Plan.

Estimated Costs

The proposed NTCRA costs are based on the detailed cost estimate contained in the Final EE/CA. The total cost to cleanup both Areas 2 and 3 is \$6 million. If the Areas are cleaned up separately, the cost estimations are Area 2 at \$330,000 and Area 3 at \$5,850,000. Inclusive in the estimates are removal of contaminated soils, replacing with clean fill in Areas 2 and 3, removal of all landfill contents, closing the landfill, and performing grading to stabilize the site. This cost estimate may be revised during the removal action design phase.

Administrative Record, Public Comment Period, and Community Relations

Pursuant to NCP § 300.415(n) and § 300.820(a), public notice of a 30-day public review and comment period for the Draft Final EE/CA Report and Site Administrative Record was published in the St. John Source on June 8-10, 2021 and the Virgin Islands Daily News on June 8, 2021. On June 10, 2021, electronic versions of the Draft Final EE/CA Report and Site Administrative Record were made available for public review on PEPC, and printed versions were available for review at the Virgin Islands National Park Visitor Center (St. John) and at the Tunick Building (St. Thomas). The public requested a 15-day extension to the original end of the review period (July 9), resulting in the public review period extending through July 24, 2021.

Due to the on-going COVID-19 pandemic, public meetings were held virtually by VIIS staff. Two public meetings were held. The first meeting was held on June 10, 2021 to inform the public that the Draft EE/CA Report was available for review, describe how to locate the report, explain how to comment on the report, and to provide an overview of why the EE/CA was conducted and its findings. A second public meeting was held on June 24 to hear comments from the public on the EE/CA. NPS published a news release on its website to announce the availability of the Draft EE/CA Report and dates of the public meetings.

EXPECTED CHANGES IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If action is delayed or not taken, contaminated soils at Area 2 and 3 will continue to present a risk to human and ecological health, limiting future use of the Site. Contaminants in Area 3 soils may migrate to other parts of the Resort including Honeymoon Beach, and the steep landfill slope is at risk of failing, posing a risk of collapse into a drainage feature. This risk will increase with the increased frequency and intensity of storms due to climate change. Delaying action will allow existing actual and potential risks to human and ecological health receptors to remain unabated.

OUTSTANDING POLICY ISSUES

No outstanding policy issues exist for this removal action.

ENFORCEMENT

NPS has identified Potentially Responsible Parties (PRPs) for the Site, pursuant to Section 107(a) of CERCLA, and will initiate settlement discussions with the PRPs regarding past and future costs of response action at the Site. All actions taken by NPS at the Site have been, and will continue to be, performed in compliance with CERCLA and the NCP, and are eligible for cost recovery.

RECOMMENDATION

This decision document identifies and recommends a CERCLA NTCRA that will abate or minimize actual and potential risks at Areas 2 and 3 at the Caneel Bay Resort, through executing the tasks identified in Alternative 2. It is developed in accordance with CERCLA and is consistent with the NCP. This decision is based on the administrative record for the Site.

Additionally, it is recommended to pursue another EE/CA contract to address the data gaps identified in the 2021 EE/CA Report.

Conditions at the Site meet the criteria, as defined by 40 CFR § 300.415(b) of the NCP, for a lead agency to take “any appropriate removal action necessary to abate, prevent, minimize, or eliminate the release or threat of release.” NPS has, therefore, made the determination that a NTCRA is necessary at the Site to prevent or significantly reduce harm and human and ecological exposure to the release of hazardous substances and to reduce or eliminate the migration of hazardous substances from the Site.

AUTHORIZATION

Because conditions at the Site meet all applicable CERCLA and NCP criteria for undertaking a NTCRA, I recommend/concur/approve that the NPS implement the NTCRA as proposed herein.

Recommended: KELLY KACHURAK Digitally signed by KELLY KACHURAK
Date: 2021.10.01 07:56:05 -04'00'
LCDR Kelly Kachurak, PE
NPS Site CERCLA Project Coordinator

Date: 10/1/2021

Concurred: NIGEL FIELDS Digitally signed by NIGEL FIELDS
Date: 2021.10.01 09:54:19 -04'00'
Nigel Fields
Virgin Islands National Park Superintendent

Date: _____

Concurred: 
Pedro M. Ramos
Acting Regional Director, Interior Region 2

Date: October 1, 2021

Approved: _____
Shawn P. Mulligan
Environmental Compliance and Cleanup Division Chief

Date: _____