

# **Environmental Assessment**

## **Determinations and Compliance Findings for HUD-assisted Projects**

### **24 CFR Part 58**

#### **Project Information**

**Project ID:** PR-RGRW-04147

**Project Name:** HACIENDA GRATITUD INC.

**Responsible Entity:** Puerto Rico Department of Housing

**Grant Recipient** (if different than Responsible Entity): same as above

**State/Local Identifier:** Puerto Rico / Municipio of Morovis

**Preparer:** Heath Anderson, Deputy Program Manager

#### **Certifying Officer Name and Title:**

##### Permit and Environmental Compliance Officers:

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**Consultant** (if applicable): SWCA Environmental Consultants

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#### **Project Location:**

The proposed project includes the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project site is located on a 7.41-acre parcel (Cadastral Number 110-000-006-20) at Carreta 159 R 6617, KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, Puerto Rico 00687 (see **Appendix A, Figure 1-** Site Location and **Figure 2-** Site Vicinity). This property is in a rural area in the

northeast corner portion of Morovis Municipio. However, the property is also in between the southeast corner of Vega Baja and the southwest corner portion of Vega Alta Municipio. The project area lies mostly in the Morovis and Vega Alta Municipio. Access to the project areas is provided via an existing unpaved road that runs north-south through the central portion of the property.

The applicant has identified eight locations for project activities related for the Intended Use of Grant Funds that are being evaluated under this Environmental Assessment (EA), also shown on Figures 1 and 2:

- Greenhouse 1 (18.343865, -66.374575) is in the southeast portion of the parcel, within Morovis Municipio.
- Greenhouse 2 (18.343741, -66.374489) is in the eastern portion of the parcel, between Morovis and Vega Alta Municipio.
- Greenhouse 3 (18.343457, -66.37472) is in the eastern portion of the parcel, between Morovis and Vega Alta Municipio.
- Cistern 1 Option 1 (18.343417, -66.374638) is in the central-east portion of the property, in Morovis Municipio.
- Cistern 1 Option 2 (18.343623, -66.374574) is in the southern portion of the property, within Morovis Municipio.
- Cistern 2 Option 1 (18.343401, -66.374638) is in the central-east portion of the property, in Morovis Municipio.
- Cistern 2 Option 2 (18.343606, -66.374574) is in the southern portion of the property, within Morovis Municipio.
- Storage Structure (18.343496, -66.374622) is in the central-south portion of the property, within Morovis Municipio.
- Walk-In Cooler (18.343496, -66.374622) is located inside the Storage Structure, which is in the central-south portion of the property, within Morovis Municipio.
- Fence (starts at 18.343362, -66.374861 and ends at 18.3437318, -66.3745912) is in the central-west portion of the parcel within Morovis Municipio.
- Electric Generator (18.3435051, -66.3745955) is in the central-south portion of the property, within Morovis Municipio.

**Description of the Proposed Project [24 CFR 58.32; 40 CFR 1508.25]:**

The proposed project includes the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, storage and farming equipment, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.



The proposed new greenhouses vary in different sizes. One greenhouse (Greenhouse 1) is approximately 1,680 square feet (sq. ft) (56 feet [ft.] by 30 ft). The second greenhouse (Greenhouse 2) is approximately 1,500 sq. ft (50 ft by 30 ft). The third greenhouse (Greenhouse 3) is approximately 814 sq. ft (37 ft by 22 ft). There will be no platforms needed for any of the greenhouses. All greenhouses will be secured by 6-inch-wide concrete footers extending approximately 10 inches deep into the ground. Greenhouses 1 and 2 are located beside each other on the central-east side of the property, between Morvois and Vega Alta Municipios. Greenhouse 3 is located near the southern boundary, within Morovis Municipio. The greenhouse lighting system will be installed per manufacturer standards and will intersect sight lines of 15 residential structures. The greenhouses will be constructed with approximately six to ten, 4-inch (in.) by 4-inch metal columns.

The storage shed will be connected to an existing electric meter located approximately 70 ft away, southwest of the storage structure which already has an underground connection to the location of the storage structure. From the storage structure connection will be made, above ground only, using cables, to both greenhouses. Water used for irrigation will be connected to the greenhouse from the two new cisterns being installed. The water stored in the cisterns will be used for watering the crops using 0.5-inch-diameter PVC pipes to run from the cisterns to the greenhouses. The PVC pipes will be above ground connections.

There are two optional sizes for the two new cisterns. Option 1 would be two 250-gallon cisterns. Option 2 would be two 400-gallon cisterns. Both cisterns will be built on a 16 sq. ft. base with concrete blocks, the two cisterns would be placed side-by-side to each other, so the total square footage would be 28 sq. ft. The cisterns will use irrigation pumps to pull water to be stored and be used to water the crops in the greenhouse. PVC pipes will be used to connect the cisterns to an existing structure on the property that is connected to the aqueduct managed by the Autoridad de Acueductos y Alcantarillados (AAA). There are two locations options for the cisterns. Option 1 would be approximately 37 ft southwest of Greenhouse 2, about 13 ft away from the existing water source. Option 2 would be located approximately 16 ft east of Greenhouse 3, about 66 ft away from the water source. All irrigation piping and connections to the greenhouse and cisterns will be aboveground surface lines.

The proposed storage structure is approximately 312 sq. ft. (26 ft by 12 ft). The storage structure will be built on a wooden floor base (26 ft by 12 ft). The storage structure will be built with eight, 4-in. by 4-in.) wooden posts with galvanized metal panels for the walls and roof. The storage structure will be connected to a new electric meter approximately 85 ft. from the structure. The electrical extension to the storage structure will be underground. The storage structure will not require a water connection. The storage structure will be used to store the walk-in cooler and equipment. The proposed electric generator will be placed directly on an existing concrete pad located northeast of the storage structure. The generator will be 75 in by 31. 5 in. The fuel tank will hold 75 gallons of diesel fuel. A transfer panel switch and a new meter is necessary for the installation of the generator. The applicant should obtain authorization from PREPA or LUMA prior to installing the transfer panel.-The electric generator will be used as backup electricity for the greenhouses and walk-in cooler in case of local electrical grid interruptions. Prior to

installation of the generator, an Emergency Generators General Permit of the Puerto Rico Department of Natural and Environmental Resources (DNER) will be obtained.

The proposed fence will be approximately 188 linear ft (lf), starting from an existing fence near the central-east portion of the property and running southwest along the southern boundary of the parcel. The fence will be constructed with metal poles and chain-linked fence and will be used to enclose sections of the property. The fencing will be secured to the ground using metal posts extending 10 in. deep into the ground and filled with concrete. Each post will require a 0.5-ft diameter hole in the ground. The posts will be spaced approximately 10 ft apart.

The project will involve some ground disturbance of up to one foot below ground disturbance for anchoring the greenhouses and fence posts. Tree clearing and/or pruning will be required for the construction of Greenhouse 1 and 2 and will result in approximately 10-15 trees being cleared and/or pruned as well as vegetation removal. The applicant owns the property and currently uses it for agricultural use; therefore, no acquisition or conversion is required.

**Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:**

In September of 2017, Hurricanes Irma and María produced sustained winds and intense rainfall that decimated agricultural production across the island of Puerto Rico. These hurricanes caused the loss of eighty percent of crop value island wide, exacerbating challenges to food security and agricultural business development. The Puerto Rico Department of Agriculture (PRDA) estimated seven hundred and eighty million dollars (\$780 million) worth of damages from the hurricanes to the agricultural sector of the economy.

Many properties were damaged in Hurricane Maria, resulting in struggling businesses. The Re-Grow Puerto Rico Urban-Rural Agriculture Program (Re-Grow Program) will develop greater agricultural capacity and address the needs created by Hurricanes Irma and María with a substantial investment of CDBG-DR funds for a wide variety of viable and sustainable agricultural activities.

Agricultural capacity and strong food systems are fundamental to resiliency of economies and, as Puerto Rico's entire agriculture sector was devastated by the Hurricanes, this Program is designed to revitalize this industry. The Re-Grow Program is an integral part of the long-term expansion of jobs in the sector, food security and contributing to overall economic recovery of disaster impacted populations.

The applicant does not have the resources to purchase farming equipment and materials for their agricultural operation nor has the applicant received any other outside source of funding for the project. The new greenhouses will help increase agricultural production. The new generator will provide backup electricity to the greenhouse and cooler when the local power grid is interrupted. The cisterns will also help the applicant in times of water interruption and drought. The project as a whole will support continued local agricultural production during future disasters.

Agencies consulted for the proposed project are provided in the *List of Sources, Agencies and Persons Consulted* section of this Environmental Assessment (EA). Further discussion of the environmental impacts of the proposed action and alternatives is provided in the

*Cumulative Impact Analysis, Alternatives/No Action Alternative, and Summary of Findings and Conclusions* sections of this EA.

### **Existing Conditions and Trends**

The general topography of the property is hilly with open pastures and vegetated areas. The project locations and associated APE are classified uniformly as Rustic Common Land (SRC). Portions of the parcel not within the APE are classified as Specially Protected Rustic Land – Ecological (SREP-E), Common Rustic Land (SRC), and Specially Protected Rustic Land (SREP). The proposed activities are for agricultural purposes and are consistent with the current land use.

### **Funding Information**

<b>Grant Number</b>	<b>HUD Program</b>	<b>Funding Amount</b>
B-17-DM-72-0001 B-18-DP-72-0001 B-19-DP-78-0002 B-18-DE-72-0001	Community Development Block Grant – Disaster Recovery (CDBG-DR)	\$11,938,162,230

**Estimated Total HUD Funded Amount:** \$98,940.10

**Estimated Total Project Cost** (HUD and non-HUD funds) [24 CFR 58.32(d)]: \$99,084.38

## **Compliance with 24 CFR 58.5 and 58.6 Laws and Authorities**

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits or approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

<b>Compliance Factors:</b> Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance Determinations
<b>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 58.6</b>		
<b>Airport Hazards</b>  24 CFR Part 51 Subpart D	Yes    No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site is not within 2,500 ft of a civil primary or commercial service airport or within 15,000 ft of a military airport. The nearest civil primary or commercial service airport, Fernando Luis Ribas Dominicci, is located 101,509 ft (19 miles [mi]) from the project site. The nearest military airport, Luis Munoz Marin International Airport, is located 129,011 ft (24 mi) from the project site. No further evaluation is required. The project is in compliance with airport hazards requirements.</p> <p>The Airport Hazards Partner Worksheet and Airport Hazards Map (<b>Figure B 1-1</b>) are provided in <b>Appendix B, Attachment 1</b>.</p>
<b>Coastal Barrier Resources</b>  Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes    No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site is not located in a Coastal Barrier Resource Systems Unit (CBRS) or Otherwise Protected Area (OPA). There are no CBRS units in Morovis. The closest CBRS unit, Punta Garza, is located 44,986 ft (9 mi) from the project site. No further evaluation is required. The project is in compliance with the Coastal Barrier Resources Act.</p>

		The Coastal Barrier Resources Act Partner Worksheet and Coastal Barrier Resources Map ( <b>Figure B 2-1</b> ) are provided in <b>Appendix B, Attachment 2</b> .
<b>Flood Insurance</b>  Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes    No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>A review of the FEMA Flood Insurance Rate Map (FIRM), Community Panel 72000C0660H (effective date 04/19/2005) and Community Panel 72000C0680H (effective date 04/19/2005). Both panels show the project site is in Flood Zone X, which is not in a Special Flood Hazard Area (SFHA). Flood insurance is not required. No further evaluation is required. The project is in compliance with the Flood Disaster Protection Act and National Flood Insurance Reform Act.</p> <p>The Flood Insurance Partner Worksheet and FIRM (<b>Figure B 3-1</b>) are provided in <b>Appendix B, Attachment 3</b>.</p>
<b>STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 58.5</b>		
<b>Clean Air</b>  Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes    No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site is in Morovis Municipio, which is within a U.S. Environmental Protection Agency (USEPA) designated attainment area. Municipios in Nonattainment or Maintenance areas include Arecibo, Bayamon, Catano, Guaynabo, Salinas, San Juan and Toa Baja. Project activities include the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, storage and farming equipment, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project is not anticipated to have a negative impact on air quality. Emissions associated with the proposed actions are intermittent depending on use of the emergency generator as well as being limited to the use of small construction equipment and will be well</p>

		<p>below the Federal General Conformity Rule de minimis thresholds. No further evaluation is required. The project is in compliance with the Clean Air Act.</p> <p>The Air Quality Partner Worksheet, List of Non-Attainment/Maintenance Status Counties in Puerto Rico, and Clean Air Map (<b>Figure B 4-1</b>) are provided in <b>Appendix B, Attachment 4</b>.</p>
<p><b>Coastal Zone Management</b></p> <p>Coastal Zone Management Act, sections 307(c) &amp; (d)</p>	<p>Yes    No</p> <p><input type="checkbox"/>    <input checked="" type="checkbox"/></p>	<p>The project site is not located within the Puerto Rico Coastal Management Zone. The closest coastal zone area is located 40,171 ft (8 mi) from the project site. No further evaluation is required. The project is in compliance with the Coastal Zone Management Act.</p> <p>The Coastal Zone Management Partner Worksheet and Coastal Zone Map (<b>Figure B 5-1</b>) are provided in <b>Appendix B, Attachment 5</b>.</p>
<p><b>Contamination and Toxic Substances</b></p> <p>24 CFR Part 58.5(i)(2)</p>	<p>Yes    No</p> <p><input type="checkbox"/>    <input checked="" type="checkbox"/></p>	<p>The project site was evaluated for potential contamination by conducting a field site inspection on November 7, 2023 to identify any onsite hazards including, but not limited to, soil staining, above ground storage tanks, signs of underground storage tanks, odors, hazardous debris etc.</p> <p>The site inspection did not identify any onsite hazards, stained soil or vegetation and the project is in compliance with contamination and toxic substances requirements.</p> <p>Although the project includes activities that may not be exempt, PRDOH consulted with HUD and both parties determined that the recommended best practices and alternative options for radon testing are unfeasible and impractical (see Radon Agency Correspondence).</p> <p>In addition, a desktop review of USEPA databases, NEPAassist, and other sources was conducted to determine if the</p>

		<p>project site was located near dump sites, junk yards, landfills, hazardous waste sites, or industrial sites, including USEPA National Priorities List Sites (Superfund sites), CERCLA or state-equivalent sites, RCRA Corrective Action sites with release(s) or suspected release(s) requiring clean-up action and/or further investigation. The parcel has been used for agricultural purposes and there has been no change in land use in the last 20 years. The project is located in a rural area of Morovis Municipio and will continue to be used for agricultural purpose.</p> <p>The desktop review found four of the above-listed toxic, hazardous or radioactive substances in or within 3,000 feet of the project area. However, due to no identified violations, proximity, and project activities, none of the facilities identified will affect the health and safety of project occupants or conflict with the intended use of the property. The project is in compliance with contamination and toxic substances requirements.</p> <p>The Contamination and Toxics Substances Partner Worksheet, Contamination and Toxics Sites Summary, Radon Agency Correspondence, and Contamination and Toxic Substances Map (<b>Figure B 6-1</b>) are provided in <b>Appendix B, Attachment 6</b>.</p>
<p><b>Endangered Species</b></p> <p>Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402</p>	<p>Yes    No</p> <p><input checked="" type="checkbox"/>    <input type="checkbox"/></p>	<p>The project involves activities that have the potential to affect protected species or habitats including but not limited to activities such as ground disturbance and tree clearing/pruning.</p> <p>Threatened, endangered, and migratory bird species were identified by reviewing data from the United States Fish and Wildlife Service (USFWS) Information and Planning Consultation (IPaC) Tool. In addition, critical species</p>

		<p>habitat was reviewed through the USFWS IPaC and Critical Habitat Portal.</p> <p>The review identified one federally listed species (Puerto Rican boa [<i>Chilobothrus inornatus</i>]) with the potential to occur within the project area. There is no designated or proposed critical habitat within the project area; the closest final designated critical habitat is located 56,436 feet (11 miles) away.</p> <p>The project activities will result in ground disturbing activities, including site clearance and grading, construction of new greenhouses, and tree clearing/pruning. A qualified biologist reviewed the proposed activity location(s) and determined that the projects will have no effect on critical habitat. Due to the generalist nature of the Puerto Rican boa, forested habitat surrounding the project areas, and dense ground cover present throughout the review area, the Puerto Rican boa may occur within the project area. The applicant will employ the conservation measures outlined in the USFWS 2024 General Project Design Guidelines for the Puerto Rican boa. As such, it is anticipated that the project <i>may affect, but is not likely to adversely affect</i> the Puerto Rican boa.</p> <p>If a Puerto Rican Boa is found in the project action site, work shall cease until the Boa moves off on its own. If the Boa does not move off, the CM shall contact the Puerto Rico Department of Natural and Environmental Resources and ask for them to relocate the Boa.</p> <p>The Endangered Species Act Partner Worksheet, Threatened and Endangered Species Technical Memorandum with IPaC, Critical Habitat Map (<b>Figure B 7-1</b>) are provided in <b>Appendix B, Attachment 7</b>.</p>
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<p><b>Explosive and Flammable Hazards</b></p> <p>24 CFR Part 51 Subpart C</p>	<p>Yes    No</p> <p><input type="checkbox"/>   <input checked="" type="checkbox"/></p>	<p>The project includes the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project itself is not the development of a hazardous facility nor will the project increase residential densities. No further evaluation is required. The project is in compliance with explosive and flammable hazard requirements.</p> <p>The Explosive and Flammable Hazards Partner Worksheet is provided in <b>Appendix B, Attachment 8.</b></p>
<p><b>Farmlands Protection</b></p> <p>Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658</p>	<p>Yes    No</p> <p><input type="checkbox"/>   <input checked="" type="checkbox"/></p>	<p>This project does not include any activities that could potentially convert agricultural land to non-agricultural use. Per the USGS/NRCS Web Soil Survey, the project area crosses three mapped soil series: CmF2 (Colina cobbly clay loam, 20 to 60 percent slopes, eroded); MoD2 (Moca clay, 12 to 20 percent slopes, eroded); and SrF (Soller-Rock outcrop complex, 5 to 60 percent slopes). No prime farmland or farmlands of statewide importance are within the project area. Although the project includes new construction, the project is exempt from review under the Farmland Protection Policy Act (FFPA) as the project is limited to construction of on-farm structures needed for farm operations. No further review is required. The project is in compliance with the Farmland Protection Policy Act.</p> <p>The Farmlands Protection Partner Worksheet and Prime Farmland Map (<b>Figure B 9-1</b>) are provided in <b>Appendix B, Attachment 9.</b></p>
<p><b>Floodplain Management</b></p>	<p>Yes    No</p> <p><input type="checkbox"/>   <input checked="" type="checkbox"/></p>	<p>An Advisory Base Flood Elevation (ABFE) map was developed by FEMA, which shows the project sites are in Flood Zone X. The project is not located in the 100-</p>

<p>Executive Order 11988, particularly section 2(a); 24 CFR Part 55</p>		<p>year floodplain or ABFE special flood hazard area; therefore, no further action is required. The extent of the FFRMS floodplain was determined using the 0.2 percent flood approach. The project is in compliance with Executive Order 11988, as amended by Executive Order 13690.</p> <p>PFIRMs in Puerto Rico were only developed for certain sections of the municipalities of Carolina, Canovanas, Loiza, San Juan and Trujillo Alto. The proposed project is located in the municipality of Morovis; therefore, PFIRM information was not available for the area and therefore not considered in the review.</p> <p>HUD implemented new floodplain regulations under 89 FR 30850 effective June 24, 2024 which created the Federal Flood Risk Management Standard (FFRMS). The current project comprises non-critical actions that lie outside the 0.2-percent-annual-chance (500-year flood elevation), which is the approach used for this project to comply with the FFRMS; therefore, mitigation is not required and the project is in compliance with 24 CFR Part 55.</p> <p>The Floodplain Management Partner Worksheet and ABFE Floodplain Map (<b>Figure B 10-1</b>) are provided in <b>Appendix B, Attachment 10</b>.</p>
<p><b>Historic Preservation</b></p> <p>National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800</p>	<p>Yes    No</p> <p><input type="checkbox"/>    <input checked="" type="checkbox"/></p>	<p>The project will involve new construction of an irrigation system, a walk-in cooler, three new greenhouses, two cisterns, construction of a fence, an electric generator, and a storage structure on an undeveloped property and significant ground disturbing activities of previously undisturbed soil. State Historic Preservation Office (SHPO) consultation was performed.</p>

		<p>No National Historic Landmark (NHL) are within or near the project area.</p> <p>Record reviews and research were conducted at the SHPO and the Instituto de Cultura Puertorriqueña (ICP) to determine if any archaeologically sensitive resources could be present within a 0.5-mile radius. The results of the Record Search and the Site Inspection indicate that there are historic properties and cultural resources within the 0.50-mile radius study area but not within the project Area of Potential Effect (APE). The results of the Record Search and the Site Inspection indicate that there are historic properties and cultural resources within the 0.50-mile radius study area but not within the project Area of Potential Effect (APE).</p> <p>The determination was submitted to SHPO by PRDOH for concurrence on March 26, 2024 and SHPO concurred with the No Historic Properties Affected determination on April 2, 2024 No further evaluation is required. The project is in compliance with the National Historic Preservation Act.</p> <p>The Historic Preservation Partner Worksheet, Previously Recorded Cultural Resources Map (Figure B 11-1), and SHPO consultation are provided in <b>Appendix B, Attachment 11.</b></p>
<p><b>Noise Abatement and Control</b></p> <p>Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B</p>	<p>Yes    No</p> <p><input type="checkbox"/>    <input checked="" type="checkbox"/></p>	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure and do not involve residential new construction or rehabilitation. No further evaluation is required. The project is in compliance with HUD's noise regulation.</p>
<p><b>Sole Source Aquifers</b></p>	<p>Yes    No</p>	<p>According to the USEPA's Source Water Protection, Sole Source Aquifer</p>

<p>Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149</p>	<p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>Protection Program, there are no sole source aquifers in Puerto Rico. No further evaluation is required. The project is in compliance with the Safe Drinking Water Act.</p> <p>The Sole Source Aquifer Partner Worksheet and Sole Source Aquifer Map (<b>Figure B 12-1</b>) are provided in <b>Appendix B, Attachment 12</b>.</p>
<p><b>Wetlands Protection</b></p> <p>Executive Order 11990, particularly sections 2 and 5</p>	<p>Yes    No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The project site was reviewed for wetlands using the USFWS Wetland Inventory Mapper and a visual confirmation during the field site inspection. A riverine wetland (shown as an NHD stream on Figure B 13-1) is located approximately 47 feet east of the Greenhouse Option 2 at its closest point and will not be affected by project activities if best management practices, such as silt fencing and erosion control, are implemented during any ground-disturbing activities. No further evaluation is required. The project is in compliance with Executive Order 11990. Note- the NWI online webmapper, accessed on November 17, 2023, shows this NHD stream is a riverine wetland.</p> <p>The Wetlands Protection Partner Worksheet and Wetland Map (<b>Figure B 13-1</b>) are provided in <b>Appendix B, Attachment 13</b>.</p>
<p><b>Wild and Scenic Rivers</b></p> <p>Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)</p>	<p>Yes    No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>A review of the USFWS National Wild and Scenic River mapper identified no Wild and Scenic Rivers or National Rivers Inventory (NRI) rivers present in Morovis Municipio. The closest Wild and Scenic River segment is located 203,461 ft (39 mi) from the project site. No further evaluation is required. The project is in compliance with the Wild and Scenic Rivers Act.</p> <p>The Wild and Scenic Rivers Partner Worksheet and Wild and Scenic Rivers</p>

		Map ( <b>Figure B 14-1</b> ) are provided in <b>Appendix B, Attachment 14.</b>
<b>ENVIRONMENTAL JUSTICE</b>		
<b>Environmental Justice</b>  Executive Order 12898	Yes    No <input type="checkbox"/> <input checked="" type="checkbox"/>	The ReGrow Program intends to alleviate negative economic impacts to, and strengthen, the agricultural industry in Puerto Rico. The project's direct and indirect impacts are limited to a small area on a single land parcel. The project will benefit the farm owner by improving agricultural use and production. The project would not facilitate development that would negatively affect human health or result in disproportionate adverse environmental impacts to low-income or minority populations. The project is in compliance with Executive Order 12898.  The Environmental Justice Partner Worksheet and EJSscreen Report are provided in <b>Appendix B, Attachment 15.</b>

**Environmental Assessment Factors** [24 CFR 58.40; Ref. 40 CFR 1508.8 & 1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

**Impact Codes:** Use an impact code from the following list to make the determination of impact for each factor.

- (1) Minor beneficial impact
- (2) No impact anticipated

**(3) Minor Adverse Impact – May require mitigation**

**(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement**

Environmental Assessment Factor	Impact Code	Impact Evaluation
<b>LAND DEVELOPMENT</b>		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project site location(s) is classified as Rural General (R-G) land use. The proposed action is continued agricultural use of property, which is compatible with zoning and existing land use.</p> <p>Construction actions include new construction which increase the current function of the existing land use. There is no change in land use since the land will continue to be used for agriculture purposes. The project site is in a rural area of Morovis Municipio, and project activities will not contribute to urban sprawl.</p> <p>The applicant and/or construction manager is required to obtain any necessary local and territorial building and environmental permits prior to construction activities commencing.</p> <p>In accordance with Puerto Rican Permit requirements any generator above 10HP requires an Emergency Generators General Permit of the Puerto Rico Natural and Environmental Resources Department prior to installation.</p>
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>Soil suitability will be assessed prior to construction and will be addressed during local permitting processes. Per the USGS/NRCS Web Soil Survey, the project area crosses three mapped soil series: CmF2 (Colina cobbly clay loam, 20 to 60 percent slopes, eroded); MoD2 (Moca clay, 12 to 20 percent slopes, eroded); and SrF (Soller-Rock outcrop complex, 5 to 60 percent slopes).</p>

		<p>Contractors will be required to use best management practices during construction to control erosion and prevent runoff. The soil is currently being used for agriculture purposes.</p> <p>Landslide data from the U.S. Geological Survey (USGS) indicates no landslides per square kilometer for the project area (see <b>Appendix A, Figure 3-</b> USGS Landslide Map). Department of Natural and Environmental Resources (DNER) authorization is required for any extraction, removal, excavation, and dredging of the components of the earth's crust.</p>
Hazards and Nuisances including Site Safety and Noise	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>Contractors will be required to provide health and safety plans and monitoring during construction. Noise levels will temporarily increase during construction which may impact surrounding neighbors; however, program activities are limited to the existing farm property and will not elevate ambient noise levels long-term. Contractors will be required to comply with the applicable local noise ordinances. Noise impacts will be mitigated by restricting construction activities to daylight hours and to the hours established in the Regulation for Noise Control and Pollution in Puerto Rico. Additionally, the project does not include housing to where inhabitants would be affected.</p>

Environmental Assessment Factor	Impact Code	Impact Evaluation
<b>SOCIOECONOMIC</b>		
Employment and Income Patterns	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>The project is not anticipated to have a significant impact on employment and income patterns; however, the project may help restore employment opportunities and income patterns by facilitating production of fungible commodities and creating</p>

		labor demand to effect productive activities and commodity distribution.
Demographic Character Changes, Displacement	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>The project is a rural area in Morovis Municipio and will not alter the demographics or character of the surrounding community. Project activities will not result in any direct or indirect displacement of individuals or families.</p>
Environmental Justice	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>The project's direct and indirect impacts are limited to a small area on a single land parcel. The project will benefit the farm owner by improving agricultural use and production. The project will not facilitate development that would negatively affect human health or result in disproportionate adverse environmental impacts to low-income or minority populations (see EJ Screen Report in Attachment 14).</p>

Environmental Assessment Factor	Impact Code	Impact Evaluation
<b>COMMUNITY FACILITIES AND SERVICES</b>		
Educational and Cultural Facilities	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure on private land and will not contribute to any change in educational or cultural facilities or affect access to or capacity of educational or cultural facilities.
Commercial Facilities	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure,



		The proposed project will increase agricultural production, resulting in a net positive impact to the applicant's farm commercial output and a positive benefit to surrounding commercial enterprises who purchase and sell the produce; however, the project will not put undue pressure on commercial facilities.
Health Care and Social Services	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure on private land and will not affect access to or capacity of health care and social services.
Solid Waste Disposal / Recycling	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The proposed project may cause an increase in short-term generation of solid waste during construction. All construction debris will be disposed of at the proper facilities for the debris type (i.e., construction waste). The project will not contribute to long-term needs or changes to solid waste disposal and recycling.
Wastewater / Sanitary Sewers	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure are not expected to result in significant changes in wastewater or sanitary sewer generation.  Sewage will not be generated from the project. No new wastewater or sanitary sewer connections are required for this project.
Water Supply	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The proposed project activities are not expected to result in significant changes to water supply. The property will use the cisterns to water the greenhouses and walk-in cooler. The applicant will need to obtain

		authorization and any permits from AAA to draw water from the aqueduct for the new greenhouses.
Public Safety - Police, Fire and Emergency Medical	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure on private land and will not affect public safety concerns such as police, fire, and emergency medical services.
Parks, Open Space and Recreation	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure on private land and will not result in any changes to access or use of parks, open space, and recreation areas.
Transportation and Accessibility	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure on private land and have no relation to transportation services. The proposed activities will not result in any changes in transportation and accessibility.

Environmental Assessment Factor	Impact Code	Impact Evaluation
<b>NATURAL FEATURES</b>		
Unique Natural Features, Water Resources	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. A riverine wetland runs along the western portion of the applicant's property. No construction or project activities will occur within the waterbody or affect quality or access to the riverine. Best management practices, such as silt fencing and erosion control, will

		be implemented during any ground-disturbing activities.
Vegetation, Wildlife	2	The project activities include the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project area has already been previously disturbed for farm operations. Although approximately 50-75 banana trees will be removed for project activities, the project is not expected to have overall net negative impacts on the surrounding area relative to a) the comparatively larger forested areas and associated habitat to the project's north, east, and south and b) the benefit the project provides in the form of increased food production capacity, which will easily outstrip the volume and variety of the trees' productive potential in any given year.

Environmental Assessment Factor	Impact Code	Impact Evaluation
<b>CLIMATE AND ENERGY</b>		
Climate Change Impacts	2	<p>The project activities are limited to the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.</p> <p>The proposed ReGrow program project aims to increase resiliency in the agricultural industry to prepare for future climate related disasters, including drought. The Climate Mapping for Resilience and Adaptation Assessment tool (<a href="https://resilience.climate.gov/#assessment-tool">https://resilience.climate.gov/#assessment-tool</a>) provides historical and future climate data for five common climate-related hazards (extreme heat, drought, wildfires, flooding, and coastal inundation). The data model for the census tract that includes application location does not indicate a significant increase in hazard risks from climate change for drought, wildfire, or flooding, when comparing historical data (1976-2005) to future projections. The model projects a greater number of days where temperatures will exceed 90 degrees Fahrenheit after</p>

		<p>2015, which is a systemic trend in the model across the Island.</p> <p>The specific activities proposed for this economic development project are limited in scale and land impacts. The proposed irrigation system, walk-in cooler, three new greenhouses, two cisterns, fence, electric generator, storage structure construction activities are for individual farm use and will not result in a significant increase in electricity or water draw. The greenhouses will allow the applicant to control the water to the crops and will reduce the amount needed compared to open air farming which often results in higher evapotranspiration. The equipment that will be used during construction and operation will also be limited to occasional use at this specific land parcel, and therefore will not generate a significant amount of greenhouse gas. The project's viability is not substantially vulnerable to future drought because AAA is the primary water source. Only severe droughts sufficient to disrupt established, island-wide water infrastructure present a credible threat to the project.</p>
Energy Efficiency	2	<p>The project will not result in significant additional energy consumption as it involves only the construction of an irrigation system, a walk-in cooler, three new greenhouses, two cisterns, fence, electric generator, a storage structure using self-powered construction equipment on an existing farm and will not require any expansion to existing power facilities. The applicant should obtain authorization from PREPA or LUMA prior to expanding the connections as well as installing the transfer panel switch for the electrical generator.</p>

**Additional Studies Performed:**

No additional studies were performed.

**Field Inspection** (Date and completed by):

Field inspection completed on November 7, 2023, by Armando Ramos, SWCA Environmental Consultants.

**List of Sources, Agencies and Persons Consulted** [40 CFR 1508.9(b)]:

Department of Economic Development and Commerce. 2023. Sole Incidental Operational Permit for Cutting, Pruning, Transplanting and Tree System Authorization. Permits Management Office. Accessed July 20, 2024. Available at: Permits Management Office Department of Economic Development and Commerce (pr.gov).

Department of Natural and Environmental Resources (DNER). 2023. Puerto Rico DNER Species Ranges – under construction. Accessed February 15, 2024. Available at: <https://arcg.is/1S9aju0>.

Federal Aviation Administration (FAA). 2022. National Plan for Integrated Airport Systems 2023-2027. Accessed November 17, 2023. Available at: [National Plan of Integrated Airport Systems \(NPIAS\) 2023-2027, Appendix B: National and State Maps \(faa.gov\)](#).

Federal Emergency Management Agency (FEMA). 2023. FEMA Flood Map Service Center - Map Panel2000C0660H (effective date 04/19/2005) and Community Panel 72000C0680H (effective date 04/19/2005). Accessed November 17, 2023. Available at: <https://msc.fema.gov/portal/home>.

Institute of Puerto Rican Culture (ICP). 2023. San Juan, Puerto Rico. Data collection conducted on November 3, 2023.

National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management. 2023. Puerto Rico Coastal Zone Boundary. Accessed November 17, 2023. Available at: [Puerto Rico Coastal Vulnerability Viewer \(arcgis.com\)](#).

State Historic Preservation Office (SHPO). 2023. San Juan, Puerto Rico. Data collection conducted on November 7, 2023.

U.S. Environmental Protection Agency (USEPA). 2022a. Envirofacts Mapper. Air pollution data (ICIS-AIR), Brownfields, Hazardous Waste (RCRAInfo), Superfund National Priorities List (NPL), Toxic Releases Inventory (TRI), and National Pollutants Discharge Elimination Systems (NPDES). Accessed November 17, 2023. Available at: <https://geopub.epa.gov/arcgis/rest/services/EMEF/efpoints/MapServer>.

USEPA. 2022b. Sole Source Aquifer Map. Accessed February 23, 2024. Available at: <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>.

USEPA. 2023a. Puerto Rico Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. USEPA Green Book. Accessed November 17, 2023. Available at: [https://www3.epa.gov/airquality/greenbook/anayo\\_pr.html](https://www3.epa.gov/airquality/greenbook/anayo_pr.html).

USEPA. 2023b. EJScreen: Environmental Justice Screening and Mapping Tool. Accessed January 8, 2024. Available at: <https://www.epa.gov/ejscreen/download-ejscreen-data>.

U.S. Fish and Wildlife Service (USFWS). 2019. Coastal Barrier Resources System. Accessed November 17, 2023. Available at: <https://www.fws.gov/CBRA/Maps/Mapper.html>.

USFWS. 2023a. Information for Planning and Consultation (IPaC). Accessed December 27, 2023. Available at: <https://ipac.ecosphere.fws.gov/location/index>.

USFWS. 2023b. Critical Habitat for Threatened & Endangered Species. Accessed December 27, 2023. Available at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>.

USFWS. 2023c. National Wetlands Inventory Surface Waters and Wetlands Mapper. Accessed November 17, 2023. Available at: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

U.S. Forest Service. 2022. National Wild and Scenic River Segments. Accessed November 17, 2023. Available at: <https://www.rivers.gov/mapping-gis.php>; [Wild & Scenic Rivers | US Forest Service \(usda.gov\)](#).

U.S. Geological Survey (USGS). 2022. Concentration of Landslides caused by Hurricane Maria, Puerto Rico. Accessed November 17, 2023. Available at: [U.S. Landslide Inventory \(arcgis.com\)](#).

#### **List of Permits Obtained:**

No permits have been obtained.

#### **Public Outreach [24 CFR 58.43]:**

Puerto Rico Department of Agriculture has worked closely with the agricultural community. In compliance with the National Environmental Policy Act (NEPA) regulations for HUD, the public will be notified of the project through publication of the combined Finding of No Significant Impact (FONSI) – Notice of Intent to Request Release of Funds (NOI-RROF) notice with a 15-day public comment period.

#### **Cumulative Impact Analysis [24 CFR 58.32]:**

The installation of multiple greenhouses, two cisterns, fence and storage structure at the project site is not anticipated to have a negative impact on environmental resources. None of the environmental assessment factors nor the regulations reviewed in the above checklist resulted in negative environmental impacts. There will be an increase on water and electricity draw due to the new utility connections. Overall, the project will have a net positive impact by helping a small business increase their capacity for agricultural production. No other planned or ongoing projects were identified in the project vicinity that could contribute to cumulative impacts of environmental resources.

#### **Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]**

Within the boundaries of the property, other locations could be considered for the new greenhouses, cisterns, storage structure, generator and fence. However, other locations may require greater environmental impacts such as additional ground disturbance, wetland disturbance, grading for slopes that are not suitable for installation or additional tree clearing and would result in higher costs to the applicant.

#### **No Action Alternative [24 CFR 58.40(e)]:**

Under the No Action Alternative, the applicant would not receive federal funding to purchase equipment, construct new greenhouses, install cisterns, a new generator, and fence. Consequently, the applicant may not be able to recover and continue agricultural production. Given the degree of need for greater agricultural capacity in Puerto Rico following Hurricanes Irma and María, the costs of foregoing the project would exceed the benefits.

### **Summary of Findings and Conclusions:**

The proposed project would not result in any adverse impacts to the surrounding natural, historical, and water resources; generate significant air or noise pollution; or promote environmental or socioeconomic injustices. The proposed project is not located within a coastal zone or near a major water resource.

### **Mitigation Measures and Conditions [40 CFR 1505.2(c)]**

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

<b>Law, Authority, or Factor</b>	<b>Mitigation Measure</b>
<b>Endangered Species</b> Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	General Condition: If a Puerto Rican Boa (Boa) is found in the project activity site, work shall cease until the Boa moves off site on its own. If the Boa does not move off site, the construction manager shall contact the Puerto Rico DNER to relocate the Boa. The USFWS has developed the following conservation measures for the Boa: <ol style="list-style-type: none"> <li>1. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site.</li> <li>2. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid</li> </ol>

	<p>further habitat degradation into forested and conservation areas.</p> <p>3. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area.</p> <p>4. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #5). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (PRDNER phone #s: (787) 724-5700, (787) 230-5550, (787) 771-1124). If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.</p> <p>5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior. Last Revised: January 2024</p> <p>6. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service.</p> <p>7. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers</p>
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	<p>for safe capture and relocation of the animal (see #4). If not possible, the animal should be left alone until it leaves the vehicle on its own.</p> <p>8. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future.</p> <p>9. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #5). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email (see contacts below) to the Service within 48 hours of the event.</p> <p>10. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.</p>
<p><b>Historic Preservation</b></p> <p>National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800</p>	<p><i>General Condition:</i></p> <p>If historic properties are discovered, unanticipated effects on historic properties are found, or cultural materials are encountered, work should cease in the immediate area; work can continue where no historic properties or cultural materials are present. Please contact PRDOH to consult on further actions that may be necessary to protect historic properties or cultural materials.</p>
<p>Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design</p>	<p>The proposed action is continued agricultural use of property, which is compatible with the existing land use.</p> <p>The applicant and/or construction manager is required to obtain any necessary local and territorial building and environmental permits prior to construction activities commencing.</p>

Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	<p>Soil suitability will be assessed prior to construction. Contractors will be required to use best management practices during construction.</p> <p>DNER authorization is required for any extraction, removal, excavation, and dredging of the components of the earth's crust.</p>
Vegetation, Wildlife	<p>DNER authorization is required for tree clearing and pruning. The landowner and/or the contractor will contact the Permit Management Office to determine permits and authorizations required prior to construction.</p>
Hazards and Nuisances including Site Safety and Noise	<p>Contractors will be required to provide health and safety plans and monitoring during construction.</p> <p>Contractors will be required to comply with the applicable local noise ordinances.</p> <p>Noise impacts will be mitigated by restricting construction activities to daylight hours and to the hours established in the Regulation for Noise Control and Pollution in Puerto Rico.</p>
Solid Waste Disposal / Recycling	<p>All construction debris will be disposed of at the proper facilities for the debris type (i.e. construction waste).</p>
Energy Consumption	<p>The applicant is required to obtain authorization or permits from Prepa and/or Luma prior to expanding electrical connections and installing the transfer panel switch for the generator.</p>
Water Supply	<p>The applicant will need to obtain authorization and any permits from AAA to draw water from the aqueduct for the new greenhouses.</p>
Wetlands	<p>Best management practices, such as silt fencing and erosion control, must be implemented during any ground-disturbing activities.</p>
Permits	<p>Prior to installation, the applicant will obtain an Emergency Generators General Permit of the Puerto Rico Natural and Environmental Resources Department.</p>



**Determination:**

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]

The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]

The project may significantly affect the quality of the human environment.

Preparer Signature:  Date: 10 October 2024

Name/Title/Organization: Heath Anderson, Ph.D., Deputy Program Manager

SWCA Environmental Consultants

Certifying Officer Signature:  Date: 10/11/2024

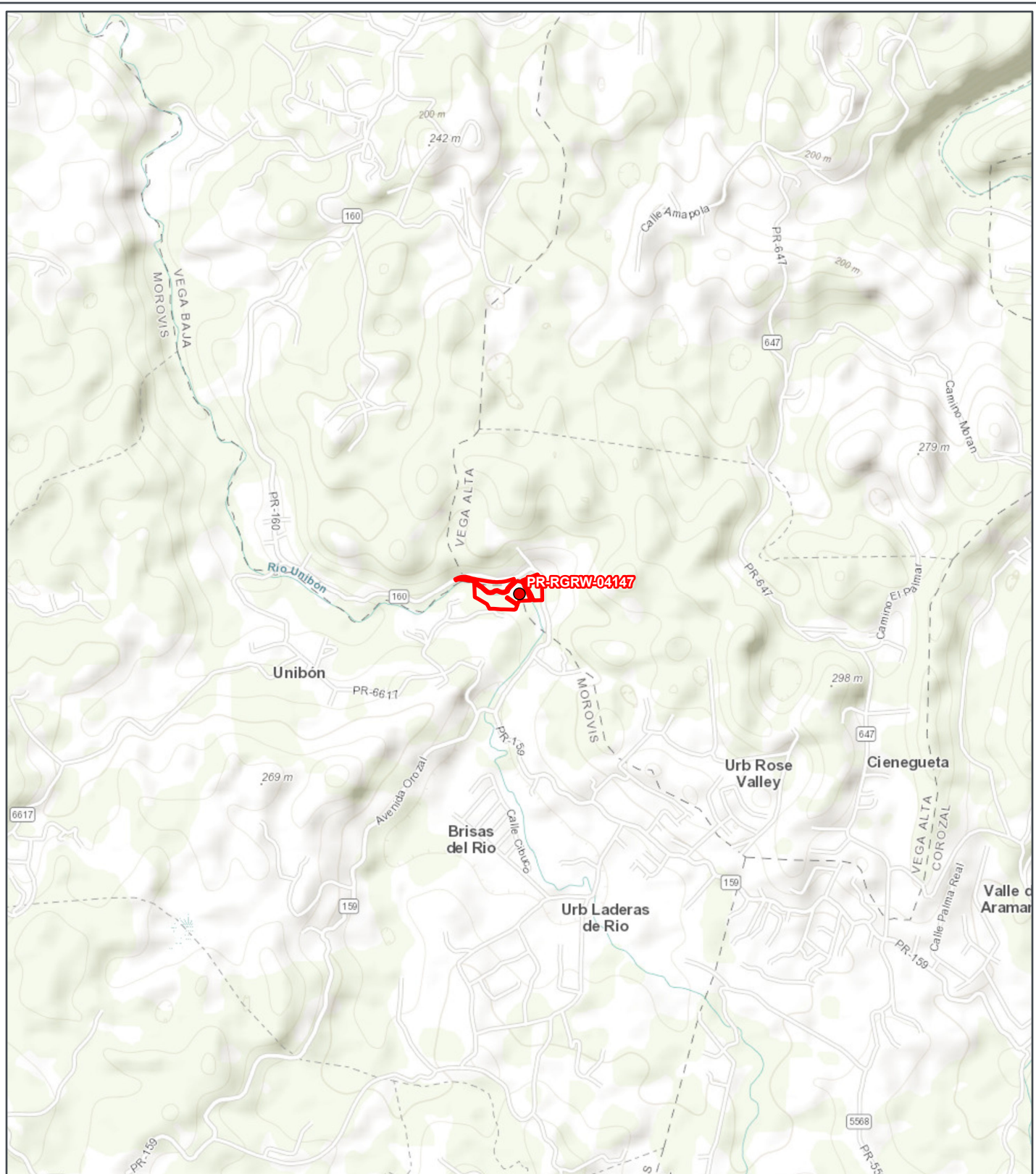
Name/Title: Javier Mercado Barrera / Permits and Environmental Compliance Specialist / PRDOH

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

# **Appendix A**

## **Project Overview Figures**

**Figure 1**  
**Site Location Map**



REGROW PROGRAM

# **Figure A-1: Site Location**

Applicant ID: PR-RGRW-04147

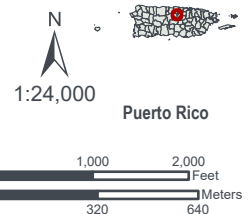
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687

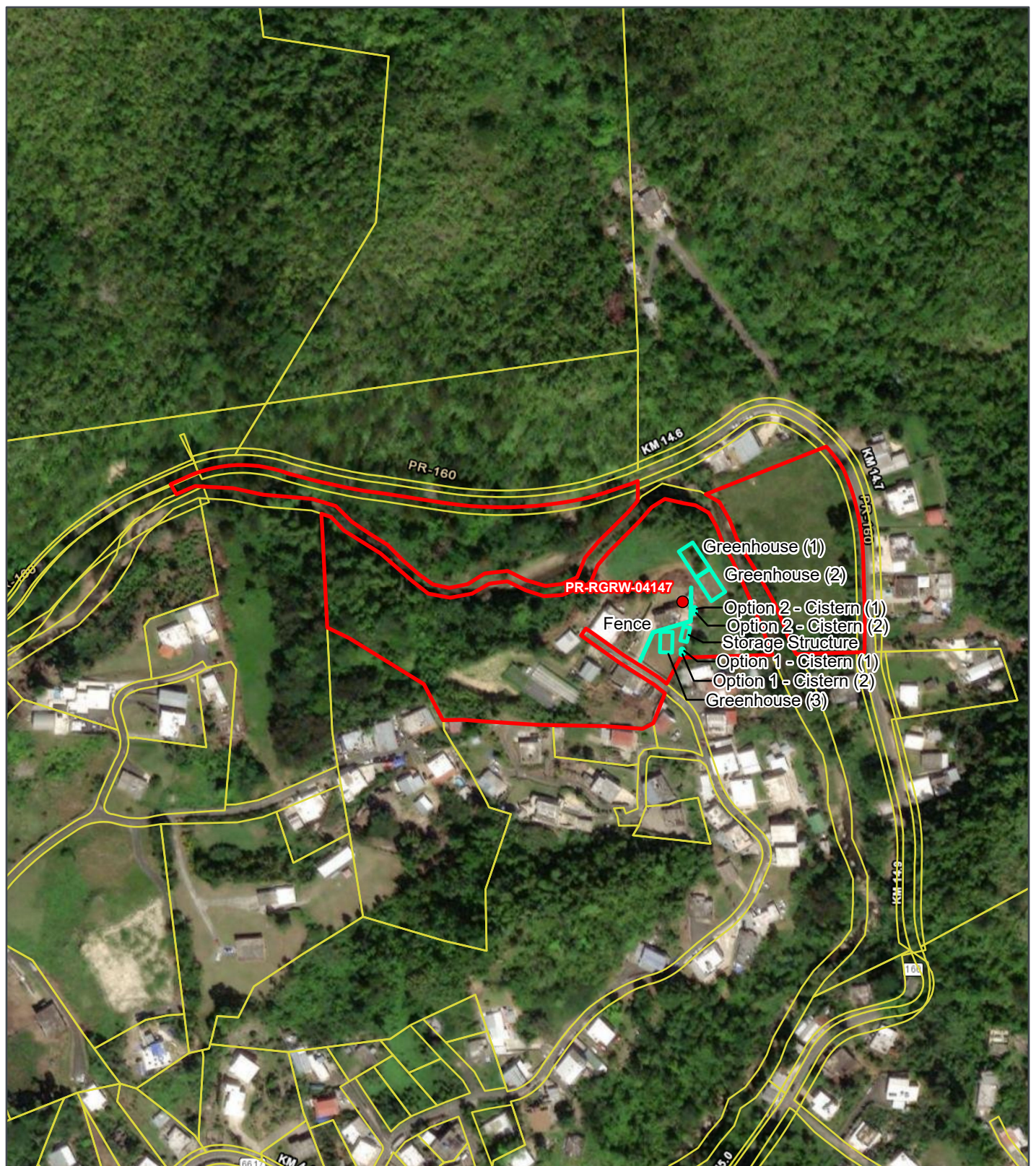
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Site Location  
Aprx: 72428\_ReGrowTier2Maps



**Figure 2**  
**Site Vicinity Map**





REGROW PROGRAM

## Figure A-2: Site Vicinity

Applicant ID: PR-RGRW-04147

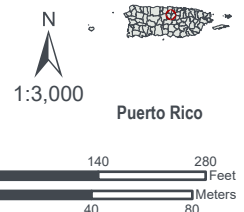
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687

Parcel ID: 110-000-006-20  
Parcel Center:  
66.375493°W 18.343727°N

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Site Vicinity  
Aprx: 72428\_ReGrowTier2Maps



**Figure 3**  
**USGS Landslide Map**





REGROW PROGRAM

### Figure A-3: USGS Landslide Map

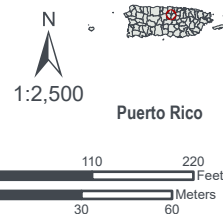
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- Potential Area of Disturbance
- Greater than 25 Landslides per sq km
- Less than 25 Landslides per sq km
- No Landslides
- Not Examined

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: [https://arcgis.cuahsi.org/arcgis/rest/services/MariaRAPID/Hurricane\\_Maria\\_Landslides/MapServer](https://arcgis.cuahsi.org/arcgis/rest/services/MariaRAPID/Hurricane_Maria_Landslides/MapServer)  
Base Map: ESRI ArcGIS Online, accessed November 2023  
Updated: 11/17/2023  
Layout: Landslide



# **Appendix B**

## **Attachments and Supporting Documentation**

**Attachment 1**

**Airport Hazards Partner Worksheet and**

**Airport Hazards Map**



**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## **Airport Hazards (CEST and EA) – PARTNER**

<https://www.hudexchange.info/environmental-review/airport-hazards>

- 1. To ensure compatible land use development, you must determine your site’s proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?**

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within the applicable distances to a military or civilian airport.*

☐ Yes → *Continue to Question 2.*

- 2. Is your project located within a Runway Potential Zone/Clear Zone (RPZ/CZ) or Accident Potential Zone (APZ)?**

☐ Yes, project is in an APZ → *Continue to Question 3.*

☐ Yes, project is an RPZ/CZ → *Project cannot proceed at this location.*

☐ No, project is not within an APZ or RPZ/CZ

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Continue to the Worksheet Summary below. Provide a map showing that the site is not within either zone.*

- 3. Is the project in conformance with DOD guidelines for APZ?**

☐ Yes, project is consistent with DOD guidelines without further action.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documentation supporting this determination.*

☐ No, the project cannot be brought into conformance with DOD guidelines and has not been approved. → *Project cannot proceed at this location.*

**If mitigation measures have been or will be taken, explain in detail the proposed measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

[Click here to enter text.](#)

*→ Work with the RE/HUD to develop mitigation measures. Continue to the Worksheet Summary below. Provide any documentation supporting this determination.*

### **Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

### **Include all documentation supporting your findings in your submission to HUD.**

The project site is not within 2,500 feet (ft) of a civil primary or commercial service airport or within 15,000 ft of a military airport. The nearest civil primary or commercial service airport, Fernando Luis Ribas Dominicci, is located 101,509 ft (19 miles) from the project site. The nearest military airport, Luis Munoz Marin International Airport, is located 129,011 ft (24 miles) from the project site. No further evaluation is required. The project is in compliance with airport hazards requirements.





REGROW PROGRAM

# **Figure B 1-1: Airport Hazards Map**

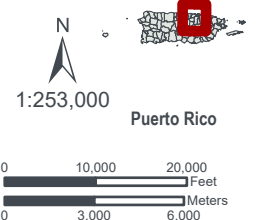
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- ▭ Airport Runway
- ▭ Accident Potential Zones (APZ)
- ▭ Runway Protection Zones (RPZ)
- ▭ 2,500-FT Civil Airport Buffer
- ▭ 15,000-FT Military Airport Buffer

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20 Parcel Center:  
66.195369°W 18.399675°N

Data Source: <https://geodata.bts.gov/>  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Airport Hazards  
Aprx: 72428\_ReGrowTier2Maps





## **Attachment 2**

# **Coastal Barrier Resources Act Partner Worksheet and Coastal Barrier Resources Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Coastal Barrier Resources (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/coastal-barrier-resources>

Projects located in the following states must complete this form.

Alabama	Georgia	Massachusetts	New Jersey	Puerto Rico	Virgin Islands
Connecticut	Louisiana	Michigan	New York	Rhode Island	Virginia
Delaware	Maine	Minnesota	North Carolina	South Carolina	Wisconsin
Florida	Maryland	Mississippi	Ohio	Texas	

### 1. Is the project located in a CBRS Unit?

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a CBRS Unit.*

☐ Yes → *Continue to 2.*

Federal assistance for most activities may not be used at this location. You must either choose an alternate site or cancel the project. In very rare cases, federal monies can be spent within CBRS units for certain exempted activities (e.g., a nature trail), after consultation with the Fish and Wildlife Service (FWS) (see [16 USC 3505](#) for exceptions to limitations on expenditures).

### 2. Indicate your recommended course of action for the RE/HUD

- ☐ Consultation with the FWS
- ☐ Cancel the project

### Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

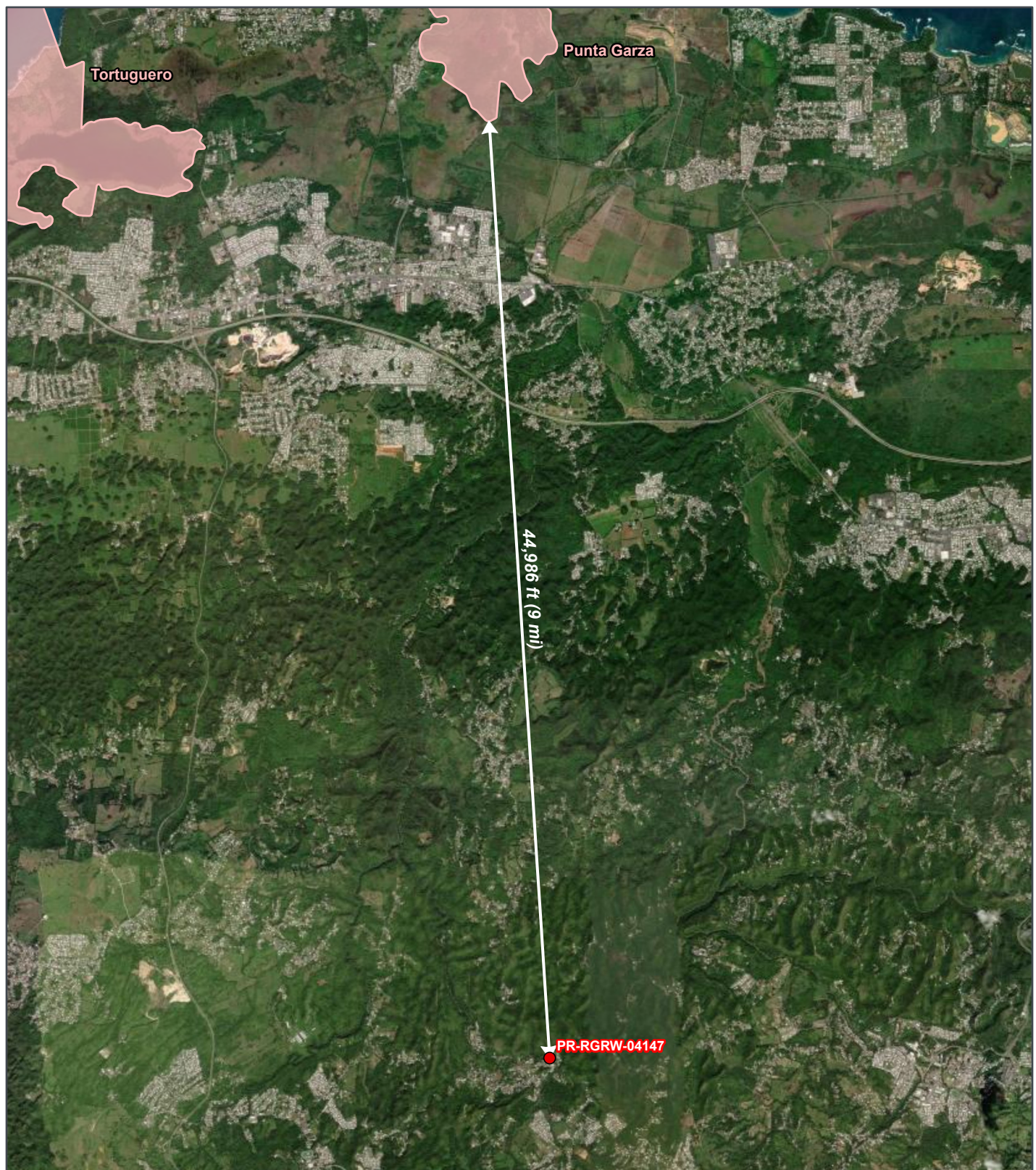
The project site is not located in a Coastal Barrier Resource Systems Unit (CBRS) or Otherwise Protected Area (OPA). There are no CBRS units in Morovis. The closest CBRS unit, Punta Garza, is located 44,986



**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
WASHINGTON, DC 20410-1000

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feet (9 miles) from the project site. No further evaluation is required. The project is in compliance with the Coastal Barrier Resources Act.



REGROW PROGRAM

## Figure B 2-1: Coastal Barrier Resources Map

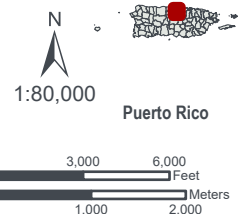
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Otherwise Protected Area
- System Unit

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.378791°W 18.405471°N

Data Source: <https://cbrsgis.wim.usgs.gov/arcgis/rest/services/CoastalBarrierResourcesSystem/MapServer>  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Coastal Barrier Resources  
System





**Attachment 3**

**Flood Insurance Partner Worksheet and  
Flood Insurance Rate Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Flood Insurance (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/flood-insurance>

**1. Does this project involve mortgage insurance, refinance, acquisition, repairs, rehabilitation, or construction of a structure, mobile home, or insurable personal property?**

☒ No. This project does not require flood insurance or is excepted from flood insurance.

→ Continue to the Worksheet Summary.

☐ Yes → Continue to Question 2.

**2. Provide a FEMA/FIRM map showing the site.**

The Federal Emergency Management Agency (FEMA) designates floodplains. The [FEMA Map Service Center](#) provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs).

**Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?**

☐ No → Continue to the Worksheet Summary.

☐ Yes → Continue to Question 3.

**3. Is the community participating in the National Flood Insurance Program or has less than one year passed since FEMA notification of Special Flood Hazards?**

☐ Yes, the community is participating in the National Flood Insurance Program.

Flood insurance is required. Provide a copy of the flood insurance policy declaration or a paid receipt for the current annual flood insurance premium and a copy of the application for flood insurance.

→ Continue to the Worksheet Summary.

☐ Yes, less than one year has passed since FEMA notification of Special Flood Hazards.

If less than one year has passed since notification of Special Flood Hazards, no flood Insurance is required.

→ Continue to the Worksheet Summary.

☐ No. The community is not participating, or its participation has been suspended.

Federal assistance may not be used at this location. Cancel the project at this location.

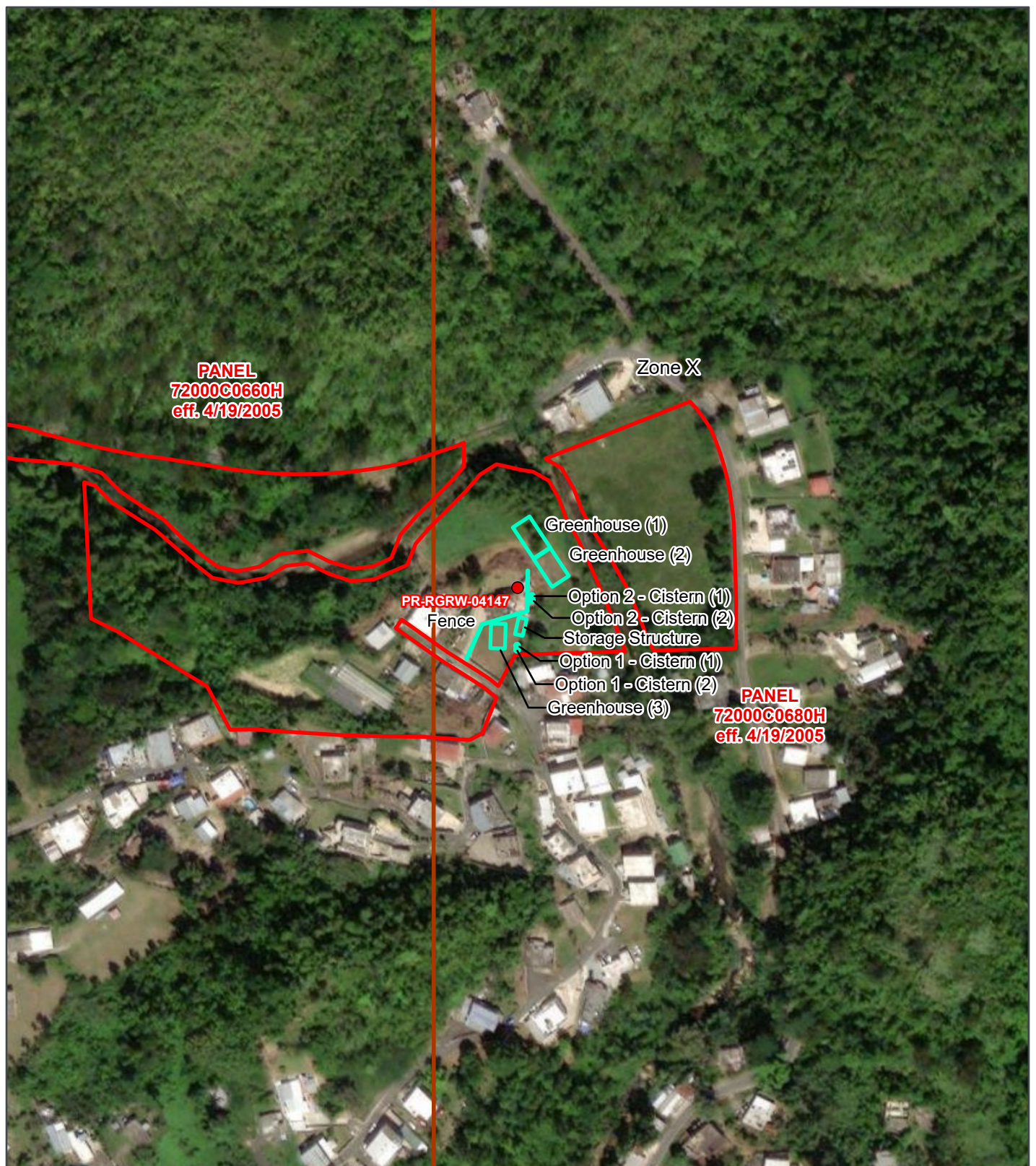
**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

A review of the FEMA Flood Insurance Rate Map (FIRM), Community Panel 72000C0660H (effective date 04/19/2005) and Community Panel 72000C0680H (effective date 04/19/2005). Both panels show the project site is in Flood Zone X, which is not in a Special Flood Hazard Area (SFHA). Flood insurance is not required. No further evaluation is required. The project is in compliance with the Flood Disaster Protection Act and National Flood Insurance Reform Act.



REGROW PROGRAM

### Figure B 3-1: Flood Insurance Rate Map (FIRM)

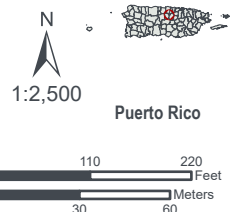
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- ~ Base Flood Elevations
- Zone A
- Zone AE
- Zone AH
- Zone AO
- Zone VE
- Floodway
- Zone X - Shaded (500-year floodplain)
- Zone X - Unshaded
- Area Not Included
- Open Water

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: <https://hazards.fema.gov/gis/nfhl/rest/services/public/NFHL/MapServer>  
Base Map: ESRI ArcGIS Online, accessed November 2023  
Updated: 11/17/2023  
Layout: Effective Floodplain  
Aprx: 72428\_ReGrowTier2Maps





## **Attachment 4**

**Air Quality Partner Worksheet, List of Non-Attainment/Maintenance Status Counties in Puerto Rico, and Clean Air Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Air Quality (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/air-quality>

1. Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?

☐ Yes → Continue to Question 2.

☒ No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide any documents used to make your determination.

2. Is your project’s air quality management district or county in non-attainment or maintenance status for any criteria pollutants?

Follow the link below to determine compliance status of project county or air quality management district:

<http://www.epa.gov/oaqps001/greenbk/>

☐ No, project’s county or air quality management district is in attainment status for all criteria pollutants

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.

☐ Yes, project’s management district or county is in non-attainment or maintenance status for one or more criteria pollutants. → Continue to Question 3.

3. Determine the estimated emissions levels of your project for each of those criteria pollutants that are in non-attainment or maintenance status on your project area. Will your project exceed any of the *de minimis* or *threshold* emissions levels of non-attainment and maintenance level pollutants or exceed the screening levels established by the state or air quality management district?

☐ No, the project will not exceed *de minimis* or threshold emissions levels or screening levels

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Explain how you determined that the project would not exceed *de minimis* or threshold emissions.

☐ Yes, the project exceeds *de minimis* emissions levels or screening levels.

→ *Continue to Question 4. Explain how you determined that the project would not exceed de minimis or threshold emissions in the Worksheet Summary.*

- 4. For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

[Click here to enter text.](#)

#### **Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

#### **Include all documentation supporting your findings in your submission to HUD.**

The project site is in Morovis Municipio, which is within a U.S. Environmental Protection Agency (USEPA) designated attainment area. Municipios in Nonattainment or Maintenance areas include Arecibo, Bayamon, Catano, Guaynabo, Salinas, San Juan and Toa Baja. Project activities include the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, storage and farming equipment, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project is not anticipated to have a negative impact on air quality and will not increase residential density. Emissions associated with the proposed actions are intermittent depending on use of the emergency generator as well as being limited to the use of small construction equipment and will be well below the Federal General Conformity Rule *de minimis* thresholds. No further evaluation is required. The project is in compliance with the Clean Air Act.



You are here: EPA Home > Green Book > >National Area and County-Level Multi-Pollutant Information >Puerto Rico Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

## Puerto Rico Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

Data is current as of January 31, 2024

Listed by County, NAAQS, Area. The 8-hour Ozone (1997) standard was revoked on April 6, 2015 and the 1-hour Ozone (1979) standard was revoked on June 15, 2005.

\* The 1997 Primary Annual PM-2.5 NAAQS (level of 15 µg/m<sup>3</sup>) is revoked in attainment and maintenance areas for that NAAQS. For additional information see the PM-2.5 NAAQS SIP Requirements Final Rule, effective October 24, 2016. (81 FR 58009)

Change the State:

PUERTO RICO

GO

Important Notes

Download National Dataset: dbf | xls | Data dictionary (PDF)

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or/Part County	Population (2010)	State/County FIPS Codes
PUERTO RICO								
Arecibo Municipio	Lead (2008)	Arecibo, PR	1112131415161718192021222324	//		Part	32,185	72/013
Bayamon Municipio	Sulfur Dioxide (2010)	San Juan, PR	18192021222324	//		Part	22,921	72/021
Catano Municipio	Sulfur Dioxide (2010)	San Juan, PR	18192021222324	//		Whole	28,140	72/033
Guaynabo Municipio	PM-10 (1987)	Mun. of Guaynabo, PR	929394959697989900010203040506070809	02/11/2010	Moderate	Part	90,470	72/061
Guaynabo Municipio	Sulfur Dioxide (2010)	San Juan, PR	18192021222324	//		Part	23,802	72/061
Salinas Municipio	Sulfur Dioxide (2010)	Guayama-Salinas, PR	18192021222324	//		Part	23,401	72/123
San Juan Municipio	Sulfur Dioxide (2010)	San Juan, PR	18192021222324	//		Part	147,963	72/127
Toa Baja Municipio	Sulfur Dioxide (2010)	San Juan, PR	18192021222324	//		Part	52,441	72/137

Important Notes

Discover.

Connect.

Ask.

Follow.

2024-01-31



REGROW PROGRAM

# Figure B 4-1: Clean Air Map

Applicant ID: PR-RGRW-04147

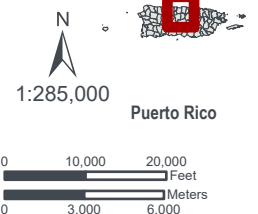
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- ▨ 8-Hour Ozone (2015 Standard)\*
- Lead (2008 Standard)
- PM-2.5 (2012 Standard)\*
- Sulfur Dioxide (2010 Standard)

\*No Data in Puerto Rico

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.456457°W 18.394105°N

Data Source: [https://geopub.epa.gov/arcgis/rest/services/NEPAAssist/NEPAVELayersPublic\\_fgdb/MapServer](https://geopub.epa.gov/arcgis/rest/services/NEPAAssist/NEPAVELayersPublic_fgdb/MapServer)  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Clean Air  
Aprx: 72428\_ReGrowTier2Maps



## **Attachment 5**

### **Coastal Zone Management Partner Worksheet and Coastal Zone Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Coastal Zone Management Act (CEST and EA) – PARTNER

<https://www.onecpd.info/environmental-review/coastal-zone-management>

Projects located in the following states must complete this form.

Alabama	Florida	Louisiana	Mississippi	Ohio	Texas
Alaska	Georgia	Maine	New Hampshire	Oregon	Virgin Islands
American Samoa	Guam	Maryland	New Jersey	Pennsylvania	Virginia
California	Hawaii	Massachusetts	New York	Puerto Rico	Washington
Connecticut	Illinois	Michigan	North Carolina	Rhode Island	Wisconsin
Delaware	Indiana	Minnesota	Northern Mariana Islands	South Carolina	

**1. Is the project located in, or does it affect, a Coastal Zone as defined in your state Coastal Management Plan?**

☐ Yes → Continue to Question 2.

☒ No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a Coastal Zone.

**2. Does this project include activities that are subject to state review?**

☐ Yes → Continue to Question 3.

☐ No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.

**3. Has this project been determined to be consistent with the State Coastal Management Program?**

☐ Yes, with mitigation. → The RE/HUD must work with the State Coastal Management Program to develop mitigation measures to mitigate the impact or effect of the project.

☐ Yes, without mitigation. → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination.

☐ No → Project cannot proceed at this location.

**Worksheet Summary**

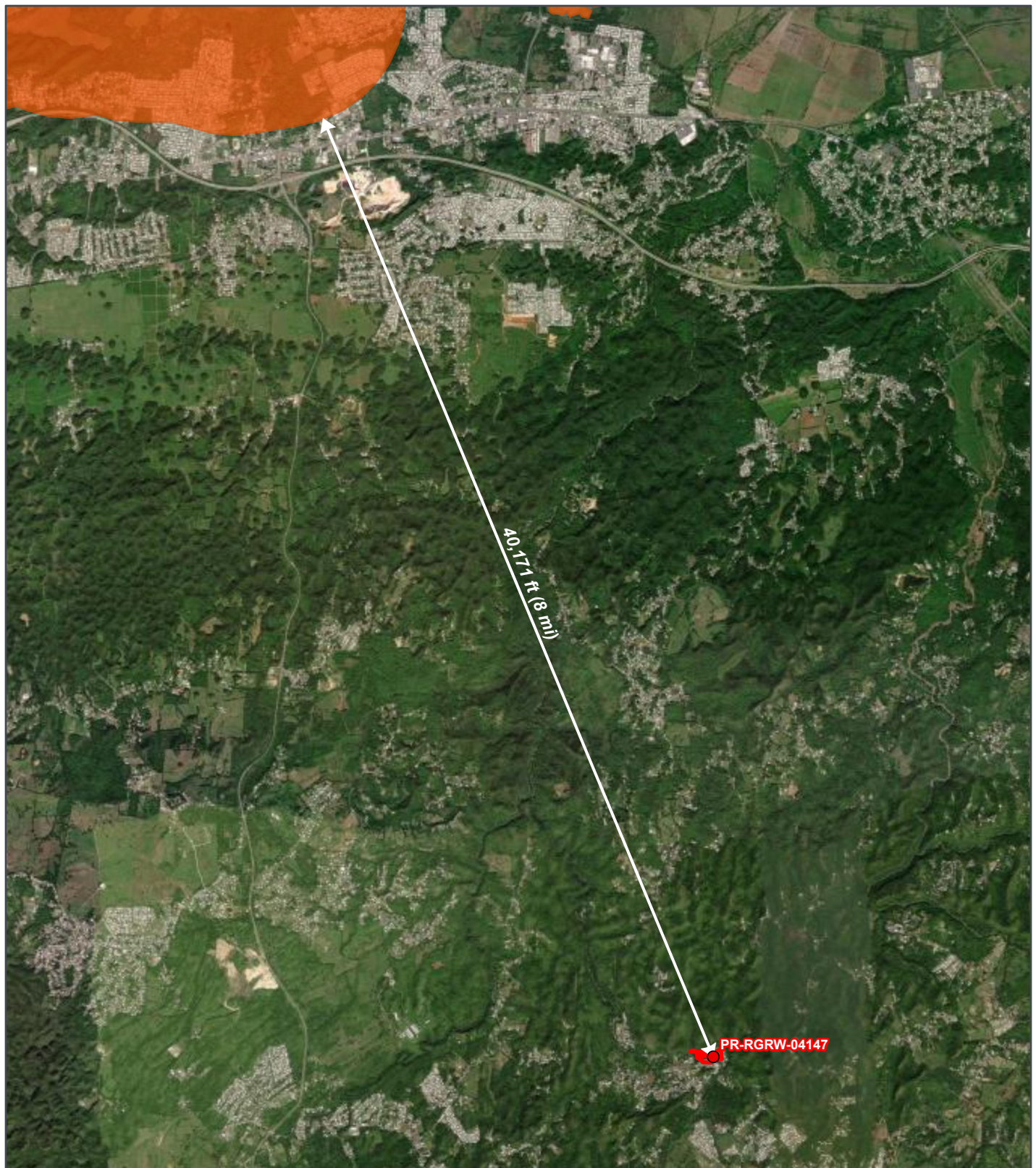
Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The project site is not located within the Puerto Rico Coastal Management Zone. The closest coastal zone area is located 40,171 feet (8 miles) from the project site. No further evaluation is required. The project is in compliance with the Coastal Zone Management Act.





REGROW PROGRAM

# **Figure B 5-1: Coastal Zone Management Map**

Applicant ID: PR-RGRW-04147

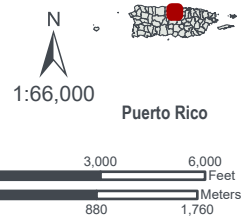
**SWCA**  
ENVIRONMENTAL CONSULTANTS

● Site

■ Coastal Management Zone

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.396867°W 18.394734°N

Data Source: [https://coast.noaa.gov/arcgis/rest/services/Hosted/CoastalZoneManagementAct/Base Map: ESRI ArcGIS Online](https://coast.noaa.gov/arcgis/rest/services/Hosted/CoastalZoneManagementAct/Base%20Map%20ESRI%20ArcGIS%20Online),  
accessed November 2023  
Updated: 11/17/2023  
Layout: Coastal Zone Management  
Aprx: 72428\_ReGrowTier2Maps



## **Attachment 6**

# **Contamination and Toxics Substances Partner Worksheet, Desktop Review Summary, Radon Agency Consultation, and Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Contamination and Toxic Substances (Multifamily and Non-Residential Properties) – PARTNER

<https://www.hudexchange.info/programs/environmental-review/site-contamination>

**1. How was site contamination evaluated? <sup>1</sup> Select all that apply.**

- ☐ ASTM Phase I ESA
- ☐ ASTM Phase II ESA
- ☐ Remediation or clean-up plan
- ☐ ASTM Vapor Encroachment Screening
- ☒ None of the above

*à Provide documentation and reports and include an explanation of how site contamination was evaluated in the Worksheet Summary.*

*Continue to Question 2.*

**2. Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)**

- ☒ No **à Explain below.**

The Environmental Site Inspection and Desktop Review did not reveal any potential contamination or hazards.

*à If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

- ☐ Yes *à Describe the findings, including any recognized environmental conditions (RECs), in Worksheet Summary below. Continue to Question 3.*

**3. Can adverse environmental impacts be mitigated?**

---

<sup>1</sup> HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site. For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD’s toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

☐ Adverse environmental impacts cannot feasibly be mitigated → HUD assistance may not be used for the project at this site. Project cannot proceed at this location.

☐ Yes, adverse environmental impacts can be eliminated through mitigation.  
à *Provide all mitigation requirements<sup>2</sup> and documents. Continue to Question 4.*

**4. Describe how compliance was achieved. Include any of the following that apply: State Voluntary Clean-up Program, a No Further Action letter, use of engineering controls<sup>3</sup>, or use of institutional controls<sup>4</sup>.**

[Click here to enter text.](#)

**If a remediation plan or clean-up program was necessary, which standard does it follow?**

- ☐ Complete removal  
☐ Risk-based corrective action (RBCA)

à *Continue to the Worksheet Summary.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The project site was evaluated for potential contamination by conducting a field site inspection on November 7, 2023 to identify any onsite hazards including, but not limited to, soil staining, above ground storage tanks, signs of underground storage tanks, odors, hazardous debris etc.

The site inspection did not identify any onsite hazards, stained soil or vegetation and the project is in compliance with contamination and toxic substances requirements.

HUD issued a notice effective April 11, 2024 for compliance in the consideration of radon for all projects receiving HUD funding. This applies to any structure associated

---

<sup>2</sup> Mitigation requirements include all clean-up actions required by applicable federal, state, tribal, or local law. Additionally, provide, as applicable, the long-term operations and maintenance plan, Remedial Action Work Plan, and other equivalent documents.

<sup>3</sup> Engineering controls are any physical mechanism used to contain or stabilize contamination or ensure the effectiveness of a remedial action. Engineering controls may include, without limitation, caps, covers, dikes, trenches, leachate collection systems, signs, fences, physical access controls, ground water monitoring systems and ground water containment systems including, without limitation, slurry walls and ground water pumping systems.

<sup>4</sup> Institutional controls are mechanisms used to limit human activities at or near a contaminated site, or to ensure the effectiveness of the remedial action over time, when contaminants remain at a site at levels above the applicable remediation standard which would allow for unrestricted use of the property. Institutional controls may include structure, land, and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions.

with a HUD funded project where the intention is for the structure to be occupied for four or more hours a day. This project includes the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure whose primary purpose is to help an agricultural business; therefore, it falls under the exemptions listed in "Considering radon in the environmental review" of the CPD memo.

In addition, a desktop review of USEPA databases, NEPAassist, and other sources was conducted to determine if the project site was located near dump sites, junk yards, landfills, hazardous waste sites, or industrial sites, including USEPA National Priorities List Sites (Superfund sites), CERCLA or state-equivalent sites, RCRA Corrective Action sites with release(s) or suspected release(s) requiring clean-up action and/or further investigation. The parcel has been used for agricultural purposes and there has been no change in land use in the last 20 years. The project is located in a rural area of Morovis Municipio and will continue to be used for agricultural purpose.

The desktop review found four of the above-listed toxic, hazardous or radioactive substances in or within 3,000 feet of the project area. However, due to no identified violations, proximity, and project activities, none of the facilities identified will affect the health and safety of project occupants or conflict with the intended use of the property. The project is in compliance with contamination and toxic substances requirements.



### Contamination and Toxics Sites Summary

<<Site Address>>

Database	Primary ID	Facility Name	Facility Address	Secondary ID	Latitude	Longitude	Distance (ft)	Status
Water Discharger	110028077952	RIBERAS DE UNIBON CONSTRUCTION PROJECT	STATE ROAD 159 KM 5 8 UNIBON WARD	PRR10BC80	18.337808	-66.375023	2,273	Non-Major: permit pending. No quarters with non-compliance in the last 3 years.No hazards are anticipated due to the distance from the site.
Water Discharger	110028077952	RIBERAS DE UNIBON CONSTRUCTION PROJECT	STATE ROAD 159 KM 5 8 UNIBON WARD	PRU201815	18.337808	-66.375023	2,273	Non-Major: unpermitted facility.No quarters with non-compliance in the last 3 years. No hazards are anticipated due to the distance from the site.
Water Discharger	110028077952	RIBERAS DE UNIBON CONSTRUCTION PROJECT	STATE ROAD 159 KM 5 8 UNIBON WARD	PRU202005	18.337808	-66.375023	2,273	Non-Major: unpermitted facility.No quarters with non-compliance in the last 3 years. No hazards are anticipated due to the distance from the site.
RCRA	110043860480	S U JOSE BARRERAS SCHOOL	PR 159 KM 5 6 UNIBON WARD	PRR000023804	18.336397	-66.373805	2,838	Active VSQG. No violations identified within the last 3 years. No hazards are anticipated due to the distance from the site.

# **Radon Attachments**



August 20, 2024

Mrs. Carmen R. Guerrero Pérez  
Director  
Caribbean Environmental Protection Division  
City View Plaza II – Suite 7000  
#48 Rd. 165 km 1.2  
Guaynabo, PR 00968-8069

Via email: [guerrero.carmen@epa.gov](mailto:guerrero.carmen@epa.gov)

**RE: Request for information regarding available data on radon testing and levels within Puerto Rico**

The Puerto Rico Department of Housing (PRDOH) kindly requests your assistance in gathering data, information, or reports related to radon testing in Puerto Rico, as this information is crucial for our compliance with the U.S. Department of Housing and Urban Development (HUD) Community Planning and Development (CPD) Notice CDP-23-103.

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Tel: (787) 274-2527 | [www.usenda.pr.gov](http://www.usenda.pr.gov)



August 20, 2024

Dr. Silvina Cancelos  
Professor  
College of Engineering  
University of Puerto Rico – Mayagüez Campus  
259 Norte Blvd. Alfonso Valdés Cobián  
Mayagüez, Puerto Rico

Via email: [silvina.cancelos@upr.edu](mailto:silvina.cancelos@upr.edu)

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This information is vital to ensure that our radon management strategies are practical and compliant with federal requirements. If some of this information may be sensitive or confidential, we are prepared to discuss any necessary agreements or protocols for sharing this data securely.

Please let us know if you require additional details or have any questions regarding this request. We would greatly appreciate your response by September 15, 2024, so we can incorporate this data into our ongoing compliance efforts.

Thank you in advance for your cooperation and support. We look forward to working together on this critical initiative.

Sincerely,

William O. Rodríguez Rodríguez, Esq.  
Secretary

Cc: Mr. Oleg Pavetko, [Pavetko.Oleg@epa.gov](mailto:Pavetko.Oleg@epa.gov)  
Mr. Matthew Laitila, [laitila.matthew@epa.gov](mailto:laitila.matthew@epa.gov)

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Sincerely,

William O. Rodríguez Rodríguez, Esq.  
Secretary

Cc: Dr. Carlos Marín, [carlos.marin3@upr.edu](mailto:carlos.marin3@upr.edu)





August 20, 2024

Dr. Jessica Izárry  
Director  
Office of Island Affairs  
U.S. Centers for Disease Control and Prevention  
1324 Cll Canada, San Juan, 00920  
Guaynabo, PR 00968-8069

Via email: [OIA@cdc.gov](mailto:OIA@cdc.gov)

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Request for Information in relation with HUD CPD-23-103 for Puerto Rico  
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Sincerely,

  
William O. Rodríguez Rodríguez, Esq.  
Secretary



August 20, 2024

Mrs. Anais Rodríguez  
Secretary  
Puerto Rico Department of Natural Resources  
Carretera 8838, km. 6.3, Sector El Cinco,  
Río Piedras San Juan, PR 00926

Via email: [anais.rodriguez@dma.pr.gov](mailto:anais.rodriguez@dma.pr.gov)

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William O. Rodríguez Rodríguez, Esq.  
Secretary

Cc: Mr. Luis Márquez, [secretariogaire@dma.pr.gov](mailto:secretariogaire@dma.pr.gov)  
Eng. Amarilis Rosario, [aire@dma.pr.gov](mailto:aire@dma.pr.gov)  
Mrs. Elid Ortega, [ortega@dma.pr.gov](mailto:ortega@dma.pr.gov)



GOVERNMENT OF PUERTO RICO  
DEPARTMENT OF HOUSING

August 20, 2024

Dr. Carlos R. Mellado López  
Secretary  
Puerto Rico Department of Health  
PO Box 70184  
San Juan, PR 00936-8184

Via email: [dr.carlos.mellado@salud.pr.gov](mailto:dr.carlos.mellado@salud.pr.gov)

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GOVERNMENT OF PUERTO RICO  
DEPARTMENT OF HOUSING

August 20, 2024

Mrs. Holly Weyers  
Regional Director, Southeast – Puerto Rico  
US Geological Survey  
3916 Sunset Ridge Road  
Raleigh, NC 27607

Via email: [hweyers@usgs.gov](mailto:hweyers@usgs.gov)

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William O. Rodríguez Rodríguez, Esq.  
Secretary

Cc: Mr. Raúl Hernández Dabla, [rhernandez2@salud.pr.gov](mailto:rhernandez2@salud.pr.gov)

CDBG-DR/MIT Program  
Request for Information in relation with HUD CPD-23-103 for Puerto Rico  
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William O. Rodríguez Rodríguez, Esq.  
Secretary

Cc: Mr. R. Randall Schumann, [rschumann@usgs.gov](mailto:rschumann@usgs.gov)

**From:** Charp, Paul (CDC/NCEH/DEHSP) <pac4@cdc.gov>  
**Sent:** Tuesday, September 3, 2024 6:36 AM  
**To:** Miranda, Sandra (CDC/PHIC/DPS); Irizarry, Jessica (CDC/PHIC/DPS); Rzeszutarski, Peter (CDC/NCEH/DEHSP); Vinson, D. Aaron (CDC/NCEH/DEHSP)  
**Cc:** Kostak, Liana (CDC/PHIC/DPS); Vazquez, Germaine (CDC/NCEH/DEHSP)  
**Subject:** RE: REHi: Puerto Rico Request for Information- Randon testing and levels

Good morning, Sandra and others,

In response to the request from Mr. William Rodriguez of the Department of Housing, Government of Puerto Rico, I have reviewed all the available data within the CDC National Environmental Public Health Tracking Network system for data related to radon in Puerto Rico. In addition to the tracking data available on the internet, I also reached out to Mr. Aaron Vinson of the NCEH Tracking Branch.

I was not able to find any data in the CDC systems and this was confirmed by Mr. Vinson. We also reached out the US Environmental Protection Agency who indicated they had no radon data in their systems. Please relay this information to Mr. Rodriguez in your response to his requests

If you have any additional questions, please contact me.

Thank you and best regards,

Paul A. Charp, Ph.D., Fellow, HPS  
Senior Health Physicist  
Emerging Environmental Hazards and Health Effects Branch (EEHHEB)  
Division of Environmental Health Science and Practice (DEHSP)  
National Center for Environmental Health (NCEH)  
Centers for Disease Control and Prevention (CDC)  
pcharp@cdc.gov  
770-488-0723 office  
404.388.0614 Cell





**From:** Schumann, R. Randall <rschumann@usgs.gov>  
**Sent:** Wednesday, August 21, 2024 4:39 PM  
**To:** Melanie Medina Smaine <mmedina@vivienda.pr.gov>; Weyers, Holly S <hsweyers@usgs.gov>  
**Cc:** Elaine Dume Mejia <Edume@vivienda.pr.gov>; Luz S Colon Ortiz <Lcolon@vivienda.pr.gov>; Aldo A. Rivera-Vazquez <aarivera@vivienda.pr.gov>  
**Subject:** RE: Request for Information- Radon testing and levels

Dear Ms. Medina Smaine,

In the early 1990s the U.S. Geological Survey (USGS) conducted geologic assessments of radon potential for all 50 states and the territories of Guam and Puerto Rico, in collaboration with the U.S. EPA. I conducted the geologic radon potential assessment for Puerto Rico. The PDF file of the report is too large to attach to this message but it can be obtained at <https://pubs.usgs.gov/of/1993/0292k/report.pdf>. The USGS did not conduct indoor radon testing and we did not conduct field studies associated with this assessment; it was based on existing data. Mr. David Saldana of the Puerto Rico Department of Health kindly provided us with data for 610 homes that were tested for indoor radon by his agency between 1993 and 1995, which are summarized in the report. I am not aware of any other radon-related geologic studies conducted in the Commonwealth of Puerto Rico by the U.S. Geological Survey.

Best regards,

R. Randall Schumann  
Scientist Emeritus  
U.S. Geological Survey  
Geosciences and Environmental Change Science Center  
Denver, Colorado, USA  
[rschumann@usgs.gov](mailto:rschumann@usgs.gov)  
<https://www.usgs.gov/staff-profiles/r-randall-schumann>

-----

**From:** Raul Hernandez Doble <rhernandez2@salud.pr.gov>  
**Sent:** Wednesday, August 21, 2024 2:13:31 PM  
**To:** Melanie Medina Smaine <mmedina@vivienda.pr.gov>; Dr. Carlos Mellado <drcarlos.mellado@salud.pr.gov>  
**Cc:** Elaine Dume Mejia <Edume@vivienda.pr.gov>; Luz S Colon Ortiz <Lcolon@vivienda.pr.gov>; Aldo A. Rivera-Vazquez <aarivera@vivienda.pr.gov>; Mayra Toro Tirado <mtoro@salud.pr.gov>  
**Subject:** RE: [EXTERNAL] Request for Information- Radon testing and levels

Good afternoon. Ms. Medina

I regret to inform that we do not have any recent information on radon testing, since we do not have a certified radiation laboratory certified for radon testing. There are companies that sell test kits available online that can be done and mailed to a testing laboratory. There are also lists of radon contractors and these companies that process radon testing cartridges with instructions, on the Environmental Protection Agency Indoor air Quality web page. The last radon study in Puerto Rico done by the PR Department of Health was done on the year 1993.

Raul Hernandez Doble  
Director, Seccion Salud Radiologica  
Division de Salud Ambiental  
Secretaria Auxiliar para la Vigilancia y la Proteccion de la Salud Publica  
[rhernandez2@salud.gov.pr](mailto:rhernandez2@salud.gov.pr)  
Phone: (787)765-2929 ext. 3210

---

**From:** Reyes, Brenda <Reyes.Brenda@epa.gov>  
**Sent:** Wednesday, September 18, 2024 11:48 AM  
**To:** Cesar O Rodriguez Santos <cesarrodriguez@drna.pr.gov>; Maritza Rosa Olivares <maritzarosaolivares@drna.pr.gov>; Silvina Cancelos Mancini <silvina.cancelos@upr.edu>; Melanie Medina Smaine <mmedina@vivienda.pr.gov>  
**Cc:** Elaine Dume Mejia <Edume@vivienda.pr.gov>; Luz S Colon Ortiz <Lcolon@vivienda.pr.gov>; Aldo A. Rivera-Vazquez <aarivera@vivienda.pr.gov>; Povetko, Oleg (he/him/his) <Povetko.Oleg@epa.gov>  
**Subject:** RE: Request for Information- Randon testing and levels

Saludos.

La EPA esta trabajando una respuesta a su petición. Se sometió borrador a la directora y el subdirector para su aprobación y firma.

Brenda Reyes Tomassini  
Public Affairs  
U.S. EPA  
Region 2  
Caribbean Environmental Protection Division  
(787) 977-5869/(787) 977-5865  
Mobile: 202-834-1290

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**From:** Silvina Cancelos Mancini <[silvina.cancelos@upr.edu](mailto:silvina.cancelos@upr.edu)>  
**Sent:** Friday, September 6, 2024 15:04  
**To:** Melanie Medina Smaine <[mmedina@vivienda.pr.gov](mailto:mmedina@vivienda.pr.gov)>  
**Cc:** Elaine Dume Mejia <[Edume@vivienda.pr.gov](mailto:Edume@vivienda.pr.gov)>; Luz S Colon Ortiz <[Lcolon@vivienda.pr.gov](mailto:Lcolon@vivienda.pr.gov)>; Aldo A. Rivera-Vazquez <[aarivera@vivienda.pr.gov](mailto:aarivera@vivienda.pr.gov)>; Maritza Rosa Olivares <[maritzarosaolivares@drna.pr.gov](mailto:maritzarosaolivares@drna.pr.gov)>; Reyes, Brenda <[Reyes.Brenda@epa.gov](mailto:Reyes.Brenda@epa.gov)>; Povetko, Oleg <[Povetko.Oleg@epa.gov](mailto:Povetko.Oleg@epa.gov)>  
**Subject:** Re: Request for Information- Randon testing and levels

Estimada Melanie Medina

Quería dejarle saber que recibimos su correo el 21 de agosto al igual que el de Maritza Rosa el pasado 4 de septiembre. Ya las personas involucradas de EPA, junto conmigo y el Dr. Marín estamos al tanto del asunto y estamos trabajando para poder enviarles la información.

Atentamente

Silvina Cancelos  
Professor  
Associate Director  
Mechanical Engineering Department  
University of Puerto Rico - Mayaguez  
Call BOX 9000 Mayaguez PR 00680  
Tel: 787-832-4040 ext 5956  
email: [silvina.cancelos@upr.edu](mailto:silvina.cancelos@upr.edu)



Bubble Dynamics Lab  
University of Puerto Rico - Mayaguez



EPA REGION 2  
CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION

September 23, 2024

**VIA EMAIL**

William O. Rodriguez Rodriguez, Esq.  
Secretary  
Puerto Rico Department of Housing  
Barbosa Ave. 606 Building Juan C. Cordero  
San Juan, PR 00917  
Email: W.Rodriguez@vivienda.pr.gov

**RE: EPA Response to August 20, 2024 request for information of data on radon testing and levels in Puerto Rico**

Dear Honorable Secretary Rodriguez Rodriguez:

This communication is in response to your letter of August 20, 2024 addressed to the Puerto Rico Department of Natural and Environmental Resources (DNER) and referred to the U.S. Environmental Protection Agency (EPA) regarding available data on radon testing and levels within Puerto Rico.

EPA's National Radon Action Plan 2021–2025 sets a goal for the nation to find, fix and prevent high indoor radon levels in 8 million buildings by 2025 and prevent 3,500 lung cancer deaths per year. Under this Plan, leaders from across multiple sectors are working together to plan, guide, and sustain nationwide action to prevent exposure to radon.

Due to the lack of data in Puerto Rico, EPA undertook an investigation in collaboration with the University of Puerto Rico-Mayaguez (UPRM) Campus, Departments of Civil Engineering and Surveying and Mechanical Engineering, to find out if radon presented a problem in Puerto Rico. Up until 2021, the only data we had for Puerto Rico was a 1993-1995 mail-in radon screening study referred to by the U.S. Geological Survey report (USGS, 1995) in which the USGS concluded that several areas of Puerto Rico have the geologic potential to generate indoor radon levels exceeding the EPA Action Level of 4 pCi/L (picocuries per liter), perhaps locally reaching very high levels above 50 pCi/L, if a house construction and

ventilation allow for soil-gas radon to enter and concentrate within the structure.<sup>1</sup> According to the USGS report, most of these areas are located in the northwest part of the island. Please note that the actual 1993-1995 study documentation is not available to the EPA.

Typical radon testing technology used in mainland United States (charcoal canisters or electric-powered devices) are impractical in Puerto Rico because of high humidity and power outages. The recovery and rebuilding of communities following the aftermath of 2017 Hurricanes Irma and Maria presented an opportunity to develop radon prevention and mitigation strategies in 2019. Initially, EPA sampled indoor radon air in over 170 single-family residences in the municipalities of San Sebastian, Lares, Ciales, Arecibo, Morovis, Camuy, and Hatillo and later expanded the project to other municipalities such as Rincon, Aguada, Aguadilla, Isabela, Quebradillas, Barceloneta and Vega Baja. The quality assurance protocols were anchored in American National Standards Institute/American Association of Radon Scientists and Technologists (ANSI/AARST) standards of practice (ANSI/AARS, 2019). The sampling was designed in two stages: scoping and confirmatory sampling. The scoping sampling was conducted using Corentium Home (CH) electronic monitors and E-Perm systems. Locations measuring above the EPA Action Level of 4 pCi/L with CH were measured at the second stage of the sampling using RAD7 and Corentium Pro Continuous Radon Monitors (CRMs). Nationally certified radon sampling professionals led by one such professional from the UPRM conducted confirmatory sampling in the second stage. Also, during the study, the nationally certified radon mitigation professionals inspected several homes with elevated indoor radon levels.

Mapping radon in Puerto Rico proved to be a complicated endeavor given the COVID-19 pandemic in 2020. EPA and UPRM continue to work on the project, however, results have not been finalized, and no scientific report has been published yet. Unfortunately, EPA cannot share preliminary data at this time because it contains privileged information. Nevertheless, preliminary data from the study does show homes with levels over 4 pCi/L (EPA Action Level) that might need mitigation to protect the health of their inhabitants.

Although many states have developed laws and regulations governing radon disclosure, certification, and mitigation, Puerto Rico lacks legislation or mandatory radon testing provisions for new construction, remodeling, selling or buying homes. Given this loophole and aiming to answer your request, the EPA can provide information on Best Management Practices for sampling indoor radon in Puerto Rico.

<sup>1</sup> **Reference:** USGS. Geologic Radon Potential of Guam and Puerto Rico, Report 93-292-K. Washington, DC: USGS. Retrieved 9/11/2024, from <https://pubs.usgs.gov/of/1993/0292k/report.pdf>.

CITY VIEW PLAZA II BUILDING, 7<sup>TH</sup> FLOOR  
ROUTE 185 GUAYNABO, PR 00988

2

If you have any questions or need any additional information, please contact me at 787-977-5865 or [guerrero.carmen@epa.gov](mailto:guerrero.carmen@epa.gov) or have your staff contact Reyes, Brenda at [reyes.brenda@epa.gov](mailto:reyes.brenda@epa.gov) or (787) 977-5869.

Sincerely,

**CARMEN  
GUERRERO  
PEREZ**

Carmen R. Guerrero Pérez  
Director

Digitally signed by  
CARMEN GUERRERO PEREZ  
Date: 2024.09.23 09:41:39  
-04'00'

cc: Roberto Mendez, Esq (Acting Secretary, PR Department of Natural and Env. Resources)  
Melany Medina: [mmedina@vivienda.pr.gov](mailto:mmedina@vivienda.pr.gov)  
Elaine Dume Mejia: [Edume@vivienda.pr.gov](mailto:Edume@vivienda.pr.gov)  
Luz S Colon Ortiz: [Lcolon@vivienda.pr.gov](mailto:Lcolon@vivienda.pr.gov)  
Aldo A. Rivera-Vazquez: [arivera@vivienda.pr.gov](mailto:arivera@vivienda.pr.gov)  
Cesar O. Rodriguez: [cesarrodriiguez@drna.pr.gov](mailto:cesarrodriiguez@drna.pr.gov)  
Marita Rosa Olivares: [maritzaosolivares@drna.pr.gov](mailto:maritzaosolivares@drna.pr.gov)



GOVERNMENT OF PUERTO RICO  
DEPARTMENT OF HOUSING

**Memorandum to File**

**Date:** October 3, 2024

**From:** Heath Anderson, Ph.D.  
Deputy Program Manager  
CDBG-DR Program  
Re-Grow PR Urban-Rural Agriculture Program, Grant number B-17-DM-72-0001 &  
B-18-DP-72-0001  
Puerto Rico Department of Housing

**Application Number:** PR-RGRW-04147

**Project:** HACIENDA GRATITUD INC.

**Re: Justification for the Infeasibility and Impracticability of Radon Testing**

After reviewing Application Number PR-RGRW-4147 under the Re-Grow PR Urban-Rural Agriculture Program, administered by the Puerto Rico Department of Housing (**PRDOH**), to complete the property's contamination analysis in accordance with 24 C.F.R. § 50.3(i) and 24 C.F.R. § 58.5(i), we have determined that testing the property's radon levels is infeasible and impracticable.

Per the U.S. Department of Housing and Urban Development's (**HUD**) CPD Notice 23-103, the recommended best practices and alternative options for radon testing are infeasible and impracticable in this case due to the following reasons:

- As required by the CPD Notice 23-103, the scientific data reviewed in lieu of testing must consist of a minimum of ten documented test results over the previous ten years. If there are less than ten documented results over this period, it is understood that there is a lack of scientific data. The latest report for radon testing in Puerto Rico was prepared in 1995 by the U.S. Department of the Interior in Cooperation with the U.S. Environmental Protection Agency. No other completed studies and reports on radon testing are available in Puerto Rico.
- There is no available science-based or state-generated information for Puerto Rico for the last ten years that can be used to determine whether the project site is in a high-risk area. The Department of Health and Human Services, Centers for



Disease Control and Prevention (**CDC**), National Environmental Public Health Tracking, and Radon Testing map do not include Puerto Rico data.

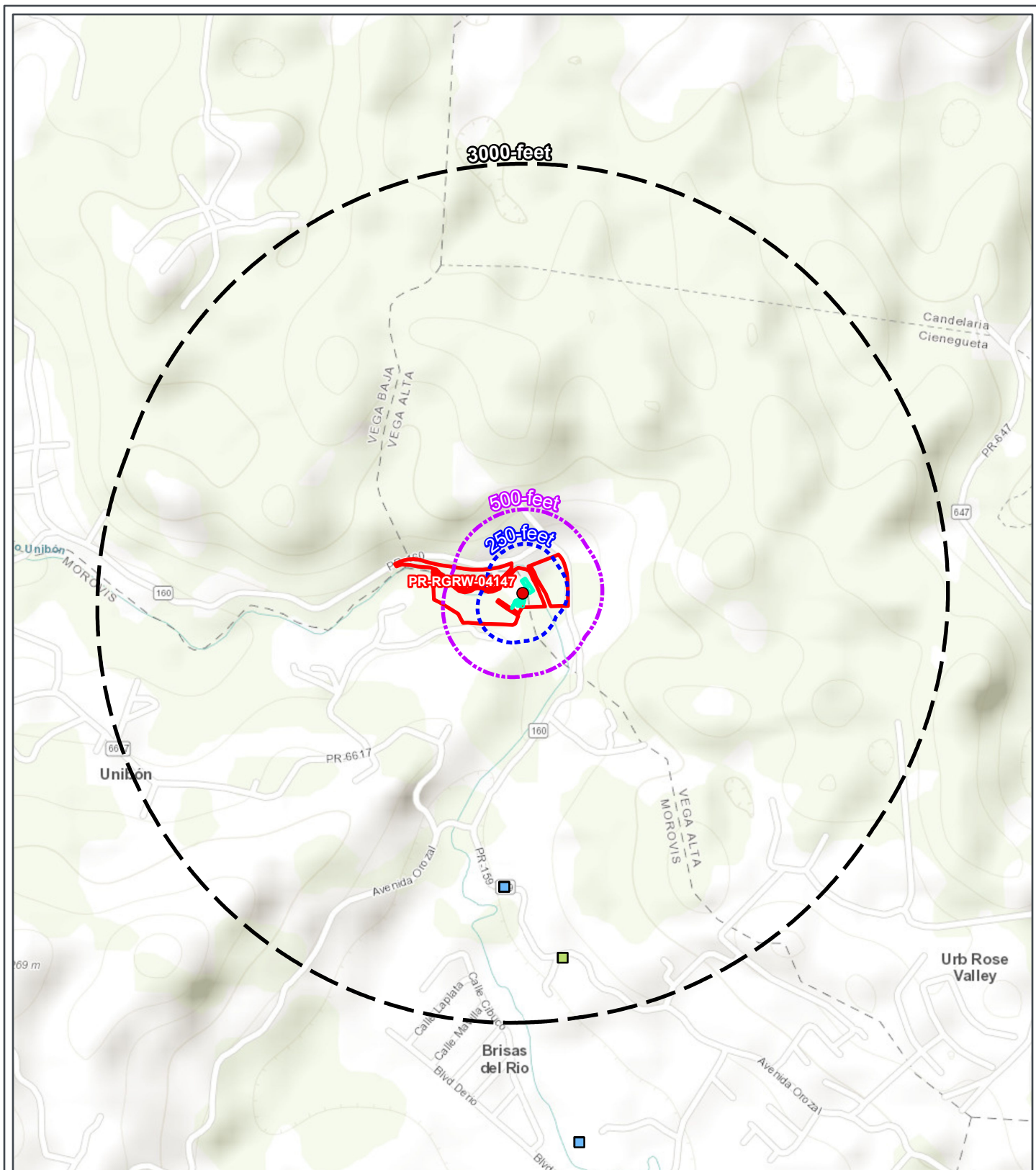
- There are only two (2) licensed professionals in Puerto Rico who can conduct radon testing using the American National Standards Institute/American Association of Radon Scientists and Technologists (**ANSI/AARST**) testing standards, which makes it difficult, time-consuming, and highly expensive to coordinate and secure a site visit for the contamination evaluation.
- Do-it-yourself (**DIY**) radon test kits are known to be unreliable in assuring and controlling the quality of the test results; they are not readily available in Puerto Rico, and the cost and time required for purchasing and sending them for analysis are unreasonable when weighed against the results' reliability and the need for prompt results.
- Local authorities in Puerto Rico do not have the specialized radon monitoring equipment or trained staff needed to conduct the radon testing analysis and ensure proper quality control and quality assurance practices are adhered to. We also do not have a radiation laboratory certified for radon testing.
- The project does not involve any occupied structures, and therefore, is exempt from considering radon as part of the site contamination analysis as per HUD Notice CDP- 23-103.

As part of the evaluation for this determination, PRDOH sent information requests to six (6) local agencies at the state and federal levels. We received responses from the following agencies:

- United States Geological Survey;
- Centers for Disease Control and Prevention;
- Puerto Rico Department of Health; and
- United States Environmental Protection Agency.

The agencies mentioned above confirmed the lack of scientific data on Radon testing for Puerto Rico and the technical difficulties that we face to comply with HUD's Radon testing requirement. For the above-mentioned reasons, Radon testing is infeasible and impracticable for this property, and no further consideration of Radon is needed for the environmental review.





REGROW PROGRAM

# **Figure B 6-1: Contamination and Toxic Substances Map**

Applicant ID: PR-RGRW-04147

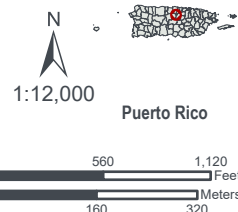
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- Buffer (250-feet)
- Buffer (500-feet)
- Buffer (3000-feet)
- Water dischargers

- Toxic Substances Control Act
- Toxic releases
- Superfund
- Hazardous waste
- Brownfields
- Air pollution

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico. 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: <https://geopub.epa.gov/arcgis/rest/services/EMEF/MapServer>  
Base Map: ESRI ArcGIS Online, accessed November 2023  
Updated: 11/17/2023  
Layout: Contamination and Toxic Substances



## **Attachment 7**

**Endangered Species Act Partner  
Worksheet, Threatened and Endangered  
Species Technical Memorandum, USFWS  
IPaC Species List, Critical Habitat Map,  
and Essential Fish Habitat Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Endangered Species Act (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/endangered-species>

### 1. Does the project involve any activities that have the potential to affect species or habitats?

☐ No, the project will have No Effect due to the nature of the activities involved in the project.

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.

☐ No, the project will have No Effect based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office.

**Explain your determination:**

[Click here to enter text.](#)

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.

☒ Yes, the activities involved in the project have the potential to affect species and/or habitats. → Continue to Question 2.

### 2. Are federally listed species or designated critical habitats present in the action area?

Obtain a list of protected species from the Services. This information is available on the [FWS Website](#).

☐ No, the project will have No Effect due to the absence of federally listed species and designated critical habitat.

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation may include letters from the Services, species lists from the Services’ websites, surveys or other documents and analysis showing that there are no species in the action area.

☒ Yes, there are federally listed species or designated critical habitats present in the action area. → Continue to Question 3.

**3. Recommend one of the following effects that the project will have on federally listed species or designated critical habitat:**

☐ No Effect: Based on the specifics of both the project and any federally listed species in the action area, you have determined that the project will have absolutely no effect on listed species or critical habitat.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination. Documentation should include a species list and explanation of your conclusion, and may require maps, photographs, and surveys as appropriate.*

☒ May Affect, Not Likely to Adversely Affect: Any effects that the project may have on federally listed species or critical habitats would be beneficial, discountable, or insignificant.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Informal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

☐ Likely to Adversely Affect: The project may have negative effects on one or more listed species or critical habitat.

→ Partner entities should not contact the Services directly. *If the RE/HUD agrees with this recommendation, they will have to complete Formal Consultation. Provide the RE/HUD with a biological evaluation or equivalent document. They may request additional information, including surveys and professional analysis, to complete their consultation.*

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

Threatened, endangered, and migratory bird species were identified by reviewing data from the United States Fish and Wildlife Service (USFWS) Information and Planning Consultation (IPaC) Tool. In addition, critical species habitat was reviewed through the USFWS IPaC and Critical Habitat Portal databases. The review identified one federally listed species, Puerto Rican boa (*Chilabothrus inornatus*), with the potential to occur within the project area.

Due to the generalist nature of the Puerto Rican boa, forested habitat surrounding the project areas, and dense ground cover present throughout the review area, the Puerto Rican boa may occur within the project area. The applicant will employ the conservation measures outlined in the USFWS 2024 General Project Design Guidelines for the Puerto Rican boa. As such, it is anticipated that the project *may affect*,

*but is not likely to adversely affect* the Puerto Rican boa. See the attached USFWS informal consultation request and subsequent concurrence, dated February 15, 2024.

**From:** [Caribbean ES, FW4](#)  
**To:** [environmentcdbg](#)  
**Cc:** [Juan C. Perez-Bofill](#); [Angel G. Lopez-Guzman](#)  
**Subject:** Re: [EXTERNAL] USFWS Endangered Species Concurrence Consultation\_CDBG-DR\_PR-RGRW-04147  
**Date:** Tuesday, April 30, 2024 9:23:56 AM  
**Attachments:** [image002.png](#)  
[PR-RGRW-04147 USFWS PR Consultation Package SWCA.pdf](#)  
[PR-RGRW-04147 USFWS Transmittal Letter PRDOH.pdf](#)

---

Good Morning

The Service acknowledge receipt the NLAA Consistency letter (Project code: 2024-0030295) for the project named CDBG-DR PR-RGRW-04147 Hacienda Gratiud Inc., Morovis. No further consultation is required. Keep this email for your records.

Thanks

Caribbean Ecological Services Field Office  
(786) 244-0081  
[caribbean\\_es@fws.gov](mailto:caribbean_es@fws.gov)

**For project evaluations, please visit our [Consultation Guidelines](#) website.**

---

**From:** environmentcdbg <[environmentcdbg@vivienda.pr.gov](mailto:environmentcdbg@vivienda.pr.gov)>  
**Sent:** Monday, April 22, 2024 4:49 PM  
**To:** Caribbean ES, FW4 <[Caribbean\\_ES@fws.gov](mailto:Caribbean_ES@fws.gov)>; Tawes, Robert <[robert\\_tawes@fws.gov](mailto:robert_tawes@fws.gov)>  
**Subject:** [EXTERNAL] USFWS Endangered Species Concurrence Consultation\_CDBG-DR\_PR-RGRW-04147

**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

To whom it may concern:

In order to complete the environmental review process regarding the case **PR-RGRW-04147** for the CDBG-DR Re-Grow PR Urban-Rural Agriculture Program, we are requesting USFWS concurrence with the determinations included in the attached letter.

We look forward for your response in order to move forward our environmental review process.

Sincerely,

**Permits and Environmental Compliance Division**

Disaster Recovery Office

[environmentcdbg@vivienda.pr.gov](mailto:environmentcdbg@vivienda.pr.gov) | 787.274.2527

Visit us: [recuperacion.pr.gov](http://recuperacion.pr.gov)

Contact us: [infocdbg@vivienda.pr.gov](mailto:infocdbg@vivienda.pr.gov)

DEPARTAMENTO DE LA  
**VIVIENDA**



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Houston, Texas 77040  
Tel 281.617.3217 Fax 713.896.3189  
www.swca.com

## TECHNICAL MEMORANDUM

**To:** Caribbean Ecological Services Field Office  
U.S. Fish and Wildlife Service  
P.O. Box 491  
Boquerón, Puerto Rico 00622

**From:** Susan Fischer, Project Biologist on behalf of the Puerto Rico Department of Housing

**Date:** February 15, 2024

**Re:** **Threatened and Endangered Species Evaluation for the Puerto Rico Department of Housing ReGrow PR-RGRW-04147 Project/ SWCA Project No. 72428**

---

### Project Description

Hacienda Gracitudo Inc., the applicant, is proposing to construct three new greenhouses, storage structure and install a new fence and two cisterns on a 7.41-acre property in the Municipio of Morovis, Puerto Rico (project) (Appendix A, Figure 1). The project is located at Carretera 159 R 6617, KM 4 H 2 Barrio Patrón Sector El Hoyo, Morovis, Puerto Rico, at a rural-urban boundary.

The estimated dimensions of the greenhouses will be approximately 56 feet (ft) by 30 ft (1,680 square feet [sq ft]), 50 ft by 30 ft (1,500 sq ft) and 37 ft by 22 ft (814 sq ft) and will be secured by 6-inch-wide concrete footers that extend 10 inches into the ground. One of the cisterns is 250 gallons and the other will be 400 gallons, and both will be constructed on 16-sq ft concrete bases. The storage structure will be approximately 26 ft by 12 ft (312 sq ft) and will be built on a wooden base and anchored with 4 inch by 4 inch wooden posts (Appendix A, Figure 2).

### Existing conditions

The existing habitat conditions at the project area consist primarily of open pasture lawn. The Greenhouse 2 location also contains numerous banana trees (*Musa spp.*) and other tree and shrub species. A desktop review identified one stream to the north and east of the project area (Appendix A, Figure 3). Tree and vegetation clearing will be required at the Greenhouse 2 location. Representative photographs of the proposed locations are provided in Appendix B.

### Federally Protected Species

SWCA obtained a federal threatened and endangered species list from the USFWS (2023a) Information for Planning and Consultation ("IPaC") website for a 100-foot buffer around the greenhouse, fence, storage structure and optional cistern locations (review area) (Appendix C). The IPaC automatically generates a list of species and other resources of concern, such as critical habitat, that are known or expected to be in the specified area and could potentially be directly or indirectly affected. According to the IPaC query for the



project, one federally listed endangered species has the potential to occur in the review area; the Puerto Rican boa (*Chilabothrus inornatus*). SWCA also evaluated the review area for potential habitat for bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) as they are protected by the Bald and Golden Eagle Protection Act of 1940 (“BGEPA”).

The bald and golden eagle’s range do not extend into Puerto Rico (Cornell Lab of Ornithology 2023); therefore, these species were eliminated from further analysis for this project. Table 1 identifies the species carried forward for further evaluation and summarizes each species’ habitat requirements, potential for occurrence in the project area, and determination of effects.

**Table 1. Federally Listed Species Range and/or Habitat Requirements**

Common Name (Scientific Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effects/Impacts
<b>Reptiles</b>				
Puerto Rican Boa ( <i>Chilabothrus inornatus</i> )	FE	Considered to be a habitat generalist, the Puerto Rican boa tolerates a wide variety of terrestrial and arboreal habitats, including rocky areas, haystack hill, trees and branches, rotting stumps, caves, plantations, various types of forested areas such as karst and mangrove forests, forested urban and rural areas, and along streams and road edges (USFWS 2011).	<i>May occur.</i> The project area is located adjacent to forested areas and dense vegetative ground cover is present throughout the review area.	<i>May affect, but not likely to adversely affect.</i> See discussion below.

\*Status Definitions:  
FE = Federally listed endangered

Due to the generalist nature of the Puerto Rican boa, forested habitat surrounding the project areas, and dense ground cover present within the review area, the Puerto Rican boa may occur within the project area. The applicant will employ the conservation measures outlined in the 2023 USFWS General Project Design Guidelines for the Puerto Rican boa (Appendix D), including but not limited to issuing a stop work if a Puerto Rican boa were to occur within the project area, and contacting the PRDNER for safe capture and relocation of the individual if such action is required. Consequently, it is anticipated that the project *may affect, but is not likely to adversely affect* the Puerto Rican boa. The USFWS Consistency Letter obtained through IPaC is included in Appendix E.

## Critical Habitat and National Wildlife Refuges

Potential effects to habitat(s) within the project area critical to endangered species must be analyzed along with the endangered species themselves, while any activity proposed on National Wildlife Refuge lands must undergo a compatibility determination conducted by the Refuge. No designated critical habitats are present within 100-feet of any of the proposed project location options (Appendix A, Figure 4) (USFWS 2023b).

## LITERATURE CITED

- Cornell Lab of Ornithology. 2023. All About Birds. Available at: <https://www.allaboutbirds.org/guide/>. Accessed December 2023.
- U. S. Fish and Wildlife Service (USFWS). 2011. *Puerto Rican Boa* (*Epicrates inornatus*) *5-Year Review: Summary and Evaluation*. U.S. Fish and Wildlife Service, Southeast Region. Boquerón, Puerto Rico.
- . 2023a. Information for Planning and Consultation System (IPaC). Available at: <http://ecos.fws.gov/ipac/>. Accessed December 2023.
- . 2023b. Critical Habitat for Threatened & Endangered Species [USFWS]. Available at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed December 2023.

## **APPENDIX A**

### **Maps**

**Figure 1**

**USGS Topographic Map**





REGROW PROGRAM

## USGS Topographic Map

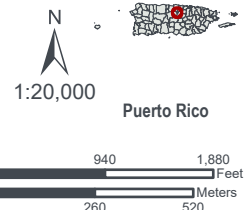
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel

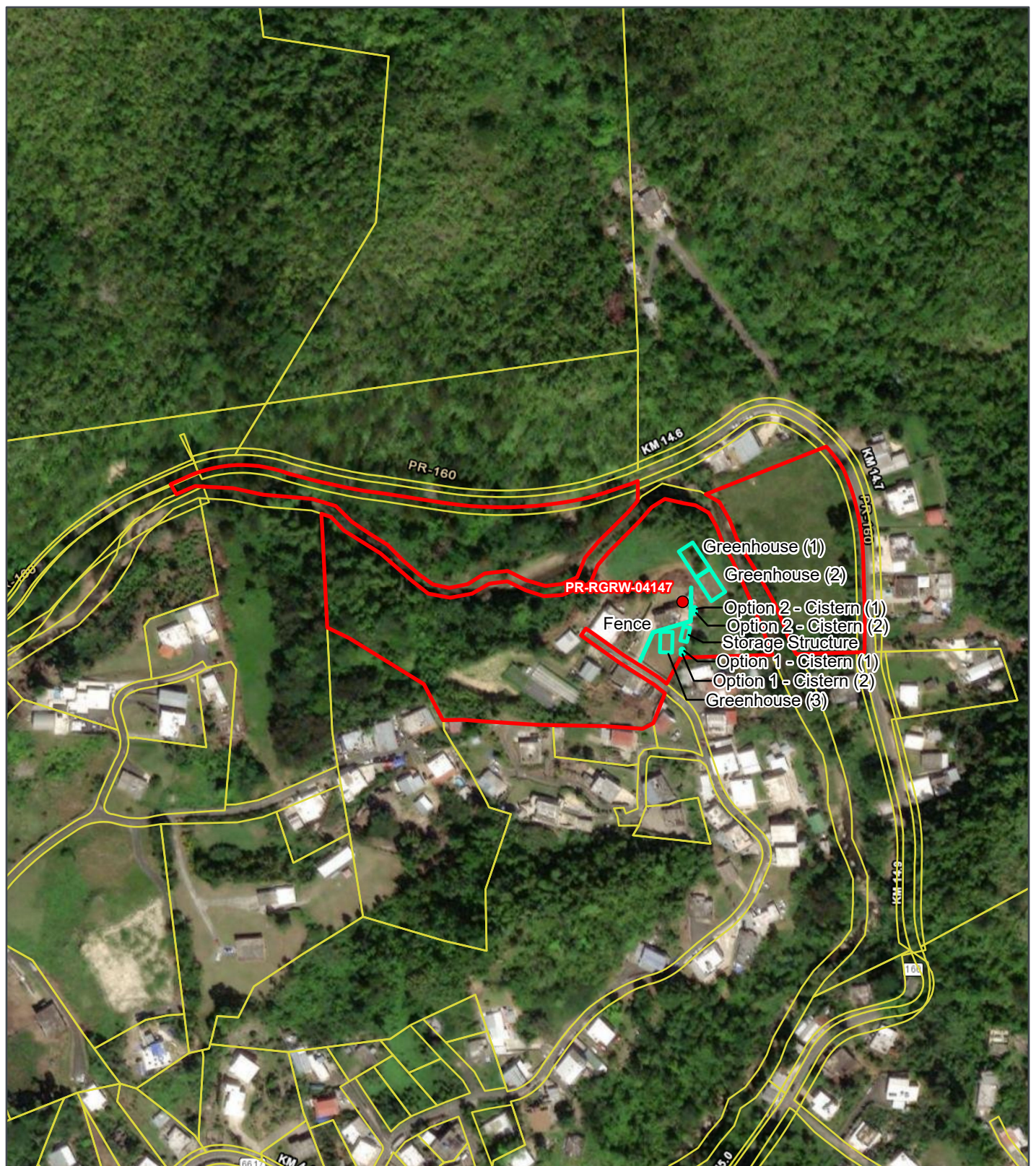
Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: USGS Topographic Map  
Aprx: 72428\_ReGrowTier2Maps





**Figure 2**  
**Site Vicinity Map**



REGROW PROGRAM

## Site Vicinity

Applicant ID: PR-RGRW-04147

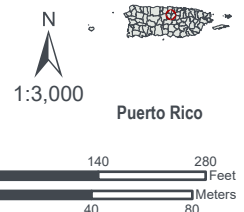
- Site
- Site Parcel
- Project Footprint (Option)

**SWCA**  
ENVIRONMENTAL CONSULTANTS

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687

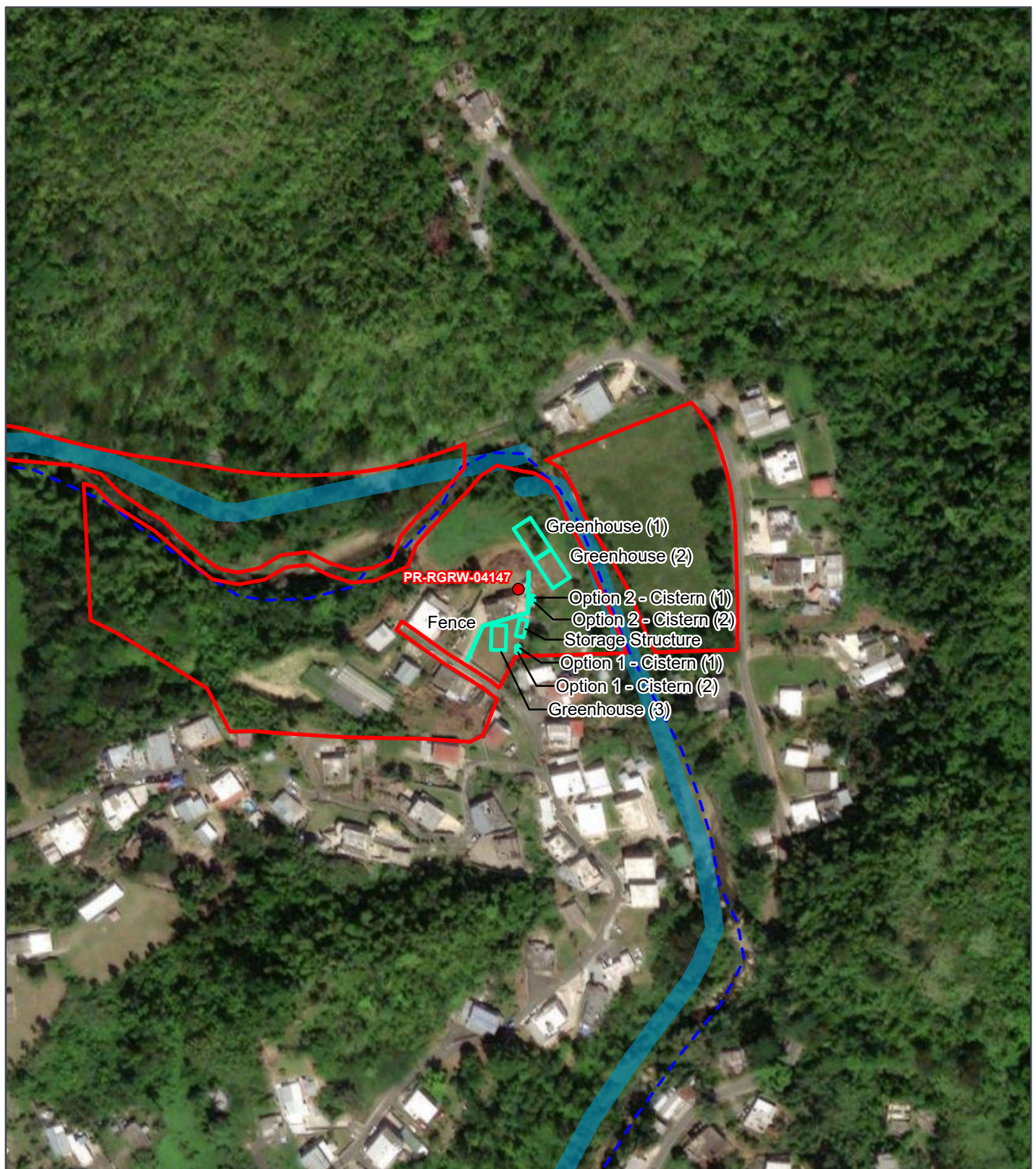
Parcel ID: 110-000-006-20  
Parcel Center:  
66.375493°W 18.343727°N

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Site Vicinity  
Aprx: 72428\_ReGrowTier2Maps





**Figure 3**  
**Wetlands Map**



REGROW PROGRAM

## Wetlands Protection Map

Applicant ID: PR-RGRW-04147

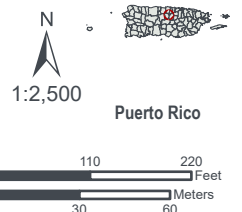
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- - - NHD Stream
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

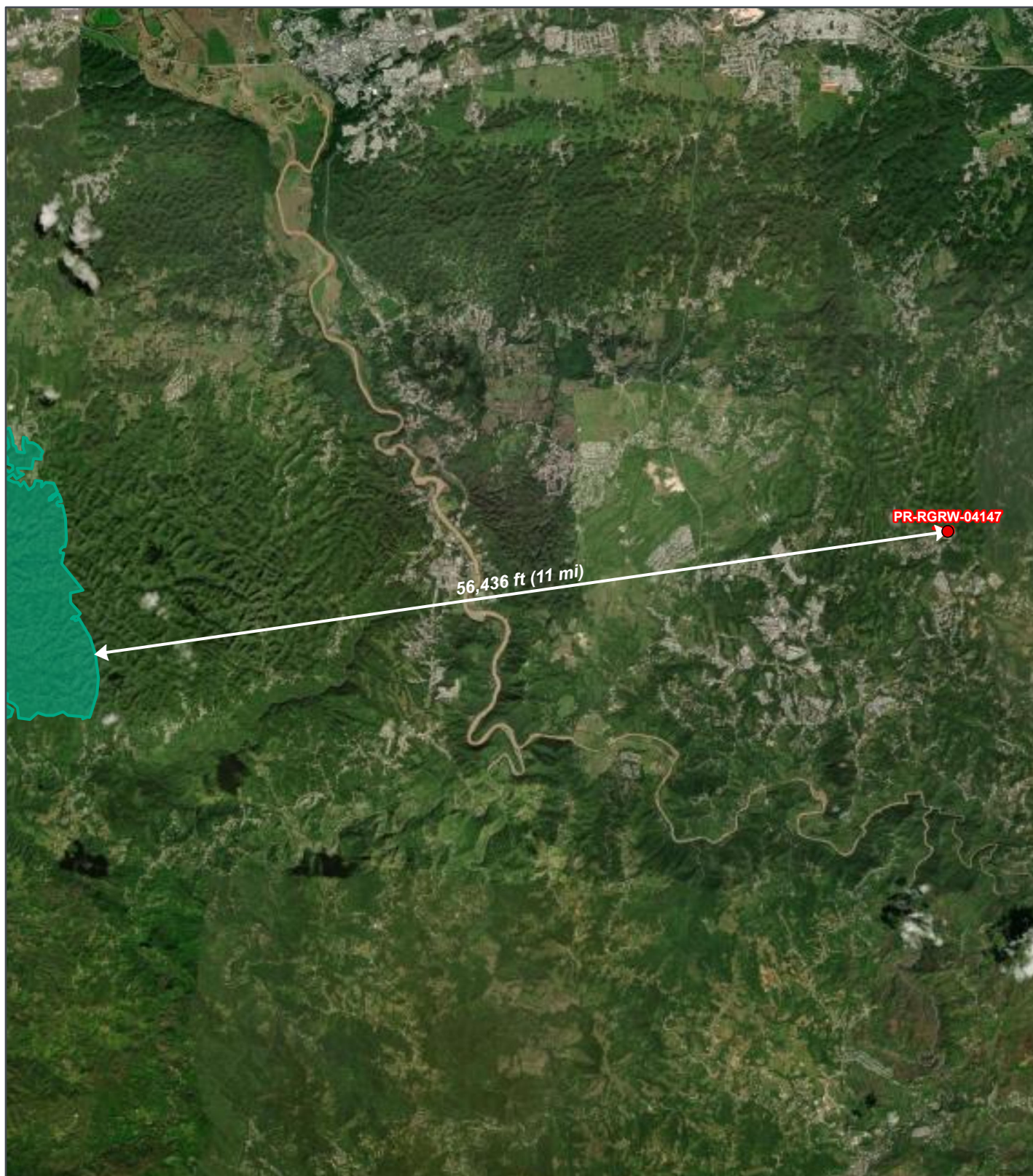
Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20 Parcel Center:  
66.374635°W 18.343657°N

Data Source: <https://apps.nationalmap.gov/downloader/#/https://www.fws.gov/program/national-wetlands-inventory/data-download>  
Base Map: ESRI ArcGIS Online, accessed November 2023  
Updated: 11/17/2023  
Layout: Wetlands Protection



**Figure 4**  
**Critical Habitat Map**





REGROW PROGRAM

## Critical Habitat Map

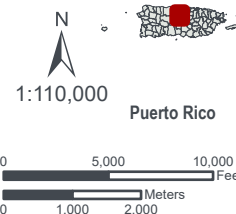
Applicant ID: PR-RGRW-04147

**SWCA**<sup>®</sup>  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Buffer (100-ft)
- Critical Habitat - Final
- National Wildlife Refuges

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.455176°W 18.332589°N

Data Source: [https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS\\_Critical\\_Habitat/Base\\_Map/ESRI/ArcGIS/Online](https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS_Critical_Habitat/Base_Map/ESRI/ArcGIS/Online),  
accessed November 2023  
Updated: 11/17/2023  
Layout: Critical Habitat  
Aprx: 72428\_ReGrowTier2Maps



## **APPENDIX B**

### **Photographic Log**



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 01	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Southwest		
<b>Description:</b> Overview of site location for 2 400-gallon cisterns or 250-gallon cisterns.		

<b>Photo #:</b> 02	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southeast	
<b>Description:</b> Overview of second option for 2 cisterns.	

A photograph showing a dirt area with a chain-link fence. On the left, there is a large, thick tree trunk and dense green foliage. The ground is dry and uneven, with some sparse vegetation. In the foreground on the right, there are several large white and black plastic drums or barrels, some stacked. In the background, there are more trees and a building with a corrugated metal roof. The overall scene appears to be a construction or maintenance site in a rural or semi-rural area.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 03	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> Overview of site location for storage structure 26x12ft.		

<b>Photo #:</b> 04	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> North corner of site location for storage structure 26x12ft.		




Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 05	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> East corner of site location for storage structure 26x12ft.	

A photograph showing a large, dense cluster of palm trees in the foreground, with some fronds showing signs of aging or damage (yellowing). The trees are situated on a grassy field. In the background, a white fence runs across the frame, and a building is visible behind it. The sky is blue with scattered white clouds. A utility pole is also visible in the background.


<b>Photo #:</b> 06	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  North	
<b>Description:</b> South corner of site location for storage structure 26x12ft.	

A photograph of a two-story, light-colored building with a green roof. The building has several windows with white frames and shutters. It is situated on a grassy field. A person wearing a hat and a light-colored shirt is standing in the foreground on the right side, partially obscured by a palm frond. The background shows a dense line of trees and a hill.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 07	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Northeast	
<b>Description:</b> SW corner of site location for storage structure with wooden floor and galvanized walls and roof 26x12ft.	

A photograph showing a grassy field with a dirt area in the background where some construction materials are visible. A dense line of tropical trees and a hill are in the background. A large palm tree is in the foreground on the right.


<b>Photo #:</b> 08	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> Overview of site location for Greenhouse 37x22ft.	

A photograph of a site location. In the foreground, there is a large, open grassy area. To the left, a long, low structure covered in black netting, identified as a greenhouse, is visible. To the right, a silver SUV is parked on a dirt path. In the background, a white wall runs across the middle ground, with a staircase leading up to the right. Behind the wall, there are several houses built on a hillside, surrounded by lush tropical vegetation including palm trees and banana plants. The sky is blue with scattered white clouds.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 09	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southeast	
<b>Description:</b> NW corner of greenhouse 37x22ft.	

A photograph showing a wide, grassy field in the foreground. In the background, there is a dense line of tropical vegetation, including large palm trees and other lush plants. A utility pole is visible among the trees. Beyond the vegetation, a steep, forested hill rises under a cloudy sky. A small, partially obscured red object is visible through the foliage on the right side.

<b>Photo #:</b> 10	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southwest	
<b>Description:</b> NE corner of greenhouse 37x22ft.	

A photograph showing a large, lush green field with tall grass. In the background, there are dense tropical trees and a utility pole. The sky is overcast.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 11	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> East corner of site location for Greenhouse 37x22ft.	



<b>Photo #:</b> 12	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> South corner of site location for Greenhouse 37x22ft.		




Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 13	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  North	
<b>Description:</b> Center point for Greenhouse 37x22ft.	

A two-story beige house with a green roof. On the left side, there is an external staircase with white balustrades and red-tiled steps leading to a second-floor balcony. The balcony has white columns. The house has several windows with white frames and decorative glass. The ground in front of the house is covered with green grass. A white car is partially visible on the left side of the house.

<b>Photo #:</b> 14	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  East	
<b>Description:</b> Center point for Greenhouse 37x22ft.	

A photograph showing a dense thicket of tropical plants, primarily palm trees with long, feathery fronds. The foliage is lush green with some yellowing at the tips. In the foreground, there is a patch of green grass and a small, white, cylindrical bucket or container lying on the ground. The background is filled with more dense vegetation, creating a sense of a wild or overgrown area.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 15	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> Center point for Greenhouse 37x22ft.		

<b>Photo #:</b> 16	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> Center point for Greenhouse 37x22ft.	

A photograph showing a large, rectangular greenhouse structure covered in black mesh netting, situated on a grassy field. To the right of the greenhouse, a light blue SUV is parked on a dirt path. In the background, there is a white wall, a tall palm tree, and a small structure with a red roof. The sky is overcast.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 17	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  East	
<b>Description:</b> Overview of site location for Greenhouse 30x50ft.	


A photograph showing a dense field of banana plants and papaya trees in a rural setting, with a forested hill in the background. The banana plants have large, broad green leaves, some showing signs of aging or damage. The papaya trees have large, deeply lobed leaves. The background is a steep, densely forested hillside covered in various types of green vegetation.

<b>Photo #:</b> 18	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Southeast		
<b>Description:</b> NW corner of site location for Greenhouse 30x50ft.		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 19	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> North corner of site location for Greenhouse 30x50ft.		

<b>Photo #:</b> 20	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Northwest		
<b>Description:</b> SE corner of site location for Greenhouse 30x50ft.		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 21	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Northeast		
<b>Description:</b> SW corner of site location for Greenhouse 30x50ft.		

<b>Photo #:</b> 22	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  North	
<b>Description:</b> Overview of site location for Greenhouse 30x56ft.	

A photograph showing a tropical landscape. In the foreground, there are several banana plants with large, green leaves and some dried, brown leaves. The ground is covered with dry, brownish grass and patches of green vegetation. In the background, there is a dense wall of green trees and bushes, creating a lush, forested appearance. The lighting suggests it is daytime, with natural light filtering through the foliage.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 23	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  East	
<b>Description:</b> West corner of site location for Greenhouse 30x56ft.	




<b>Photo #:</b> 24	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> West corner of site location for Greenhouse 30x56ft.		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666


<b>Photo #:</b> 25	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  South	
<b>Description:</b> North corner of site location for Greenhouse 30x56ft.	

A photograph showing a dirt path leading through a field of tall grass and various trees, including banana trees. Two people are visible in the distance walking along the path. The path is covered with dry leaves and twigs. The trees are lush green, and the sky is visible in the background.

<b>Photo #:</b> 26	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  West		
<b>Description:</b> East corner of site location for Greenhouse 30x56ft.		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 27	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> South corner of site location for Greenhouse 30x56ft.		

<b>Photo #:</b> 28	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  South	
<b>Description:</b> Location for fence.	

A photograph showing a two-story white building with a balcony on the right side. In the foreground, there is a large, green lawn. To the left of the lawn, there is a dirt area with some debris and a person standing. The background shows trees and a blue sky with clouds.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 29	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> Fence will connect with existing fence.		

<b>Photo #:</b> 30	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  East	
<b>Description:</b> Location for fence.	

A photograph showing a two-story building with a green roof and white columns. A concrete staircase with white balustrade leads up to the building. The foreground is a grassy area with a path of concrete slabs. In the background, there is a dense green hillside and a utility pole.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 31	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southwest	
<b>Description:</b> Location for fence up to wall.	

A photograph showing a grassy field in the foreground. In the middle ground, there is a white wall and a building with a sign that reads "Hacienda Guayama". A silver car is parked near the building. The background features a hill with dense greenery and some houses. The sky is blue with some clouds.

<b>Photo #:</b> 32	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Northeast	
<b>Description:</b> Location for fence.	


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Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 33	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> Location for electric generator.		

## **APPENDIX C**

### **USFWS Information for Planning and Consultation**



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Caribbean Ecological Services Field Office  
Post Office Box 491  
Boqueron, PR 00622-0491  
Phone: (787) 834-1600 Fax: (787) 851-7440  
Email Address: [CARIBBEAN\\_ES@FWS.GOV](mailto:CARIBBEAN_ES@FWS.GOV)



In Reply Refer To:  
Project Code: 2024-0030295  
Project Name: PR-RGRW-04147

December 27, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

**\*THE FOLLOWING SPECIES LIST IS NOT A SECTION 7 CONSULTATION. PLEASE CONTACT OUR OFFICE TO COMPLETE THE CONSULTATION PROCESS\***

The purpose of the Endangered Species Act (Act) is to provide a means whereby threatened, and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect those species and/or their designated critical habitat.

Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". The enclosed species list provides information to assist with the U.S. Fish and Wildlife Service (Service) consultation process under section 7 of the Act. However, **the enclosed species list does not complete the required consultation process**. The species list identifies threatened, endangered, proposed and candidate species, as well as proposed and designated critical habitats, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. A discussion between the Federal agency and the Service should include what types of listed species may occur in the proposed action area and what effect the proposed action may have on those species. This process initiates informal consultation.

Once a species list is obtained for the proposed project, an effect determination for endangered and threatened species should be made. The applicant could make an effect determination by using available keys on IPaC for specific species. For species with no determination keys, the applicant should request concurrence from the Service by sending a project package

to [caribbean\\_es@fws.gov](mailto:caribbean_es@fws.gov). To obtain guidance for completing this process and the minimum requirements for project packages, please visit:

<https://www.fws.gov/sites/default/files/documents/consultation-under-section-7-of-the-endangered-species-act-with-the-caribbean-ecological%20Services-field-office-template-letter.pdf>

When a federal agency, after discussions with the Service, determines that the proposed action is not likely to adversely affect any listed species, or adversely modify any designated critical habitat, and the Service concurs, the informal consultation is complete, and the proposed project moves ahead. If the proposed action is suspected to affect a listed species or modify designated critical habitat, the Federal agency may then prepare a Biological Assessment (B.A.) to assist in its determination of the project's effects on species and their habitat. However, a B.A. is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a B.A. where the agency provides the Service with an evaluation on the likely effects of the action to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a B.A. are described at 50 CFR 402.12.

If a federal agency determines, based on its B.A. or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to further consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation process. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species.

This list is provided pursuant to Section 7 of the Endangered Species Act and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action". Please use this list to determine whether your project requires consultation and to make your effects determination. For more guidance, use the Guideline for Consultation under Section 7 of the Endangered Species Act with the Caribbean Ecological Services Field Office by clicking [here](#).

This species list is provided by:

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Caribbean Ecological Services Field Office

[caribbean\\_es@fws.gov](mailto:caribbean_es@fws.gov)

Post Office Box 491

Boqueron, PR 00622-0491

(786) 244-0081

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Caribbean Ecological Services Field Office**

Post Office Box 491

Boqueron, PR 00622-0491

(787) 834-1600

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## PROJECT SUMMARY

Project Code: 2024-0030295

Project Name: PR-RGRW-04147

Project Type: Disaster-related Grants

Project Description: Installation of new greenhouses, cisterns, fences, a generator and a storage structure.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.34343075,-66.37478050245508,14z>



Counties: Morovis and Vega Alta counties, Puerto Rico

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## ENDANGERED SPECIES ACT SPECIES

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## REPTILES

NAME	STATUS
Puerto Rican Boa <i>Chilabothrus inornatus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6628">https://ecos.fws.gov/ecp/species/6628</a> General project design guidelines: <a href="https://ipac.ecosphere.fws.gov/project/OD4E4GRXOZGM5ON3E2AFUG47QU/documents/generated/7140.pdf">https://ipac.ecosphere.fws.gov/project/OD4E4GRXOZGM5ON3E2AFUG47QU/documents/generated/7140.pdf</a>	Endangered

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

## USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act<sup>1</sup> and the Migratory Bird Treaty Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats<sup>3</sup>, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

---

1. The [Bald and Golden Eagle Protection Act](#) of 1940.
2. The [Migratory Birds Treaty Act](#) of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats<sup>3</sup> should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the ["Supplemental Information on Migratory Birds and Eagles"](#).

---

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

## WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

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RIVERINE  
▪ R5UBH

## **IPAC USER CONTACT INFORMATION**

Agency: SWCA

Name: Kaitie Wilms

Address: 911 Hammond Drive

City: North Augusta

State: SC

Zip: 29841

Email: kaitie.wilms@swca.com

Phone: 8436930711

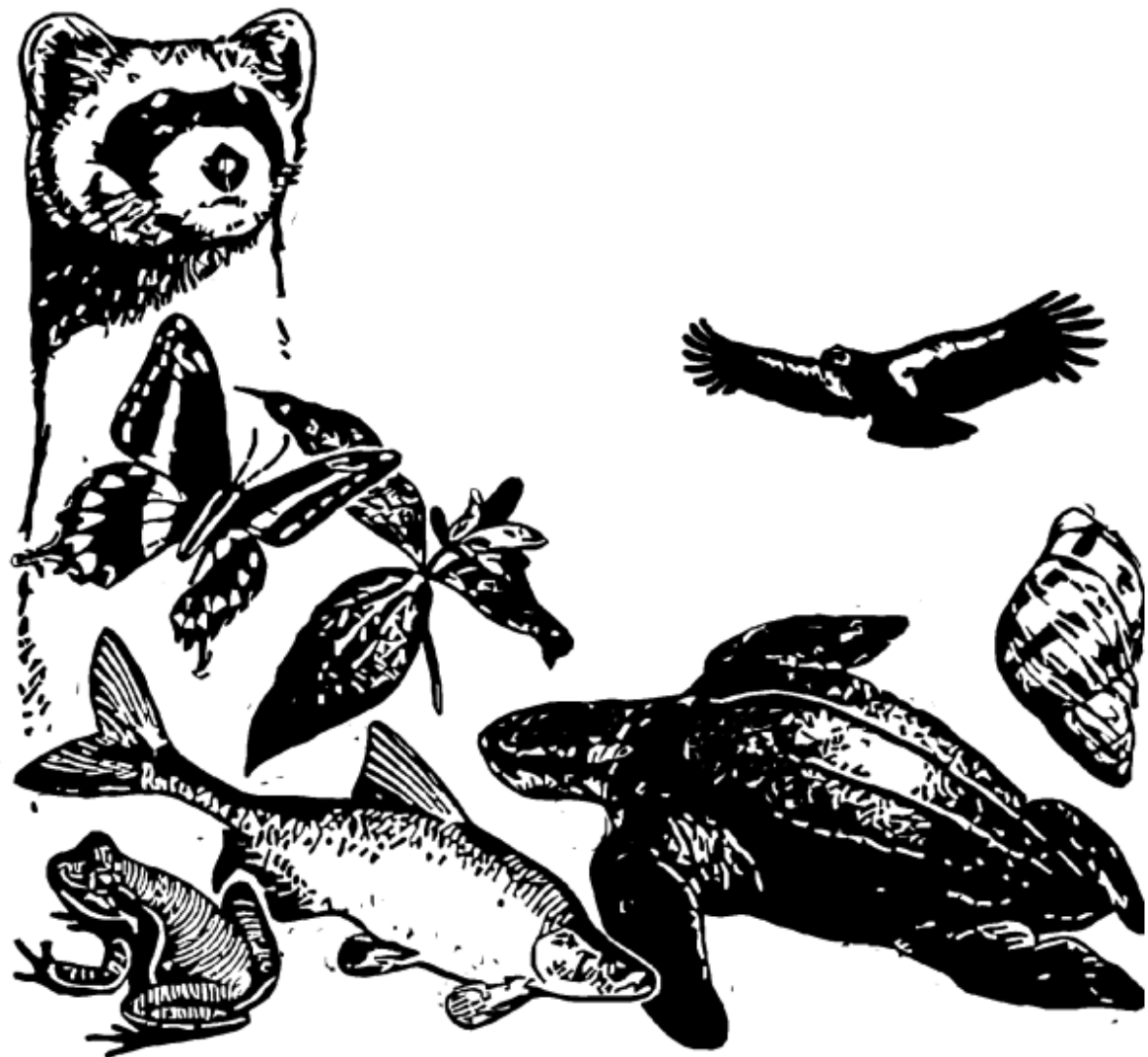
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## **APPENDIX D**

### **Project Design Guidelines**

# *General Project Design Guidelines (1 Species)*

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# Species Document Availability

## Species with general design guidelines

Puerto Rican Boa *Chilabothrus inornatus*



## U.S. FISH AND WILDLIFE SERVICE CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE

### Conservation Measures for the Puerto Rican boa (*Chilabothrus inornatus*)

Section 7 (a)(1) of the Endangered Species Act (ESA) charges Federal agencies to aid in the conservation of listed species, and section 7 (a)(2) requires the agencies, through consultation with the U.S. Fish and Wildlife Service (Service), to ensure their activities are not likely to jeopardize the continued existence of listed species or adversely modify designated critical habitats. Section 7 applies to the management of Federal lands as well as Federal actions that may affect listed species, such as Federal approval of private activities through the issuance of Federal funding, permits, licenses, or other actions. Any person that injures, captures, or kills a Puerto Rico boa is subject to penalties under the ESA. If Federal funds or permits are needed, the funding or permitting agency should initiate Section 7 consultation with the Service. To initiate a consultation under the Section 7 of the ESA, you must submit a project package with the established minimum requirements. These conservation measures should be incorporated into the project plans to minimize possible impacts to the species.

The endangered Puerto Rican (PR) boa (*Chilabothrus inornatus*, formerly *Epicrates inornatus*) is the largest endemic snake species that inhabits Puerto Rico. The PR boa is non-venomous and does not pose any life threatening danger to humans, but some individuals may try to bite if disturbed or during capture or handling. Its body color ranges from tan to dark brown with irregular diffuse marking on the dorsum, but some individuals lack marking and are uniformly dark. Juveniles may have a reddish color with more pronounced markings. In general, as they mature, their body color tends to darken.



The Puerto Rican boa was federally listed in 1970. Currently, the species has an island-wide distribution and occurs in a wide variety of habitat types ranging from wet montane to subtropical dry forest and can be found from mature forest to areas with different degrees of human disturbance like roadsides or houses, especially if near their habitat in rural areas. This boa is considered mostly nocturnal, remaining less active, concealed or basking under the sun during the day.

The Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the PR boa and its habitat. These recommendations may be incorporated into new project plans and under certain circumstances into existing projects. Depending on the project, additional conservation measures can be implemented besides the ones presented in this document.

#### Conservation Measures:

1. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site.
2. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas.
3. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area.
4. The PR boa is considered more active at night. Thus, in order to maximize its detection, the species should be searched at nights prior to habitat disturbance.
5. Once the area has been searched for PR boas, vegetation should first be cleared by hand to the maximum extent possible. Vegetation should be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow boas present on site to move away on their own to adjacent available habitat. Any stone walls or naturally occurring rock piles must be carefully dismantled by hand as these are refuges for the snake. This will allow any boas present to vacate the site without injury.
6. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.



7. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #6). **Do not capture the boa.** If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (PRDNER phone #s: (787) 724-5700, (787) 230-5550, (787) 771-1124). If immediate relocation is not an option, project-related activities at this area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.
8. If a PR boa is captured by the PRDNER, record the name of the PRDNER staff and information on where the PR boa will be taken. This information should be reported to the Service.
9. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #7). If not possible, the animal should be left alone until it leaves the vehicle on its own.
10. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future.
11. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #6). If the PR boa was accidentally? killed as part of the project actions, please include information on what conservation measures had been implemented and what actions that will be taken to avoid further killings. A dead boa report should be sent by email (see contacts below) to the Service within 48 hours of the event.
12. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.

If you have any questions regarding the above conservation measures, please contact the Service:

- José Cruz-Burgos, Endangered Species Coordinator
  - Email: [jose\\_cruz-burgos@fws.gov](mailto:jose_cruz-burgos@fws.gov)
  - Office phone (305) 304-1386
- Jan Zegarra, Fish and Wildlife Biologist
  - Email: [jan\\_zegarra@fws.gov](mailto:jan_zegarra@fws.gov)
  - Office phone (786) 933-1451

## Amended Programmatic Biological Opinion (Version 1.1)

Recurrent development, infrastructure, and maintenance projects under the jurisdiction of the Federal Emergency Management Agency (FEMA), Federal Transportation Authority (FTA), Federal Highway Administration (FHA), U.S. Department of Housing and Urban Development (HUDS), USDA Rural Development (RD), U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (EPA), USDA Natural Resources Conservation (NRCS) and/or Federal Communication Commission (FCC) in Puerto Rico and the U.S. Virgin Islands

FWS Log #: MM-173



Prepared by:

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**EDWIN MUNIZ** Digitally signed by EDWIN  
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Date

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## EXECUTIVE SUMMARY

This Endangered Species Act (ESA) amended Programmatic Biological Opinion (PBO) of the U.S. Fish and Wildlife Service (Service) addresses urban and rural developments, as well as reconstruction and maintenance projects in Puerto Rico and U.S. Virgin Islands (USVI) funded or authorized by the Federal. These Actions are of Federal Nexus under the jurisdiction of the Federal Emergency Management Agency (FEMA), Federal Transportation Authority (FTA), Federal Highway Administration (FHA), U.S. Department of Housing and Urban Development (HUD), USDA Rural Development (RD), USDA Natural Resources Conservation Service (NRCS), U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (EPA) and other Federal agencies. The Actions addressed in this PBO occur recurrently. The above agencies have previously consulted with the Service through Blanket Letters or informal consultations for most projects. However, after coordination with our Regional Office (RO), we are required to exempt the take resulting from the capture and relocation of the Puerto Rican boa (PR boa) and the Virgin Islands tree boa (VI boa) through a Biological Opinion as part of the formal consultation under Section 7 of the Act. Moreover, FEMA determined that the Actions listed below are likely to adversely affect the Puerto Rican boa and the Virgin Islands tree boa. Thus, we developed this PBO to cover all actions, including FEMA's and the other Federal agencies that have previously consulted or will consult in the future with the Service. Projects from any Federal agency that meet the conditions specified below, or that the Service determines will have similar effects on the Puerto Rican boa and Virgin Islands tree boa, may be appended to this programmatic consultation. This PBO concludes that the Actions are not likely to jeopardize the continued existence of these species. Neither the Puerto Rican boa nor the Virgin Islands tree boa have designated critical habitat. This conclusion fulfills the requirements applicable to the Actions for completing consultation under §7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, with respect to these species. Any Action not covered by this PBO that may affect the PR boa and the VI boa will need consultation with the Service on a case-by-case basis. This PBO does not apply to any other federally listed species or designated critical habitat, therefore, Federal agencies are required to consult with the Service for proposed projects that may affect other federally listed species.

The PBO includes an Incidental Take Statement (ITS; Section 6) that requires the Federal Agency and the Recipient to implement reasonable and prudent measures (Section 6.3) that the Service considers necessary or appropriate to minimize the impacts of anticipated taking on the listed species. Incidental taking of listed species that is in compliance with the terms and conditions (Section 6.4) of this statement is exempted from the prohibitions against taking under the ESA. This PBO (version 1.1) includes amended terms and conditions (Section 6.4, T&C 1) and monitoring and reporting requirements (Section 6.5).

In the Conservation Recommendations section, the PBO outlines voluntary actions that are relevant to the conservation of the listed species addressed in this PBO.

Reinitiating consultation is required if the Federal Agency and the Recipient retains discretionary involvement or control over the Action (or is authorized by law) when:

- (a) the amount or extent of incidental take is exceeded;



- (b) new information reveals that the Actions may affect listed species or designated critical habitat in a manner or to an extent not considered in this PBO;
- (c) the Actions are modified in a manner that causes effects to listed species or designated critical habitat not considered in this PBO; or
- (d) a new species is listed or critical habitat designated that the Actions may affect.

The Service will re-evaluate this programmatic consultation as required, to ensure that its continued application will not result in unacceptable effects on the Puerto Rican boa and the Virgin Islands tree boa.

## CONSULTATION HISTORY

This section lists key events and correspondence during the course of this consultation with FEMA, as well as previous consultations with other Federal agencies. A complete administrative record of this consultation is on file in the Caribbean Ecological Services Field Office (CESFO).

### Consultation with FEMA:

- 2017-09-05 Hurricane Irma struck the USVI and Puerto Rico.
- 2017-09-07 FEMA declared the USVI as an active disaster zone due to the strike of Hurricane Irma.
- 2017-09-10 FEMA declared Puerto Rico as an active disaster zone due to the strike of Hurricane Irma.
- 2017-09-20 Hurricane María struck the USVI and Puerto Rico.
- 2017-09-20 FEMA declared Puerto Rico and the USVI as an active disaster zone due to the strike of Hurricane María.
- 2017-11-06 The Service provided a technical assistance letter with BMPs as per emergency ESA consultation process including BMPs for recovery efforts of the electric systems in Puerto Rico to minimize and avoid impacts to listed species. The consultation process covered the emergency work to be performed by PREPA, and the USACE under Mission Assignment with FEMA.
- 2018-02-18 FEMA requests clarification of the BMPs and inclusion of additional work.
- 2018-03-15 The Service consulted and provide BMPs for the power lines in Rio Abajo Forest.
- 2018-03-18 The Service issued an addendum to the BMPs to include restoration action in addition to emergency actions.

- 2018-02-28 As part of a programmatic consultation under section 7 of the ESA with the Service to address impacts caused by natural disasters, FEMA developed a Matrix that included all their actions and the effects of those actions on federally listed species in Puerto Rico and the USVI. The purpose of the Matrix is to expedite the consultation process between FEMA and the Service given the large number of projects for the recovery of both Puerto Rico and the USVI as part of the disaster declarations due Hurricanes Irma and María.
- 2019-06-25 FEMA sent a letter to the Service requesting concurrence on the informal programmatic section 7 consultation using the Matrix.
- 2019-07-19 The Service sent a letter to FEMA concurring with the programmatic consultation and the use of the Matrix for effects determinations.
- 2020-05-08 The Service sent an email to FEMA proposing changes to the Matrix as part of the annual reporting requirements stipulated in the 2019-07-19 concurrence letter.
- 2020-07-22 The Service requested guidance to the Service's RO in Atlanta on the implementation of conservation measures developed during the programmatic consultation for the PR boa and VI boa that would result in a not likely to adversely affect determination for both species.
- 2020-10-07 The Service sent an email to FEMA informing that based on guidance from the RO, the conservation measures for the PR and VI boas, required to be modified since the capture and relocation of these species constitute take (as defined by the ESA) needed to be exempted by a Biological Opinion (BO) through a formal consultation under section 7 of the ESA.
- 2020-10-07 FEMA sent an email to the Service agreeing with the modifications and supporting the writing of this BO.
- 2023-07-24 The Service amended the first version of this Programmatic BO dated June 23, 2022, by revising the Terms and Conditions 1 (T&C 1) under Section 6.4 and Monitoring and Reporting Requirements under Section 6.5.1.

Previous Consultations with Other Federal Agencies:

- 2013-01-14 The Service issued a Blanket Clearance Letter for Federally sponsored projects to the HUD with the purpose of facilitate the evaluation of projects located on urbanized areas, vacant lots covered by grassland and/or disturbed scrubs in the U.S. Caribbean.
- 2013-01-14 The Service issued a Blanket Clearance Letter for Federally sponsored projects to the FHA with the purpose of facilitate the evaluation of projects located on

urbanized areas, vacant lots covered by grassland and/or disturbed scrubs in the U.S. Caribbean.

- 2014-07-24 The Service issued a Blanket Clearance Letter for Federally sponsored projects to the FEMA with the purpose of expedite the consultation process on Hazard Mitigation and Public Assistance Grant for project activities that typically result in no adverse effects to federally listed species in the U.S. Caribbean.
- 2018-02-09 The Service concurred with NRCS biological assessment consultation for the recovery of agricultural lands impacted by Hurricanes Irma and María.

## BIOLOGICAL OPINION

### 1. INTRODUCTION

A biological opinion (BO) is the document that states the findings of the U.S. Fish and Wildlife Service (Service) required under section 7 of the Endangered Species Act of 1973, as amended (ESA), as to whether a Federal action is likely to:

- jeopardize the continued existence of species listed as endangered or threatened; or
- result in the destruction or adverse modification of designated critical habitat.

As explained in the Consultation History above, a section 7 consultation with FEMA was the trigger to develop this BO. However, given there are other Federal agencies working on actions that also are likely to result in take of both PR and VI boas in the form of capture and relocation, we decided to develop a Programmatic Biological Opinion (PBO). A PBO addresses multiple actions on a program and/or regional basis, thus achieving efficiencies in the process. The Federal actions addressed in this PBO are urban and rural development, as well as reconstruction and maintenance projects in Puerto Rico and USVI funded or authorized by the Federal Emergency Management Agency (FEMA), Federal Transportation Authority (FTA), Federal Highway Administration (FHA), U.S. Department of Housing and Urban Development (HUD), USDA Rural Development (RD), USDA Natural Resources Conservation Service (NRCS), U.S. Army Corps of Engineers (USACE), Environmental Protection Agency (EPA) and other Federal agencies, hereafter the Action Agency. For the purposes of this PBO, all individual projects will be collectively referred to as the Actions. This PBO considers the effects of the Actions on the endangered Puerto Rican boa (listed as *Epicrates inornatus*, but currently recognized as *Chilabothrus inornatus*; PR boa) and the endangered Virgin Islands tree boa (listed as *Epicrates monensis granti*, but currently recognized as *Chilabothrus granti*; VI boa). Neither species has designated critical habitat, thus will not be addressed in this PBO. Information in this PBO regarding the PR boa and the VI boa has been summarized from the final Species Status Assessment (SSA) for the PR boa and the final SSA for the VI boa (Service 2018, 2021).

## **BO Analytical Framework**

A BO that concludes a proposed Federal action is *not* likely to *jeopardize the continued existence* of listed species and is *not* likely to result in the *destruction or adverse modification* of critical habitat fulfills the Federal agency's responsibilities under §7(a)(2) of the ESA.

*"Jeopardize the continued existence* means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR §402.02).

*"Destruction or adverse modification* means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species" (50 CFR §402.02).

The Service determines in a BO whether we expect an action to satisfy these definitions using the best available relevant data in the following analytical framework (see 50 CFR §402.02 for the regulatory definitions of *action*, *action area*, *environmental baseline*, *effects of the action*, and *cumulative effects*).

- a. *Proposed Action*. Review the proposed Federal action and describe the environmental changes its implementation would cause, which defines the action area.
- b. *Status*. Review and describe the current range-wide status of the species or critical habitat.
- c. *Environmental Baseline*. Describe the condition of the species or critical habitat in the action area, without the consequences to the listed species caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early consultation, and the impacts of State or private actions which are contemporaneous with the consultation.
- d. *Effects of the Action*. Predict all consequences to species or critical habitat caused by the proposed action, including the consequences of other activities caused by the proposed action, which are reasonably certain to occur. Activities caused by the proposed action would not occur but for the proposed action. Effects of the action may occur later in time and may include consequences that occur outside the action area.
- e. *Cumulative Effects*. Predict all consequences to listed species or critical habitat caused by future non-Federal activities that are reasonably certain to occur within the action area.
- f. *Conclusion*. Add the effects of the action and cumulative effects to the environmental baseline, and in light of the status of the species, formulate the Service's opinion as to whether the action is likely to jeopardize species or adversely modify critical habitat.



## 2. PROPOSED ACTIONS

On an annual basis, the number of developments, infrastructure and maintenance projects funded or authorized by FEMA, HUD, FTA, FHA, RD, USACE, EPA, NRCS and other Federal agencies will largely be influenced by funding availability and needs. Some of the actions occur on a recurring basis and some due to an emergency response after a disaster. In general, the Actions reviewed under this PBO entails the maintenance, repair, and/or improvement of already existent infrastructure and/or that falls within existing footprint or urbanized areas, vacant lots covered by grassland and/or shrub vegetation, among others. However, there might be Actions that entail new constructions, expansions, or extension beyond existing footprints on already disturbed areas, within existing rights of ways (ROWS) or in undisturbed forested habitat. Actions that fall under this PBO are projects that may adversely affect the PR boa and the VI boa, either by take of individuals and/or temporary disturbance or permanent loss of habitat. The following Actions resulting from projects that meet the descriptions specified below are covered by this PBO. Any other project that the U.S. Fish and Service determines will have similar effects on the PR boa and the VI boa, may be appended to this programmatic consultation.

Any Action not covered by this PBO that may affect the PR boa and the VI boa will need consultation with the Service on a case-by-case basis. This PBO does not apply to any other federally listed species or designated critical habitat not specifically included in this PBO. Therefore, Federal agencies are required to consult with the Service for proposed projects that may affect other federally listed species.

### A. Development projects:

- a. Residential;
  - i. Rebuilding, demolition and/or replacement of houses or buildings (public and private).
  - ii. Elevation of residential homes and associated structures and utilities occurring on disturbed and regularly maintained property, including the staging of equipment.
- b. Commercial;
  - i. Demolition and/or replacement of commercial building to restore the facility to its pre-disaster condition.
- c. Parks and recreational areas;
  - i. Repair and/or replacement of recreational structures (bleachers, playground equipment, pools, tennis courts, basketball courts, gazebos, baseball diamonds, gymnasium equipment, bath houses, kiosks, picnic tables, etc.).
- d. New construction work which expands the footprint of an existing structure and occurs entirely on disturbed, regularly maintained, upland, including the staging of equipment.

### B. Infrastructure projects:

- a. Utility and Telecommunication: new and existing towers and associated infrastructure (e.g., facilities, roads)

- i. Excavation, repair and/or replacement of utility lines and associated appurtenances.
  - ii. Maintenance of access roads to utility facilities and associated structures, and telecommunication towers.
  - iii. Construction of telecommunication facilities within disturbed areas.
- b. New road construction and maintenance and associated structures within ROWs;
  - i. Repair, improvement, replacement of roads, bridges and highways.
  - ii. Construction of gutters and sidewalks along existing roads.
  - iii. Rehabilitation of facilities of an already established Public Transportation System (signs, sidewalks and ramps, bus stops and existing routes).
  - iv. Expansion of Public Transportation facilities.
  - v. New construction of facilities for Public Transportation System.
  - vi. In-kind replacement of eroded sections of non-beach fill including soil, gravel, crushed stone, gravel, soft armoring with biomaterials.
  - vii. Repair and/or replacement of a hardened roadway or pedestrian walkway and associated structures (retaining walls, guard rails, curbs, elevation, road signs, lampposts, traffic signals, etc.).
- c. Repair and/or replace coastal structures;
  - i. Boardwalks.
  - ii. Repair or replacement of coastal wetlands.
- d. Repair and/or replacement of a fence.
- e. Repair and/or replacement water structures;
  - i. Storm water management facility
  - ii. Engineered shoreline and/or bank stabilization structure.
  - iii. Bridge, culvert or storm water outfall.
  - iv. Engineered drainage channel.
- f. Installation of a permanent, back-up emergency generator and/or quick connect switch, and all associated structures (e.g., concrete pad, electrical connections, etc.).

### **C. Maintenance projects**

- a. Redistribution/grading of beach material from adjacent sources
- b. Dredging/clearing of an engineered drainage channel which does not alter the channel's pre-disaster width, depth, grade, or course, provided that bank vegetation is kept intact.
- c. Clearing and snagging with the intent to reduce risk for further flood damage by removing storm mediated vegetative debris and sediments from streams channels to restore flow capacity.
- d. Streambank stabilization, clearing and snagging and/or critical area planting with the intent of restoration flow capacity of artificial and natural waterways to mitigate flood risk.
- e. Debris removal on natural or improved waterways.
- f. Woody and structural debris removal on agricultural lands.
- g. Hydroseeding/mulching over recently placed fill.
- h. Post hurricane debris removal.

The main activities within the proposed Actions are listed below. These types of activities pose danger to the boas as they are secretive animals, are slow movers, and typically hide under debris piles and dense vegetation. However, both PR boas and VI boas could be safely removed out of harm's way and relocated into a safe location. Thus, this PBO covers the capture and relocation of PR and VI boas to remove them from harm's way when engaging on any of the actions described below. For all activities associated to the Actions, the Service has added terms and conditions to minimize any harm to boa individuals (See terms and conditions below.). Therefore, engaging on any of the following actions requires following Terms and Conditions stated in section 6.4 of this PBO.

## **2.1. Construction work:**

Construction activities related to rebuilding, repairing, replacing, or installations will be conducted on a needed basis. Many of the construction activities do not extend outside current existent footprint, or outside already disturbed areas. Nevertheless, some actions may require extension or expansion from existing footprint, and therefore, areas surrounding the original project footprint may be negatively impacted, such as forested areas. The preparation of this areas for construction may require the use of heavy machinery (see clearing area below). Additionally, heavy machinery might be use for transportation of construction materials and other construction activities, which could result on the impact to boa individuals. Heavy machinery also needs to be stored during not working hours (See staging areas below).

## **2.2. Demolition:**

Demolition associated to infrastructure that is no longer functioning or has been damaged, will be conducted based on needs. This activity does not extend outside existent footprint. Boas may use infrastructures as shelters and might be injured or killed during demolition activities.

## **2.3. Staging areas:**

Staging areas are places where equipment, a temporary field office, and/or materials are temporarily stored or located in preparation for the construction, repair, demolition or maintenance work. These areas are typically cleared and located within or adjacent to the Action site. Equipment left on staging areas overnight might function as shelters for boas, and individuals would likely be injured or killed the following day as a result of equipment operation.

## **2.4. Vegetation and debris management:**

Clearing, access road maintenance and other activities that entails removing above-ground vegetation or debris, generally takes place within pre-marked areas necessary for the proposed Action. However, there might be Actions that might entail expansions beyond existing footprints and might require clearing of forested vegetation, of already previously disturbed land, for which the use of heavy machinery might be needed for site preparation and/or debris removal. Access road maintenance when done by hand does not require heavy machinery, but it

does impact habitat by removing vegetation. Boa individuals present in the area might be injured or killed during vegetation and debris management using heavy machinery.

## **2.5. Other Activities Caused by the Actions:**

A BO evaluates all consequences to species or critical habitat caused by the proposed Federal action, including the consequences of other activities caused by the proposed action, that are reasonably certain to occur (see definition of “effects of the action” at 50 CFR §402.02). Additional regulations at 50 CFR §402.17(a) identify factors to consider when determining whether activities caused by the proposed action (but not part of the proposed action) are reasonably certain to occur. These factors include, but are not limited to:

- (1) past experiences with activities that have resulted from actions that are similar in scope, nature, and magnitude to the proposed action;
- (2) existing plans for the activity; and
- (3) any remaining economic, administrative, and legal requirements necessary for the activity to go forward.

Although the species’ natural habitat is not expected to be impacted, urban expansion into rural, forested habitat may increase human-boa interactions, which can negatively affect individual boas. Human-boa conflicts, such as roads, persecution by humans, and predation by domestic and invasive species are considered limiting factors for the PR boa and VI boa, particularly if adjacent to forested suitable habitat. Actions that occur within purely and entirely developed areas that are not adjacent or within forested suitable habitat, are not expected to affect the species.

## **2.6. Action Area**

The action area (AA) is defined as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action” (50 CFR §402.02). Delineating the AA area is necessary for the Federal action agency to obtain a list of species and critical habitats that may occur in that area, which necessarily precedes any subsequent analyses of the effects of the action to particular species or critical habitats.

Since this PBO collectively evaluates a large number of individual projects, the AA includes all projects related to the Actions throughout all of Puerto Rico and the U.S. Virgin Islands, and is hereafter referred to as the Programmatic AA.

It is practical to treat the AA for a proposed Federal action as the spatial extent of its direct and indirect “modifications to the land, water, or air” (a key phrase from the definition of “action” at 50 CFR §402.02). Indirect modifications include those caused by other activities that would not occur but for the action under consultation. The AA determines any overlap with critical habitat, but none has been designated for this species. For the PR boa and VI boa, the AA establishes the



bounds for an analysis of individuals' exposure to action-caused changes, but the subsequent consequences of such exposure to those individuals are not necessarily limited to the AA.

### **3. SOURCES OF CUMULATIVE EFFECTS**

A BO must predict the consequences to species caused by future non-Federal activities within the AA, *i.e.*, cumulative effects. "Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation" (50 CFR §402.02). Additional regulations at 50 CFR §402.17(a) identify factors to consider when determining whether activities are reasonably certain to occur. These factors include, but are not limited to, existing plans for the activity; and any remaining economic, administrative, and legal requirements necessary for the activity to go forward.

Since this programmatic biological opinion considers all Puerto Rico and U.S. Virgin Islands as the AA, non-Federal activities are expected to occur within the range of various Federally protected species, including the PR and VI boa, and will contribute to cumulative effects to the species. Species with small population sizes, endemic locations, or slow reproductive rates will generally be more susceptible to cumulative effects. Cumulative effects will be further analyzed at the local landscape scale, as appropriate, during a step-down ESA Section 7(a)(2) consultation, when site- and species-specific information is reviewed by local Service biologists familiar with the project area and the biology of local species.

### **4. PUERTO RICAN BOA AND VIRGIN ISLANDS TREE BOA**

This section provides the Service's biological opinion of the Actions for the PR boa and VI boa.

#### **4.1. Status of PR boa and VI tree boa:**

This section summarizes best available information about the biology and condition of the endangered PR boa and VI boa throughout their range, that are relevant to formulating an opinion about the Actions. The Service published its decision to list the PR boa as endangered in 1970 (35 FR 16047). For the VI boa, the Service published its decision to list the species as endangered in 1970 (35 FR 16047), and again under a different taxonomic classification in 1979 (44 FR 70677). A Species Status Assessment (SSA) was recently completed for the VI boa and compiles the most recent information available for this species (available online at <https://ecos.fws.gov/ecp/species/3247>) (Service 2018). Similarly, an SSA is being completed for the PR boa and compiles the most recent information for the species. The following information in the subsections below was obtained from those SSAs.

##### **4.1.1. Species Description**

The PR boa is a large (on average 3 to 6 feet (ft)), semi-arboreal and nonvenomous snake with color variations from tan to very dark brown and some black body markings. Dorsal coloration of the PR boas is variable and has been described from tan to reddish brown to very dark brown, with several dark bars or spots along its body, and juveniles may have reddish color (Rivero

1998). Body markings are usually more pronounced in neonates and juveniles, but those markings tend to fade with age (Joglar 2005). The ventral scales also vary from gray to dark brown (Rivero 1998).

The VI boa is a medium length (on average 2-3 ft), slender, nonvenomous snake. Adults are gray-brown with dark brown blotches that are partially edged with black, and may feature a blue-purple iridescence on their dorsal surface; the ventral surface is creamy white or yellowish white. Neonates on the other hand have an almost greyish-white body color with black blotches. The head is arrow-shaped, with a blunt nose and silvery eyes.

#### **4.1.2. Life History**

The actual life span of the PR boa in the wild is unknown, but there are captive records over 20 years and suggestions that they might live between 20 and 30 years (Rivero 1998). Courtship and mating for the PR boa is considered seasonal and reproduction in the wild appears to be mostly biennial. Although there can be some variability on when the PR boa reproductive activity starts, research suggests that courtship for most *Chilabothrus* (also *Epicrates*) starts in February (Tolson 1994) and that mating for most PR boas is reported to occur at the beginning of the wet season, from late April to May (Tolson and Henderson 1993). Young PR boas are born after a gestation period of approximately 5-6 months (Huff 1978, Rivero 1998). Puente-Rolón (2012) reported PR boa courtship occurring between March and May, while most parturition occurs from August to November. Thus, the reproductive cycle of the PR boa is synchronized with the seasonal patterns of precipitation and temperature in Puerto Rico (Huff 1978, Tolson and Henderson 1993, Puente-Rolón 2012).

For the VI boa, much of what is known about its life history comes from studies in captivity. Life spans in captivity often exceed 20 years, and can exceed 30 years, but typical life spans in the wild are not known. Females breed biennially, but studies have suggested that annual breeding may occur in some conditions. Courtship behaviors and copulation occur from February through May, and interaction with conspecifics of the opposite sex appears to be necessary for reproductive cycling. The gestation period, observed from a single known copulation between two individuals, is about 132 days (Tolson 1989). VI boas give birth to live young from late August-October to litters of 2-10 young, and litter size increases with female body size.

Both VI and PR boas are considered mostly nocturnal but can also be active during the day. The two species forage, bask, and disperse using trees but use terrestrial refugia as well. The VI boa forages at night by gliding slowly along small branches in search of sleeping lizards. While PR boa uses both ambush and active foraging modes. The primary prey for the VI boa is Anole lizards (*Anolis* sp.) but can also consume other prey such as small birds, green iguana hatchlings and mice and rats. For PR boa adults, the main food source are rats, but may include other prey such as bats, lizards, birds (including domestic fowl), and frogs.

#### **4.1.3. Distribution and Abundance**

The PR boa is endemic to Puerto Rico, where it has been reported in all the 78 municipalities. However, we do not know the specific details of these accounts or if they represent isolated occurrences in some municipalities. Despite several anecdotic reports of large snakes in Vieques Island, there is surprisingly only one confirmed PR boa sighting within the west side of the Vieques National Wildlife Refuge from 2010 (Barandiaran 2014, Service, pers. comm.). Reynolds and Henderson (2018) do suggest the species was likely extirpated from Vieques, but do not provide further explanation. There is also only one confirmed PR boa sighting from Culebra Island in 2013, but genetic analysis suggests it may have been introduced by humans from Puerto Rico (Reynolds and Puente-Rolón 2014), which could have been the same case for the Vieques sighting. Based on the available information, it is unlikely that there is a PR boa population in either Vieques or Culebra. The PR boa neither occur in any other offshore islands such as Mona, Monito or Desecheo Islands, etc.

In general, the PR boa is considered more abundant now than at the time of listing (1970) and more abundant in the karst region of northern Puerto Rico, and less abundant in the dry southern region of the Island (Rivero 1998). Available density estimates for the PR boa range from 1.24 to 5.6 boas/ha (Mulero-Oliveras 2019, Ríos-López and Aide 2007, Tolson 1997). A recent population model for PR boa suggests a current island-wide estimated population size of more than 30,000 PR boas (Tucker et. al 2020).

The VI boa is endemic to Puerto Rico and the Virgin Islands (U.S. and British). Presently, the species is known to occur on 6 islands in Puerto Rico and USVI: the eastern Puerto Rican islands of Cayo Diablo, Culebra, and Cayo Ratones (introduced); Río Grande on the Puerto Rican mainland; and St. Thomas and an offshore cay in USVI (introduced). The species is also known or thought to occur, either presently or historically, on Tortola Island, Jost Van Dyke, Guana Island, Necker Cay, Great Camanoe, and Virgin Gorda of the British Virgin Islands, but data and confirmed observations are severely limited.

In St. Thomas, the VI boa seems to be restricted to the extreme eastern end where the climate is drier and hotter than other regions of the island. In 1991, a conservative estimate of 300-400 VI boas in St. Thomas was suggested, all within rapidly dwindling habitat (Tolson 1991). In 2009, the abundance of the species in its range within the US jurisdiction was estimated to be at approximately 1,300 - 1,500 boas (Service 2009). A more recent estimate of fewer than 100 VI boas in St. Thomas was made using genetic analysis (Reynolds et al. 2015). However, these population estimates are sporadic, limited, and uncertain. There are no areas within the range of the VI boa on St. Thomas that are protected and managed for conservation.

#### **4.1.4. Conservation Needs and Threats**

Where PR and VI boas occur close to urban settlements, development threatens their populations. Consequences of human expansion on boa habitat include habitat loss and fragmentation, as land is deforested for urban and tourism development, areas of suitable habitat are increasingly isolated from each other. Direct impacts on boas include roadkill, predation by domestic and feral cats associated with human populations, predation or competition with other

exotic snake species, and/or persecution by humans. Also, the species are affected by inadequate translocations, emergent diseases, post-hurricane debris management, and by the effects of climate change, particularly increasing sea levels, and frequency of intense hurricanes. Conservation actions that have benefited the VI boa include captive breeding and subsequent reintroductions, and rat eradication efforts. For the PR boa, conservation actions include designation of protected areas all over Puerto Rico, research, and implementation of conservation measures during development projects. Other influential factors include negative public attitudes towards snakes, need for education and outreach, genetics (i.e., inbreeding), and the financial resources and political will to carry out conservation (Service 2018).

## **4.2. Environmental Baseline for VI and PR boas**

This section is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the PR and VI boas, its habitat, and ecosystem within the Programmatic AA. The environmental baseline is a “snapshot” of both species’ condition in the Programmatic AA at the time of the consultation and does not include the effects of the Actions under review.

### **4.2.1. Action Area Numbers, Reproduction, and Distribution**

The Actions occur island wide in Puerto Rico and the U.S. Virgin Islands, and varies yearly based upon need, funding, agency, and/or disaster occurrence. Therefore, the species’ occurrence within a project’s AA will depend on the project’s location.

The PR boa is currently thought to be more abundant than at the time of listing and has a wide distribution in Puerto Rico, but not uniformly abundant. Available density estimates for the PR boa range from 1.24 to 5.6 boas/ha (Mulero-Oliveras 2019, Ríos-López and Aide 2007, Tolson 1997) depending on the landscape in which they occur, with lower expected densities within urban landscapes. The PR boa is known to occur within both urban and rural landscapes, particularly if associated to forested areas. Thus, AAs in urban and rural areas within or adjacent to forested areas, would be more likely to encounter this species.

The VI boa has a more limited distribution in Puerto Rico and the USVI. In Puerto Rico, there are 4 known populations: one in the municipality of Río Grande, another on Culebra Island, and the offshore cays of Cayo Diablo and Cayo Ratones. In the USVI, the species is limited to the eastern half of St. Thomas and an offshore cay in the USVI. All of the known populations of the VI boa are considered relatively small and their current population trends are considered either declining, potentially declining, or unknown (Service 2018). The VI boa also occurs in habitat patches encroached by developed areas, therefore any AA within the reported locations of the species and near suitable habitat patches would be more likely to encounter this species.

Both the PR and VI boa are considered primarily active at night, mostly arboreal, and have a low detection probability due to their cryptic behavior and inactivity while sheltering. All of the boa’s life stages from neonate to adult may be encountered depending on the specific location of the AA. Both species may also be found within undocumented areas of occurrence, particularly if the areas present suitable habitat.



#### **4.2.2. Action Area Conservation Needs and Threats**

Human activity such as urbanization, road construction, and development, has caused habitat modification and degradation, resulting on habitat fragmentation, boa displacement, and increased human-boa interactions that may result in detrimental effects to the species. Thus, the need for effective implementation of management strategies (e.g., habitat protection and enhancement, search for boas within AAs, and implementation of an appropriate boa relocation program) to reduce those detrimental effects (see Section Terms and Conditions).

Under this PBO, the AA lies within public and private land in both rural and urban landscapes, including, but not limited to forested lands, wetlands, creeks, rivers, and coastal habitats. Although most of the Actions covered under this PBO are within existent footprints on already disturbed areas, some are within or adjacent to forested habitat that may harbor suitable habitat for the PR and VI boa. Actions that occur within purely developed areas and are not within or adjacent to forested habitat, should have minimal to no impact on the species. Impacts could be greater for actions which expand or extend beyond the existing footprint, particularly those that occur within or adjacent to forested areas where boas are prone to occur. Impacts may also apply to areas that have been previously abandoned, including buildings or structures where vegetation has overgrown. Potential impacts can also be expected from those AA that have accumulated debris piles which needs to be removed or shred, particularly if debris piles are placed within or near forested and/or abandoned areas. Boas are known to enter buildings or other structures, as well as use debris piles to seek food or shelter, and thus, care should be taken as well in order to avoid and minimize potential effects on the species.

#### **4.3. Effects of the Actions on the PR and VI boas**

In a BO for a listed species, the effects of the proposed action are all reasonably certain consequences to the species caused by the action, including the consequences of other activities caused by the action. Activities caused by the action would not occur but for the action. Consequences to species may occur later in time and may occur outside the AA.

We identified and described the activities included in the proposed Action in section 2.1. We identified and described other activities caused by the proposed Actions in section 2.2. Our analyses of the consequences caused by each of these activities follows.

##### **4.3.1. Construction Work**

**Change Caused by the Activity:** Construction work could result in permanent loss of PR and VI boa habitat within the AA. Additionally, any construction that requires the use of heavy machinery could result on the direct killing of a boas. Construction could also expand from existing footprints, impacting forested habitat nearby and, therefore, boa habitat.

**Exposure to the Change:** We expect all PR and VI boas (adults and juveniles) within the range of an AA to be exposed during the proposed activity and, after construction is completed if boas venture into the developed AA.

**Consequences Resulting from Exposure:** Individual PR and VI boas (adults or juveniles) within an AA could be either be killed or injured due to activities related to construction, for example: as heavy machinery move through the AA or construction material is transported and deposited in the AA. Also, the area would no longer provide habitat for the boas, thus reducing overall habitat available for the species.

#### **4.3.2. Demolition**

Change Caused by the Activity: Demolition of existing structures could result on the direct killing of the boas by use of heavy machinery or falling debris.

Exposure to the Change: We expect all PR and VI boas (adults and juveniles) within the range of an AA to be exposed during the proposed activity. However, we do not expect a high abundance of PR and VI boas because the AAs have already been disturbed.

Consequences Resulting from Exposure: Individual PR and VI boas (adults or juveniles) within an AA could be either be killed or injured as demolition is being completed. Any PR and VI boa killed as a result of an Action would reduce the species' population number, recruitment potential, and likely the genetic variability of the species.

#### **4.3.3. Staging areas**

Change Caused by the Activity: Staging areas are mainly areas near the AA cleared (see Land clearing below) to maintain equipment and other heavy machinery. Additionally, this machinery is sometimes used by boas as shelters, threatening their survival.

Exposure to the Change: The individuals will be exposed to these threats while the Action is being completed.

Consequences Resulting from Exposure: Individual PR and VI boas (adults or juveniles) within an AA could be either be killed or injured as vegetation and debris piles are cleared or can also be relocated out of harm's way if found before disturbance. Also, the area would no longer provide habitat for the boas, thus reducing overall habitat available for the species. Any PR and VI boas killed as a result of an Action would reduce the species' population number, recruitment potential, and likely the genetic variability of the species.

#### **4.3.4. Vegetation and debris management**

Change Caused by the Activity: Land clearing, vegetation management and debris removal could result in permanent loss of PR and VI boa habitat within an AA and surrounded areas. For example, the use of heavy machinery for land clearing will result in habitat loss and can also cause direct killing to the boas. Similarly, vegetation management without the use of heavy machinery, could also result on habitat loss or direct boa individual kills.

Exposure to the Change: We expect all PR and VI boas (adults and juveniles) within the range of an AA to be exposed during the proposed activity and, after construction is completed if boas

venture into the developed AA. However, we do not expect a high abundance of PR and VI boas because most AAs have already been disturbed.

Consequences Resulting from Exposure: Individual PR and VI boas (adults or juveniles) within an AA could be either be killed or injured as vegetation and debris piles are cleared or can also be relocated out of harm's way if found before disturbance. Also, the area would no longer provide habitat for the boas, thus reducing overall habitat available for the species. Any PR and VI boas killed as a result of an Action would reduce the species' population number, recruitment potential, and likely the genetic variability of the species.

#### **4.3.5. Other Activities Caused by the Action**

PR and VI boas may return to the AA during construction and operation. The Actions that increase human-boa interaction also increase the possibility of injury and death of individual boas. For example, boas could be injured or killed by cars, poachers, humans, and domestic animals. In addition, human activity will attract exotic mammals such as cats, further increasing risk to the boas.

#### **4.3.6. Summary**

The proposed Actions may cause adverse effects on the PR boa and VI boa by accidental injury or death from construction activities, vegetation and debris management, demolitions and preparation of staging areas as well as having heavy machinery overnight in the AA or nearby. Boas are expected to be impacted on AAs close to forested habitat compared to urban areas and on those Actions that require extending existing footprint. Consequences include a reduction in the species' abundance. Therefore, we expect captures and relocations to occur in the future in order to remove boa individuals out of harm's way.

### **4.4. Cumulative Effects on the VI and PR boa**

Cumulative effects include the effects of future Commonwealth, Territory, local or private actions that are reasonably certain to occur in the AAs considered in this PBO. Future Federal actions that are unrelated to the proposed actions are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Since actions will occur within all Puerto Rico and U.S. Virgin Islands in unknown areas, cumulative effects are likely to occur. Therefore, cumulative effect will be reviewed case by case during the project review and the approval to be covered under this amended PBO.

### **4.5. Conclusion for VI and PR boa**

In this section, we summarize and interpret the findings of the previous sections (status, baseline, effects, and cumulative effects) relative to the purpose of the PBO for the VI boa and PR boa, which is to determine whether the Action is likely to jeopardize its continued existence.

## **Status**

The PR and VI boas are both considered endangered throughout their range. Nevertheless, the PR boa is considered a habitat generalist and have a broad distribution in Puerto Rico, particularly in the northern karst region. Loss of habitat and fragmentation due to urban development and human expansion is one of the major factors that affect these species.

## **Baseline**

According to the information provided, any Action completed within urban areas and not surrounded by forested habitat, is not likely to hold boas or have a high abundance of PR or VI boas. In contrast, Actions that occur in rural areas or have nearby forested areas are likely to hold a greater abundance of PR and VI boas.

## **Effects**

The proposed Action may directly affect the PR and VI boa through injury or death caused by mechanized land clearing or debris removal, construction, boas hidden on engine vehicle compartment, and demolition. Thus, consequences include a potential loss of individuals. Capture and relocation of boas is an effective nonlethal mechanism of removing individuals out of harm's way. Although quantifying the number of PR boas and VI boas taken through nonlethal relocation is difficult because boas are not uniformly distributed, and we have no way of knowing how exactly many future projects will occur or where they will occur, we used species behavior, distribution, population size estimates and previous consultations, to estimate boa individual take in the form of capture and relocation (see section Amount or Extent of Take).

## **Cumulative Effects**

Cumulative effects will be evaluated on a case-by-case basis.

## **Opinion**

After reviewing the status of both the PR boa and VI boa, both species have demonstrated to be resilient to stochastic events and based on their current known distribution, estimated population numbers, environmental baseline for the AA, the effects of the Actions, and the cumulative effects, it is the Service's biological opinion that level of expected take, in the form of capture and relocation, is not likely to jeopardize the continued existence of either PR boa or VI boa.

## **5. CRITICAL HABITAT FOR VI AND PR BOA**

There is no federally designated critical habitat for the PR boa nor VI boa.

## 6. INCIDENTAL TAKE STATEMENT

ESA §9(a)(1) and regulations issued under §4(d) prohibit the take of endangered and threatened fish and wildlife species without special exemption. The term “take” in the ESA means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct” (ESA §3(19)). In regulations, the Service further defines:

- “harm” as “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering;” (50 CFR §17.3) and
- “incidental take” as “takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the Recipient” (50 CFR §402.02).

Under the terms of ESA §7(b)(4) and §7(o)(2), taking that is incidental to a Federal agency action that would not violate ESA §7(a)(2) is not considered prohibited, provided that such taking is in compliance with the terms and conditions of an incidental take statement (ITS).

The Actions considered in this PBO include terms and conditions to avoid and minimize impacts as outlined in Section 2 of this document. This includes the capture and relocation of boa found on AAs, and which are in harm’s way. Because the capture and relocation of boas is the result of an otherwise lawful action, such capture and relocation is considered incidental take, and no section 10a1A permit for such capture and relocation is required.

Through this statement, the Service exempts take from this Action as described and contemplated by this PBO from being considered prohibited take under section 9. Exception to the prohibitions against trapping, capturing, or collecting listed species.

For the exemption in ESA §7(o)(2) to apply to the Action considered in this PBO, the Federal Agency and the Recipient must undertake the non-discretionary Reasonable and Prudent Measure and their Terms and Conditions described below. These terms and conditions must become binding conditions of any permit, contract, or grant issued for implementing the Action. Consistent with ESA section 7(b)(4)(C)(iv), the Federal Agency and the Recipient has a continuing duty to regulate the Action activities covered by this ITS. The Federal Agency is responsible for the Action activities covered by this ITS that are under its control and are not under their jurisdiction. The protective coverage of §7(o)(2) may lapse if the Federal Agency and the Recipient fails to:

- assume and implement the terms and conditions; or
- require a permittee, contractor, or grantee to adhere to the terms and conditions of the ITS through enforceable terms that are added to the permit, contract, or grant document.

In order to monitor the impact of incidental take, the Federal Agency and the Recipient must report the progress of the Action and its impact on the species to the Service as specified in this ITS.



## 6.1. Amount or Extent of Take

This section specifies the amount or extent of take of listed wildlife species that the Action is reasonably certain to cause. Based on the Effects of the Action analysis above, the Service anticipates that take in the form of capture and relocation of boas is likely to occur as a result of the proposed Actions.

For PR boa, we estimate that as many as 20 individuals may be relocated per year. We reached this number based on the total number of boas that were encountered (dead and alive) during the island-wide debris management project after Hurricane María (Service 2021). This is the maximum number of PR boas ever encountered for one island-wide project. Due to species cryptic nature and island-wide distribution we expect that no more than 20 PR boas will be encountered per year for all projects.

For VI boa, we estimate that 5 VI boa individuals may be relocated per year. This number is based on a previous Biological Opinion (Service 2020). We have no information of this species ever been encountered in previous projects where section 7 consultations have been conducted. Due to species limited distribution, and small population size we expect that no more than 5 VI boas will be encountered per year for all projects.

Table 6-1 identifies the species, life stage(s), estimated number of individuals, and the section of the PBO that contains the supporting analysis. We describe procedures for monitoring take that occurs during Actions' implementation for the PR and VI boa in section 6-4.

As shown in Table (6-1), the Service exempts take in the form of capture and relocation of 20 PR boa individuals and 5 VI boa individuals, only if it aims to remove the individuals from harm's way during projects implementation.

**Table 6-1.** Estimates of the amount of take (# of individuals) caused by the Actions by species, life stage, and form of take, collated from the cited BO effects analyses.

Common Name	Life Stage	# Of Individuals	Form of Take	BO Effects Analysis Section
PR boa	Adult or juvenile	20	Capture or Release	No Jeopardy
VI boa	Adult or juvenile	5	Capture or Release	No Jeopardy

## 6.2. Effect of take

In the accompanying biological opinion, population models for PR boa suggest a population density ranging from 1 to 6 individuals per hectare for the entire island of Puerto Rico (Service 2021). With regards to VI boa, population estimates are uncertain. However, the species is distributed throughout 6 islands in Puerto Rico and USVI, and at Virgin Gorda in British Virgin Islands. Several intents of population estimate have been made for the VI boa throughout its

range. In 1991, a conservative estimate of 300-400 VI boas in St. Thomas was suggested, all within rapidly dwindling habitat (Tolson 1991). In 2009, the abundance of the species within its range in U.S. jurisdiction was estimated to be approximately 1,300 - 1,500 individuals (Service 2009). A more recent estimate of fewer than 100 VI boas in St. Thomas was made using genetic analysis (Reynolds et al. 2015). However, these population estimates are sporadic, limited, and uncertain.

Both species have demonstrated to be resilient to stochastic events and based on their current known distribution and estimated population numbers, the Service determined that the level of expected take is not likely to result in jeopardy of either species.

### **6.3. Reasonable and Prudent Measures**

The Service believes the reasonable and prudent measures (RPMs) described in this section for PR and VI boas are necessary or appropriate to minimize the impacts, (*i.e.*, the amount or extent) of incidental take caused by the Actions.

**RPM 1.** The Service requires the Federal Agency and Recipient to ensure projects are conducted and operated as designed, planned, documented, and reported.

**RPM 2.** The Service requires the Federal Agency and Recipient to strictly follow Terms and Conditions below while capturing, handling, transporting, temporary holding, and relocating PR and VI boas in order to minimize the risk of injury and mortality to the species.

### **6.4. Terms and Conditions**

In order for the exemption from the take prohibitions of §9(a)(1) and of regulations issued under §4(d) of the ESA to apply to the Action, the Federal Agency and the Recipient must comply with the terms and conditions (T&Cs) of this statement, provided below, which carry out the RPMs described in the previous section. These T&Cs are mandatory. As necessary and appropriate to fulfill this responsibility, the Federal Agencies must require any permittee, contractor and recipient to implement these T&Cs through enforceable terms that the Federal Agency include in the permit, contract, or grant document.

**T&C 1 (RPM 1). The Service and the Federal Agency will ensure take levels do not exceed levels anticipated in this PBO.**

1. Inform all project personnel about the potential presence of the PR and VI boa in areas where the proposed work will be conducted and provide training session on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. An educational poster or sign with photo or illustration of these species will be displayed at the project site.
2. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project area and areas to be excluded and protected will be clearly

marked in the project plan and in the field in order to avoid further habitat degradation outside of the AA.

3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the AA. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6).
4. For VI boas, once the area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6).
5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, the time and date of the relocation, and comments on how the animal was detected and its behavior.
6. If any PR or VI boa (dead or alive) is found within the AA and on harm's way, the action will stop at that area and information recorded (see #5). If a PR or VI boa is located within harm's way, all attempts will be made to immediately safely capture the animal (refer to T&C 2). PR boas will be safely captured and relocated at least 1km within suitable habitat (forested) and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained and designated personnel and will not harm or injure the captured boa. If any VI boa is found, do not relocate. Capture and temporary hold the individual accordingly (refer to T&C 2). Contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers immediately if in Puerto Rico (787-724-5700, 787-230-5550, 787-771-1124) or contact the USVI Department of Planning and Natural Resources (DPNR), Division of Wildlife, immediately if in St. Thomas (340-775-6762, 340-773-1082). The Action may continue at other work sites within the AA where no PR and VI boas have been found. If immediate relocation of PR boa by the project biologist or designated personnel is not an option, project related activities at this area will stop until the boa moves out of harm's way on its own or call the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (787-724-5700, 787-230-5550, 787-771-1124). The potential use of the PRDNER staff for these purposes should be coordinated with them at least 30 days before the project starts. If a PR boa is captured by the PRDNER, record the name of the PRDNER staff and information on where the PR boa will be relocated.

7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the AA. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly (refer to T&C 2). If not possible, the animal will be left alone until it leaves the vehicle or machine by itself.
8. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas farthest away from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area.
9. In the event a PR boa and VI boa is found dead within the project footprint, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal.
10. Should the forms of take reach the amount of exempted take (Table 6-1) during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours in order to reinitiate consultation. The Service and the Federal Agency and the Recipient will re-consult to determine whether authorized activities should continue as proposed and whether modifications or stipulations are warranted.
11. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours in order to reinitiate consultation. The Service and the Federal Agency and the Recipient will re-consult to determine whether authorized activities should continue as proposed and whether modifications or stipulations are warranted.
12. The contact information for the Service must be followed: Fish and Wildlife Biologist: Jan P. Zegarra at [jan\\_zegarra@fws.gov](mailto:jan_zegarra@fws.gov), 786-933-1451; Endangered Species Program Coordinator: Jose Cruz at [Jose\\_Cruz-Burgos@fws.gov](mailto:Jose_Cruz-Burgos@fws.gov), 305-304-1386. All reporting must be submitted at [caribbean\\_es@fws.gov](mailto:caribbean_es@fws.gov).

**T&C 2 (RPM 2). The Service requires the Federal Agency to follow standard procedures while capturing, handling, transporting, temporary holding, relocating and tracking VI boas in order to minimize the risk of injury and mortality to the species.**

- A. The Federal Agency and the Recipient shall identify who will capture PR or VI boas and assess and determine if a boa has been injured as a result of project activities, and if it is in need of veterinary care or rehabilitation. If an injured PR boa or VI boa is in need of veterinary care or rehabilitation, the Federal Agency and the Recipient

shall immediately seek veterinary care for the animal and inform the Service within 24 hours of the event.

- B. The Federal Agency must ensure that any permitted individuals, contractor, recipients or cooperators follow proper procedures and methods for capturing, handling, temporary holding, relocating of the PR and VI boa. The following procedures will be followed:
- i. All PR and VI boas shall be handled safely to avoid injury. The preferred method of capture is by hand, although a snake hook or stick may also be used if snake is uncatchable by hand, or in order to help move the snake into a safer position for capture.
  - ii. All PR and VI boas may be temporarily held during and/or relocation purposes. Boas will be handled as little as possible, and they shall not be kept for more than three days since the day of capture. Temporary holding of boas will be in burlap bags (1 boa per bag) and/or secured containers, which must be placed in cool dry areas that are not in direct sunlight or extreme temperatures. Burlap bags shall be placed inside a container with other boas each inside their own burlap bag and labeled properly. All containers shall be well-ventilated and with a secure lid to avoid boas from escaping.
  - iii. Only qualified, experienced personnel, with a required State and Federal applicable permits may place PIT tag injections. PIT tags may be subcutaneously injected mid-body using sterile syringes. When injecting tags, keep needle parallel to the boa's body and do not force the needle into the muscle tissue or between the ribs. Snakes greater than 400 mm (15.7 in) in length, but that weigh less than 100 grams (3.5 oz), may be PIT tagged with a 5 mm (0.19 in.) PIT tag. An 8 mm (0.31 in) PIT tag may be used for all snakes that weigh over 100 grams (3.5 oz).
  - iv. The Federal Agency and the Recipient and/or contractors shall obtain all necessary permit(s) from the corresponding State agency for capturing, handling, transporting, temporary keeping, relocating and tracking PR and VI boas.

## **6.5. Monitoring and Reporting Requirements**

In order to monitor the impacts of incidental take, the Federal Agency and the Recipient must report the progress of the Action and its impact on the species to the Service as stated in the ITS section above (50 CFR §402.14(i)(3)). This section provides the specific instructions for such monitoring and reporting (M&R), including procedures for handling and disposing of any PR and VI boas killed or injured. These M&R requirements are mandatory.

As necessary and appropriate to fulfill this responsibility, the Action Agency must require any permittee, contractor, or grantee to accomplish the M&R through enforceable terms that the Action Agencies include in the permit, contract, or grant document. Such enforceable terms must include a requirement to immediately notify the Service if the amount or extent of incidental take specified in this ITS is exceeded during Actions' implementation.



### **6.5.1. PR and VI Boa**

#### **M&R 1. The Federal Agency and the Recipient will ensure that incidental take levels will be minimal.**

- A. For all PR and VI boa sightings (dead or alive), the Action Agency shall ensure that an effective monitoring and reporting method is established. Reporting shall include the following and should injury or mortality occurred during the Action, the Federal Agency and the Recipient shall contact the Service within 24 hours of the event:
  - i. Date, time and location (latitude/longitude) of the sightings and relocation sites.
  - ii. Size, weight and sex (if possible) of the PR and VI boa.
  - iii. A photograph of the snake as found or after capture.
  - iv. Description of how and what caused the take in the case of injury or death.
  - v. Description of any additional conservation measures that may be implemented to further avoid and minimize take.

#### **M&R 2. Disposition of Dead or Injured boas**

- A. Disposition of dead animals must be immediately coordinated with the Service for appropriate disposal of the animal.
- B. The Service may request some dead specimens of PR boa and all for VI boa. The Federal Agency and the Recipient shall coordinate the delivery of such specimen to the Service.
- C. In case of an injured boa, the Federal Agency and the Recipient must seek veterinary care for the animal and inform the Service within 24 hours of the event.

## **7. CONSERVATION RECOMMENDATIONS**

§7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by conducting conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary activities that an action agency may undertake to avoid or minimize the adverse effects of a proposed action, implement recovery plans, or develop information that is useful for the conservation of listed species.

We have not identified actions the Service could take, on a programmatic basis, to address Section 7(a)(I) that are not part of its normally mandated mission. However, previous consultations have incorporated conservation measures for both PR and VI boa. Those conservation measures could be implemented during the actions covered by this PBO. This will be decided on a project-by-project basis by the action agency and the FWS when the FWS is reviewing a project for coverage under this PBO.

## **8. REINITIATION NOTICE**

Formal consultation for the Action considered in this BO is concluded. Reinitiating consultation is required if the Federal Agency and the Recipient retains discretionary involvement or control over the Action (or is authorized by law) when:

- a. the amount or extent of incidental take is exceeded;
- b. new information reveals that the Action may affect listed species or designated critical

- habitat in a manner or to an extent not considered in this PBO;
- c. the Action is modified in a manner that causes effects to listed species or designated critical habitat not considered in this PBO; or
  - d. a new species is listed or critical habitat designated that the Action may affect.

In instances where the amount or extent of incidental take is exceeded, the Action Agency is required to immediately request reinitiating the formal consultation.

## 9. LITERATURE CITED

- Barandiaran, M. 2014. Puerto Rican boa report. Email dated February 20, 2014. Service, Caribbean Ecological Services Field Office. 2 p.
- Huff, T. A. 1978. Breeding the Puerto Rican boa at the Reptile Breeding Foundation. *International Zoo Yearbook* 16:81–82.
- Joglar, R.L. 2005. Reptiles, p. 99 – 190. In: Joglar, R.L. (Ed.) *Biodiversidad de Puerto Rico: Vertebrados Terrestres y Ecosistemas*. Serie de Historia Natural. Editorial Instituto de Cultura Puertorriqueña, San Juan, P.R. 563 p.
- Mulero-Oliveras, E. S. 2019. Population and habitat utilization of the Puerto Rican boa (*Chilabothrus inornatus*) in an urban fragmented habitat. University of Puerto Rico.
- Puente-Rolón, A.R. 2012. Reproductive ecology, fitness, and management of the Puerto Rican Boa (*Epicrates inornatus*, Boidae). P.h.D. thesis. University of Puerto Rico, Río Piedras, PR. 151 p.
- Reynolds, R.G., D.C. Collar, S.A. Pasachnik, M.L. Niemiller, A.R. Puente-Rolón, and L.J. Revell. 2016. Ecological specialization and morphological diversification in Greater Antillean boas. *Evolution* 70: 1882-1895.  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/evo.12987>
- Reynolds, R.G. and A.R. Puente-Rolón. 2014. Conservation Genetics of the Puerto Rican boa (*Chilabothrus inornatus*). Final Report, Cooperative Agreement #F12AP01103. Service, Caribbean Ecological Services Field Office, Boquerón, PR. 18 p.
- Reynolds R.G. and R.W. Henderson. 2018. Boas of the World (Superfamily Booidae): A Checklist with Systematic, Taxonomic, and Conservation Assessments. *Bulletin of the Museum of Comparative Zoology* 162 (1). 1-58. <https://doi.org/10.3099/MCZ48.1>
- Ríos-López, N. and T.M. Aide. 2007. Herpetofaunal dynamics during secondary succession. *Herpetologica* 63(1): 35-50.
- Rivero, J.A. 1998. Los anfibios y reptiles de Puerto Rico. University of Puerto Rico Press, Río Piedras, Puerto Rico. 510 pp.

- Tolson, P. 1989. Breeding the Virgin Islands boa (*Epicrates monensis granti*) at the Toledo Zoological Gardens. *International Zoo Yearbook* 28:163-167.
- Tolson, P. J. 1991. *Epicrates* (West Indian Boa) reproductive longevity. *Herpetological Review* 22:100.
- Tolson, P.J. 1994. The reproductive management of the insular species of *Epicrates* (Serpentes: Boidae) in captivity, p. 353-357. In J.B. Murphy, K. Adler, and J.T. Collins (eds.). *Captive Management and Conservation of Amphibians and Reptiles*. Society for the Study of Amphibians and Reptiles, Ithaca, New York. *Contributions to Herpetology*, Vol. 11.
- Tolson, P.J. 1997. Population Census and Habitat Assessment for the Puerto Rican boa, *Epicrates inornatus*, at the U.S. Naval Security Group Activity, Sabana Seca, Puerto Rico. Final Report submitted to the DNER. San Juan, PR. 11 p.
- Tolson, P.J. and R.W. Henderson. 1993. The natural history of West Indian boas. R. & A. Publ. Limited. 125 p.
- Tucker, A. M., C.P. McGowan, E.S. Mulero Oliveras, N. F. Angeli and J. P. Zegarra. 2020. A demographic projection model to support conservation decision making for an endangered snake with limited monitoring data. *Animal Conservation* 24 (2), 291-301
- U.S. Fish and Wildlife Service (Service). 2009. Virgin Islands tree boa (*Epicrates monensis granti*) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Boquerón, Puerto Rico. 25 pp.
- U.S. Fish and Wildlife Service (Service). 2018. Virgin Islands Tree Boa (*Chilabothrus granti*) Species Status Assessment. Atlanta, GA. Version 1.0. 62 pp.
- U.S. Fish and Wildlife Service (Service). 2021. Puerto Rican Boa (*Chilabothrus inornatus*) Species Status Assessment. Atlanta, GA. Version 1.2 67 pp.
- U.S. Fish and Wildlife Service (Service). 2020. Biological Opinion: Housing and Urban Development and VI Housing Authority, Construction of 84 Housing Units, Estate Donoe, St. Thomas, USVI. 17pp.

## **APPENDIX E**

### **USFWS Consistency Letter**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Caribbean Ecological Services Field Office  
Post Office Box 491  
Boqueron, PR 00622-0491  
Phone: (787) 834-1600 Fax: (787) 851-7440  
Email Address: [CARIBBEAN\\_ES@FWS.GOV](mailto:CARIBBEAN_ES@FWS.GOV)

In Reply Refer To:  
Project code: 2024-0030295  
Project Name: PR-RGRW-04147

December 27, 2023

Subject: Consistency letter for the project named 'PR-RGRW-04147' for specified threatened and endangered species, that may occur in your proposed project location, pursuant to the IPaC determination key titled Caribbean Determination Key (DKey).

Dear Applicant:

Thank you for using the assisted evaluation keys in IPaC. This letter is provided pursuant to the Service's authority under the Endangered Species Act of 1973, as amended (ESA) (87 Stat. 884; 16 U.S.C. 1531et seq.). On December 27, 2023, Kaitie Wilms used the Caribbean DKey; dated October 12, 2023, in the U.S. Fish and Wildlife Service's online [IPaC application](#) to evaluate potential impacts to federally listed species, from a project named 'PR-RGRW-04147'. The project is located in Morovis and Vega Alta counties, Puerto Rico (shown below).

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.34343075,-66.37478050245508,14z>



The following description was provided for the project 'PR-RGRW-04147':



Installation of new greenhouses, cisterns, fences, a generator and a storage structure.

Based on your answers and the assistance of the Service's Caribbean DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Puerto Rican Boa ( <i>Chilabothrus inornatus</i> )	Endangered	NLAA

**Consultation with the Service is not complete.** The above effect determination(s) becomes applicable when the lead federal action agency or designated non-federal representative submits them as a request to the Service to rely on the Caribbean DKey in order to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead federal action agency or its designated non-federal representative with a request for its review, and as the agency deems appropriate, to submit for concurrence verification through the IPaC system. The lead federal action agency or designated non-federal representative should log into IPaC using their agency email account and click "Search by record locator." They will need to enter the record locator **187-136318841**

**Note:** Projects located within the range of the Puerto Rican boa or the Virgin Islands tree boa might encounter these species during project activities. **This letter does not provide take to handle or move these species.** If relocation of the species is needed, please contact either the Puerto Rico Department of Natural Resources (DNER) at 787-724-5700, 787-230-5550, or 787-771-1124 for projects in Puerto Rico, or the Virgin Islands Department of Planning and Natural Resources, Division of Fish and Wildlife (DFW) at 340-775-6762 for projects in the Virgin Islands. Otherwise, contact the Caribbean Ecological Services Field Office (caribbean\_es@fws.gov) to determine whether the consultation needs to be reinitiated.

If the proposed project is located within species range where a DKey has not been developed for those species, please follow the established guidance for initiating section 7 consultation Caribbean Ecological Services Field Office.

We appreciate your interest in protecting endangered species and their habitats. It is the Service's mission to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of our people. If you have any questions or require additional information, please contact our office at Caribbean\_es@fws.gov.

**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

PR-RGRW-04147

**2. Description**

The following description was provided for the project 'PR-RGRW-04147':

Installation of new greenhouses, cisterns, fences, a generator and a storage structure.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.34343075,-66.37478050245508,14z>



## QUALIFICATION INTERVIEW

1. Is the proposed project an EPA Multi-Sector General Permit (MSGP) renewal for an existing project? ([MSGP Fact Sheet](#))

No

2. Is the proposed project within an urban developed area? (i.e., cities, downtowns, shopping malls etc.)

**Note:** Urban and developed areas has one or more of the following characteristics: Presence of existing buildings, residential areas, and commercial establishments. Well-established infrastructure including roads, utilities, and urban facilities. High population density. Established neighborhoods and urban amenities ("urbanizaciones"). Developed landscape with paved surfaces, parking lots, and industrial areas. Signs of human activity and urbanization, such as shopping centers and recreational facilities. Location within the boundaries of a city or town ("casco urbano"). High concentration of built-up structures and limited open spaces. Aerial imagery might be requested to the applicant. .

No

3. Does the proposed project consist of rehabilitation or demolition of existing single-family homes and buildings?

No

4. Does the proposed project consist of improvements to existing facilities?

**Note:** Examples of facilities are occupied single family homes, and buildings; existing recreational facilities, including the installation of roofs to existing basketball courts, etc.

No

5. Does the proposed project consist of repavement or repair of existing roads and installing transit signage or guardrails?

No

6. Does the proposed project consist of the construction of gutters and/or sidewalks along existing roads, and developments?

No

7. Does the proposed project consist of replacement or repair of existing bridges which include cutting vegetation or earth movement?

No

8. Does the proposed project consist of activities within existing Right of Ways (ROWs) along roads which include cutting vegetation or earth movement?

No

9. Is the proposed project located within a rural area covered by grassland (pasture lands "pastos")?

No

10. Is the proposed project adjacent or within a forested area?

**Note:** Examples of immediately adjacent to forested areas are rock walls and haystack hills (“mogotes”), wet montane forest, lowland wet forest, remnant coastal, mangrove forest, damp and dry limestone karst forests, pastureland with patches of exotic trees.

Yes

11. Is the project area more than 1 acre?

Yes

12. Is the proposed project an existing facility or the expansion of an existing facility within the footprint of the already developed area?

Yes

13. [Hidden Semantic] Does the proposed project intersect the Puerto Rican boa area of influence?

**Automatically answered**

Yes

14. Will the proposed project implement the U.S. Fish and Wildlife [Puerto Rican boa Conservation Measures](#)?

Yes

## **IPAC USER CONTACT INFORMATION**

Agency: SWCA

Name: Kaitie Wilms

Address: 911 Hammond Drive

City: North Augusta

State: SC

Zip: 29841

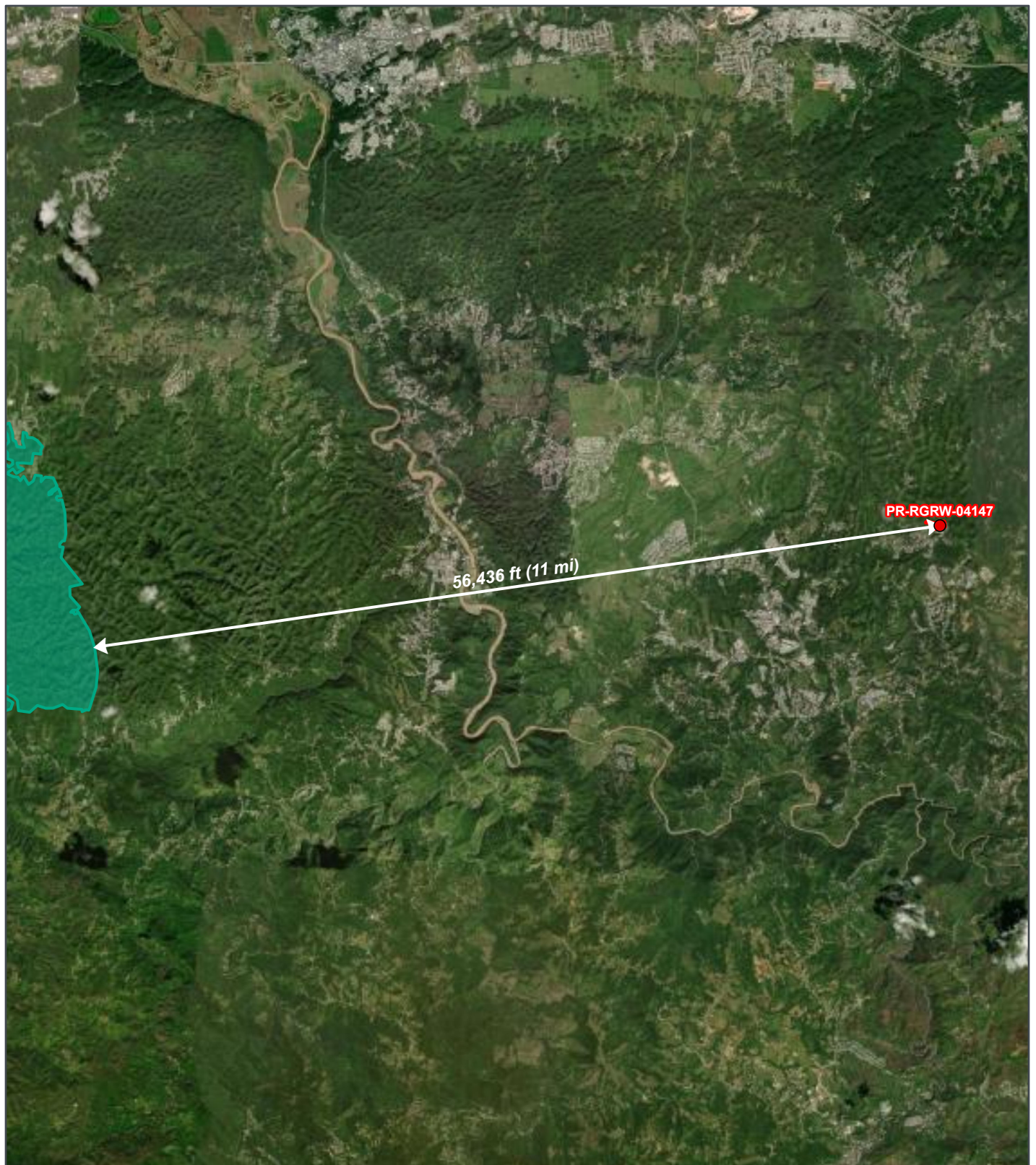
Email: kaitie.wilms@swca.com

Phone: 8436930711

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Department of Housing and Urban Development





REGROW PROGRAM

# **Figure B 7-1: Critical Habitat Map**

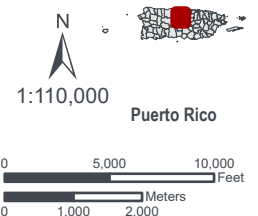
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Buffer (100-ft)
- Critical Habitat - Final
- National Wildlife Refuges

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.455176°W 18.332589°N

Data Source: [https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS\\_Critical\\_Habitat/Base\\_Map/ESRI/ArcGIS/Online](https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS_Critical_Habitat/Base_Map/ESRI/ArcGIS/Online),  
accessed November 2023  
Updated: 11/17/2023  
Layout: Critical Habitat  
Aprx: 72428\_ReGrowTier2Maps



**Attachment 8**

**Explosive and Flammable Hazards Partner**

**Worksheet**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

**Explosive and Flammable Hazards (CEST and EA) – PARTNER**

<https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities>

- 1. Does the proposed HUD-assisted project include a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?**

☒ No

→ Continue to Question 2.

☐ Yes

**Explain:**

[Click here to enter text.](#)

→ Continue to Question 5.

- 2. Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?**

☒ No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.

☐ Yes → Continue to Question 3.

- 3. Within 1 mile of the project site, are there any current *or planned* stationary aboveground storage containers:**

- Of more than 100-gallon capacity, containing common liquid industrial fuels OR
- Of any capacity, containing hazardous liquids or gases that are not common liquid industrial fuels?

☐ No → If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide all documents used to make your determination.

☐ Yes → Continue to Question 4.

- 4. Is the Separation Distance from the project acceptable based on standards in the Regulation?**

Please visit HUD’s website for information on calculating Acceptable Separation Distance.

☐ Yes

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.

*Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the “assessed tank.”*

☐ No

→ Continue to Question 6.

*Provide map(s) showing the location of the project site relative to any tanks and your separation distance calculations. If the map identifies more than one tank, please identify the tank you have chosen as the “assessed tank.”*

**5. Is the hazardous facility located at an acceptable separation distance from residences and any other facility or area where people may congregate or be present?**

Please visit HUD’s website for information on calculating Acceptable Separation Distance.

☐ Yes

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.

*Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.*

☐ No

→ Continue to Question 6.

*Provide map(s) showing the location of the project site relative to residences and any other facility or area where people congregate or are present and your separation distance calculations.*

**6. For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to make the Separation Distance acceptable, including the timeline for implementation. If negative effects cannot be mitigated, cancel the project at this location.**

Note that only licensed professional engineers should design and implement blast barriers. If a barrier will be used or the project will be modified to compensate for an unacceptable separation distance, provide approval from a licensed professional engineer.

[Click here to enter text.](#)

**Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The project includes the purchase of an irrigation system, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The project itself is not the development of a hazardous facility

nor will the project increase residential densities. No further evaluation is required. The project is in compliance with explosive and flammable hazard requirements.



**Attachment 9**

**Farmlands Protection Partner Worksheet  
and Prime Farmland Map**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Farmlands Protection (CEST and EA) - PARTNER

<https://www.hudexchange.info/environmental-review/farmlands-protection>

**1. Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?**

☐ Yes → *Continue to Question 2.*

☒ No

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

**2. Does “important farmland,” including prime farmland, unique farmland, or farmland of statewide or local importance regulated under the Farmland Protection Policy Act, occur on the project site?**

You may use the links below to determine important farmland occurs on the project site:

- Utilize USDA Natural Resources Conservation Service’s (NRCS) Web Soil Survey <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- Check with your city or county’s planning department and ask them to document if the project is on land regulated by the FPPA (zoning important farmland as non-agricultural does not exempt it from FPPA requirements)
- Contact NRCS at the local USDA service center <http://offices.sc.egov.usda.gov/locator/app?agency=nrcs> or your NRCS state soil scientist [http://soils.usda.gov/contact/state\\_offices/](http://soils.usda.gov/contact/state_offices/) for assistance

☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

☐ Yes → *Continue to Question 3.*

**3. Consider alternatives to completing the project on important farmland and means of avoiding impacts to important farmland.**

- Complete form [AD-1006, “Farmland Conversion Impact Rating”](#) and contact the state soil scientist before sending it to the local NRCS District Conservationist.
- Work with NRCS to minimize the impact of the project on the protected farmland. When you have finished with your analysis, return a copy of form AD-1006 to the USDA-NRCS State Soil Scientist or his/her designee informing them of your determination.

**Work with the RE/HUD to determine how the project will proceed. Document the conclusion:**

☐ Project will proceed with mitigation.

**Explain in detail the proposed measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation.**

[Click here to enter text.](#)

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide form AD-1006 and all other documents used to make your determination.*

☐ Project will proceed without mitigation.

**Explain why mitigation will not be made here:**

[Click here to enter text.](#)

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide form AD-1006 and all other documents used to make your determination.*

### **Worksheet Summary**

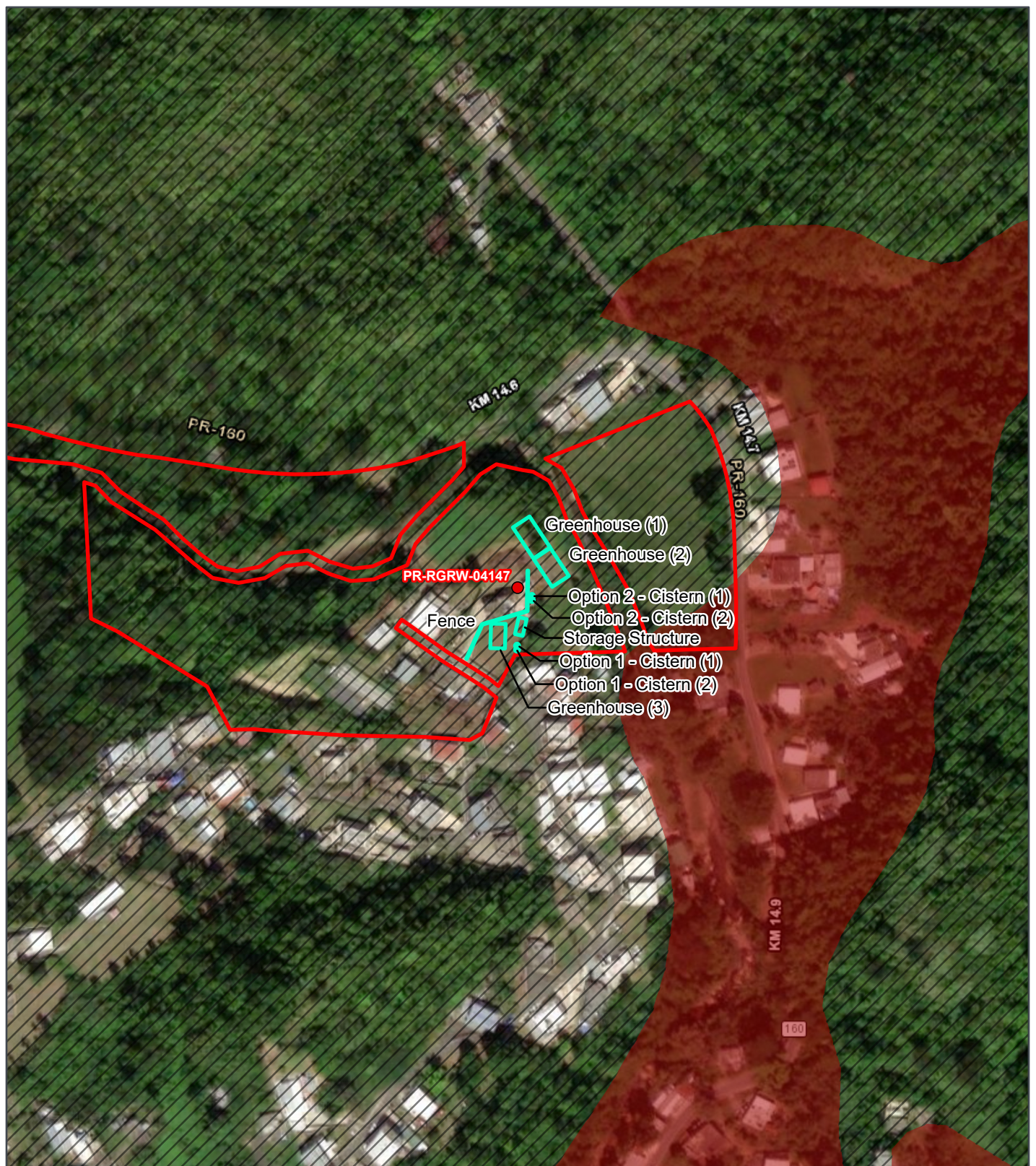
Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

### **Include all documentation supporting your findings in your submission to HUD.**

This project does not include any activities that could potentially convert agricultural land to non-agricultural use. Per the USGS/NRCS Web Soil Survey, the project area crosses three mapped soil series: CmF2 (Colina cobbly clay loam, 20 to 60 percent slopes, eroded); MoD2 (Moca clay, 12 to 20 percent slopes, eroded); and SrF (Soller-Rock outcrop complex, 5 to 60 percent slopes). No prime farmland or farmlands of statewide importance are within the project area. Although the project includes new construction, the project is exempt from review under the Farmland Protection Policy Act (FFPA) as the project is limited to construction of on-farm structures needed for farm operations. No further review is required. The project is in compliance with the Farmland Protection Policy Act.





REGROW PROGRAM

## Figure B 9-1: Prime Farmland Map

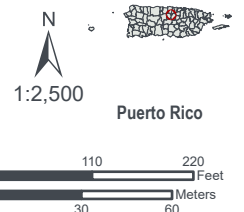
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- All areas are prime farmland
- Farmland of statewide importance
- Farmland of statewide importance, if irrigated
- Prime farmland if drained
- Prime farmland if irrigated
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Not prime farmland
- Not Public Information

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: <https://websoilsurvey.nrcs.usda.gov/app/>  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Prime Farmland  
Aprx: 72428\_ReGrowTier2Maps



## **Attachment 10**

# **Floodplain Management Partner Worksheet and Advisory Base Flood Elevation Map**





U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

**Floodplain Management (CEST and EA)**

General Requirements	Legislation	Regulation
Executive Order 11988, Floodplain Management, requires Federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable.	Executive Order 11988 Executive Order 13690 42 USC <u>4001-4128</u> 42 USC 5154a	24 CFR 55
<b>Reference</b>		
<a href="https://www.hudexchange.info/environmental-review/floodplain-management">https://www.hudexchange.info/environmental-review/floodplain-management</a>		

1. Does this project meet an exemption at [24 CFR 55.12](#) from compliance with HUD’s floodplain management regulations in Part 55 or utilize the delayed compliance date for certain Office of Housing programs?

☐ Yes

Select the applicable citation at [24 CFR 55.12](#) and provide supporting documentation for the determination if applicable.

- a) ☐ HUD-assisted activities described in 24 CFR 58.34 and 58.35(b)
- b) ☐ HUD-assisted activities described in 24 CFR 50.19, except as otherwise indicated in § 50.19
- c) ☐ The approval of financial assistance for restoring and preserving the natural and beneficial functions and values of floodplains and wetlands, including through acquisition of such floodplain and wetland property, where a permanent covenant or comparable restriction is place on the property’s continued use for flood control, wetland projection, open space, or park land, but only if:
- (1) The property is cleared of all existing buildings and walled structures; and
  - (2) The property is cleared of related improvements except those which:
    - (i) Are directly related to flood control, wetland protection, open space, or park land (including playgrounds and recreation areas);
    - (ii) Do not modify existing wetland areas or involve fill, paving, or other ground disturbance beyond minimal trails or paths; and
    - (iii) Are designed to be compatible with the beneficial floodplain or wetland function of the property.

- d) ☐ An action involving a repossession, receivership, foreclosure, or similar acquisition of property to protect or enforce HUD's financial interests under previously approved loans, grants, mortgage insurance, or other HUD assistance
- e) ☐ Policy-level actions described at 24 CFR 50.16 that do not involve site-based decisions
- f) ☐ A minor amendment to a previously approved action with no additional adverse impact on or from a floodplain or wetland;
- g) ☐ HUD's or the responsible entity's approval of a project site, an incidental portion of which is situated in the FFRMS floodplain (not including the floodway, LiMWA, or coastal high hazard area) but only if:
  - (1) The proposed project site does not include any existing or proposed buildings or improvements that modify or occupy the FFRMS floodplain except de minimis improvements such as recreation areas and trails; and
  - (2) the proposed project will not result in any new construction in or modifications of a wetland
- h) ☐ Issuance or use of Housing Vouchers or other forms of rental subsidy where HUD, the awarding community, or the public housing agency that administers the contract awards rental subsidies that are not project-based (i.e., do not involve site-specific subsidies)
- i) ☐ Special projects directed to the removal of material and architectural barriers that restrict the mobility of and accessibility to elderly and persons with disabilities.

Exemptions do not apply due to the project activities being the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, storage and farming equipment, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.

*Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

☐ Yes. Office of Housing programs utilizing the January 1, 2025 compliance date. These reviews must comply with the 2013 version of the Part 55 regulations. Continue to Worksheet Summary for 2013 version to upload supporting documentation.

☒ No. Continue to Question 2.

## 2. Does the project include a Critical Action?

☐ Yes. Describe the Critical Action. Examples of Critical Actions include projects involving hospitals, fire and police stations, nursing homes, hazardous chemical storage, storage of valuable records, and utility plants. Continue to Question 4.

No, the project is not a Critical Action as defined in 24 CFR 55.2(b)(3)

☒ No. Continue to Question 3.

**3. Determine the extent of the FFRMS floodplain and provide mapping documentation in support of that determination.**

The extent of the FFRMS floodplain can be determined using a Climate Informed Science Approach (CISA), 0.2 percent flood approach (0.2 PFA), or freeboard value approach (FVA). For projects in areas without available CISA data or without FEMA Flood Insurance Rate Maps (FIRMs), Flood Insurance Studies (FISs) or Advisory Base Flood Elevations (ABFEs), use the best available information to determine flood elevation. Include documentation and an explanation of why this is the best available information for the site. Note that newly constructed and substantially improved structures must be elevated to the FFRMS floodplain regardless of the approach chosen to determine the floodplain.

***Select one of the following three options:***

☐ CISA for non-critical actions. If using a local tool, data, or resources, ensure that the FFRMS elevation is higher than would have been determined using the 0.2 PFA or the FVA.

☒ 0.2-PFA. Where FEMA has defined the 0.2-percent-annual-chance floodplain, the FFRMS floodplain is the area that FEMA has designated as within the 0.2-percent-annual-chance floodplain.

☐ FVA. If neither CISA nor 0.2-PFA is available, for non-critical actions, the FFRMS floodplain is the area that results from adding two feet to the base flood elevation as established by the effective FIRM or FIS or—if available—a FEMA-provided preliminary or pending FIRM or FIS or advisory base flood elevations, whether regulatory or informational in nature. However, an interim or preliminary FEMA map cannot be used if it is lower than the current FIRM or FIS.

**a. Does your project occur in the FFRMS floodplain?**

☐ Yes, continue to part b.

☒ No. Review for floodplain management is complete.

**b. Is your project located in any of the floodplain categories below? Select all that apply. If none apply, continue to question 7.**

☐ Floodway: *Continue to Question 5. Floodways.*

☐ Coastal High Hazard Area (V Zone) or Limit of Moderate Wave Action (LiMWA): *Continue to Question 6. Coastal High Hazard Areas and LiMWAs.*

**4. Determine the extent of the FFRMS floodplain and provide mapping documentation in support of that determination.**

The extent of the FFRMS floodplain can be determined using a Climate Informed Science Approach (CISA), or the higher of the 0.2 percent flood approach (0.2 PFA), or freeboard value approach (FVA). For projects in areas without available CISA data or without FEMA Flood Insurance Rate Maps (FIRMs), Flood Insurance Studies (FISs) or Advisory Base Flood Elevations (ABFEs), use the best available information to determine flood elevation. Note that newly constructed and substantially improved structures must be elevated to the FFRMS floodplain regardless of the approach chosen to determine the floodplain.

**Utilize CISA to determine the FFRMS floodplain for critical actions**

☐ CISA for Critical Actions. If using a local tool, ensure that the FFRMS elevation provided is higher than the 0.2 PFA or 3' above the base flood elevation.

**OR;**

**Choose the higher of 0.2 PFA or FVA elevations**

☐ 0.2-PFA. Where FEMA has defined the 0.2-percent-annual-chance floodplain, the FFRMS floodplain is the area that FEMA has designated as within the 0.2-percent-annual-chance floodplain.

☐ FVA. For critical actions, the FFRMS floodplain is the area that results from adding three feet to the base flood elevation as established by the effective FEMA FIRM or FIS or—if available—a FEMA-provided preliminary or pending FIRM or FIS or advisory base flood elevations, whether regulatory or informational in nature. However, an interim or preliminary FEMA map cannot be used if it is lower than the current FIRM or FIS.

**a. Does your project occur in the FFRMS floodplain?**

☐ Yes, continue to part b.

☐ No. Review for floodplain management is complete.

**b. Is your project located in any of the floodplain categories below? Select all that apply. If none apply, continue to question 7.**

☐ Floodway: *Continue to Question 5. Floodways.*

☐ Coastal High Hazard Area (V Zone) or LiMWA: *Continue to Question 6. Coastal High Hazard Areas and LiMWAs.*

**5. Floodways**

**Do the floodway exemptions at [55.8](#) or [55.21](#) apply?**

☐ Yes

The 8-Step Process is required. Document mitigation measures necessary to meet the requirements in 55.8 or 55.21. Provide a completed 8-Step Process, including the early public notice and the final notice.

*Continue to Question 7. 8-Step Process.*

☐ No

**Federal assistance may not be used at this location.** You must either choose an alternate site or cancel the project at this location.

**6. Coastal High Hazard Area (V Zone) and LiMWAs**

**Do the exemptions at [55.8](#) or [55.21](#) apply?**

☐ Yes

The 8-Step Process is required. Document mitigation measures necessary to meet the requirements in 55.8 or 55.21. Provide a completed 8-Step Process, including the early public notice and the final notice.

*Continue to Question 7. 8-Step Process.*

☐ No

Federal assistance may not be used at this location. You must either choose an alternate site or cancel the project at this location.

## 7. 8-Step Process.

**Does the 8-Step Process apply? Select one of the following options:**

☐ 8-Step Process is inapplicable per 55.13.

Select the applicable citation:

- ☐ (a) HUD's mortgage insurance actions and other financial assistance for the purchasing, mortgaging, or refinancing of existing one- to four-family properties in communities that are in the Regular Program of the NFIP and in good standing ( i.e., not suspended from program eligibility or placed on probation under 44 CFR 59.24), where the action is not a critical action and the property is not located in a floodway, coastal high hazard area, or LiMWA;
- ☐ (b) Financial assistance for minor repairs or improvements on one- to four-family properties that do not meet the thresholds for "substantial improvement" under § 55.2(b)(12);
- ☐ (c) HUD or a recipient's actions involving the disposition of individual HUD or recipient held, one- to four-family properties;
- ☐ (d) HUD guarantees under the Loan Guarantee Recovery Fund Program (24 CFR part 573), where any new construction or rehabilitation financed by the existing loan or mortgage has been completed prior to the filing of an application under the program, and the refinancing will not allow further construction or rehabilitation, nor result in any physical impacts or changes except for routine maintenance;
- ☐ (e) The approval of financial assistance to lease units within an existing structure located within the floodplain, but only if;
  - (1) The structure is located outside the floodway or coastal high hazard area, and is in a community that is in the Regular Program of the NFIP and in good standing ( i.e., not suspended from program eligibility or placed on probation under 44 CFR 59.24); and
  - (2) The project is not a critical action; and
  - (3) The entire structure is or will be fully insured or insured to the maximum extent available under the NFIP for at least the term of the lease.
- ☐ (f) Special projects for the purpose of improving efficiency of utilities or installing renewable energy that involve the repair, rehabilitation, modernization, weatherization, or improvement of existing structures or infrastructure, do not meet the thresholds for "substantial improvement" under § 55.2(b)(12), and do not include the installation of equipment below the FFRMS floodplain elevation.

*Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*



☐ 5-Step Process is applicable per 55.14.

Provide documentation of 5-Step Process.

Select the applicable citation:

- ☐ (a) HUD actions involving the disposition of HUD-acquired multifamily housing projects or “bulk sales” of HUD-acquired one- to four-family properties in communities that are in the Regular Program of the National Flood Insurance Program (NFIP) and in good standing (i.e., not suspended from program eligibility or placed on probation under 44 CFR 59.24).
- ☐ (b) HUD's actions under the National Housing Act (12 U.S.C. 1701) for the purchase or refinancing of existing multifamily housing projects, hospitals, nursing homes, assisted living facilities, board and care facilities, and intermediate care facilities, in communities that are in good standing under the NFIP.
- ☐ (c) HUD's or the recipient's actions under any HUD program involving the repair, rehabilitation, modernization, weatherization, or improvement of existing multifamily housing projects, hospitals, nursing homes, assisted living facilities, board and care facilities, intermediate care facilities, and one- to four-family properties, in communities that are in the Regular Program of the National Flood Insurance Program (NFIP) and are in good standing, provided that the number of units is not increased more than 20 percent, the action does not involve a conversion from nonresidential to residential land use, the action does not meet the thresholds for “substantial improvement” under § 55.2(b)(10), and the footprint of the structure and paved areas is not increased by more than 20 percent.
- ☐ (d) HUD's (or the recipient's) actions under any HUD program involving the repair, rehabilitation, modernization, weatherization, or improvement of existing nonresidential buildings and structures, in communities that are in the Regular Program of the NFIP and are in good standing, provided that the action does not meet the thresholds for “substantial improvement” under § 55.2(b)(10) and that the footprint of the structure and paved areas is not increased by more than 20 percent
- ☐ (e) HUD's or the recipient's actions under any HUD program involving the repair, rehabilitation, or replacement of existing nonstructural improvements including streets, curbs and gutters, where any increase of the total impervious surface area of the facility is de minimis. This provision does not include critical actions, levee systems, chemical storage facilities (including any tanks), wastewater facilities, or sewer lagoons.

*Continue to Question 8. Mitigation.*

☐ 8-Step Process applies.

Provide a completed 8-Step Process, including the early public notice and the final notice.

*Continue to Question 8. Mitigation.*

## **8. Mitigation**

**For the project to comply with this section, all adverse impacts must be mitigated. Explain in detail the measures that must be implemented to mitigate the impact or effect, including the timeline for implementation. Note: newly constructed and substantially improved structures within the FFRMS floodplain must be elevated to the FFRMS floodplain elevation or floodproofed, if applicable.**

N/A

**Which of the following if any mitigation/minimization measures have been identified for this project in the 8-Step or 5-Step Process? Select all that apply.**

- ☐ Buyout and demolition or other supported clearance of floodplain structures
- ☐ Insurance purchased in excess of statutory requirement under the Flood Disaster Protection Act of 1973
- ☐ Permeable surfaces
- ☐ Natural landscape enhancements that maintain or restore natural hydrology
- ☐ Planting or restoring native plant species
- ☐ Bioswales
- ☐ Stormwater capture and reuse
- ☐ Green or vegetative roofs with drainage provisions
- ☐ Natural Resources Conservation Service conservation easements or similar easements
- ☐ Floodproofing of structures as allowable (e.g. non-residential floors)
- ☐ Elevating structures (including freeboard above the required base flood elevations)
- ☐ Levee or structural protection from flooding
- ☐ Channelizing or redefining the floodway or floodplain through a Letter of Map Revision (LOMR)

*Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

### **Worksheet Summary**

#### **Compliance Determination**

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- FIRM panel numbers
- CISA data or maps
- Information on other data or tools used or accessed
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

**Include all documentation supporting your findings in your submission to HUD**

See below.

**Worksheet Summary for 2013 Version**  
**Compliance Determination**

Attach 'Floodplain Management Partner Worksheet' (OMB No. 2506-0177), FIRM map indicating project location, and summary of 8-step or 5-step decision making process if applicable.

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

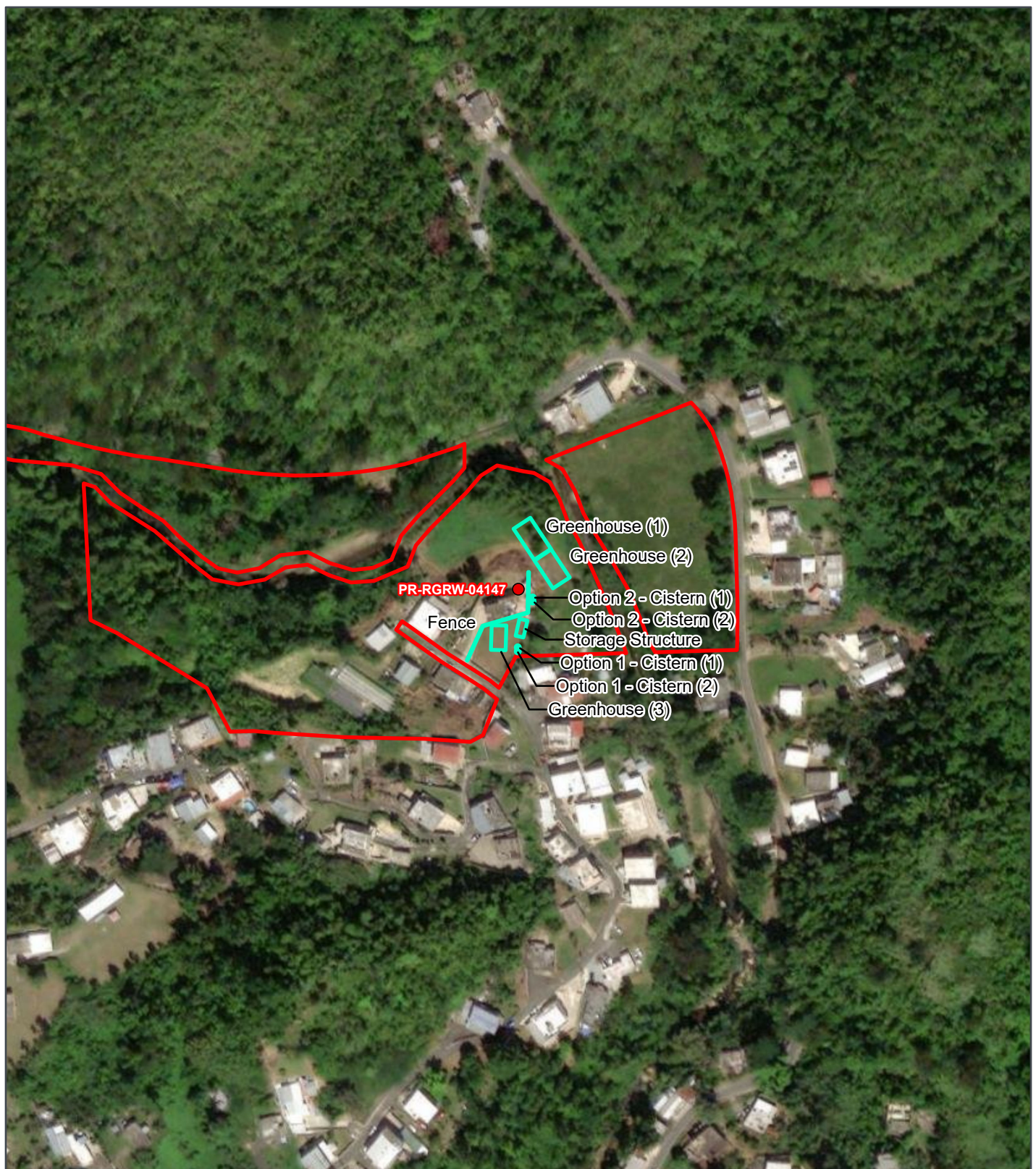
- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

**Include all documentation supporting your findings in your submission to HUD**

An Advisory Base Flood Elevation (ABFE) map was developed by FEMA for this FIRM, which shows the project sites are in Flood Zone X. The project is not located in the 100-year floodplain or ABFE special flood hazard area; therefore, no further action is required. The project is in compliance with Executive Order 11988.

PFIRMs in Puerto Rico were only developed for certain sections of the municipalities of Carolina, Canovanas, Loiza, San Juan and Trujillo Alto. The proposed project is located in the municipality of Morovis; therefore, PFIRM information was not available for the area and therefore not considered in the review.

HUD implemented new floodplain regulations under 89 FR 30850 effective June 24, 2024 which created the Federal Flood Risk Management Standard (FFRMS). The current project comprises non-critical actions that lie outside the 0.2-percent-annual-chance (500-year flood elevation), which is the approach used for this project to comply with the FFRMS; therefore, mitigation is not required and the project is in compliance with 24 CFR Part 55.



REGROW PROGRAM

# **Figure B 10-1: Advisory Base Flood Elevation For 100-Year Floodplain Map**

Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- ▭ Site Parcel
- ▭ Project Footprint (Option)
- ▭ Advisory Base Flood Elevation (ABFE)
- ▭ 0.2% Annual Chance Flood
- ▭ 1% Annual Chance Flood
- ▭ Zone A
- ▭ Zone A-Floodway
- ▭ Zone AE
- ▭ Coastal A Zone
- ▭ Coastal A Zone and Floodway
- ▭ Zone AE-Floodway
- ▭ Zone AO
- ▭ Zone VE
- ▭ Zone X (500-year floodplain)
- ▭ Zone/BFE Boundary

Carr 159 R 6617 , KM 4 H 2 Bo. Patrón  
Sector El Hoyo  
Morovis, Puerto Rico 00687

Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: [https://gis.fema.gov/arcgis/rest/services/DR/PuertoRico\\_ABFE\\_1PCT/MapServer](https://gis.fema.gov/arcgis/rest/services/DR/PuertoRico_ABFE_1PCT/MapServer)

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: ABFE 1Pct  
Aprx: 72428\_ReGrowTier2Maps



1:2,500

Puerto Rico



**Attachment 11**

**Historic Preservation Partner Worksheet  
and SHPO Consultation**





U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Historic Preservation (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/historic-preservation>

### Threshold

#### Is Section 106 review required for your project?

- ☐ No, because a Programmatic Agreement states that all activities included in this project are exempt. (See the [PA Database](#) to find applicable PAs.)

**Either provide the PA itself or a link to it here. Mark the applicable exemptions or include the text here:**

[Click here to enter text.](#)

→ *Continue to the Worksheet Summary.*

- ☐ No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].

**Either provide the memo itself or a link to it here. Explain and justify the other determination here:**

[Click here to enter text.](#)

→ *Continue to the Worksheet Summary.*

- ☒ Yes, because the project includes activities with potential to cause effects (direct or indirect). → *Continue to Step 1.*

#### **The Section 106 Process**

After determining the need to do a Section 106 review, HUD or the RE will initiate consultation with regulatory and other interested parties, identify and evaluate historic properties, assess effects of the project on properties listed on or eligible for the National Register of Historic Places, and resolve any adverse effects through project design modifications or mitigation.

Step 1: Initiate consultation

Step 2: Identify and evaluate historic properties

Step 3: Assess effects of the project on historic properties

Step 4: Resolve any adverse effects

**Only RE or HUD staff may initiate the Section 106 consultation process. Partner entities may gather information, including from SHPO records, identify and evaluate historic properties, and make initial assessments of effects of the project on properties listed in or eligible for the National Register of Historic Place. Partners should then provide their RE or HUD with all of their analysis and documentation so that they may initiate consultation.**

## Step 1 - Initiate Consultation

The following parties are entitled to participate in Section 106 reviews: Advisory Council on Historic Preservation; State Historic Preservation Officers (SHPOs); federally recognized Indian tribes/Tribal Historic Preservation Officers (THPOs); Native Hawaiian Organizations (NHOs); local governments; and project grantees. The general public and individuals and organizations with a demonstrated interest in a project may participate as consulting parties at the discretion of the RE or HUD official. Participation varies with the nature and scope of a project. Refer to HUD's website for guidance on consultation, including the required timeframes for response. Consultation should begin early to enable full consideration of preservation options.

Use the [When To Consult With Tribes checklist](#) within [Notice CPD-12-006: Process for Tribal Consultation](#) to determine if the RE or HUD should invite tribes to consult on a particular project. Use the [Tribal Directory Assessment Tool \(TDAT\)](#) to identify tribes that may have an interest in the area where the project is located. Note that only HUD or the RE may initiate consultation with Tribes. Partner entities may prepare a draft letter for the RE or HUD to use to initiate consultation with tribes, but may not send the letter themselves.

**List all organizations and individuals that you believe may have an interest in the project here:**  
SHPO

→ *Continue to Step 2.*

## Step 2 - Identify and Evaluate Historic Properties

**Provide a preliminary definition of the Area of Potential Effect (APE), either by entering the address(es) or providing a map depicting the APE.** Attach an additional page if necessary.

As defined in 36 CFR §800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on this definition and the nature and scope of the Undertaking, the Program has determined that the direct APE for this project is the location of the fence, three Greenhouse bases, two Cistern bases, and one storage structure base plus a 15-meter horizontal buffer to allow for some variation in final placement during construction and the visual APE is the viewshed of the proposed project.

Gather information about known historic properties in the APE. Historic buildings, districts and archeological sites may have been identified in local, state, and national surveys and registers, local historic districts, municipal plans, town and county histories, and local history websites. If not already listed on the National Register of Historic Places, identified properties are then evaluated to see if they are eligible for the National Register. Refer to HUD's website for guidance on identifying and evaluating historic properties.

**In the space below, list historic properties identified and evaluated in the APE.**

Every historic property that may be affected by the project should be listed. For each historic property or district, include the National Register status, whether the SHPO has concurred with the finding, and whether information on the site is sensitive. Attach an additional page if necessary. Existing information on previously identified historic properties has been reviewed to

determine if any such properties are located within the APE of this undertaking. The review of this existing information by a Program contracted archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) who searched the records at the SHPO and the Instituto de Cultura Puertorriqueña which shows that there are no reported archaeological materials or significant cultural properties within a half-mile (mi) radius of the project location. Seven archaeological evaluations have been conducted within the 0.5 mi review radius with three archaeological sites found. Surveys ICP-CAT-MV-93-02-05 and SHPO# 09-13-93-01 were each recorded 0.22 mi southwest of the project area, both surveys with negative findings. Código SHPO 09-20-11-03 which was carried out 0.32 mi southwest of the project area and was negative for cultural resources. SHPO #11-18-09-10 was carried out 0.41 mi west-southwest of the project area and was negative for cultural resources. SHPO#09-27-95-03 was recorded 0.41 mi south-southwest of the project area and was positive for cultural materials. Surveys ICP-CAT-MV-98-03-06 and SHPO#08-07-96-04 were recorded 0.48 mi south of the project area with negative findings.

The proposed project is located in a mixed agricultural urban landscape at an elevation of 469 ft (142.9 meters [m]) above mean sea level. Per the USGS/NRCS Web Soil Survey, the project area crosses three mapped soil series: CmF2 (Colina cobbly clay loam, 20 to 60 percent slopes, eroded); MoD2 (Moca clay, 12 to 20 percent slopes, eroded); and SrF (Soller-Rock outcrop complex, 5 to 60 percent slopes). The project area APE is in the north central portion of Puerto Rico. The general project area is located on a forested hillside and accompanying valley. The closest freshwater source is Rio Unibon, located within the project area. The Atlantic coast is approximately 10 mi (16 km) from the project area.

Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information, by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shows that the project area is not within the boundaries of a National Register of Historic Places (NRHP)-eligible or listed Traditional Urban Center or Historic District.

Section 106 surveys that have involved architecture and are inside the 0.50-mi review area have occurred in the past. The closest one is Código SHPO 09-13-93-01 (ICP-CAT-MV-93-02-05) which was 0.23 mi to the southwest of the project site. This survey was completed in 1993 for improvements to aqueducts in the area and was sponsored by AAA. The results were negative. The next survey was Código SHPO 09-20-11-03 which was completed in 2011 for the repair of deteriorated streets in the area. This survey was 0.32 mi to the southwest of the project site, and a finding of No Historic Properties was returned. Código SHPO 11-18-09-10 was the next nearest survey to occur, and this one is 0.44 mi to the southwest in Unibon. This survey was in preparation for the repavement of streets funded by CDBG funds and a finding of No Historic Properties was returned. Código SHPO 09-27-95-03 was completed in 1995 for the Bombas Unibon I project. The survey was performed by Virginia Rivera and was located 0.43 mi to the south of the project site. The findings were positive, but the report itself could not be located. Código SHPO 08-07-94-04 was completed in 1998 for the Brisas del Rio project which was completed in anticipation of the repavement of various streets in the area, and was funded by CDBG funds. The survey location was 0.48 mi to the south of the project site. A negative finding was recorded. The final survey to occur within the 0.50 mi review area was Código SHPO 08-07-96-04 (ICP-CAT-MV-98-03-06) which was also

surveyed in 1998 for the Brisas del Rio project that was 0.48 mi to the south of the project site. The results of the survey were negative.

The project area is in a rural area of Morovis, at the junction of Morovis, Vega Baja, and Vega Alta, and near Unibon. The project area is at the northeast corner of Unibon. It is mountainous and heavily vegetated. The project site is 7.41 acres in total and was developed around 1994 to be agricultural in nature. Historic Aerials (<https://www.historicaerials.com/viewer>) had one aerial from 1967 (the earliest date available) that shows most of the area empty, except for two neighbors to the east. Both of those houses are extant. Google Earth Pro ([googleearthpro.com](https://www.googleearthpro.com)) aerials from 2004 show there is one warehouse and three greenhouses in place as of November 1994, and aerials from Earth Explorer (EarthExplorer ([usgs.gov](https://earthexplorer.usgs.gov))) in 2003 confirm this arrangement. Aerials from Google Earth Pro in January 2004 show the owner's house in place and the landscaping finished. In looking at the owner's house, the materials and design used, indicate a construction date of ca. 2000. As the project site sits in an agricultural area that was developed in the 1990s and due to the amount of vegetation that is covering the lot and surrounding areas, no historic properties will be affected by the project.

*Provide the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination.*

**Was a survey of historic buildings and/or archeological sites done as part of the project?**

If the APE contains previously unsurveyed buildings or structures over 50 years old, or there is a likely presence of previously unsurveyed archeological sites, a survey may be necessary. For Archeological surveys, refer to HP Fact Sheet #6, [Guidance on Archeological Investigations in HUD Projects](#).

☐ Yes → Provide survey(s) and report(s) and continue to Step 3.

Additional notes:

[Click here to enter text.](#)

☒ No → Continue to Step 3.

**Step 3 - Assess Effects of the Project on Historic Properties**

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. ([36 CFR 800.5](#)) Consider direct and indirect effects as applicable as per HUD guidance.

**Choose one of the findings below to recommend to the RE or HUD.**

Please note: this is a recommendation only. It is **not** the official finding, which will be made by the RE or HUD, but only your suggestion as a Partner entity.

☒ No Historic Properties Affected

**Document reason for finding:**

☒ No historic properties present.

☐ Historic properties present, but project will have no effect upon them.

☐ No Adverse Effect

**Document reason for finding and provide any comments below.**

Comments may include recommendations for mitigation, monitoring, a plan for unanticipated discoveries, etc.

[Click here to enter text.](#)

☐ Adverse Effect

**Document reason for finding:**

Copy and paste applicable Criteria into text box with summary and justification.

Criteria of Adverse Effect: [36 CFR 800.5](#)]

[Click here to enter text.](#)

**Provide any comments below:**

Comments may include recommendations for avoidance, minimization, and/or mitigation.

[Click here to enter text.](#)

*Remember to provide all documentation that justifies your National Register Status determination and recommendations along with this worksheet.*





# GOVERNMENT OF PUERTO RICO

## STATE HISTORIC PRESERVATION OFFICE

Executive Director | Carlos A. Rubio Cancela | [carubio@prshpo.pr.gov](mailto:carubio@prshpo.pr.gov)

Tuesday, April 2, 2024

**Lauren B Poche**

269 Avenida Ponce de Leon, San Juan, PR, 00917

SHPO-CF-03-26-24-07 PR-RGRW-04147 (Morovis), Hacienda Gratitude Inc.

Ms. Poche,

Our Office has received and reviewed the above referenced project in accordance with 54 USC 306108 (commonly known as Section 106 of the National Historic Preservation Act, as amended) and 36 CFR Part 800: Protection of Historic Properties from the Advisory Council on Historic Preservation. The State Historic Preservation Officer (SHPO) is to advise and assist federal agencies and other responsible entities when identifying historic properties, assessing effects upon them, and considering alternatives to avoid or reduce the project's effects.

Our records support your finding of no historic properties affected within the project's area of potential effects.

Please note that should the Agency discover other historic properties at any point during project implementation, you should notify the SHPO immediately. If you have any questions concerning our comments, do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio Cancela

State Historic Preservation Officer

CARC/GMO/OJR



Cuartel de Ballajá (Tercer Piso), Calle Norzagaray, Esq. Beneficencia, Viejo San Juan, PR 00901 | PO Box 9023935, San Juan, PR 00902-3935

March 26, 2024

Carlos A. Rubio Cancela  
State Historic Preservation Officer  
Puerto Rico State Historic Preservation Office  
Cuartel de Ballajá (Tercer Piso)  
San Juan, PR 00902-3935

**Puerto Rico Disaster Recovery, CDBG-DR Re-Grow PR Urban-Rural Agricultural (Re-Grow PR) Program**

**Section 106 NHPA Effect Determination Submittal: PR-RGRW-04147 – Hacienda Gratitude Inc. – Carr 159 R 6617, KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis Puerto Rico – *No Historic Properties Affected***

Dear Architect Rubio Cancela,

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, HORNE is providing information for your review and requesting your concurrence regarding the above-referenced projects on behalf of the Puerto Rico Department of Housing (PRDOH) and the Home Repair, Reconstruction, or Relocation (R3) Program. On February 9, 2018, an allocation of Community Development Block Grant - Disaster Recovery (CDBG-DR) funds were approved by the United States Department of Housing and Urban Development (HUD) under the Federal Register Volume 83, No. 28, 83 FR 5844, to assist the Commonwealth of Puerto Rico in meeting unmet needs in the wake of Hurricanes Irma and Maria. On August 14, 2018, an additional \$8.22 billion recovery allocation was allocated to Puerto Rico under the Federal Register Volume 83, No. 157, 83 FR 40314. With these funding allocations, the Puerto Rico Department of Housing (Housing) aims to lead a comprehensive and transparent recovery for the benefit of Puerto Rico residents.

On behalf of PRDOH and the subrecipient, the Puerto Rico Department of Agriculture, we are submitting documentation for activities proposed by Hacienda Gratitude Inc. at Carr 159 R 6617, KM 4 H 2 Bo. Patrón Sector El Hoyo in the municipality of Morovis. The undertaking for this project includes the construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure.

Greenhouse 1 is approximately 1,680 square feet (sq. ft) (56 feet [ft.] by 30 ft). The second greenhouse is approximately 1,500 sq. ft (50 ft by 30 ft). The third greenhouse is approximately 814 sq. ft (37 ft by 22 ft). There will be no platforms needed for any of the greenhouses. All greenhouses will be secured by 6-inchwide

concrete footers extending approximately 10 inches deep into the ground. The greenhouses will be constructed with approximately six to ten, 4-inch (in) by 4-inch metal columns.

There are two optional sizes for the two new cisterns. Option 1 would be two 250-gallon cisterns. Option 2 would be two 400-gallon cisterns. Both cisterns will be built on a 16-square foot base with concrete blocks, placed side-by-side to each other, so the total square footage would be 28-square feet. PVC pipes will be used to connect the cisterns to an existing structure on the property that is connected to the aqueduct managed by the Autoridad de Acueductos y Alcantarillados (AAA). All irrigation piping and connections to the greenhouse and cisterns will be aboveground surface lines.

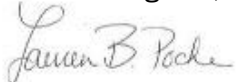
The proposed storage structure is approximately 312 sq. ft (26 ft by 12 ft). The storage structure will be built on a wooden floor base (26 ft by 12 ft). The storage structure will be built with eight, 4-in by 4-in) wooden posts with galvanized metal panels for the walls and roof. The storage structure will be connected to an existing electric meter approximately 70 ft from the structure through an existing underground connection. The proposed electric generator will be placed directly on an existing concrete pad located northeast of the storage structure.

The proposed fence will be approximately 188 linear feet, starting from an existing fence near the central-east portion of the property and running southwest along the southern boundary of the parcel. The fence will be constructed with metal poles and chain-linked fence and will be secured to the ground using metal posts extending 10 in depth into the ground and filled with concrete. Each post will require a 0.5-foot diameter hole in the ground. The posts will be spaced approximately 10 ft apart.

Based on the submitted documentation, the Program requests a concurrence that a determination of No Historic Properties Affected is appropriate for this proposed project.

Please contact me by email at [lauren.poche@horne.com](mailto:lauren.poche@horne.com) or phone at 225-405-7676 with any questions or concerns.


Kindest regards,



**Lauren Bair Poche, M.A.**

Architectural Historian, EHP Senior Manager  
LBP/JLE

Attachments

<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>		
<b>Applicant:</b> HACIENDA GRATITUD INC.		
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis	


<b>Project Location:</b> Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 00687 <b>Project Coordinates:</b> (as provided by applicant during field visit) <b>Fence:</b> 18.343524, -66.374724 <b>Greenhouse 1:</b> 18.343865,-66.374575 <b>Greenhouse 2:</b> 18.343741,-66.374489 <b>Greenhouse 3:</b> 18.343457,-66.37472 <b>Cistern 1: Option1:</b> 18.343417, -66.374638 <b>Cistern 1: Option 2:</b> 18.343623 , 66.374574 <b>Cistern 2: Option1:</b> 18.343401, -66.374638 <b>Cistern 2: Option 2:</b> 18.343606, -66.374574 <b>Storage Structure:</b> 18.343496, -66.374622	
<b>TPID (Número de Catastro):</b> 110-000-006-20	
<b>Type of Undertaking:</b> <input type="checkbox"/> Substantial Repair/Improvements <input checked="" type="checkbox"/> New Construction	
<b>Construction Date (AH est.):</b> Owner's House: ca. 2000 Greenhouses and various outbuildings: ca. 2000 Neighbors x2: ca. 1965	<b>Property Size (acres): 7.41-acres total</b> Fence: 0.004317 acres (188 sq. ft.) Greenhouse 1: 0.038568 acres (1680 sq. ft.) Greenhouse 2: 0.034436 acres (1500 sq. ft.) Greenhouse 3: 0.018687 acres (814 sq. ft.) Cistern 1 and 2: Option1 and 2: 0.000646 acres (28 sq. ft.) Storage Structure: 0.007162 acres (312 sq. ft.)

<b>SOI-Qualified Architect/Architectural Historian:</b> Erin Edwards, MPS
<b>Date Reviewed:</b> February 3, 2024
<b>SOI-Qualified Archaeologist:</b> Brian McNamara, M.A., R.P.A.
<b>Date Reviewed:</b> January 18, 2024

In compliance with Section 106 of the National Historic Preservation Act (NHPA), the Program is responsible for identifying historic properties listed in the NRHP and any properties not listed that would be considered eligible for listing that are located within the geographic area of potential effects (APE) of the proposed project and assessing the potential effects of its undertakings on these historic properties.

### Project Description (Undertaking)

The proposed project includes the purchase of harvest and washing equipment, irrigation system, spraying equipment and protection gear, storage and farming equipment, a walk-in cooler, construction and installation of three new greenhouses, two cisterns, construction of a fence, installation of an electric generator, and construction of a storage structure. The equipment that will be purchased by the applicant as listed in the Intended Use of Grant Funds falls under the "categorically excluded, not subject to (CENST)" category under HUD

<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.	
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis


guidelines (24 CFR 58.35(b)(4)). This Environmental Assessment (EA) also encompasses the CENST review requirements for the equipment.

The proposed new greenhouses vary in different sizes. One greenhouse (Greenhouse 1) is approximately 1,680 square feet (sq. ft) (56 feet [ft.] by 30 ft). The second greenhouse (Greenhouse 2) is approximately 1,500 sq. ft (50 ft by 30 ft). The third greenhouse (Greenhouse 3) is approximately 814 sq. ft (37 ft by 22 ft). There will be no platforms needed for any of the greenhouses. All greenhouses will be secured by 6-inch-wide concrete footers extending approximately 10 inches deep into the ground. Greenhouses 1 and 2 are located beside each other on the central-east side of the property, between Morvois and Vega Alta Municipios. Greenhouse 3 is located near the southern boundary, within Morovis Municipio. The greenhouses will be constructed with approximately six to ten, 4-inch (in) by 4-inch metal columns.

The storage shed will be connected to an existing electric meter located approximately 70 ft away, southwest of the storage structure which already has an underground connection to the location of the storage shed. From the storage shed, connection will be above ground only, using cables, to both greenhouses. Water used for irrigation will be connected to the greenhouse from the two new cisterns being installed. The water stored in the cisterns will be used for watering the crops using 0.5-inch in diameter PVC pipes to run from the cisterns to the greenhouses. The PVC pipes will be above ground connections.

There are two optional sizes for the two new cisterns. Option 1 would be two 250-gallon cisterns. Option 2 would be two 400-gallon cisterns. Both cisterns will be built on a 16-square foot base with concrete blocks, the two cisterns would be placed side-by-side to each other, so the total square footage would be 28-square feet. The cisterns will use irrigation pumps to pull water to be stored and be used to water the crops in the greenhouse. PVC pipes will be used to connect the cisterns to an existing structure on the property that is connected to the aqueduct managed by the Autoridad de Acueductos y Alcantarillados (AAA). There are two locations options for the cisterns. Option 1 would be approximately 37 feet southwest of Greenhouse 2, about 13 ft away from the existing water source. Option 2 would be located approximately 16 ft east of Greenhouse 3, about 66 ft away from the water source. All irrigation piping and connections to the greenhouse and cisterns will be aboveground surface lines.



<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.	
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis


The proposed storage structure is approximately 312 sq. ft (26 ft by 12 ft). The storage structure will be built on a wooden floor base (26 ft by 12 ft). The storage structure will be built with eight, 4-in by 4-in) wooden posts with galvanized metal panels for the walls and roof. The storage shed will be connected to an existing electric meter located approximately 70 ft away, southwest of the storage structure which already has an underground connection to the location of the storage shed. From the storage shed, connection will be above ground only, using cables, to both greenhouses. The storage structure will be used to store the walk-in cooler and equipment. The proposed electric generator will be placed directly on an existing concrete pad located northeast of the storage structure. The electric generator will be used as back up electricity for the greenhouses, walk-in cooler in case of local electrical grid interruptions.

The proposed fence will be approximately 188 linear feet, starting from an existing fence near the central-east portion of the property and running southwest along the southern boundary of the parcel. The fence will be constructed with metal poles and chain-linked fence and will be used to enclose sections of the property. The fencing will be secured to the ground using metal posts extending 10 in deep into the ground and filled with concrete. Each post will require a 0.5-foot diameter hole in the ground. The posts will be spaced approximately 10 ft apart.

The project will involve some ground disturbance of up to one foot below ground disturbance for anchoring the greenhouses and fence posts. There will be minimum tree clearing required for construction of Greenhouse 2. The applicant owns the property and currently uses it for agricultural use; therefore, no acquisition or conversion is required.

### **Area of Potential Effects**

As defined in 36 CFR §800.16(d), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on this definition and the nature and scope of the Undertaking, the Program has determined that the direct APE for this project is the location of the fence, three Greenhouse bases, two Cistern bases, and one storage structure base plus a 15-meter horizontal buffer to allow for some variation in final placement during construction and the visual APE is the viewshed of the proposed project.

<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.	
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis


### Identification of Historic Properties - Archaeology

Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information by a Program contracted archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) who searched the records at the SHPO and the Instituto de Cultura Puertorriqueña which shows that there are no reported archaeological materials or significant cultural properties within a half-mile (mi) radius of the project location. Seven archaeological evaluations have been conducted within the 0.5 mi review radius with three archaeological sites found. Surveys ICP-CAT-MV-93-02-05 and SHPO# 09-13-93-01 were each recorded 0.22 mi southwest of the project area, both surveys with negative findings. Código SHPO 09-20-11-03 which was carried out 0.32 mi southwest of the project area and was negative for cultural resources. SHPO #11-18-09-10 was carried out 0.41 mi west-southwest of the project area and was negative for cultural resources. SHPO#09-27-95-03 was recorded 0.41 mi south-southwest of the project area and was positive for cultural materials. Surveys ICP-CAT-MV-98-03-06 and SHPO#08-07-96-04 were recorded 0.48 mi south of the project area with negative findings.

The proposed project is located in a mixed agricultural urban landscape at an elevation of 469 ft (142.9 meters [m]) above mean sea level. Per the USGS/NRCS Web Soil Survey, the project area crosses three mapped soil series: CmF2 (Colina cobbly clay loam, 20 to 60 percent slopes, eroded); MoD2 (Moca clay, 12 to 20 percent slopes, eroded); and SrF (Soller-Rock outcrop complex, 5 to 60 percent slopes). The project area APE is in the north central portion of Puerto Rico. The general project area is located on a forested hillside and accompanying valley. The closest freshwater source is Rio Unibon, located within the project area. The Atlantic coast is approximately 10 mi (16 km) from the project area.

### Identification of Historic Properties - Architecture

Existing information on previously identified historic properties has been reviewed to determine if any such properties are located within the APE of this undertaking. The review of this existing information, by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shows that the project area is not within the boundaries of a National Register of Historic Places (NRHP)-eligible or listed Traditional Urban Center or Historic District.


<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.	
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis

Section 106 surveys that have involved architecture and are inside the 0.50-mi review area have occurred in the past. The closest one is Código SHPO 09-13-93-01 (ICP-CAT-MV-93-02-05) which was 0.23 mi to the southwest of the project site. This survey was completed in 1993 for improvements to aqueducts in the area and was sponsored by AAA. The results were negative. The next survey was Código SHPO 09-20-11-03 which was completed in 2011 for the repair of deteriorated streets in the area. This survey was 0.32 mi to the southwest of the project site, and a finding of No Historic Properties was returned. Código SHPO 11-18-09-10 was the next nearest survey to occur, and this one is 0.44 mi to the southwest in Unibon. This survey was in preparation for the repavement of streets funded by CDBG funds and a finding of No Historic Properties was returned. Código SHPO 09-27-95-03 was completed in 1995 for the Bombas Unibon I project. The survey was performed by Virginia Rivera and was located 0.43 mi to the south of the project site. The findings were positive, but the report itself could not be located. Código SHPO 08-07-94-04 was completed in 1998 for the Brisas del Rio project which was completed in anticipation of the repavement of various streets in the area, and was funded by CDBG funds. The survey location was 0.48 mi to the south of the project site. A negative finding was recorded. The final survey to occur within the 0.50 mi review area was Código SHPO 08-07-96-04 (ICP-CAT-MV-98-03-06) which was also surveyed in 1998 for the Brisas del Rio project that was 0.48 mi to the south of the project site. The results of the survey were negative.

The project area is in a rural area of Morovis, at the junction of Morovis, Vega Baja, and Vega Alta, and near Unibon. The project area is at the northeast corner of Unibon. It is mountainous and heavily vegetated. The project site is 7.41 acres in total and was developed around 1994 to be agricultural in nature. Historic Aerials (<https://www.historicaerials.com/viewer>) had one aerial from 1967 (the earliest date available) that shows most of the area empty, except for two neighbors to the east. Both of those houses are extant. Google Earth Pro ([googleearthpro.com](http://googleearthpro.com)) aerials from 2004 show there is one warehouse and three greenhouses in place as of November 1994, and aerials from Earth Explorer ([EarthExplorer \(usgs.gov\)](http://EarthExplorer.usgs.gov)) in 2003 confirm this arrangement. Aerials from Google Earth Pro in January 2004 show the owner's house in place and the landscaping finished. In looking at the owner's house, the materials and design used, indicate a construction date of ca. 2000. As the project site sits in an agricultural area that was developed in the 1990s and due to the amount of vegetation that is covering the lot and surrounding areas, no historic properties will be affected by the project.


## Determination

The following historic properties have been identified within the APE:

<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.	
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis

- Direct Effect:
  - None
- Indirect Effect:
  - None

Based on the results of our historic property identification efforts, the Program has determined that project actions will not affect historic properties that compose the Area of Potential Effect. The project area is not within or adjacent to the boundaries of a National Register of Historic Places (NRHP)-eligible or listed historic district or Traditional Urban Center. There are no reported archaeological materials or significant cultural properties within a half-mile radius of the proposed project location. No known archaeological sites or NRHP listed/eligible historic properties are within or adjacent to the property or the parcel in which the Area of Potential Effect of case PR-RGRW-04147 is located. The closest freshwater body is approximately 10 mi (16 km) of the project area. The size of the proposed project activities is very small (Fence: 0.004317 acres [188 sq. ft.], Greenhouse 1: 0.038568 acres [1680 sq. ft.]; Greenhouse 2: 0.034436 acres [1500 sq. ft.]; Greenhouse 3: 0.018687 acres [814 sq. ft.]; Cisterns 1 and 2, Options 1 and 2: 0.000646 acres [28 sq. ft.]; Storage Structure: 0.007162 acres [312 sq. ft.]) and construction of public roads/residential structures/agricultural infrastructure has impacted the surrounding terrain. Therefore, no impact to cultural properties is anticipated for this reconstruction project.

<b>PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM</b> <b>ReGROW PUERTO RICO PROGRAM</b> <b>Section 106 NHPA Effect Determination</b>		 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
<b>Applicant:</b> HACIENDA GRATITUD INC.		
<b>Case ID:</b> PR-RGRW-04147	<b>City:</b> Morovis	

**Recommendation (Please keep on same page as SHPO Staff Section)**

The Puerto Rico Department of Housing requests that the Puerto Rico SHPO concur that the following determination is appropriate for the undertaking (Choose One):

- ☒ No Historic Properties Affected  
☐ No Adverse Effect  
     Condition (if applicable):  
☐ Adverse Effect  
     Proposed Resolution (if applicable)

**This Section is to be Completed by SHPO Staff Only**

The Puerto Rico State Historic Preservation Office has reviewed the above information and:	
<input type="checkbox"/> <b>Concurs</b> with the information provided. <input type="checkbox"/> <b>Does not concur</b> with the information provided.	
<b>Comments:</b>          	
Carlos Rubio-Cancela State Historic Preservation Officer	Date:

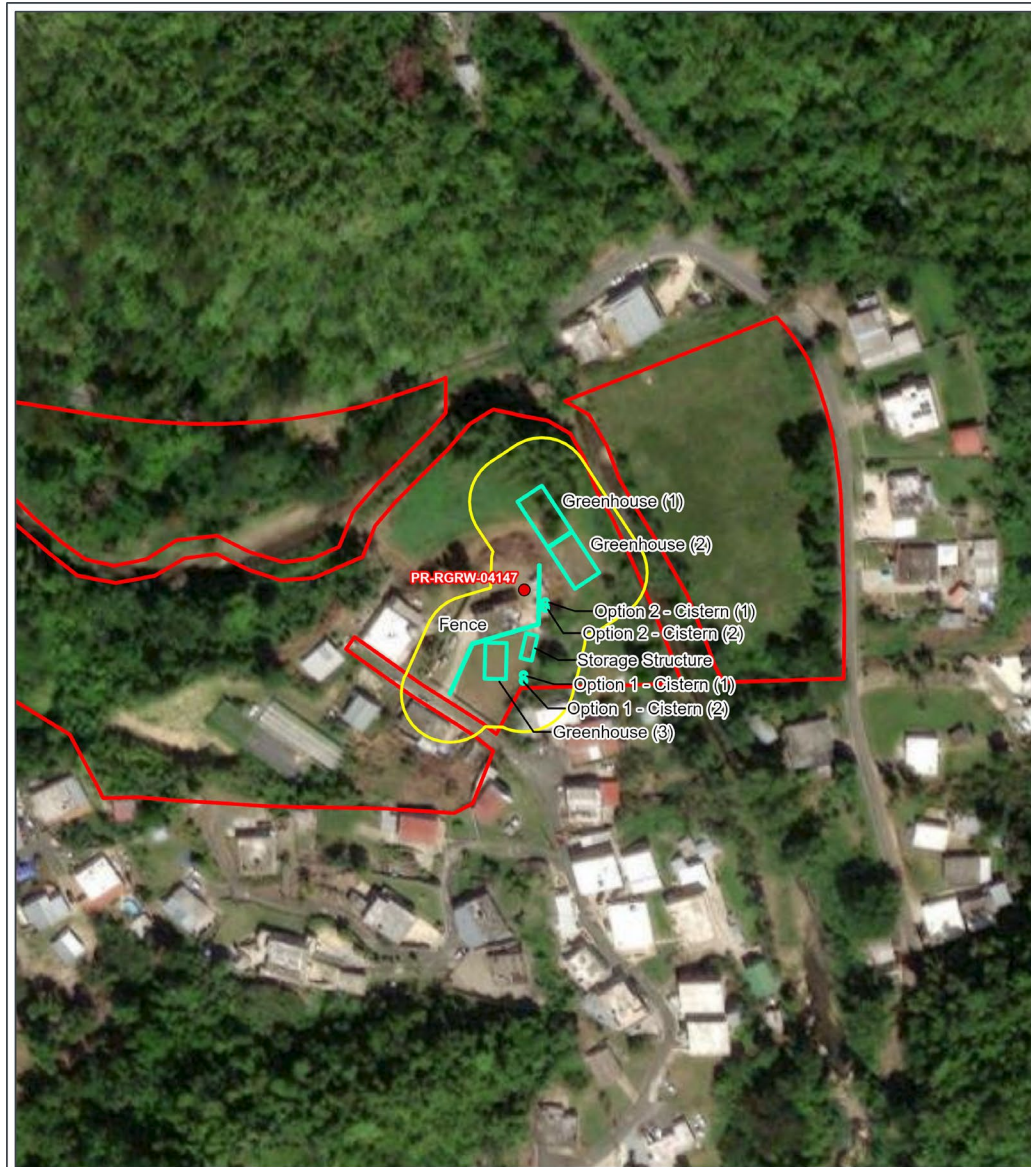


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

## Project (Parcel) Location – Area of Potential Effect Map (Aerial)



REGROW PROGRAM

**Project Location  
Area of Potential  
Effects (APE) Map**  
Applicant ID: PR-RGRW-04147

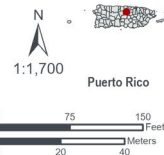
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- ▭ Site Parcel
- ▭ Project Footprint (Option)
- ▭ APE (Buffer (15-meters))

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687

Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: APE  
Aprx: 72428\_ReGrowTier2Maps

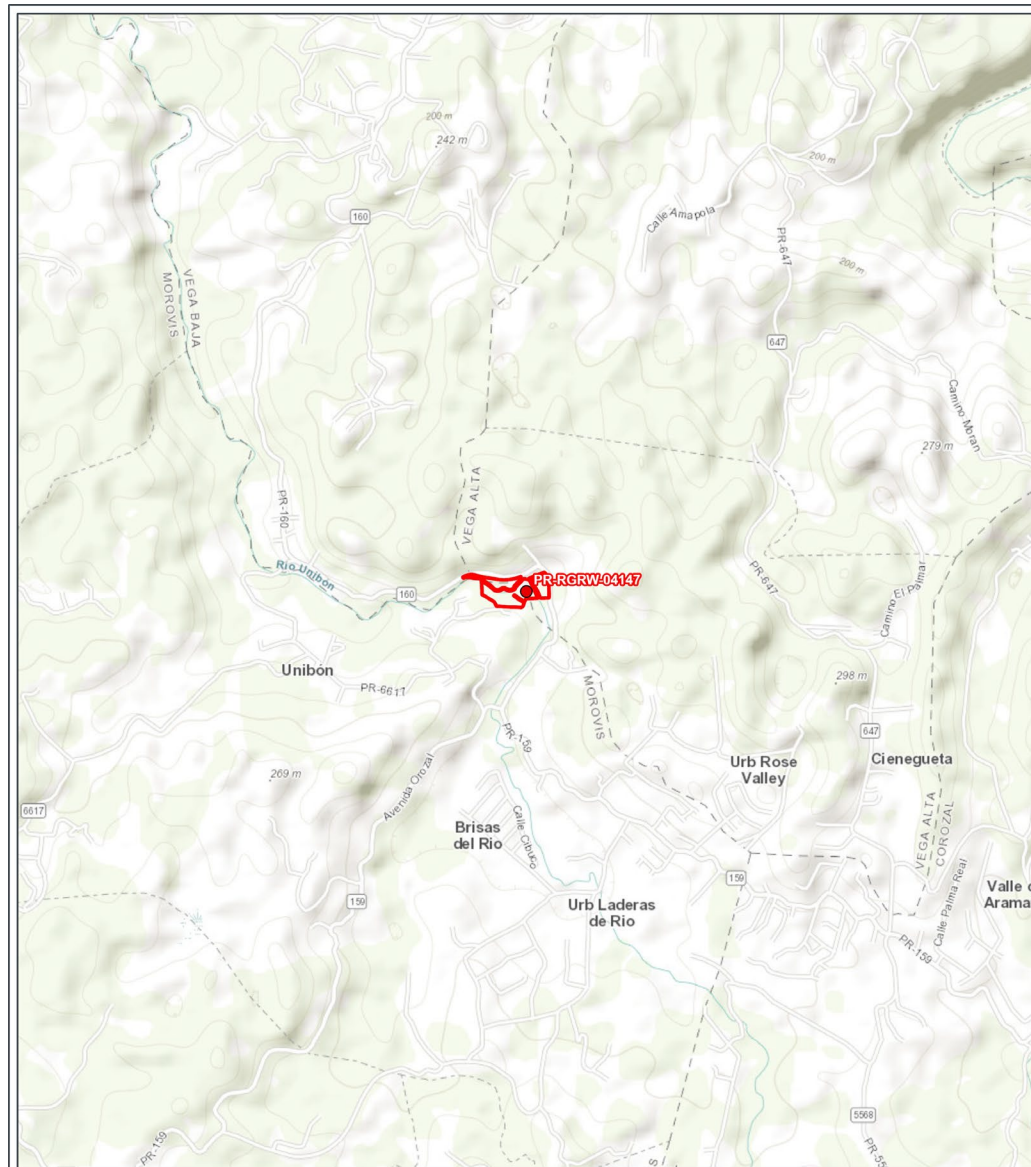


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

## Project (Parcel) Location - Aerial Map



REGROW PROGRAM

**Figure A-1:  
Site Location**

Applicant ID: PR-RGRW-04147

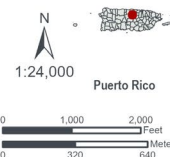
**SWCA**  
ENVIRONMENTAL CONSULTANTS

● Site  
□ Site Parcel

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687

Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Base Map: ESRI ArcGIS Online  
accessed November 2023  
Updated: 11/17/2023  
Layout: Site Location  
Aprx: 72428\_ReGrowTier2Maps





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

## Project (Parcel) Location - USGS Topographic Map



REGROW PROGRAM

**USGS Topographic Map**

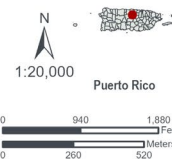
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

● Site  
□ Site Parcel

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Base Map: ESRI ArcGIS Online  
accessed November 2023  
Updated: 11/17/2023  
Layout: USGS Topographic Map  
Aprx: 72428\_ReGrowTier2Maps



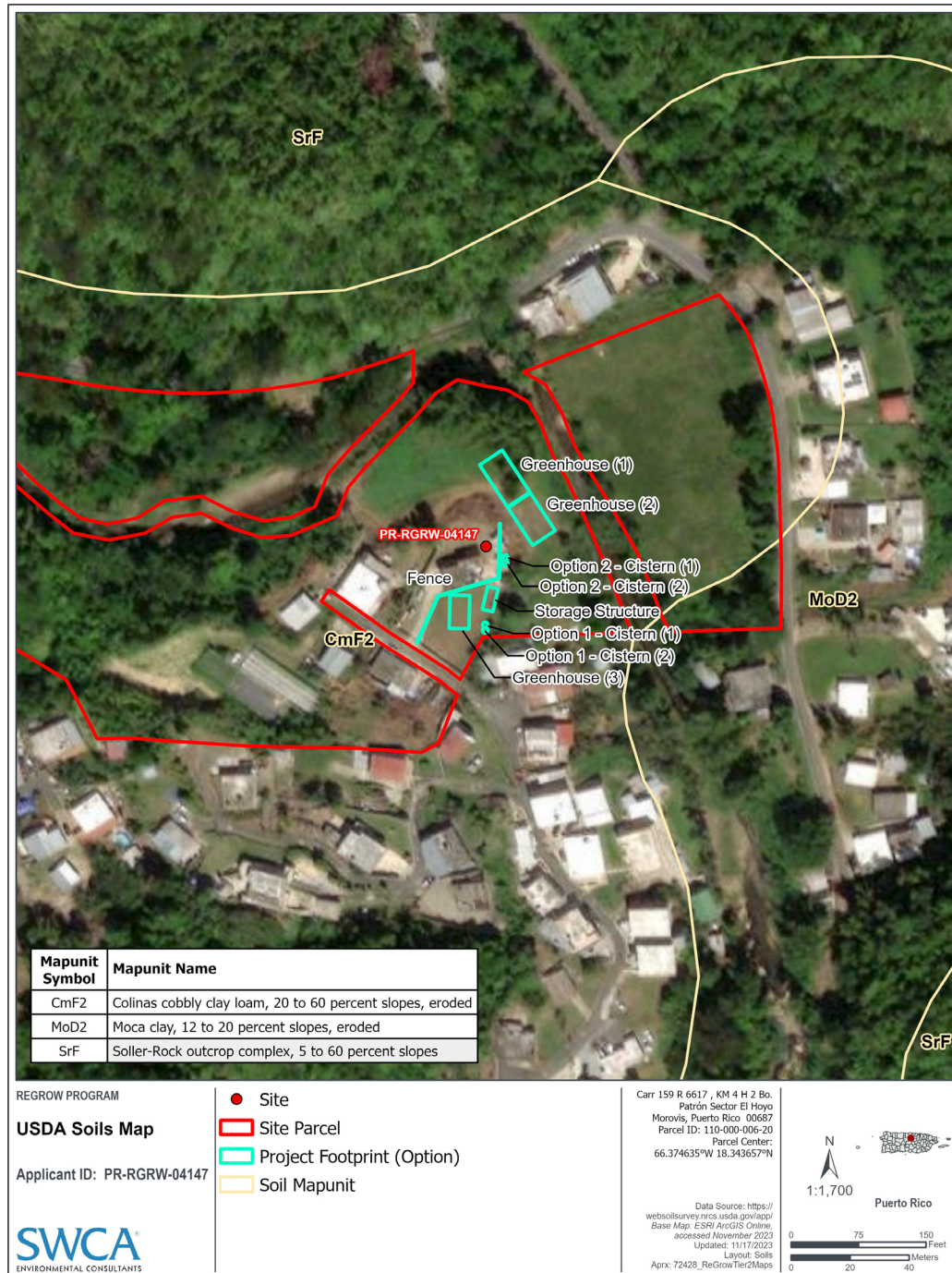


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

## Project (Parcel) Location – Soils Map



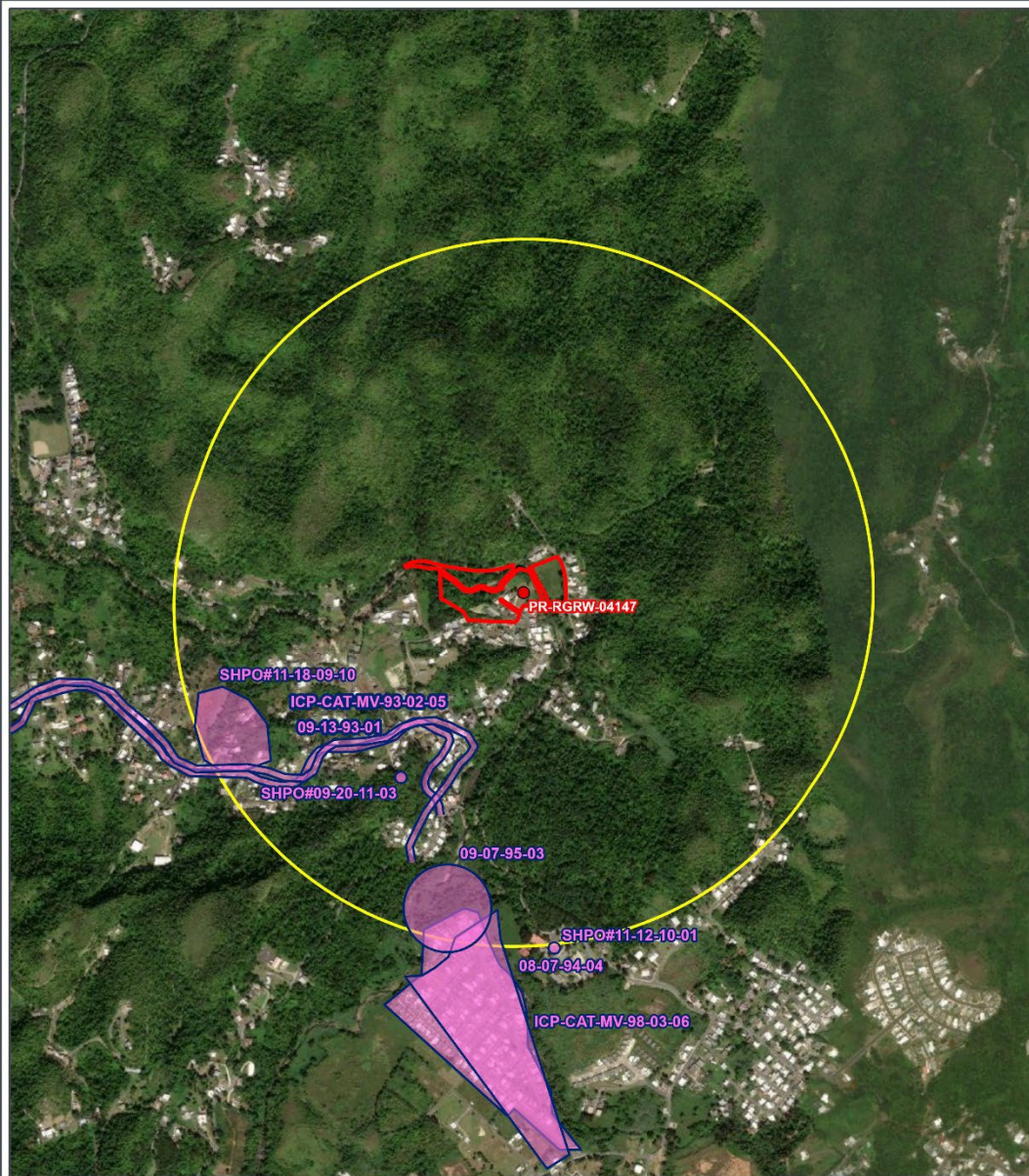


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

## Project (Parcel) Location with Previous Investigations - Aerial Map



REGROW PROGRAM

### Previous Investigation Map

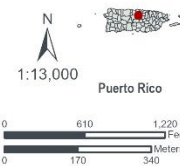
Applicant ID: PR-RGRW-04147

**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- Buffer (0.5-mile)
- Previously Recorded Survey
- MIPR Arqueologia
- Traditional Urban Centers

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: State Historic  
Preservation Office and Puerto Rico  
Institute of Culture  
Base Map: ESRI ArcGIS Online,  
accessed February 2024  
Updated: 2/7/2024  
Layout: Previous Investigation  
Aprx: 72428\_ReGrowTier2Maps



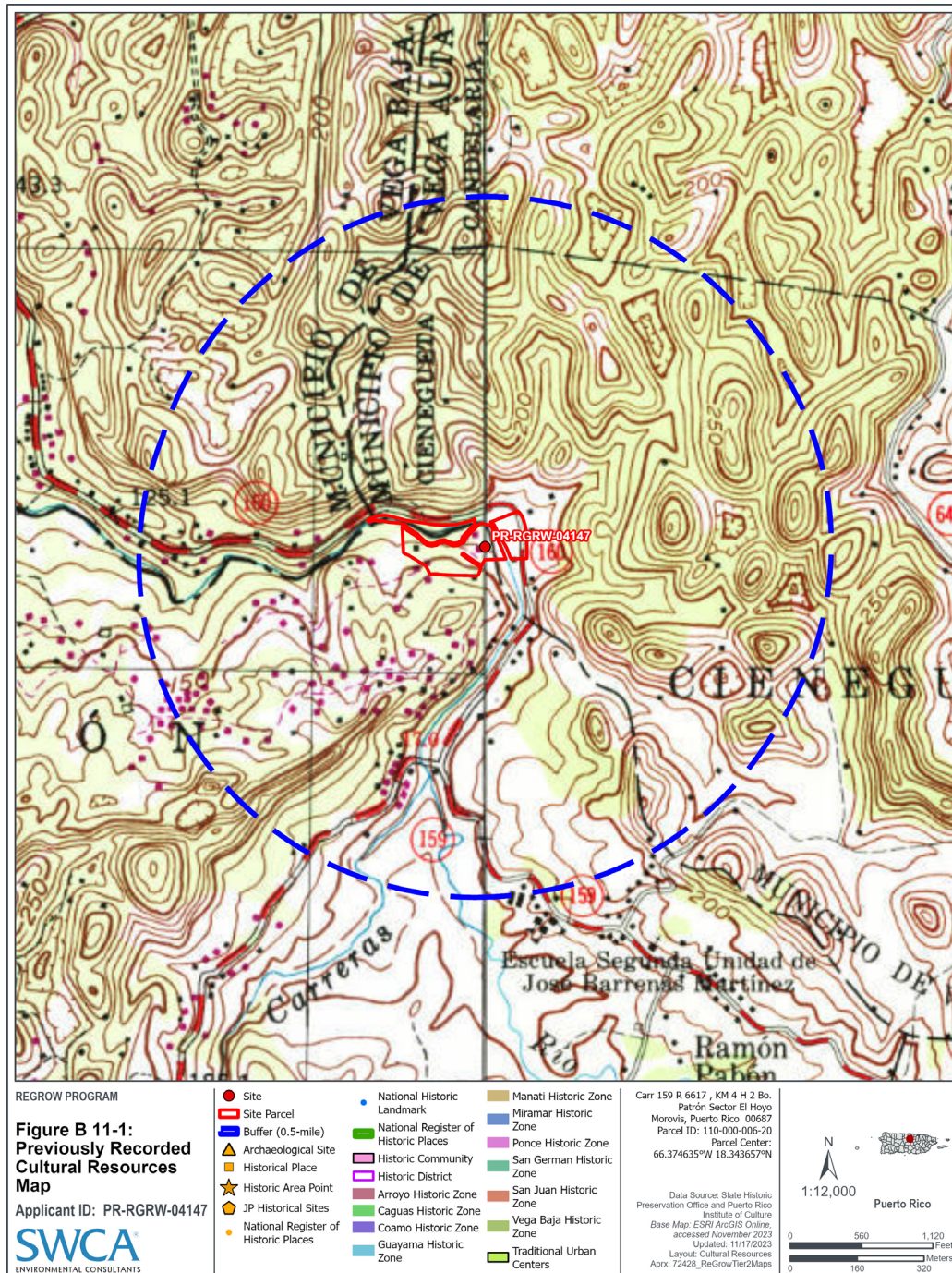


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

Project (Parcel) Location with Previously Recorded Cultural Resources  
USGS Topographic Map

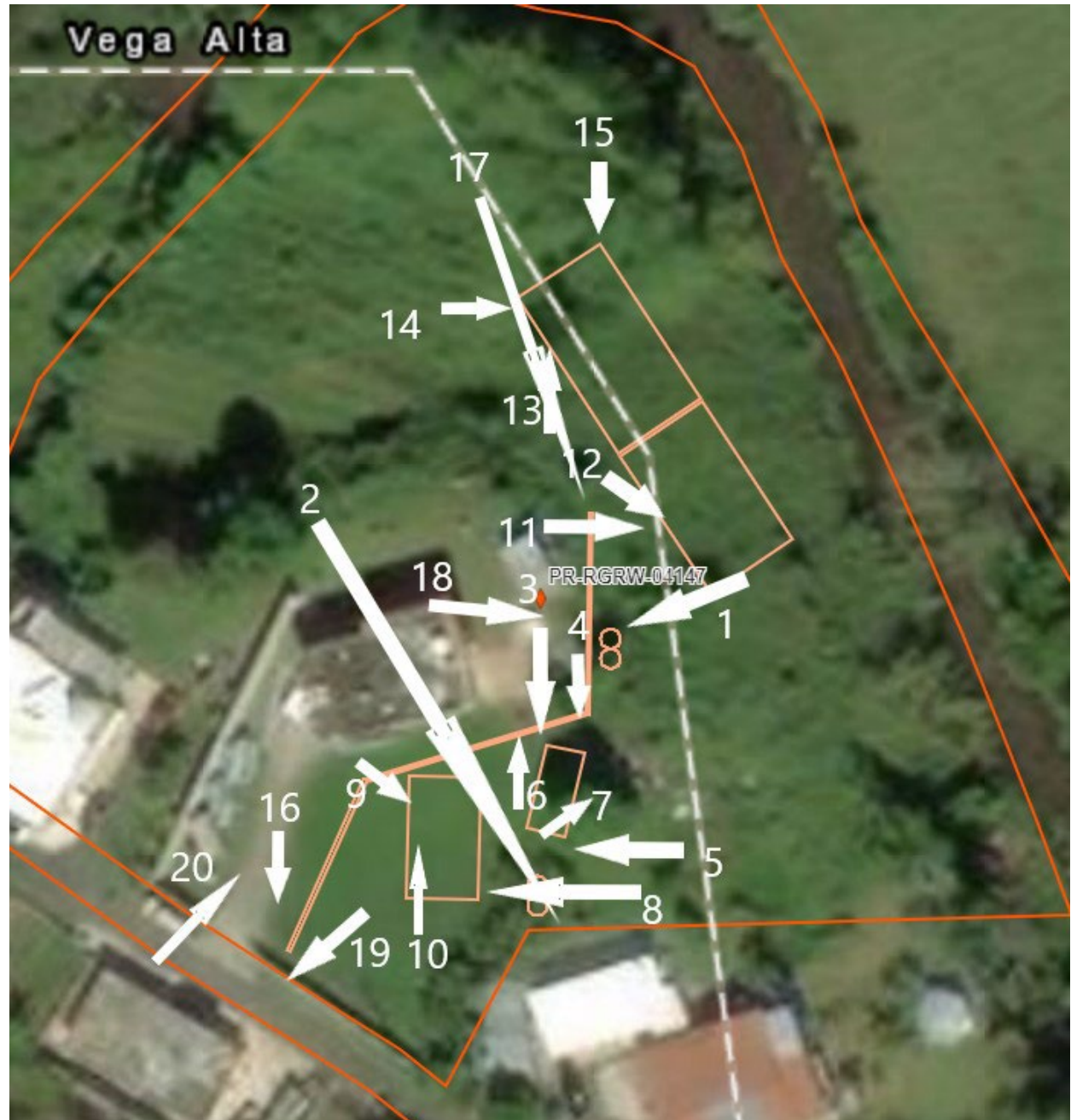


Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

Photograph Key





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
01

**Date:**  
11/07/2023

**Photo Direction:**  
Southwest

**Description:**  
Option 2 – Cistern 1  
and 2



**Photo #:**  
02

**Date:**  
11/07/2023

**Photo Direction:**  
Southeast

**Description:**  
Option 1 – Cistern 1  
and 2





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
03

**Date:**  
11/07/2023

**Photo Direction:**  
South

**Description:**  
Overview of site  
location for storage  
structure 26x12ft.



**Photo #:**  
04

**Date:**  
11/07/2023

**Photo Direction:**  
South

**Description:**  
North corner of site  
location for storage  
structure 26x12ft.





**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM**

**ReGROW PUERTO RICO PROGRAM**

**Section 106 NHPA Effect Determination**



**Applicant:** HACIENDA GRATITUD INC.

**Case ID:** PR-RGRW-04147

**City:** Morovis

**Photo #:**  
05

**Date:**  
11/07/2023

**Photo Direction:**

West

**Description:**

East corner of site  
location for storage  
structure 26x12ft.



**Photo #:**  
06

**Date:**  
11/07/2023

**Photo Direction:**

North

**Description:**

South corner of site  
location for storage  
structure 26x12ft.





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
07

**Date:**  
11/07/2023

**Photo Direction:**  
Northeast

**Description:**  
SW corner of site  
location for storage  
structure with wooden  
floor and galvanized  
walls and roof 26x12ft.



**Photo #:**  
08

**Date:**  
11/07/2023

**Photo Direction:**  
West

**Description:**  
Overview of site  
location for  
Greenhouse  
37x22ft. (Greenhouse  
3).





**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM**

**ReGROW PUERTO RICO PROGRAM**

**Section 106 NHPA Effect Determination**



**Applicant:** HACIENDA GRATITUD INC.

**Case ID:** PR-RGRW-04147

**City:** Morovis





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
11

**Date:**  
11/07/2023

**Photo Direction:**

East

**Description:**

Overview of site location for Greenhouse 30x50ft. (Greenhouse 2).



**Photo #:**  
12

**Date:**  
11/07/2023

**Photo Direction:**

Southeast

**Description:**

NW corner of site location for Greenhouse 30x50ft. (Greenhouse 2).





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
15

**Date:**  
11/07/2023

**Photo Direction:**  
South

**Description:**  
North corner of site  
location for  
Greenhouse 30x56ft.  
(Greenhouse 1).



**Photo #:**  
16

**Date:**  
11/07/2023

**Photo Direction:**  
South

**Description:**  
Location for fence.





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
17

**Date:**  
11/07/2023

**Photo Direction:**  
North

**Description:**  
Fence will connect with existing fence.



**Photo #:**  
18

**Date:**  
11/07/2023

**Photo Direction:**  
East

**Description:**  
Location for fence.





Applicant: HACIENDA GRATITUD INC.

Case ID: PR-RGRW-04147

City: Morovis

**Photo #:**  
19

**Date:**  
11/07/2023

**Photo Direction:**  
Southwest

**Description:**  
Existing electrical meter, runs underground to storage structure location and will be connected above ground to greenhouses via cables.



**Photo #:**  
20

**Date:**  
11/07/2023

**Photo Direction:**  
Northeast

**Description:**  
Location for fence and house on the property.





October 20, 2022

**Arch. Carlos A. Rubio Cancela**

Executive Director

State Historic Preservation Officer

Cuartel de Ballajá Bldg.

San Juan, Puerto Rico

**Re: Authorization to Submit Documents**

Dear Arch. Rubio Cancela:

The U.S. Department of Housing (HUD) approved the allocations of Community Development Block Grant (CDBG-DR) funds on February 9, 2018. It also approved the allocation of Community Development Block Grant Mitigation (CDBG-MIT) funds on January 27, 2020. The purpose of these allocations is to address unsatisfied needs as a result of Hurricanes Irma and Maria in September 2017; and to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.

To comply with the environmental requirements established by HUD, the Department of Housing of Puerto Rico (PRDOH) contracted Horne Federal LLC to provide environmental registry review services, among others, that will support the objectives of the agenda for both CDBG-DR and CDBG -MIT Programs.

In line to expedite the processes, Horne Federal LLC, is authorized to submit to the State Historic Preservation Officer, documentation of projects related to both the CDBG-DR and CDBG-MIT on behalf of PRDOH.

Cordially,

  
Juan C. Pérez Bofill, P.E. M.Eng  
Director of Disaster Recovery  
CDBG DR-MIT

**Attachment 12**

**Sole Source Aquifer Worksheet and  
Map**





U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Sole Source Aquifers (CEST and EA) - PARTNER

<https://www.hudexchange.info/environmental-review/sole-source-aquifers>

### 1. Is the project located on a sole source aquifer (SSA)<sup>1</sup>?

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination, such as a map of your project or jurisdiction in relation to the nearest SSA.*

☐ Yes → *Continue to Question 2.*

### 2. Does the project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?

☐ Yes → *The review is in compliance with this section. Continue to the Worksheet Summary below.*

☐ No → *Continue to Question 3.*

### 3. Does your region have a memorandum of understanding (MOU) or other working agreement with EPA for HUD projects impacting a sole source aquifer?

Contact your Field or Regional Environmental Officer or visit the HUD webpage at the link above to determine if an MOU or agreement exists in your area.

☐ Yes → *Continue to Question 4.*

☐ No → *Continue to Question 5.*

### 4. Does your MOU or working agreement exclude your project from further review?

☐ Yes → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination and document where your project fits within the MOU or agreement.*

☐ No → *Continue to Question 5.*

### 5. Will the proposed project contaminate the aquifer and create a significant hazard to public health?

Consult with your Regional EPA Office. Your consultation request should include detailed information about your proposed project and its relationship to the aquifer and associated streamflow source area.

---

<sup>1</sup> A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This includes streamflow source areas, which are upstream areas of losing streams that flow into the recharge area.

EPA will also want to know about water, storm water and waste water at the proposed project. Follow your MOU or working agreement or contact your Regional EPA office for specific information you may need to provide. EPA may request additional information if impacts to the aquifer are questionable after this information is submitted for review.

- ☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide your correspondence with the EPA and all documents used to make your determination.*
- ☐ Yes → *The RE/HUD will work with EPA to develop mitigation measures. If mitigation measures are approved, attach correspondence with EPA and include the mitigation measures in your environmental review documents and project contracts. If EPA determines that the project continues to pose a significant risk to the aquifer, federal financial assistance must be denied. Continue to Question 6.*

### **Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

### **Include all documentation supporting your findings in your submission to HUD.**

According to the USEPA's Source Water Protection, Sole Source Aquifer Protection Program, there are no sole source aquifers in Puerto Rico. No further evaluation is required. The project is in compliance with the Safe Drinking Water Act.



REGROW PROGRAM

## Figure 12-1: Sole Source Aquifers Map

Applicant ID: PR-RGRW-04147

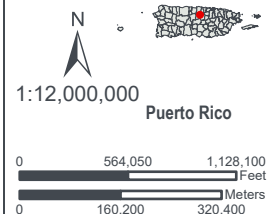
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Sole Source Aquifers

\*There are no Sole Source Aquifers in Puerto Rico.

Carr 159 R 6617, KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
73.382997°W 21.807844°N

Data Source: <https://services.arcgis.com/cJ9YHowT8TU7DUyn/arcgis/rest/services/SoleSourceAquifers/FeatureServer>  
Base Map: ESRI ArcGIS Online, accessed February 2024  
Updated: 2/23/2024  
Layout: Sole Source Aquifers  
Aprx: 72428\_ReGrowTier2Maps



**Attachment 13**

**Wetlands Protection Partner Worksheet  
and Map**





**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT**  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## **Wetlands (CEST and EA) – Partner**

<https://www.hudexchange.info/environmental-review/wetlands-protection>

**1. Does this project involve new construction as defined in Executive Order 11990, expansion of a building’s footprint, or ground disturbance?**

The term "new construction" includes draining, dredging, channelizing, filling, diking, impounding, and related activities and construction of any any structures or facilities.

☐ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

☒ Yes → *Continue to Question 2.*

**2. Will the new construction or other ground disturbance impact a wetland as defined in E.O. 11990?**

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map or any other relevant documentation to explain your determination.*

☐ Yes → *Work with HUD or the RE to assist with the 8-Step Process.* *Continue to Question 3.*

**3. Does Section 55.12 state that the 8-Step Process is not required?**

☐ No, the 8-Step Process applies.

This project will require mitigation and may require elevating structure or structures. See the link to the HUD Exchange above for information on HUD’s elevation requirements.

→ *Work with the RE/HUD to assist with the 8-Step Process. Continue to Worksheet Summary.*

☐ 5-Step Process is applicable per 55.12(a).

**Provide the applicable citation at 24 CFR 55.12(a) here.**

[Click here to enter text.](#)

→ *Work with the RE/HUD to assist with the 5-Step Process. This project may require mitigation or alternations. Continue to Worksheet Summary.*

☐ 8-Step Process is inapplicable per 55.12(b).

**Provide the applicable citation at 24 CFR 55.12(b) here.**

[Click here to enter text.](#)

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.

☐ 8-Step Process is inapplicable per 55.12(c).

**Provide the applicable citation at 24 CFR 55.12(c) here.**

[Click here to enter text.](#)

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to Worksheet Summary.

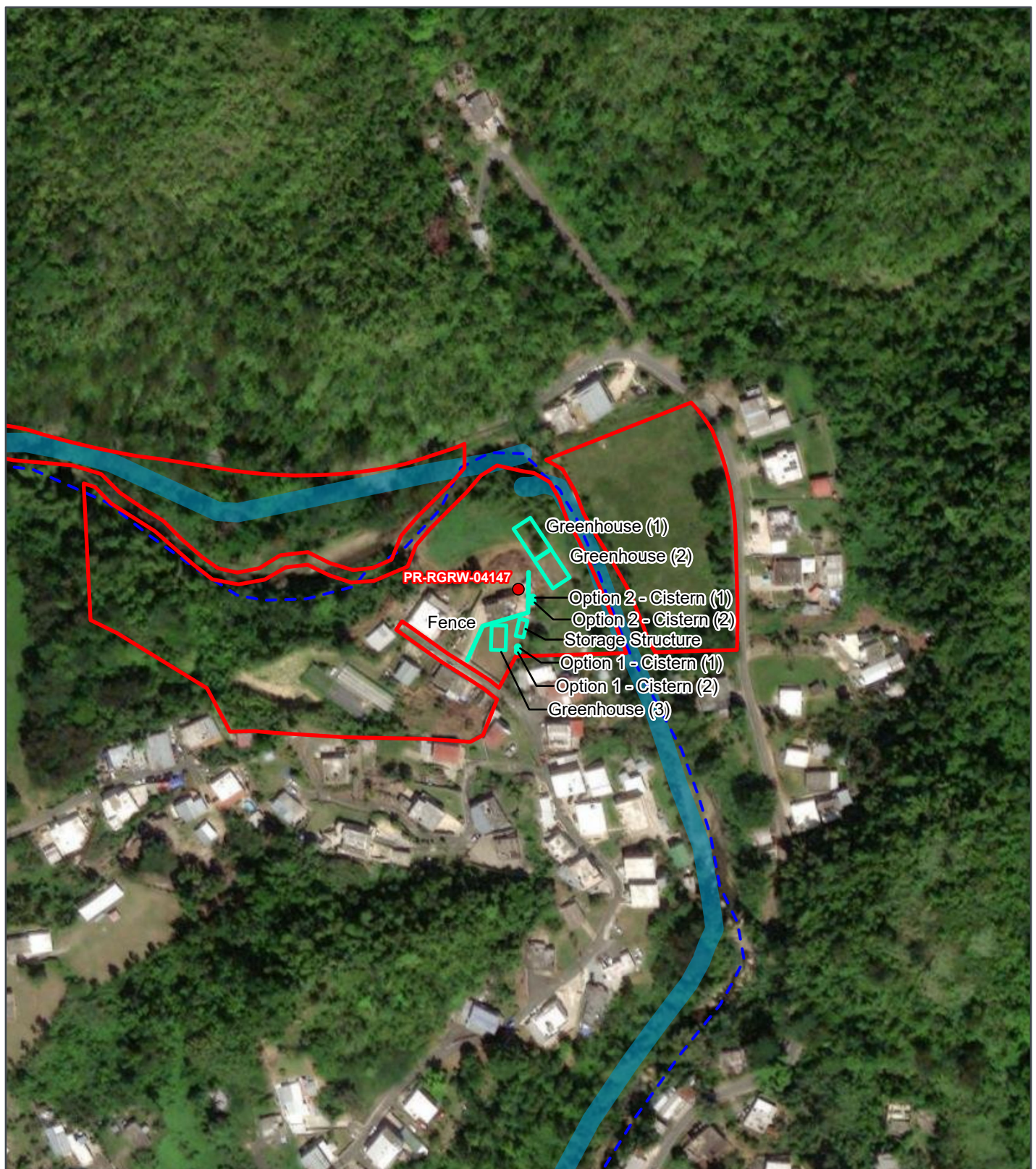
### **Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

### **Include all documentation supporting your findings in your submission to HUD.**

The project site was reviewed for wetlands using the USFWS Wetland Inventory Mapper and a visual confirmation during the field site inspection. A riverine wetland (shown as an NHD stream on Figure B 12-1) is located approximately 47 feet east of the Greenhouse Option 2 at its closest point and will not be affected by project activities if best management practices, such as silt fencing and erosion control, are implemented during any ground-disturbing activities. No further evaluation is required. The project is in compliance with Executive Order 11990. Note- the NWI online webmapper, accessed on November 17, 2023, shows this NHD stream is a riverine wetland.



REGROW PROGRAM

## Figure B 13-1: Wetlands Protection Map

Applicant ID: PR-RGRW-04147

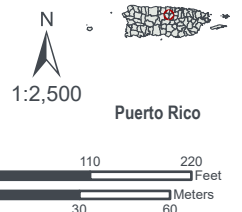
**SWCA**  
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- - - NHD Stream
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.374635°W 18.343657°N

Data Source: <https://apps.nationalmap.gov/downloader/#/https://www.fws.gov/program/national-wetlands-inventory/data-download>  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023  
Layout: Wetlands Protection



## **Attachment 14**

### **Wild and Scenic Rivers Partner Worksheet and Wild and Scenic Rivers Map**



## Wild and Scenic Rivers (CEST and EA) – PARTNER

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297
References		
<a href="https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers">https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers</a>		

### 1. Is your project within proximity of a NWSRS river as defined below?

**Wild & Scenic Rivers:** These rivers or river segments have been designated by Congress or by states (with the concurrence of the Secretary of the Interior) as wild, scenic, or recreational

**Study Rivers:** These rivers or river segments are being studied as a potential component of the Wild & Scenic River system.

**Nationwide Rivers Inventory (NRI):** The National Park Service has compiled and maintains the NRI, a register of river segments that potentially qualify as national wild, scenic, or recreational river areas

☒ No

→ If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation used to make your determination, such as a map identifying the project site and its surrounding area or a list of rivers in your region in the Screen Summary at the conclusion of this screen.

☐ Yes, the project is in proximity of a Nationwide Rivers Inventory (NRI) River.

→ Continue to Question 2.

**2. Could the project do *any* of the following?**

- Have a direct and adverse effect within Wild and Scenic River Boundaries,
- Invade the area or unreasonably diminish the river outside Wild and Scenic River Boundaries, or
- Have an adverse effect on the natural, cultural, and/or recreational values of a NRI segment.

Consultation with the appropriate federal/state/local/tribal Managing Agency(s) is required, pursuant to Section 7 of the Act, to determine if the proposed project may have an adverse effect on a Wild & Scenic River or a Study River and, if so, to determine the appropriate avoidance or mitigation measures.

Note: Concurrence may be assumed if the Managing Agency does not respond within 30 days; however, you are still obligated to avoid or mitigate adverse effects on the rivers identified in the NWSRS

- ☐ No, the Managing Agency has concurred that the proposed project will not alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Provide documentation of the consultation (including the Managing Agency's concurrence) and any other documentation used to make your determination.*

- ☐ Yes, the Managing Agency was consulted and the proposed project may alter, directly, or indirectly, any of the characteristics that qualifies or potentially qualifies the river for inclusion in the NWSRS.

→ *The RE/HUD must work with the Managing Agency to identify mitigation measures to mitigate the impact or effect of the project on the river.*

## **Worksheet Summary**

### **Compliance Determination**

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

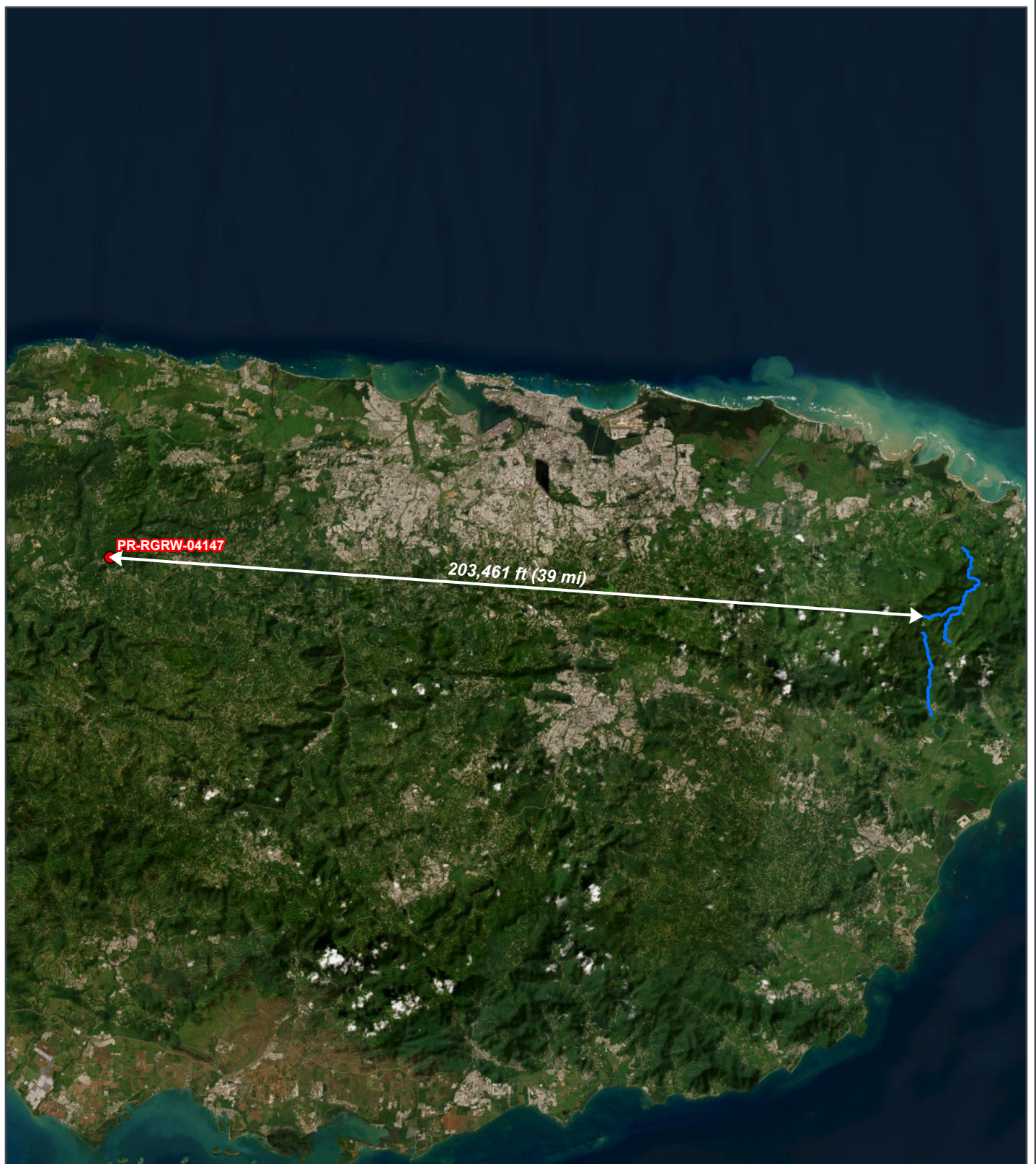
- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

A review of the USFWS National Wild and Scenic River mapper identified no Wild and Scenic Rivers or National Rivers Inventory (NRI) rivers present in Morovis Municipio. The closest Wild and Scenic River segment is located 203,461 feet (39 miles) from the project site. No further evaluation is required. The project is in compliance with the Wild and Scenic Rivers Act.

**Are formal compliance steps or mitigation required?**

☐ Yes

☒ No



REGROW PROGRAM

# **Figure B 14-1: National Wild and Scenic River Map**

Applicant ID: PR-RGRW-04147

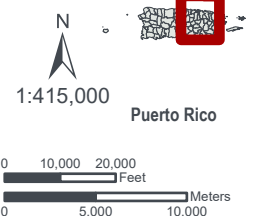
**SWCA**  
ENVIRONMENTAL CONSULTANTS

● Site

— National Wild and Scenic River

Carr 159 R 6617 , KM 4 H 2 Bo.  
Patrón Sector El Hoyo  
Morovis, Puerto Rico 00687  
Parcel ID: 110-000-006-20  
Parcel Center:  
66.082074°W 18.323204°N

Data Source: [https://apps.fs.usda.gov/arcx/rest/services/EDW/EDW\\_WildScenicRiverSegments\\_01/mapserver](https://apps.fs.usda.gov/arcx/rest/services/EDW/EDW_WildScenicRiverSegments_01/mapserver)  
Base Map: ESRI ArcGIS Online,  
accessed November 2023  
Updated: 11/17/2023





**Attachment 15**  
**Environmental Justice Partner Worksheet**  
**and EJScreen Report**



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those “Partners” (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

## Environmental Justice (CEST and EA) – PARTNER

<https://www.hudexchange.info/environmental-review/environmental-justice>

**HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.**

**1. Were any adverse environmental impacts identified in any other compliance review portion of this project’s total environmental review?**

☐ Yes → *Continue to Question 2.*

☒ No → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

**2. Were these adverse environmental impacts disproportionately high for low-income and/or minority communities?**

☐ Yes

**Explain:**

[Click here to enter text.](#)

→ *The RE/HUD must work with the affected low-income or minority community to decide what mitigation actions, if any, will be taken. Provide any supporting documentation.*

☐ No

**Explain:**

[Click here to enter text.](#)

→ *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

### **Worksheet Summary**

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

**Include all documentation supporting your findings in your submission to HUD.**

The ReGrow Program intends to alleviate negative economic impacts to, and strengthen, the agricultural industry in Puerto Rico. The project's direct and indirect impacts are limited to a small area on a single land parcel. The project will benefit the farm owner by improving agricultural use and production. The project would not facilitate development that would negatively affect human health or result in disproportionate adverse environmental impacts to low-income or minority populations. The project is in compliance with Executive Order 12898.



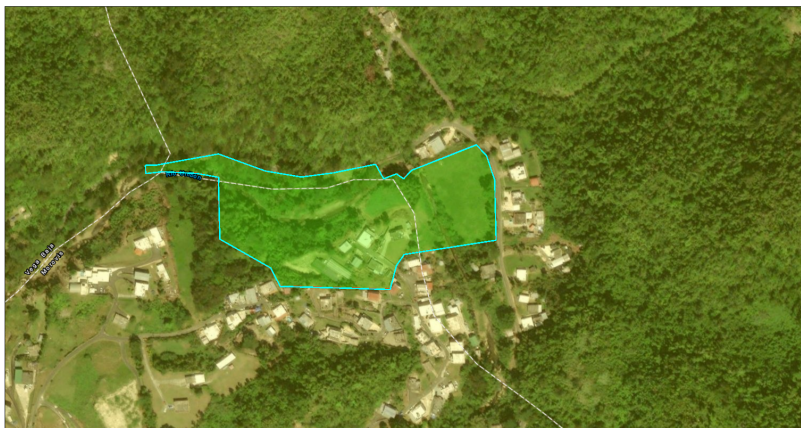
# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## Morovis Municipio, PR

1 mile Ring around the Area  
Population: 3,556  
Area in square miles: 3.71

A3 Landscape



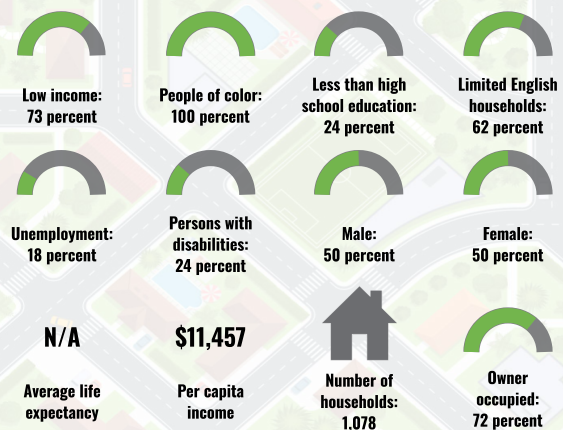
January 8, 2024

PR-RGRN-04147

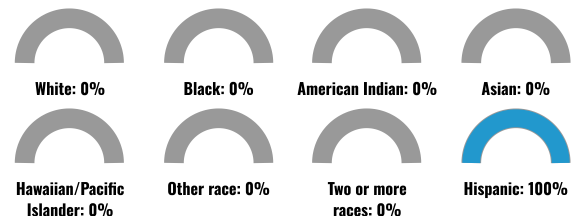
1:2,257  
0 0.03 0.06 0.1 mi  
0 0.04 0.09 0.17 km

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, Esri, HERE, Garmin, Inc.

### COMMUNITY INFORMATION



### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

### LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	1%
Spanish	99%
Total Non-English	99%



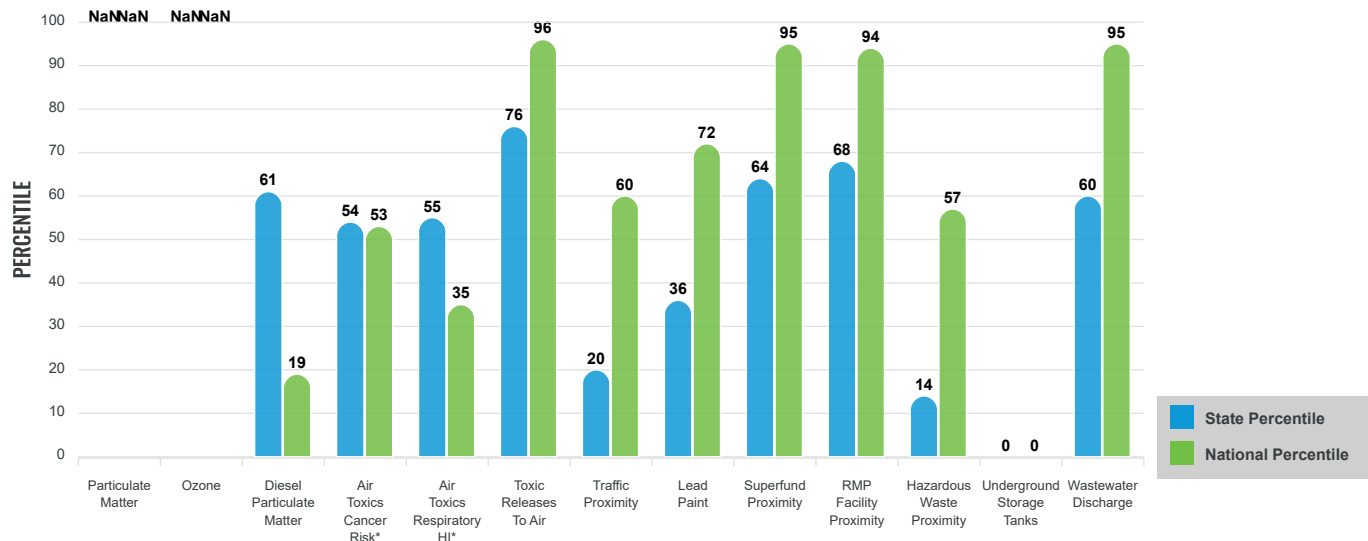
## Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

### EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

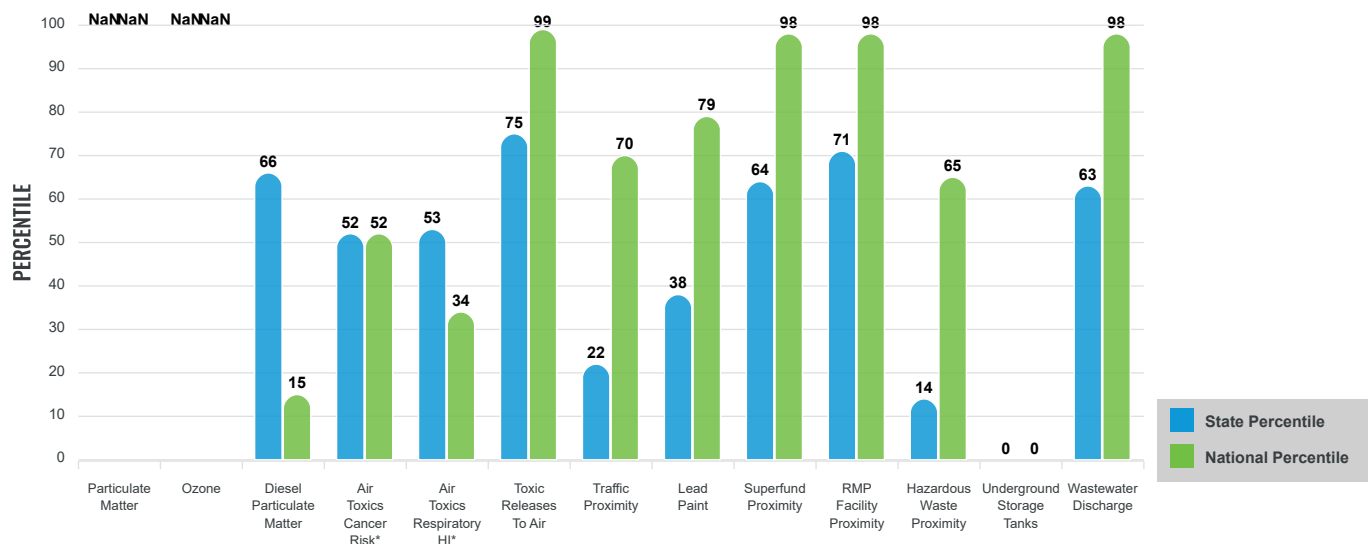
#### EJ INDEXES FOR THE SELECTED LOCATION



### SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

#### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring around the Area

# EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
<b>POLLUTION AND SOURCES</b>					
Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	N/A	N/A	N/A	8.08	N/A
Ozone (ppb)	N/A	N/A	N/A	61.6	N/A
Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )	0.0501	0.0667	59	0.261	4
Air Toxics Cancer Risk* (lifetime risk per million)	20	20	15	25	5
Air Toxics Respiratory HI*	0.2	0.19	17	0.31	4
Toxic Releases to Air	1,700	4,300	76	4,600	70
Traffic Proximity (daily traffic count/distance to road)	17	180	21	210	22
Lead Paint (% Pre-1960 Housing)	0.055	0.16	36	0.3	27
Superfund Proximity (site count/km distance)	0.11	0.15	64	0.13	69
RMP Facility Proximity (facility count/km distance)	0.33	0.47	66	0.43	69
Hazardous Waste Proximity (facility count/km distance)	0.094	0.76	15	1.9	19
Underground Storage Tanks (count/km <sup>2</sup> )	0	1.7	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.015	2.3	61	22	70
<b>SOCIOECONOMIC INDICATORS</b>					
Demographic Index	86%	83%	46	35%	98
Supplemental Demographic Index	44%	43%	45	14%	99
People of Color	100%	96%	31	39%	98
Low Income	73%	70%	45	31%	95
Unemployment Rate	18%	15%	66	6%	94
Limited English Speaking Households	62%	67%	31	5%	99
Less Than High School Education	24%	21%	59	12%	86
Under Age 5	3%	4%	48	6%	28
Over Age 64	16%	22%	25	17%	51
Low Life Expectancy	N/A	N/A%	N/A	20%	N/A

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

## Sites reporting to EPA within defined area:

Superfund .....	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities .....	0
Water Dischargers .....	5
Air Pollution .....	0
Brownfields .....	0
Toxic Release Inventory .....	0

## Other community features within defined area:

Schools .....	1
Hospitals .....	0
Places of Worship .....	0

## Other environmental data:

Air Non-attainment .....	No
Impaired Waters .....	Yes

Selected location contains American Indian Reservation Lands* .....	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community .....	Yes
Selected location contains an EPA IRA disadvantaged community .....	Yes

Report for 1 mile Ring around the Area

## EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	N/A	N/A	N/A	20%	N/A
Heart Disease	N/A	N/A	N/A	6.1	N/A
Asthma	N/A	N/A	N/A	10	N/A
Cancer	N/A	N/A	N/A	6.1	N/A
Persons with Disabilities	24.8%	21.6%	67	13.4%	95

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	N/A	N/A	N/A	12%	N/A
Wildfire Risk	N/A	N/A	N/A	14%	N/A

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	24%	32%	39	14%	82
Lack of Health Insurance	7%	7%	58	9%	51
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for 1 mile Ring around the Area

# **Appendix C**

## **Environmental Site Inspection Report**





# ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM

## ReGrow

<b>Applicant Name:</b>	Jessica Mercado		
<b>App ID:</b>	PR-RGRW-04147	<b>RFA</b>	95
<b>Project Name:</b>	Hacienda Gracitudo INC.	<b>Municipio:</b>	Morovis
<b>Address:</b>	Carr 159 R 6617 , KM 4 H 2 Bo. Patrón	<b>Zip Code:</b>	0068
<b>Parcel ID(s):</b>	XXX	<b>Lat:</b>	18.34351
<b>Project Budget:</b>	\$\$\$\$	<b>Long:</b>	-66.374666

Task:	Name:	Date Completed:	Notes:
➤ <b>Pre-Site Inspector</b>	Full Name		
❖ <b>Site-Inspector</b>	Armando Ramos	11/07/2023	
<b>Communication Log:</b> (this is used by anyone who wants to record contact with the applicant)	Staff who called or emailed	Date & Time	Form of communication (email, phone, etc) and which email /number/etc.used)

### Canopy Document Notes/Summary:

▪ <b>EA Preparer</b>	EA PREPARER NAME HERE					
<b>Scope of Work from IUGF:</b>	SCOPE OF WORK					
<ul style="list-style-type: none"> <li>- Example notes:</li> <li>- With the fertilizers/insecticides/etc. on this scale what is the plan for the water that runs off of the plants and out of the greenhouse – can this be a source of ground or water contamination?                             <ul style="list-style-type: none"> <li>○ Is there already an agriculture business of this type established here?</li> </ul> </li> <li>- Environmental Review Checklist                             <ul style="list-style-type: none"> <li>○ Reiterates the list in the intended use of grant funds and the RFA and also provides the aerial imagery with project area and project footprints; however no dimensions have been provided.</li> </ul> </li> </ul>						
▪ <b>GIS review Wetlands?</b>	within	Y/N	next to	Y/N	adjacent	Y/N
❖ <b>Were any onsite wetlands identified?</b>			Y/N			
❖ <b>Will project activities occur within any wetlands?</b>			Y/N			
▪ <b>GIS review Floodplain?</b>	Floodway	Y/N	100-year	Y/N	500-year	Y/N



❖ Will project activities occur within the Floodway?	Y/N/NA
❖ Will project activities occur within the 100-year Floodplain?	Y/N/NA

❖ **Site-Visit Form**

❖ General Site Conditions and Field Notes:			
Does the address match the parcel location?	Yes / No	Does the lat/long match the parcel location?	Yes / No
Comments on location:			
<b><u>Question</u></b>	<b><u>Yes / No</u></b>	<b><u>Comments:</u></b>	
<b>Was property accessible by vehicle?</b>	Yes		
<b>Were there any access issues?</b> Examples of access issues: Dogs, Locked gate, Traffic hazards, Uncooperative residents, Confrontational Neighbors, *If no access issues please indicate with "None"	No		
<b>Are water wells present?</b> *please include lat/long of water well so it can be denoted on the sitemap	No		
<b>Are creeks or ponds present?</b> *please include lat/long of water well so it can be denoted on the sitemap	No		
<b>Are any potential wetlands on-site or visible on adjacent parcel?</b> *please include lat/long of water well so it can be denoted on the sitemap	Yes	There is a wetland about 50ft. from where the 30x56ft. greenhouse will be.	
❖ Parcel Conditions			
Note – for Any Yes answers specify type, contents, and location			
<b>Are commercial or industrial hazardous facilities at parcel or within visual sight?</b>	No		



Are there signs of underground storage tanks?	No	
Are any above-ground tanks >10 gallons present? If yes, what are the content and conditions of each tank?	Yes	The applicant already has a 250-gallon cistern near her existing greenhouse.
Are 55-gallon drums present? If yes, what are the content and conditions of each tank?	No	
Are abandoned vehicles or electrical equipment present?	No	
Are there any signs of illegal dumping within or next to the applicant parcel?	No	
Is other potential environmentally hazardous debris on the parcel?	No	
Is there non-environmentally hazardous debris on the parcel?	No	
Are any leaks, soil stains, or stressed vegetation present? If yes, what is the source of the staining/stress?	No	
Are there any pungent, foul or noxious odors?	No	
<b>Other Components</b> (e.g., gas tanks, cisterns, water tanks, abandoned vehicles, etc.)		
<b>Type</b>	<b>Details</b>	
Cistern	250-gallon cistern	
Are there any potentially hazardous trees that could fall?	No	



# ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM

## ReGrow

Are any bird nests visible?	No	
Are there any animal burrows visible?	No	
Are there any signs of potential/preferred T&E habitat in the area?	No	
<b>Natural Resources</b> (e.g., endemic plants, endangered species, water bodies, wetlands, etc.) {include the ones inside the property and in direct sight view of the site location}		
<b>Type or Species</b>	<b>Description</b>	
Are there any buildings in direct visual sight of the project locations? Take photo and ask applicant when the structure was built)	Yes	Applicant's residence which they rent out.
<b>Structures</b> (e.g., residences, commercial buildings, etc.) {include the ones inside the property and in direct sight view of the site location}		
<b>Built Date</b>	<b>Type of Construction</b>	
Around 1970's	Concrete construction.	
❖ <b>Additional Environmental Hazards Analysis</b>		
Based on the above findings, does additional information need to be obtained from the applicant to determine whether an environmental hazard is present?	No	





# ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM

## ReGrow

☒ I verify that I have physically visited this property and that the findings outlined above are accurate.

Inspector Signature *Armando Ramos*

{Inspector Name} Armando Ramos

{Inspection Date} 11/07/2023

Following pages are used for:

Location Map with parcel boundaries and building point (Aerial base with streets labelled)

Photos taken during inspection, with Date / Type / Direction associated with the photo



**Site-Visit Tips:**

**Tips before going to the field:**

1. Confirm with the applicant the appointment the same week, the day prior, or the same day hours before leaving for the site inspection.
2. Check the vehicle, and equipment (e.g. did you download the field map)
3. Don't leave the field without the contact information of the applicant, you may need directions along the way.
4. Make sure you read the Pre-Site Environmental Questionnaire.
  - a. It is good practice to ask the EA writer and the Project Manager (PM) if they want us to pay attention or to ask something in particular.
5. The RFA document might give you what the funds were requested for, this is important because sometimes they applicants will keep talking about the projects, but not mention who's going to pay what.
6. Sign the JHA; make sure the PM has the time to prepare the document.

**For the following always take pictures:**

1. If there is a sign of site preparation, please ask when it happened and what they did (e.g. grading, filling, etc.)
2. Tree clearing – ask them about permits, and what type of tree it is.
3. When an applicant is not sure about the exact location of the project, make sure you take several overview pictures or a central point with N, E, S, and W views.
  1. Please be prepared to let the applicant know where wetlands are located within their parcel boundaries. This will help ensure they do not try and plan to locate any activities within wetlands (and/or ensure we know which permits will be required).
4. Ask about any organic debris (grasses, dirt, etc.) and other materials such as construction materials, buckets, tarps, etc., and what they plan to do to them.
5. Structures with a direct view of the project (ask when it was built).
6. Natural resources – water bodies, burrows, birds or nests, wetlands, erosion, landslides, etc.

Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

Frame #	View	Description
01	SW	Overview of site location for 2 400-gallon cisterns or 250-gallon cisterns.
02	SE	Overview of second option for 2 cisterns.
03	S	Overview of site location for storage structure 26x12ft.
04	S	North corner of site location for storage structure 26x12ft.
05	W	East corner of site location for storage structure 26x12ft.
06	N	South corner of site location for storage structure 26x12ft.
07	NE	SW corner of site location for storage structure with wooden floor and galvanized walls and roof 26x12ft.
08	W	Overview of site location for Greenhouse 37x22ft.
09	SE	NW corner of greenhouse 37x22ft.
10	SW	NE corner of greenhouse 37x22ft.
11	W	East corner of site location for Greenhouse 37x22ft.
12	N	South corner of site location for Greenhouse 37x22ft.
13	N	Center point for Greenhouse 37x22ft.
14	E	Center point for Greenhouse 37x22ft.
15	S	Center point for Greenhouse 37x22ft.
16	W	Center point for Greenhouse 37x22ft.
17	E	Overview of site location for Greenhouse 30x50ft.
18	SE	NW corner of site location for Greenhouse 30x50ft.
19	S	North corner of site location for Greenhouse 30x50ft.
20	NW	SE corner of site location for Greenhouse 30x50ft.
21	NE	SW corner of site location for Greenhouse 30x50ft.
22	N	Overview of site location for Greenhouse 30x56ft.
23		
24	E	West corner of site location for Greenhouse 30x56ft.
25	E	West corner of site location for Greenhouse 30x56ft.
26	S	North corner of site location for Greenhouse 30x56ft.
27	W	East corner of site location for Greenhouse 30x56ft.
28	N	South corner of site location for Greenhouse 30x56ft.

Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

29	S	Location for fence.
30	N	Fence will connect with existing fence.
31	E	Location for fence.
32	SW	Location for fence up to wall.
33	NE	Location for fence.
34	E	Location for electric generator.
35	W	Water source.
36	NE	Electricity source. cable already runs underground to site location for storage structure.
37	NE	Applicant's property built around 50 years ago.
38	E	Greenhouse built in 2022.
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Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

59		
60		

Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 01	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Southwest		
<b>Description:</b> Overview of site location for 2 400-gallon cisterns or 250-gallon cisterns.		

Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 02	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Southeast		
<b>Description:</b> Overview of second option for 2 cisterns.		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 03	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  South	
<b>Description:</b> Overview of site location for storage structure 26x12ft.	


A photograph showing a grassy field in the foreground. In the middle ground, there is a chain-link fence. Behind the fence, there is a dense cluster of palm trees and other tropical vegetation. To the left, behind the fence, a small wooden structure is partially visible. The sky is blue with some white clouds.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 04	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> North corner of site location for storage structure 26x12ft.		

<b>Photo #:</b> 05	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> East corner of site location for storage structure 26x12ft.	

A photograph showing a large, dense cluster of palm trees in the foreground. The trees have green fronds with some yellowing at the tips. Behind the trees is a grassy field. In the background, there is a building with a dark roof, a white fence, and a hillside with more vegetation under a blue sky with some clouds. A utility pole is visible near the building.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 06	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> South corner of site location for storage structure 26x12ft.		

Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 07	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Northeast		
<b>Description:</b> SW corner of site location for storage structure with wooden floor and galvanized walls and roof 26x12ft.		

<b>Photo #:</b> 08	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> Overview of site location for Greenhouse 37x22ft. (Greenhouse 3).	

A photograph showing an overview of a site. In the foreground, there is a large, rectangular greenhouse structure covered in black netting, situated on a grassy area. To the right of the greenhouse, a white fence runs across the middle ground, with a blue vehicle parked behind it. In the background, a hillside is visible, covered with lush green vegetation, including palm trees and banana plants. Several houses are built on the hillside. The sky is blue with scattered white clouds. On the far right, a portion of a building with a white staircase and a green roof is visible.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 09	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southeast	
<b>Description:</b> NW corner of greenhouse 37x22ft. (Greenhouse 3).	

A photograph showing a large, open grassy field in the foreground. In the background, there is a dense line of tropical vegetation, including large palm trees and ferns. A utility pole stands near the center of the background vegetation. To the left, a chain-link fence is visible, and beyond it, a hillside covered in greenery. The sky is overcast with grey clouds.

<b>Photo #:</b> 10	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southwest	
<b>Description:</b> NE corner of greenhouse 37x22ft. (Greenhouse 3).	





Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 11	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  West	
<b>Description:</b> East corner of site location for Greenhouse 37x22ft. (Greenhouse 3).	




<b>Photo #:</b> 12	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> South corner of site location for Greenhouse 37x22ft. (Greenhouse 3).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 13	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  North	
<b>Description:</b> Center point for Greenhouse 37x22ft. (Greenhouse 3).	

A two-story beige house with a green roof. On the left side, there is a white balcony with a decorative railing and a set of stairs with orange steps leading down to the ground. The house has several windows with white frames and decorative grilles. A white car is partially visible on the left side of the house. The house is situated on a grassy field with a line of trees in the background.

<b>Photo #:</b> 14	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> Center point for Greenhouse 37x22ft. (Greenhouse 3).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 15	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> Center point for Greenhouse 37x22ft. (Greenhouse 3).		

<b>Photo #:</b> 16	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  West		
<b>Description:</b> Center point for Greenhouse 37x22ft. (Greenhouse 3).		




Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 17	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> Overview of site location for Greenhouse 30x50ft. (Greenhouse 2).		

<b>Photo #:</b> 18	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Southeast		
<b>Description:</b> NW corner of site location for Greenhouse 30x50ft. (Greenhouse 2).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 19	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> North corner of site location for Greenhouse 30x50ft. (Greenhouse 2).		

<b>Photo #:</b> 20	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Northwest		
<b>Description:</b> SE corner of site location for Greenhouse 30x50ft. (Greenhouse 2).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 21	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  Northeast		
<b>Description:</b> SW corner of site location for Greenhouse 30x50ft. (Greenhouse 2).		

<b>Photo #:</b> 22	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> Overview of site location for Greenhouse 30x56ft. (Greenhouse 1).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 23	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> West corner of site location for Greenhouse 30x56ft. (Greenhouse 1).		

<b>Photo #:</b> 24	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> West corner of site location for Greenhouse 30x56ft. (Greenhouse 1).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 25	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  South		
<b>Description:</b> North corner of site location for Greenhouse 30x56ft. (Greenhouse 1).		

<b>Photo #:</b> 26	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  West		
<b>Description:</b> East corner of site location for Greenhouse 30x56ft. (Greenhouse 1).		



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 27	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> South corner of site location for Greenhouse 30x56ft. (Greenhouse 1).		

<b>Photo #:</b> 28	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  South	
<b>Description:</b> Location for fence.	

A photograph showing a two-story house with a balcony on the right side. The balcony has white railings. In the foreground, there is a large, green lawn. To the right of the house, there are stacks of materials, possibly bricks or tiles. A person is standing near the house. The background shows trees and a blue sky with clouds.



Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 29	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  North		
<b>Description:</b> Fence will connect with existing fence.		

<b>Photo #:</b> 30	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  East	
<b>Description:</b> Location for fence.	





Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 31	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Southwest	
<b>Description:</b> Location for fence up to wall.	


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<b>Photo #:</b> 32	<b>Date:</b> 11/07/2023
<b>Photo Direction:</b>  Northeast	
<b>Description:</b> Location for fence.	


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Project #: PR-RGRW-04147	Photographer: Armando Ramos
Location Address: Carr 159 R 6617 , KM 4 H 2 Bo. Patrón Sector El Hoyo, Morovis, PR 0068	Coordinates: 18.34351, -66.374666

<b>Photo #:</b> 33	<b>Date:</b> 11/07/2023	
<b>Photo Direction:</b>  East		
<b>Description:</b> Location for electric meter.		