

Environmental Assessment

Determinations and Compliance Findings for HUD-assisted Projects

24 CFR Part 58

Project Information

Project ID: PR-RGRW-04074

Project Name: Earth Essentials, Corp

Responsible Entity: Puerto Rico Department of Housing

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

State/Local Identifier: Puerto Rico / Municipio of Orocovis

Preparer: Alaina Callinan, Deputy Program Manager

Certifying Officer Name and Title:

Permit and Environmental Compliance Officers:

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Consultant (if applicable): SWCA Environmental Consultants

Direct Comments to: PR Department of Housing, environmentcdbg@vivienda.pr.gov

Project Location:

The proposed project, which includes the purchase and installation of ground-based solar panels, is located on a 435.15-acre parcel (Castradal Number 218-000-003-38-000) at Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720 () (see **Appendix A, Figure 1**- Site Location and **Figure 2**- Site Vicinity). This property is in a rural area in the northern portion of Orocovis Municipio, with a portion of the parcel crosses into Ciales Municipio. The

proposed solar panels will be entirely located in the Orocovi Municipio. Access to the project areas is provided via an existing unpaved road that runs east/west through the southern portion of the property. A 4-wheel drive vehicle is required to traverse the 1.5 miles (mi) of unpaved road to the project site.

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

- Solar Array (18.242775, -66.468031) is in the southwest portion of the parcel.

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

The proposed project includes the purchase and installation of a ground-mounted solar array. Currently, electricity to the site is provided by fuel-powered generators. The parcel is remote and connecting to the electrical grid is unfeasible. The primary agricultural application of the solar-generated electricity will be providing electricity for a storage building that will be used to keep their crops cool.

The proposed solar array will be approximately 40 ft long and 13 ft wide (520 square feet [sq. ft.]) The solar array will consist of 8 batteries and approximately 24 solar panels laid out in a 12x2 pattern. The exact number of panels and subsequent size of the array will depend on the voltage-capacity of the panels available at the time of purchase. The solar panels will be installed on ground-mounted frames made from steel and concrete. Each solar panel will have four ground anchors, which will be installed 1-2 ft into the ground, requiring some ground disturbance. The total number of support columns will be 72-96 depending on the number of panels installed. The array's height is expected to be about 1.5-2.5 ft.

The solar panels will provide electricity for a storage building that will house a refrigeration unit used to keep produce cold. The details of the storage building are unknown at the time of this review, so an estimated footprint of 15 ft by 15 ft was used for the purposes of this review. The storage building will be located within the cleared lot to the west of the solar array. The underground connections will be located in a trench spanning a maximum of 30 ft long, is no wider than 3 ft, and approximately 3 ft deep. The electrical connections and the storage building are not part of the Intended Use of Grant Funds and will be funded by other sources or the applicant.

The project location is in an area of understory vegetation and/ or mowed grass, located in the southwest portion of the parcel. No terrain alteration is proposed. The applicant proposed clearing several trees along the western portion of the solar array, which will allow for increased photovoltaic generation. This project will require tree clearing and ground disturbance. The applicant rents the property; however, no acquisition 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 damage 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 photovoltaic array will help increase agricultural production by providing electricity to the water pumps and subsequent irrigation. 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 project parcel is mostly vegetated/ forested, with several unpaved roads established. The site is used for agricultural purposes and is used to cultivate banana, avocado, oranges, and squash. There is a small dormitory on site but is not used as a primary residence. The land is currently maintained with regular mowing in the cleared areas, which will continue following the installation of the solar array. There are no proposed changes in land use.

Funding Information

Grant Number	HUD Program	Funding Amount
B-17-DM-72-0001 B-18-DP-72-0001	Community Development Block Grant – Disaster Recovery (CDBG-DR)	\$11,938,162,230

B-19-DP-78-0002		
B-18-DE-72-0001		

Estimated Total HUD Funded Amount: \$49,500.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: \$49,500.00

The electrical connections and the storage building are not part of the Intended Use of Grant Funds and will be funded by other sources or the applicant. Details on the future elements, such as detailed specs and costs are unknown at the time of review.

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.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance Determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 58.6		
Airport Hazards 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, Mercedita, is located 91,093 ft (17 mi) from the project site. The nearest military airport, Luis Munoz Marin International Airport, is located 172,095 ft (33 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 (Figure B 1-1) are provided in Appendix B, Attachment 1.</p>
Coastal Barrier Resources 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 Orocovis. The closest CBRS unit, Tortuguero, is located 76,830 ft (15 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 (Figure B 2-1) are provided in Appendix B, Attachment 2 .
Flood Insurance 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"/>	A review of the FEMA Flood Insurance Rate Map (FIRM), Community Panel 72000C1130H (effective date 04/19/2005), shows 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. The Flood Insurance Partner Worksheet and FIRM (Figure B 3-1) are provided in Appendix B, Attachment 3 .
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 58.5		
Clean Air 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"/>	The project site is in Orocovis 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 new construction of a solar panel array. The project is not anticipated to have a negative impact on air quality. Emissions associated with the proposed actions are temporary and 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. The Air Quality Partner Worksheet, List of Non-Attainment/Maintenance Status Counties in Puerto Rico, and Clean Air

		Map (Figure B 4-1) are provided in Appendix B, Attachment 4.
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site is not located within the Puerto Rico Coastal Management Zone. The closest coastal zone area is located 73,720 ft (14 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 (Figure B 5-1) are provided in Appendix B, Attachment 5.</p>
Contamination and Toxic Substances 24 CFR Part 58.5(i)(2)	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project site was evaluated for potential contamination by conducting a field site inspection on November 27, 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>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.</p> <p>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</p>

		<p>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 Orocovis Municipio and aerials were reviewed spanning 20-years and while tree removal has occurred over this time there does not appear to be any activities that would indicate a source contaminant has been introduced. Additionally, the desktop records search for the area spans 20-years and did not return any results within the project footprint.</p> <p>The desktop review did not find any of the above-listed toxic, hazardous or radioactive substances in or within 3,000 feet of the project area. The project is in compliance with contamination and toxic substances requirements.</p> <p>The Contamination and Toxics Substances Partner Worksheet, and Contamination and Toxic Substances Map (Figure B 6-1) are provided in Appendix B, Attachment 6.</p>
<p>Endangered Species</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 activities will result in ground disturbing activities, including site clearance and tree removal, and installation of a new ground based solar array.</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 habitat was reviewed through the USFWS IPaC and Critical Habitat Portal.</p> <p>The review identified five federally listed species (Puerto Rican broad-winged hawk [<i>Buteo platypterus brunnescens</i>], Puerto Rican parrot [<i>Amazona vittata</i>], Puerto Rican boa [<i>Chilobothrus inornatus</i>], Puerto Rican harlequin butterfly [<i>Atlantea tulita</i>], and Puerto</p>

		<p>Rican sharp-shinned hawk [<i>Accipiter striatus venator</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 34,130 ft (6 mi) away.</p> <p>A qualified biologist reviewed the proposed activity location(s) and determined that the project may affect but is not likely to adversely affect the Puerto Rican broad-winged hawk, Puerto Rican parrot, Puerto Rican sharp-shinned hawk, Puerto Rican boa, and the Puerto Rican harlequin butterfly. 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.</p> <p>USFWS was consulted, and that they acknowledged the receipt of the Dkey NLAA consistency letter on December 5, 2024.</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, and Critical Habitat Map (Figure B 7-1)</p>
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		are provided in Appendix B, Attachment 7.
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The project includes the new construction of a solar panel array. 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 Appendix B, Attachment 8.</p>
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<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 one mapped soil series: MuF2 (Morado clay loam, 40 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 (Figure B 9-1) are provided in Appendix B, Attachment 9.</p>
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>An Advisory Base Flood Elevation (ABFE) map was developed by FEMA, which shows the potential 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, as amended by Executive Order</p>

		<p>13690 particularly section 2(a); 24 CFR Part 55.</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 Orocovis; 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 (Figure B 10-1) are provided in Appendix B, Attachment 10.</p>
<p>Historic Preservation</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 a solar panel array 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.</p> <p>The results of the record search and the site inspection indicate that there are</p>

		<p>no historic properties or cultural resources within the 0.50-mile radius study area or within the project Area of Potential Effect (APE). Based on the results of the historic property identification efforts, the Program has determined that project actions will not affect historic properties that compose the APE.</p> <p>The determination was submitted to SHPO by PRDOH for concurrence on June 22, 2023 and SHPO concurred with the No Historic Properties Affected determination on July 17, 2023 No further evaluation is required. The project is in compliance with the National Historic Preservation Act.</p> <p>The Historic Preservation Partner Worksheet, and SHPO consultation, including a Previously Recorded Cultural Resources Map, are provided in Appendix B, Attachment 11.</p>
<p>Noise Abatement and Control</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 a solar panel array 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>Sole Source Aquifers</p> <p>Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149</p>	<p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>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.</p> <p>The Sole Source Aquifer Partner Worksheet and Sole Source Aquifer Map (Figure B 12-1) are provided in Appendix B, Attachment 12.</p>
<p>Wetlands Protection</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</p>

		<p>inspection. The site inspection identified a mineral spring approximately 260 ft east northeast of solar array option one, but it will not be impacted by the projects if BMPs, 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.</p> <p>The Wetlands Protection Partner Worksheet and Wetland Map (Figure B 13-1) are provided in Appendix B, Attachment 13.</p>
<p>Wild and Scenic Rivers</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 Orocovis Municipio. The closest Wild and Scenic River segment is located 235,965 ft (45 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 Map (Figure B 14-1) are provided in Appendix B, Attachment 14.</p>
ENVIRONMENTAL JUSTICE		
<p>Environmental Justice</p> <p>Executive Order 12898</p>	<p>Yes No</p> <p><input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>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 providing access to renewable electricity for agricultural production. The project would not facilitate development that would negatively affect human health or result in disproportionate adverse environmental</p>

		<p>impacts to low-income or minority populations. The project is in compliance with Executive Order 12898.</p> <p>The Environmental Justice Partner Worksheet and EJScreen Report are provided in Appendix B, Attachment 15.</p>
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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 or 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
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	<p>The proposed project activity is the purchase and installation of a solar panel array.</p> <p>The project site location(s) is classified as A-B 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 minor improvements 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 Orocovis 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>
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	<p>The proposed project activity is the purchase and installation of a solar panel array.</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 one mapped soil series: MuF2 (Morado clay loam, 40 to 60 percent slopes). 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 less than 25 landslides per square kilometer for the project area (see Appendix A, Figure 3- 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 proposed project activity is the construction of a solar panel array.</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</p>

		Rico. Additionally, the project does not include housing to where inhabitants would be affected.
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Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	2	<p>The proposed project activity is the purchase and installation of a solar panel array.</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.</p>
Demographic Character Changes, Displacement	2	<p>The proposed project activity is the purchase and installation of a solar panel array.</p> <p>The project is a rural area in Orocovis 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 proposed project activity is the purchase and installation of a solar panel array.</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 providing access to renewable electricity for 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 15).</p>

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	<p>The proposed project includes the purchase and installation of a solar panel array 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.</p>

Commercial Facilities	2	The proposed project includes the purchase and installation of a solar panel array. 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 proposed project includes the purchase and installation of a solar panel array on private land and will not affect access to or capacity of health care and social services.
Solid Waste Disposal / Recycling	2	The proposed project includes the purchase and installation of a solar panel array. 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 purchase and installation of a solar panel array is 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 proposed project includes the purchase and installation of a solar panel array. The proposed project activities are not expected to result in any changes to water supply. Rainwater is being collected in two 250-gallon drums. Water is also being collected from various mineral springs throughout the property.
Public Safety - Police, Fire and Emergency Medical	2	The proposed project includes the purchase and installation of a solar panel array 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 proposed project includes the purchase and installation of a solar panel array 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 proposed project includes the purchase and installation of a solar panel array on private land and will have no relation to transportation services. The proposed activities will not result in any changes in transportation and accessibility.
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Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	The proposed project includes the purchase and installation of a solar panel array. A mineral spring is located approximately 260 ft east northeast of the project area. A riverine runs along the border of the Orocovis and Ciales Municipios which is in the center of the applicant's property. No construction or project activities will occur within the waterbody or affect quality or access to the mineral spring or the riverine.
Vegetation, Wildlife	2	The proposed project includes the purchase and installation of a solar panel array. The project area has already been previously disturbed for farm operations. Although there will be some removal of trees, the project is not anticipated to negatively impact wildlife, or native plant communities. Though trees will be removed, it is expected to result in a net positive outcome as it will result in greater photovoltaic generation.

Environmental Assessment Factor	Impact Code	Impact Evaluation
CLIMATE AND ENERGY		
Climate Change Impacts	2	The proposed project includes the purchase and installation of a solar panel array. 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 (https://resilience.climate.gov/#assessment-tool) provides historical and future climate data for five common climate-related hazards (extreme heat, drought, wildfires, flooding, and coastal inundation).

		<p>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 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 solar panel array construction activities are for individual farm use and will not result in a significant increase in electricity or water draw. 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.</p>
Energy Efficiency	2	<p>The project will not result in significant additional energy consumption as it involves only the construction of a solar panel array using self-powered construction equipment on an existing farm and will not require any expansion to existing power facilities.</p>

Additional Studies Performed:

No additional studies were performed.

Field Inspection (Date and completed by):

November 17th, 2023, by Karina Morales, 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 \(pr.gov\)](#).

Federal Aviation Administration (FAA). 2022. National Plan for Integrated Airport Systems 2023-2027. Accessed November 29, 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 Panel 72000C1130H (effective 4/19/2005). Accessed November 29, 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 29, 2023. Available at: [Puerto Rico Coastal Vulnerability Viewer \(arcgis.com\)](https://coastal.vulnerabilityviewer.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 29, 2023. Available at: <https://geopub.epa.gov/arcgis/rest/services/EMEF/efpoints/MapServer>.

USEPA. 2022b. Sole Source Aquifer Map. Accessed November 29, 2023. 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 29, 2023. Available at: https://www3.epa.gov/airquality/greenbook/anayo_pr.html.

USEPA. 2023b. EJScreen: Environmental Justice Screening and Mapping Tool. Accessed February 3, 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 29, 2023. Available at: <https://www.fws.gov/CBRA/Maps/Mapper.html>.

USFWS. 2023a. Information for Planning and Consultation (IPaC). Accessed January 29, 2024. Available at: <https://ipac.ecosphere.fws.gov/location/index>.

USFWS. 2023b. Critical Habitat for Threatened & Endangered Species. Accessed January 29, 2024. 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 29, 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 29, 2023. Available at: <https://www.rivers.gov/mapping-gis.php>; [Wild & Scenic Rivers | US Forest Service \(usda.gov\)](https://www.usda.gov/wild-scenic-rivers/).

U.S. Geological Survey (USGS). 2022. Concentration of Landslides caused by Hurricane Maria, Puerto Rico. Accessed November 29, 2023. Available at: [U.S. Landslide Inventory \(arcgis.com\)](https://landslideinventory.usgs.gov/).

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 a solar panel array the project site is not anticipated to have a negative impact on environmental resources. 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 solar panel array. However, other locations may require greater environmental impacts such as additional ground 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)]:

If the proposed project did not take place, the farm may have to rely on outside sources of electricity rather than have access to their own solar panels. In the absence of a solar panel array, the business may have difficulty continuing agricultural production during future disasters. 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.

Law, Authority, or Factor	Mitigation Measure
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	<p>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:</p> <ol style="list-style-type: none">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 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.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

	<p>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 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>
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	<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>The USFWS has developed the following conservation measures for the Puerto Rican Harlequin Butterfly species in case an encounter occurs:</p> <p>1. All project construction personnel must be informed about the potential presence of the PR harlequin butterfly or its occupied host plant, prickly bush (<i>Oplonia spinosa</i>), in the project areas and the need to avoid harming the species and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the PR harlequin butterfly (i.e., eggs, caterpillar, chrysalis, and adult) as well as its host plant, should be prepared and available to all personnel for reference.</p> <p>2. Before starting any project activity, including removal of vegetation and earth movement, the boundaries of the work area in the field clearly delineate to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the PR harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the PR harlequin butterfly can be observed year-round in all its life stages; thus, oviposition (egg-laying) may occur at any time during the year.</p>
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	<p>3. If the prickly bush is present on the project site, try to avoid cutting it off, even if no eggs, caterpillars, or chrysalis are present.</p> <p>4. If there is no prickly bush within the project area, and the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species.</p> <p>5. Adult butterflies are often observed flying near the host plant as part of their mating behavior and laying eggs. Project-related activities must stop if the prickly bush is found in the project area and the PR harlequin butterfly is observed flying in that same area where the plan is located. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.</p> <p>6. Once the PR harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded.</p> <p>7. If, after the initial search or after the 24 to 36-hour search, any life stage of the PR harlequin butterfly is found in the prickly bush, take the following actions:</p> <ul style="list-style-type: none"> o Clearly mark the host plant with flagging tape. February 2024 o Establish a 10-meter (32-foot) buffer zone around the bush to protect it. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once an egg hatches, the caterpillar moves and feeds throughout the plant. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. <p>8. For all PR harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a</p>
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	<p>photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All PR harlequin butterfly sighting reports should be sent to the U.S. Fish and Wildlife Service, Caribbean Ecological Service Field Office at caribbean_es@fws.gov.</p> <p>9. For questions regarding the PR harlequin butterfly, the Point of Contact is: • José Cruz-Burgos, Threatened and Endangered Species Program Coordinator:</p> <ul style="list-style-type: none"> o Mobile: 305-304-1386 o Office phone: 786-244-0081 o Office Direct Line: 939-320-3120 o Email: jose_cruz-burgos@fws.gov <p>1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.</p> <p>2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.</p> <p>3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree disturbance during the typical breeding season for this parrot (January to July), if the parrot is determined to be present. The parrot selects a large, deep tree cavity, usually in a Palo Colorado tree. The parrot normally does not build its own nest but, many times, parrot biologists do build artificial cavities that are accepted by the parrot. A check with DNER should occur if large Palo</p>
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	<p>Colorado trees are in the general construction area.</p> <p>4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the DNER and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.</p> <p>5. If a parrot is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).</p> <p>6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.</p> <p>7. If critical habitat may be adversely modified by the implementation of Proposed Project actions,</p>
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	<p>the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.</p> <p>8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.</p> <p>If you have any questions regarding the above conservation measures, please contact the Service:</p> <ul style="list-style-type: none"> • Marelisa Rivera, Deputy Field Supervisor Email: marelisa_rivera@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1814 • José Cruz-Burgos, Endangered Species Coordinator Email: jose_cruz-burgos@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1386 <p>1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.</p> <p>2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.</p> <p>3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree</p>
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	<p>disturbance during the typical breeding season for this hawk (March and April), if the hawk is determined to be present.</p> <p>4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the USFWS and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.</p> <p>5. If a sharp-shinned hawk is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).</p> <p>6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.</p> <p>7. If critical habitat may be adversely modified by the implementation of Proposed Project actions,</p>
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	<p>the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.</p> <p>8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.</p> <p>If you have any questions regarding the above conservation measures, please contact the Service:</p> <ul style="list-style-type: none"> • Marelisa Rivera, Deputy Field Supervisor Email: marelisa_rivera@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1814 • José Cruz-Burgos, Endangered Species Coordinator Email: jose_cruz-burgos@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1386 <p>1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.</p> <p>2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.</p> <p>3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree</p>
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	<p>disturbance during the typical breeding season for this hawk (February and March), if the hawk is determined to be present.</p> <p>4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the USFWS and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.</p> <p>5. If a broad-winged hawk is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).</p> <p>6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.</p> <p>7. If critical habitat may be adversely modified by the implementation of Proposed Project actions,</p>
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	<p>the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.</p> <p>8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.</p> <p>If you have any questions regarding the above conservation measures, please contact the Service:</p> <ul style="list-style-type: none"> • Marelisa Rivera, Deputy Field Supervisor Email: marelisa_rivera@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1814 • José Cruz-Burgos, Endangered Species Coordinator Email: jose_cruz-burgos@fws.gov Office phone (786) 244-0081 or mobile (305) 304-1386
<p>Historic Preservation</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 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>
Wetlands Protection	<p>Best Management Practices, such as silt fencing and erosion control, Will be implemented during any ground-disturbing activities.</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: Alaina Callinan Date: 8/26/2025

Name/Title/Organization: Alaina Callinan, Deputy Program Manager

SWCA Environmental Consultants

Certifying Officer Signature: _____ Date: 8/28/2025

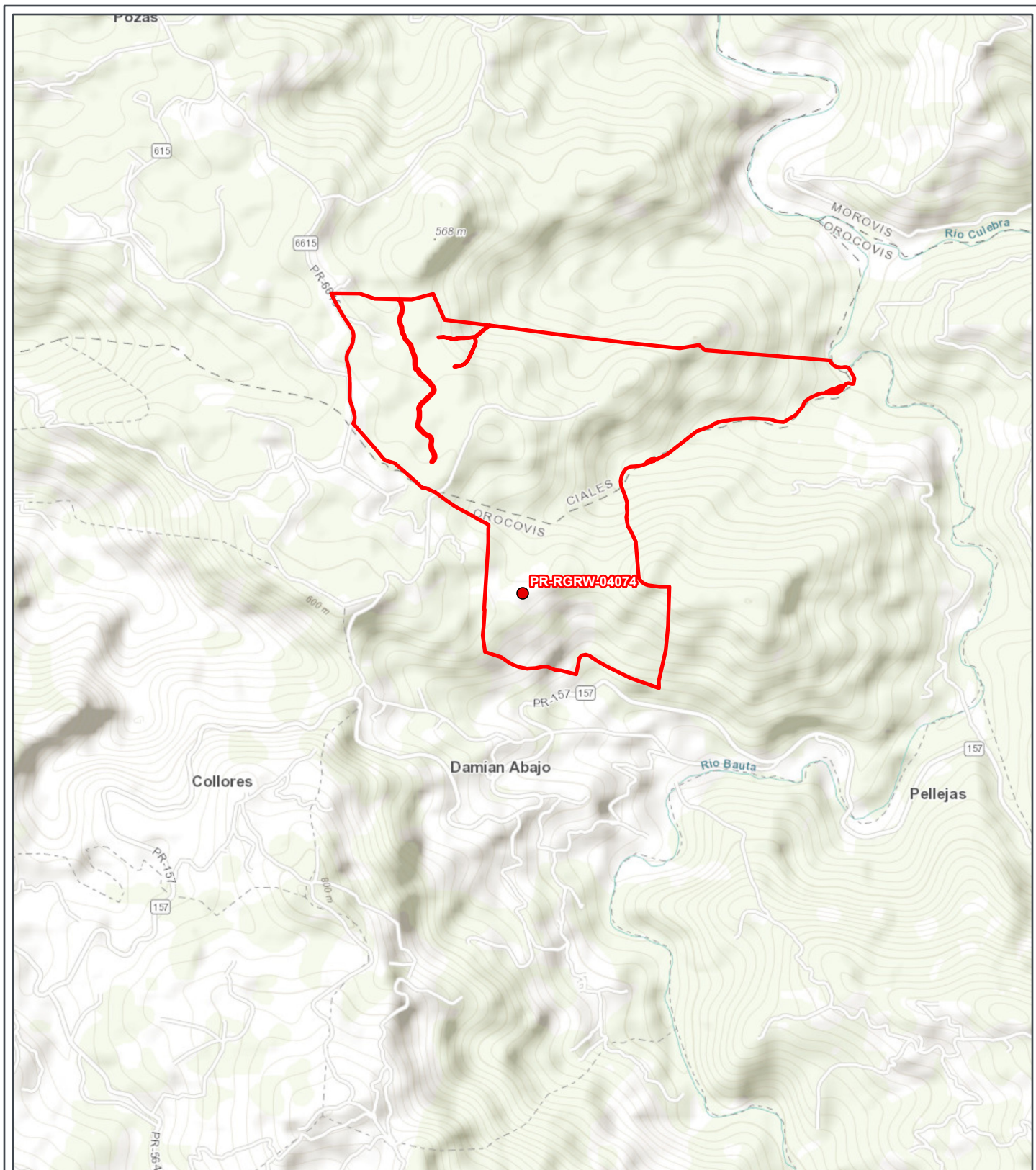
Name/Title: Abdul X. Feliciano Plaza, Permits and Environmental Specialist

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-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720

Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Base Map: ESRI ArcGIS Online,
accessed November 2023
Updated: 11/29/2023

Layout: Site Location
Aprx: 72428_ReGrowTier2Maps

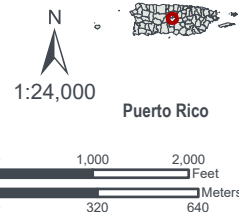
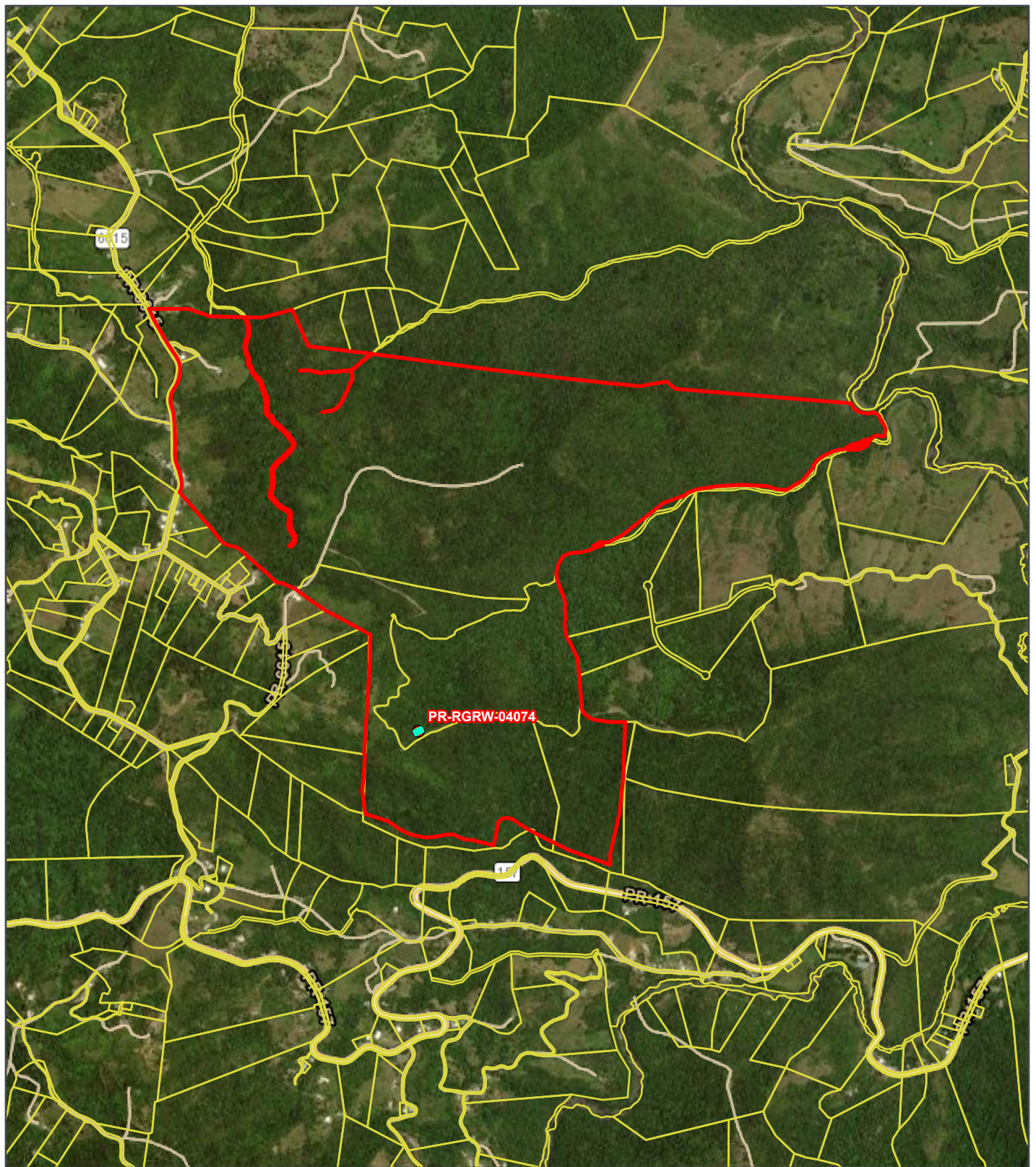


Figure 2
Site Vicinity Map



REGROW PROGRAM

Figure A-2: Site Vicinity

Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720

Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Base Map: ESRI ArcGIS Online,
accessed November 2023
Updated: 11/29/2023

Layout: Site Vicinity
Aprx: 72428_ReGrowTier2Maps

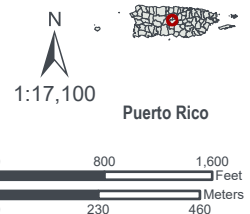
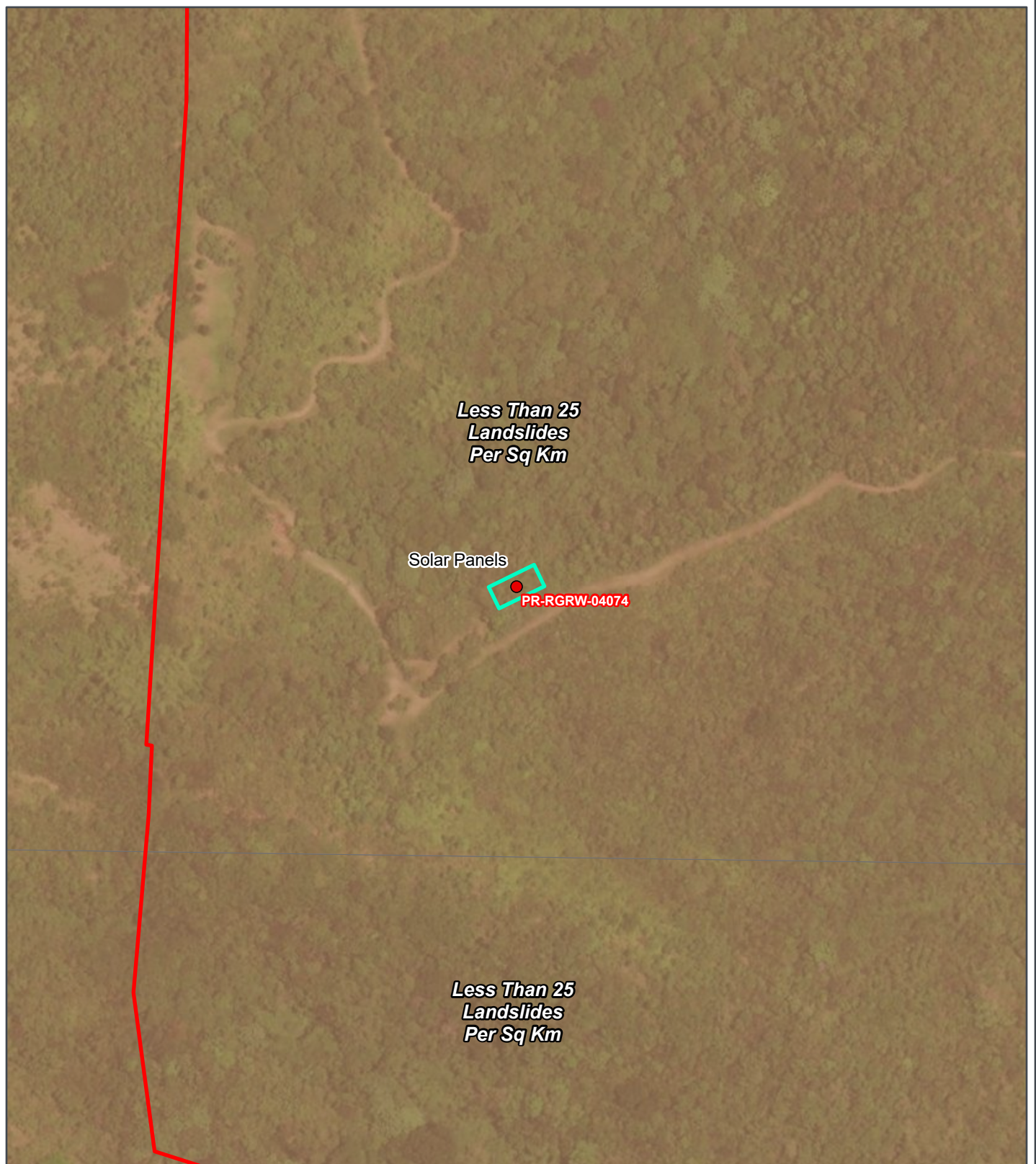


Figure 3
USGS Landslide Map



REGROW PROGRAM

Figure A-3: USGS Landslide Map

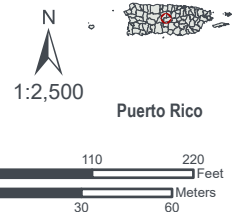
Applicant ID: PR-RGRW-04074

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 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: https://arcgis.cuahsi.org/arcgis/rest/services/MariaRAPID/Hurricane_Maria_Landslides/MapServer
Base Map: ESRI ArcGIS Online, accessed November 2023
Updated: 11/29/2023
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 à *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 à *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 à *Continue to Question 3.*

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

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

à *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.

à *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. à *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.](#)

à 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 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, Mercedita, is located 91,093 ft (17 mi) from the project site. The nearest military airport, Luis Munoz Marin International Airport, is located 172,095 ft (33 mi) 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

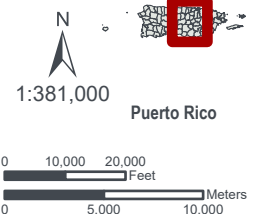
Applicant ID: PR-RGRW-04074

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 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://geodata.bts.gov/>
Base Map: ESRI ArcGIS Online,
accessed November 2023
Updated: 11/29/2023
Layout: Airport Hazards
Aprx: 72428_ReGrowTier2Maps



Attachment 2

Coastal Barrier Resources Act Partner Worksheet and Coastal Barrier Resources Map



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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 à *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 à *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.

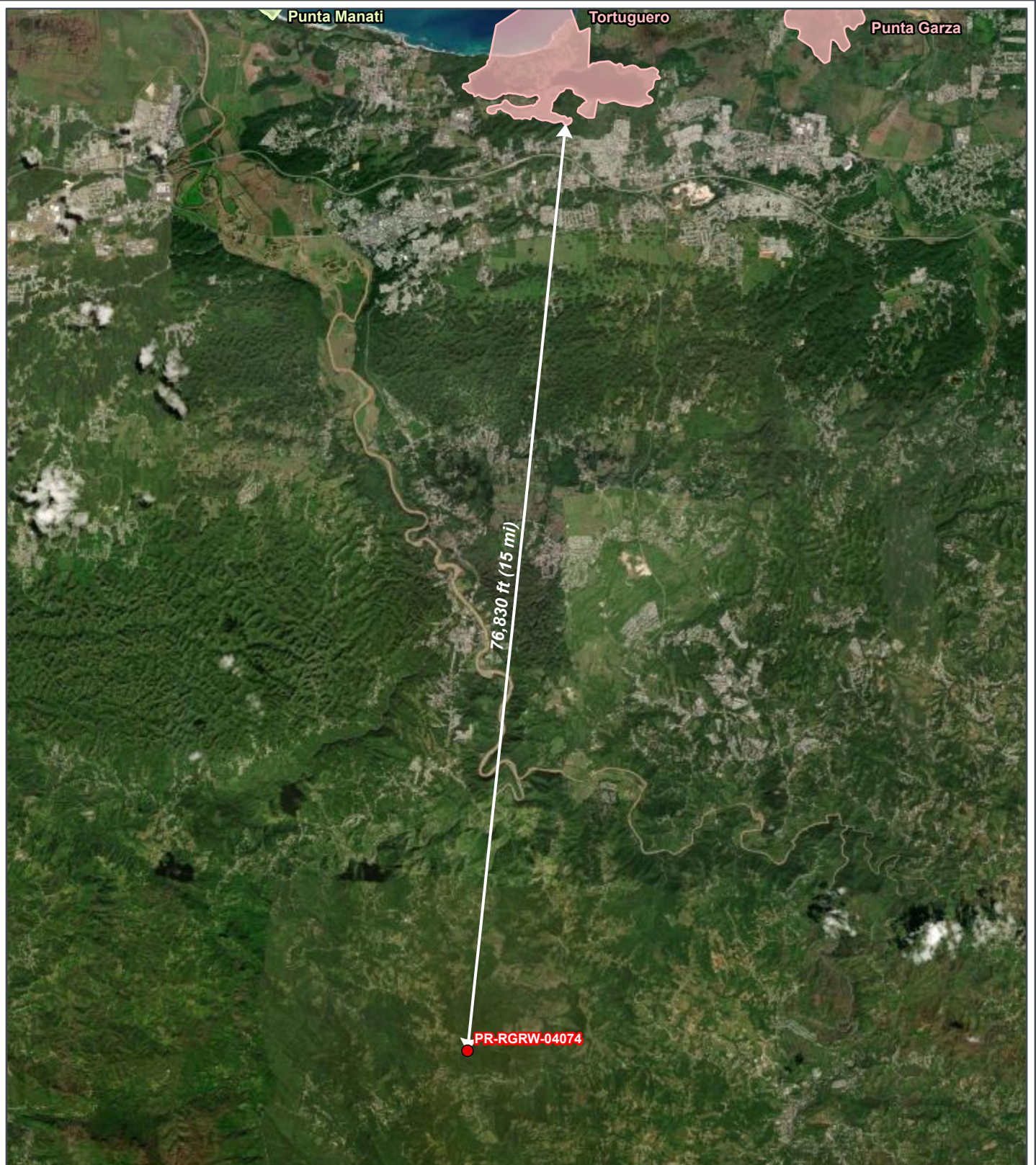
The project site is not located in a Coastal Barrier Resource Systems Unit (CBRS) or Otherwise Protected Area (OPA). There are no CBRS units in Orocovis. The closest CBRS unit, Tortuguero, is located 76,830 ft



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(15 mi) 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

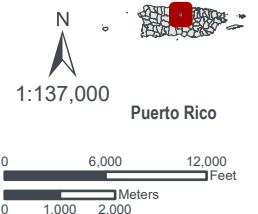
Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- Otherwise Protected Area
- System Unit

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://cbrgis.wim.usgs.gov/arcgis/rest/services/CoastalBarrierResourcesSystem/MapServer>
Base Map: ESRI ArcGIS Online, accessed November 2023 Updated: 11/29/2023
Layout: Coastal Barrier Resources System



Attachment 3

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



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
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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.
à *Continue to the Worksheet Summary.*

☐ Yes à *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 à *Continue to the Worksheet Summary.*

☐ Yes à *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.
à *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.
à *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 72000C1130H (effective date 04/19/2005), shows 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)

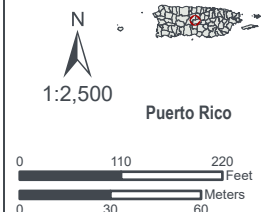
Applicant ID: PR-RGRW-04074



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

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Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://hazards.fema.gov/gis/nfhl/rest/services/public/NFHL/MapServer>
Base Map: ESRI ArcGIS Online, accessed November 2023
Updated: 11/29/2023
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

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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 Orocovis 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 new construction of a solar panel array. The project is not anticipated to have a negative impact on air quality. Emissions associated with the proposed actions are temporary and 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/m³) 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	<div>1112131415161718192021222324</div>	//		Part	32,185	72/013
Bayamon Municipio	Sulfur Dioxide (2010)	San Juan, PR	<div>18192021222324</div>	//		Part	22,921	72/021
Catano Municipio	Sulfur Dioxide (2010)	San Juan, PR	<div>18192021222324</div>	//		Whole	28,140	72/033
Guaynabo Municipio	PM-10 (1987)	Mun. of Guaynabo, PR	<div>929394959697989900010203040506070809</div>	02/11/2010	Moderate	Part	90,470	72/061
Guaynabo Municipio	Sulfur Dioxide (2010)	San Juan, PR	<div>18192021222324</div>	//		Part	23,802	72/061
Salinas Municipio	Sulfur Dioxide (2010)	Guayama-Salinas, PR	<div>18192021222324</div>	//		Part	23,401	72/123
San Juan Municipio	Sulfur Dioxide (2010)	San Juan, PR	<div>18192021222324</div>	//		Part	147,963	72/127
Toa Baja Municipio	Sulfur Dioxide (2010)	San Juan, PR	<div>18192021222324</div>	//		Part	52,441	72/137

Important Notes

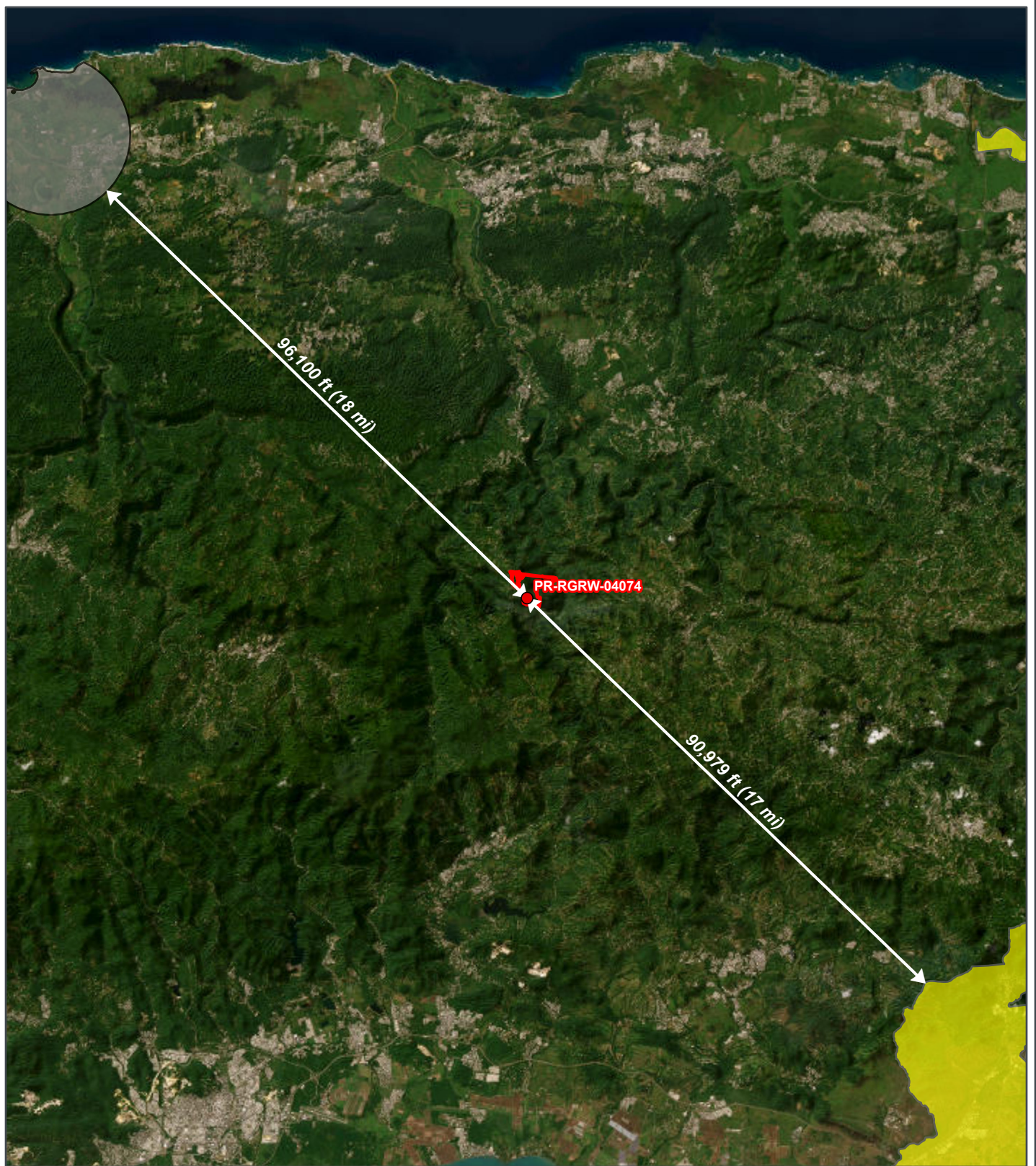
Discover.

Connect.

Ask.

Follow.

2024-01-31



REGROW PROGRAM

Figure B 4-1: Clean Air Map

Applicant ID: PR-RGRW-04074

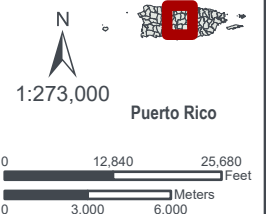
SWCA
ENVIRONMENTAL CONSULTANTS

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

*No Data in Puerto Rico

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: https://geopub.epa.gov/arcgis/rest/services/NEPAAssist/NEPAVELayersPublic_fgdb/MapServer
Base Map: ESRI ArcGIS Online, accessed November 2023
Updated: 11/29/2023
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

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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.

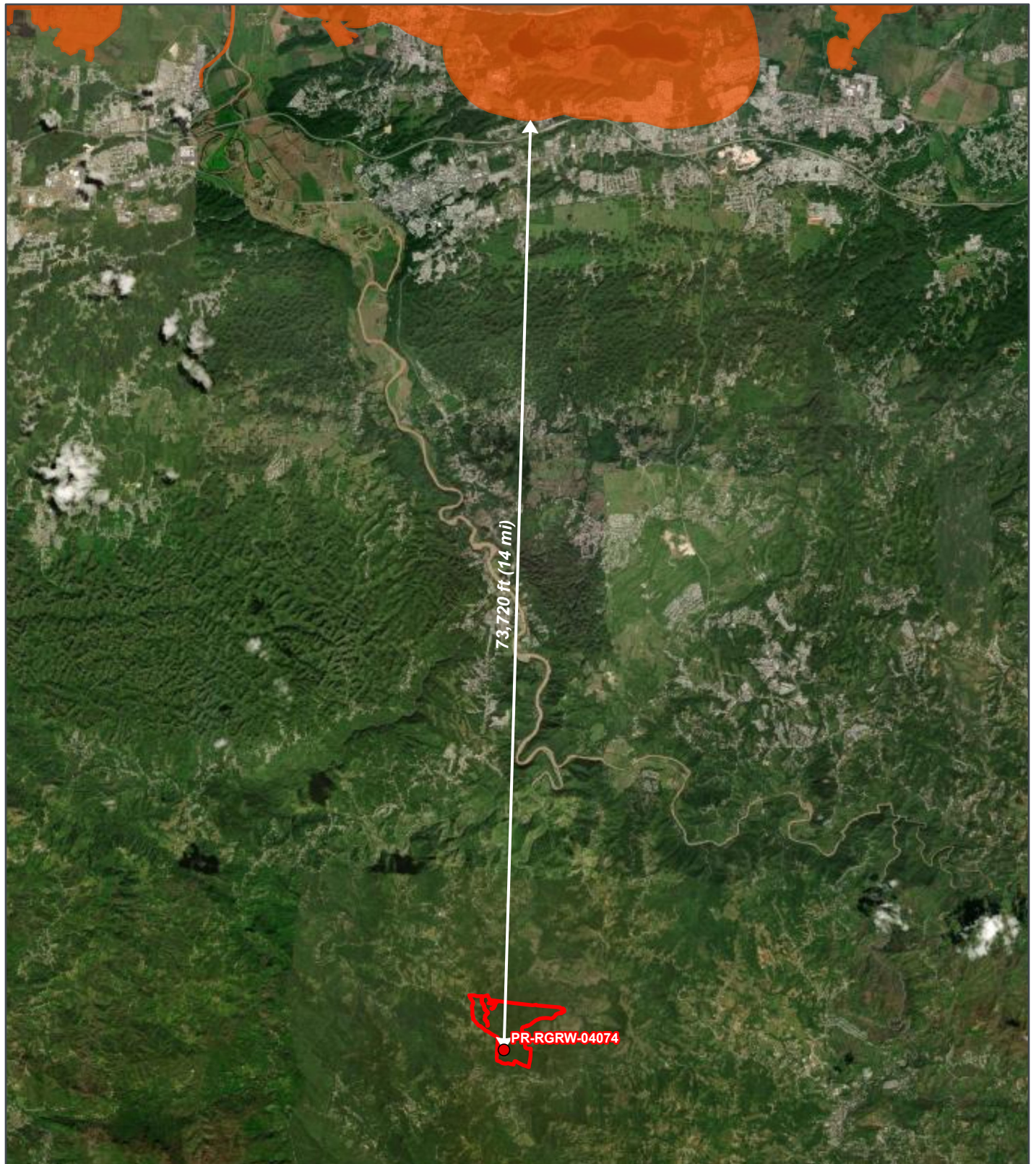
Worksheet Summary

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 73,720 ft (14 mi) 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

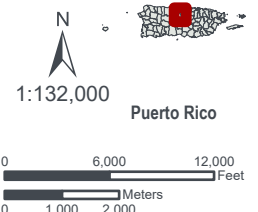
Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- Coastal Management Zone

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://coast.noaa.gov/arcgis/rest/services/Hosted/CoastalZoneManagementAct/BaseMap>
Map: ESRI ArcGIS Online, accessed November 2023 Updated: 11/29/2023
Layout: Coastal Zone Management Aprx: 72428_ReGrowTier2Maps



Attachment 6

Contamination and Toxics Substances

Partner Worksheet, Desktop Review

Summary, Map and Radon

Documents



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

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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?¹ 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?

¹ 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 requirements² 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 controls³, or use of institutional controls⁴.

[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 27, 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.

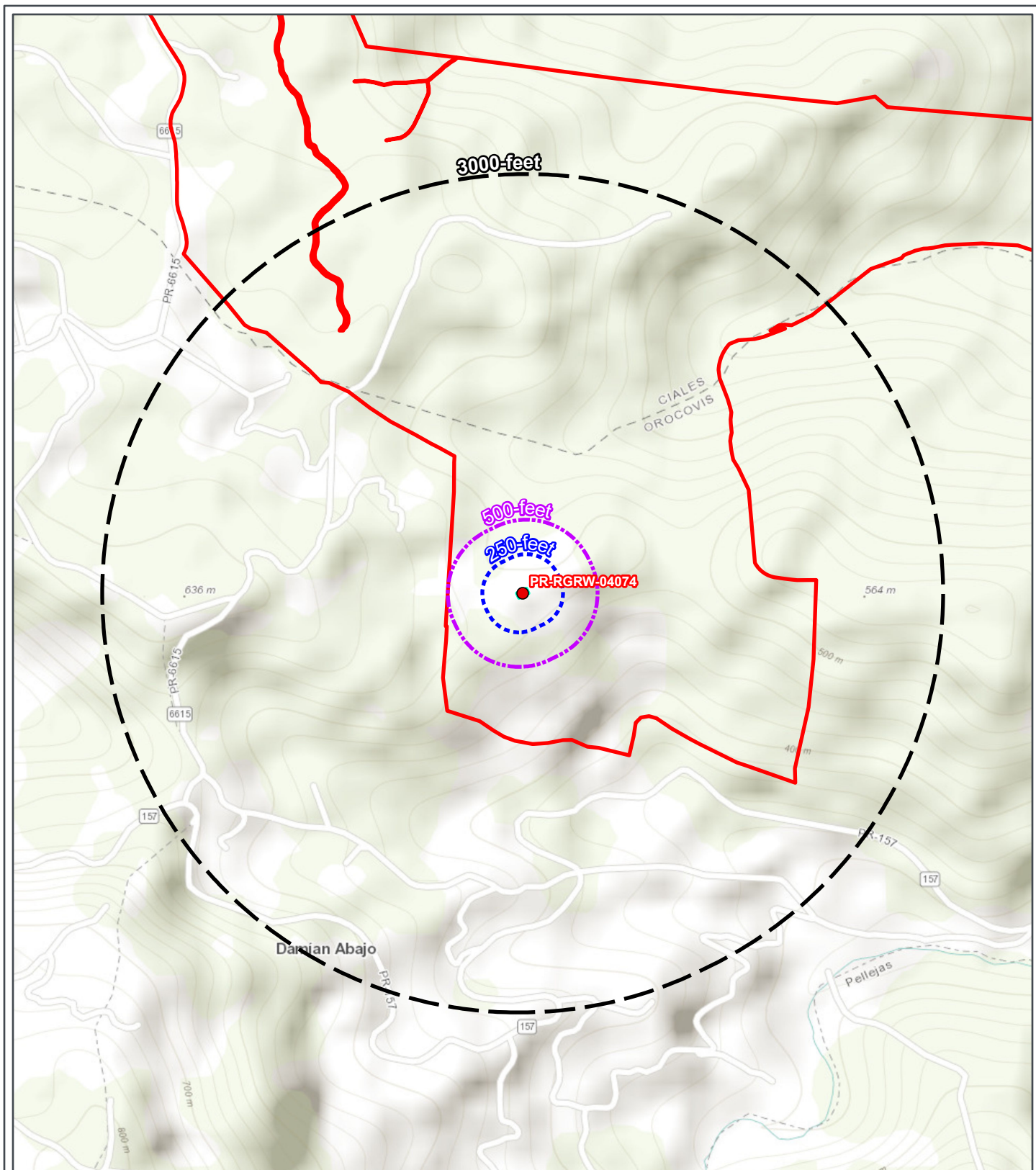
In addition, a desktop review of USEPA databases, NEPAAssist, and other sources was conducted to determine if the project site was located near dump sites, junk yards, landfills, hazardous waste sites, or industrial sites, including USEPA National Priorities List Sites (Superfund sites), CERCLA or state-equivalent sites, RCRA Corrective Action sites with release(s) or suspected release(s) requiring clean-up action and/or further investigation. The desktop review did not find any of the above-listed toxic,

² 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.

³ 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.

⁴ 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.

hazardous or radioactive substances in or within 3,000 feet of the project area that could 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.



REGROW PROGRAM

Figure B 6-1: Contamination and Toxic Substances Map

Applicant ID: PR-RGRW-04074

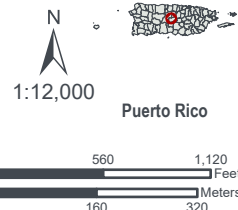
SWCA
ENVIRONMENTAL CONSULTANTS

- 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

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Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://geopub.epa.gov/arcgis/rest/services/EMEP/MapServer>
Base Map: ESRI ArcGIS Online, accessed November 2023
Updated: 11/29/2023
Layout: Contamination and Toxic Substances





GOVERNMENT OF PUERTO RICO
DEPARTMENT OF HOUSING

Memorandum to File

Date: September 30, 2024

Alaina Callinan

From: Alaina Callinan
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-04074

Project: Earth Essentials, Corp

Re: Justification for the Infeasibility and Impracticability of Radon Testing

After reviewing Application Number PR-RGRW-04074 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.

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.

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

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.

This Notice emphasizes the importance of radon testing and mitigation in ensuring safe living environments, particularly in HUD-assisted properties. PRDOH, as the grantee of the Community Development Block Grant for Disaster Recovery and Mitigation (CDBG-DR/MIT), is responsible for ensuring compliance with environmental requirements under CDBG-DR/MIT programs. To fulfill our obligations under this Notice, we must compile comprehensive and up-to-date information on radon levels, testing practices, and any mitigation efforts within the islands of Puerto Rico.

Specifically, we are seeking for possible availability of the following information:

Radon testing data – Results from radon testing conducted within your agency's purview, including details on location, testing methods, and recorded radon levels.

Barbosa Ave. #606, Building Juan C. Cordero Davila, Rio Piedras, PR 00981 | PO Box 21365 San Juan, PR 00928-1365
Tel: (787) 274-2527 | 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

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Reports and assessments – Any reports, studies, or assessments your agency has produced or commissioned that address radon testing or mitigation.

Policies and guidelines – Information or any policy, guideline, or protocol your agency follows concerning radon testing, exposure limits, or mitigation.

Historical data – If available, historical data or trends in radon levels within the regions you monitor that may impact HUD-assisted housing.

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
Mr. Matthew Laitila, laitila.matthew@epa.gov

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Sincerely,

William O. Rodríguez Rodríguez, Esq.
Secretary

Cc: Dr. Carlos Marín, 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

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

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CDBG-DR/MIT Program
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

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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Sincerely,


William O. Rodríguez Rodríguez, Esq.
Secretary

Cc: Mr. Luis Márquez, secretariagire@dma.pr.gov
Eng. Amarilis Rosario, aire@dma.pr.gov
Mrs. Elid Ortega, 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

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

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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

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

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Sincerely,


William O. Rodríguez Rodríguez, Esq.
Secretary

Cc: Mr. Raúl Hernández Dabla, rhernandez2@salud.pr.gov

CDBG-DR/MIT Program
Request for Information in relation with HUD CDP-23-103 for Puerto Rico
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Sincerely,


William O. Rodríguez Rodríguez, Esq.
Secretary

Cc: Mr. R. Randall Schumann, 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
<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
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

From: Silvina Cancelos Mancini <silvina.cancelos@upr.edu>
Sent: Friday, September 6, 2024 15:04
To: 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>; Maritza Rosa Olivares <maritzarosaolivares@drna.pr.gov>; Reyes, Brenda <Reyes.Brenda@epa.gov>; Povetko, Oleg <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



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.¹ 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.

¹ 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, 7TH 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 or have your staff contact Reyes, Brenda at 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
Elaine Dume Mejia: Edume@vivienda.pr.gov
Luz S Colon Ortiz: Lcolon@vivienda.pr.gov
Aldo A. Rivera-Vazquez: arivera@vivienda.pr.gov
Cesar O. Rodriguez: cesarrodriiguez@drna.pr.gov
Marita Rosa Olivares: maritzarosaolivares@drna.pr.gov

Attachment 7

Endangered Species Act Partner Worksheet, Threatened and Endangered Species Technical Memorandum, USFWS IPaC Species List and Critical 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 five federally listed species, the Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*), Puerto Rican parrot (*Amazona vittata*), Puerto Rican sharp-shinned hawk (*Accipiter striatus* venator), Puerto Rican harlequin butterfly (*Atlantea tulita*), and Puerto Rican boa (*Chilabothrus inornatus*), with the potential to occur within the project area. The project is located 34,130 ft (6 mi) from the closest designated critical habitat.

The project area is adjacent to forested areas; therefore, the applicant will employ conservation measures for all five species, as outlined in Appendix E of the attached USACE informal consultation letter. As such, it is anticipated that the project may affect, but is not likely to adversely affect the

Puerto Rican Sharp-shinned hawk, Puerto Rican broad-winged hawk, Puerto Rican parrot, Puerto Rican boa, and Puerto Rican harlequin butterfly. The project will have no effect on designated critical habitat. See the attached USFWS informal consultation request and subsequent concurrence, dated December 4, 2024.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Caribbean Ecological Services Field Office
Bayamón | Mayagüez | Maricao | Río Grande | St Croix
P.O. Box 491
Boquerón, Puerto Rico 00622



In Reply Refer to:
FWS/R4/CESFO/72107-Gen

Submitted Via Electronic Mail: jcperez@vivienda.pr.gov

Juan Carlos Pérez-Bofill, PE, MEng.
Director – Disaster Recovery CDBG-DR Program
Puerto Rico Department of Housing
P.O. Box 21365
San Juan, P.R 00928-1365

Re: CDBG-DR PR-RGRW-04074 Earth
Essentials, Corp., Orocovis, Puerto Rico

Dear Mr. Pérez-Bofill

Thank you for your letter dated September 30, 2024, requesting informal consultation on the above referenced project. As per your request, our comments are provided under the Endangered Species Act (Act) (87 Stat. 884, as amended; 16 United States Code 1531 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The Puerto Rico Department of Housing (PRDOH) is proposing the installation of a new solar array which will require vegetation removal and tree clearing. The project area is located on a 435.15 acre property at State Road PR-157 Int., Bo. Damián abajo (18°14'34.0"N 66°28'04.8"W) in the municipality of Orocovis.

Using the U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) system, the PRDOH has determined that the proposed project site is located within the range of Puerto Rican boa (*Chilabothrus inornatus*), Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*), Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*) and Puerto Rican parrot (*Amazona vittata*).

PRDOH used the Caribbean Determination Key (DKey) in the IPaC application to evaluate the potential impacts of the proposed project on federally listed species (Project code: 2024-0131097). Based on the answers provided, a consistency letter was obtained for the Puerto Rican boa, Puerto Rican broad-winged hawk and Puerto Rican sharp-shinned hawk which determined that the proposed actions for this project may affect, but is not likely to adversely affect (NLAA) these species. A consultation is required for the Puerto Rican parrot and Puerto Rican harlequin butterfly.

As for the Puerto Rican parrot and Puerto Rican harlequin butterfly, since vegetation removal is expected, PRDOH has determined that the proposed project actions may affect, but is not likely to adversely affect these species. Conservation measures will be implemented.

We have reviewed the information provided and our files, and concur with PRDOH's determination that the proposed project may affect, but is not likely to adversely affect the Puerto Rican parrot and Puerto Rican harlequin butterfly with the implementation of the conservation measures. Also, the Service acknowledges receipt and concur with the NLAA consistency letter for the Puerto Rican broad-winged hawk, Puerto Rican boa and Puerto Rican sharp-shinned hawk obtained by using the Dkey.

In view of this, we believe that requirements of section 7 of the Endangered Species Act (Act) have been satisfied. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impact of this identified action that may affect listed species or critical habitat in a manner that was not previously considered; (2) this action is subsequently modified in a manner not previously considered in this assessment; or, (3) a new species is listed, or critical habitat determined that may be affected by the identified action.

Thank you for the opportunity to comment on this project. If you have any questions or require additional information, please contact us via email at caribbean_es@fws.gov or by phone at (786) 244-0081.

Sincerely,

LOURDES MENA

Digitally signed by LOURDES
MENA
Date: 2024.12.05 09:05:44 -04'00'

Lourdes Mena
Field Supervisor

drr
cc:
SWCA
HUD



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Tel 281.617.3217 Fax 281.617.3227
www.swca.com

September 19, 2024

Lourdes Mena
Field Supervisor
Caribbean Ecological Services Field Office
U.S. Fish and Wildlife Service
Office Park I, Suite 303
State Road #2 Km 156.5
Mayagüez, Puerto Rico 00680
Email: Caribbean_es@fws.gov; Lourdes_Mena@fws.gov

**Re: Federally Listed Threatened and Endangered Species Evaluation for the Puerto Rico
Department of Housing ReGrow PR-RGRW-04074 Project/ SWCA Project No. 72428**

Dear Ms. Mena:

SWCA Environmental Consultants (SWCA), on behalf of the Puerto Rico Department of Housing, is requesting informal consultation under Section 7(a)(2) of the Endangered Species Act (Act) (87 Stat. 884, as amended; 16 United States Code 1531 *et seq.*), and in accordance with the Fish and Wildlife Coordination Act (47 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) for the proposed ReGrow PR-RGRW-04074 Project (project). The Project is located on 435.15 acres at Carretera 157 Interior Barrio Damian Abajo, Orocovis, Puerto Rico 00720 (18.24276976, -66.46800110).

The proposed Project involves the installation of a new solar array. One location is being evaluated for the new solar array. Installation of the solar array will require vegetation removal and tree clearing.

Using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system, we have determined that the proposed project lies within the range of the following federally listed species:

Species	Listing Status
Puerto Rican Broad-winged Hawk (<i>Buteo platypterus brunnescens</i>)	Endangered
Puerto Rican Parrot (<i>Amazona vittata</i>)	Endangered
Puerto Rican Sharp-shinned Hawk (<i>Accipiter striatus venator</i>)	Endangered
Puerto Rican Boa (<i>Chilabothrus inornatus</i>)	Endangered
Puerto Rican Harlequin Butterfly (<i>Atlantea tulita</i>)	Threatened

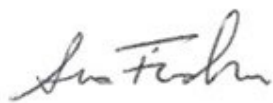
No designated or proposed critical habitat for any listed species was identified within the project area. Based on the nature of the project, scope of work, information available, and a careful analysis of the existing habitat, we have made the following effects determinations:

Species	Effect Determination	Conservation Measures to be Implemented
Puerto Rican Boa (<i>Chilabothrus inornatus</i>)	Not likely to adversely affect (NLAA)	Puerto Rican Boa General Project Design Guidelines
Puerto Rican Broad-winged Hawk (<i>Buteo platypterus brunnescens</i>)	Not likely to adversely affect (NLAA)	Puerto Rican Broad-winged Hawk Conservation Measures
Puerto Rican Parrot (<i>Amazona vittata</i>)	Not likely to adversely affect (NLAA)	Puerto Rican Parrot Conservation Measures
Puerto Rican Sharp-shinned Hawk (<i>Accipiter striatus venator</i>)	Not likely to adversely affect (NLAA)	Puerto Rican Sharp-shinned Hawk Conservation Measures
Puerto Rican Harlequin Butterfly (<i>Atlantea tulita</i>)	Not likely to adversely affect (NLAA)	Puerto Rican Harlequin Butterfly General Project Design Guidelines

In accordance with the 2024 Puerto Rican Boa General Project Design Guidelines, if a Puerto Rican Boa (PR Boa) is found in the project action site, work shall cease until the individual moves off on its own. If the PR Boa does not move off, the construction manager shall contact the Puerto Rico Department of Natural and Environmental Resources and ask for them to relocate the PR Boa.

In order to complete the informal consultation process, we are requesting your concurrence for the NLAA determinations included in this letter. Attached to this letter, we are including the documents used to reach our effect determinations for the listed species. If you have any questions or require any additional information, please contact me at (346) 388-1157 or susan.fischer@swca.com.

Sincerely,



Susan Fischer
Wildlife Ecologist
SWCA Environmental Consultants

Attachments: Threatened and Endangered Species Technical Memorandum



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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: September 9, 2024

Re: **Threatened and Endangered Species Evaluation for the Puerto Rico Department of Housing ReGrow PR-RGRW-04074 Project/ SWCA Project No. 72428**

Project Description

Earth Essentials, Corp., the applicant, is proposing to install a new ground based solar array on a 435.15-acre property in the Municipio of Orocovis, Puerto Rico (project) (Appendix A, Figure 1). The project is located at Carretera 157 Interior Barrio Damiam Abajo, Orocovis, Puerto Rico 00720, in a rural area. The estimated dimensions of the solar array will be approximately 40 feet by 13 feet (520 square feet) (Appendix A, Figure 2). The solar panels will be installed on ground-mounted frames made from steel and concrete. Each solar panel will have four ground anchors, which will be installed 1-2 feet into the ground, requiring some ground disturbance. The total number of support columns will be 72-96 depending on the number of panels installed. The array's height is expected to be about 1.5-2.5 feet.

Existing conditions

The existing habitat conditions at the proposed solar array location consists of mowed grass or dense, overgrown, thorny vegetation surrounded by forested areas. There are no wetlands or waterbodies mapped within or adjacent to the project area (Appendix A, Figure 3); however, a site inspection identified two springs located within the subject property, the closest on being approximately 260 feet northwest of the project area. Some vegetation removal and tree clearing will be required for placement of the arrays and to allow more direct sunlight to the panels. 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 (2024) Information for Planning and Consultation ("IPaC") website for a 100-foot buffer around the two optional solar array 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, five federally listed endangered species has the potential to occur in the review area; the Puerto Rican broad-winged hawk

(*Buteo platypterus brunnescens*), Puerto Rican parrot (*Amazona vittata*), Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*), the Puerto Rican boa (*Chilabothrus inornatus*), and Puerto Rican harlequin butterfly (*Atlantea tulita*). 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 2024); 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
Birds				
Puerto Rican Broad-winged Hawk (<i>Buteo platypterus brunnescens</i>)	FE	The Puerto Rican broad-winged hawk occurs in elfin woodland, sierra palm, caimitillo-granadillo, and tabonuco forest types of the Río Abajo Commonwealth Forest, Carite Commonwealth Forest, and El Yunque National Forest as well as within hardwood plantations, shade coffee plantations, and mature secondary forests (USFWS 2019a).	<i>May occur.</i> Forested areas are located adjacent to the project area and project will require some tree clearing.	<i>May affect, but not likely to adversely affect.</i> See discussion below.
Puerto Rican Parrot (<i>Amazona vittata</i>)	FE	The Puerto Rican parrot is a frugivorous cavity nester. It depends on mature forests with large cavity forming trees. It is currently confined to the Maricao Forest, El Yunque National Forest, and the Río Abajo Forest (USDA Forest Service 2024).	<i>Unlikely to occur.</i> The project area is not located within the Maricao Forest, El Yunque National Forest, or the Río Abajo Forest.	<i>May affect, but not likely to adversely affect.</i> See discussion below.
Puerto Rican Sharp-shinned Hawk (<i>Accipiter striatus venator</i>)	FE	The Puerto Rican sharp-shinned hawk occurs primarily in high elevation mature closed canopy forests (USFWS 2019a).	<i>May occur.</i> Forested areas are located adjacent to the project area and project will require some tree clearing.	<i>May affect, but not likely to adversely affect.</i> See discussion below.
Reptiles				
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> Forested areas are located adjacent to the project area and project will require some tree clearing.	<i>May affect, but not likely to adversely affect.</i> See discussion below.
Insects				
Puerto Rican Harlequin Butterfly	FT	This species inhabits areas with moderately dense to dense canopy cover and dense vegetation and a source of water within a	<i>May occur.</i> Forested areas are located adjacent to	<i>May affect, but not likely to adversely</i>

Common Name (Scientific Name)	Status*	Range or Habitat Requirements	Potential for Occurrence in Project Area	Determination of Effects/Impacts
(<i>Atlantea tulita</i>)		kilometer. Eggs and larvae are found only on the prickly bush (<i>Oplonia spinosa</i>), while adult butterflies feed on the nectar of several tree species and drink water (USFWS 2019b).	the project area and project will require some tree clearing.	<i>affect</i> . See discussion below.

*Status Definitions:

FE = Federally listed endangered, FT = Federally listed threatened

Based on a site visit and habitat evaluations, the Puerto Rican parrot is considered unlikely to occur within the project area due to lack of suitable habitat. Due to the dense forested habitat surrounding the project areas, the Puerto Rican broad-winged hawk, Puerto Rican sharp-shinned hawk, Puerto Rican boa, and Puerto Rican harlequin butterfly may occur within the project area. The Caribbean Determination Key (DKey) was completed for the project, which generated a *may affect, not likely to adversely affect* determination for the Puerto Rican broad-winged hawk, Puerto Rican sharp-shinned, and the Puerto Rican boa (Appendix D).

The project area is adjacent to forested areas and some tree clearing will be required; therefore, the applicant will employ conservation measures for all five species, as outlined in Appendix E, including but not limited to issuing a stop work if a Puerto Rican boa were to occur within the project area, and contacting the Puerto Rico Department of Natural and Environmental Resources for safe capture and relocation of the individual if such action is required. As such, it is anticipated that the project *may affect, but is not likely to adversely affect* the Puerto Rican broad-winged hawk, Puerto Rican parrot, Puerto Rican sharp-shinned hawk, Puerto Rican boa, and the Puerto Rican harlequin butterfly.

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 2023).

LITERATURE CITED

- Cornell Lab of Ornithology. 2024. All About Birds. Available at: <https://www.allaboutbirds.org/guide/>. Accessed August 2024.
- U.S. Department of Agriculture (USDA) Forest Service. 2024. the Iguaca, Puerto Rican Parrot. Available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5338966.pdf. Accessed January 2024.
- 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.
- . 2019a. *Recovery Plan for Puerto Rican Broad-Winged Hawk* (*Buteo platypterus brunescens*) *and Sharp-Shinned Hawk* (*Accipiter striatus venator*) Amendment. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia.
- . 2019b. *Species Status Assessment Report for the Puerto Rican Harlequin Butterfly* (*Atlantea tulita*) *Version 1.5*. U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia.
- . 2023. Critical Habitat for Threatened & Endangered Species [USFWS]. Available at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed November 2023.
- . 2024. Information for Planning and Consultation System (IPaC). Available at: <http://ecos.fws.gov/ipac/>. Accessed August 2024.

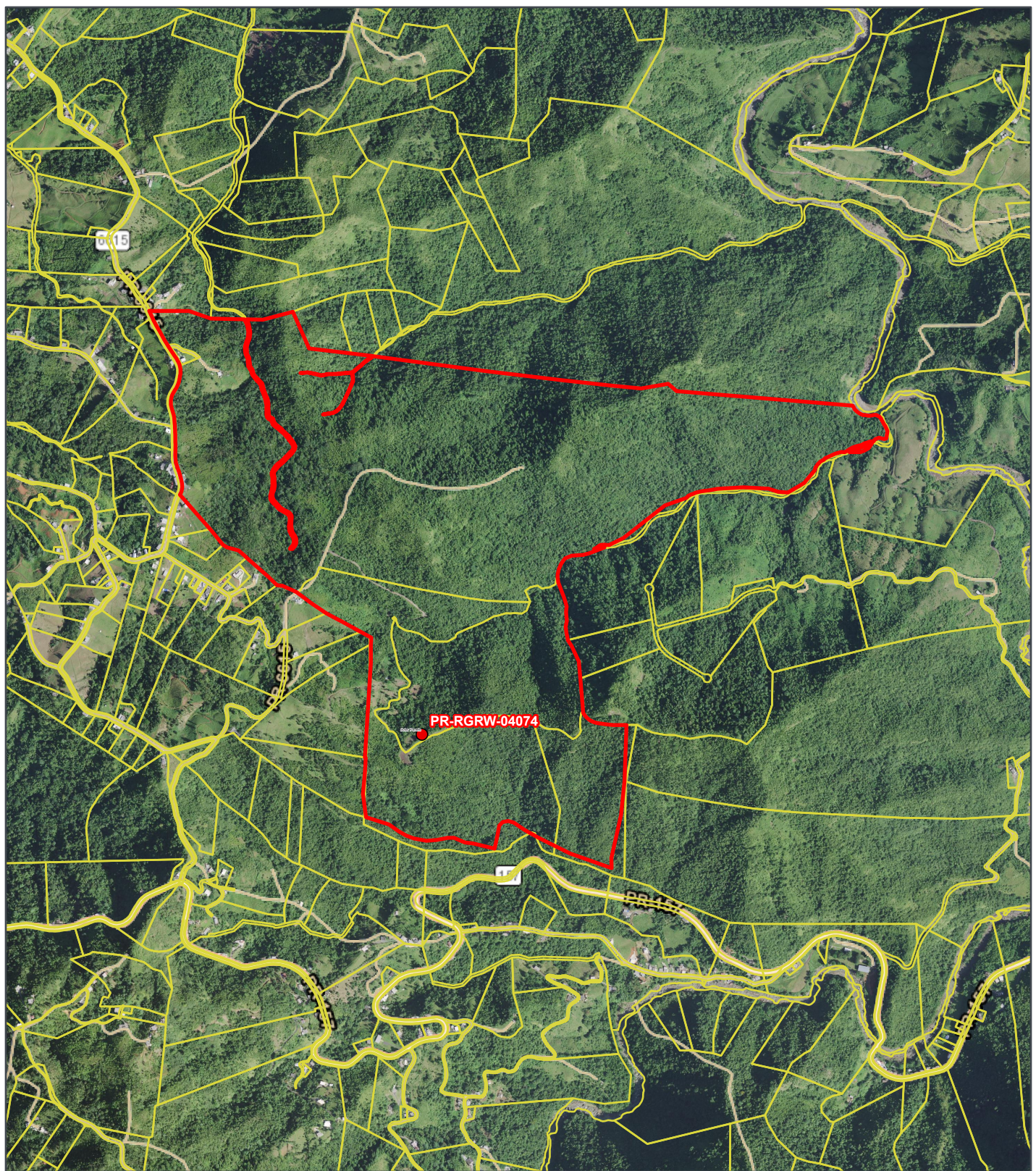
APPENDIX A

Maps

Figure 1

USGS Topographic Map

Figure 2
Site Vicinity Map



REGROW PROGRAM

Figure A-2: Site Vicinity

Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- Site Parcel
- Project Footprint (Option)
- Above Ground Utilities Location

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720

Parcel ID: 218-000-003-38-000
Center of Map:
66.465166°W 18.246866°N

Base Map: USA NAIIP Imagery
Imagery Year: 2022
Updated: 8/1/2024

Layout: Site Vicinity
Aprx: 72428_ReGrowTier2Maps

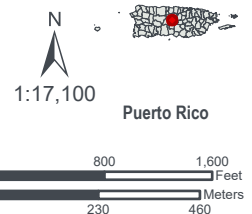


Figure 3
Wetlands Map



REGROW PROGRAM

Wetlands Protection Map

Applicant ID: PR-RGRW-04074

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 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000 Parcel Center:
66.468091°W 18.242778°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: 11/29/2023
Layout: Wetlands Protection

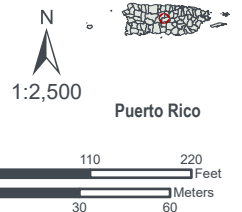
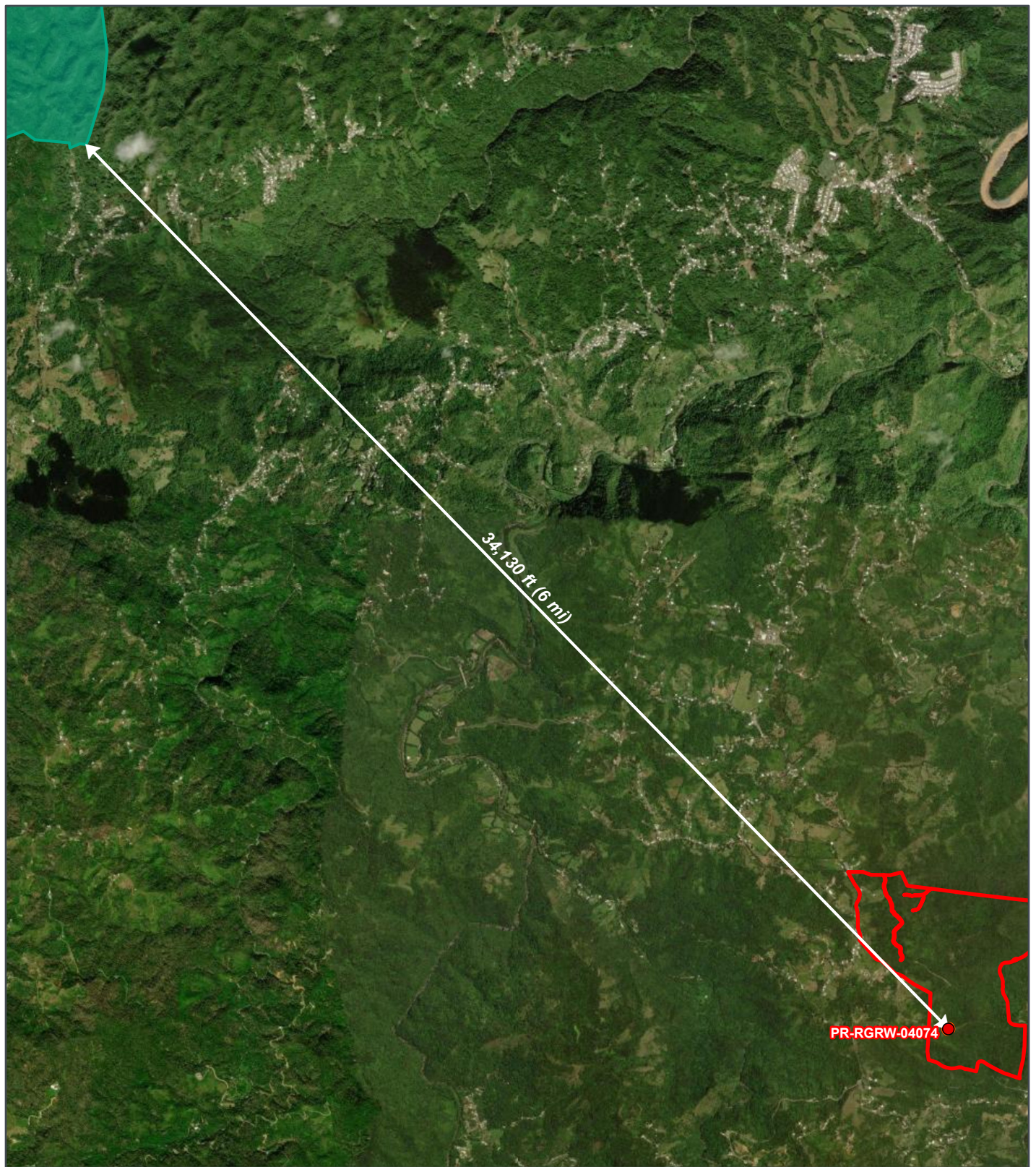


Figure 4
Critical Habitat Map



REGROW PROGRAM

Critical Habitat Map

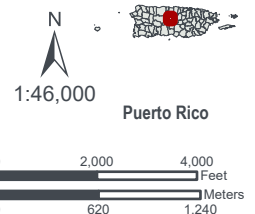
Applicant ID: PR-RGRW-04074



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

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
Parcel Center:
66.502438°W 18.276417°N

Data Source: https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS_Critical_Habitat/Base_Map/ESRI/ArcGIS/Online
accessed November 2023
Updated: 11/29/2023
Layout: Critical Habitat
Aprx: 72428_ReGrowTier2/Maps



APPENDIX B

Photographic Log

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031




Photo #: 01	Date: 11/27/23	
Photo Direction: Northeast		
Description: This is an overview image of the eastern portion of the primary intended location for solar panels/batteries placement. Unable to access corners due to overgrown thorny vegetation. This picture shows the vegetation, mountains in the central background, and trees along the left and right edges.		

Photo #: 02	Date: 11/27/23	
Photo Direction: Southeast		
Description: This is an overview image of the eastern portion of the primary intended location for solar panels/batteries placement. Unable to access corners due to overgrown thorny vegetation. This picture shows the vegetation in the foreground and trees behind the vegetation.		

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031

Photo #: 03	Date: 11/27/23	
Photo Direction: Northeast		
Description: This picture faces northeast from the southwestern corner of the primary intended location for solar panel/battery setup. A partially mowed/cleared location can be seen in this photo, with trees along the edges.		

Photo #: 04	Date: 11/27/23	
Photo Direction: Southeast		
Description: This picture faces southeast from the northwestern corner of the primary intended location for solar panel/battery setup. A partially mowed/cleared location can be seen in this photo, with trees along the edges.		

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031


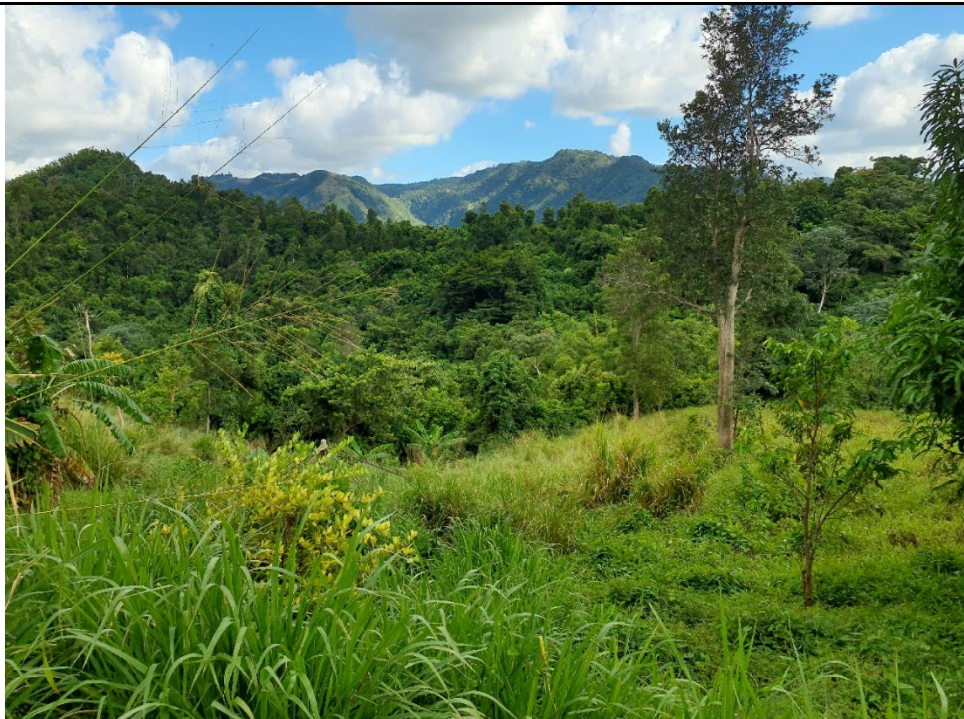
Photo #: 05	Date: 11/27/23	
Photo Direction: Northwest		
Description: This picture shows a row of trees along the northwestern edge of the primary intended location of solar project—these will need to be cleared per applicant to allow more direct sunlight to panels.		


Photo #: 06	Date: 11/27/23
Photo Direction: Southeast	
Description: This picture shows an overview of the alternate location for the solar project. The area is currently overgrown/not accessible for corner pictures. Dense vegetation can be seen in the foreground, along with mountains and trees in the background.	

A landscape photograph showing a dense, green forested area with mountains in the background under a blue sky with white clouds. The foreground is filled with tall grass and some yellow flowers.

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031

Photo #: 07	Date: 11/27/23	
Photo Direction: Close-up		
Description: This is a picture of the path of one of the mineral springs that crosses a portion of the main access road. The access road, with some standing water can be seen in this picture, along with dense vegetation along the edges.		

Photo #: 08	Date: 11/27/23
Photo Direction: Close-up	
Description: This picture shows a second mineral spring within the property. The spring, a water collection PVC pipe, and water collection jugs can be seen in this picture along with vegetation and trees within a forested area.	

A photograph of a mineral spring in a forested area. The spring is a small pool of water surrounded by rocks and lush green plants. A yellow PVC pipe and a yellow collection jug are visible near the water. The scene is set in a dense forest with many trees and undergrowth. The water in the spring is clear and reflects the surrounding greenery. The rocks around the spring are covered in moss and small plants. The overall atmosphere is peaceful and natural.

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: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To:

08/15/2024 19:50:54 UTC

Project Code: 2024-0131097

Project Name: RFA-094 PR-RGRW-04074

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. 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:

Caribbean Ecological Services Field Office

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

(939) 320-3135

PROJECT SUMMARY

Project Code: 2024-0131097

Project Name: RFA-094 PR-RGRW-04074

Project Type: Disaster-related Grants

Project Description: Installation of a ground mounted solar array

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.2460118,-66.4682637293815,14z>



Counties: Ciales and Orocovis counties, Puerto Rico

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 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 Fisheries¹, 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.

BIRDS

NAME	STATUS
Puerto Rican Broad-winged Hawk <i>Buteo platypterus brunnescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5512	Endangered
Puerto Rican Parrot <i>Amazona vittata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3067	Endangered
Puerto Rican Sharp-shinned Hawk <i>Accipiter striatus venator</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/604	Endangered

REPTILES

NAME	STATUS
Puerto Rican Boa <i>Chilabothrus inornatus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6628 General project design guidelines: https://ipac.ecosphere.fws.gov/project/JH45COCD4NH3HECCD6HKVMBY4Y/documents/generated/7159.pdf	Endangered

INSECTS

NAME	STATUS
Puerto Rican Harlequin Butterfly <i>Atlantea tulita</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9005 General project design guidelines: https://ipac.ecosphere.fws.gov/project/JH45COCD4NH3HECCD6HKVMBY4Y/documents/generated/7168.pdf	Threatened

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.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, 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 Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ 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.

RIVERINE

- R5UBH

IPAC USER CONTACT INFORMATION

Agency: SWCA

Name: Rachel Howsmon

Address: 13 Palafox Pl

City: Pensacola

State: FL

Zip: 32502

Email: rachel.howsmon@swca.com

Phone: 8504948710

APPENDIX D

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: (939) 320-3135 Fax: (787) 851-7440
Email Address: CARIBBEAN_ES@FWS.GOV

In Reply Refer To:

08/16/2024 16:48:01 UTC

Project code: 2024-0131097

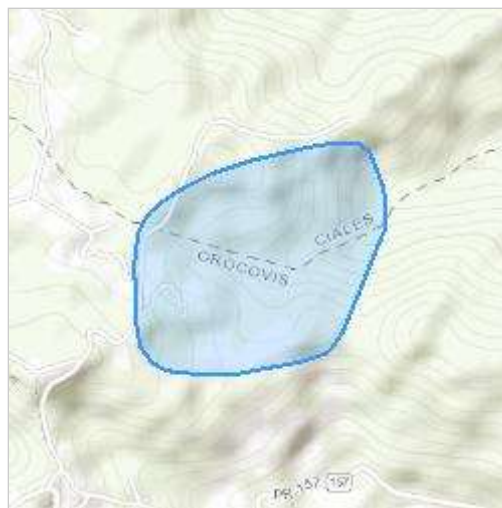
Project Name: RFA-094 PR-RGRW-04074

Subject: Consistency letter for the project named 'RFA-094 PR-RGRW-04074' 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 August 16, 2024, Rachel Howsmon used the Caribbean DKey; dated April 03, 2024, in the U.S. Fish and Wildlife Service's online [IPaC application](#) to evaluate potential impacts to federally listed species, from a project named 'RFA-094 PR-RGRW-04074'. The project is located in Ciales and Orocovis counties, Puerto Rico (shown below).

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.2460118,-66.4682637293815,14z>



The following description was provided for the project 'RFA-094 PR-RGRW-04074':

Installation of a ground mounted solar array

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
Puerto Rican Broad-winged Hawk (<i>Buteo platypterus brunnescens</i>)	Endangered	NLAA
Puerto Rican Sharp-shinned Hawk (<i>Accipiter striatus venator</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 **293-148082900**

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.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion. Effects to the other federally listed species or critical habitat as listed below should be considered as part of your ESA review for the project.

- Puerto Rican Harlequin Butterfly *Atlantea tulita* Threatened
- Puerto Rican Parrot *Amazona vittata* Endangered

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

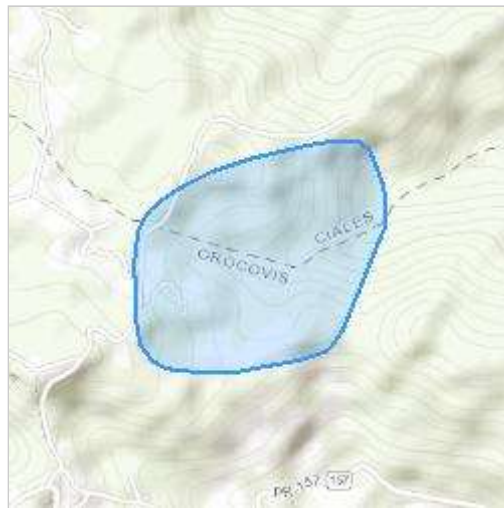
RFA-094 PR-RGRW-04074

2. Description

The following description was provided for the project 'RFA-094 PR-RGRW-04074':

Installation of a ground mounted solar array

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@18.2460118,-66.4682637293815,14z>



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?

No

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

No

13. Is the proposed project a new facility which would require earth moving, vegetation clearing, or debris removal using heavy machinery, the use of staging areas, construction of temporary access roads?

Yes

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

Automatically answered

Yes

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

Yes

16. Will the proposed project be conducted during the Puerto Rican sharp-shinned hawk or Puerto Rican Broad-winged hawk breeding season between December and July?

Yes

17. Will daily surveys be conducted to detect breeding activities by qualified personnel?

Note: Examples of breeding activities are courtship and territoriality, re-occupancy of nesting sites, nest building, egg laying, incubation and hatching, and post-fledging.

Yes

18. Will qualified personnel conduct nest searches with the appropriate Puerto Rico Department of Natural Resources (DNER) permit?

Note: We might require you to submit a copy of the DNER permits by email.

Yes

19. Will the proposed project implement a strategy to avoid disturbing detected Puerto Rican sharp-shinned hawk and Puerto Rican Broad-winged hawk nesting and breeding activities?

Note: Examples of breeding activities are courtship and territoriality, re-occupancy of nesting sites, nest building, egg laying, incubation and hatching, and post-fledging.

Yes

20. Will the avoidance strategy include protocols to create a buffer zone of 200 meters around all detected nests?

Note: A buffer zone is an area around the detected nests where no actions or activities can take place. The buffer zone should be clearly marked or delineated in the field and in the project plans.

Yes

21. If nests are detected within the project area, will the proposed project avoid any disturbance until fledging leaves the nest permanently?

Yes

22. Outside of the breeding season, in the event of a Sharp-shinned hawk nest encounter, would a buffer zone be implemented?

Note: The species or nests might be found out of the breeding season. A buffer zone is an area around the detected nests where no actions or activities can take place. The buffer zone should be clearly marked or delineated in the field and in the project plans.

Yes

23. Will the Fish and Wildlife Service and the Department of Natural Resources be notified immediately if a nest is detected?

Yes

24. Does the proposed project intersect the Puerto Rican sharp-shinned hawk area of influence?

Automatically answered

Yes

25. Does the proposed project intersect the Puerto Rican Broad-winged hawk area of influence?

Automatically answered

Yes

26. Are you the Federal agency or designated non-federal representative for the proposed action?

No

IPAC USER CONTACT INFORMATION

Agency: SWCA

Name: Rachel Howsmon

Address: 13 Palafox Pl

City: Pensacola

State: FL

Zip: 32502

Email: rachel.howsmon@swca.com

Phone: 8504948710

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Housing and Urban Development

APPENDIX E

Project Design Guidelines

General Project Design Guidelines (2 Species)

Generated August 16, 2024 04:50 PM UTC, IPaC v6.113.1-rc4

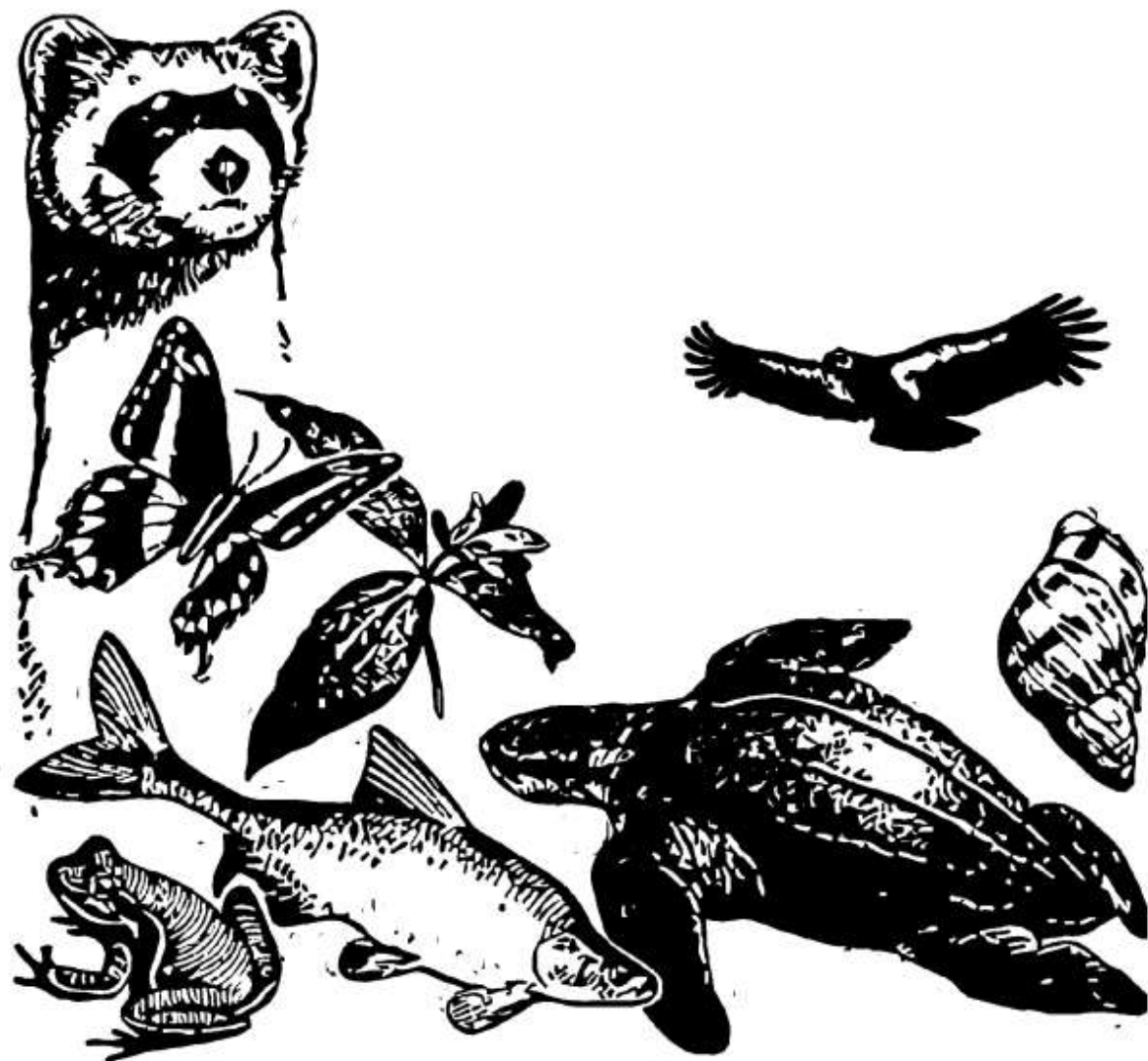


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Species Document Availability	<u>1</u>
Puerto Rican Harlequin Butterfly - Caribbean Ecological Services Field Office	<u>2</u>
Puerto Rican Boa - Caribbean Ecological Services Field Office	<u>7</u>

Species Document Availability

Species with general design guidelines

Puerto Rican Boa *Chilabothrus inornatus*

Puerto Rican Harlequin Butterfly *Atlantea tulita*

Species without general design guidelines available

Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*

Puerto Rican Parrot *Amazona vittata*

Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*

General Project Design Guidelines - Puerto Rican Sharp-shinned Hawk and 4 more species

Published by Caribbean Ecological Services Field Office for the following species included in your project

Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*

Puerto Rican Parrot *Amazona vittata*

Puerto Rican Harlequin Butterfly *Atlantea tulita*

Puerto Rican Boa *Chilabothrus inornatus*

Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*



U.S. FISH & WILDLIFE SERVICE
CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE

Conservation Measures for the Puerto Rican harlequin butterfly (*Atlantea tulita*)

Section 7 (a)(1) of the Endangered Species Act (ESA) mandates Federal agencies to aid in the conservation of federally listed species. Section 7 (a)(2) requires the Federal 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 federally 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 approval of private activities through the issuance of Federal funding, permits, licenses, or any other actions. Any person that injures, captures, or kills a Puerto Rican harlequin butterfly, or destroy its eggs or any other of its life stage (caterpillars, chrysalis) is subject to penalties under the ESA. Thus, Federal Actions agencies must initiate consultation with the Service under Section 7 of the ESA for any action that could affect the Puerto Rican harlequin butterfly. To initiate a consultation under the Section 7 of the ESA, the Federal Action agency must submit a project package to the Service with the established minimum requirements (see below). The conservation measures included below should be incorporated into the project plans to minimize possible impacts to the Puerto Rican harlequin butterfly. Download the [project evaluations fact sheet](#) to learn more about the requirements or visit our [project evaluations webpage](#).



The Puerto Rican (PR) harlequin butterfly (*Atlantea tulita*), is a threatened species endemic to Puerto Rico, whose currently known range is limited to the Northern Karst

February 2024

physiographic region and the West-central Volcanic-serpentine physiographic region of the Island. Through this range, we have identified six areas occupied by the PR harlequin butterfly that we refer to as a populations: (1) along the coastal cliff in the municipalities of Isabela, Quebradillas, and Camuy; (2) Guajataca in the municipality of Isabela; (3) Río Abajo Commonwealth Forest between the municipalities of Arecibo and Utuado; (4) Río Encantado area along the municipalities of Arecibo, Florida and Ciales; (5) Maricao Commonwealth Forest in the municipality of Maricao; and (6) Susúa Commonwealth Forest between the municipalities of Sabana Grande and Yauco. In addition, adult PR harlequin butterflies have been anecdotally reported in other areas of Puerto Rico, including the municipalities of Aguadilla, Barceloneta, Ciales, Florida, Luquillo, Ceiba, Guánica, San Germán, Las Marias and Lares.

The PR harlequin butterfly is a medium sized butterfly with a life cycle includes four distinct anatomical stages: imago (adult), egg, larva (caterpillar, with several size phases called instars), and chrysalis. The species has a wingspan of about 5.1 to 6 centimeters (cm) (2 to 2.5 inches (in)) wide and is characterized by its orange, brownish-black and beige coloration patterns. The caterpillar (larva) is dark orange with a brownish black to black, thin sub-lateral line, over a thin line of white intermittent dots crossing the body from the head to the anal plate, and has spines with hairs on each body segment. The caterpillar is less than .476 centimeters (cm) (0.19 in) in the first instar (growth stage between molts) and about 3.3 cm (1.29 in) in the fifth instar. Both eggs and caterpillars have been found almost exclusively on the host plant prickly bush (*Oplonia spinosa*). The chrysalis (pupa from which the butterfly (adult, or imago) emerges) of the PR harlequin butterfly is black, with orange and white dashes, and yellow pimples. The size of chrysalis is around 3 cm (1.2 in). In the wild, the chrysalis is more often found attached to branches of plants located close to the host plant, but it has been observed attached to dried twigs of the host plant.

The PR harlequin butterfly is difficult to detect, and the species is easily misidentified with other common butterflies such as the monarch butterfly (*Danaus plexippus portoricensis*), Antillean crescent (*Antillea pelops*), and Gulf fritillary (*Agraulis vanilla insularis*). The PR harlequin butterfly adults seem to be more active in the morning, from 9:00 am to 12:00 pm, when they are often observed flying searching for food or patrolling their territory for mating or laying eggs. The species flies slowly and is weak and fragile; thus, it is considered a poor disperser. There is information that this butterfly can disperse up to 1,026 meters (m) (3366.1 feet (ft)), approximately 1 kilometer (km) (0.6 mile (mi)) from one breeding site to another. The species seems to have specific ecological requirements for reproduction and its dispersion.

The PR harlequin butterfly was federally listed as threatened on January 3, 2023 (87 FR 73655), due to threats related to habitat modification and loss, its small populations size, and because of analyses of projected effects on the species resulting from relevant factors like increment of urban development rate and climate changes, which may negatively influence the continued existence of the species in the foreseeable future.

The Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the PR harlequin butterfly and its

habitat. These recommendations may be incorporated into new project plans and under certain circumstances into existing projects. Depending on the project, additional recommendations can be made besides the ones presented in this document.

1. All project construction personnel must be informed about the potential presence of the PR harlequin butterfly or its occupied host plant, prickly bush (*Oplonia spinosa*), in the project areas and the need to avoid harming the species and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the PR harlequin butterfly (i.e., eggs, caterpillar, chrysalis, and adult) as well as its host plant, should be prepared and available to all personnel for reference.
2. Before starting any project activity, including removal of vegetation and earth movement, the boundaries of the work area in the field clearly delineate to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the PR harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the PR harlequin butterfly can be observed year-round in all its life stages; thus, oviposition (egg-laying) may occur at any time during the year.
3. If the prickly bush is present on the project site, try to avoid cutting it off, even if no eggs, caterpillars, or chrysalis are present.
4. If there is no prickly bush within the project area, and the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species.
5. Adult butterflies are often observed flying near the host plant as part of their mating behavior and laying eggs. Project-related activities must stop if the prickly bush is found in the project area and the PR harlequin butterfly is observed flying in that same area where the plan is located. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.
6. Once the PR harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded.
7. If, after the initial search or after the 24 to 36-hour search, any life stage of the PR harlequin butterfly is found in the prickly bush, take the following actions:
 - Clearly mark the host plant with flagging tape.

- Establish a 10-meter (32-foot) buffer zone around the bush to protect it.
- Eggs are typically found on the prickly bush's newly grown, tender branches. Once an egg hatches, the caterpillar moves and feeds throughout the plant. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present.
- Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days.

8. For all PR harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All PR harlequin butterfly sighting reports should be sent to the U.S. Fish and Wildlife Service, Caribbean Ecological Service Field Office at caribbean_es@fws.gov.

9. For questions regarding the PR harlequin butterfly, the Point of Contact is:

- José Cruz-Burgos, Threatened and Endangered Species Program Coordinator:
 - Mobile: 305-304-1386
 - Office phone: 786-244-0081
 - Office Direct Line: 939-320-3120
 - Email: jose_cruz-burgos@fws.gov

General Project Design Guidelines - Puerto Rican Sharp-shinned Hawk and 4 more species

Published by Caribbean Ecological Services Field Office for the following species included in your project

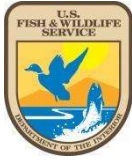
Puerto Rican Sharp-shinned Hawk *Accipiter striatus venator*

Puerto Rican Parrot *Amazona vittata*

Puerto Rican Harlequin Butterfly *Atlantea tulita*

Puerto Rican Boa *Chilabothrus inornatus*

Puerto Rican Broad-winged Hawk *Buteo platypterus brunnescens*

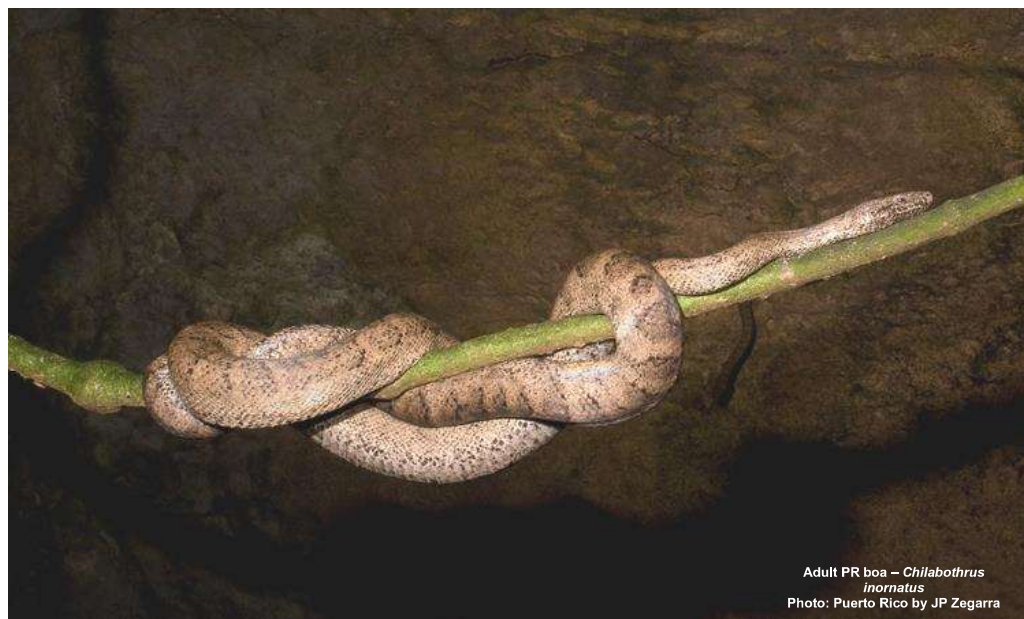


U.S. FISH AND WILDLIFE SERVICE CARIBBEAN ECOLOGICAL SERVICES FIELD OFFICE

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 federally 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 PR 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 such as roadsides or houses, especially if near their habitat in rural areas. The PR 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 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.
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.
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.

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.
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 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.
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.
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.
10. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.

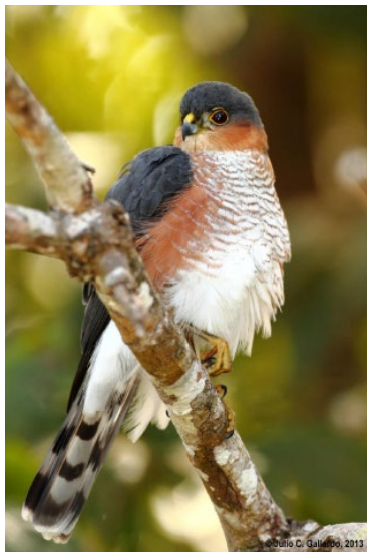
If you have any questions regarding the above conservation measures, please contact the Service:

- José Cruz-Burgos, Endangered Species Program Coordinator
 - Email: jose_cruz-burgos@fws.gov
 - Office phone (305) 304-1386
- Jan Zegarra, Fish and Wildlife Biologist
 - Email: jan_zegarra@fws.gov
 - Office phone (786) 933-1451

Conservation Measures for the Sharp-shinned hawk (*Accipiter striatus venator*)

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 sharp-shinned hawk 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 Puerto Rican sharp-shinned hawk is a small hawk measuring approximately 28 to 33 centimeters (11 to 13 inches). The dark slate gray upper parts and heavily barred rufous underparts of the adults are distinctive. Immatures are brown above and heavily streaked below. It has short, squared tail, often appearing notched when folded, and small head and neck. In flight, the short, rounded wings and long, narrow tail is characteristic. Adult males and females are similar in appearance, but the female is larger. The SSHA in Puerto Rico exhibits insular population traits, including small clutches, low productivity, and extended breeding periods. Historic information described this species as rare, uncommon, and occurring in restricted habitats in small numbers.



The sharp-shinned hawk was federally listed as endangered in 1994. The results of comprehensive population surveys suggest a decline of the island-wide population from 150 individuals in 1992 to about 100 individuals in 2016. In addition, a significant decline of this species have been reported in the Toro Negro Commonwealth Forest (TNCF) and Maricao Commonwealth Forest (MCF), which were previously considered the center of distribution of this species in Puerto Rico. Studies estimated the population of MCF as just 8 individuals and the population in TNCF as 26 individuals indicating a population decline of 53% and 86% in TNCF and MCF, respectively.

The US Fish and Wildlife Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the hawk 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 here.

1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.
2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.
3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree disturbance during the typical breeding season for this hawk (March and April), if the hawk is determined to be present.
4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the USFWS and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.
5. If a sharp-shinned hawk is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).
6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.
7. If critical habitat may be adversely modified by the implementation of Proposed Project actions, the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable

environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.

8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.

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

- Marelisa Rivera, Deputy Field Supervisor
Email: marelisa_rivera@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1814
- José Cruz-Burgos, Endangered Species Coordinator
Email: jose_cruz-burgos@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1386

Conservation Measures for the Broad-winged hawk (*Buteo platypterus brunnescens*)

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 broad-winged hawk 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 Puerto Rican broad-winged hawk is a small hawk with dark chocolate-brown upperparts, heavily streaked rufous breast, and a broadly banded black and white tail. Adult male and female are similar in appearance, but the female is slightly larger. This species occurs in elfin woodland, sierra palm, caimitillo-granadillo, and tabonuco forest types of the Río Abajo Commonwealth Forest, Carite Commonwealth Forest, and El Yunque National Forest as well as within hardwood plantations, shade coffee plantations, and mature secondary forests. The Puerto Rican broad-winged hawk population is estimated at about 125 individuals island-wide.



The broad-winged hawk was federally listed in 1994. The broad-wing prefers to hunt from a perch under the forest canopy for a better view of potential prey in a forest clearing, trail or river below. Each hunting pair requires a range of 40 hectares (98 acres). The Broad-wing builds a nest of sticks in February and March, laying 2 to 4 white/brown-spotted eggs. The female incubates the eggs for almost a month while the male searches for food. The young fledge around April or May about 1 month after hatching and can fly about 6 weeks after hatching. The parents feed the young for a few weeks after they leave the nest. The voice is a high-pitched whistle.

The hawk is an uncommon and local resident in the El Yunque National Forest, the Río Abajo State Forest, and the Toro Negro State Forest.

The US Fish and Wildlife Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the hawk 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 here.

1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures

to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.

2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.
3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree disturbance during the typical breeding season for this hawk (February and March), if the hawk is determined to be present.
4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the USFWS and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.
5. If a broad-winged hawk is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).
6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.
7. If critical habitat may be adversely modified by the implementation of Proposed Project actions, the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.
8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.

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

- Marelisa Rivera, Deputy Field Supervisor
Email: marelisa_rivera@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1814
- José Cruz-Burgos, Endangered Species Coordinator
Email: jose_cruz-burgos@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1386

Conservation Measures for the Puerto Rican Amazon (Parrot) (*Amazona vittata*)

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 Rican Parrot 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 Puerto Rican amazon (*Amazona vittata*), also known as the Puerto Rican parrot (Puerto Rican Spanish: cotorra puertorriqueña) or iguaca, is the only extant parrot endemic to the archipelago of Puerto Rico and belongs to the Neotropical genus *Amazona*. Measuring 28–30 cm (11.0–11.8 in), the bird is a predominantly green parrot with a red forehead and white rings around the eyes.



The parrot was federally listed as endangered in 1967. The parrot reaches sexual maturity at between three and four years of age. It reproduces once a year (between the months of February to June) and is a cavity nester. Once the female lays eggs, she will remain in the nest and continuously incubate them until hatching (about 24 to 28 days). The chicks are fed by both parents and will fledge 60 to 65 days after hatching. This parrot's diet is varied and consists of flowers, fruits, leaves, bark and nectar obtained from the forest canopy.

The species is the only remaining native parrot to Puerto Rico and has been listed as critically endangered by the World Conservation Union since 1994. Once widespread and abundant, the population declined drastically in the 19th and early 20th centuries with the removal of most of its native habitat; the species has completely vanished from Vieques and Mona Island. Conservation efforts commenced in 1968 to save the bird from extinction. The habitat of the parrot is generally identified as

the Palo Colorado, Palma de Sierra, and Tabonuco forests types of the upper zones of the Luquillo Mountains within the El Yunque National Forest.

The US Fish and Wildlife Service has developed the following conservation measures with the purpose of assisting others to avoid or minimize adverse effects to the hawk 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 here.

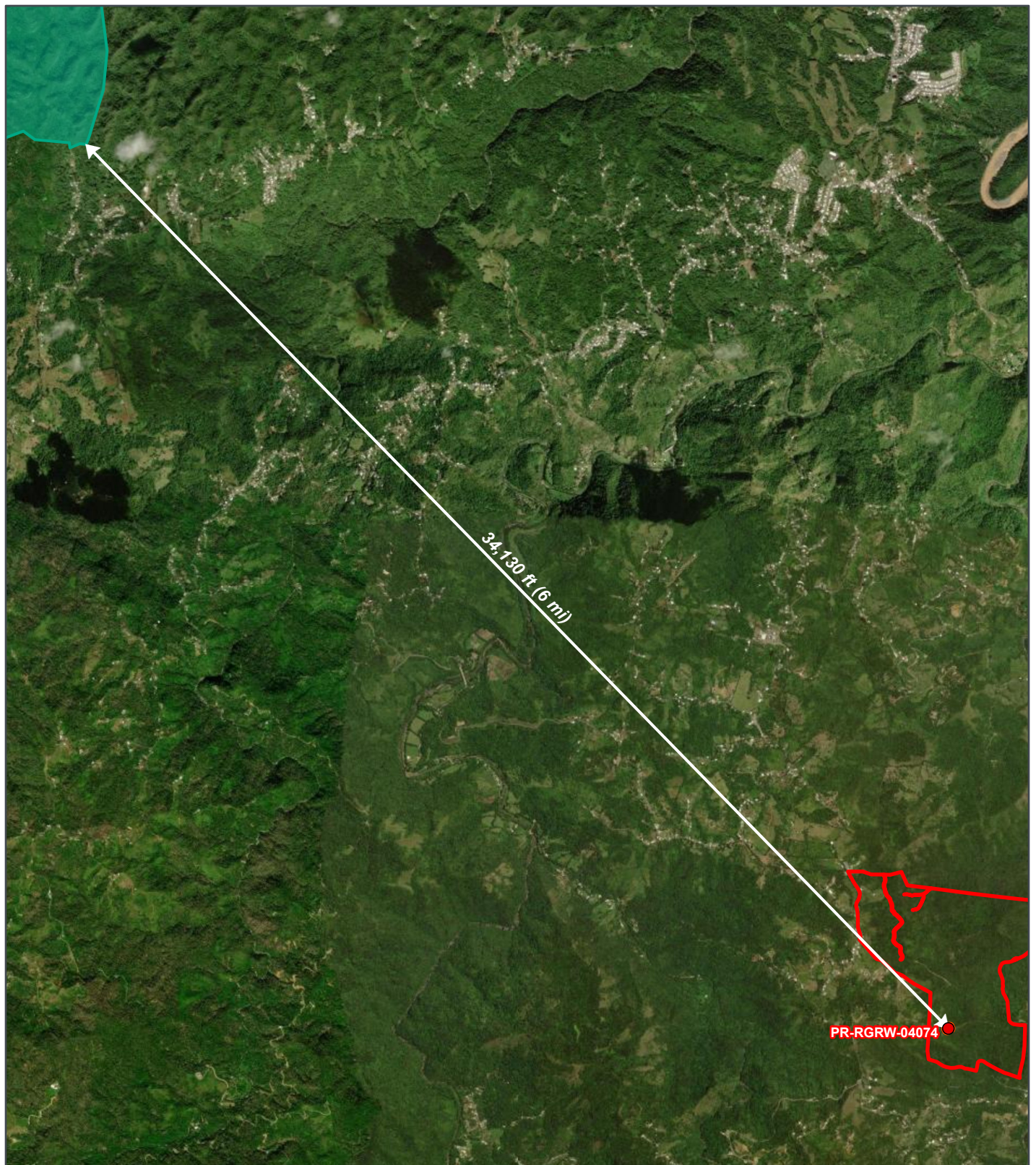
1. For any project activity that involves construction or tree-disturbing activities, all construction workers will be required to participate in environmental awareness training. The training will educate workers on: (a) special-status species that may occur in the work area, (b) procedures to follow in the event a species is observed, and (c) other environmental BMPs and emergency spill response protocols.
2. All non-emergency work activities will be confined to daylight hours (i.e., sunrise to sunset), unless necessary for assessing or protecting biological resources.
3. Whenever possible, impacts to native nesting birds will be avoided by not conducting Project activities that involve clearing of vegetation, generation of mechanical noise, or tree disturbance during the typical breeding season for this parrot (January to July), if the parrot is determined to be present. The parrot selects a large, deep tree cavity, usually in a Palo Colorado tree. The parrot normally does not build its own nest but, many times, parrot biologists do build artificial cavities that are accepted by the parrot. A check with DNER should occur if large Palo Colorado trees are in the general construction area.
4. If Project activities must be conducted during the nesting bird season, the Contractor will conduct surveys for nesting birds within a 1,000-ft radius of the construction area. If nests are detected, the Contractor will notify the DNER and establish buffers around nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely impacted by construction. Buffers around active nests will be a minimum of 250 feet, unless a qualified biologist determines that smaller buffers would be sufficient to avoid impacts to nesting birds. Factors to be considered for determining buffer size will include: the presence of natural buffers provided by vegetation or topography; nest height; locations of foraging territory; and baseline levels of noise and human activity. Buffers will be maintained until young have fledged or the nests become inactive.
5. If a parrot is found within any of the working or construction areas, activities should stop at that area and information recorded. Designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for additional directions (PRDNER phone #s: ((787) 724-5700, (787) 230-5550, (787) 771-1124).
6. Designated critical habitat within the vicinity of project activities will be identified. All Proposed Project actions will be designed to avoid direct and indirect adverse modifications to these

areas. Minimization measures, such as establishing and maintaining buffers around areas of designated critical habitat will be implemented in the event that avoidance is not feasible.

7. If critical habitat may be adversely modified by the implementation of Proposed Project actions, the area to be modified will be evaluated by a qualified biologist to determine the potential magnitude of the project effects (e.g., description of primary constituent elements present and quantification of those affected) at a level of detail necessary to satisfy applicable environmental compliance and permitting requirements. This information shall be submitted to the PRDNER as shown in Number 5 above.
8. Projects must comply with all state laws and regulations. Please contact PRDNER for further guidance.

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

- Marelisa Rivera, Deputy Field Supervisor
Email: marelisa_rivera@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1814
- José Cruz-Burgos, Endangered Species Coordinator
Email: jose_cruz-burgos@fws.gov
Office phone (786) 244-0081 or mobile (305) 304-1386



REGROW PROGRAM

Figure B 7-1: Critical Habitat Map

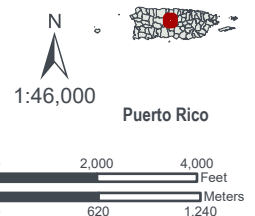
Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

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

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: https://services.arcgis.com/QVENGdaPbd4LUkLV/arcgis/rest/services/USFWS_Critical_Habitat/Base_Map/ESRI/ArcGIS/Online
accessed November 2023
Updated: 11/29/2023
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 new construction of a solar panel array. 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 if 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/ 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.*

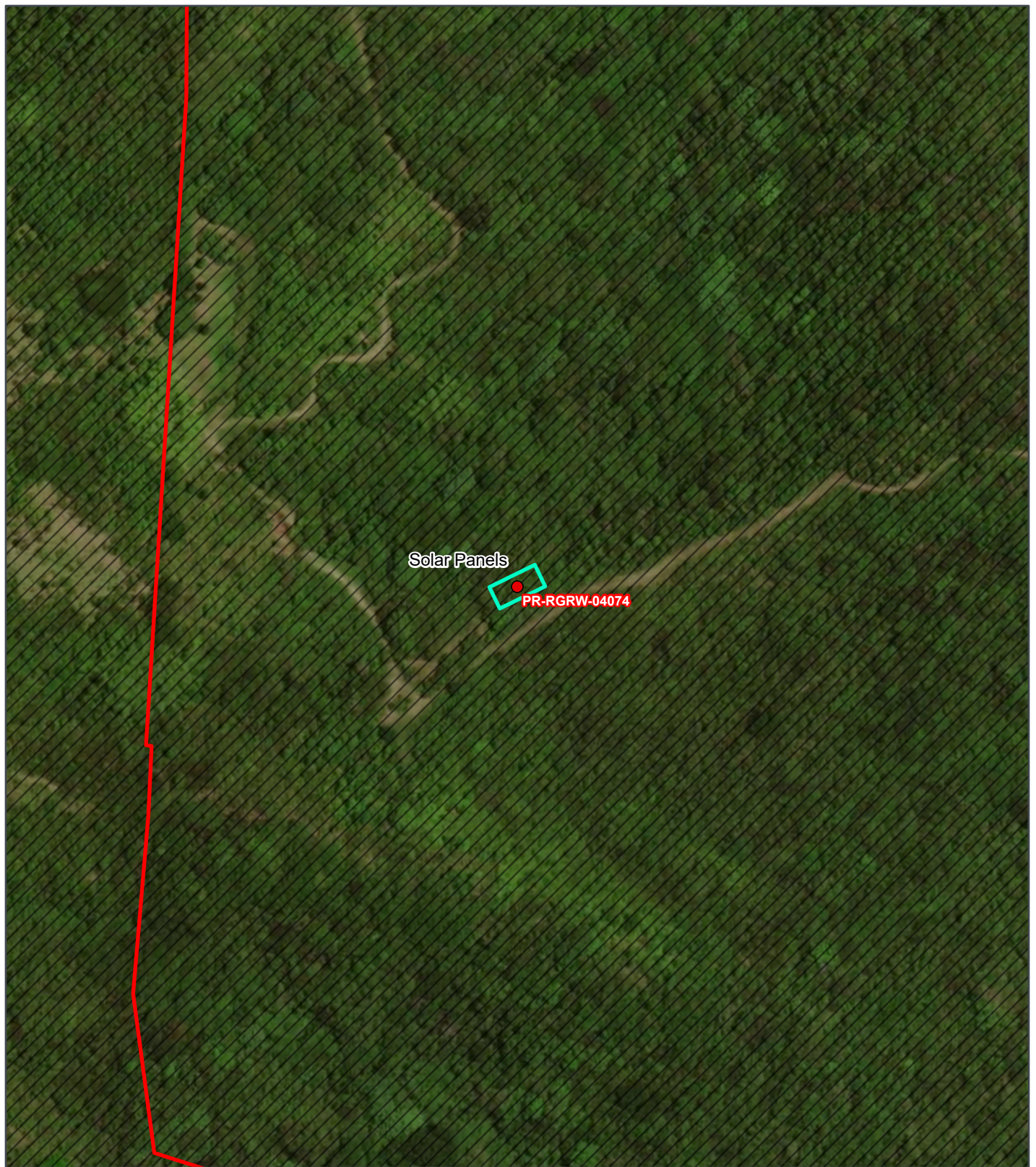
Worksheet Summary

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 one mapped soil series: MuF2 (Morado clay loam, 40 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

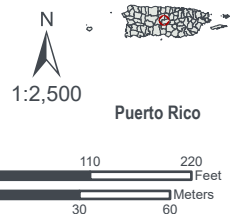
Applicant ID: PR-RGRW-04074

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 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: <https://websoilsurvey.nrcs.usda.gov/app/>
Base Map: ESRI ArcGIS Online,
accessed November 2023 Updated:
11/29/2023
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
Reference		
https://www.hudexchange.info/environmental-review/floodplain-management		

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 installation of a solar array.

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:

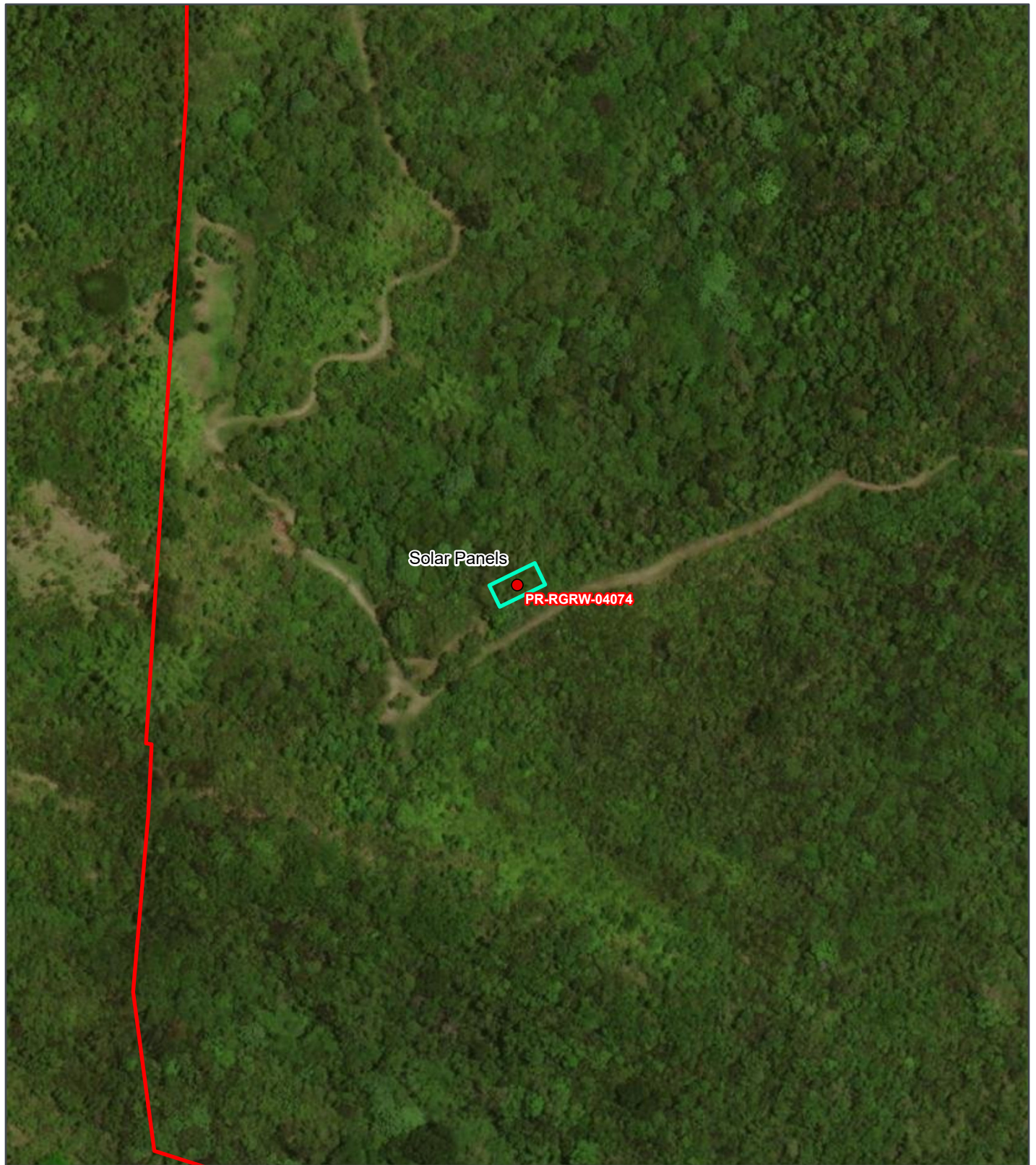
- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

Include all documentation supporting your findings in your submission to HUD

An Advisory Base Flood Elevation (ABFE) map was developed by FEMA, which shows the potential 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, as amended by Executive Order 13690 particularly section 2(a); 24 CFR Part 55.

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 Orocovis; 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-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- | | |
|--|--|
| ● Site | ■ Zone AE |
| Site Parcel | ■ Coastal A Zone |
| Project Footprint (Option) | ■ Coastal A Zone and Floodway |
| ~ Advisory Base Flood Elevation (ABFE) | ■ Zone AE-Floodway |
| — 0.2% Annual Chance Flood | ■ Zone AO |
| — 1% Annual Chance Flood | ■ Zone VE |
| ■ Zone A | ■ Zone X (500-year floodplain) |
| ■ Zone A-Floodway | ■ Zone/BFE Boundary |

Carr 157 Interior Bo Damian Abajo
Orocovis, Puerto Rico 00720

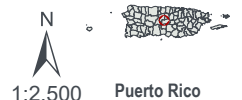
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: https://gis.fema.gov/arcgis/rest/services/DR/PuertoRico_ABFE_1PCT/MapServer

Base Map: ESRI ArcGIS Online,
accessed November 2023

Updated: 11/29/2023

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, PRDOH, the applicant.

→ *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 proposed solar array plus a 15-meter buffer (see attached Area of Potential Effect map). 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 current information by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shows that there are no reported significant cultural properties within a half-mile (mi) radius of the project location.

The proposed project is in a rural area within the Mountainous Interior physiographic zone, at an elevation of 1,690 ft (515.1 m) above modern sea level. Per the USGS/NRCS Web Soil Survey, the project area crosses one mapped soil series: Morado clay loam, 40 to 60 percent slopes (MuF2). The project area APE is a rural mountainous setting. The closest freshwater source is an unnamed tributary of the Río Bauta located 0.17 miles (mi; 0.28 kilometers [km]) northeast of the project area. The northern coast is approximately 15.4 mi (24.8 km) from the project area.

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

July 17, 2023

Lauren Bair Poche

HORNE- Architectural Historian Manager
10000 Perkins Rowe, Suite 610 Bldg G
Baton Rouge, LA 70810

SHPO: 06-27-23-06 PUERTO RICO DISASTER RECOVERY, CDBG-DR RE-GROW
PR URBAN-RURAL AGRICULTURAL RE-GROW PROGRAM, PR-RGRW-04074,
EARTH ESSENTIALS CORP., CARR. 157 INT., BO. DAMIÁN ABAJO, OROCOVIS, PUERTO
RICO

Dear 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 any 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/LGC





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

June 22, 2023

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-04074– Earth Essentials Corp. –
Carr 157 Interior Bo Damian Abajo, Orocovis, 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 was 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 Earth Essentials Corp at the property located at Carr 157 Interior Bo Damian Abajo in the municipality of Orocovis. The proposed activities consist of the installation of a new 46-foot (ft) by 12-ft solar panel array within the southwestern portion of the parcel. The solar panels will be affixed to a metal structure, which will be anchored to the ground with concrete. It is estimated that the project will require four concrete anchors at each base for a total of 96 anchors, installed to an approximate depth of 3 ft (0.91 meters [m]) below the ground surface. Based on the submitted documentation, the Program requests a concurrence that a finding of no adverse effect to historic properties is appropriate for this proposed project.


Please contact me by email at lauren.poche@horne.com or phone at 225-405-7676 with any questions or concerns.

Kindest regards,



Lauren Bair Poche, M.A.

Architectural Historian, Historic Preservation Senior Manager
Attachments

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM ReGROW PUERTO RICO PROGRAM Section 106 NHPA Effect Determination		
Applicant Name: Earth Essentials Corp.		
Case ID: PR-RGRW-04074	City: Orocovis	

Project Location: Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico, 00720	
Project Coordinates: 18.242775, -66.468031	
TPID (Número de Catastro): 218-000-003-38-000	
Type of Undertaking: <input type="checkbox"/> Substantial Repair/Improvements <input checked="" type="checkbox"/> New Construction	
Construction Date (AH est.): n/a	Property Size (acres): 54.1 acres

SOI-Qualified Architect/Architectural Historian: n/a
Date Reviewed: n/a
SOI-Qualified Archaeologist: Jennifer Ort, M.S.
Date Reviewed: 6/14/2023

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 activities for Earth Essentials Corp include the installation of a new 46-foot (ft) by 12-ft solar panel array within the southwestern portion of the parcel at 18.242775, -66.468031. The solar panels will be affixed to a metal structure, which will be anchored to the ground with concrete. It is estimated that the project will require four concrete anchors at each base for a total of 96 anchors, installed to an approximate depth of 3 ft (0.91 meters [m]) below the ground surface.

The project area is located at Carr 157 Interior Bo Damian Abajo within the Municipality of Orocovis in a rural residential setting. Based on a review of historical aerial imagery and topographic mapping, the general area was a rural area in 1958 and 1959 imagery. Ridgetops and side slopes appear to be light to moderately vegetated, with an increase in vegetated areas evident in 1959 and 1977. Residential development steadily increased along the main roads during these years through to the present day. No structures were evident within the parcel boundary. Land clearing within the project Area of Potential Effect is present in the 2018 and 2021 imagery.

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

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM ReGROW PUERTO RICO PROGRAM Section 106 NHPA Effect Determination	 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Applicant Name: Earth Essentials Corp.	
Case ID: PR-RGRW-04074	City: Orocovis

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 proposed solar array plus a 15-meter buffer (see attached Area of Potential Effect map). The visual APE is the viewshed of the proposed project.


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 current information by a Program contracted Historic Preservation Specialist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shows that there are no reported significant cultural properties within a half-mile (mi) radius of the project location.

The proposed project is in a rural area within the Mountainous Interior physiographic zone, at an elevation of 1,690 ft (515.1 m) above modern sea level. Per the USGS/NRCS Web Soil Survey, the project area crosses one mapped soil series: Morado clay loam, 40 to 60 percent slopes (MuF2). The project area APE is a rural mountainous setting. The closest freshwater source is an unnamed tributary of the Río Bauta located 0.17 miles (mi; 0.28 kilometers [km]) northeast of the project area. The northern coast is approximately 15.4 mi (24.8 km) from the project area.

Determination

Based on 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. 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-04074 is located. The closest freshwater is 0.17 mi (0.28 km) northeast of the project area. Therefore, no impact to cultural properties is anticipated for this reconstruction project.

PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM ReGROW PUERTO RICO PROGRAM Section 106 NHPA Effect Determination		 GOVERNMENT OF PUERTO RICO DEPARTMENT OF HOUSING
Applicant Name: Earth Essentials Corp.		
Case ID: PR-RGRW-04074		City: Orocovi

Recommendation

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): n/a
- ☐ Adverse Effect

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"/> Concurs with the information provided. <input type="checkbox"/> Does not concur with the information provided.	
Comments:	
Carlos Rubio-Cancela State Historic Preservation Officer	Date:

Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis





Project (Parcel) Location – Area of Potential Effect Map (Aerial)



Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico

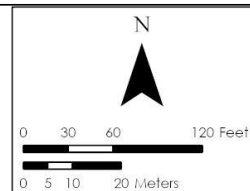


Legend

-  PR-RGRW-04074
-  Proposed Solar Array Location
-  Area of Potential Effect
-  CRIM Parcel Boundary

Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:1,000



Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis

Project (Parcel) Location - Aerial Map

Historic Properties - Aerial Base

Puerto Rico Department of Housing

ReGrow

Application ID#: PR-RGRW-04074

Address: Carr 157 Interior Bo Damian Abajo, Orocovis, PR 00720

Latitude: 18.2428
Longitude: -66.4680



Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis

Project (Parcel) Location - USGS Topographic Map

Historic Properties - Topographic Base

Puerto Rico Department of Housing

ReGrow

Application ID#: PR-RGRW-04074

Address: Carr 157 Interior Bo Damian Abajo, Orocovis, PR 00720

Latitude: 18.2428
Longitude: -66.4680



Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis

Project (Parcel) Location – Soils Map



Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico

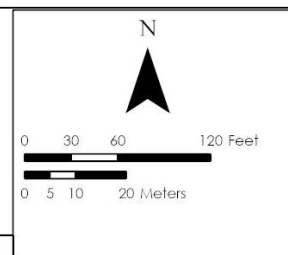


Legend

- PR-RGRW-04074
- Proposed Solar Array Location
- Area of Potential Effect
- CRIM Parcel Boundary
- NRCS Soil Units

Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:1,000

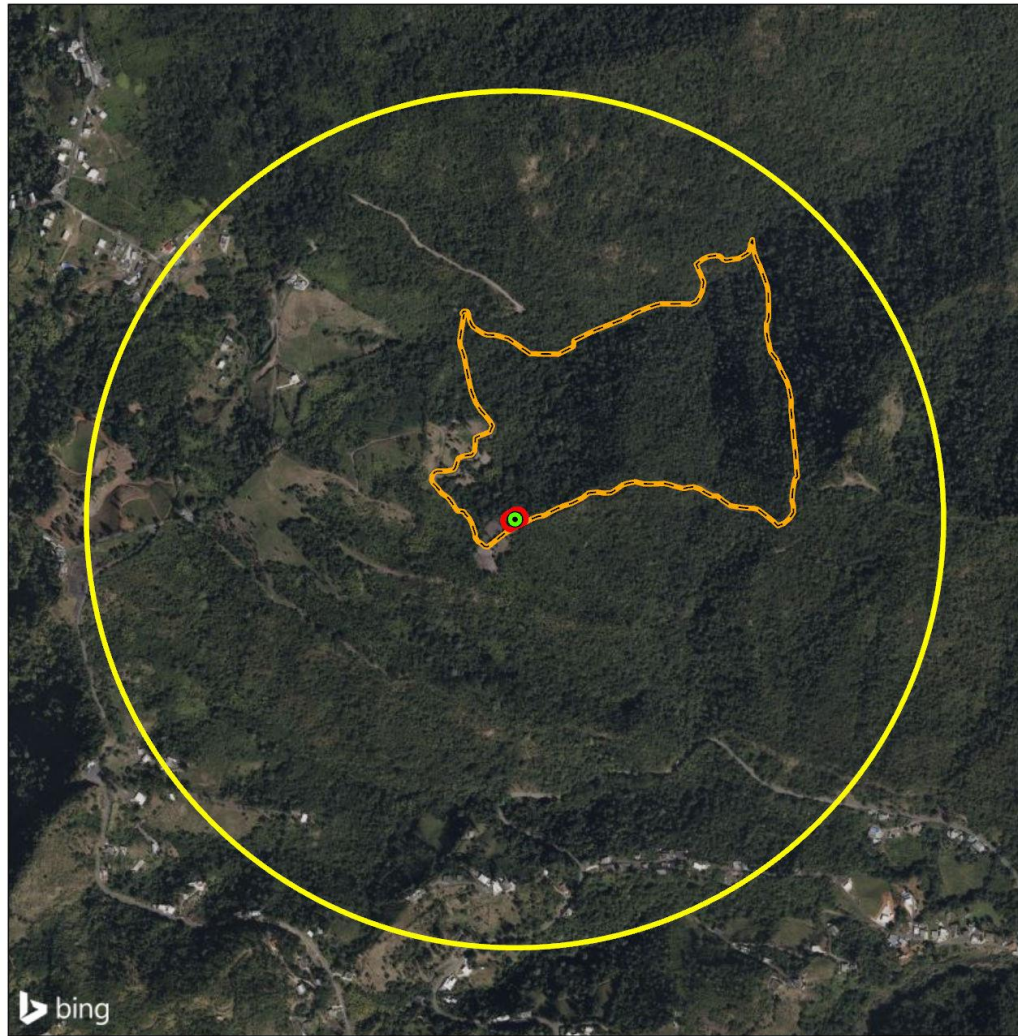


Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis





Project (Parcel) Location with Previous Investigations - Aerial Map



Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico

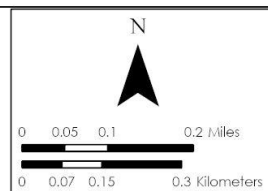


Legend

-  PR-RGRW-04074
-  Area of Potential Effect
-  CRIM Parcel Boundary
-  Half-Mile Buffer

Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:9,000

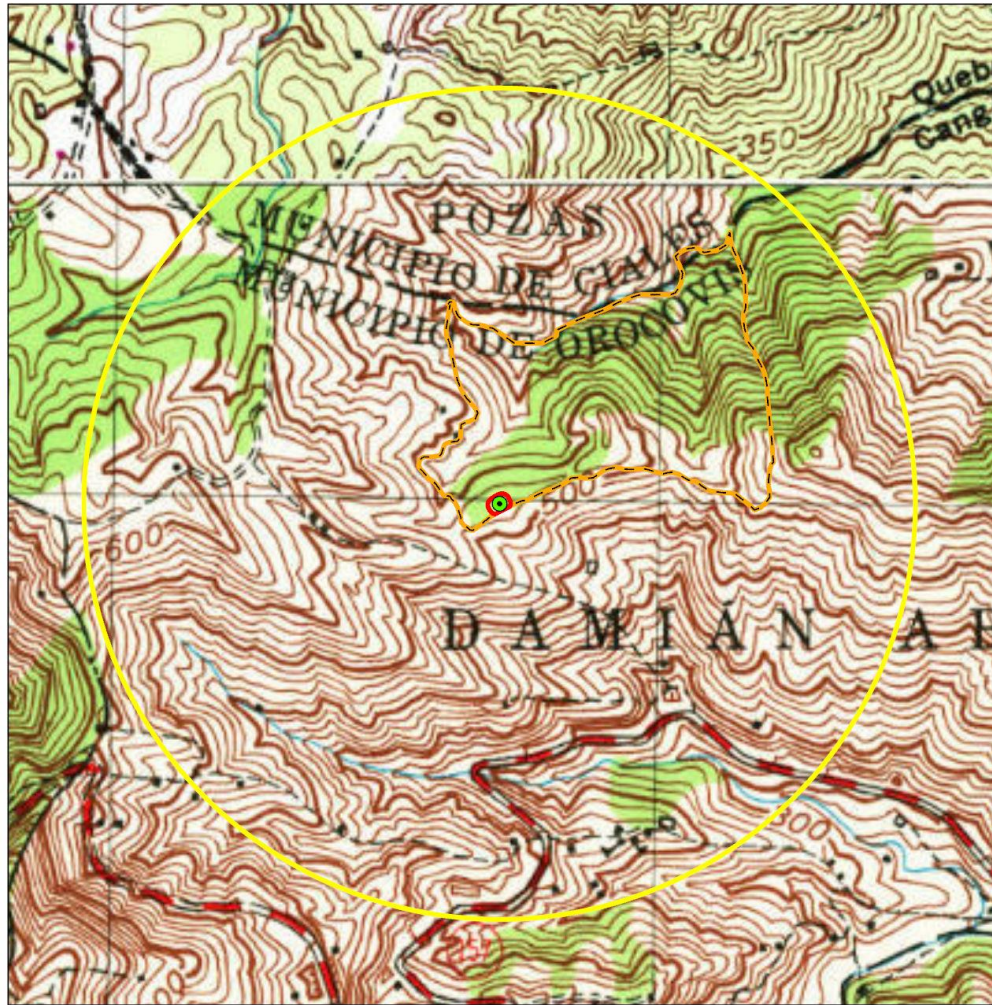


Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis

**Project (Parcel) Location with Previously Recorded Cultural Resources
USGS Topographic Map**



Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico

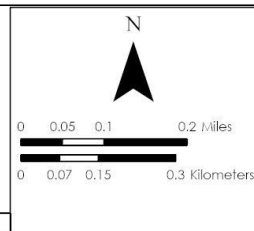


Legend

- PR-RGRW-04074
- Area of Potential Effect
- CRIM Parcel Boundary
- Half-Mile Buffer

Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:9,000



Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis

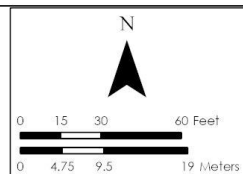
Photograph Key



Carr 157 Interior Bo Damian Abajo, Orocovis, Puerto Rico



- Legend
- PR-RGRW-04074
 - Proposed Solar Array Location
 - Area of Potential Effect
 - CRIM Parcel Boundary



Name: WGS 1984 Web Mercator Auxiliary Sphere

Scale: 1:500

Applicant Name: Earth Essentials Corp.

Case ID: PR-RGRW-04074

City: Orocovis



Photo #: 1

Description (include direction): Overview of proposed solar array location, looking northeast.

Date: 5/3/2023



Photo #: 2

Description (include direction): Overview of proposed solar array location, looking northeast.

Date: 5/3/2023

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)¹?

☒ 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.

¹ 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.*

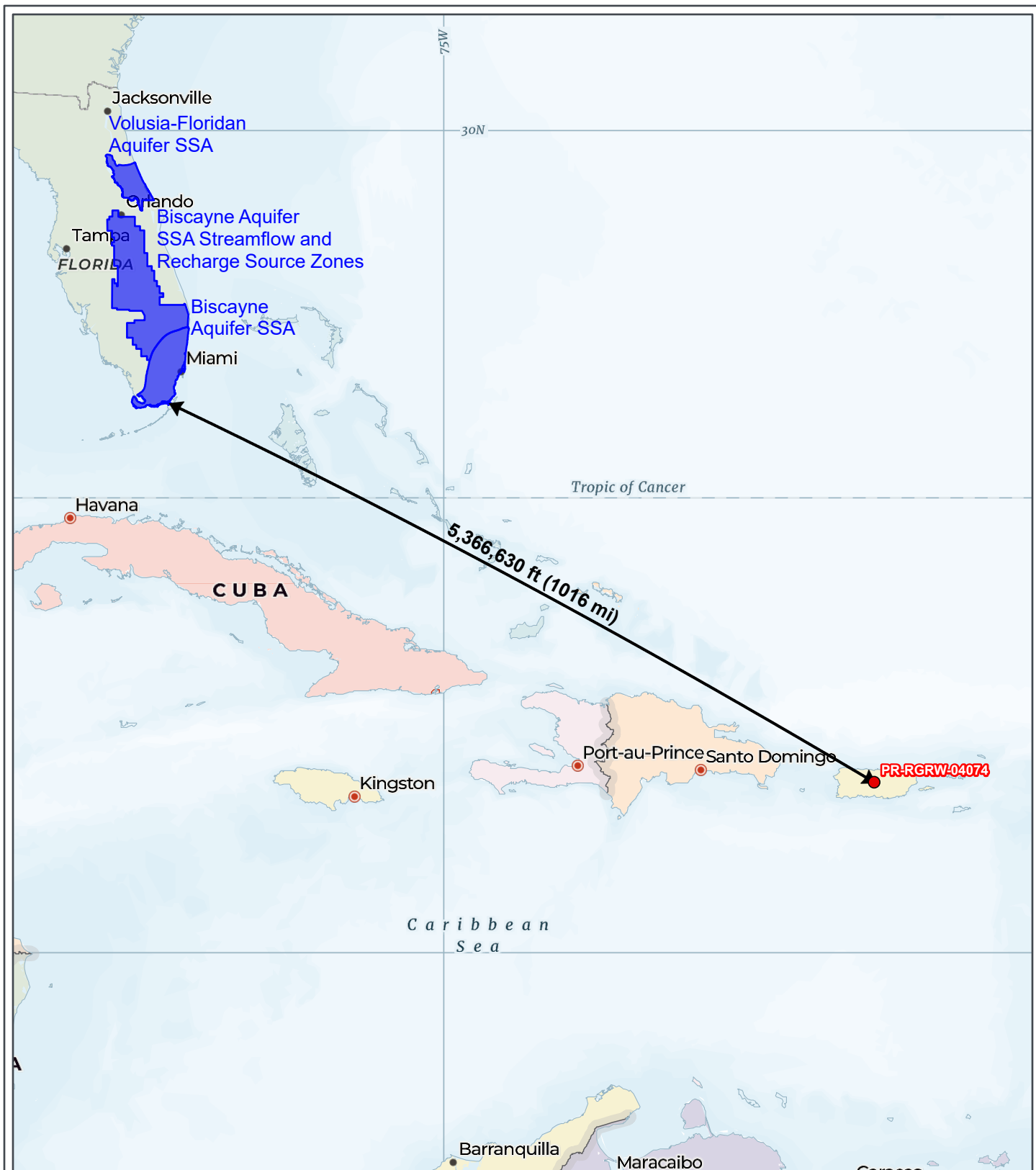
Worksheet Summary

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-04074

SWCA
ENVIRONMENTAL CONSULTANTS

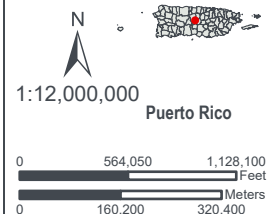
- Site
- Sole Source Aquifers

*There are no Sole Source Aquifers in Puerto Rico.

Carr 157 Interior Bo Damian Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000

66.468091°W 18.242778°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.

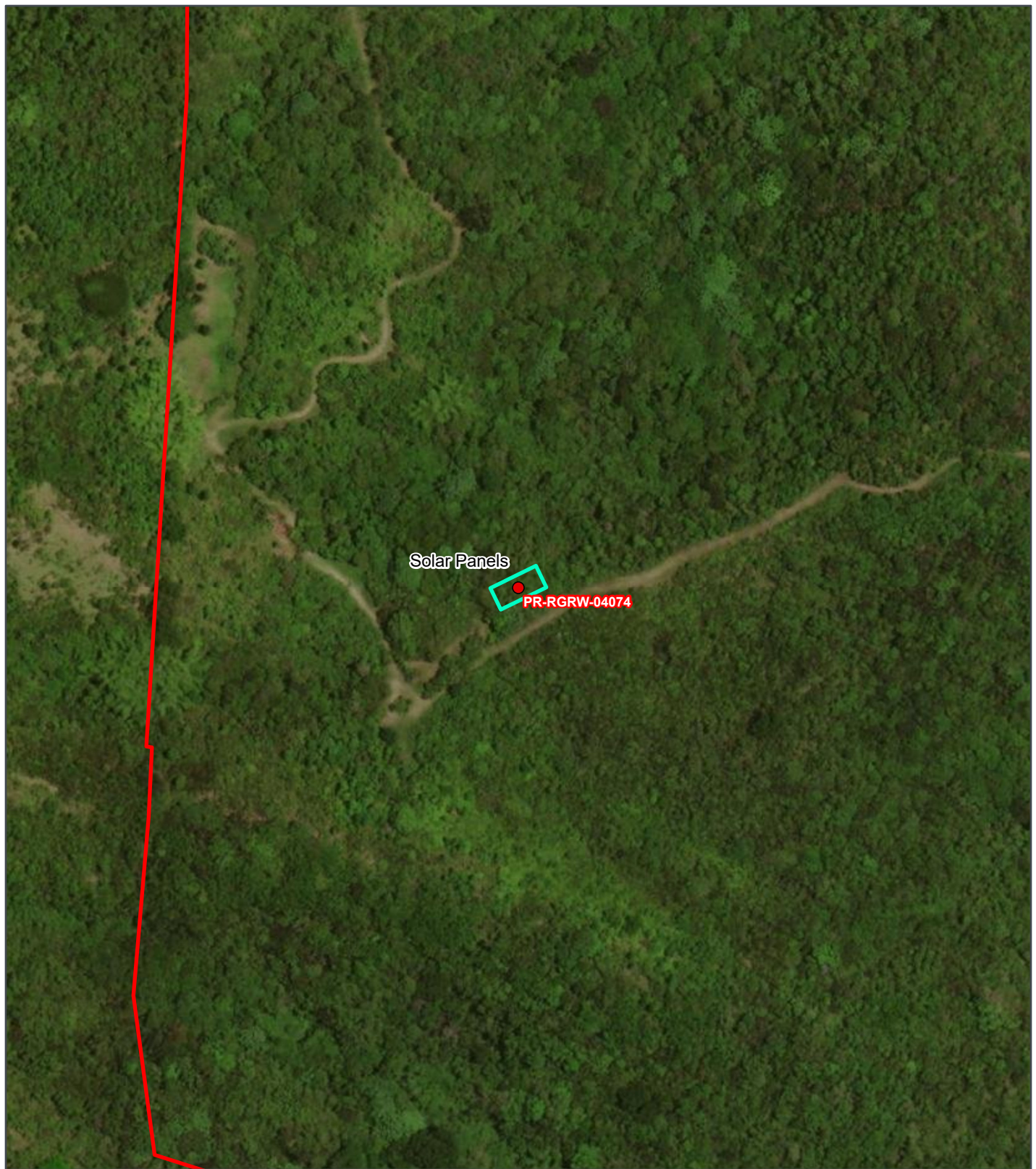
Worksheet Summary

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. The site inspection identified a mineral spring approximately 260 ft east northeast of solar array option one, but it will not be impacted by the projects if BMPs, 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.



REGROW PROGRAM

Figure B 13-1: Wetlands Protection Map

Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

● Site

□ Site Parcel

- - - NHD Stream

■ Estuarine and Marine
Deepwater

■ Estuarine and Marine
Wetland

■ Freshwater Emergent
Wetland

■ Freshwater Forested/
Shrub Wetland

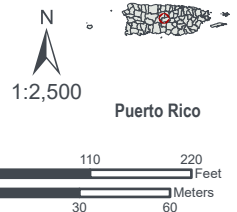
■ Freshwater Pond

■ Lake

■ Riverine

Carr 157 Interior Bo Damian
Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°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: 11/29/2023
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		
https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers		

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:

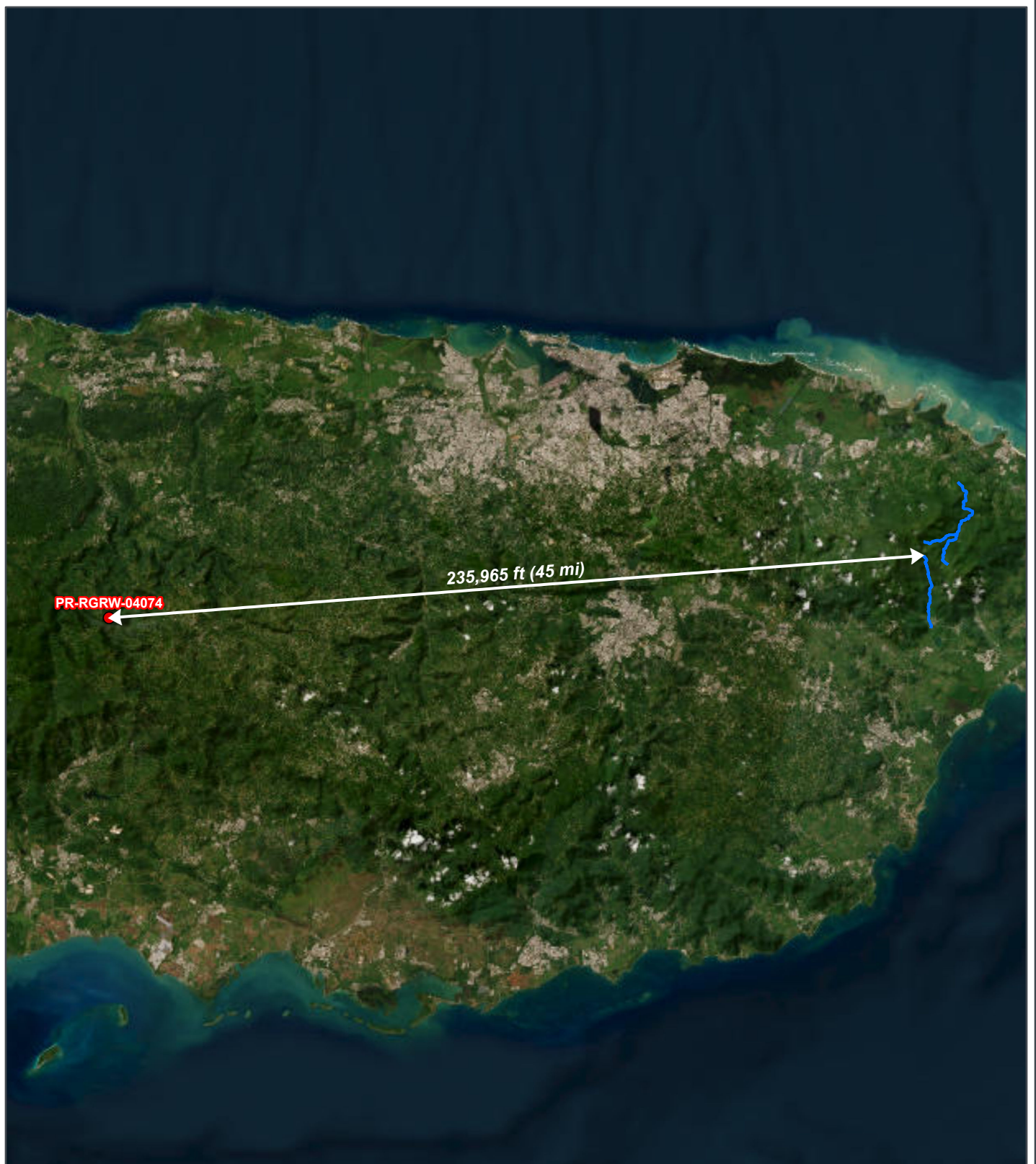
- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

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 Orocovis Municipio. The closest Wild and Scenic River segment is located 235,965 ft (45 mi) 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

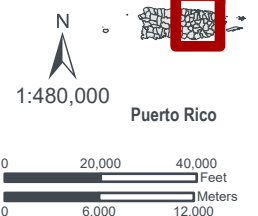
Applicant ID: PR-RGRW-04074

SWCA
ENVIRONMENTAL CONSULTANTS

- Site
- National Wild and Scenic River

Carr 157 Interior Bo Damian Abajo
Orocovis, Puerto Rico 00720
Parcel ID: 218-000-003-38-000
66.468091°W 18.242778°N

Data Source: https://apps.fs.usda.gov/arcx/rest/services/EDW/EDW_WildScenicRiverSegments_01/mapserver
Base Map: ESRI ArcGIS Online,
accessed November 2023
Updated: 11/29/2023



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 à *Continue to Question 2.*☒ No à *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.](#)

à *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.](#)

à *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 providing access to renewable electricity for agricultural 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.

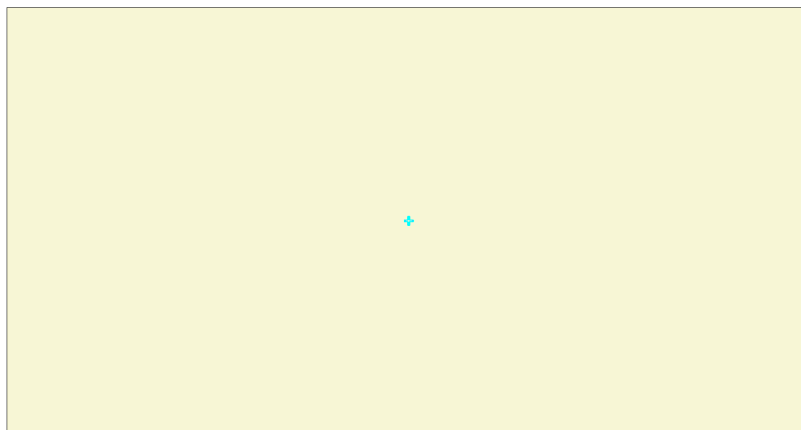
Orocovis Municipio, PR

1 mile Ring Centered at 18.242779,-66.468001

Population: 683

Area in square miles: 3.14

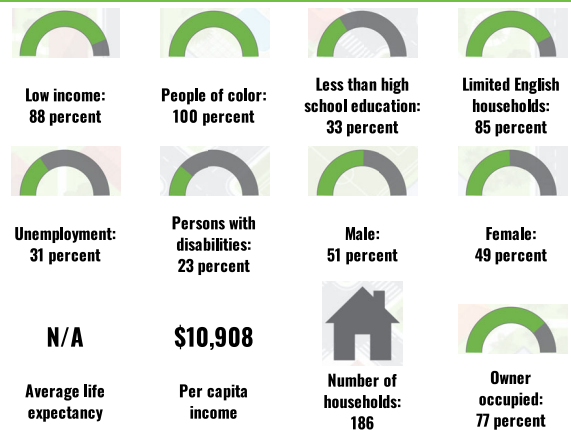
A3 Landscape



February 1, 2024
Search Result (point)

1:1,128
0 0.01 0.02 0.03 0.04 0.05 mi
0 0.02 0.04 0.08 km
EPA Community Maps Contributors: Esri, TomTom, Garmin, Purrup, SafeGraph, GeoTechniques, Inc., NITRADIA, USGS, NPS, US Census Bureau, GPOV

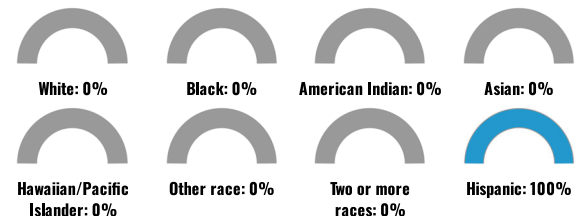
COMMUNITY INFORMATION



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
No language data available.	

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.

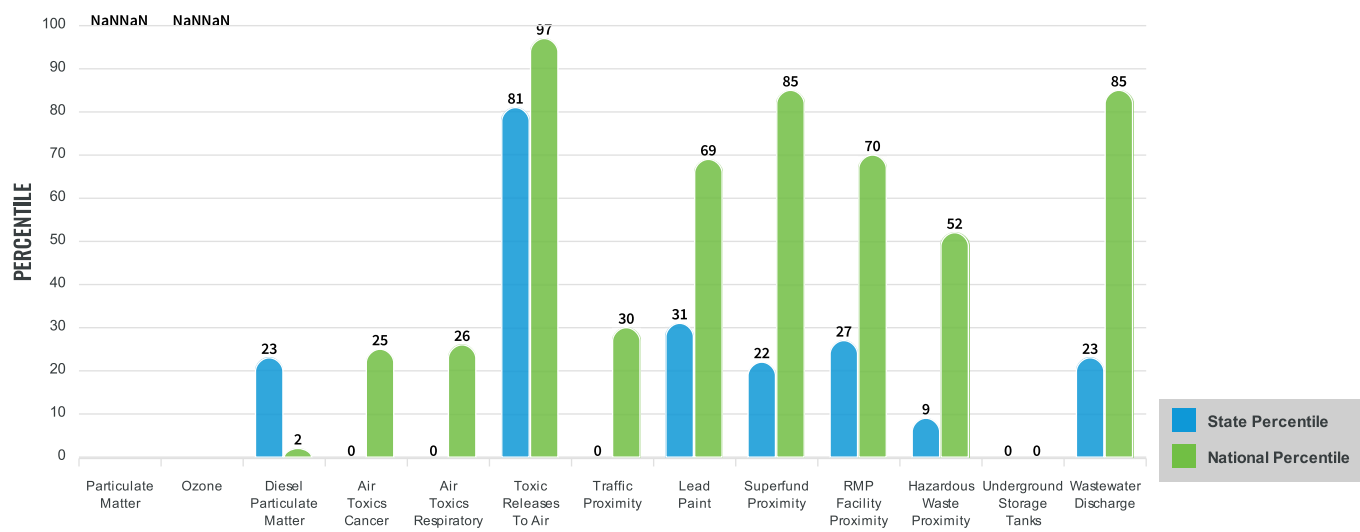
Environmental Justice & Supplemental Indexes

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.

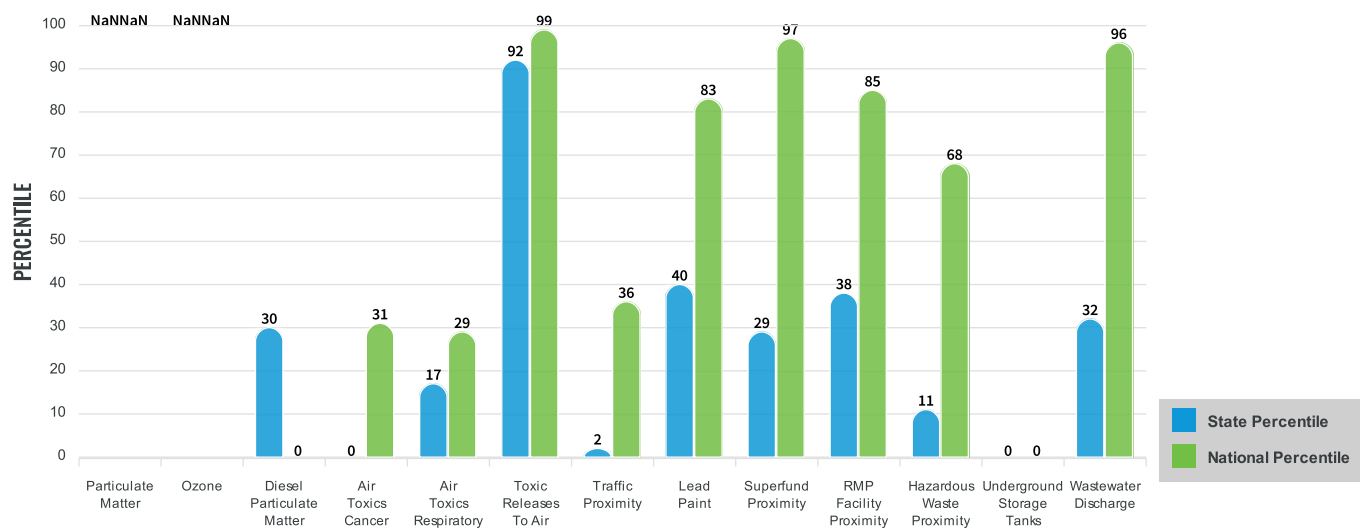
EJ INDEXES FOR THE SELECTED LOCATION



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 Centered at 18.242779,-66.468001

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
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 ($\mu\text{g}/\text{m}^3$)	0.0195	0.0667	23	0.261	0
Air Toxics Cancer Risk* (lifetime risk per million)	10	20	0	25	1
Air Toxics Respiratory HI*	0.11	0.19	0	0.31	1
Toxic Releases to Air	1,700	4,300	74	4,600	69
Traffic Proximity (daily traffic count/distance to road)	1.8	180	1	210	6
Lead Paint (% Pre-1960 Housing)	0.035	0.16	27	0.3	23
Superfund Proximity (site count/km distance)	0.048	0.15	19	0.13	42
RMP Facility Proximity (facility count/km distance)	0.09	0.47	25	0.43	26
Hazardous Waste Proximity (facility count/km distance)	0.074	0.76	7	1.9	15
Underground Storage Tanks (count/km ²)	0	1.7	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00051	2.3	25	22	43
SOCIOECONOMIC INDICATORS					
Demographic Index	94%	83%	79	35%	99
Supplemental Demographic Index	59%	43%	90	14%	99
People of Color	100%	96%	31	39%	98
Low Income	88%	70%	78	31%	98
Unemployment Rate	31%	15%	87	6%	98
Limited English Speaking Households	85%	67%	84	5%	99
Less Than High School Education	33%	21%	80	12%	93
Under Age 5	4%	4%	63	6%	41
Over Age 64	16%	22%	27	17%	53
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	0
Air Pollution	0
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	0
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 Centered at 18.242779,-66.468001

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	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	25.3%	21.6%	69	13.4%	95

CLIMATE INDICATORS					
INDICATOR	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	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	50%	32%	81	14%	98
Lack of Health Insurance	5%	7%	31	9%	34
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

Report for 1 mile Ring Centered at 18.242779,-66.468001

Appendix C

Environmental Site Inspection Report



ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM
ReGrow

Applicant Name:	Jose Torres Rivera		
App ID:	PR-RGRW-04074	RFA	94
Project Name:	EARTH ESSENTIALS , CORP.	Municipio:	Comerio
Address:	780 KM 7.8, Bo. Palomas	Zip Code:	00782
Parcel ID(s):	221-000-005-28-000	Lat:	18.243150
Project Budget:	\$150,000	Long:	-66.248800

*****Pay attention to the color coding – this will indicate what you are responsible for filling in*****

Task:	Name:		Date Completed:	Notes:
➤ Pre-Site Inspector				
❖ Site-Inspector				
Communication Log: (this is used by anyone who wants to record contact with the applicant)	Gaby	email	09/29/2023	Out of country until the end of October
	Gaby	call	9/30-31/2023	Left message
	Gaby	Call	10/31/2023	Connected with applicant and completed pre-site form

Canopy Document Notes/Summary:

▪ EA Preparer	Cory					
Scope of Work from IUGE:	The purchase of solar panels					
▪ GIS review Wetlands?	within	Y/N	next to	Y/N	adjacent	Y/N
❖ Were any onsite wetlands identified?	N					
❖ Will project activities occur within any wetlands?	N					
▪ GIS review Floodplain?	Floodway	Y/N	100-year	Y/N	500-year	Y/N
❖ Will project activities occur within the Floodway?	NA					
❖ Will project activities occur within the 100-year Floodplain?	NA					



Pre-Site Environmental Questionnaire

(when this form is PDFd please removed this questionnaire from the record)

➤ Property Information		
What is the current use of the property?		Agricultural
Is the site currently vacant/undeveloped? Are there any existing structures on the property that will be removed for the project? (are there any pics from Canopy to help answer and clarify this?)		The area is developed for agricultural purposes and is cleared—might need some pruning
Potential Site Access Issues:	does the site appear to have any access issues based on the current aerial imagery? N	No but the vehicle needed for getting to the site location will need to have 4x4 and it's about 1.5 miles to get to where the project location will be.
Existing Structures (e.g., residences, commercial buildings, etc.) {include the ones inside the property and in direct sight view of the site location}		
Built Date	Type of Construction	
2019-2020	There is a house that is on the property – small house for when they are on the farm	
Notes:		
Existing Other Components (e.g., gas tanks, cisterns, water tanks, abandoned vehicles, etc.)		
Type	Details	
Notes:		
Are there any known environmental hazards on or adjacent to the property? (is the applicant aware of any illegal dumping? What do Canopy pictures show? What do the preliminary site maps show?)		No environmental hazards on or adjacent to the property.
Current Electricity:		
Location:	None	
Type:		
Provider:		
Above or Below ground:		
Funded by:		
Notes:	Generators are used to generate electricity for the farm	
Current Water:		
Location:	Throughout property	
Type:	Mineral springs	
Provider:	N/A	
Above or Below ground:		



Notes:	Rainwater is being collected and is being used as their water supply--- 2 250-gallon drums	
➤ Project Activities		
What are <u>all</u> the proposed activities for this project? (what does the applicant think/say is the entire project – to include this funding and future funding?)	Platanos—avocado, oranges, pumpkins-squash Solar panels to allow the applicant to have electricity—The property is in the middle of nowhere and it's too far away for electric lines to be connected for electricity. The solar panels will power the house, roads within the property and the water pump needed to water the crops.	
What is the purpose and need for the project?	The area where the farm is located is very far away and there is no way to have electric cables go to the farm, so they use generators—no electricity means no water pumping for the crops	
What are all the proposed activities currently (CDBG) funded for this project? (what does the applicant think/say the federal funding will fund?) *if there are discrepancies discuss these with the applicant. <u>Distinguish between CDBG-DR funded activities vs other activities.</u>	Does the funding activities discussed by the applicant match the IUGF/RFA?	Y
		PRDOH Help Desk:
N/A		
Solar Panels		
Question	➤ Pre-Site Questionnaire	❖ Site-Visit Determination
Location (this can be specific or “by the road/house/etc”) of each set of solar panels	The solar panels will be placed in a flat area that's near where the crops are cultivated	The southwestern portion of property on a hill that is mostly cleared, some additional clearing planned.
Number of solar panels.	24 panels and 8 batteries	16 or 24 panels: 4 panels per square meter (maximum). Maximum is for 24 panels, would be less for 16 panels. Final decision on number of panels depends on which voltage panels are available when purchasing. 8 batteries
Blueprints, sketches, or pictures of an example	Sent through email	Applicant will email all available documents.
Dimensions (LxW) for entire solar panel set up	76x36—if you can double check these dimensions (the call was cutting out when they were answering)	About 40 square meters maximum for 24 panels with 8 batteries. Would be less for 16 panels and 8 batteries, apprx. 18 square meters. Height of setup expected to be 50-70 cm (lifted by steel poles)



Will the solar panels have a base or platform? If yes, what are the dimensions of the base (LxWxDxH) and what materials will be used for the base?	Platform metal and concrete with 4 anchors 96 total. The anchors will go in 1-2 ft deep	Panels will be supported by and lifted off ground using steel poles (50-70 cm tall) that will be dug into the ground.
Were alternate locations considered? (obtain details – how many, locations of each alternative, etc)	-There are plenty of spaces to put the panels, but the current location is the best spot for sunlight and is near to the crops -Alternate location would be near the casita de siembra, which is close to the current project location.	Alternate location apprx. 200 m northwest of the primary location. On the other side (west) of the main access road. Denoted on survey point. This location has a storage and dormitory structure.
Detailed description of construction activities: (this should be as technical an answer as possible)	The platform will be made of concrete and metal, the anchors will be placed in the platform and then the solar panels will go on top of the anchors.	Panels will be supported by steel pole anchors dug into the ground that will keep the panels stable and off of ground.
What will the solar panels service? (ex: will it be for farm animals, for a house, for a greenhouse?)	They will be used to provide light to where the crops will be and provide light to crops	Primarily lighting for the property; will have backup generator.
How will the solar panels provide electricity to its intended target? (ex: connections will need to be made to the greenhouse approximately 100' away and will use an underground line from the panels to the greenhouse)	Light posts within the property --- please confirm the intended use, the applicant didn't seem to understand what the question was asking	Cables and electric wiring connected directly to solar panel set-up. The wiring will be wrapped in conduit and ran underground at no more than 1 m depth. These will power solar-powered lighting throughout the property.
Will the project require the installation or improvement of new site infrastructure and utilities (i.e, roads, water/sewer/electric utility to the unit or from the utility – ex: installing a greenhouse that needs water – where is it coming from)?	They will need to have draining improvements	Potential draining improvements needed
Notes:		
Total Project Summary		



ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM
ReGrow

Question	➤ Pre-Site Questionnaire	❖ Site-Visit Determination
What are the dimensions of all project components? (Total project footprint - acres, length, width, linear feet, sq ft – ex: the container is 20x8 on a foundation that is 25x10 with a water tank on a base that is 5x5 = project dimensions 25x15)	Solar Panels—76x36 (24 panels) 8 batteries Platform will be made of concrete and metal—applicant said they would be sending over dimensions, but have not received email—if you could double check in time of inspection	40 square meters maximum footprint for solar panels and batteries, no other project areas. Applicant will email plans/blueprints/pictures.
Where will additional workspace and construction work area occur on the site? (workspaces will include staging and turn around areas for deliveries – for example, a container is typically delivered on a truck with a long flatbed which requires a radius to turn and maneuver; dumpsters, even temporary ones, will need to be placed somewhere outside of the project footprint; etc)	There is plenty of space without any problem there are flat spaces that can be accessed easily	No additional workspace expected for the purpose of this project but there are many level areas that can be used throughout property.
How will each project item be connected to water and electricity? Will any of the items require new underground connections?	-The project will be providing a new source of electricity -No water connections will be needed	No utilities needed for solar panel installation. No electricity on property—solar panels will provide the electricity once finished.
Will any tree clearing be required for the construction or installation of the project? (this should include the information needed for the previously mentioned staging and turn around areas)	There will be no tree clearing—the areas are cleared	Yes, some trees will need to be cleared along the western edge of proposed solar panel/battery footprint to allow for more direct sunlight.
Vegetation removal (cutting, clearing via prescribed burns etc.) (this should include the information needed for the previously mentioned staging and turn around areas)	No the area is cleared	Minor trimming and upkeep of dense vegetation needed.
What is the extent of ground disturbances in each activity location (grading, fill required – questionnaire person should summarize this back to the applicant)?	The only ground disturbance will be the installation of the platform construction, which will go 1-2 feet deep	Solar panel support poles will be dug into ground.



ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM
ReGrow

Has any work been started on the project? If so, what activities have been performed, include date started and completed. <small>(Please indicate which/any of these activities are CDBG funded)</small>	The land is cleared for agricultural purposes with the applicant's finances	Primary location for solar panels mowed. Last mowed within a week of inspection.
How will construction debris from the project be disposed of? (there will always be construction debris)	The applicant doesn't believe there will be any debris	No anticipated debris to be disposed of.
Notes:		
➤ Additional Studies		
Have any additional special studies (e.g., wetland delineation, cultural resources survey, asbestos, lead-based paint assessments, mold inspections, soil surveys etc.) been completed? If so, please include a copy of assessment results with your response		
No, there have been no additional studies.		

❖ **Site-Visit Form**

❖ General Site Conditions and Field Notes:			
Does the address match the parcel location?	Yes	Does the lat/long match the parcel location?	Yes, but see note below
Comments on location: The address is the address of the neighbor's residence which is the entrance to the property. GPS coordinates are of the intended solar panel placement location-- google maps will have you take sharp right past the entrance to property location if using these coordinates. The following coordinates are for the entrance of the property/neighbor's residence: 18.246528, -66.471719			
<u>Question</u>	<u>Yes/No</u>	<u>Comments:</u>	
Was property accessible by vehicle?	Yes	Paved roads all the way to entrance of property. Applicant drove SWCA staff through rest of property to project locations in 4x4 vehicle on dirt roads.	



ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM
ReGrow

Were there any access issues? Examples of access issues: Dogs, Locked gate, Traffic hazards, Uncooperative residents, Confrontational Neighbors, *If no access issues please indicate with "None"	No	GPS coordinates are off and google maps will have you take sharp right past the entrance to property location.
Are water wells present? *please include lat/long of water well so it can be denoted on the sitemap	No	None currently present. There are many mineral springs throughout property.
Are creeks or ponds present? *please include lat/long of water well so it can be denoted on the sitemap	Yes	Various mineral springs throughout property but none within 200 m of project location.
Are any potential wetlands on-site or visible on adjacent parcel? *please include lat/long of water well so it can be denoted on the sitemap	No	None evident
<p style="text-align: center;">❖ Parcel Conditions</p> <p style="text-align: center;">Note – for Any Yes answers specify type, contents, and location</p>		
Are commercial or industrial hazardous facilities at parcel or within visual sight?	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?	No	
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	
Other Components (e.g., gas tanks, cisterns, water tanks, abandoned vehicles, etc.)		
Type	Details	
Are there any potentially hazardous trees that could fall?	No	None evident
Are any bird nests visible?	No	None evident
Are there any animal burrows visible?	No	None evident
Are there any signs of potential/preferred T&E habitat in the area?	Yes	Puerto Rican Boa, Puerto Rican Parrot. Puerto Rican Broad-winged Hawk, Puerto Rican Sharp-shinned Hawk potential suitable habitat. Boas have been seen on property per applicant.



ENVIRONMENTAL SITE REVIEW AND INSPECTION FORM

ReGrow

Natural Resources (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}		
Type or Species	Description	
Mineral Springs	Various throughout property but none within 200 m of intended project location.	
Are there any buildings in direct visual sight of the project locations? Take photo and ask applicant when the structure was built		
	N	
Structures (e.g., residences, commercial buildings, etc.) {include the ones inside the property and in direct sight view of the site location}		
Built Date	Type of Construction	
~2019	Small wooden structure with zinc panel roofing. Used for storage and as dormitory. Location and picture denoted as survey point.	
❖ Additional Environmental Hazards Analysis		
Based on the above findings, does additional information need to be obtained from the applicant to determine whether an environmental hazard is present?		Applicant will email additional blueprints and information

☒ I verify that I have physically visited this property and that the findings outlined above are accurate.

Karina Morales

Karina Morales
November 27, 2023

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031



Photo #: 01	Date: 11/27/23	
Photo Direction: Northeast		
Description: This is an overview image of the eastern portion of the primary intended location for solar panels/batteries placement. Unable to access corners due to overgrown thorny vegetation. This picture shows the vegetation, mountains in the central background, and trees along the left and right edges.		

Photo #: 02	Date: 11/27/23	
Photo Direction: Southeast		
Description: This is an overview image of the eastern portion of the primary intended location for solar panels/batteries placement. Unable to access corners due to overgrown thorny vegetation. This picture shows the vegetation in the foreground and trees behind the vegetation.		

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031

Photo #: 03	Date: 11/27/23	
Photo Direction: Northeast		
Description: This picture faces northeast from the southwestern corner of the primary intended location for solar panel/battery setup. A partially mowed/cleared location can be seen in this photo, with trees along the edges.		

Photo #: 04	Date: 11/27/23	
Photo Direction: Southeast		
Description: This picture faces southeast from the northwestern corner of the primary intended location for solar panel/battery setup. A partially mowed/cleared location can be seen in this photo, with trees along the edges.		

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031


Photo #: 05	Date: 11/27/23	
Photo Direction: Northwest		
Description: This picture shows a row of trees along the northwestern edge of the primary intended location of solar project—these will need to be cleared per applicant to allow more direct sunlight to panels.		

Photo #: 06	Date: 11/27/23
Photo Direction: Southeast	
Description: This picture shows an overview of the alternate location for the solar project. The area is currently overgrown/not accessible for corner pictures. Dense vegetation can be seen in the foreground, along with mountains and trees in the background.	



Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031



Photo #: 07	Date: 11/27/23	
Photo Direction: Northwest/Close-up		
Description: This picture shows the wooden structure used for storage and as a dormitory, as well as a trailer, that are located northwest of the alternate proposed location for the solar project. A mowed area with trees along the edges can also be seen.		

Photo #: 08	Date: 11/27/23	
Photo Direction: Close-up		
Description: This is a picture of the path of one of the mineral springs that crosses a portion of the main access road. The access road, with some standing water can be seen in this picture, along with dense vegetation along the edges.		

Project #: PR-RGRW-04074	Photographer: Karina Morales
Location Address: Carr 157 Interior Bo Damian Abajo, Orocovis PR 00720	Coordinates: 18.242775, -66.468031

Photo #: 09	Date: 11/27/23
Photo Direction: Close-up	
Description: This picture shows a second mineral spring within the property. The spring, a water collection PVC pipe, and water collection jugs can be seen in this picture along with vegetation and trees within a forested area.	

A photograph of a mineral spring in a forested area. The spring is a small, shallow pool of water surrounded by mossy rocks and dense green vegetation. Two yellow plastic jugs are visible near the spring, and a PVC pipe is partially visible in the background.