VIRGIN ISLANDS WATER AND POWER AUTHORITY
COASTAL CONSISTENCY DETERMINATION REQUEST
GOLDEN GROVE UNDERGROUND ELECTRICAL PROJECT, ST. CROIX, U.S. VIRGIN ISLANDS

INTRODUCTION

The VIRGIN ISLANDS WATER AND POWER AUTHORITY (VIWAPA) is proposing the burial of utility lines under Industrial Road (USVI Route 669) between the Queen Mary Highway (Centerline Road, USVI Highway 70) and the Patrick Sweeney Police Headquarters and the Golden Grove Adult Correctional Facility and Detention Center. The purpose of the project is to improve the electrical power resilience on the island of St. Croix both for routine service provision and in the event of future catastrophic weather events. The project will serve a number of critical facilities including the Patrick Sweeney Police Headquarters and the Golden Grove Adult Correctional Facility and Detention Center.

VIWAPA has been working at relocate transmission and distribution feeders in areas of essential services underground so that these critical services can be restored immediately after the occurrence of major storm events. Underground lines also provide improved reliability and reduce outage frequency caused by overhead obstructions and faults, ensuring that critical facilities can continue to provide essential services.

VIWAPA proposes the installation of an underground distribution lateral line with manholes, pad-mount transformers, and other underground devices to replace the existing overhead distribution line feeding the Patrick Sweeney Police Station, the Golden Grove Adult Correctional Facility, as well as the residences and businesses located on Industrial Road (USVI Route 669) in Estate Golden Grove. Being able to maintain, or quickly restore, power to these critical facilities is essential to the protection of public safety for the residents of St. Croix, as well as the safety and well-being of persons currently being held in the correctional facility and detention center.

PROJECT LOCATION

The proposed underground project is located mid-island on St. Croix and runs north-to-south along Industrial Road (USVI Route 669). The proposed project lies west of the University of the Virgin Islands (UVI) and wraps around UVI to the south. The underground conduits and components will be placed along Industrial Road (USVI Route 669) and under internal roadways within the Patrick Sweeney Police Station and Golden Grove Adult Correctional Facility.

The Patrick Sweeney Police Station and Golden Grove Adult Correctional Facility are located on Parcels 1 and 1A in Estate Golden Grove at Latitude 17.711856° and Longitude -64.798225°, and Latitude 17.710878° and Longitude -64.795331°, respectively. The proposed underground project originates at
the Queen Mary Highway (Centerline Road) and spans an approximate length of 3,690 feet. The proposed project will extend from Latitude 17.719753° and Longitude -64.802128° at Queen Mary Highway (Centerline Road) to Latitude 17.712370° and Longitude -64.797696° at the police station and Latitude 17.712048° and Longitude -64.794906° at the correctional facility.

Figure 1. Location of the proposed Golden Grove Underground Electrical project on the island of St. Croix, U.S. Virgin Islands. The proposed project route falls within the pink circle.
Figure 2. The proposed location of the Golden Grove Underground Electrical project in the Estate Golden Grove area on the island of St. Croix, U.S. Virgin Islands.

Note: This project is outside of the Coastal Zone Management (CZM) first tier jurisdiction.
Figure 3. The relationship between the proposed Golden Grove Underground Electrical project and CZM first tier jurisdiction. The areas of first tier jurisdiction are shown in color. The proposed project route falls within the pink circle.

PROJECT DESCRIPTION

VIWAPA proposes the installation of an underground distribution lateral line with manholes, pad-mount transformers, switchgear and other underground devices to replace the existing overhead distribution line feeding the Estate Golden Grove area. Funding for this project is provided, in part, by the Federal Emergency Management Agency (FEMA) and the Department of Housing and Urban Development Community Development Block Grant Program under the auspices of the U.S. Virgin Islands Housing Finance Authority.

The proposed project will serve the following critical facilities:

- Patrick Sweeney Police Headquarters
- Golden Grove Adult Correctional Facility and Detention Center
- Residences and businesses located on Industrial Road (USVI Route 669)

Pad-mounted switchgear and an electrical manhole will be installed at the intersection of Queen Mary Highway (Centerline Road) and Industrial Road (USVI Route 669). Connections to the buried electrical lines will be made available to residences and businesses along Industrial Road. There will be periodic electrical and communication manholes, and a sectionalizing cabinet will be placed on the roadway median where the road branches into the police station. Another sectionalizing cabinet will be placed
where the conduits turn eastward after passing out of the police station parking area. The conduit will then follow the unpaved driveway into the correctional facility.

The main duct bank run (Section ‘A’-‘A’ in Figure 4) will consist of three (3), 4-inch Gray Schedule 40 PVC conduits to be used for electrical and communication lines. The conduits will be installed 3-feet below final grade and encased in 3,000 psi concrete on conduit saddles and back-filled. Underground electrical red warning tape (6 inches wide) will be installed along the trench route one (1) foot below final grade. Trench routes will be returned to pre-construction standards with that lane of road asphalt – e.g., asphalt, concrete or dirt; and any backfill with dirt will be pneumatically compacted to 95% density in layers not greater than 6 inches (caliche). Electrical manholes (MH 1 to MH 4) will be 4 feet in length by 4-feet wide and 4 feet high. Communication manholes will be 3 feet in length by 3 feet wide and 3 feet high. Each manhole will have a three-quarter inch by 10 feet ground rod in the floor with a four-inch stub-up in the floor. Manholes will be constructed with 12” x 12” x 4” sumps for dewatering and the floor of manholes will have a 1-inch slope towards sumps. Standard heavy-duty type H-20 Highway loading manhole covers will be utilized and will be marked “ELECTRIC” or “COMMUNICATION” as required.

The trench width will vary depending on the number of conduits. It is anticipated that the project will take 6 months to complete.

Figure 4. The duct banks that will be installed along the proposed Golden Grove Underground Electrical project route.
ENVIRONMENTAL IMPACTS

Climate/Weather

Once complete, the buried Golden Grove electrical lines will not be affected by climate or weather. During construction, rainfall will affect trenching and line burial activities. Sedimentation and erosion controls will be implemented to ensure rainfall will not impact the nearby drainage way during installation.

Landform Geology, Soils and Historic Land Use

The electrical utility lines are being buried under the existing Industrial Roadway (USVI Route 669), internal driveways within the Patrick Sweeney Police Headquarters and unpaved roadways around the Golden Grove Adult Correctional Facility and Detention Center. Minor earthwork will occur within maintained residential yards. All work will be done in areas that have already been disturbed.

Figure 5. The composition of soils within the proposed Golden Grove Underground Electrical project.
The proposed project area is composed primarily of Sion Clay, 2 to 5% slopes (SiB) throughout most of the project length. The very northwestern corner, where the switchgear will be placed, and a small area at the southern extreme, where Industrial Road turns east, is Glynn gravelly loam, 2 to 5% slopes (GyB). The conduits will also pass through a small area of Arawak gravelly loam, 5 to 12% slopes (ArC) within the Golden Grove Adult Correctional Facility.

Both the Sion Clay and Glynn gravelly loam have restrictive layers deeper than 80 inches, which will be below the depth of the conduits. Arawak gravelly loam may have paralithic bedrock at 10 to 20 inches. Ground water will be deeper than 80 inches throughout the project site.

**Drainage, Flooding and Erosion Control**

Measures to control sedimentation and erosion will be implemented during all phases of the proposed project to ensure that rainfall will not impact the nearby drainage way during installation. In addition, any materials that need to be stockpiled overnight will be properly stored so as not to be susceptible to run off.

Ben Keularts of the Division of Environmental Protection, under the Department of Planning and Natural Resources (DPNR) was contacted regarding the need for a Stormwater Pollution Prevention Plan for the proposed underground project. Mr. Keularts responded that since no more than 1 acre of land would be disturbed at any time, coverage under the General TPDES Permit was not required.

**Drainage Patterns**

The proposed project will have no impact on existing drainage patterns once complete since the electrical utility lines will be installed existing paved and unpaved roadways, and within maintained residential lawns.

**Coastal Floodplain**

The entirety of the proposed underground project route is within FEMA Flood Zone X, where 100-year flooding is not expected.
Figure 6. FEMA Flood Insurance Rate Map (FIRM) for the proposed Golden Grove Underground Electrical project area; panels 79 and 80 of 94. The proposed project route falls along the pink line.

Fresh Water Resources
The proposed project will have no impact on freshwater resources as it involves the burial of electrical lines in previously disturbed areas. No freshwater ponds or streams occur within the proposed project footprint and groundwater resources within the area are deeper than 80 inches; meaning below the depth of the proposed project.

Oceanography
The project occurs well inland and will not be affected by sea storm events.

Marine Resources
The property is located entirely inland and will have no direct impact on the marine environment.

Terrestrial Resources
The proposed project will occur within existing paved and unpaved roadways, parking areas and previously developed areas – i.e., maintained residential yards. No natural terrestrial resources or any native flora or fauna will be significantly impacted during the installation of the buried electrical lines. The electrical lines will be buried near large trees along the roadside; thus, some minor cutting of tree roots may occur. There may be impact to ground covers and residential lawns during the installation of the underground electrical service lines to individual residences.

Relocating electrical lines underground will alleviate the need to trim large trees away from suspended, overhead lines and will prevent future damage to vegetation during storm events.

Wetlands
The project will have no impact on wetlands, as there are no wetlands in, or adjacent to, the proposed project route. The proposed project route is in an existing roadway and previously paved parking areas.

![Golden Grove Underground Electrical Project](image)

Figure 7. The relationship between the proposed Golden Grove Underground Electrical project and wetlands. The proposed project route falls within the pink circle.

**Rare and Endangered Species**

No endangered, or threatened, species or endangered species habitat exist within the proposed project route; therefore, no federal, or local, endangered, or threatened, species will be impacted. According to the U.S. Fish and Wildlife Service (USFWS) Information, Planning and Conservation System (iPAC) project tool no endangered species, critical habitat or migratory birds are expected to occur in the proposed project area.

There is an endangered ground lizard, *Ameiva polops*, on the island of St. Croix, but this lizard is only found on Protestant Cay and Ruth Cay. There are also three endangered plant species on St. Croix — i.e., *Agave eggersiana*, *Buxus vahlii* and *Catesbaea melanocarpa* — but they primarily occur in dry, exposed
There are three known populations of *B. vahlii* on St. Croix and all are well removed from the proposed project site. There is one known population of *C. melanocarpa* on St. Croix and it is also located outside the proposed project area.

Neither the endangered ground lizard nor any of the endangered plant species are found within the proposed project footprint.

**Air Quality**

All of St. Croix is designated Class II by the Environmental Protection Agency, in compliance with National Ambient Air Quality Standards. In Class II air quality regions, the following air pollutants are regulated: open burning, visible air contaminants, particulate matter emissions, volatile petroleum products, sulfur compounds, and internal combustion engine exhaust (Virgin Islands Code Rules and Regulations). Trenchers will be used during project construction and will create combustion engine exhaust during use. Upon the completion, air quality will return to pre-construction conditions.
IMPACT ON MAN’S ENVIRONMENT

Land and Water Use Plans
The burial of electrical lines is in accordance with the laws and regulations of the U.S. Virgin Islands.

Visual Impacts
The relocation of the overhead electrical lines underground will contribute to the visual improvement of St. Croix’s landscape.

Social Impacts and Economic Impacts
Providing more reliable and resilient power to critical infrastructure on St. Croix will benefit both residents and businesses on the island. Being able to maintain, or quickly restore, power to critical facilities like the Patrick Sweeney Police Headquarters and the Golden Grove Adult Correctional Facility and Detention Center is essential to the safety and welfare of St. Croix residents, including persons held in the detention center.

Historical and Archaeological Resources
The proposed project involves the installation of underground electrical utility lines in existing roadways, which are located on lands that have been extensively altered by cutting or filling. An archeological Scope of Work (ASoW) was developed for the proposed project. The ASoW has been approved by the USVI State Historic Preservation Office (SHPO) but is being modified to include monitoring along the southern expanse of the proposed project, which is located near the drainage way where pre-historic resources were previously found during the burial of sewage pipelines.

Waste Disposal and Accidental Spills
Equipment will be kept in good operational condition during the proposed project timeline and will not be fueled on site. Any excess excavated material and debris will be collected, taken off-site and properly disposed of.
COASTAL CONSISTENCY

The proposed Golden Grove Underground Electrical project has a negligible potential of impacting environmental resources, or ambient water quality during construction. As necessary, sedimentation and erosion control measures will be implemented during construction to ensure that no environmental impacts occur. The proposed project will occur only within previously altered areas and archeological monitoring will be conducted to minimize impact on historical or cultural resources. Project activities stop if historic remains or resources are encountered, and SHPO will be contacted to determine the best course of action.

The Coastal Zone Management Act of 1972 requires that federal actions, within and outside the coastal zone, which have reasonably foreseeable effects on any coastal use (land or water), or natural resource of the coastal zone be consistent with the enforceable policies of a state’s federally approved coastal management program. The Golden Grove Underground Electrical Project, as proposed, will be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the U.S. Virgin Islands’ CZM Program. This federal consistency determination demonstrates the Golden Grove Underground Electrical project’s compliance with the U.S. Virgin Islands’ CZM Program.

The following policies are set forth in the U.S. Virgin Islands Code Title 12, Conservation Chapter 21, Virgin Islands Coastal Zone Management [V.I. Code tit. 12, § 903(b)]. The proposed Golden Grove Underground Electrical project meets each of the basic goals of the USVI for its coastal zone. Additional details are as follows:

USVI Code Title Twelve Conservation, Chapter 21 § 903 (b)

(1) Protect, maintain, preserve and, where feasible, enhance and restore, the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the United States Virgin Islands.

- The proposed Golden Grove Underground Electrical project is designed to be within existing roadways and previously disturbed areas. The project will not impact any natural resources and will improve the visual landscape along Industrial Road (USVI Route 669) by removing overhead electrical lines and poles.

(2) Promote economic development and growth in the coastal zone and consider the need for development of greater than territorial concern by managing: (1) the impacts of human activity and (2) the use and development of renewable and nonrenewable resources so as to maintain and enhance the long-term productivity of the coastal environment.

- This proposed project promotes the economic development and growth in the coastal zone by providing more reliable, resilient electrical transmission to critical island infrastructure. The improved resilience of electrical power on the island of St. Croix is beneficial for routine service provision and in the event of future catastrophic weather events.

(3) Assure priority for coastal-dependent development over other development in the coastal zone by reserving areas suitable for commercial uses including hotels and related facilities, industrial uses including port and marine facilities, and recreation uses.
- The proposed project involves the burial of electrical utility lines outside the coastal area and is therefore consistent with this policy.

(4) Assure the orderly, balanced utilization and conservation of the resources of the coastal zone, taking into account the social and economic needs of the residents of the United States Virgin Islands.

- The burial of the electrical lines will only occur in areas that have been previously altered and will improve the electrical power resilience both for routine service provision and in the event of future catastrophic weather events. The propose project will also service critical island infrastructure and, therefore, will meet and protect the economic and social needs of residents of the island of St. Croix.

5) Preserve, protect and maintain the trust lands and other submerged and filled lands of the United States Virgin Islands so as to promote the general welfare of the people of the United States Virgin Islands.

- The proposed project will not impact trust lands or other submerged or filled lands of the U.S. Virgin Islands.

(6) Preserve what has been a tradition and protect what has become a right of the public by insuring that the public, individually and collectively, has and shall continue to have the right to use and enjoy the shorelines and to maximize public access to and along the shorelines consistent with constitutionally-protected rights of private property owners.

- The proposed project will in no way affect public access to, or use of, the shoreline. The project is located well inland.

(7) Promote and provide affordable and diverse public recreational opportunities in the coastal zone for all residents of the United States Virgin Islands through acquisition, development and restoration of areas consistent with sound resource conservation principles.

- The proposed project will not affect public recreational opportunities in the coastal zone.

(8) Conserve ecologically significant resource areas for their contribution to marine productivity and value as wildlife habitats, and preserve the function and integrity of reefs, marine meadows, salt ponds, mangroves and other significant natural areas.

- The proposed project is designed so that it impacts only previously disturbed areas like paved and unpaved roadways and maintained residential yard. The project will have no impact on natural resources and will utilize best management practices (BMPs) to minimize areas of disturbance, thereby protecting adjacent habitats.

(9) Maintain or increase coastal water quality through control of erosion, sedimentation, runoff, siltation and sewage discharge.
The proposed project will have no long-term change on sedimentation or erosion and will not result in the creation of wastewater. As necessary, the project will implement sedimentation and erosion control BMPs to prevent loss of sediment from the project site.

The proposed Golden Grove Underground Electrical project, as designed, will maintain coastal water quality through control of erosion, sedimentation, runoff, and siltation and therefore is consistent with the policy set forth in the USVI Code Title 12, Conservation Chapter 21, Virgin Islands Coastal Zone Management [V.I. Code tit. 12, § 903 (b)].

The proposed Golden Grove Underground Electrical project, as designed, protects, maintains, preserves, and enhances the overall quality of the environment in the coastal zone, the natural and man-made resources therein, and the scenic and historic resources of the coastal zone for the benefit of residents of and visitors of the USVI. It is therefore is consistent with the policy V.I. Code tit. 12, § 903 (b).