ENVIRONMENTAL ASSESSMENT for HUD-funded Proposals

Project Identification:	PR-LIHTC-00028 **BRISAS DEL MAR VILLAGE** PR-54, KM 0.3 MACHETE WARD GUAYAMA, PUERTO RICO
Preparer:	**ARCH. JORGE L. SALA MORALES** **ARCON LLC**
Responsible Entity:	**PUERTO RICO DEPARTMENT OF HOUSING (PRDOH)**
Month/Year:	**June 22, 2023**

ENVIRONMENTAL ASSESSMENT

Responsible Entity: [24 CFR 58.2(a)(7)]	PUERTO RICO DEPARTMENT OF HOUSING (PRDOH)
Certifying Officers: [24 CFR 58.2(a)(2)]	JUAN CARLOS PEREZ-BOFILL SALLY Z. ACEVEDO-COSME PEDRO DE LEON RODRIGUEZ MARIA T. TORRES-BREGON IVELISSE LORENZO ANGEL GABRIEL LOPEZ GUZMAN SANTA RAMIREZ JANETTE I. CAMBRELEN PERMIT AND ENVIRONMENTAL COMPLIANCE OFFICERS CDBG-DR PROGRAM
Project Name:	BRISAS DEL MAR VILLAGE
Project Location:	PR-54, KM 0.3 MACHETE WARD GUAYAMA, PUERTO RICO
Estimated Total Project Cost:	$51,658,873.00
Grant Recipient: [24 CFR 58.2(a)(5)]	PUERTO RICO HOUSING FINANCE AUTHORITY (PRHFA)
Recipient Address:	CALLE ALDEBARAN 638 URB. ALTAMIRA SAN JUAN, PR 00901
Project Representative:	MR. CARLOS GARCIA MUNIZ
Telephone Number:	(787) 758-6455
Email:	carlos@spmancorp.com

CONDITIONS FOR APPROVAL:

(List all mitigation measures adopted by the responsible entity to eliminate or minimize adverse environmental impacts. These conditions must be included in project contracts and other relevant documents as requirements). [24 CFR 58.40(d), 40 CFR 1505.2(c)]

The following conditions and mitigation measures must be adopted throughout the construction:

1. Permits and Endorsements – Acquire and maintain all required federal, Puerto Rico and local permits and endorsements. The developer and contractor must comply with all conditions and mitigation measures presented in the permits and endorsements. These must be acquired specifically for the latest SOW and approved construction drawings.
2. All required permits and endorsements must be valid at construction commencement and throughout the construction endeavor. These include, but are not limited to, the ICPR endorsement, which is currently expired, and the endorsement from the Department of Agriculture.
3. A significant deviation from the scope of work calls for a re-evaluation of the application for funding under the National Environmental Policy Act.
4. The contractor must detain all construction work if archaeological deposits and/or elements of historical value are encountered during any phase of the construction. The contractor must inform the ICPR, SHPO and Contracting Officer within 24 hours of the finding. No work may resume until consultation is complete and authorization has been granted to continue.
5. The contractor must implement and maintain the CES plan for the control of erosion and sedimentation.
6. Outfit all equipment with mufflers.
7. Comply with noise ordinance as established in the “Reglamento para el Control de la Contaminación por Ruido de la Junta de Calidad Ambiental”.
8. The contractor must detain all construction work if any above ground and/or below ground water sources are encountered during the construction effort and shall notify the DRNA immediately upon such findings.
9. The contractor must take preventive measures to prevent construction dust from becoming a nuisance to neighboring populations.
10. Developer to evaluate if a National Pollutant Discharge Elimination System (NPDES) permit is required and acquire if necessary.
11. The contractor must take preventive measures to ensure that storm water does not carry organic and/or inorganic materials (oil, fuel spills, etc.) into neighboring streams, irrigation channels nor bodies of water. The contractor must implement and maintain the SWPPP to reduce pollutants in stormwater discharges from the site.
12. The developer must procure the collection and proper disposal of solid waste services during and after construction, for unit tenants and/or owners.
13. Follow recommendations from the Geotechnical Engineer as specified in the site-specific Soil’s Report.
14. Additional recommendations and mitigation measures presented in:
    a. The ‘Declaracion de Impacto Preliminar (DIA-P) (See Exhibit No. 21)
    b. the ‘Declaracion de Impacto Ambiental Final’ preseted by the Junta de Calidad Ambiental through their letter dated 11 de marzo de 2010 (See Exhibit No. 22).
15. Project development is conditioned to applying the US Fish and Wildlife Service Puerto Rican Boa Conservation Measures 2020 to minimize impact to the boa.
16. The habitat of the Puerto Rican Boa is Island-wide. If a Boa is encountered during construction work, the contractor must halt all work until the Boa moves off the site. If the

Boa is not showing the inclination to move off the site, contact shall be made with the DRNA to remove the Boa before construction continues.

17. Recording of “Element 1” be means of Level III HAER standard documentation, archaeological monitoring, and implementation of a protection plan for elements 2 to 5 through the construction endeavor are required. (See Exhibit No. 1)
18. Properly remove any garbage and debris that could be present on site due to illegal dumping from unknown individuals.

FUNDING INFORMATION

HUD Program: CDBG/DR Gap to Low Income Housing Tax Credits Program

Program Funding Amount: $ 51,658,873.00

Estimated Total HUD Funded Amount: $ 37,149,273.00

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]: $ 51,658,873.00

Breakdown of Fund Source:

Tax Credit Capital	Permanent Loan	Other Sources	CDBG-DR	Total Cost
$ 13,479,925	$ 0.00	$ 1,029,625	$ 37,149,273	$ 51,658,873

ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
AAA	Puerto Rico Water and Sewage Authority (Autoridad de Acueductos y Alcantarillados)
ACM	Asbestos Containing Materials
ACT	Department of Transportation (Autoridad de Carreteras)
ADS	Solid Waste Authority (Autoridad de Desperdicios Sólidos)
AEE	Puerto Rico Electric Power Authority (Autoridad de Energia Eléctrica)
CBRS	Coastal Barrier Resource System
CDBG-DR	Community Development Block Grant – Disaster Recovery
CES Plan	Erosion Control and Sediment Containment Plan (Plan para el Control de la Erosión y Prevención de la Sedimentación)
DRNA	Department of Natural Resources (Departamento de Recursos Naturales)
EA	Environmental Assessment
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
ICPR	Institute of Puerto Rican Culture (Instituto de Cultura Puertorriqueña)
JPA	Junta de Planificacion
LBP	Lead Based Paints
LIHTC	Low Income House Tax Credit
:UST	Leaking Underground Storage Tank
NCRS	Natural Resources Conservation Service
NPDES	National Pollutant Discharge Elimination System
PRASA	Puerto Rico Water and Sewage Authority (Autoridad de Acueductos y Alcantarillados)
PRCZMP	Puerto Rico Coastal Zone Management Program Plan
PRDOH	Puerto Rico Department of Housing (Departamento de La Vivienda)
RECs	Recognized Environmental Conditions
SOW	Scope of Work
SSA	Sole Source Aquifers
SHPO	State Historic Preservations Office
SWPPP	Stormwater Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service

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1. PROJECT DESCRIPTION

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

Puerto Rico is short of suitable affordable housing for numerous low-income populations including, but not limited to, the working population, single parent families and young adults. Throughout the past decade PR has been wrought by an economic recession that has been further tainted by hikes in construction costs, the implementation of new taxes, the degradation of the islands credit rating and new fiscal controls over government spending.

Furthermore, Hurricanes Irma and Maria stormed through the island in September of 2017 damaging hundreds of thousands of homes along the way. All together, these conditions have led to a shortage in affordable housing and present powerful obstacles to low-income families in their search for safe, sanitary, and secure homes.

The purpose of this endeavor is to assist in providing suitable, resilient affordable housing to low-income families of Guayama.

B. Description of the Proposal: Include all contemplated actions that are either geographically or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]

The following excerpt has been extracted from the developer's project narrative:

Brisas del Mar Village will be a residential project located at PR 54 Km. 0.3 in the Machete Ward of Guayama, PR (the Project). The Project will be developed in a 15.16 cuerdas parcel in an area originally designated as the second phase of a residential development project. Brisas del Mar Village will cater low and very low-income families utilizing various programs to subsidize rent. Among these programs are Section 42 Low Income Housing Tax Credit (LIHTC), CDBG-DR funds, as well as accept Housing and Urban Development's Section 8 Housing Voucher program.

Brisas del Mar Village consists of 123 single detached units (98 three bedrooms/2-bathroom units and 25 two bedrooms/one-bathroom units). All units will have covered carport. Twelve percent (12%) of the Project's units will be accessible for persons with mobility problems and three percent (3%) of the units will be prepared for sensory disabled individuals. The units will have multiple very select characteristics to address sustainability requirements. Among these characteristics are: use of solar water heater; all energy star certified electrical and plumbing equipment as well as a recycling program. Also, all units will have a 6 Kw solar energy generation system and special thermal construction techniques and materials to foster sustainability. As a result of this innovative design, project residents will not pay electricity. All common areas will also use energy star certified equipment and will have a recycling bin area.

Brisas del Mar Village also will include a community pool, gazebo, full basketball court, soccer court; community room; computer room for supervised studies/tutoring; laundromat, small public plaza, equipped exercise and tutoring rooms, passive area recreation and equipped playground. Brisas del Mar Village will target single headed households and will offer supervised studies to the community's youth. The Project will also target elderly population and, when needed, will provide Home Aide Care services. For these purposes, Brisas del Mar Village is allocating 5% of its annual operational budget as well as 75% of its units are set aside for this target population. The Project has been designed and will be constructed in accordance with ISC-700 green standards, a certification to this effect will be procured after the construction process has been completed.

Even with all these amenities and green characteristics, the Project's Total Development Cost is still 20% less than PRHFA TDC average.

In terms of how Brisas del Mar Village incorporates the State Housing Plan policies, the Project will increase the offer of rental housing for low and very low-income families. It targets Single Headed Household and Elderly and has committed to set aside 75% of its units for this target population as well as commit 5% of its annual operating budget for direct services to its residents. The Project also incorporates state of the art sustainability aspects, including, but not limited to: energy efficiency; water conservation as well as all three-bedroom units producing net metered energy hence increasing the production of clean energy while creating significant cost savings to the tenants.

Finally, it is of utmost importance to stress the results of a recent market study prepared for Brisas del Mar Village which reflected that there is a demand for over 2,000 qualified renter households with the qualified income levels and household size in the market area to occupy

two- and three-bedroom units under the LIHTC program. The subject will total 123 units providing an overall capture rate of 5.7% (123 ÷ 2,170) in the market area, evidencing positive demand economics.

Contemplated actions include:

- Site Preparations and Earthworks
- Construction of site infrastructure which includes roads and a storm sewer system.
- Construction of single-family unit residences and a recreational area.
- Hook up to existing infrastructure:
    - Electricity
    - Aqueduct & Potable Water Supply
    - Sanitary Sewer
    - Roads and Sidewalks
    - Telephone & Cable: Communications

C. Existing Conditions and Trends: Describe the existing conditions of the project area and its surroundings, and trends likely to continue in the absence of the project. [24 CFR 58.40(a)]

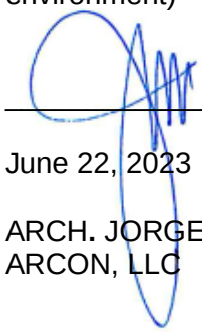
The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. It is readily accessible, supported by adequate utilities infrastructure, and near the commercial, recreational, institutional, and healthcare facilities necessary to support a healthy residential community.

The site has been vetted by local agencies and the proposed project has been positively accepted for its intended use. Puerto Rico's debt crisis accompanied by current economic trends and development efforts suggest that in the absence of this project the site would remain undeveloped until funding is secured.

2. FINDING: [58.40(g)]

☑ **Finding of No Significant Impact**
(The project will not result in a significant impact on the quality of the human environment)

☐ **Finding of Significant Impact**
(The project may significantly affect the quality of the human environment)

Preparer Signature: 

Date: June 22, 2023

Name/Title/Agency: ARCH. JORGE L. SALA
ARCON, LLC

Certifying Officer Signature: 

Date: 8/25/2023

Name/Title/Agency: Janette I. Cambrelén
Permits and Environmental Compliance Specialist,
Puerto Rico Department of Housing

3. STATUTORY CHECKLIST: [24CFR §58.5]

Record the determinations made regarding each listed statute, executive order or regulation. Provide appropriate source documentation. Note reviews or consultations completed as well as any applicable permits or approvals obtained or required. Note dates of contact or page references. Provide compliance or consistency documentation. Attach additional material as appropriate. Note conditions, attenuation or mitigation measures required.

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
Historic Preservation [36 CFR 800]	Yes ☒ No ☐	A letter from SHPO dated June 14, 2022, directed towards Lauren Poche, and for this project, states that the district *"is eligible for listing on the National Register of Historic Places and that implementation of the undertaking meets the criteria of adverse effect by causing damage or destruction to an element of this district. In accordance with Stipulation II.C.6.a of the FEN1A / Puerto Rico Department of Housing programmatic agreement, as amended in 2019, we agree with the proposed treatment of recording "Element 1" by means of Level III HAER standard documentation. We also agree with the implementation of an archaeological monitoring and protection plan for elements 2 to 5."* The Instituto de Cultura Puertorriqueña reviewed the project as presented back in 2007 and determined that, based on the available information at that time, the probability of impacting archeological resources as defined by "Ley 112 del 20 de julio de 1988" are minimal. However, the ICPR states that its correspondence is limited to the "Ley 112 de Arqueologia Terrestre" and falls short of formally endorsing the project. Please see letter dated May 21, 2009, from the ICP directed to Eng. Francisco Perez Blair. The construction endeavor is therefore conditioned to: 1. the recording of "Element 1" be means of Level III HAER standard documentation. 2. Archaeological monitoring during construction 3. The implementation of a protection plan for elements 2 to 5 through the construction endeavor.

		See Exhibit 1-A – SHPO **See Exhibit 1-B – Archaeological** **See Exhibit 1-C – ICPR** **See Exhibit 1-D – Level III HEAR** **Documentation Element 1, Monitoring and Protection Plan**
Floodplain Management [24 CFR 55, Executive Order 11988]	Yes ☐ No ☒	The selected site is not located in a floodplain. As presented in Flood Map Number 72000C2130J with an effective date of April 18, 2009, it stands within Zone X defined as an area determined to be outside the 500-year flood by FEMA. Therefore, this factor is in compliance with Executive Order 11988. **See Exhibit No. 2 – Floodplain Management**
Wetlands Protection [Executive Order 11990]	Yes ☐ No ☒	The project site is not located on any riparian nor wetlands. Furthermore, a permit won't be required as per Section 404 of the Clean Water Act for the project will not require the discharge of dredger or fill material into wetlands. No adverse effects are anticipated. **See Exhibit No. 3 – Wetlands Map**
Coastal Zone Management Act [Sections 307(c), (d)]	Yes ☐ No ☒	Puerto Rico's coastal zone generally extends 1,000 meters (one kilometer) inland. The project site is located approximately 1,400 meters from the nearest coastline and over 520 meters from the nearest coastal zone boundary. No adverse effects are anticipated. **See Exhibit No. 4 – Coastal Zone Management**
Sole Source Aquifers [40 CFR 149]	Yes ☐ No ☒	According to the US Environmental Protection Agency's Source Water Protection, Sole Source Aquifer Protection Program, there are no Sole Source Aquifers in Puerto Rico. No adverse effects are anticipated. **See Exhibit No. 5 – Sole Source Aquifers**
Endangered Species Act [50 CFR 402]	Yes ☐ No ☒	The proposed project lies within the range of the Puerto Rican Boa. The U.S. Fish and Wildlife Service has stated that it concurs with the determination that the proposed activity may affect but is not likely to adversely affect the

		Puerto Rican Boa. Their letter proceeds to state that they believe that requirements of section 7 of the Endangered Species Act have been satisfied but that obligations under section 7 must be reconsidered if: (1) new information reveals impacts 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 their statement; or (3) a new species is listed or critical habitat determined that may be affected by the project. Project development is conditioned to applying the US Fish and Wildlife Service Puerto Rican Boa Conservation Measures 2020 to minimize impact to the boa. No adverse impacts to designated critical habitat are anticipated as presented in the F&W letter to Arq. Andrés Cermeño signed/dated by Edwin Muniz on 2023.06.26. **See Exhibit No. 6 – Endangered Species & Ecology**
Wild and Scenic Rivers Act [Sections 7(b), (c)]	Yes ☐ No ☒	Puerto Rico has approximately 5,385 river miles. Only 8.9 miles of three rivers are designated as wild & scenic. The portions of these rivers that qualify under the are located more than 25 miles east of the project site. They are not in harm's way from this project. The proposed activities will not directly affect or impact the rivers. No adverse effects are anticipated. **See Exhibit No. 7 - Wild and Scenic Rivers**
Air Quality [Clean Air Act, Sections 176(c) and (d), and 40 CFR 6, 51, 93]	Yes ☐ No ☒	The project site is in the municipality of Guayama. This municipality is not currently listed as a nonattainment area in the United States Environmental Protection Agency Green Book. Emissions during construction should be limited to that of construction equipment and are assumed to be of minimal impact. **See Exhibit No. 8-A - Nonattainment Area** **See Exhibit No. 8-B – Green Book**
F**armland Protection Policy Act** [7 CFR 658]	Yes ☐ No ☒	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete

		Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. The terrain is classified as "Prime Farmland if Irrigated". Site information was provided to the USDA/NRCS for a Farmland Conversion Impact Rating. Form AD-1006 was developed and rendered a score of less than 160 points. In accordance with 7 CFR 658.4 (c)(2), sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated. **See Exhibit No. 9-A – AD-1006 Prime Farmlands Rating Sheet** **See Exhibit No. 9-B – Soil Report**
Environmental Justice [Executive Order 12898]	Yes ☐ No ☒	The development is meant to serve the pressing need for affordable housing in Guayama's low-income population and counts with the support from the Municipality. There are no environmental findings that would adversely affect target populations for Environmental Justice. **See Exhibit No. 10 – Environmental Justice / Municipal Endorsement**

HUD Environmental Standards		Determination and Compliance Documentation
Noise Abatement and Control [24 CFR 51 B]	Yes ☐ No ☒	The proposed project site is not located within 1,000 feet of a major road or highway nor 3,000 feet of a railroad. It is over 28 miles from the nearest civil airport and over 32 miles from Luis Munoz Marin, a joint Civil Military Airport. No Adverse Impacts are anticipated. **See Exhibit No. 11 – Architects Certification Letter**
Toxic/Hazardous/Radioactive Materials, Contamination, Chemicals or Gases [24 CFR 58.5(i)(2)]	Yes ☐ No ☒	A Phase I Environmental Site Assessment dated May 19, 2023 in conformance with the scope and limitations of ASTM 1527-13 mentions that there is some garbage and debris on the site. The amounts are small and due to unauthorized dumping by unknown individuals. These should not represent a REC for the site but must be properly removed from the site. It also mentions a LUST facility, Central Machete with EQB Id. No 98-0062, is approximately 1/2 mile southeast of the site. The facility was released by the EQB. Based on the hydrogeology of the area and distance from the site, the facility should not represent a REC for the site. The report concludes that there was no evidence of recognized environmental conditions (RECs) in connection with the property. Based upon a NEPAssist review, other hazardous waste, air pollution and/or water dischargers in the Guayama area are distant and should not present a hazard to the site. No adverse effects are anticipated. **See Exhibit 12-A – NEPA Assist Area Map** **See Exhibit 12-B – Phase 1 EA**
Siting of HUD-Assisted Projects near Hazardous Operations [24 CFR 51 C]	Yes ☐ No ☒	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. No aboveground storage tanks (ASTs), which could contain explosive or flammable materials

		are evident within a 1-mile radius of the project site. **See Exhibit 12 – Phase 1 EA (Reference)**
Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]	Yes ☐ No ☒	The nearest civil and military airport is the Luis Munoz Marin airport, over 30 miles north of the site. The regional airport of Humacao is over The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. No adverse effects are anticipated. **See Exhibit No. 13 – Airport Hazards**

Other Factors		Source or Documentation
Flood Disaster Protection Act [Flood Insurance] [§58.6(a)]	Yes ☐ No ☒	The selected site is not located in a floodplain. As presented in Flood Map Number 72000C2130J with an effective date of April 18, 2009, it stands within Zone X defined as an area determined to be outside the 500-year flood by FEMA. Flood insurance is not required. **See Exhibit No. 2 – Floodplain Management**
Coastal Barrier Resources Act/ Coastal Barrier Improvement Act [§58.6(c)]	Yes ☐ No ☒	The project site is located approximately 2.5 miles northeast from system unit PR-44 and 4.3 miles west, northwest from system unit PR-43P. No adverse effects are anticipated. The Coastal Barrier Resource System Mapper further confirms that the site is not identified as a 'protected area'. **See Exhibit No. 14 – Coastal Barriers Resource System**
Airport Runway Clear Zone or Clear Zone Disclosure [§58.6(d)]	Yes ☐ No ☒	The nearest civil and military airport is the Luis Munoz Marin airport, over 30 miles north of the site. The project site is not within 15,000 feet of a military airport or 2,500 feet of a civilian airport. No adverse effects are anticipated. **See Exhibit No. 13 – Airport Hazards**
Other Factors		Climate Change: The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. Based upon the location of the site, sea level rise would be of most concern. Coastal inundation due to sea level rises are long term. Currently, there are no specific requirements related to new construction due to climate change in the coastal zone. The Sea Level Rise Predication for the Southern Puerto Rico coast is about 0.66 feet (Intermediate) for 2050. The inundation of this amount will not threaten the site by that time.

		Based upon the project scope, there should be no adverse impact relating to Climate Change.

4. ENVIRONMENTAL ASSESSMENT CHECKLIST

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a determination of impact. **Impact Codes**: (**1)** - No impact anticipated; (**2)** - Potentially beneficial; (**3)** - Potentially adverse; (**4)** - Requires mitigation; (**5)** - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional material as appropriate. Note conditions or mitigation measures required.

Land Development	**Code**	**Source or Documentation**
Conformance with Comprehensive Plans and Zoning	1	The plot of land under consideration for this project is currently zoned as R-I, which allows for high-density residential use. The project has been vetted and endorsed by the Municipality. **See Exhibit No. 10 – Environmental Justice / Municipal Endorsement**
Compatibility and Urban Impact	2	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. It is readily accessible, supported by adequate utilities infrastructure, and near the commercial, recreational, institutional, and healthcare facilities necessary to support a healthy residential community. **See Exhibit No. 10 – Environmental Justice / Municipal Endorsement**
Slope	1	The proposed site is relatively flat. There are no adverse effects anticipated due to site slopes.
Erosion	1	The potential for some construction related erosion exists. A site-specific CES plan has been developed for this project. The contractor must strictly comply with the CES plan as a measure to control erosion. There is no anticipated adverse effect on erosion expected because of the development of the new project.
Soil Suitability	1	A Subsoil Exploration Assessment has been executed to study soil conditions at the proposed site. The results showed that the terrain is apt to sustain the proposed loads and even more when combined with fill material. The Geotechnical Engineer presented a series of recommendations for the development of the design and for further observation of earthworks during the construction. **See Exhibit 15 – Soils Exploration Report**
Hazards and Nuisances including Site Safety	1	The project site does not present any specific construction logistic difficulties to the contractor. Hence, the contractor should not be facing any safety, hazard, or nuisances other than those typical to construction projects.

		Nevertheless, the contractor must endeavor to provide a safe environment, on and off-site, throughout the construction. This includes compliance with all safety and environmental measures established by, but not limited to, OSHA, EPA and DRNA.
Energy Consumption	1	The residential units will be fitted with solar water heaters and energy star certified electrical equipment. They will have a 6 Kw solar energy generation system and special thermal construction techniques and materials to foster sustainability. The demand for electricity generated by the project won't require a major expansion of power facilities nor would it have any anticipated adverse effects. **See Exhibit I6 - AEE**

Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale	2	The built environment at the north and northeast of the proposed project serves the residential, commercial, and institutional needs of Guayama. Existing architecture is composed of an eclectic blend of modern and contemporary residential structures of varying scale and aesthetics. The proposed structures are similar in use, scale, and height to the immediate neighbor to the north and northeast. They follow the zoning requirements and interest of the Municipality's interests for this area. The new homes will help to maintain the urban fabric of the area and procure a residential development within Guayama' more densely populated sector.

Socioeconomic	Code	Source or Documentation
Demographic Character Changes	2	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. The proposed project conforms to the best interests of a population that needs affordable housing and with the Municipality's established land uses. **See Exhibit No. 10 – Environmental Justice / Municipal Endorsement**
Displacement	1	There will be neither displacement nor adverse socioeconomic effects since the project will be built in the vacant areas of a lot located within a mixed-use area of Guayama. No displacement will occur.
Employment and Income Patterns	2	The new building will require maintenance and upkeep. Hence, to operate efficiently, the project requires its own administrative staff and maintenance personnel. This translates into the creation of new jobs. In addition, the new tenants will add to the market for the neighboring hospital, schools, and commercial facilities. Hence, potentially improving regional commerce.

Community Facilities and Services	Code	Source or Documentation
Educational Facilities	2	By attracting newcomers to the vicinity, the project should contribute to the well-being of neighboring schools and university student bodies. Surrounding schools and universities, including, but not limited to, The Universidad Interamericana – Recinto de Guayama, should be able to support the influx of students associated with the new project.
Commercial Facilities	2	There are numerous pharmacies, restaurants, and commercial facilities near the site that will benefit from the new potential client base.
Health Care	1	Full-service healthcare facilities with emergency rooms, laboratory services, Imaging services, medical offices, and vaccination centers are found within a few minutes' drive from the site. In particular, the Hospital Menonita and a Metro Pavia Clinic are within half a mile from the site.
Social Services	2	The project intends to appease the current excess demand for affordable housing for young adults and single-headed households in Guayama. Qualified participants will receive financial support for suitable housing within a planned community. The effort conforms to the best interest of the Municipality and its population.
Solid Waste	1	Solid waste removal services are available to the existing surrounding commerce, institutional and residential complexes. The proposed project calls for the adaptive reuse of the existing structure. The development has been conditioned to procure the collection and proper disposal of solid waste services waste during and after construction, for unit tenants and/or owners, through private waste management companies. No anticipated adverse effects on waste removal services.
Wastewater	1	The project will be served by the existing aqueduct infrastructure provided by the local water and sewer service company known as 'La Autoridad de Acueductos y Alcantarillados' (aka AAA or PRASA). PRASA has vetted the project and formally endorsed it via letter dated July 8, 2010. **See Exhibit 17 – AAA**
Storm Water	4	The selected site is not located in a floodplain. As presented in Flood Map Number 72000C2130J with an effective date of April 18, 2009, it stands within Zone X defined as an area determined to be outside the 500-year flood by FEMA. The design contemplates the collection and management of runoff water through a series of swales, catch basins/inlets, underground pipes and headwalls distributed throughout the

		site. The system will be part of a broader storm management infrastructure that includes retention ponds and channels that serve the entirety of the Brisas del Mar developments. A SWPPP has been prepared for this project. The contractor must implement and maintain the SWPPP to reduce pollutants in stormwater discharges from the site. **See Exhibit 18 – Storm Management** **See Exhibit 19 - SWPPP**
Water Supply	1	The project will be served by the existing aqueduct infrastructure provided by the local water and sewer service company known as 'La Autoridad de Acueductos y Alcantarillados' (aka AAA or PRASA). PRASA has vetted the project and formally endorsed it via letter dated July 8, 2010. **See Exhibit 17 – AAA**
Public Safety Police	1	The nearest police station is approximately half a mile from the site. Guayama's population has decreased over the past decade. An influx of new people generated by this project will help stabilize the exodus of people from the Municipality, but it will not be extreme and will not put any undue strain on the Police Department. **See Exhibit 23 – Market Study**
Public Safety Fire Department	1	The nearest police station is approximately half a mile from the site. Guayama's population has decreased over the past decade. An influx of new people generated by this project will help stabilize the exodus of people from the Municipality, but it will not be extreme and will not put any undue strain on the Fire Department. **See Exhibit 23 – Market Study**
Public Safety Emergency Medical	1	Full-service healthcare facilities with emergency rooms, laboratory services, Imaging services, medical offices, and vaccination centers are found within a few minutes' drive from the site. In particular, the Hospital Menonita and a Metro Pavia Clinic are within half a mile from the site. Guayama's population has decreased over the past decade. An influx of new people generated by this project will help stabilize the exodus of people from the Municipality, but it will not be extreme and will not put any undue strain on local hospitals.

		See Exhibit 23 – Market Study
Open Space and Recreation - Open Space - Recreation - Cultural Facilities	2	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is just south of the town's most densely populated and developed area. The following facilities can be found within a 1.8-mile radius of the site: 1. Sports complex with baseball fields, track, tennis courts, and indoor basketball/volleyball court 2. Coliseo De Roque Nido Stella where the "Brujos de Guayama", the Guayama basketball team plays. 3. La Fuente Towne Center – Shopping Mall 4. Molino Shopping Center – Shopping Mall 5. Plaza Pública de Guayama Cristóbal Colón – This is the town square and serves as a hub for community gatherings. 6. Churches 7. Casa y Museo Cautino
Transportation	1	Puerto Rico in general is served by what is known as the Public Car System (sp. Carro Publico). This is a "mass transit" system composed of cars and vans that transport multiple passengers within cities. They make multiple stops along their routes as they drop-off and collect new passengers. Guayama's Public Car Terminal is located approximately 1.4 miles from the site.

Natural Features		Source or Documentation
Water Resources	1	No natural water sources will be used. The project will be served by the existing aqueduct infrastructure provided by the local water and sewer service company known as 'La Autoridad de Acueductos y Alcantarillados' (aka AAA or PRASA). PRASA has vetted the project and formally endorsed it. **See Exhibit 17 – AAA**
Surface Water	4	The selected site is not located in a floodplain. As presented in Flood Map Number 72000C2130J with an effective date of April 18, 2009, it stands within Zone X defined as an area determined to be outside the 500-year flood by FEMA. The design contemplates the collection and management of runoff water through a series of swales, catch basins/inlets, underground pipes and headwalls distributed throughout the site. The system will be part of a broader storm management infrastructure that includes retention ponds and channels that serve the entirety of the Brisas del Mar developments. A SWPPP has been prepared for this project. The contractor must implement and maintain the SWPPP to reduce pollutants in stormwater discharges from the site. **See Exhibit 18 – Storm Management** **See Exhibit 19 - SWPPP**
Unique Natural Features and Agricultural Lands	1	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast. The land was once used for agricultural purposes. At present, the area is covered by dense vegetation. According to the Section 106 NGPA Effect Determination fpr Archaeology, the soil has moderate limitations for farming because rainfall is low. **See Exhibit No. 0 – Site Photos – Existing Conditions** **See Exhibit No. 20 – Natural Settings**
Vegetation and Wildlife	4	The proposed construction site lies in a vacant, undeveloped 14.72-acre lot in the Machete Ward of Guayama, PR. It is on the outskirts of Guayama just south of the town's most densely populated and developed area. The lot is nearly square shaped. It is flanked by undeveloped, green areas to its west, south and most of its east facing property line. Single unit residential developments exist to its north and northeast.

		As presented by the DRNA in the letter dated October 30, 2008, the area under consideration for the development of Brisas del Mar, and another series of residential projects in this area, were found to have some Habitat of Ecological Value. The developments were therefore conditioned to mitigation. The mitigation measures stipulated in the aforementioned letter must be carried out in their entirety as part of the construction endeavor. **See Exhibit No. 0 – Site Photos – Existing Conditions** **See Exhibit No. 21 - DRNA**

5. LIST OF SOURCES, AGENCIES, AND PERSONS CONTACTED

1. Junta de Planificación de PR
    a. https://gis.jp.pr.gov/ll/bn_DetermStandard.html
2. FEMA Flood Map Service Center
3. MiPR
    a. https://gis.jp.pr.gov/mipr/
4. National Wetlands Inventory
    a. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/
5. Coastal Vulnerability Viewer
    a. https://www.arcgis.com/home/webmap/viewer.html?webmap=1d0eff6661f340dcabb0e9928d01ec57
6. United States Environmental Protection Agency
    a. https://www.epa.gov/dwssa
    b. https://nepassisttool.epa.gov/nepassist/nepamap.aspx
    c. USEPA Green Book
        i. https://www.epa.gov/green-book
7. USA National Wild and Scenic Rivers
    a. www.rivers.gov
8. Google Earth
    a. https://earth.google.com
9. Google Maps
    a. https://maps.google.com
10. USFWS Coastal Barrier Resources System
    a. https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/
11. National Resources Conservation Service
    a. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
12. Studies, Reports and Endorsements provided by the developer
    a. Project Narrative
    b. Environmental Site Assessment – Phase 1
    c. Soil Study
    d. OGPe Documents – Notificación de Permiso Condicionado
    e. Construction Drawings - Partial
    f. AAA
    g. AEE
    h. DRNA
    i. Municipality of Guayama
    j. Instituto de Cultura Puertorriqueña
    k. State Historic Preservations Office (SHPO)
    l. Fish and Wildlife Services

6. SUMMARY OF FINDINGS AND CONCLUSIONS

a. Alternatives and Project Modifications Considered [24 CFR 58.40(e), Ref. 40 CFR1508.9]

(Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)

The Municipality is interested in residential developments for affordable housing within its urban limits. Given the character of the community within which it lies, the available infrastructure, access to principal roads and highways, the site's zoning and its readily accessible location, the site is suitable for the intended use.

Alternatives:

1. Building fewer units could be an option that would reduce noise, air pollution, pollution, traffic, the demand for water and electricity. But this impact has been determined to be minimal. It is not an attractive alternative given that a reduced density would be inconsistent with the municipality's interest in providing for the high demand for affordable housing.
2. A 2nd option would be the rehabilitation of an existing, unused structure within the developed contour of Guayama. However, finding such a structure with adequate access, infrastructure, space, zoning, with potential for compliance with the needs of the target market, and within a reasonable budget is unlikely.

b. No Action Alternative [24 CFR 58.40(e)]

(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).

1. Puerto Rico's debt crisis accompanied by high interest rates suggest that in the absence of this project the site would remain undeveloped until funding is secured. The 'No Action' alternative would mean that there are less safe, sanitary, and secure affordable housing units available in a vicinity that is in high demand for them. More people in need of affordable housing will have to live in unsafe dwellings.

7. MITIGATION MEASURES RECOMMENDED

[24 CFR 58.40(d), 40 CFR 1508.20] (Recommend feasible ways in which the proposal or its external factors should be modified in order to minimize adverse environmental impacts and restore or enhance environmental quality.)

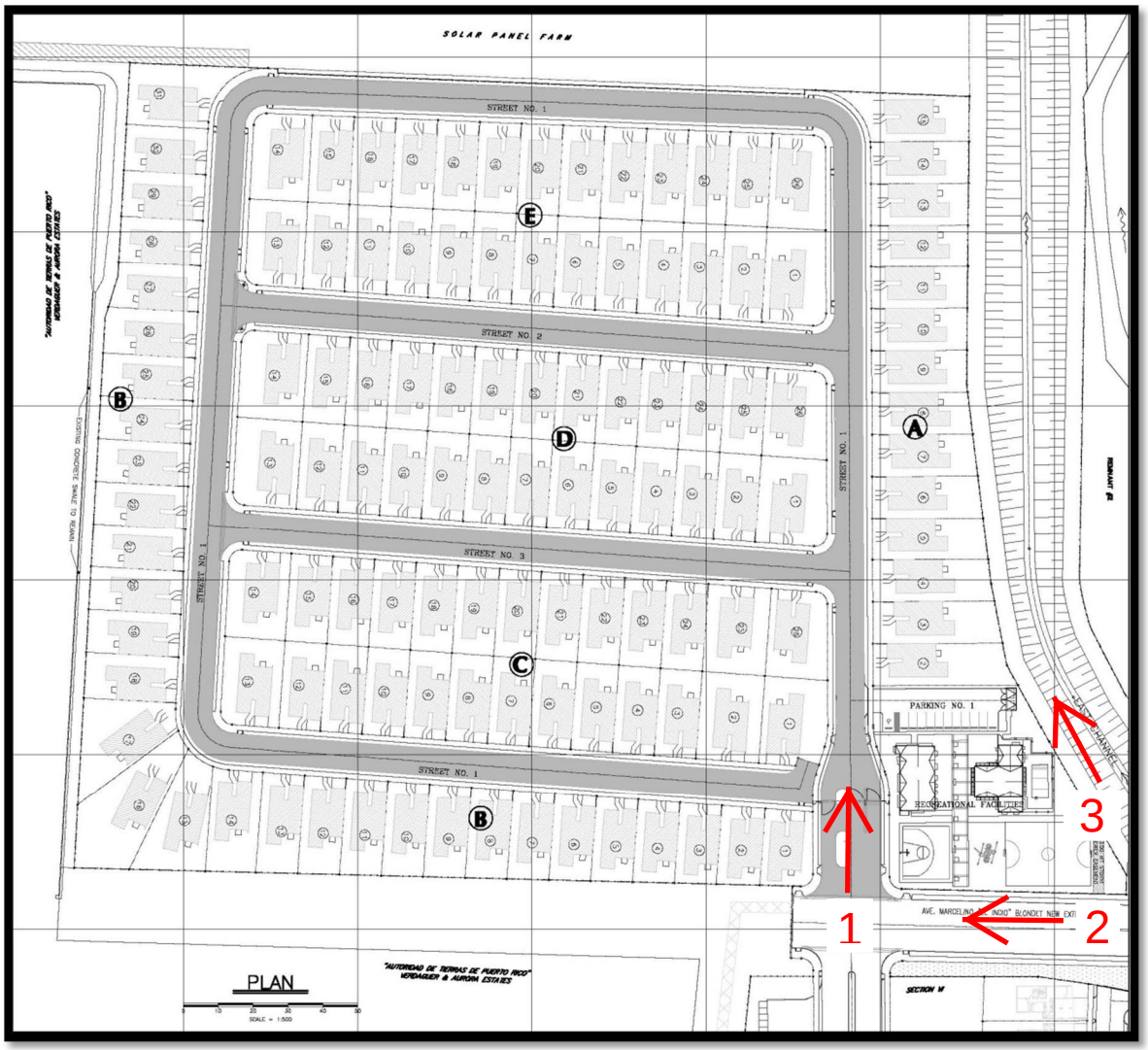
1. Permits and Endorsements – Acquire and maintain all required federal, Puerto Rico and local permits and endorsements. The developer and contractor must comply with all conditions and mitigation measures presented in the permits and endorsements. These must be acquired specifically for the latest SOW and approved construction drawings.
2. All required permits and endorsements must be valid at construction commencement and throughout the construction endeavor. These include, but are not limited to, the ICPR endorsement, which is currently expired, and the endorsement from the Department of Agriculture.
3. A significant deviation from the scope of work calls for a re-evaluation of the application for funding under the National Environmental Policy Act.
4. The contractor must detain all construction work if archaeological deposits and/or elements of historical value are encountered during any phase of the construction. The contractor must inform the ICPR, SHPO and Contracting Officer within 24 hours of the finding. No work may resume until consultation is complete and authorization has been granted to continue.
5. The contractor must implement and maintain the CES plan for the control of erosion and sedimentation.
6. Outfit all equipment with mufflers.
7. Comply with noise ordinance as established in the “Reglamento para el Control de la Contaminación por Ruido de la Junta de Calidad Ambiental”.
8. The contractor must detain all construction work if any above ground and/or below ground water sources are encountered during the construction effort and shall notify the DRNA immediately upon such findings.
9. The contractor must take preventive measures to prevent construction dust from becoming a nuisance to neighboring populations.
10. Developer to evaluate if a National Pollutant Discharge Elimination System (NPDES) permit is required and acquire if necessary.
11. The contractor must take preventive measures to ensure that storm water does not carry organic and/or inorganic materials (oil, fuel spills, etc.) into neighboring streams, irrigation channels nor bodies of water. The contractor must implement and maintain the SWPPP to reduce pollutants in stormwater discharges from the site.
12. The developer must procure the collection and proper disposal of solid waste services during and after construction, for unit tenants and/or owners.
13. Follow recommendations from the Geotechnical Engineer as specified in the site-specific Soil’s Report.
14. Additional recommendations and mitigation measures presented in:
    a. The ‘Declaracion de Impacto Preliminar (DIA-P) (See Exhibit No. 20)
    b. the ‘Declaracion de Impacto Ambiental Final’ preseted by the Junta de Calidad Ambiental through their letter dated 11 de marzo de 2010 (See Exhibit No. 21).
15. Project development is conditioned to applying the US Fish and Wildlife Service Puerto Rican Boa Conservation Measures 2020 to minimize impact to the boa.
16. The habitat of the Puerto Rican Boa is Island-wide. If a Boa is encountered during construction work, the contractor must halt all work until the Boa moves off the site. If the Boa is not showing the inclination to move off the site, contact shall be made with the DRNA to remove the Boa before construction continues.

17. Recording of “Element 1” be means of Level III HAER standard documentation, archaeological monitoring, and implementation of a protection plan for elements 2 to 5 through the construction endeavor are required. (See Exhibit No. 1)

8. APPENDIX A - Exhibits

Exhibit No. 0	Site Photos – Existing Conditions
Exhibit No. 1	A - SHPO B – Archaeological C – ICPR D – Level III HEAR Documentation Element 1, Monitoring and Protection Plan
Exhibit No. 2	Floodplain Management
Exhibit No. 3	Wetland Map
Exhibit No. 4	Coastal Zone Management
Exhibit No. 5	Sole Source Aquifers (SSA)
Exhibit No. 6	Endangered Species and Ecology
Exhibit No. 7	Wild and Scenic Rivers
Exhibit No. 8	A- Nonattainment Area B- Green Book
Exhibit No. 9	A – AD-1006 Prime Farmlands Rating Sheet B – Soil Report
Exhibit No. 10	Environmental Justice / Municipal Endorsement
Exhibit No. 11	Architect's Certification Letter
Exhibit No. 12	A – NEPA Assist Area Map B - Phase 1 EA
Exhibit No. 13	Airport Hazards
Exhibit No. 14	Coastal Barrier Resources System
Exhibit No. 15	Soils Exploration Report
Exhibit No. 16	AEE
Exhibit No. 17	AAA
Exhibit No. 18	Storm Management
Exhibit No. 19	SWPPP
Exhibit No. 20	Natural Settings
Exhibit No. 21	DRNA
Exhibit No. 22	Junta de Calidad Ambiental
Exhibit No. 23	Market Study

Exhibit No. 0
Site Photos – Existing Conditions
SOURCE: Developer



Brisas Del Mar Village

State Road PR-54 km. 0.3
Machete Ward
Guayama, P.R.

A. C. C. ARCHITECTS, P. S. C.

Photo Reference Point Map



Brisas Del Mar Village

State Road PR-54 km. 0.3
Machete Ward
Guayama, P.R.

A. C. C. ARCHITECTS, P. S. C.

Photo 1



Brisas Del Mar Village

State Road PR-54 km. 0.3
Machete Ward
Guayama, P.R.

A. C. C. ARCHITECTS, P. S. C.

Photo 2



Brisas Del Mar Village

State Road PR-54 km. 0.3
Machete Ward
Guayama, P.R.

A. C. C. ARCHITECTS, P. S. C.

Photo 3

Exhibit No. 1

A. SHPO
B. Archaeological
C. ICPR
D. Level III HEAR Docymentation Element 1, Monitoring and Protection Plan

SOURCES: A - State Historic Preservations Office
B - PRDOH
C - ICPR
D - Tamara Gonzalez Vega. MA SOI Archaeologist

EXHIBIT 1-A

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director I Carlos A. Rubio-Cancela I carubio@prshpo.pr.gov

June 14, 2022

Lauren Bair Poche
HORNE
10000 Perkins Rowe, Suite 610, Bldg G
Baton Rouge, LA 70810

SHPO 12-09-21-02 CONSTRUCTION OF 123 UNITS OF LOW-INCOME HOUSING, PR-54, KM 0.3, MACHETE WARD, GUAYAMA, PUERTO RICO / TPID: 442-000-001-47

Dear Ms. Bair,

We have reviewed the additional documentation submitted for the above referenced project. We concur that the South Coast Irrigation District is eligible for listing on the National Register of Historic Places and that implementation of the undertaking meets the criteria of adverse effect by causing damage or destruction to an element of this district. In accordance with Stipulation II.C.6.a of the FEMA / Puerto Rico Department of Housing programmatic agreement, as amended in 2019, we agree with the proposed treatment of recording "Element 1" by means of Level III HAER standard documentation. We also agree with the implementation of an archaeological monitoring and protection plan for elements 2 to 5.

If you have any questions regarding our comments, please do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-Cancela
State Historic Preservation Officer

CARC/GMO/MB

SHPO OFICINA ESTATAL DE CONSERVACIÓN HISTÓRICA
OFICINA DEL GOBERNADOR
STATE HISTORIC PRESERVATION OFFICE
OFFICE OF THE GOVERNOR
OECH

EXHIBIT 1-B

GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

Applicant Name: Andrés Cermeño	
TPID (Número de Catastro)**:** 442-000-001-47	
Type of Undertaking: ☒ New Construction ☐ Substantial Repair	
Vacant Lot: YES	**Construction Date** (if applicable)**: N/A**
Property Size (acres)**: 14.7571**	**FEMA / Local Funded Demolition Removal**: NO

SOI Qualified-Archaeologist: Jaqueline López Meléndez
Date Reviewed: November 8, 2021, November 30, 2021-REVISED

SCOPE OF WORK

The applicant is seeking Community Development Block Grant disaster recovery funds financed by the federal Department of Housing and Urban Development due to damage received by the 2017 Hurricanes Irma and Maria. It is a Section 106 undertaking due to the use of federal dollars. Activities related to this project will be done in a manner that does not meet Stipulations II.A.1 and/or II.B.9 of the Addendum to the Programmatic Agreement.

DEFINE THE AREA OF POTENTIAL EFFECTS *(Describe the location and extent [size and depth] of all potential ground disturbing activities)***:**

The proposed activity is the construction of low-cost residences in compliance with Section 106 NHPA Effect Determination. The proposed project area is located on PR-54 Km. 0.3 in the Machete ward of the municipality of Guayama.

The proposed action is the construction of 123 units of low-income housing with a total area of 1,283 to 1,505 square feet of construction for each residence. The residential area will have two models: Model 1 will have a living room, dining room, kitchen, three bedrooms, two bathrooms and a marquee, while Model 2 will have a living room, dining room, kitchen, two bedrooms, one bathroom and a marquee.

In addition to the residences, recreational, administration and maintenance facilities will be built.

Potential ground disturbing activities would be two: excavation with an approximate depth of between 60 to 80 centimeters for house foundations and 1.5 meters for manholes.

GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

Presence of Known Archaeological Concerns:	YES	NO
Known Archeological Resources Located within 0.50-mile radius of the proposed project area.	☒	☐
Proposed project area is located within an NRHP-Listed or Eligible Historic District.	☐	☒
Proposed project area is located within an NRHP-Listed or Eligible Archaeology District.	☐	☒
Proposed project area is located within a Traditional Urban Center.	☐	☒
District OR Traditional Urban Center Name (if applicable):		

Archaeological Site Potential Factors:	YES	NO
Activities Substantially Conform to the Original Footprint of the Building or Structure.	☐	☒
Proposed project area is located on Significantly Disturbed Soils **(Describe nature and extent of disturbance below.)**	☐	☒
Proposed project area is located on Well-draining Soil Series	☒	☐
Slope within the proposed project area is in excess of 30 degrees (57.7%)	☐	☒
Description of Soil Disturbance *(if applicable)***:** The project area has been disturbed by agricultural activity. On the northern boundary of the property there was earth movement in 2004 as part of work in the canal area (Figure 9) and in 2013 in the northeastern part of the property there was earth movement during the construction of the Brisas del Mar Section VI development, located east of José A. Torres Avenue (Figure 9 and Photo 4). For the same year, a dirt road crossing the property from the east to the southwest can be seen in the aerial photo (Figure 9)		

GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

NATURAL SETTING *(Discuss the natural setting of the proposed project including location, landform, slope, distance to water, soils, and vegetation.)***:**

The town of Guayama is in the southeast of the island and is located in the Llano Costanero del Sur. The project area is located in the rural coastal area of Guayama, southwest of the historic center. The proposed project site slopes gently to the south and is between 88 to 98 feet above sea level. The Patillas channel is 0.07 miles northwest and the Caribbean Sea is 1.05 miles south.

The soil in this area has been classified as Vives silty clay loam high bottom (Vs). This nearly level soil is on river flood plains in the semiarid part of the survey area. This soil has moderate limitations for farming because rainfall is low.

Vegetation in the project area is dense. It consists of trees, shrubs, vines and some grasses.

CULTURAL SETTING AND PREVIOUS INVESTIGATIONS *(Discuss the cultural setting for the proposed project including previously identified archaeological sites, NRHP listed/eligible historic properties, and cultural resource studies conducted within a half-mile of the project area.)***:**

The general area of Guayama was inhabited since early times. In Guayama there are 31 reported pre-Columbian archaeological sites, from pre-ceramic to Taino.

The town of Guayama was founded in 1736 at 1.42 miles northeast of the proposed project. During the 19th century Guayama became one of the most important towns in Puerto Rico due to the great development of its agriculture and commerce. Its port was one of the most important in the area. Its economy was based on agriculture through the planting of coffee, tobacco, corn, cane, yucca and vegetables in addition to livestock. During the 19th and 20th centuries it had two great sugar mills as well as diverse haciendas.

There are two (2) cultural resources properties within 0.50 miles radius of the proposed project area: Hacienda Gregoria M. Pica (GY0200010) located 0.44 miles southwest and Canal Patillas (AY0200020), located 0.07 miles northwest.

There are thirteen (13) archaeological studies within a 0.50-mile radius of the proposed project area, two of them with positive results. Rodriguez (1987) reported historic remains associated with a site located 0.86 miles northwest and Melendez documented remains from the Hacienda Gregoria M. Pica located 0.44 miles southwest of the project area.

Archaeologist Marisol Martínez conducted a Phase IA-IB archaeological assessment for the Brisas del Mar Project, Sections IV, V and VI for the firm Pérez Blair Consulting Engineers at the request of the Archaeology and Ethnohistory Program of the Institute of Puerto Rican Culture by letter dated January 12, 2007. This report is dated October 2007. Martínez conducted documentary research, a surface inspection and the excavation of mechanical and manual test pits.

According to the information provided by Martinez (2007) this project proposed the development of a mixed residential project, consisting of 571 single-family lots and 176 apartments distributed in walk-up buildings. The property had a land area of 175.05 cuerdas of which the proposed project would occupy a total of 104.59 cuerdas. It was bordered to the north by the irrigation canal, to the south by a remnant of the same property, to the east by land belonging to the Land Authority, neighbors of Urb. Villa Universitaria, and to the west by land belonging to the Puerto Rico Land Authority. The development was subdivided into three parts: Section IV (245 lots), Section V (326 lots) and Section VI with 176 apartments (Figure 12). The project we are concerned with here was located within Section V, which at that time had approximately 54 acres. It extended further to the west and south of the present project.

From the documentary research it is clear that within the area of the Martinez project are the remains of the Hacienda Gregoria or La Pica. This hacienda was founded in 1830. According to the researcher, the remains of this hacienda can be seen in aerial photos from 1937, 1951 and 1977. The 1990 aerial photo does not show these remains. It was demolished to use the land for agriculture. During the surface survey, the remains of a crane used to lift the sugar cane wagons, a boiler and foundation debris were observed. All of these elements were out of context and demolished. The remains of the Hacienda Gregoria found by Martinez are located approximately 530 meters west of the southwest corner of our project. He mentions that the Patillas canal is located outside the project area on the northern boundary of the project. During the surface survey, they observed earthen canals to carry water to lakes inside and adjacent to the farm. The researcher established the following field methodology for Phase IB. She marked transects at 50 meters intervals starting east of the project (25 transects) which she labeled with the letters A through Y, and marked on these transects shovel test pits at 50 meters intervals (north to south), labeled with numbers. They excavated a total of 275 test pits, 270 manual pits and 5 pits with heavy machinery located where they found the remains belonging to the hacienda La Pica. All of the mechanical pits were negative and of the 270 shovel test pits, seven were positive for historic cultural resources (Figure 13). These seven positive test pits were found in transects V, W and X. Two of these had modern trash and small brick fragments and five contained small brick fragments.

Within the limits of our project, a total of 33 test pits were marked at 50-meter intervals (Figure 14). They correspond to transects E (shovel test pits 17-23), F (shovel test pits 24-30), G (shovel test pits 31-37), H (shovel test pits 38-43) and I (shovel test pits 44-49). Shovel test pits 50-62 on transect J were excavated west of the western boundary of our project (Figure 14). A total of 29 shovel test pits were excavated in this area. These were approximately 70 to 120 centimeters deep. And all the pits dug in this area yielded negative results. The shovel test pits excavated in transect J also yielded negative results.

The report provides the following information about the Patillas Canal: Patillas Dam is located one mile northwest of the town of Patillas and impounds the waters of the Patillas and Matón Rivers. A canal known as the Patillas Canal extends from the dam to the vicinity of the town of Salinas. It is 40 kilometers long (25 miles) and carries an average flow of 79 cubic feet per second, which increases to 105 cubic feet per second during

times of extraordinary demand. The Patillas Canal and its system of lateral distribution canals irrigate an area of 12,018 acres of land.

Of the area studied by Martínez, only Brisas del Mar Section VI has been built, located east of José A. Torres Ave.

DETERMINATION OF POTENTIAL EFFECTS

Discuss the archaeological potential for the proposed project location:

The sensitivity to archaeological resources is high. The project area is located in the southern coastal zone of the island in the municipality of Guayama. The area has a high sensitivity to both Pre-Columbian and historic resources. In the coastal zone of Guayama, more specifically in the area of Pozuelo and Jobos and in the area of Playita and Playa in the municipality of Salinas, small shells mounds have been identified, some with lithic tools and Pre-Columbian ceramic remains. At 0.44 miles southwest of the project site was Colonia Pica or Hacienda Gregoria. At 0.51 miles southeast of the property are the remains of Central Machete and at 0.63 miles southwest was Colonia Barrancas (Figures 10-12). The project site is bordered to the north by the Patillas Channel. The Patillas Channel is a historic resource eligible for the National Register of Historic Places. Archaeologist Marisol Martínez conducted a Phase IA-IB archaeological evaluation for the construction area of the Brisas del Mar Development, Sections IV, V and VI. Our project is located in the Section V area. Martinez's project covered an area of approximately 175 cuerdas. In the area where Colonia Pica was located, she reported fragments of bricks, foundations and fragments of a crane to move sugar cane. All of these findings are out of context. In the area of our project she made a total of approximately 29 shovel test pits with negative results. These pits were marked at an interval of 50 meters. This interval is very large when trying to detect Pre-Columbian archaeological resources.

GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

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
☐ Adverse Effect

(**No Adverse Effect Conditions or Proposed Adverse Effect Resolution here, if needed**)

These recommendations are conditioned on the implementation of a protection plan for the archaeological-historical resource known as Canal de Patillas located on the northern boundary and the completion of a Phase IB archaeological evaluation of the entire project site. The shovel test pits for this evaluation should be excavated at an interval of no more than 25 meters.

This Section is to be Completed by SHPO Staff Only

The Puerto Rico State Historic Preservation Office has reviewed the above information and:

☐ **Concurs** with the information provided.
☐ **Does not concur** with the information provided.

Comments:

Carlos Rubio-Cancela State Historic Preservation Officer	Date:

Project Coordinates: 17.964362 -66.117295

Table of archaeological sites, historic properties and historic districts located within the project area or within a 0.50-mile radius

Name	SHPO id #	IPRC id #	Distance/Direction	Description	NRHP (listed, eligible, non-eligible, no data)
Hacienda Gregoria Colonia La Pica	GY0200010		0.44 mi SW	19th Century hacienda	No data
Canal de Patillas	AY0200020		0.07 mi NW	20th century irrigation canal.	Eligible

Table of cultural resources surveys conducted within the project area or within a 0.50-mile radius.

Author	Phase/Title	Year	SHPO / IPRC code	Results	Distance/ Direction
José Rivera	IA-IB/ Residencial Vista Sol	1998	SHPO: 03-31-99-02, ICP/CAT-GM-98-10-01	Negative	0.25 mi SE
Jesús Figueroa	IA-IB/ Urbanización extensión Valle de Guayama	2001	SHPO: 09-19-01-03	Negative	0.30 m NW
Herminio Rodríguez	IA-IB/ Complejo Deportivo	1987	SHPO: 03-06-87-02	Positive. Historic site Hacienda Esperanza/ Vives located 0.86 miles northwest	0.37 mi NW
Marisol Martínez	IA-IB/ Urbanización Brisas del Mar Sección IV, V y VI	2007	ICP/CAT-GM-07-17-05	Positive. Historic remains in Section IV (GY0200010)	0.0 mi
Jesús Figueroa	IA-IB/ Urbanización Jazmín	2001	SHPO: 09-19-01-02	Negative	0.22 mi NE

Author	Phase/Title	Year	SHPO / IPRC code	Results	Distance/ Direction
Iván Méndez	IA-IB/ Ciudad Universitaria	1991	SHPO: 09-27-94-01	Negative	0.47 mi NE
Jesús Figueroa	IA-IB/ Extensión Centro Pontificia Universidad Católica de Puerto Rico	2005	ICP/CAT-GM-05-15-04	Negative	0.09 mi N
Marisol Martínez	IA-IB/ Urbanización Brisas del Mar, Canal de Desagüe, PR-54 Km 0.3 interior	2010	ICP/CAT-GM-10-19-01	Negative	0.27 mi SW
Harry Alemán	IB/ Guayama to Machete ward trunk sewer and Machete ward to W.W. T.P Trunk Sewer	1986	ICP/CAT-GM-86-01-06	Negative	0.34 mi SE
Ethel V. Schlafer	IA/ Salvation Army Kroc Community Center	2010	ICP/CAT-GM-10-18-06	Negative	0.44 mi NE
Iván Méndez	IA-IB/ Interamericana Park	1988	ICP/CAT-GM-88-02-09	Negative	0.37 mi SE
Juan González	IA/ Sea Breeze	2008	ICP/CAT-GM-08-18-04	Negative	0.44 mi SE
Sharon Meléndez	Sitios Brujos: Reconocimiento general de sitios arqueológicos en el Municipio de Guayama.	2010	NO SHPO	Positive. Historic site GY0200010	0.44 mi SW

Figure 1. Project (Parcel) Location - USGS Topographic Map

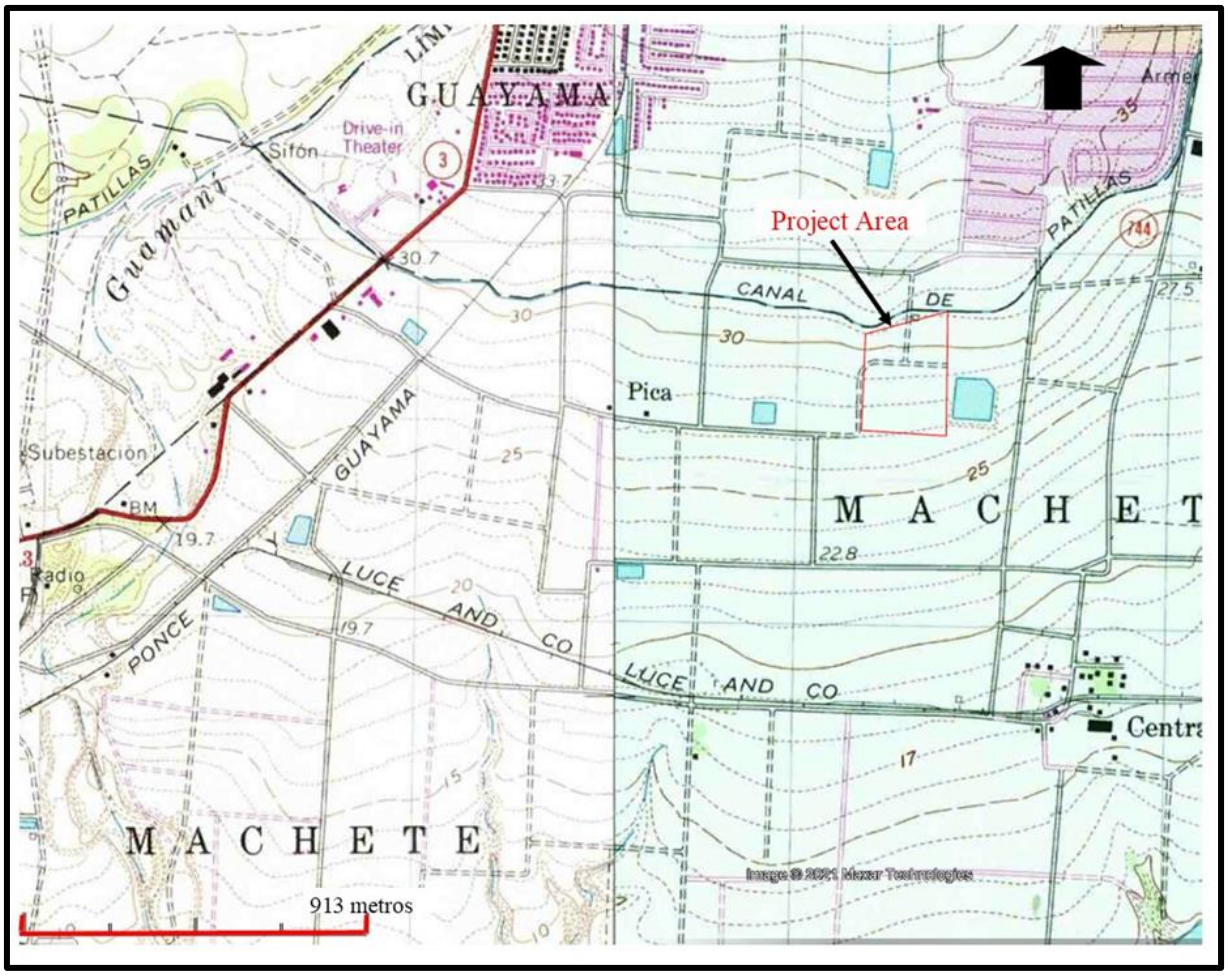


Figure 2. Project (Parcel) Location - Aerial Map



Figure 3. Soils Map



Figure 4. Project (Parcel) Location with Previously Recorded Cultural Resources - Aerial Map

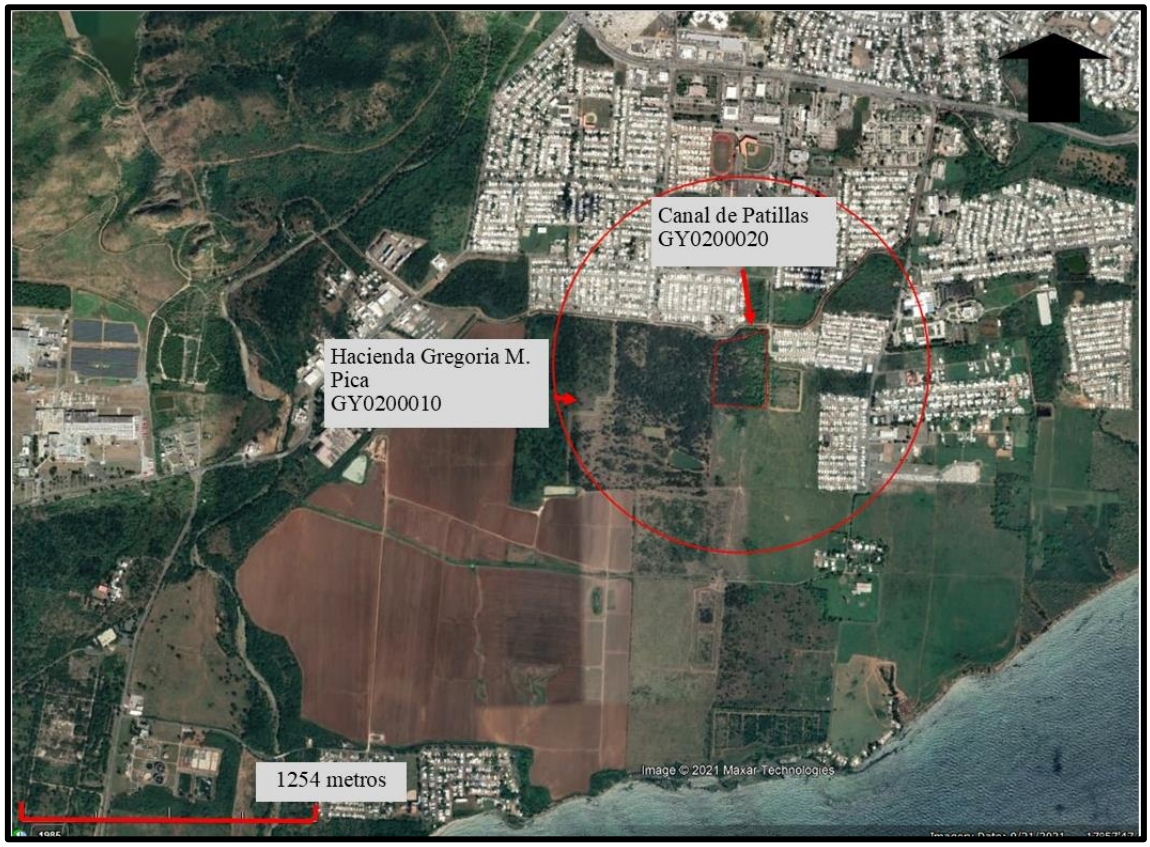
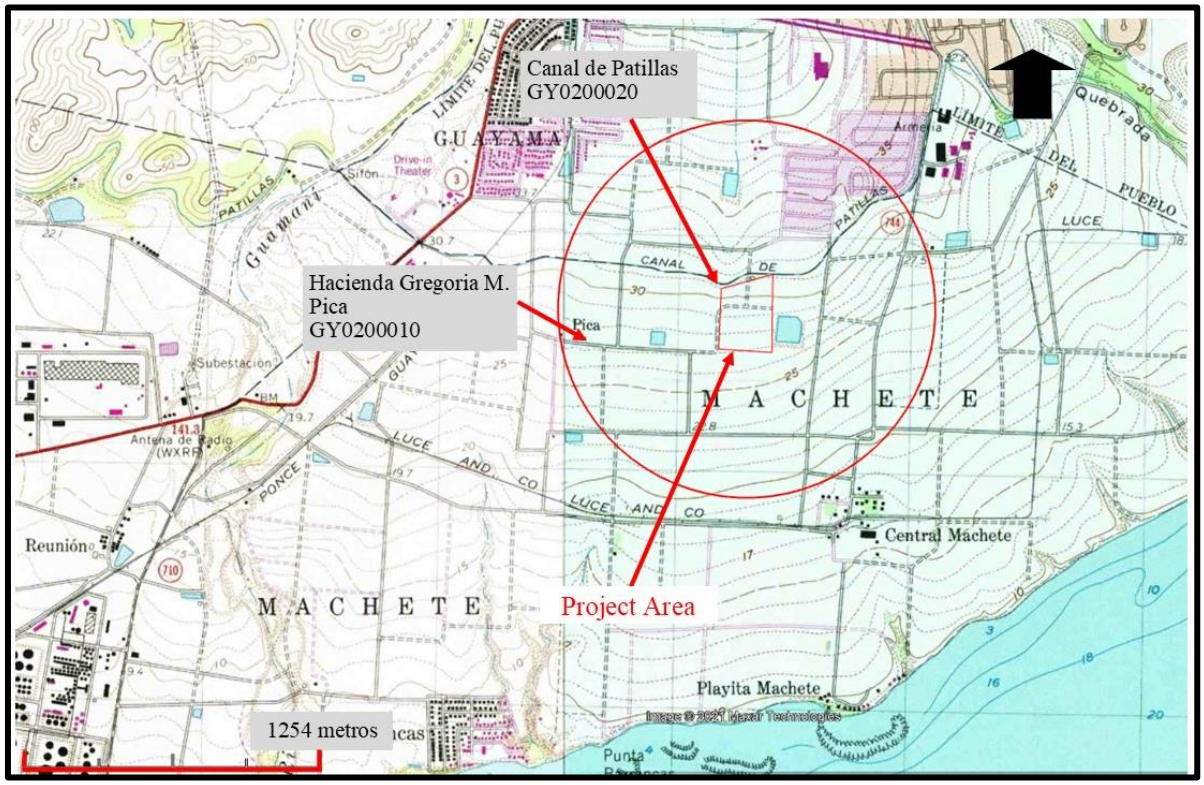


Figure 5. Project (Parcel) Location with Previously Recorded Cultural Resources USGS Topographic Map



GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

Figure 6. Archictectural Site Plan



Figure 7. Floors Plans

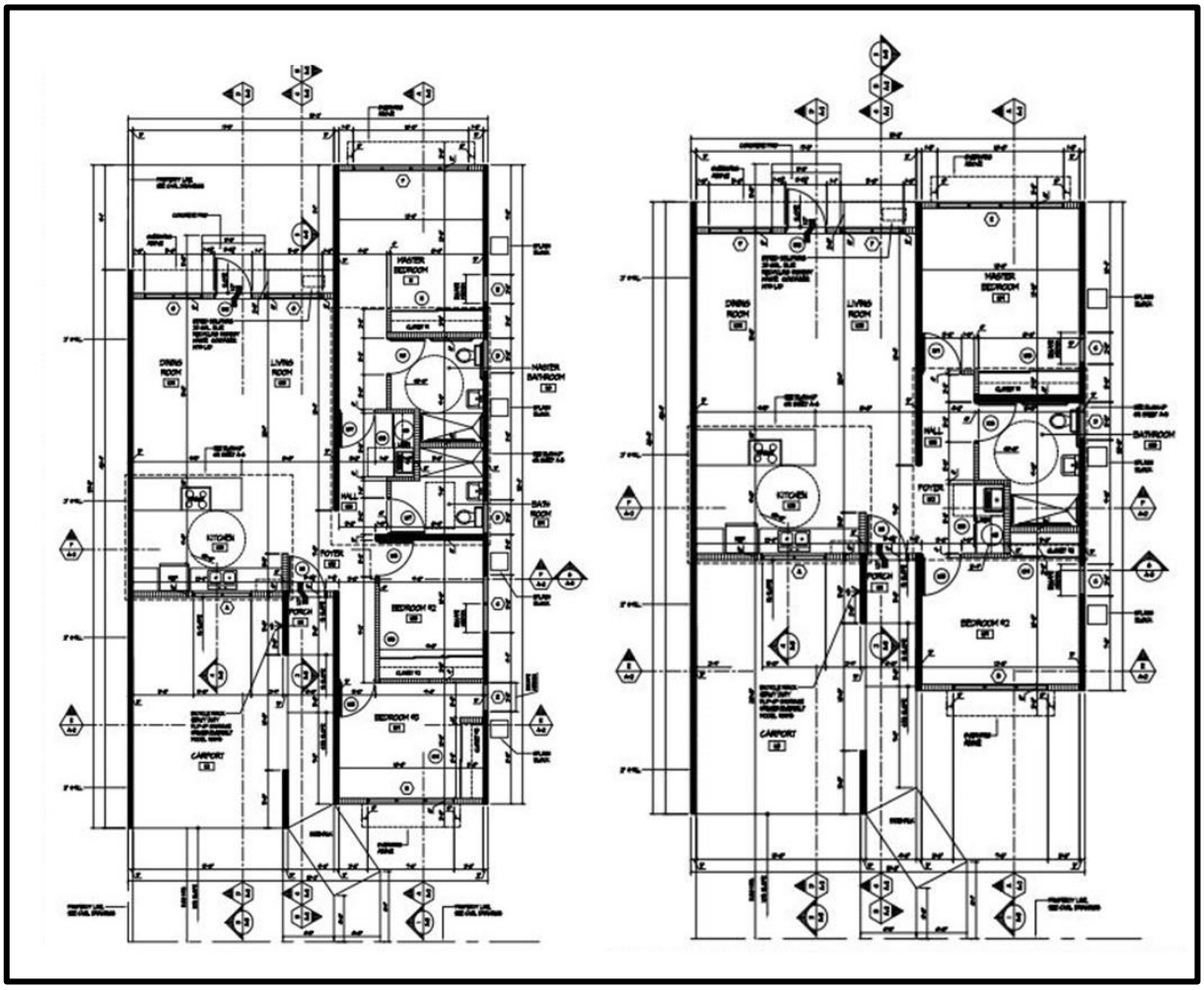


Figure 8. Elevations

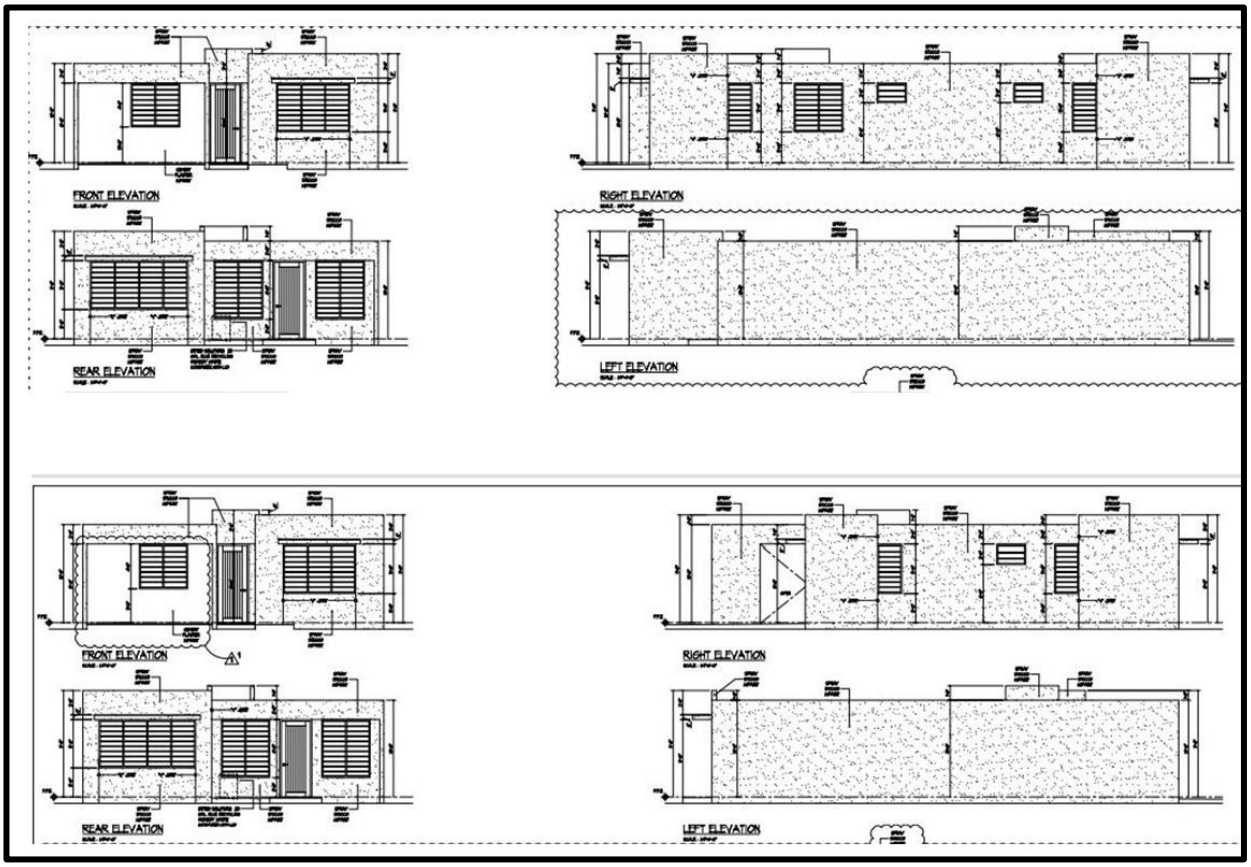


Figure 9. Aerial photo of project area 1994, 2004 and 2013

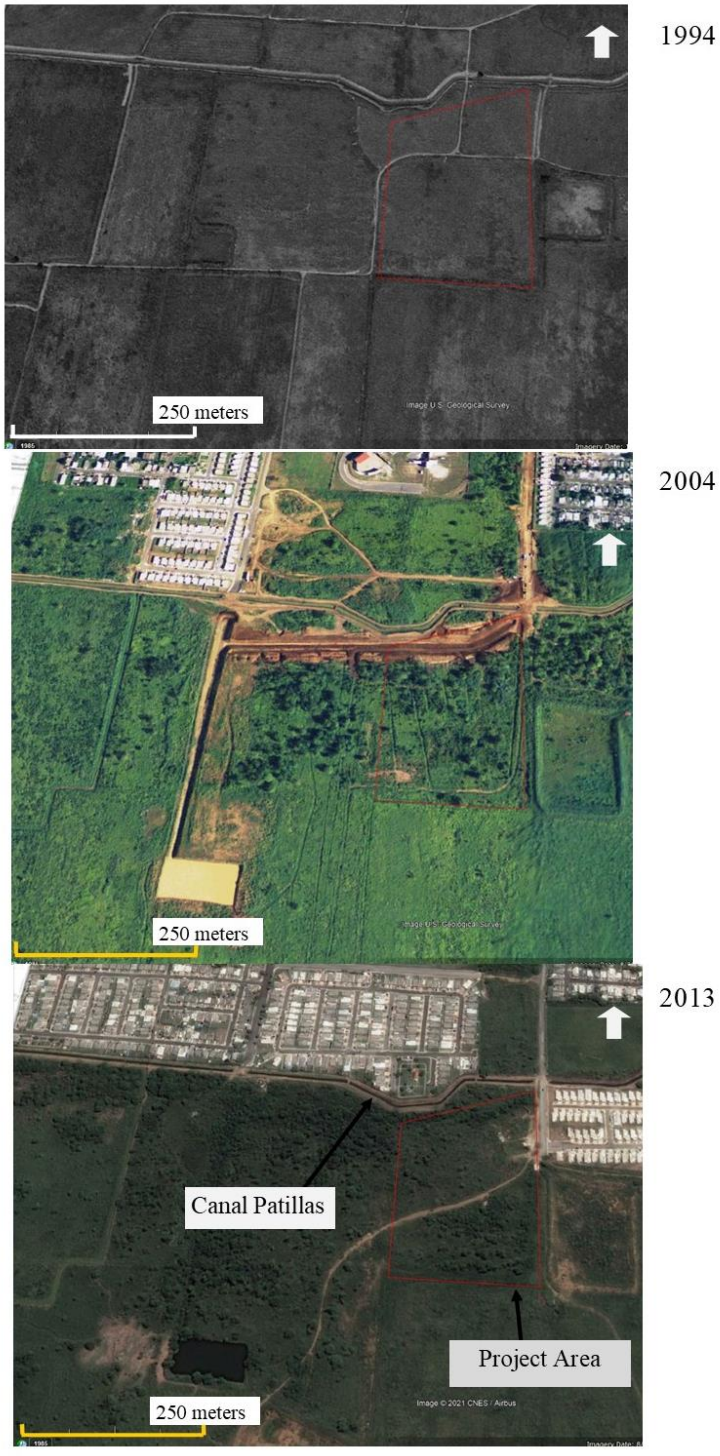


Figure 10. 1946 Topographic

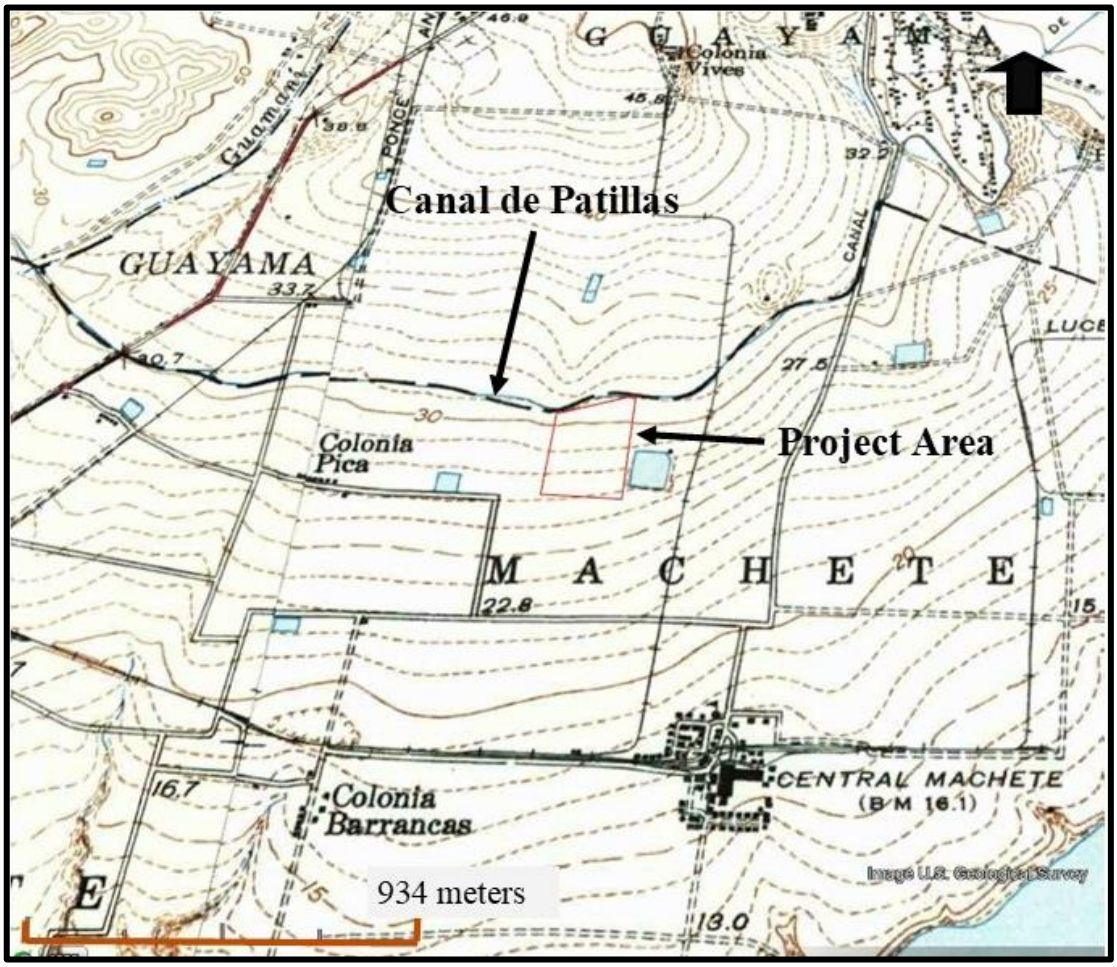
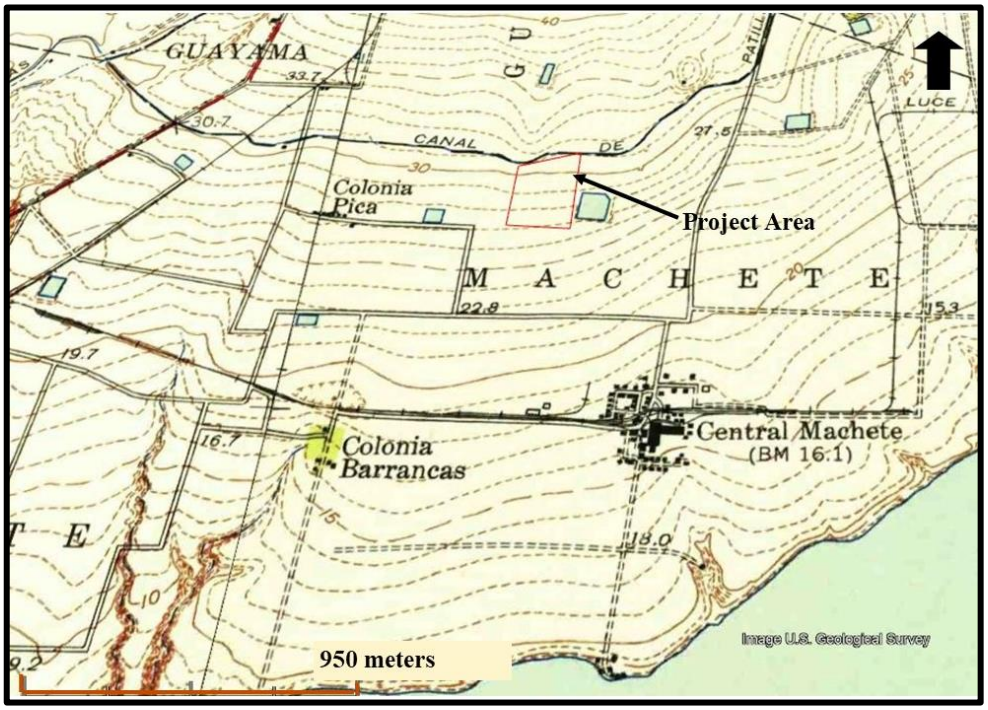


Figure 11. Topographic 1953 (up) 1970 (down)



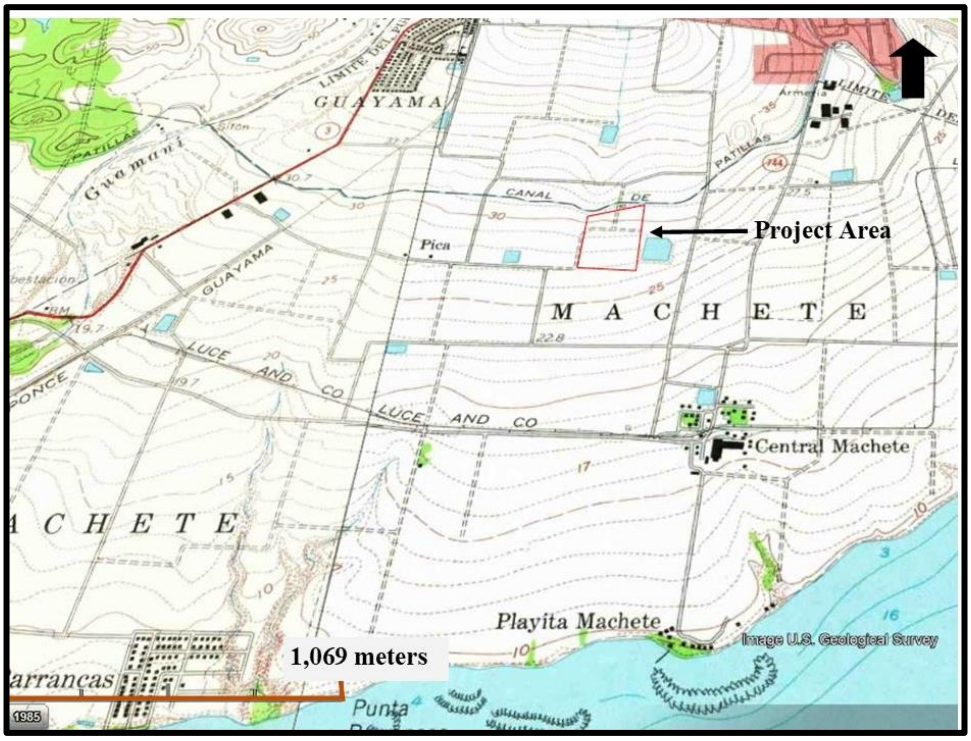


Figure 12. Project area worked on by Marisol Martínez in 2007 (Sections IV, V and VI). The red line shows our project area.

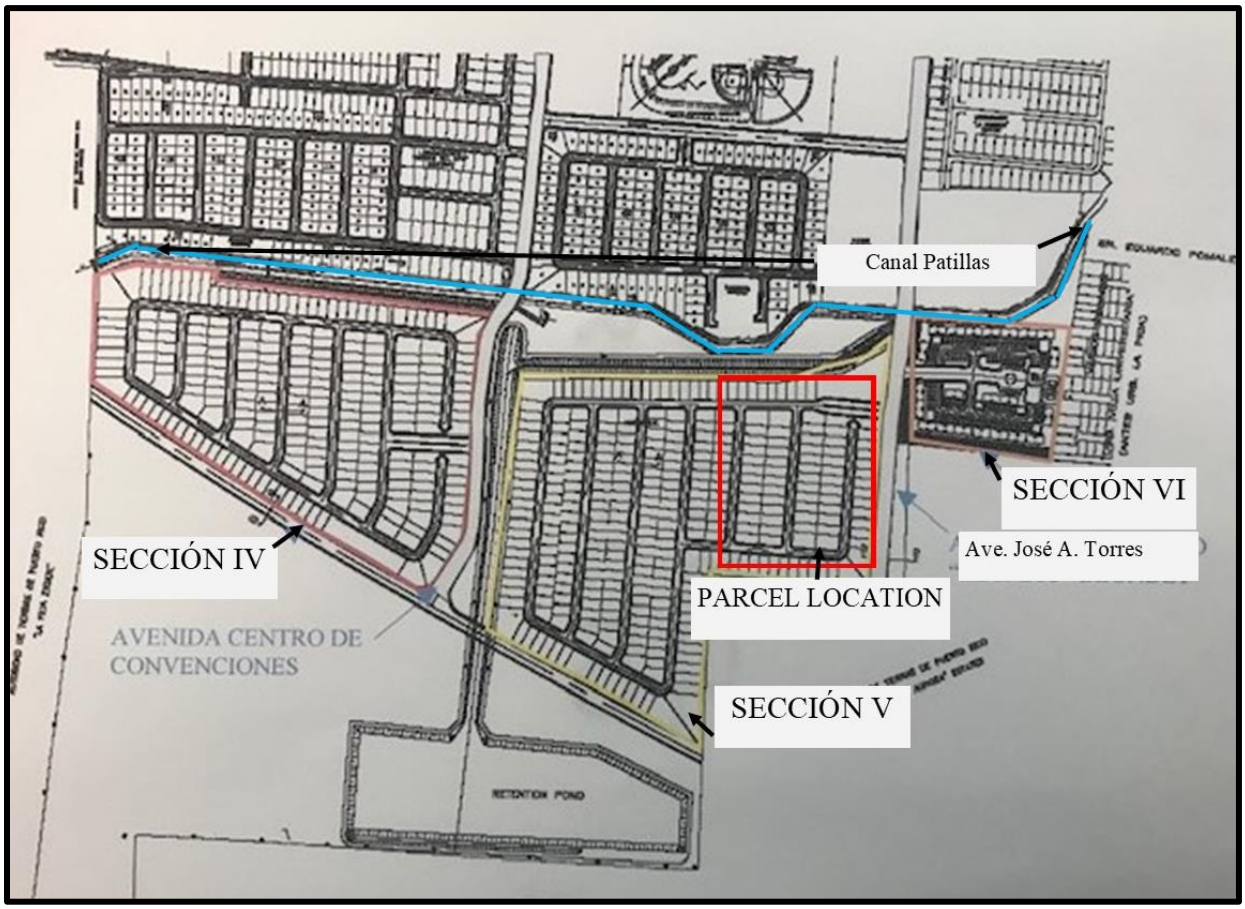


Figure 13. Shovel Test Pits Location (Martinez: 2007).

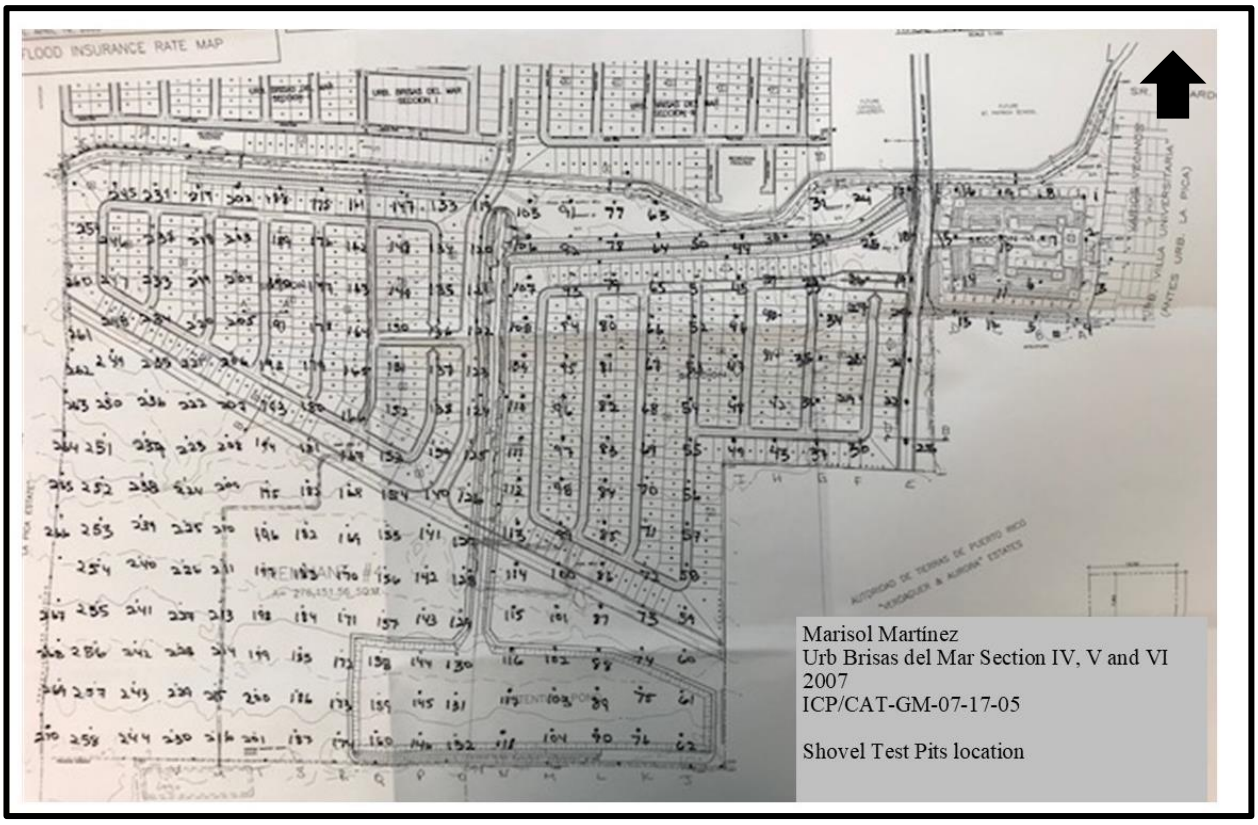


Figure 14. Location of shovel test pit in transects E-I. Detail of Martinez: 2007 shovel test pit location plan.

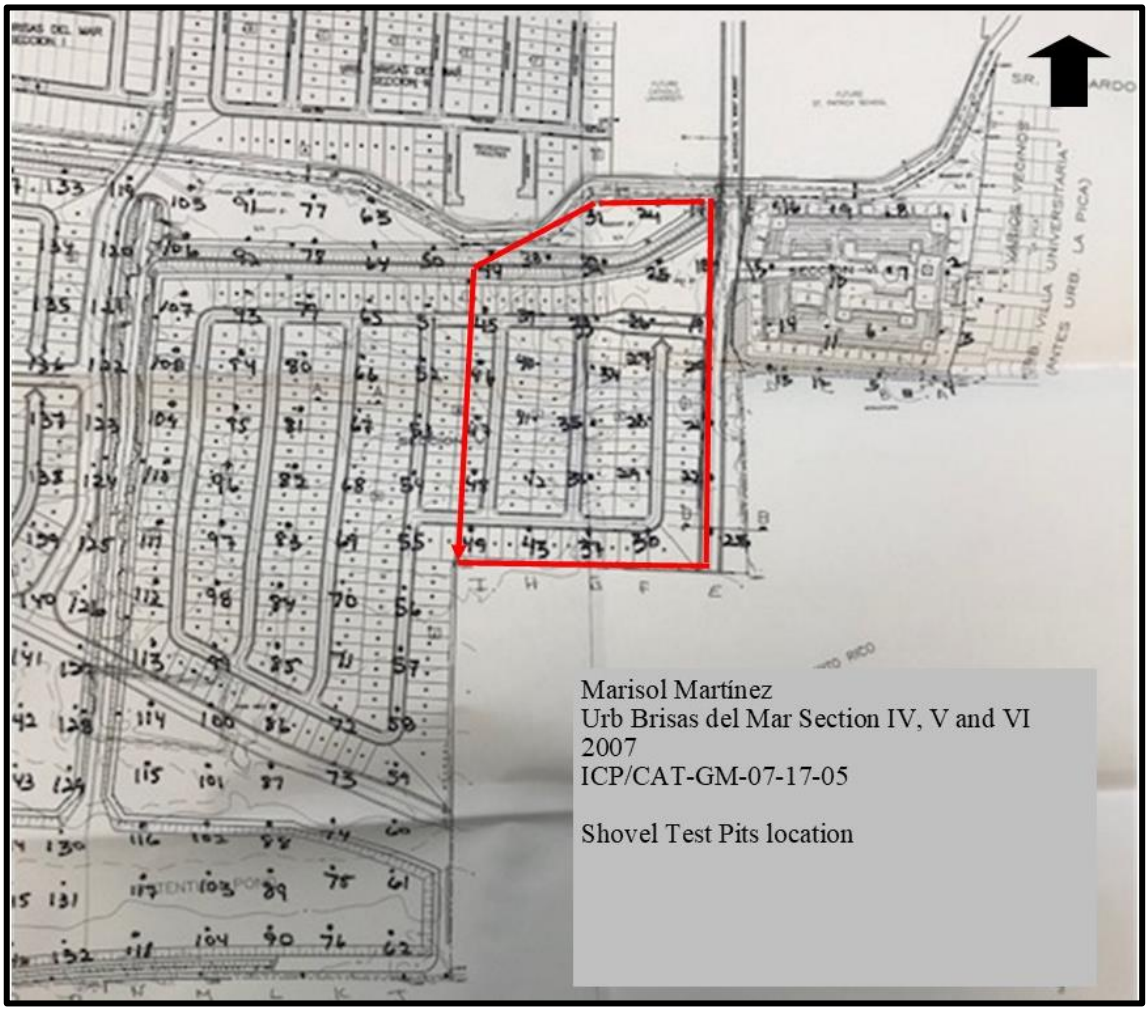




Photo #: 1 **Date: November 6, 2021**	**Description (include direction): Vegetation on the left of the photo correspond to the northern boundary of the project area, looking west. Red arrow indicates the Patillas canal.**



Photo #: 2 **Date: November 6, 2021**	**Description (include direction): Eastern boundary (Ave. José A. Torres) of the project area, looking south.**



Photo #: 3 **Date: November 6, 2021**	**Description (include direction): Eastern boundary (Ave. José A. Torres) of the project area, looking north.**



Photo #: 4 **Date: November 6, 2021**	**Description (include direction): Mounds of earth and debris accumulated on the east side of the property, looking west.**



Photo #: 5 **Date: November 6, 2021**	**Description (include direction): General view of the south area of the project site, looking southwest.**



Photo #: 6	**Description (include direction): General view of Canal de Patillas, looking west.**
Date: November 6, 2021	

EXHIBIT 1-C

ESTADO LIBRE ASOCIADO DE PUERTO RICO
INSTITUTO DE CULTURA PUERTORRIQUEÑA

PO BOX 9024184
SAN JUAN DE PUERTO RICO 00902-4184
Tels. (787) 723-2524/723-2686

21 de mayo de 2009

AUTORIZACION

Ing. Francisco Pérez Blair
PEREZ BLAIR CONSULTING ENGINEERS
PO Box 79456
Carolina, Puerto Rico 00984-9456

URB. BRISAS DEL MAR, SECCIONES IV, V y VI
PR-54, KM. 0.3 (INTERIOR), BO. MACHETE, GUAYAMA

Estimado ingeniero Pérez:

El Programa de Arqueología y Etnohistoria del Instituto de Cultura Puertorriqueña ha revisado y evaluado los documentos relacionados al proyecto de referencia.

Nuestros registros evidencian que con fecha del **5 de noviembre de 2007,** el Programa de Arqueología y Etnohistoria emitió una autorización al mismo, copia del cual remitimos adjunto.

La evaluación realizada sugiere que, basado en los datos existentes al presente, las probabilidades de impactar un recurso arqueológico, según definido por la Ley 112 del 20 de julio de 1988, según enmendada, son mínimas.

Esta autorización corresponde exclusivamente a asuntos relacionados con la Ley 112 de Arqueología Terrestre, y no constituye un endoso del Programa de Patrimonio Histórico Edificado del I.C.P.

Le notificamos que esta autorización es de tipo parcial y que el proponente queda sujeto a las responsabilidades y obligaciones que impone la Ley 112 del 20 de julio de 1988, según enmendada. Esta establece que, se deberá paralizar todo tipo de actividad de excavación, movimiento y remoción de la corteza terrestre, y notificar en un plazo de veinticuatro (24) horas al Consejo, en caso de que, durante el desarrollo del proyecto, se descubra o impacte algún depósito, elemento, estructura o vestigio de naturaleza arqueológica.

Esta autorización debe estar disponible en las áreas en que se realizan los proyectos para revisión de los oficiales que así lo requieran. De no estar disponible la autorización, se procederá a emitir una Orden de Paralización hasta tanto se pueda corroborar la existencia de ésta. La autorización debe estar acompañada de copia del plano presentado con la Consulta de Ubicación a la Junta de Planificación. La autorización del Consejo relacionada con un permiso o autorización de la Junta de Planificación, la Administración de Reglamentos y Permisos o el Departamento de Recursos Naturales y Ambientales deberá estar acompañada de tales permisos o autorizaciones, incluyendo sus planos aprobados en un lugar accesible del proyecto.

Se le apercibe que de no cumplir con las disposiciones antes indicadas, podría incurrir en una violación a la Sección 13 de la citada ley que establece la imposición de multas administrativas.

Esta autorización tiene una **vigencia de un (1) año**.

Cordialmente,

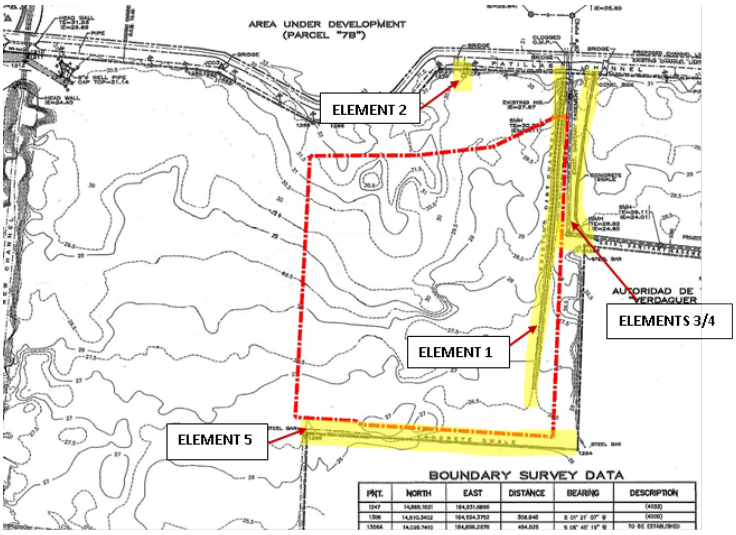
Arqla. Laura Del Olmo Frese
Directora
Programa de Arqueología y Etnohistoria

LDOF/rmd

Anejo

EXHIBIT 1-D

LEVEL III HAER STANDARD DOCUMENTATION ELEMENT I, MONITORING AND PROTECTION, PLAN FOR THE PROJECT: CONSTRUCTION OF123 UNITS OF LOW-INCOME HOUSING, PR-54, KM 0.3, MACHETE WARD, GUAYAMA, PUERTO RICO/ TPID: 442-000-001-47,SHPO 12-09-21-02



Presented to:

Carlos García Muñiz BDMV Developers, LLC

Prepared by:

Tamara González Vega, MA
SOI Archaeologist

2022

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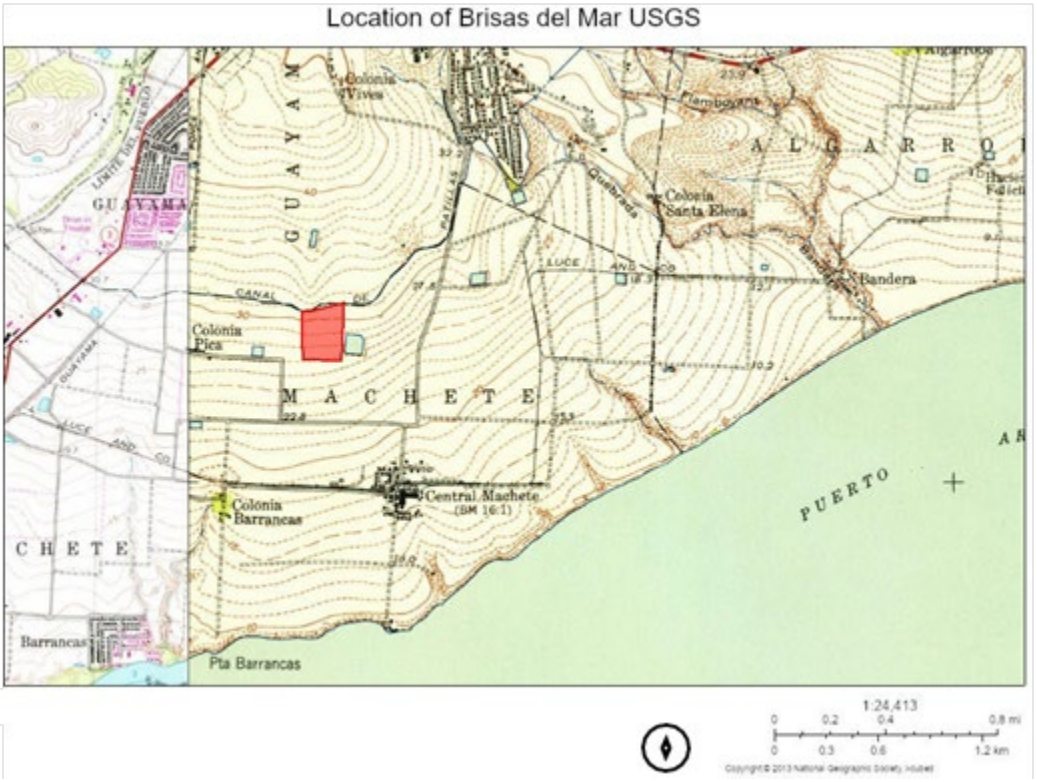
Preamble

BDMV Developers, LLC (the Applicant), is proposing to construct a housing development (and associated necessary project infrastructure) in the PR-54 Km. 0.3 in the Machete ward of the municipality of Guayama. The current Project Site includes approximately 14.7571 acres in private lands that are bound by Patillas Canal to the North, Aurora Farm to the South, private lands to the West and Paseos Brisas del Mar to the East. (Figure 1, 2,3). The Project site consists of open fields, young forest, and areas of successional shrubland, 34 m above mean sea level (AMSL). Except for housing developments of Brisas del Mar to the north and east respectively of the Project site, the area surrounding the Project site is primarily undeveloped, with farms and along area roadways. Coordinates of the site are 17.964362 -66.117295. The Project will consist of 123 units of low-income housing with a total area of 1,283 to 1,505 square feet of construction for each residence. The residential area will have two models: Model 1 will have a living room, dining room, kitchen, three bedrooms, two bathrooms and a marquee, while Model 2 will have a living room, dining room, kitchen, two bedrooms, one bathroom and a marquee. In addition to the residences, recreational, administration and maintenance facilities will be built. Potential ground disturbing activities would be two: excavation with an approximate depth of between 60 to 80 centimeters for house foundations and 1.5 meters for utility access holes.

Figure 1Project Location



Figure 2 Project location in the topographical quadrangle USGS, 1946



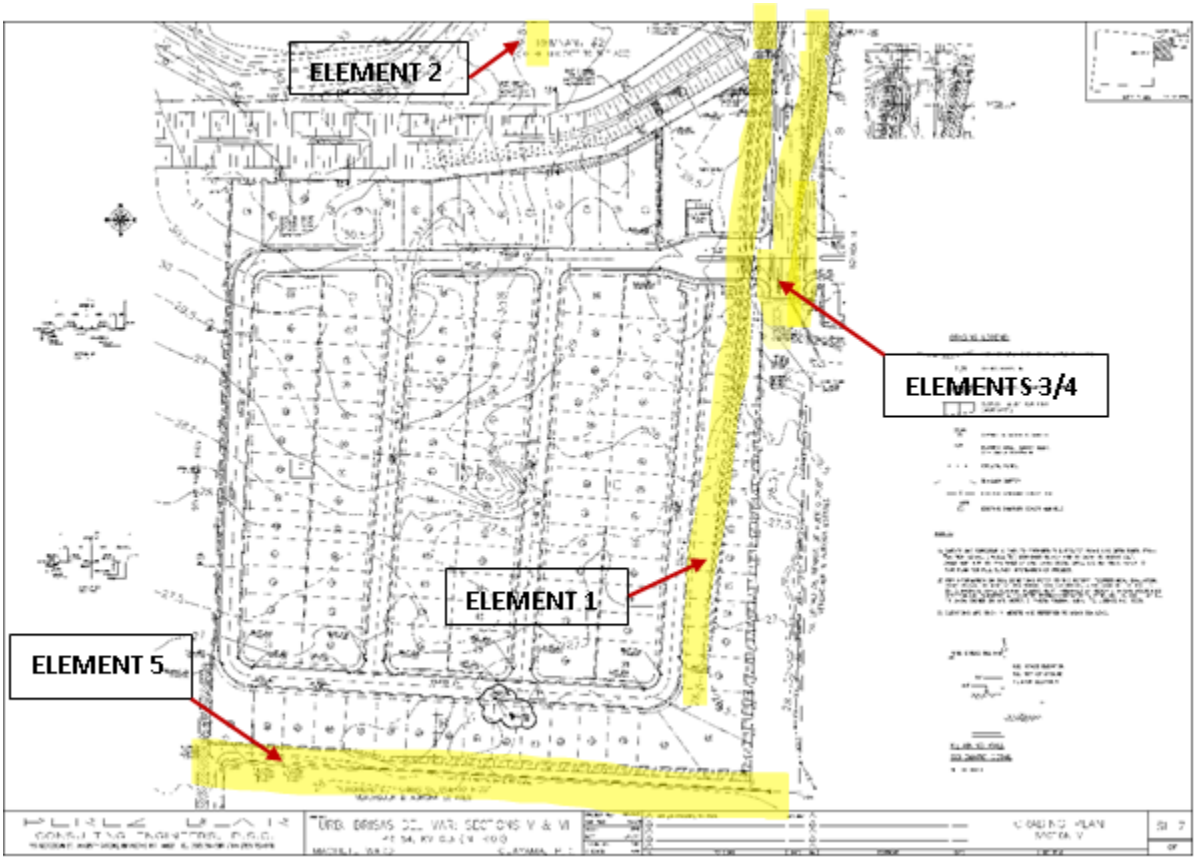
Under contract Cultural Resources Management, (CRM) conducted a Phase IB archaeological site survey within the proposed Brisas del Mar Village. The housing development would build 123 units of low-income houses. (Figure 1,2,3). The archaeological site survey was conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. All investigations were based on SHPO 12-09-21-02 communication of December 13, 2021. The archaeological site survey included four (4) tasks: review of background research; archaeological field investigations; analysis; and Phase IB technical report for submittal to BDMV Developers, LLC and SHPO for review and comment.

Phase IB archaeological site survey within the proposed Brisas del Mar Village a housing development that would build 123 units of low-income houses identified several elements related to the Patillas Irrigation Canal part of the South Coast Irrigation District. The archaeological survey involved the excavation of 118 shovel tests and the pedestrian surface survey of 14.7571 acres from which five historic-period elements related to the South Coast Irrigation District (SCID) is a complex historic property, eligible to the NRHP under Criteria A, C and D.

As described in Phase IB Archaeological site survey project: Brisas del Mar Village. Construction of 123 units, the archaeological features identified within the Project are Element 1,2,3,4,5 all related to South Coast Irrigation District (SCID). Elements 2 to 5 did not have a buffer area to avoid indirect impacts and

can adversely affected. For this reason, an archaeological protection plan should be implemented for these areas. It is understood that with this condition, the project will not have an adverse effect on the property. The undertaking will cause unavoidable adverse impacts to Element 1, for this reason is recommended a Level III HAER standard documentation. The South Coast Irrigation District is eligible for listing on the National Register of Historic Places and the implementation of the undertaking meets the criteria of adverse effect by causing damage or destruction to an element of this district. In accordance with Stipulation I1.C.6.a of the FEMA/ Puerto Rico Department of Housing programmatic agreement, as amended in 2019, for these reasons is necessary the recording "Element I" by means of Level III HAER standard documentation and the implementation of an archaeological monitoring and protection plan for elements 2 to 5.

Figure 3 Cultural Recourses, topography map and project footprint



In a communication dated June 14,2022 SHIPO required the preparation and implementation of a monitoring and a protection plan and a of Level 111 HAER standard documentation for the construction of the undertaking, which needs to be submitted to the PRSHPO for review and concurrence prior to initiating construction works. This document constitutes said plan.

The scope of work (SOW) of this plan includes three main activities: the Level 111 HAER standard documentation of Element 1 and the implementation of an archaeological monitoring and protection plan for elements 2 to 5. This plan complies with all federal and state applicable laws, regulations and guidelines, and it is consistent with the *Heritage Documentation Programs HABS/HAER/HALS Guidelines, Standards and Guidelines for Evaluation and Archeological Documentation*, the *Standards and Guidelines for Archaeology and Historic Preservation,* and the *Standards and Guidelines for Architectural and Engineering Documentation* of the U.S. Secretary of the Interior, and the National Park Service Bulletins *How to Apply the National Register Criteria for Evaluation* (Secretary of the Interior 1990) and *Guidelines for Evaluating and Registering Archeological Properties* (Little et. Al 2000). The plan was prepared by archaeologist Tamara González Vega, who meets the Professional Qualifications Standards set forth at 36CFR Part 61.

Photo: 1 Element 1 Secondary open earthwork trapezoidal canal, looking South

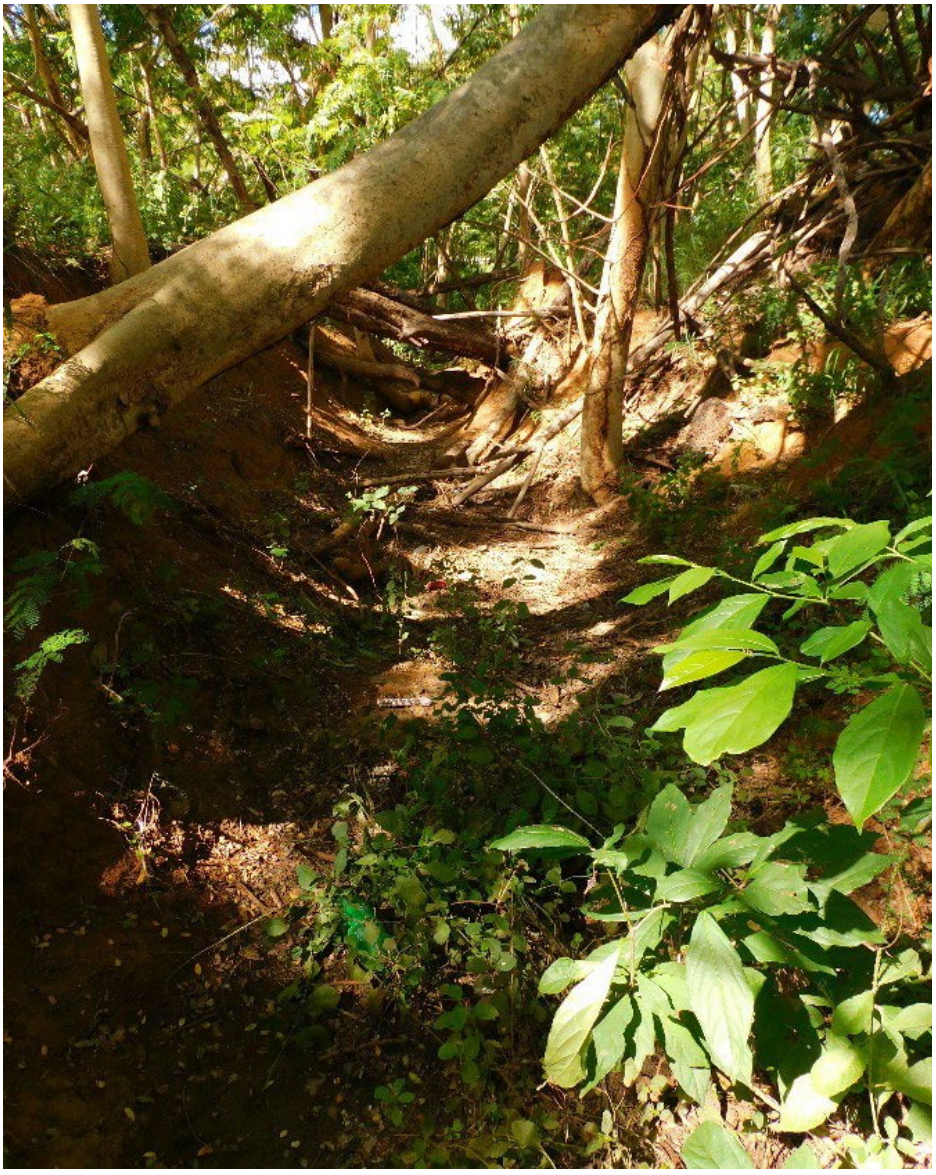


Photo: 2 Element 2, Division Box Division Box, (1) looking west (2)looking southwest





Elements III & IV Reinforce Concrete Flume and attached concrete canal

Photo: 3Flume and reinforce concrete canal. (1) reinforce concrete canal detail, looking north (2) concrete flume (3) Flume detail (4) reinforce concrete canal detail, looking west.



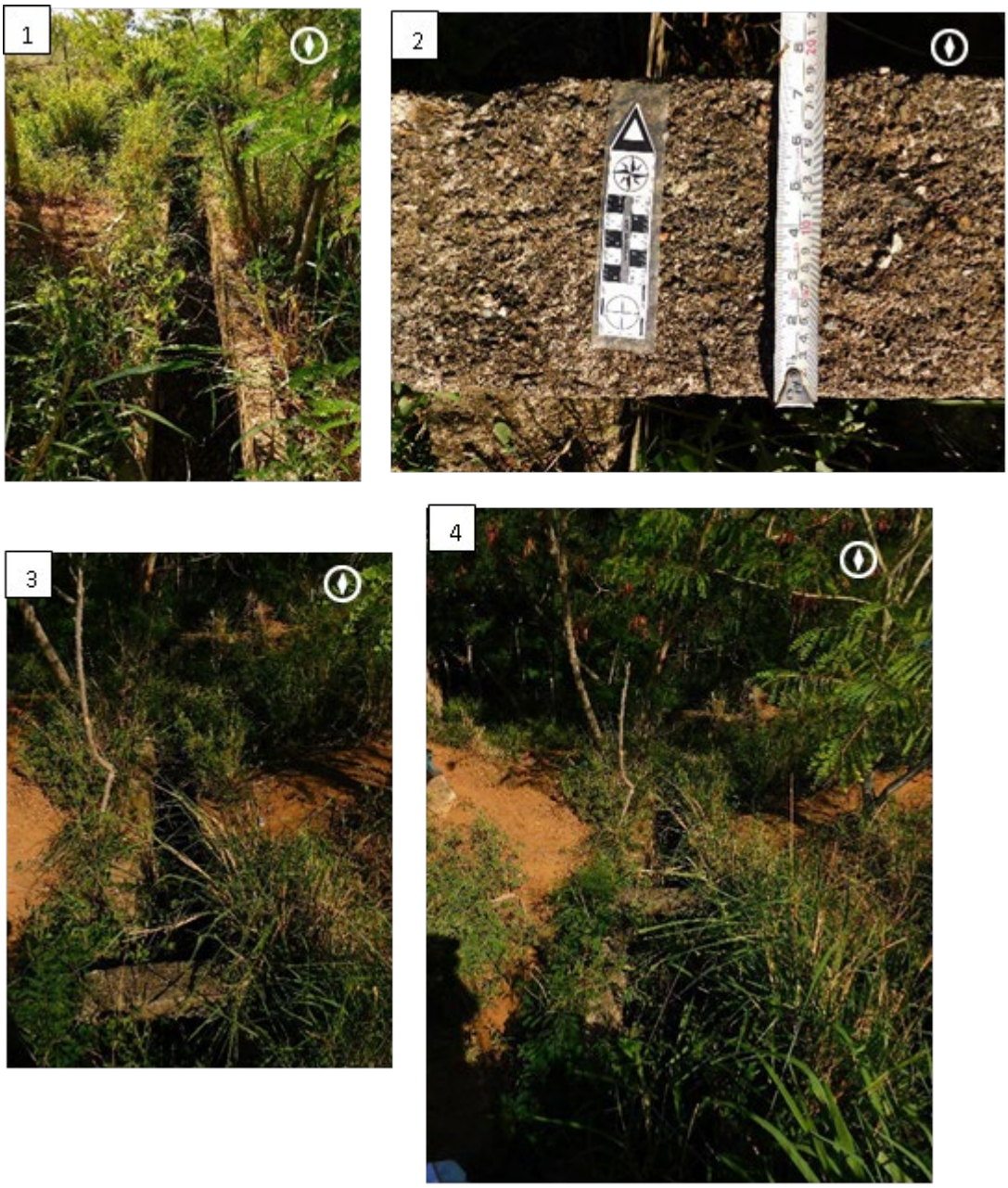






Element 6
Lateral Reinforce Concrete Canal

Photo: 4 Reinforce concrete canal, (1) irrigation canal overgrown by vegetation, looking north (2) canal detail, looking north, (3,4) canal segment with reinforced beam, looking north.



Scope of Work

This documentation, monitoring and protection plan addresses the stipulations Stipulation 1.C.6.a of the FEMA/ Puerto Rico Department of Housing programmatic agreement, as amended in 2019, *regarding the CONSTRUCTION OF123 UNITS OF LOW-INCOME HOUSING, PR-54, KM 0.3, MACHETE WARD, GUAYAMA, PUERTO RICO/ TPID: 442-000-001-47.* The scope of work includes two (2) main tasks:

A. Documentation of Element 1 ; and
B. Monitoring and Protection of the Elements 2 to 5.

A. Level 111 HAER standard documentation of Element 1

The archaeological elements are part of the South Coast Irrigation District (SCID) a resource eligible to the NRHP under Criteria A, C and D. They are contributing elements to the SCID. Element 1 a secondary open earthwork trapezoidal canal that runs north to south. The hydraulic structure delivered water for irrigation purposes by connecting the Patillas Main Canal with Gregoria Pica Farm agricultural fields. The construction techniques and the location of this canal suggest that it predates the South Coast Irrigation District (SCID) and may well have been part of a private irrigation system during the Spanish colonial era. The proposed project will have a direct impact in Element 1. In the construction process of the housing development the terrain will be cleared and graded. The grading and construction of the houses over the canal would be an adverse effect. These adverse effects could be mitigated through additional documentation. For this reason, is recommended a Level 3, HAER documentation for this element. Further investigation of Element 1 could answer several questions: What was the amount of land to be irrigated? the quantity of water used? the total extension of the canal? its construction dates? types of construction techniques, the canal's bottom was filled with tamped-down pebbles (chinos de río), or tightly-pack-loose rocks or wooden planks.? What was the relationship between Element 1 and the irrigation system of Haciendas Santa Elena and Felicidad? The investigation of this hydraulic structure would help to understand the practices associated with the management of water for agricultural purposes in the 19th century.

Element 1 will be documented, as a last means of preservation in an effort to perpetuate information about the historic property that will be lost upon its removal. According to the National Park Service (NPS) "*documentation is often the last means of preservation of a property: when a property is to be demolished, documentation provides future researchers access to valuable information that otherwise would be lost*."[1]. The documentation will be to a HABS/HAER[2] level III content requirement. This documentation level includes drawings, photographs, and written data.

[1] https://www.federalregister.gov/documents/2003/07/21/03-18197/guidlines-for-architectural-and-engineering-documentation

[2] Historic American Buildings Survey and Historic American Engineering Record

(1) **Drawings**. For Level III documentation, drawings must be made on Mylar that is dimensionally stable and of archival quality. Special archival inks, such as Pelikan, must be used in order to maximize the document's longevity. Because Level III is the highest form of documentation, all drawings must conform to National Park Service standards for line weight, lettering, and so forth. Level III drawings can be very complex. They must be measured carefully and depicted in detail, often requiring many sheets for a single resource. In the case of industrial and mining facilities, one or more drawings should show the operating or production process. Due to the level of detail, a professional architect is typically required to measure and draw HABS/HAER Level III plans to specifications.

The documentation includes measured drawings that adequately illustrate what is significant about the earthwork trapezoidal canal. Measured drawings shall be produced from recorded, accurate measurements and should be made using Computer-Aided Drafting (CAD).

The historic maps and diagrams of the irrigation canal, located in the Patillas Irrigation Office. (Documents related to the Puerto Rico Irrigation Service, Patillas Canal Central Division), should be digitized. The drawings should be scanned at a resolution of 1,600 x 2,000 pixels (as minimum). If scanning is not possible, the drawings should be photographed using TIFF (Tagged Image File Format) as 6-megapixel files. The recent drawings shall be compared to the drawings and diagrams, in order to determine if the existing structure was changed or altered through time.

(2) **Photographs.**

Level III documentation requires the use of a large-format field camera to photograph the subject resources. The minimum negative size for Level III is 4 inches by 5 inches, but 5 inches by 7 inches (and 8 inches by 10 inches) are more commonly used. Very large negatives- those larger than 8x10- are unacceptable as they can only be stored with difficulty. Because of the large negative size and the need for archival quality, Level III photographs are usually hand-developed. In all cases, the film must be processed and printed following accepted archival standards. Also, the photographs and negatives will be submitted in archivally stable sleeves. The large-format camera serves several purposes. It allows for a much larger negative that shows greater details. It also allows the photographer to compensate for distortion and to correct perspective problems. Naturally, only black, and white film is acceptable due to its archival stability. The photographs shall clearly depict the appearance of the irrigation canal. The digital camera files must be captured in TIFF, as 6-megapixel files or greater with a minimum pixel array of 3,000 pixels by 2,000 pixels[3]. They shall include:

[3] These requirements follow the digital photographic records requirements of the U.S. National Archives (https://www.archives.gov/records-mgmt/initiatives/digital-photo-records.html)

- General views of all sides.
- 20 exterior-view black and white 4”x5” negatives produced with a technical, perspective-control camera, corresponding scans at HAERS specified resolution and 20 contact prints produced at size and printed
- digitally on archival inkjet media.
- Detail views of cross sections

Each photograph file should be labeled with the survey number and a sequential number starting with 1, and should be saved in a CD/DVD, along the photographs index. The index must contain:

- Name of program
- Survey title block identical to the Cover Sheet
- HAER number
- Photographer’s name and the dates photographs were taken
- Survey number in capital letters with the sequential number for each view
- Captions. The captions should include appropriate directional information and any significant details.

The documentation should include historic views where available. The historic images should be scanned at a resolution of 1,600 x 2,000 pixels (as minimum), and no less than 200 dpi.

For more information regarding photographs, refer to the Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines November 2011, updated June 2015 (https://www.nps.gov/hdp/standards/HAER/chapter4.pdf) and the NPS Photo Guidelines (https://www.nps.gov/hdp/standards/PhotoGuidelines.pdf).

(3) **Written data**. To properly research and write the historic documentation required by HABS/HAER Level III are investigate ownership of the property to determine its legal location, date of construction, and the architect and builder responsible for the design and construction. In addition, a search for original plans is undertaken and any alterations or additions are noted. A general architectural narrative is written to supplement the measured drawings. It will include a discussion of the architectural style and character, exterior and interior descriptions, and overall site appearance. Some of this information should already be available from site inventory forms or possibly from a National or State Register nomination for the property. The property must also be placed in a historic context. Context means how the property fits into the history and social structure of a given period of time and geographic location. Context involves the development of an overall picture into which a historic site fits. Because only properties eligible for or listed in the National or State Register are recorded to HABS/HAER or Level III standards, the historical narrative must discuss the significance of the property within its context. Additional documentation includes a bibliography of sources and supplemental data, such as copies of deeds or other property records. All of the documentation must be printed on archivally stable 100% rag bond paper. All attachments, appendices, plans, photocopies, and other supplemental

material must also be on 100% rag bond paper. The documentation will include a written history and description of irrigation canal, that highlights the structures historical, architectural or cultural significance. The history shall be based on primary sources to the greatest extent. For this section, the data included in the Phase IB Cultural Resources Assessment archaeological site survey project: Brisas del Mar Village. (Tamara Gonzalez Vega 2022 2015) may be used with proper citation.

The format to be used should be as follows: The first section of the outline discusses the physical history of the structure, including its historical context. The second section considers design and structural information, including construction history and mechanics. Finally, a bibliography lists sources of information and other potential sources not investigated, if appropriate. The report should be written in simple language, without excessive specialized terminology. For specific information regarding the report format, refer to Historic American Engineering Record Guidelines for Historical Reports (2008, updated 2015) https://www.nps.gov/hdp/standards/HAER/HAERHistoryGuidelines.pdf.

A Draft Documentation (HAER Level II) Report (including photos, drawings, and written data) shall be submitted via email to the proponent. The comments of these agencies will be addressed, and two (2) printed and digital copies of the Final Draft Documentation (HAER Level III) Report shall be submitted to and then forwarded to the PRSHPO for their review and comment. PRSHPO comments shall be incorporated into the Final Documentation (HAER Level III) Report. After the Final Documentation (HAER Level II) Report is accepted by all parties, five (5) copies shall be submitted (hard and digital). Two (2) of these copies should be printed in laser on archival bond paper one (1) copy to the AGPR and one (1) and copy to the Built Historic Heritage Program of the Institute of Puerto Rican Culture (IPRC).

Element I shall not be removed until all documentation is completed and accepted by the PRSHPO. The proponent shall ensure the protection of the irrigation canal until the documentation is accepted by the PRSHPO. If the construction of the project commences before the documentation is completed.

B. Monitoring and Protection Plan:

Stipulations from PRSHPO require the implementation of a monitoring and protection plan for the construction of the undertaking near Elements 2 to 5. The elements 2 to 5 are part of the South Coast Irrigation District (SCID) and are eligible to the NRHP under Criteria A, C and D. Due the proximity of the resources to the property boundary, the impacts associated with the construction would be indirect. The project is going to induce changes in land use and population density, increasing vandalism of the element, a result of an improved access to the area. It also can increase the soil erosion and the inadequate debris management can damage the hydraulic structures

The monitoring and protection plan have three (3) main objectives: (1) to ensure that the irrigation canals are not adversely affected by construction activities . (2) to obtain additional data including any hidden features that may not be apparent prior; and (3) to identify and evaluate previously unidentified

properties that may be eligible for listing in the National Register discovered after the construction of the undertaking has commenced.

I. Archaeological protection procedure for Elements 2 to 5 during construction:

The APP procedure can be divided into three groups of activities: those to be carried out before the project begins, those to be carried out during the project's construction activities, and those to be performed after the construction activities are concluded.

I.1 Before Construction Begins

- The PRSHPO must be notified of the construction start date and of the archaeologist who will oversee the APP before construction activities begin.
- The construction crew, Program Manager, and archaeologist will have a kickoff meeting, where the APP will be discussed. The archaeologist will provide an orientation irrigation canal and on its proper treatment.
- There must be a physical barrier between the project area and the Irrigation Canal, which must include a buffer zone of no less than 2 m between the barrier and the southern edge of the Canal. If such a barrier does not exist, the contractor must place it under the guidance of the archaeologist. Examples of adequate barriers are cyclone fence or orange safety barrier fence.

I.2 During Construction

- The archaeologist will conduct weekly inspections to verify that the physical barrier is in place, and that the historic property has not been affected.

- Unanticipated findings. If an unanticipated archaeological remain (artifacts, structures, features, etc.) is found during construction activities, the contractor must cease any activity in the area immediately and must notify the Construction Manager (CM), the Program Manager (PM), the Grant Manager (GM), and the project archaeologist. The archaeologist shall make a preliminary assessment of the unanticipated finding with the purpose of determining its nature, typology, artifact content, possible cultural association, degree of integrity, and extension. The assessment should include photos of the finding and recommendations of additional work, if any. The preliminary assessment shall be submitted via email to the PM and GM within 48 hours of the discovery. The archaeologist shall instruct the Contractor to not proceed with work in the area of concern until GM staff completes consultation with the SHPO. The GM shall notify the SHPO of the unanticipated finding no more than 48 hours after receiving the archaeologist's preliminary assessment. The notification shall describe the assessment of National Register eligibility of the finding and proposed actions to resolve the adverse effects, if any.

- Unanticipated effects. If during construction activities the irrigation canals are affected in an unanticipated manner, the contractor shall stop the work immediately, and inform the CM, PM, GM, and the project archaeologist. The archaeologist shall prepare an assessment of effects within 24 hours of the event. In the case that the effects are considered to be adverse, the assessment shall include recommendations on how to minimize or mitigate said effects. The assessment of effects shall be submitted via email to the Project Manager (PM) and Grant Manager (GM) within 24 hours of the event. The archaeologist shall instruct the Contractor

to not proceed with work in the area of concern until GM staff completes consultation with the SHPO. The GM shall notify the SHPO of the unanticipated effects no more than 48 hours after receiving the archaeologist's assessment. Said notification shall include the recommendations on how to resolve the adverse effect, should this be the case. The SHPO shall respond within 48 hours of the notification.

- The archaeologist must prepare a monthly report of the visits, which must include photos of the area of interest. It should also include information on any unanticipated finding or unanticipated effects identified during the reporting period.

I.3 After Construction Ends

- The PRSHPO shall be notified when the construction activities are completed. In said communication, the estimated delivery date of the final report shall be indicated.
- A final technical report will be prepared that includes the findings and results of the Monitoring and the Protection Plan.

II. Archaeological Monitoring and obtaining additional data on Irrigation Canals.

The monitoring and supervision of the construction process shall ensure that any hidden feature that may not be apparent prior the construction will be documented, as well as unknown details related to the material and method of construction of South Coast lrrigation District. The documentation will use the excavation of mechanical trenches performed by the construction crew for search of archaeological elements covered by dirt.

(1) **Evaluation of previously unidentified resources**. Archaeological remains (artifacts, structure, features, remains of older bridges, etc.) found during the construction of the undertaking shall be identified, evaluated and if significant, documented. Construction activities shall stop while the resource is evaluated. The contractor must assist with equipment and personnel in case any excavation of archaeological interest requires the use of heavy machinery. If the remains are determined to be potentially eligible to the National Register, a statement of significance shall be prepared and the PRSHPO shall be notified within 24 hours of the discovery. The statement of significance shall include recommendations on steps to follow for proper resource documentation. If deemed necessary, additional staff may be mobilized to document the resource. For the documentation of exceptional findings -like human burials, complex structures, cisterns and dense archeological deposits- a technical and economic proposal will be prepared for approval by the PRSHPO and contractor.

The monitoring and supervision process will be documented by means of written descriptions, photographs, and drawings, if necessary. The monitoring team shall submit monthly reports describing the activities supervised and the findings, if any. The report shall include photos. When the undertaking is completed, a digital copy of the monitoring and protection plan report shall be submitted via email to for review and comment. After acceptance by all parties, three (3) copies of the report (hard and digital) will be submitted.

The supervision and monitoring process shall be conducted in close coordination between the contractor and the supervision crew. The process shall be thoroughly discussed in order to establish a strategy that better suits the construction requirements and the documentation needs.

Expected Products

The expected products are the following:

- Monthly reports, to be submitted within ten (10) days of the last calendar day of the month, until the plans are completed. These reports will be submitted via email. The proponent shall be responsible of forwarding the report to all signatory parties. The report shall summarize the activities of documentation and/or monitoring and supervision that took place during the month, it shall describe unexpected and documented remains, if any; and it shall include photographs and drawings if deemed necessary.
- Draft of the documentation (HAER Level III) report: A digital copy of the draft documentation report shall be submitted for comments.
- Final draft documentation (HAER Level III) report. The comments to the draft documentation report will be incorporated into a Final draft documentation report. Two (2) hard and digital copies of the final draft documentation report shall be submitted to, with printed drawings, photos (with index) and written data. The proponent shall be responsible to submit the document to the PRSHPO for their comments. This report shall be conducted prior the destruction of Element 1 It shall mention pending data, to be retrieved during the removal process.
- Final documentation (HAER Level III) report of (hard and digital in PDF). This report shall include the PRSHPO comments, if any, and all data retrieved during the removal process. Three (3) hard and digital copies shall be submitted to the proponent within 60 calendar days after the irrigation canal removal has been completed.
- Final documentation (HAER Level III) report-Archival grade. Two (2) copies of the final documentation report printed on archival bond will be submitted for distribution to the AGPR and the IPRC (hard and digital copies).
- Draft supervision and monitoring report. A digital copy of the draft documentation report shall be submitted to the proponent for comments no more than 90 calendar days after the undertaking is completed.
- Final supervision and protection plan report (hard and digital in .PDF). This report shall include the comments, if any. Three (3) hard and digital copies shall be submitted to the proponent no more than 10 calendar days after the comments on the draft report are received.

Table summarizing expected products, date of delivery, format and number of copies

Product	Date of delivery	Format/# of Copies
Monthly reports	Ten (10) days of the last calendar day of the month.	Digital /Email
Draft documentation (HAER Level III) report	To be submitted to the PRHTA prior to destruction of the Element I	Digital /Email
Final draft documentation (HAER Level III) report	To be submitted to the proponent prior to the destruction of Element I, for PRSHPO comments.	2 printed copies; 2 CD/DVD with a digital copy in .PDF.
Final documentation (HAER Level II) report	To be submitted to the 60 calendar days after the destruction of Element I is completed, and all possible data has been retrieved. The proponent shall submit the report to the PRSHPO for concurrence and records.	3 printed copies; 3 CD/DVD with a digital copy in .PDF.
Final documentation (HAER Level II) report-Archival grade	To be submitted to the for distribution to the AGPR and the ICPR.	Two (2) printed copies and two (2) digital copies – Archival grade.
Draft monitoring and supervision report	To be submitted to the for comments, no more than 90 calendar days after the undertaking is completed.	Digital /Email
Final monitoring and protection plan report	To be submitted to the no more than 10 calendar days after the comments on the draft report are received.	3 printed copies; 3 CD/DVD with a digital copy in .PDF.

Professional Qualifications

The scope of work of this proposal requires a multidisciplinary team, composed by at least an archaeologist and an architect. The archaeologist shall serve as team supervisor and principal investigator, and the architect as co-investigator. According to the Fourth stipulations, the principal investigator shall meet at a minimum the Professional Qualifications Standards set forth at 36CFR Part 61.

The minimum professional qualifications in archaeology are a graduate degree in archaeology, anthropology, or closely related field, plus at least one (1) year of full-time professional experience or equivalent specialized training in archaeological research, administration or management; at least four (4) months of supervised field and analytic experience in general Puerto Rican archaeology; the demonstrated ability to carry research to completion; and at least one (1) year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

The minimum professional qualifications in architecture are a professional degree in architecture plus at least two (2) years of full-time experience in architecture or a State license to practice architecture. The architect shall have experience in historic preservation, documenting historic structures, and preparing historic structures research reports. The architect shall have experience working with AutoCAD. If not, a CAD specialist shall be integrated to the team.

The rest of the personnel to intervene in the documentation, supervision and monitoring efforts shall have vast experience in historical archaeology, and in working in evaluation (Phase II), documentation (Phase III), and monitoring projects dealing with properties of the historic period.

References

Advisory Council on Historic Preservation
1980 *Treatment of Archeological Properties: A Handbook*. http://libraryarchives.metro.net /DPGTL/archaeology/1980_treatment_archaeological_properties.pdf

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1992 *Reglamento para la radicación y evaluación arqueológica de proyectos de construcción y desarrollo.* San Juan: ICP.

Fowler, John M.
1999 "Recommended Approach for Consultation on Recovery of Significant Information from Archeological Sites" (Updated 2010). www.achp.gov/archguide.html

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2003 Digital photographic records requirements of the U.S. National Archives (https://www.archives.gov/records-mgmt/initiatives/digital-photo-records.html)

National Historic Preservation Act, Section 106, 36 CFR Part 800-Protection of Historic Properties [incorporating amendments effective August 5, 2004]. http://www.achp.gov/regs-rev04.pdf

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2015 Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines November 2011, updated June 2015 (https://www.nps.gov/hdp/standards/HAER/chapter4.pdf)

2003 Guidelines for Architectural and Engineering Documentation. https://www.federalregister.gov/documents/2003/07/21/03-18197/guidlines-for-architectural-and-engineering-documentation

s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines [As Amended and Annotated} Professional Qualification Standards". https://www.nps.gov/history/local-law/arch_stnds_9.htm

s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines for Archeological Documentation". http://www.cr.nps.gov/local-law/arch_stnds_7.htm

s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines for Historical Documentation". http://www.cr.nps.gov/local-law/arch_stnds_5.htm

s/f "Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines for Identification".

1992 "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings". http://www.nps.gov/hps/tps/standguide

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1993 *Guía para hacer investigaciones arqueológicas Fases I, II y III.* San Juan: Oficina del Gobernador.

Santos, J. L.
2018 *Going with the Flow: Waterworks in Puerto Rico, 1840-1898.* San Juan: United States Department of the Interior National Park Service.

United States Geological Survey in cooperation with the Commonwealth of Puerto Rico
1960 *Water Problems of Puerto Rico and a Program of Water Resources Investigations.* USGS.

Exhibit No. 2
Floodplain Management - FEMA Firmette
SOURCE: Junta de Planificación (JPA)
https://gis.jp.pr.gov/ll/bn_DetermStandard.html

Gobierno de Puerto Rico
Junta De Planificación de Puerto Rico
Administrador Estatal de Valles Inundables
Oficina de Geología e Hidrogeología

Determinación Número
2023-00-JDI-3319

DETERMINACIÓN DE INUNDACIÓN

Determinación sobre la clasificación de una propiedad respecto a las Áreas Especiales de Riesgo a Inundación en Puerto Rico

Número de Catastro	Nombre de la Comunidad Participante	Número de la Comunidad Participante
442-000-001-47	Comunidad Participante de Puerto Rico	720000#

Información de la Propiedad

Municipio	Barrio	Carretera y Sector	Plus Code	Coordenadas
Guayama	Machete	Carr. PR-54 Km. 0.3 Barrio Machete - Guayama PR	779MXV7M+G3	X:233469.7 Y:214476

Información sobre el Mapa de Tasas del Seguro de Inundación

(FIRM, por sus siglas en inglés)

Número del Mapa de Inundación, FIRM	Vigencia	Status de Panel	Zona Inundable
72000C2130J	18/Nov/2009	Printed	X

Cauce Mayor (Sí, No, No determinado)	¿La propiedad ubica en un área especial de riesgo a inundación del 1% de probabilidad?	Nivel de Inundación Base (MSL)	Profundidad de Inundación Base (Solo aplica a Zona AO)
No	No	No Aplica	No Aplica

Sistema de Barreras Costeras (Sí o No)/Fecha de Designación	Tipo de Barrera Costera	Cuenca Hidrográfica (USGS)
No Aplica	No Aplica	Cuenca del Río Humacao hasta el Río Seco

Nombre del Cuerpo de Agua Adyacente (cuando es VE es el mar, primera fase el cuerpo de agua mas cercano)	¿Se propone depósito de relleno?
Canal de Patillas (Quebradas) a 442.1 m.	No

Información sobre el Mapa de Niveles de Inundación Base Recomendados

(ABFE, por sus siglas en inglés)

Número del Mapa de Inundación	Vigencia	Zona Inundable
72000C2130J	13/Apr/2018	Fuera mapa (ABFE)

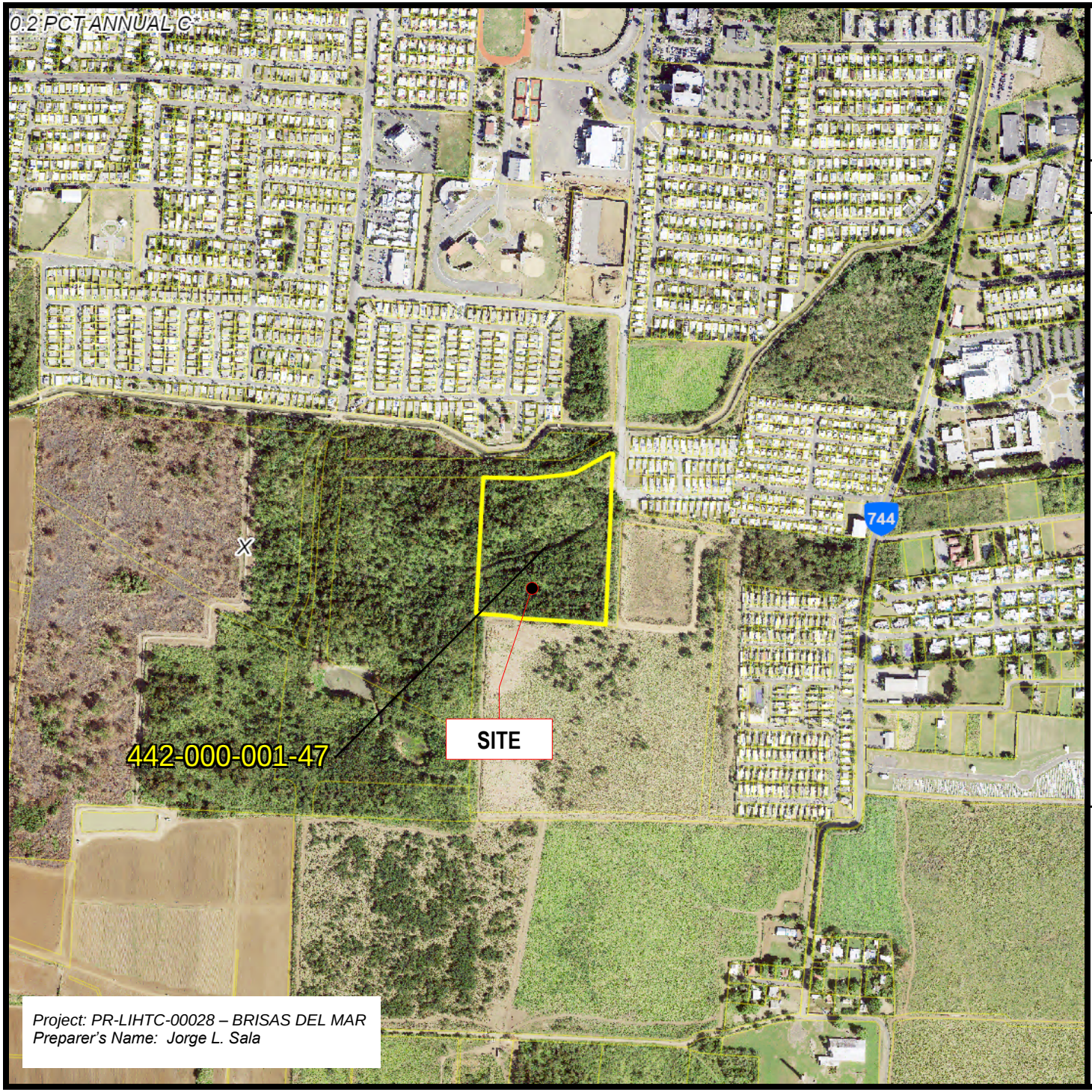
La Junta de Planificación de Puerto Rico, en su resolución JP-ABFE_01 del 23 de marzo de 2018, **requiere que para toda nueva construcción o mejora sustancial, otorgación de permisos según aplique en su ámbito jurisdiccional cumpla con los Mapas de Niveles de Inundación Base Recomendados** preparados por la Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés); excluyendo de su uso determinaciones o decisiones relacionadas al seguro de inundación NFIP, por sus siglas en inglés.

Determinación

Esta determinación está basada en datos de la Junta de Planificación y datos obtenidos de los Mapas de Tasas del Seguro de Inundación vigentes y no determina la localización exacta de una estructura dentro de una propiedad. Se advierte que una propiedad no localizada dentro del área inundable regulatoria (inundación del 1% de probabilidad o inundación con recurrencia de 100 años) pudiera ser afectada por inundaciones locales o inundaciones de otras recurrencias no reflejadas en estos mapas. Para propósitos del seguro de inundación, el mapa oficial es el DFIRM, adoptado por la Junta de Planificación de Puerto Rico. La clasificación parcial entre dos o más zonas, prevalecerá la más estricta.

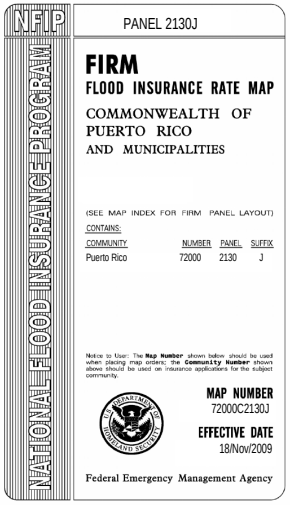
Si la propiedad está en un Área Especial de Riesgo [Peligro] a Inundación, se requiere cumplir con las disposiciones del Reglamento de Planificación No. 13 vigente y será requerido cumplir con la Ley Federal de Protección a Desastres del año 1973. Para las zonas A, AE, AO, AH, A99 y VE es requisito obligatorio adquirir un seguro de inundación para propiedades con hipotecas respaldadas federalmente.

Solicitante		Fecha de Emisión
Brisas del Valle	Contáctenos en avipr@jp.pr.gov	19/Mar/2023



Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Mapa sobre Tasas del Seguro de Inundación
(Flood Insurance Rate Maps, FIRM)



Leyenda

0.2% ACF	AE
A	AH
A99	AO
Cauce Mayor	VE
Coastal Barrier	X

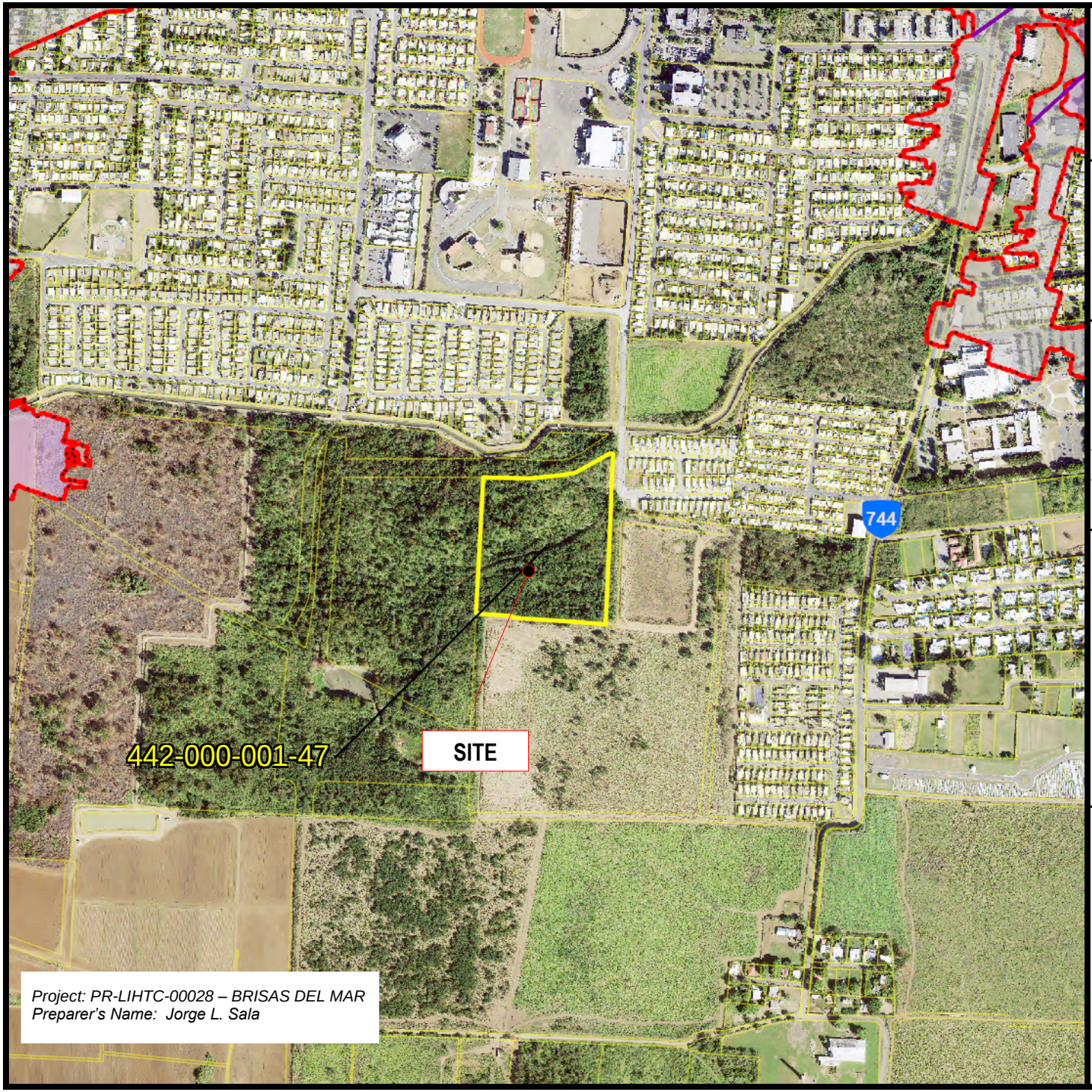
Notas:
Las elevaciones mostradas en estos mapas son consideradas la mejor información disponible hasta que se desarrollen Mapas de Tasas del Seguro de Inundación (FIRM, por sus siglas en inglés) actualizados.
Estos mapas NO han sido desarrollados para tomar determinaciones respecto al seguro de inundación del Programa Nacional del Seguro de Inundación (NFIP, por sus siglas en inglés). Para propósitos del seguro de inundación, se debe hacer referencia a los FIRMs vigentes para Puerto Rico y disponibles en http://msc.fema.gov o en la herramienta MiPR de la Junta de Planificación (http://gis.pr.gov/mipr/)

MAP SCALE
1 : 10,000

.25 0 .25
Kilometers

250 0 250 500 750 1000 1250
Feet

1/8 0 1/8
Miles



Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Mapa de Niveles de Inundación Base Recomendados

Para propósitos de nueva construcción o mejora substancial.

Estos mapas desarrollados por la Agencia Federal para el Manejo de Emergencias (FEMA, por sus siglas en inglés) identifican cuales áreas se encuentran en las nuevas zonas inundables recomendadas del 1% y 2% de probabilidad, así como los niveles de inundación base recomendados (ABFE, por sus siglas en inglés) que pueden afectar las prácticas de construcción en Puerto Rico.

Zona Inundabilidad	Porciento
Fuera de los límites de los mapas de inundación recomendados	

Panel Inundabilidad: 72000C2130J

Fecha de Efectividad: 18 de abril de 2018

Ver Resolución JP-ABFE_01 del 23 de marzo de 2018

Leyenda

- Hidrografía
- Límite ABFE
- Cauce Mayor
- A
- AE
- AO
- Coastal A Zone
- VE
- X (0.2% ACF)

Notas:

La elevación de inundación base que se muestra en este mapa utiliza el nivel medio del mar (MSL). Se advierte al usuario que toda información obtenida del mapa deberá corroborarse con el Estudio del Seguro de Inundación (FIS, por sus siglas en ingles) de Puerto Rico. Se deberá utilizar la tabla de niveles de inundación provista por dicho estudio que muestra la elevación para inundación, dichos datos deberán ser utilizados en proyectos de construcción o propósitos relacionados con la administración de Valles Inundables en Puerto Rico cuando estos sean mayores a las elevaciones que muestra el mapa de inundaciones (FIRM).

MAP SCALE
1 : 10,000

.25 0 .25
Kilometers

250 0 250 500 750 1000 1250
Feet

1/8 0 1/8
Miles

Exhibit No. 3
Wetland Protection – Wetlands Map
SOURCE: www.fws.gov/wetlands/data/mapper.html

U.S. Fish and Wildlife Service

National Wetlands Inventory



June 18, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)

Brisas Del Mar Village

State Road PR-54 KM. 0.3
Machete Ward
Guayama, P.R.

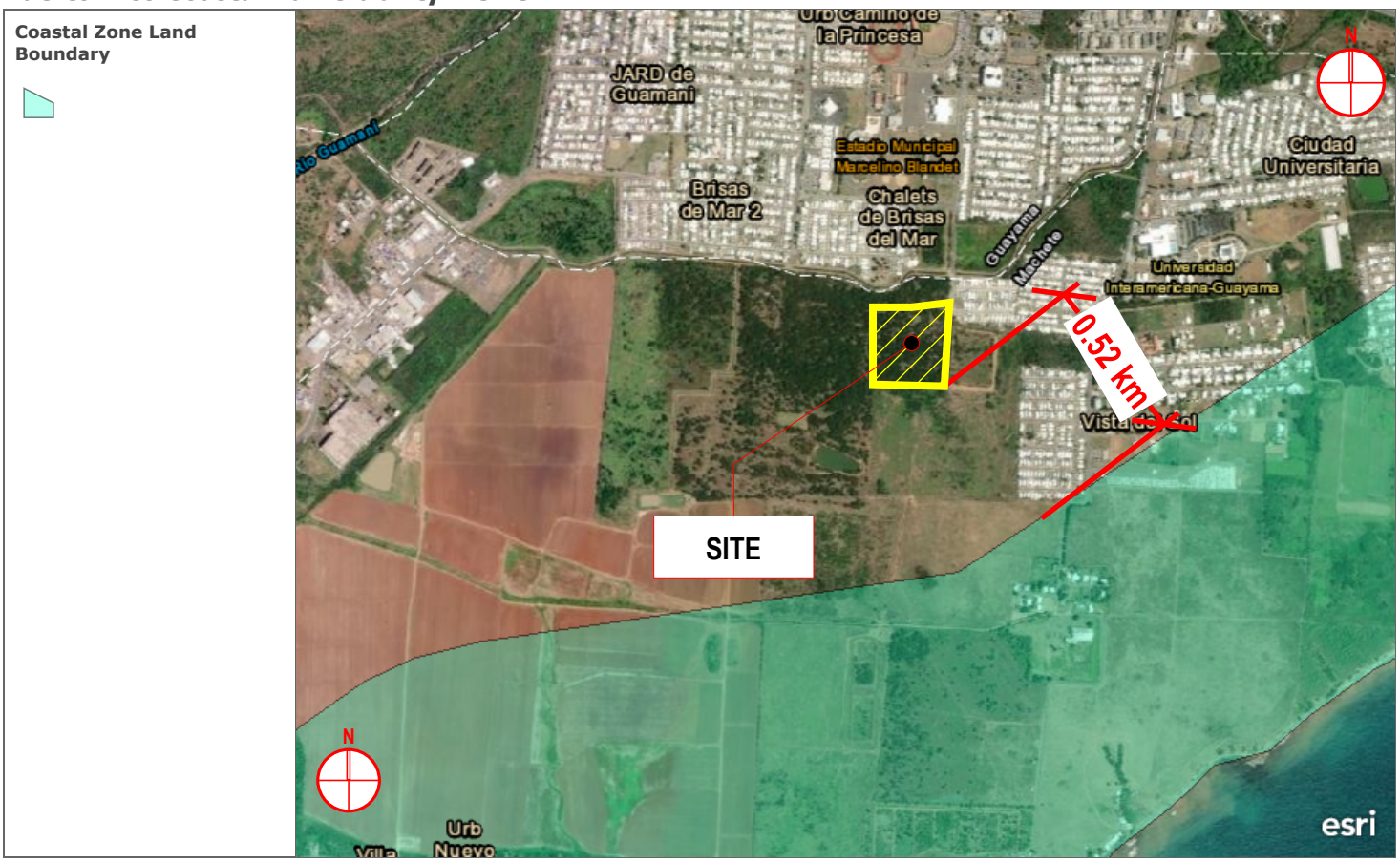
II.016-Wetland Inventory Map
US Fish and Wildlife Service

A. C. C. ARCHITECTS, P. S. C.

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Exhibit No. 4
Coastal Zone Management
SOURCE: www.arcgis.com

Puerto Rico Coastal Vulnerability Viewer



Puerto Rico Coastal Vulnerability ViewerThis tool is intended to provide a preliminary assessment of coastal resources and infrastructure at risk due to climate change and sea le ...

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Exhibit No. 5
Sole Source Aquifers (SSA)
SOURCE: https://www.epa.gov/dwssa

ArcGIS Web AppBuilder



11/3/2022, 5:21:39 PM

1:9,244,649

Sole_Source_Aquifers

0 75 150 300 mi

0 115 230 460 km

Esri, HERE, Garmin, NGA, USGS

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Exhibit No. 6
Endangered Species and Ecology
SOURCE: United States Department of Interior - Fish and Wildlife Service

United States Department of the Interior

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

In Reply Refer To:
FWS/R4/CESFO/72057-027

Submitted Via Electronic Mail: (acc_psc@yahoo.com)

Arq. Andrés Cermeño
A.C.C. Architects
Calle Mayaguez #27
URB. Perez Morris,
Hato Rey, PR 00917

Re: Brisas del Mar Village, Guayama

Dear Arq. Cermeño:

This is in reply to your June 7, 2023, letter requesting consultation for the construction of the Brisas del Mar residential complex. Our comments are issued in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (16 U.S.C. 1531 et seq. as amended).

The proposal is to construct 123 single-family housing units of social interest. The site is bordered by an irrigation channel to the north and is composed of scrub/shrub vegetation. You have determined that the proposed action lies within the range of the Puerto Rican boa (*Epicrates inornatus* now known as *Chilabothrus inornatus*). You will be applying the U.S. Fish and Wildlife Service Puerto Rican boa Conservation Measures 2020 to minimize impacts to the boa. Be advised that these conservation measures do not allow for capture or relocation of boas, unless carried out by Puerto Rico Department of Natural and Environmental Resources personnel.

Based on the nature of the action and the proposed conservation measures you have determined that the proposed action may affect but is not likely to adversely affect the boa.

We have reviewed the information provided in your letter and our files and concur with your determination that the proposed action may affect, but is not likely to adversely affect, the above referenced species. No adverse impacts to designated critical habitat are anticipated.

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 impacts 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 action, if you have any questions, please contact Felix Lopez of my staff at (305) 304-1128.

Sincerely yours,

EDWIN MUNIZ

Digitally signed by EDWIN MUNIZ
Date: 2023.06.26 14:44:18 -04'00'

Edwin E. Muñiz
Field Supervisor

fhl
cc:
DNER, San Juan
PRPB, San Juan

United States Department of the Interior

FISH & WILDLIFE SERVICE
Boqueron Field Office
Carr. 301, KM 5.1, Bo. Corozo
P.O. Box 491
Boqueron, PR 00622

JAN 04 2007

Mr. (Ms.) Dilip J. Shah
Architect
KARTIK, S.E.
251 Chile Street, 2nd floor
Hato Rey, Puerto Rico 00917

Re: Brisas del Mar IV, V y VI

Dear Applicant:

We have reviewed your request for information about endangered and threatened species and their habitats for the above referenced project. Our comments are provided under the Endangered Species Act (Act) of 1973, as amended (87 Stat. 884, as amended; 16 United States Code 1531 et seq.).

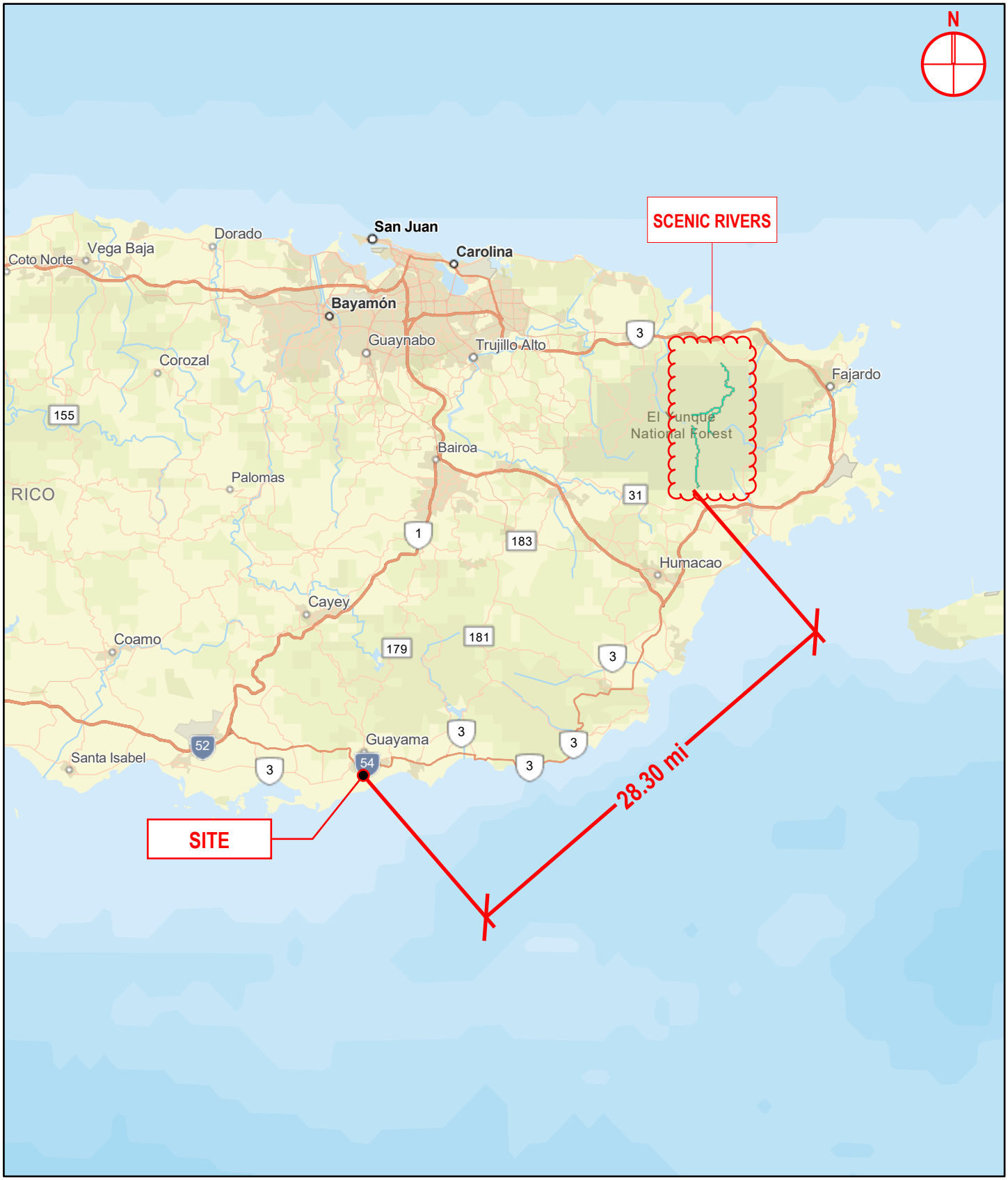
Based on a review of the information provided and that available in this office, we do not have records of threatened or endangered species in the project area. Therefore, we do not recommend further consultation for the proposed activity. Nevertheless, if the project is modified or if information on impacts to listed species becomes available this office should be contacted concerning the need for the initiation of consultation under section 7 of the Act.

Sincerely yours,

Edwin E. Muñiz
Field Supervisor
Caribbean Field Office

Exhibit No. 7
Wild and Scenic Rivers
SOURCE: https://nepassisttool.epa.gov/nepassist/nepamap.aspx

Brisas del Mar



May 11, 2023

1:577,791

0 4.75 9.5 19 mi

0 5 10 20 km

Wild and Scenic Rivers

Esri, HERE, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, NPS

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

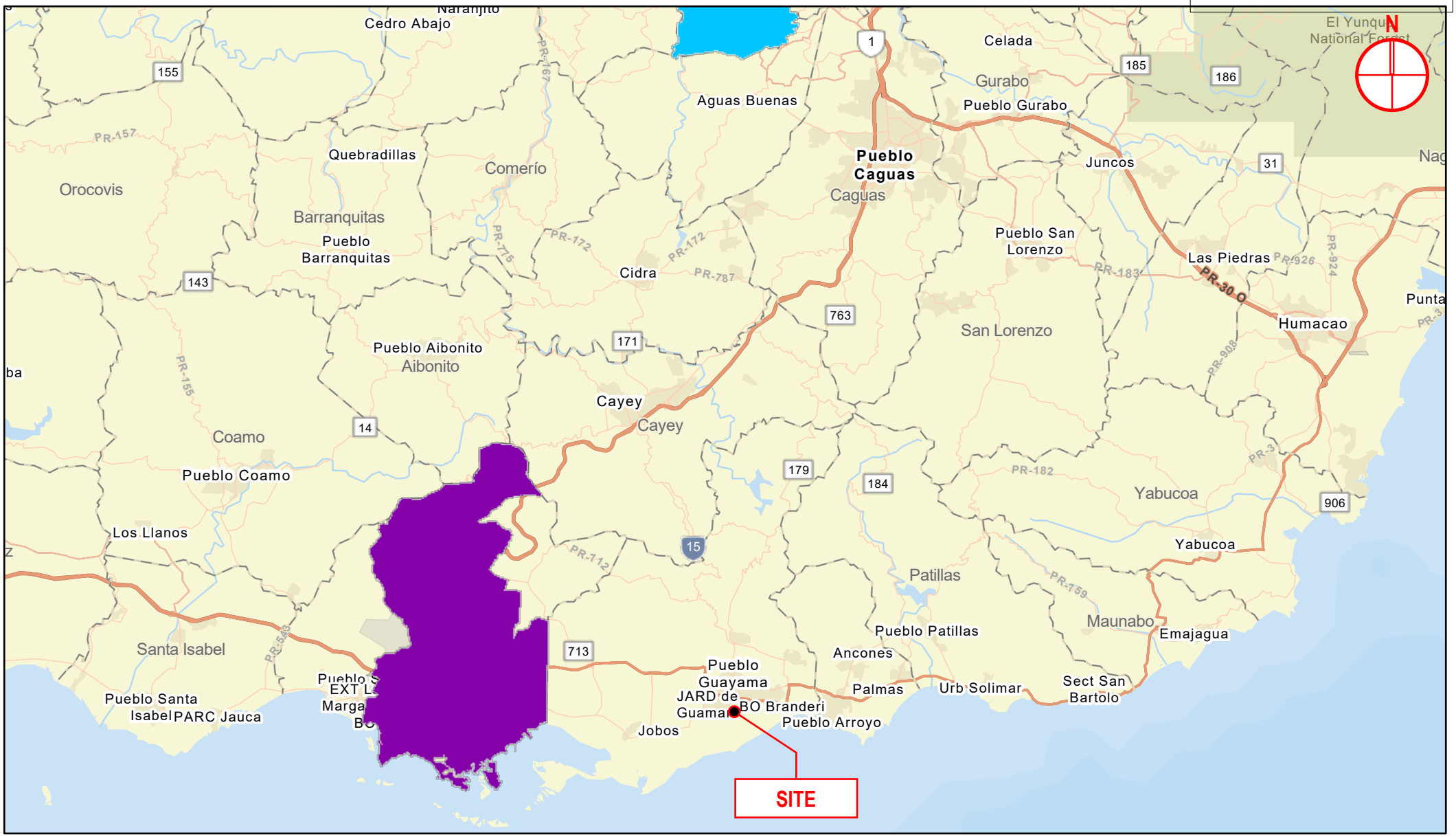
Exhibit No. 8

A. Nonattainment Area
B. Greenbook

SOURCE: A - https://nepassisttool.epa.gov/nepassist/nepamap.aspx
B - https://www.epa.gov/green-book

Brisas del Mar

EXHIBIT 8A



May 29, 2023

SO2 1-hr (2010 standard) PM10 (1987 standard)

Nonattainment Maintenance

1:288,895

0 2.25 4.5 9 mi

0 3.75 7.5 15 km

Esri, HERE, Garmin, Foursquare, SafeGraph, METI/NASA, USGS, NPS, U.S. EPA Office of Air and Radiation (OAR) - Office of Air Quality Planning and Standards (OAQPS)

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala



EXHIBIT 8B

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

Data is current as of April 30, 2023

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

* The 1997 Primary Annual PM-2.5 NAAQS (level of 15 μg/m^3) 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	11 12 13 14 15 16 17 18 19 20 21 22 23	/ /		Part	32,185	72/013
Bayamon Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23	/ /		Part	22,921	72/021
Catano Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23	/ /		Whole	28,140	72/033
Guaynabo Municipio	PM-10 (1987)	Mun. of Guaynabo, PR	92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09	02/11/2010	Moderate	Part	90,470	72/061
Guaynabo Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23	/ /		Part	23,802	72/061
Salinas Municipio	Sulfur Dioxide (2010)	Guayama-Salinas, PR	18 19 20 21 22 23	/ /		Part	23,401	72/123
San Juan Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23	/ /		Part	147,963	72/127
Toa Baja Municipio	Sulfur Dioxide (2010)	San Juan, PR	18 19 20 21 22 23	/ /		Part	52,441	72/137

Important Notes

Follow.

2023-04-30

Exhibit No. 9

A. AD-1006
B. Soil Report

SOURCES: A - NCRS
B - https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

EXHIBIT 9-A

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request March 27, 2023
Name of Project Brisas del Mar Village	Federal Agency Involved HUD
Proposed Land Use Residential Single Family	County and State Guayama, Puerto Rico
PART II *(To be completed by NRCS)*	Date Request Received By NRCS March 29, 2023 / Person Completing Form: Angel Domenech

Does the site contain Prime, Unique, Statewide or Local Important Farmland? *(If no, the FPPA does not apply - do not complete additional parts of this form)*	YES ☑ NO ☐	Acres Irrigated 26,933	Average Farm Size 59.3
Major Crop(s) Milk and Dairy, Plantain, Floricultur	Farmable Land In Govt. Jurisdiction Acres: 3,147 % 0.67	Amount of Farmland As Defined in FPPA Acres: 10319 % 21.9	
Name of Land Evaluation System Used Humacao Area - LESA	Name of State or Local Site Assessment System N/A	Date Land Evaluation Returned by NRCS March 30, 2023	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	14.7571			
B. Total Acres To Be Converted Indirectly	0			
C. Total Acres In Site	14.7571			
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	14.7571			
B. Total Acres Statewide Important or Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.46			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	0.0087			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)	100			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)*	**Maximum Points**	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	8			
2. Perimeter In Non-urban Use	(10)	5			
3. Percent Of Site Being Farmed	(20)	0			
4. Protection Provided By State and Local Government	(20)	0			
5. Distance From Urban Built-up Area	(15)	0			
6. Distance To Urban Support Services	(15)	0			
7. Size Of Present Farm Unit Compared To Average	(10)	0			
8. Creation Of Non-farmable Farmland	(10)	10			
9. Availability Of Farm Support Services	(5)	0			
10. On-Farm Investments	(20)	0			
11. Effects Of Conversion On Farm Support Services	(10)	0			
12. Compatibility With Existing Agricultural Use	(10)	10			
TOTAL SITE ASSESSMENT POINTS	160	33	0	0	0
PART VII ***(To be completed by Federal Agency)***					
Relative Value Of Farmland *(From Part V)*	100	100	0	0	0
Total Site Assessment *(From Part VI above or local site assessment)*	160	33	0	0	0
TOTAL POINTS ***(Total of above 2 lines)***	260	133	0	0	0

Site Selected: Site A	Date Of Selection April 13, 2023	Was A Local Site Assessment Used? YES ☐ NO ☑

Reason For Selection:

Original site is less than 160 points. Sites less than 160 total points do not require further evaluation.

Name of Federal agency representative completing this form: Michael Richardson, PE	Date: 4/12/2023

(See Instructions on reverse side) **Form AD-1006 (03-02)**

EXHIBIT 9-B

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Humacao Area, Puerto Rico Eastern Part



March 19, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Vs—Vives silty clay loam, high bottom.....13
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,840 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humacao Area, Puerto Rico Eastern Part
Survey Area Data: Version 14, Sep 13, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 23, 2022—Mar 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Vs	Vives silty clay loam, high bottom	14.6	100.0%
Totals for Area of Interest		**14.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Humacao Area, Puerto Rico Eastern Part

Vs—Vives silty clay loam, high bottom

Map Unit Setting

National map unit symbol: bz6z
Elevation: 0 to 100 feet
Mean annual precipitation: 25 to 45 inches
Mean annual air temperature: 79 to 81 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Vives and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vives

Setting

Landform: Alluvial fans, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine and moderately fine textured sediments

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 32 inches: clay loam
H3 - 32 to 43 inches: clay loam
H4 - 43 to 50 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 60 percent
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: B
Hydric soil rating: No

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Farmland Classification—Humacao Area, Puerto Rico Eastern Part
(Brisas del Mar Villlage)



Map Scale: 1:1,840 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

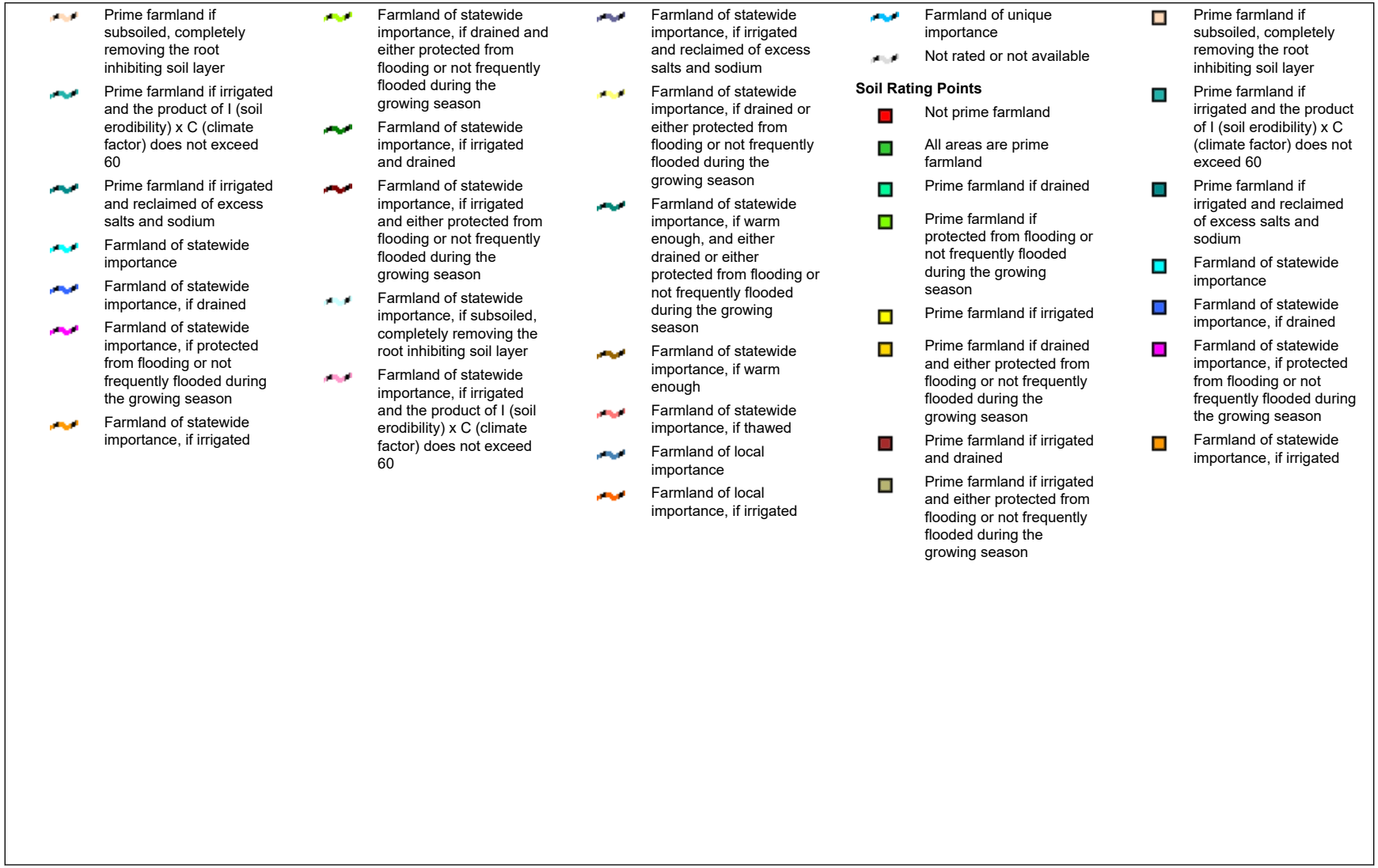
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
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- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Humacao Area, Puerto Rico Eastern Part
Survey Area Data: Version 14, Sep 13, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 23, 2022—Mar 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Vs	Vives silty clay loam, high bottom	Prime farmland if irrigated	14.6	100.0%
Totals for Area of Interest			**14.6**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The majority of soil attributes are associated with a component of a map unit, and such an attribute has to be aggregated to the map unit level before a thematic map can be rendered. Map units, however, also have their own attributes. An attribute of a map unit does not have to be aggregated in order to render a corresponding thematic map. Therefore, the "aggregation method" for any attribute of a map unit is referred to as "No Aggregation Necessary".

Tie-break Rule: Lower

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Exhibit No. 10
Environmental Justice – Municipal Endorsement
SOURCE: Municipality of Guayama

ESTADO LIBRE ASOCIADO DE PUERTO RICO
MUNICIPIO AUTÓNOMO DE GUAYAMA

Eduardo E. Cintrón Suárez
Alcalde

27 de septiembre de 2018

Sr. Carlos L. García
SP Management Corp.
PO Box 362374
San Juan, PR 00936-2374

Proyecto Urbanización Brisas del Mar Village
Unifamiliares Bajo Programa Low Income
Housing Tax Credits

Estimado señor García:

Conscientes de la necesidad de ofrecer a nuestra ciudadanía hogares seguros, nos place saber que usted haya tenido la iniciativa de proponer un proyecto de vivienda de interés social encaminado a cubrir las necesidades del Municipio de Guayama y áreas aledañas, ya que actualmente existe una deficiencia de unidades de alquiler para personas y/o familias de bajos recursos en nuestro municipio y el proyecto propuesto atiende esta población.

Queremos enfatizar que este proyecto es compatible con los usos propuestos de fondos CDBG-DR que administra el Departamento de la vivienda, también proveerá estructuras seguras y generación auxiliar de energía con sistemas fotovoltaicos para atender cualquier emergencia natural.

Este proyecto definitivamente mejorará la condición económica y social de nuestro municipio al estimular la inversión privada mediante el pago de arbitrios de construcción, la creación de empleos y servicios, y la actividad económica que traerán consigo las más de 124 familias que residirán en la Urbanización Brisas del Mar Village.

Este endoso tiene como propósito apoyar la solicitud que oportunamente someterá a la consideración del Programa "Low Income Housing Tax Credit" (LIHTC) de la Autoridad para el Financiamiento de la Vivienda, el cual requerirá cumplir con todas las leyes y demás requisitos; tanto estatales, locales y federales.

Quedamos a su entera disposición para atender cualquier otro asunto relacionado al proyecto en pro del desarrollo económico y social de nuestro Municipio de Guayama.

Atentamente,

EDUARDO E. CINTRÓN SUÁREZ, MBA

Exhibit No. 11
Architect's Certification Letter
SOURCE: ACC Architects PSC

A. C. C. ARCHITECTS P. S. C.

September 23, 2020

Mr. Pablo Muñiz Reyes, CPA
Executive Director
Puerto Rico Housing Finance Authority
638 Aldebarán Street
San Juan, PR 00926

CERTIFICATION

I, Andrés Cermeño Class, professional architect and designer of the proposed subsidized rent residential project known as Brisas del Mar Village, located in the municipality of Guayama (the Project), certify that the Project is not located within 1000 feet of a major noise source, road or highway, 3000 feet of a railroad or 5 miles from a civil, hence no Noise Study is required.

In San Juan, Puerto Rico, this 23 day of September, 2020.

Andrés Cermeño Class

Digitally signed by Andrés Cermeño Class
DN: CN = Andrés Cermeño Class, C = US, S = Puerto Rico, O = Colegio de Arquitectos y Arquitectos Paisajistas de Puerto Rico, T = 9089
Date: 2020.09.23 10:12:04 -04'00'

Andrés Cermeño Class
President

100 PLAZA PRADERA STE 20, PMB 412, TOA BAJA PR 00949-3840 • TEL (787)758-1044 • FAX (787) 759-8017 • E-MAIL acc_psc@yahoo.com

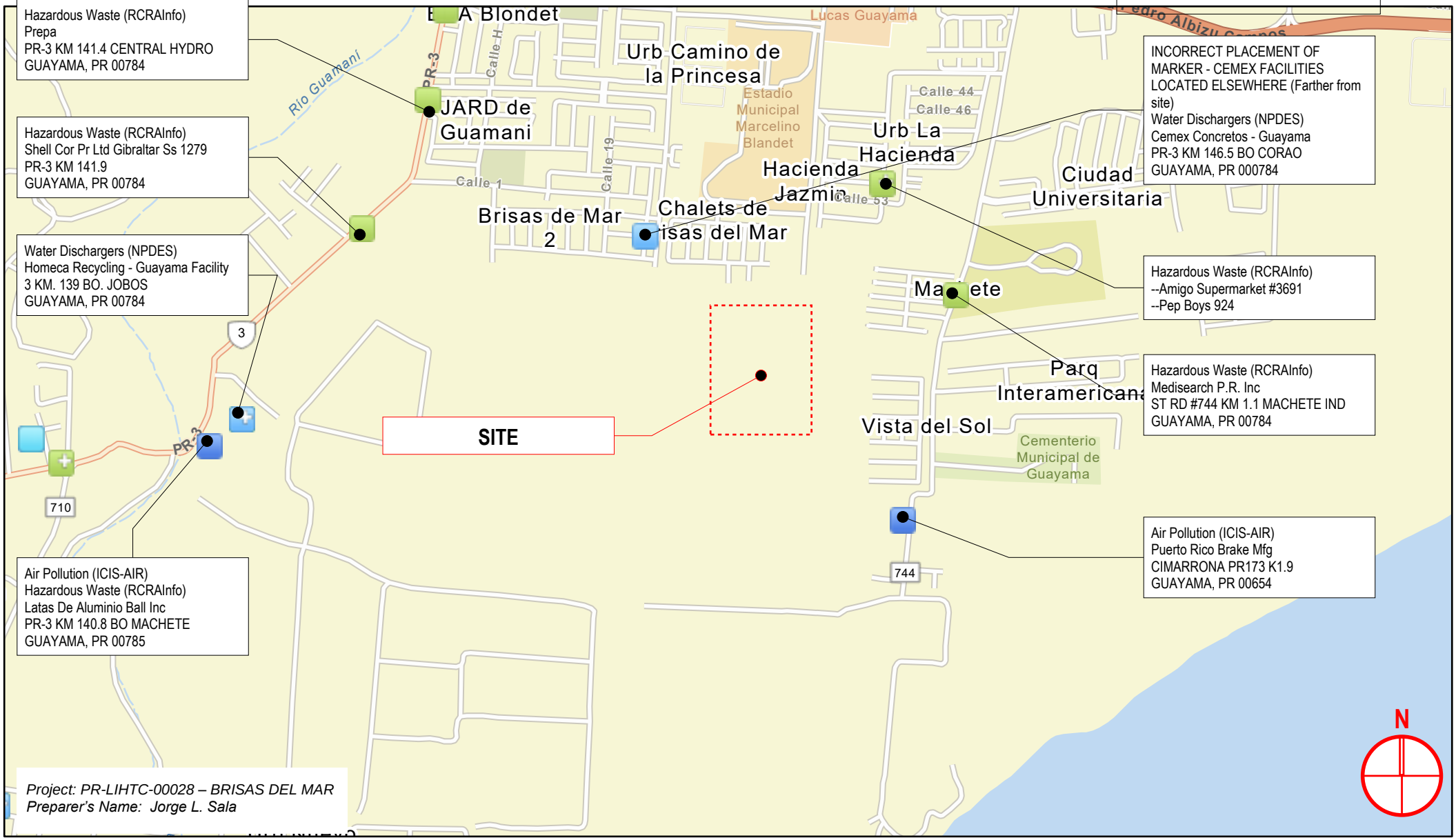
Exhibit No. 12

A. NEPA Assist Area Map
B. Phase 1 EA Phase 1 EA

SOURCE: A - https://nepassisttool.epa.gov/nepassist/nepamap.aspx
B - Caribe Environmental Services

Brisas del Mar

EXHIBIT 12A



Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

May 29, 2023

- Water Dischargers (NPDES)
- Water Dischargers (NPDES)
- Toxic Releases (TRI)
- Air Pollution (ICIS-AIR)
- Air Pollution (ICIS-AIR)
- Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)

1:18,056

0 0.13 0.25 0.5 mi

0 0.23 0.45 0.9 km

Esri Community Maps Contributors, Kadaster Netherlands, Esri, HERE, Garmin, Foursquare, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, NPS, US Census Bureau

Exhibit 12B

May 19, 2023

Mr. Carlos L. Garcia
Garcia Development Group, LLC
419 Ave. Ponce de Leon
Suite 112
San Juan, PR 00917

Via email: carlos@spmancorp.com
Cc: sheila@spmancorp.com

Subject: **PRIVILEGED AND CONFIDENTIAL**
Phase I Environmental Site Assessment Report
Brisas del Mar Village
Road PR-55, Km. 0.3
Machete Ward
Guayama, Puerto Rico
CES Project No. 23-0017A

Dear Mr. Garcia:

Caribe Environmental Services (CES) respectfully submits to your attention this Phase I Environmental Site Assessment report of the referenced property. One digital version in PDF format of the report is submitted for your use. These services were conducted in accordance with the scope of work described in our proposal PR23-0044 dated March 20, 2023.

For your information according to the ASTM Standard, this practice does not address whether requirements in addition to all appropriate inquiries have been met in order to qualify for the LLPs. For example, the duties specified in 42 U.S.C. §9607(b)(3)(a) and (b) and cited in Appendix X1 of the ASTM E1527-21 Standard, including the continuing obligation not to impede the integrity and effectiveness of activity and use limitations (AULs), or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations. After acquiring a property, to maintain the liability protections, landowners must comply with "continuing obligations" during their property ownership. We understand that the continuing obligations may include:

- Provide all legally required notices with respect to the discovery or release of a hazardous substance;

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- Exercise appropriate care with respect to the hazardous substances by taking reasonable steps to stop or prevent continuing or threatened future releases and exposures, and prevent or limit human and environmental exposure to previous releases;
- Provide full cooperation, assistance, and access to per- sons authorized to conduct response actions or natural resource restoration;
- Comply with land use restrictions and not impede the effectiveness of institutional controls; and
- Comply with information requests and subpoenas.

This is a legal evaluation which is beyond the scope of the Phase I assessment.

We appreciate the opportunity to provide our professional services to you and look forward to our continued working relationship. If you have any questions regarding the enclosed report, please do not hesitate to contact us at your convenience.

Respectfully yours,

CARIBE ENVIRONMENTAL SERVICES

Valentín Félix, P.E.
Senior Engineer

Raúl Colón, P.E., P.H.
Principal

2023 Files\Garcia Development Brisas del Mar Village Guayama\Phase I\Phase I Transmittal Letter.doc

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PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
UNDEVELOPED PARCEL OF LAND
BRISAS DEL MAR VILLAGE
PR-55 ROAD, KM. 0.3 (INTERIOR)
MACHETE WARD
GUAYAMA, PUERTO RICO

Prepared For:

GARCIA DEVELOPMENT GROUP
SAN JUAN, PUERTO RICO

Prepared By:

CARIBE ENVIRONMENTAL SERVICES
CAGUAS, PUERTO RICO

PROJECT NO. 23-0017A

MAY 2023

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1.0 SUMMARY

Caribe Environmental Services (CES) was retained by Garcia Development Group (GDG) to conduct a Phase I Environmental Site Assessment (Phase I) of an undeveloped land parcel located in Guayama. The property is located at the PR-54 Road, Km. 0.3 (Interior) within the Machete Ward of the Guayama Municipality in Puerto Rico. Presently, the property is undeveloped and covered by vegetation. Based upon the information provided by GDG, the site covers an area of approximately 59,576 square meters (15.15 "*cuerdas*"). From hereon the property will be referenced to as the Subject Property, Subject Site, and/or Site.

CES understands that at the time of the site reconnaissance the Subject Property was owned by Kartik S.E (Kartik), represented by one of its partners Mr. Carlos Burgos. It is our understanding that GDG is requesting a Phase I to be conducted as part of a potential Low-Income Housing Tax Credit (LIHTC) 125-unit residential complex construction project.

This Phase I was prepared in conformance with the scope and limitations of ASTM E1527-21 standard (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). According to the Code of Federal Regulations (CFR), Volume 87, No. 240, dated December 15, 2022, US Environmental Protection Agency (EPA)'s final ruling accepts the new ASTM E1527-21 Standard as compliant with the All Appropriate Inquiry (AAI) Rule as set forth in 40 CFR Part 312. The new rule establishes that the ASTM E1527-21 Standard became effective on February 13, 2023, officially recognizing the new standard for Phase I Environmental Site Assessment.

The purpose of the Phase I was to evaluate environmental concerns or issues with respect to the range of contaminants within the scope of the Comprehensive Environmental Response and Liability Act (CERCLA) and petroleum products that maybe associated with the Subject Property, based upon readily available information and site observations. In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a property, the goal of the processes established by this practice is to identify *"Recognized Environmental Conditions (REC)"*, Historic RECs or Controlled RECs associated with the current and historical use of the property.

The term Recognized Environmental Condition (REC) means (1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment.

The term Controlled Recognized Environmental Condition (CREC) means a Recognized Environmental Condition affecting the Subject Property that has been addressed to the satisfaction

of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, activity and use limitations or other property use limitations).

The term historical recognized environmental condition (HREC) means a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meets unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.

This Phase I may have identified *de minimis* condition. These are conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.

This Phase I investigation may identify issues of environmental concern not necessarily limited to those environmental issues required to be investigated in the ASTM E1527-21 Standard. Those issues are defined by the Standard as "business environmental risks (BER). BERs are defined by the standard as a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated by the ASTM E1527-21 practice.

The scope of work for this study consisted of:

- Visual reconnaissances of the Subject Property and surroundings;
- Telephone interview with Mr. Carlos Burgos, designated Kartick representative;
- Submittal of User Questionnaire (Appendix X3 of ASTM E1527-21) to Mr. Carlos García, of CGD ;
- Submittal of request of information letter to the Puerto Rico Department of Natural and Environmental Resources (DNER);
- Review of readily available regulatory and technical information, including a review of geological, hydrogeological and hydrological information to establish environmental receptors at the site and in its vicinity;
- A review of available historical information, including historical aerial photographs, to ascertain historical use of the site and its immediate surroundings;
- A review of available information from public databases, local public offices and environment agencies (as reasonably available within timeframe);

- Preparation of a report outlining the findings and conclusion of the assessment.

A site reconnaissance was conducted by engineers Raúl Colón and Luis R. Colón on March 24, 2023. A second site reconnaissance was conducted by Eng. Raúl Colón on April 26, 2023. During the site reconnaissances, no owner representative accompanied CES personnel. At the time of CES visit, the Subject Property was observed to be undeveloped and without a specific use.

We note that site conditions and regulatory requirements may change in the future. Therefore, the information included in this report, our findings, or recommendations presented are based upon information readily available and observations made at the time of the Site visit. Sampling and analysis of site, water, air or other materials were not performed as part of the Phase I assessment.

This assessment has revealed ***no recognized environmental conditions, controlled recognized environmental conditions, and/or significant data gaps*** in connection with the Subject Property.

However, the following environmental concerns and/or findings associated with the site, which may represent a business environmental risk, as defined by the ASTM Standard were identified:

- **Non-Hazardous Wastes**

  At the time of our site reconnaissance no generation of non-hazardous wastes was observed at the site. However, what appears to be illegal garbage and debris dumping was observed at several areas of the property. According to the owner, these are unauthorized dumping by unknown individuals. The accumulations were observed to be relatively limited in extent.

  Until these wastes are properly removed from the site and disposed-of, they ***should represent*** a Business Environmental Risk (BER) for the subject site.

Details about the scope, activities, findings and conclusions of this Phase I Environmental Site Assessment are described in the following sections of this Phase I report. This summary is provided for your convenience. It should not be construed as a separate document without reviewing the complete report, including the appendices.

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2.0 INTRODUCTION

2.1 PURPOSE

Caribe Environmental Services (CES) was retained by Garcia Development Group (GDG) to conduct a Phase I Environmental Site Assessment (Phase I) of an undeveloped land parcel located in Guayama. The property is located at the PR-54 Road, Km. 0.3 (Interior) within the Machete Ward of the Guayama Municipality in Puerto Rico. Presently, the property is undeveloped and covered by vegetation. Based upon the information provided by GDG, the site covers an area of approximately 59,576 square meters (15.15 "*cuerda*s"). From here on the property will be referenced to as the Subject Property, Subject Site, and/or Site.

CES understands that at the time of the site reconnaissance the Subject Property was owned by Kartik S.E (Kartik), represented by one of its partners Mr. Carlos Burgos. It is our understanding that GDG is requesting a Phase I to be conducted as part of a potential Low-Income Housing Tax Credit (LIHTC) 125-unit residential complex construction project.

This Phase I was prepared in conformance with the scope and limitations of ASTM E1527-21 standard (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process). According to the Code of Federal Regulations (CFR), Volume 87, No. 240, dated December 15, 2022, US Environmental Protection Agency (EPA)'s final ruling accepts the new ASTM E1527-21 Standard as compliant with the All Appropriate Inquiry (AAI) Rule as set forth in 40 CFR Part 312. The new rule establishes that the ASTM E1527-21 Standard became effective on February 13, 2023, officially recognizing the new standard for Phase I Environmental Site Assessment.

The purpose of the Phase I was to evaluate environmental concerns or issues with respect to the range of contaminants within the scope of the Comprehensive Environmental Response and

Liability Act (CERCLA) and petroleum products that maybe associated with the Subject Property, based upon readily available information and site observations. In defining a standard of good commercial and customary practice for conducting an environmental site assessment of a property, the goal of the processes established by this practice is to identify *"Recognized Environmental Conditions (REC)"*.

The term Recognized Environmental Condition (REC) means (1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment.

The term Controlled Recognized Environmental Condition (CREC) means a Recognized Environmental Condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, activity and use limitations or other property use limitations).

The term historical recognized environmental condition (HREC) means a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meets unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.

This Phase I may have identified *de minimis* condition. These are those conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.

This Phase I investigation may identify issues of environmental concern not necessarily limited to those environmental issues required to be investigated in the ASTM E1527-21 Standard. Those issues are defined by the Standard as "business environmental risks (BER). BERs are defined by the standard as a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated by the ASTM E1527-21 practice.

2.2 DETAILED SCOPE OF SERVICES

The scope of work for this study consisted of:

- Visual reconnaissances of the Subject Property and surroundings;
- Telephone interview with Mr. Carlos Burgos, designated Kartick representative;
- Submittal of User Questionnaire (Appendix X3 of ASTM E1527-21) to Mr. Carlos García, of CGD ;
- Submittal of request of information letter to the Puerto Rico Department of Natural and Environmental Resources (DNER);
- Review of readily available regulatory and technical information, including a review of geological, hydrogeological and hydrological information to establish environmental receptors at the site and in its vicinity;
- A review of available historical information, including historical aerial photographs, to ascertain historical use of the site and its immediate surroundings;
- A review of available information from public databases, local public offices and environment agencies (as reasonably available within timeframe);
- Preparation of a report outlining the findings and conclusion of the assessment.

A site reconnaissance was conducted by engineers Raúl Colón and Luis R. Colón on March 24, 2023. A second site reconnaissance was conducted by Eng. Raúl Colón on April 26, 2023. During the site reconnaissances, no owner representative accompanied CES personnel. At the time of CES visit, the Subject Property was observed to be undeveloped and without a specific use. The purpose of the field visit was to observe physical conditions of the Site and identify regulated or suspect facilities in the vicinity of the Subject Property.

Copies of historical aerial photographs obtained from the Puerto Rico Highway and Transportation Authority (PRHTA) were reviewed. The purpose of this review was to understand historical land uses of the Subject Property. Aerial photographs available for the Subject Site were obtained for flight dates of: March 29, 1937; January 9, 1951; February 12, 1963; February 18, 1977; and January 22, 1985. In addition, high resolution satellite imageries were obtained from Google Earth Pro for November 23, 1994; September 30, 2004; October 31, 2006; August 23, 2013; September 28, 2015; and March 11, 2023. Aerial photos for the 1940s decade were not available. The following published information (references) was also reviewed to gain an understanding of the site's natural setting:

- *Topographic Map of the Guayama Quadrangle (1970), photo revised 1982, U.S. Geological Survey.*
- *Topographic Map of the Guayama Quadrangle (1946), U.S. Geological Survey.*
- *Soil Survey Map of Humacao Area, Puerto Rico Eastern Part, Version 7, December 20, 2013, by the U.S. Department of Agriculture Soil Conservation Survey.*
- *Hydro-Geologic Map of Puerto Rico and Adjacent Islands by Reginald P. Briggs and J.P. Akers, 1965, U.S. Geological Survey.*
- *Flood Insurance Rate Maps, Panel 2130 of 2160 (Map Number 72000C2130J), by the Federal Emergency Management Agency (FEMA). Effective date April 13, 2018.*
- *Atlas of Ground-Water Resources in Puerto Rico and the US Virgin Islands. 1996. U.S. Geological Survey. Water Resources Investigations Report 94-4198.*
- *USGS, "Geology and Hydrogeology of the Caribbean Islands, Aquifer System of the Commonwealth of Puerto Rico and the Virgin Islands", Professional Paper 1419, 2002*
- *Google Earth Pro, V. 6.1.0.5001, Nov 17, 2011.*
- *http://www.jp.gobierno.pr/*

- *http://gis.jp.pr.gov/GeoLocalizador/index.htm?refresh=501*

The following database of standard environmental record sources prepared obtained from the U.S. Environmental Protection Agency (EPA), DNER or the Solid Waste Management Authority (SWMA) were reviewed to determine if the Subject Property was listed as a regulated facility, and if other potential regulated facilities or hazardous waste sites were located near the Subject Property. In addition, the environmental record sources prepared by Environmental Risk Information Services (ERIS) were reviewed.

Database	**Search Radius**
Federal NPL site list (November 3, 2022)	1-mile
Federal Delisted NPL site list (November 3, 2022)	0.5 -mile
Federal CERCLIS list	
FEDERAL Facility (dated November 3, 2022)	0.5-mile
SEMS (dated January 25, 2023)	0.5-mile
Federal CERCLIS NFRAP site list	
SEMS Archived (dated January 25, 2023)	0.5-mile
Federal RCRA TSD Facilities list	
CORRACTS (dated January 23, 2023)	1-mile
Non-CORRACTS (dated January 23, 2023)	0.5 miles
Federal RCRA Generators list (dated January 23, 2023)	Property and adjoining properties
Federal Engineering Control Registries (December 22, 2022)	Property only
Federal Institutional Control Registries (December 22, 2022)	Property only
Federal Emergency Response Notification System (ERNS) list (dated November 6, 2022)	Property only
State UST Registration List (dated January 1, 2008)	Property and adjoining properties
State Leaking USTs List (dated September 24, 2020)	0.5 miles
State Landfill and/or Solid Waste Disposal Site Lists (as of July 2012) http://www.ads.pr.gov/	0.5 miles
State and tribal Brownfield sites (September 13, 2022)	0.5 miles

The following state and tribal environmental database record sources are recommended to be reviewed by the ASTM Practice E1527-21. However, they were not reviewed because Puerto Rico does not maintain a list (i.e. State NPL list) and/or they are not applicable (i.e. no Indian land is designated in Puerto Rico).

State and tribal lists of *hazardous waste* sites identified for investigation or remediation
State and tribal-equivalent NPL
State and tribal-equivalent CERCLIS
State and tribal institutional Control/Engineering Registries
State and tribal voluntary cleanup sites

In addition, the ASTM Standard suggests reviewing fire insurance maps and city directories. However, these sources are not available for Puerto Rico.

Also, the Environmental Protection Agency (EPA) Facility Registry Service (FRS) was reviewed, to verify if the Subject Property was included in the registry. The FRS is a database maintained by the EPA of facilities, sites or places of environmental interest subject to regulation. It provides quality facility data to support EPA's mission of protecting human health and the environment. The FRS includes facilities listed in databases such as: NPL, Delisted NPL, CERCLIS, CERCLIS NFRAP, RCRA TSD, RCRA Generators, Brownfield, etc.

2.3 SIGNIFICANT ASSUMPTIONS

The Phase I was prepared in conformance with the scope and limitations of ASTM Practice E1527-21. No other significant assumptions were made or taken into consideration during the preparation of this Phase I report.

2.4 LIMITATIONS AND EXCEPTIONS

The opinions included in this report are based upon reasonably ascertainable information obtained during the course of the assessment, site observations, and interviews, and our understanding of applicable environmental regulations. No representations or warranties are made concerning the nature or quality of the air, soil, water, building materials or any other substances on the Property, other than the visual observations as stated in this report. Sites not listed on the reviewed regulatory agencies databases or hidden sources of potential liability cannot be detected by the methods used for the Phase I assessment.

The scope of work for this Phase I meets the requirements of the ASTM E1527-21. The ASTM E1527-21 Section 13.1.5 includes Non-Scope considerations such as; Asbestos-Containing Building Materials (ACM), Biological agents, Cultural and historic resources, Ecological resources, Endangered species, Health and safety, Indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, Industrial hygiene, Lead-Based Paint (LBP), Lead in Drinking Water, Mold, Radon, Regulatory compliance, and Wetlands, that are not part of the required ASTM Standard scope of work. However, as included in our proposal, general observations regarding only one or more of the following non-Scope considerations are included in this Phase I report; ACM, LBP, environmental permitting issues associated only with UST, AST, air emissions, UIC, used oil, bio-medical waste if identified by the environmental professional during the site reconnaissance, and included the identification of the potential presence of wetlands, if during the site reconnaissance, this was observed by the environmental professional. However, this Phase I does not include specialized studies such as sampling, ACM-LBP survey, among others.

In addition, the potential presence of per- and polyfluoroalkyl substances, also known as “PFAS”, at the subject property area was assessed. PFAS are described, in the ASTM E1527-21 Standard, as “Substances Not Defined as Hazardous Substances”. These and any other “emerging

contaminants," where they are not identified as a hazardous substances by CERCLA, as interpreted by EPA regulations and the courts, are not included in the scope of the ASTM E1527 practice. We note that presently Puerto Rico does not have any regulations or guidance related to PFAS impacts or assessment requirements.

If additional information that might impact our conclusions becomes available, we reserve the right to review the information, reassess the potential concerns, and modify our opinions, if warranted.

In the preparation of this report, CES has relied upon documents and information provided by GDC and the property owner. In addition, CES has relied upon a computer search of government databases provided by ERIS and the EPA FRS. Except as discussed in the report, CES did not attempt to independently verify the accuracy or completeness of that data but did not detect inconsistencies or omissions of a nature that might question the validity of the information. We note that the accuracy of the information provided in the databases is not warranted by ERIS online services because these are controlled by the regulatory agencies.

CES understands that the data obtained from these databases are the most current data available. To the extent that the conclusions in this report are based in whole or in part on such information, they are contingent on its validity. CES assumes no responsibility for any consequence arising from any information or condition that was concealed, withheld, misrepresented or otherwise not fully disclosed or available to us.

The Phase I report may include observations and/or comments regarding possible issues of environmental compliance identified at the Subject Property. The inclusion of such information must not be interpreted as representative or indicative of the environmental compliance status of the facility. This Phase I investigation must not be construed as an environmental compliance or environmental audit investigation for the Subject Property.

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We note that Subject Property conditions and regulatory requirements may change in the future. Therefore, the information included in this report, our findings, or recommendations presented are based upon information readily available and observations made at the time of the site visit.

We note that any property boundary, feature location, or measurements included in this report are approximate, for illustrations purposes only, and other than for the ease of use of this report, these shall not be used. Any property boundary, feature location, or measurement included in this report must not be assumed to be or interpreted as a certified building covering area, a survey foot-print area, or a certified property limit.

Although this assessment has attempted to identify potential for environmental impairment to the Subject Property, potential sources of contamination may have escaped detection due to: (1) the limited scope of this assessment, (2) the inaccuracy of public records, (3) the presence of undetected or unreported environmental incidents, (4) inaccessible areas, and/or (5) deliberate concealment of detrimental information. It was not the purpose of this study to determine the actual presence, degree, or extent of contamination, if any, at the Site. This could require additional exploratory work, including sampling and laboratory analysis. Also, other than a general opinion and observation during the site reconnaissance, it was not the purpose of this study to provide asbestos and/or lead-based paint materials services.

For the purposes of this report, “migrate” and “migration” refers to the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface. Therefore, this report may include an opinion or assessment of RECs associated to hazardous substances or petroleum products vapor migration issue with respect to the Subject Property. The ASTM E2600 Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions may have been used during this report only as a reference. However, it is not the intent of this study to conduct a Vapor Encroachment

Screening study or to identify a Vapor Encroachment Condition, since that study was not part of the Phase I scope of work.

We note that a finding of no recognized environmental condition is not a warranty or guarantee that the property remains free from contamination. No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with the Property. Performance of this practice is intended to reduce, but not to eliminate uncertainty regarding the potential for recognized environmental conditions in connection with the Property.

This assessment has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using the degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied is made.

An environmental site assessment meeting or exceeding this practice and for which the information was collected or updated within *1 year* prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction may be used provided that the following components of the inquiries were conducted or updated within *180 days* of the date of purchase or the date of the intended transaction: 1) interviews with owners, operators, and occupants; 2) searches for recorded environmental cleanup liens; 3) reviews of federal, tribal, state, and local government records; 4) visual inspections of the property and of adjoining properties; and 5) the declaration by the environmental professional responsible for the assessment or update.

2.5 USER RELIANCE

This report was prepared at the request and for the exclusive use of GDC, its agents, advisors, and legal representatives. No other party is entitled to rely on the conclusions, observations, specifications, or data contained herein without the express written consent of CES. It should be emphasized that because conditions at the Subject Property can change over time, the use of this report by unauthorized third parties without written authorization from CES shall be at their own risk.

2.6 REPORT VIABILITY

This Phase I report is presumed to be viable when it is conducted within 180 days prior to the date of acquisition of the Subject Property (or, for transactions not involving an acquisition such as a lease or refinance, the date of the intended transaction).

The dates of the components included in this Phase I report are as follows:

Component	Date Conducted	Expiration Date
Interviews	April 26, 2023	October 23, 2023
Review of government records	May 17, 2023	November 3, 2023
Visual inspections	April 26, 2023	October 23, 2023
Environmental Professional Declaration	May 19, 2023	November 15, 2023

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3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

The Subject Site is located in urban area to the south of the Guayama Town Core. The site is located along an interior local access road that intersects the PR-54 at the Km. 0.3, within the Machete Ward of the Guayama Municipality in Puerto Rico. The site is located to the south of the PR-54 Road. A Site Vicinity Map is provided as ***Appendix 1***. A Site Aerial Photograph, showing the Site's features, general settings, and surroundings is provided as ***Appendix 2***. The project site boundaries included in ***Appendix 2*** are approximate based upon the information provided to CES. ***Appendix 3*** presents general photographs of the site as observed during the site reconnaissance. The approximate coordinates of the center portion of Subject Site are: 17°57'50.24" N; 66°07'01.68"W.

The legal description of the Site in *Spanish*, as included in the site's purchase agreement is as follows:

> *"RUSTICA: PARCELA denominada como CINCO A (V-A) en plano de inscripción, de terreno de forma irregular, localizada en el Barrio Machete del término municipal de Guayama, Puerto Rico, con una cabida superficial de CINCUENTA Y NUEVE MIL QUINIENTOS SETENTA Y SEIS PUNTO TRES MIL DOSCIENTOS TREINTA Y TRES METROS CUADRADOS(59,576.3233 M.C.) equivalentes a QUINCE PUNTO MIL QUINIENTOS SETENTA Y OCHO CUERDAS (15.1578CDAS.). Colinda por el NORTE, con East Channel; por el SUR con Parcela de terreno propiedad de la Autoridad de Tierras (Finca Verdaquer y "Aurora Estate"); por el ESTE con Parcela de terreno denominada cormo "Section VI" del plano de inscripción y por OESTE con terreno denominado como Remanente en el Plano de Inscripción".*

Partial copies of the purchase agreement is included in ***Appendix 4***.

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The Subject Property is located in a lot covering approximately an area of approximately 59,576 square-meters and it is situated in an urban area within the Machete Ward in municipality of Guayama. At the time of the site visit the subject site was an undeveloped property covered with vegetation.

The Subject Site's grading is relatively flat with a slight slope towards the south. Photographs of the Subject Site and vicinity areas are included in ***Appendix 3***. As appropriate, selected site photographs are illustrated for orientation purposes only in ***Appendix 2.*** General views of the Subject Site and surroundings are shown in ***Photographs 1*** through ***8***.

3.3 CURRENT USE OF THE PROPERTY

The Subject Property is undeveloped and presently does not have a specific use.

3.4 DESCRIPTION OF STRUCTURES, ROADS, AND OTHER IMPROVEMENTS ON THE SITE

A summary of the main structures and improvements observed at the Site was included in *Sections 3.2* above.

3.5 CURRENT USE OF ADJOINING PROPERTIES

The following are the properties adjoining the Subject Property and their respective uses.

North: Irrigation channel and further north the Vista del Sol residential development
East: Paseos Brisas del mar residential development

West: Undeveloped land
South: Undeveloped land

During our site reconnaissance, a visual inspection of the adjoining properties from the Subject property limits was conducted. Based upon our site observations *no* evident accumulations, releases, threat of releases of hazardous or petroleum products were observed at the adjoining properties boundaries that could represent an environmental concern for the Subject Property. However, we note that no access to the adjoining properties was available during the site reconnaissance.

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4.0 USER PROVIDED INFORMATION

4.1 TITLE RECORDS

No title study was provided for our review. A legal description of the Subject Property, as included in the title study, is presented in *Section 3.1* of this report.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATION

In Puerto Rico claims against the title of the property and property restrictions including environmental liens and Activity And Use limitations are available from the Property Registrar's office part of the Puerto Rico Department of Justice. As part of the *User's Responsibilities*, GDC as the user, must inform CES if environmental liens/AULs exists at the Subject Property.

CES does not need to review, assess, or otherwise evaluate the land title records or the user's conclusions as to whether AULs or environmental liens were identified. The environmental professional only needs to identify whether they received land title records from the user and whether the user identified AULs or environmental liens.

GDC as the user, did not report to us any environmental liens or Activity and Use Limitations (AULs) associated with the Subject Property. In addition, GDC in its response to the User Questionnaire indicated that GDC is *unaware* of any environmental cleanup liens against the Subject Property.

4.3 SPECIALIZED KNOWLEDGE

According to information provided by GDC in its response to the User Questionnaire, GDC does *not* have specialized knowledge information related to conditions, events, and/or activities at the Subject Property that could constitute environmental concerns or issues to the Subject Property.

4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

Based upon information provided by GDC in their response to the User Questionnaire, GDC is *not* aware of any commonly known or reasonably ascertainable information about the Property that is material to recognized environmental conditions in connection with the Property.

4.5 VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

According to information provided by GDC in its response to the User Questionnaire, GDC is *not* aware of any environmental issues that would affect the present value of the property.

4.6 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

- Owner of Subject Property: Kartik SE
Calle Chile No.253, Apt. 12C
San Juan, Puerto Rico, 00917
Tel: 787-607-1951
- Occupant Information: Same as Owner
- Property Manager: Same as owner

4.7 REASON FOR PERFORMING PHASE I

According to information provided to CES, this Phase I was performed as part of a potential Low-Income Housing Tax Credit (LIHTC) 125-unit residential complex construction project.

This practice is intended to permit a user to satisfy one of the requirements to qualify for the *innocent landowner*, *contiguous property owner*, or *bonafide prospective purchaser* limitations on CERCLA liability (*land owner liability protection of LLPs*): that is, the practice constitutes all

appropriate inquiry into the previous ownership and uses of the property consistent with good commercial and customary practice, as defined by 42 U.S.C.§9601(35)(B).

4.8 OTHER INFORMATION

Other than the documents and information discussed in this report, no additional user information was provided to CES by the user during the preparation of this Phase I.

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5.0 RECORDS REVIEW

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

CES reviewed Federal and Commonwealth environmental regulatory agency lists, prepared by ERIS and/or provided by the EPA, DNER, and Solid Waste Management Agency (SWMA). A copy of the ERIS report and databases obtained are included in PDF format in ***Appendix 5*** of this Phase I report.

The information obtained during our site visit, and published information were reviewed and evaluated in relation to principal environmental regulations that may expose site owners and/or operators to potential liabilities. Our regulatory review findings are presented in the following subsections of this report.

5.1.1 Resource Conservation & Recovery Information System (RCRIS)

Hazardous solid wastes are regulated by the Puerto Rico Regulation for the Control of Hazardous Wastes, as well as by the Federal Resource Conservation and Recovery Act (RCRA), Subtitle C. RCRA regulates the management of hazardous wastes including its generation, transportation, and treatment/storage/disposal (T/S/D). The US Environmental Protection Agency (EPA) catalogs and compiles lists of facilities that are regulated under the RCRA Subtitle C and makes these available through the RCRA Information System (RCRIS).

- According to the ERIS the site is not listed as a RCRA hazardous waste generator.
- According to the ERIS there are no adjoining facilities listed as RCRA generators.
- There are no facilities located within a *one-mile radius* of the Site, listed as Corrective Action (CORRACT) TSD facilities.
- There are no facilities located within *one half-mile radius* of the Site listed as Non-CORRACTS TSD facilities.

5.1.2 Superfund Enterprise Management System (SEMS)

The Superfund Enterprise Management System (SEMS) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

The Superfund Enterprise Management System (SEMS-ARCHIVE) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that based upon available information, the location is not judged to be potential NPL site.

A review of the Federal Facility and SEMS database revealed the following:

- The site is *not* listed as a FEDERAL FACILITY or SEMS site.
- There are no SEMS sites listed *within a one-half mile radius* of the subject site.

- There are *no* facilities listed as FEDERAL FACILITY sites *within a one-half mile radius* of the subject site.
- There are no facilities listed as a SEMS-ARCHIVE sites *within a one-half mile radius* of the Subject Site.

5.1.3 National Priorities List (NPL)

CERCLA established the NPL or federal superfund sites list**.** These are contaminated facilities to which the EPA has assigned a high ranking in terms of their potential health effects. The CERCLIS database also includes NPL sites. A review of the CERCLIS database indicated the following:

- The subject site is *not* on the NPL.
- There are *no* NPL sites located within a *one-mile radius* of the site.
- There are *no* delisted NPL sites located within a *one-half-mile radius* of the site.

5.1.4 Emergency Response Notification System (ERNS)

The ERNS is a list of hazardous material spills reported to various state and federal agencies. Our review of the ERNS report found that the subject property is *not* listed in the ERNS.

5.1.5 Petroleum Underground Storage Tanks (USTs) List

Petroleum USTs are subject to regulation under RCRA Subtitle I, which is administered by the Puerto Rico Natural and Environmental Resources (DNER) (formerly the Environmental Quality Board (EQB)). CES utilizes ERIS as an environmental database. ERIS in turn obtains USTs and LUSTs information from the DNER UST Program Inventory. CES reviewed the ERIS database as well as the PR DNER USTs/LUSTs inventory, including the Puerto Rico planning board database (http://gis.jp.pr.gov/itr/) which provides spatial coordinates for UST and LUST facilities.

A review of the DNER UST Registration List indicated the following:

- According to the ERIS the subject site is not listed as a registered UST facility.
- There are no adjoining facilities listed as registered UST facilities.

The identification of the USTs facilities was based on the addresses included in the DNER UST List and our understanding of the general site area. USTs facilities that were listed with an incorrect or incomplete address might have not been able to be properly located.

5.1.6 Leaking Underground Storage Tanks (LUSTs) List

The DNER LUST list identifies known releases and other information (i.e. closure report submittals, performance of integrity tests, etc.) by facility. CES utilizes ERIS as an environmental database. ERIS in turn obtains USTs and LUSTs information from the Puerto Rico DNER UST Program Inventory. CES reviewed the ERIS database as well as the PR DNER USTs/LUSTs inventory, including Puerto Rico planning board database (http://gis.jp.pr.gov/itr/) which provides spatial coordinates for UST and LUST facilities.

A review of the DNER LUST list revealed that:

- The Site is not listed in the DNER LUST list.
- The following LUST facility is listed within a one-half mile radius of the Subject Site:

    - Central Machete with DNER Id. No. 98-0062 located at the Carr. 744 Final, Guayama. This facility is located approximately 0.50 miles to the southeast of the site. This facility was released by the DNER on February 7, 2002.

The identification of the LUSTs facilities was based on the addresses included in the DNER LUST List and our understanding of the general site area. LUSTs facilities that were listed with an incorrect or incomplete address might have not been able to be properly located.

5.1.7 Solid Waste Landfills

The PR SWMA has compiled a list of known active landfills on the island. Based upon this list and our site visit observations:

- There are *no* registered state landfill and/or solid waste disposal sites located *within a one half-mile radius* of the Site.
- *No* obvious signs of present landfill activity were observed at the Site.

5.1.8 Federal, State, and Tribal Institutional Control/Engineering Control Registries

The Federal, State and Tribal Institutional Control/Engineering Control Registries (ICECR) are registries of sites or facilities listed as having legal or physical restrictions or limitations on the use of, or access to the site or facility: (1) to reduce or eliminate potential exposure to *hazardous substances* or *petroleum products* in the soil or ground water on the *property*, or (2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include institutional and/or engineering controls, are intended to prevent adverse impacts to individuals or populations that may be exposed to *hazardous substances* and *petroleum products* in the soil or groundwater on the property.

Our review of the ERIS report indicates that at the time of the preparation of this report, the site was *not* listed in the Federal, State, and Tribal Institutional Control/Engineering Control Registries.

5.1.9 Facility Index System

The Facility Index System (FINDS) contains both facility information and '*pointers*' to other sources that contain more detail. ERIS includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET

(Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Our review of the FINDS list indicates that the site is not listed in the FINDS database.

5.1.10 Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program. However, ICIS is a secure system only available to EPA and state users. The public should use the Enforcement and Compliance History Online (ECHO). ECHO is a Web-based tool that provides public users with compliance monitoring and enforcement data.

Our review of the ERIS report indicates that at the time of the preparation of this report, the site was not listed in the ICIS or ECHO databases.

5.1.11 State and Tribal Brownfield Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields

grant recipients on Brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions.

Our review of the US Brownfields sites database indicates that:

- The subject site is *not* listed in this database
- There are *no* Brownfield sites located with *one-half mile radius* from the site.

5.2 ADDITIONAL ENVIRONMENTAL RECORD SOURCES

As required by the ASTM E1527-21 Standard if the Subject Property or any of the adjoining properties is identified on one or more of the standard environmental record sources, pertinent regulatory files and/or records associated with the listing should be reviewed. Neither the site or any adjoining property is listed in the reviewed databases. To further evaluate if the site might be included in other EPA databases, we reviewed the information included in the EPA FRS.

Our review of this information is presented in the following sections.

5.2.1 EPA Facility Registry Service (FRS)

The EPA Facility Registry Service allows citizens to retrieve a list of facilities registered with EPA, by conducting a database search with user defined search criteria. EPA FRS is part of the EPA EnviroFacts database system, which is a single point of access to select U.S. EPA environmental data. The website provides access to several EPA databases to provide with information about environmental activities that may affect air, water, and land anywhere in the United States.

Our review of the EPA FRS report found that:

- The Subject Property was not listed in the FRS report.
- There are no adjoining facilities listed in the FRS database.

The EPA FRS database reports reviewed for this report is included in ***Appendix 6.***

5.3 PHYSICAL SETTING SOURCES

Physical setting sources provide information about the geologic, hydrogeologic, hydrologic, or topographic characteristics of a site.

5.3.1 USGS Topographic Map

According to the Topographic Map of the Guayama Quadrangle, the elevation at the Site is approximately 30 meters above mean sea level (MSL). The closest surface water body to the Site is the Caribbean Sea located approximately 0.97 miles to the south of the site. The Patillas irrigation channel is located bounding the site on the north. However, this is a channel is managed by PREPA and no areas of the project drain into the channel.

5.3.2 USGS Geologic Map

According to the Hydrogeologic Map of Puerto Rico and Adjacent Islands, the site geology is described as: Alluvial Deposits. This formation is described as sand, silt clay and gravel floodplain and terrace deposits and piedmont fan deposits; also includes colluvium at margins of alluvial deposits. Yield variable, depending on thickness and grain size. Contain large quantities of water and have large yield in fans on south coastal plains where deposits are thickest and are recharged readily from surface water sources. Wells in thick gravel beds yield as much as 4,000 gpm. Yield

large volumes of water in some valleys along larger streams. Water usually is hard but otherwise suitable for most purposes.

5.3.3 USDA NRCS Soil Survey

According to the Soil Survey Map of the Humacao Area, the site soils have classified as Vives Silty Clay loam. The Vives component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on alluvial fans on coastal plains, terraces on coastal plains. The parent material consists of fine and moderately fine textured sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Non-irrigated land capability classification is 2c. This soil does not meet hydric criteria.

5.3.4 USGS Atlas of Ground-Water Resources and Aquifer Systems

According to the Atlas of Ground-Water Resources in Puerto Rico and the US Virgin Islands, ground water levels in the Santa Isabel-Patillas region range from 150 to 200 feet above mean sea level near the bedrock-alluvial contact to a few feet above mean sea level near the coast. Accordingly, ground-water flows seaward. Where confined conditions occur, ground-water levels may be as high as 10 feet above land surface (Vicente Quiñones-Aponte, U.S. Geological Survey, oral communication, 1987). Ground-water levels may fluctuate as much as 10 feet as a result of seasonal changes. Sources of aquifer recharge may vary throughout the region. Seepage from rivers and irrigation canals represent the major source of ground-water recharge. Aquifer recharge from precipitation represents only about 10 percent of the mean annual rainfall in the region (Vicente Quiñones-Aponte, U.S. Geological Survey, oral communication, 1987). In the Patillas to Salinas region, aquifer recharge depends primarily on conveyance losses from water diverted from

Lago Guamaní and Lago Carite through the Canal de Guamaní and Canal de Patillas. In general, ground-water discharges to streams in the upland areas and near the coast.

According to "Principal aquifers of Puerto Rico and the U.S. Virgin Islands" by Robert A. Renken, January 11, 1998, U.S. Geological Survey, the Subject Site is located overlying an unconsolidated sand and gravel aquifer part of the South Coast Aquifer system.

The groundwater flow direction was not determined during this assessment. Based on a review of surficial topography at the property and in the vicinity and assuming that groundwater conditions are uniform, the local groundwater flow at the project area is expected to move in a southward direction toward the Caribbean Sea. Based upon the site topography setting the groundwater underlying the site is expected to be deeper than 20 ft-bgs.

The depth and gradient of the water table likely varies seasonally with changes in precipitation and may change significantly over time in response to development, including impervious surfaces, storm water controls, and pumping wells (domestic, industrial or irrigation). Based upon our experience during other groundwater investigations conducted at similar areas in Puerto Rico, it is not uncommon to encountered perched or local groundwater conditions in which the groundwater flow direction may be different from the expect and regional groundwater flow direction.

5.3.5 Flooding Conditions

According to the FEMA Flood Insurance Rate Map 72000C2130J (April 13, 2018) the site is located outside the 500-year flood limit (0.2 % annual chance).

5.3.6 Wetlands

Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include filling for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States unless the activity is exempt from Section 404 regulation (e.g. certain farming and forestry activities).

To verify if the proposed project area, may be located within regulated wetlands, CES evaluated the National Wetlands Inventory (NWI) established by the US Fish and Wildlife Service (FWS). The NWI was developed to conduct a nationwide inventory of U.S. wetlands to provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts. To do this, the NWI developed a wetland classification system (Cowardin et al. 1979) that is now the official FWS wetland classification system and the Federal standard for wetland classification (adopted by the Federal Geographic Data Committee on July 29, 1996: 61 Federal Register 39465).

The NWI also developed techniques for mapping and recording the inventory findings. The NWI relies on trained image analysts to identify and classify wetlands and deep-water habitats from aerial imagery. As computerized mapping and geospatial technology evolved, NWI discontinued production of paper maps in favor of distributing data via online "mapping tools" where information can be viewed and downloaded. Today, FWS serves its data via an on-line data discovery "Wetlands Mapper". GIS users can access wetlands data through an online wetland mapping service or download data for various applications (maps, data analyses, and reports).

According to the US Fish and Wildlife Services national wetland inventory map, no wetlands are located within the Subject Property. During our site reconnaissance, we did not observe evidence of wetlands like vegetation within the Subject Property boundaries.

5.4 HISTORICAL USE INFORMATION ON THE SUBJECT PROPERTY AND ADJOINING PROPERTIES

This report describes, to the extent possible, all identified uses, and justifies the earliest date identified for the subject property's first developed use, or back to 1940, whichever is earlier (for example, records showed no development of the subject property prior to the specific date).

According to the ASTM Standard, the following standard historical resources shall be reviewed if, based on the judgment of the environmental professional, they are reasonably ascertainable, likely to be useful, and applicable to the subject property: (1) aerial photographs, (2) fire insurance maps, (3) local street directories, and (4) historical topographic maps. In cases in which any of the preceding four standard historical resources are not reviewed, the environmental professional shall indicate in the report why such a review was not conducted.

In addition, the Property Tax Files obtained from Centro de Recaudaciones de Ingresos Municipales (CRIM) database, https://catastro.crimpr.net/cdprpc/, and use permits and Zoning/Land Use Records obtained from the Puerto Rico Planning Board online database (http://gis.jp.pr.gov/itr/), were review (if available).

According to the Sanborn Fire Insurance Maps Online Checklist published by the Sanborn Map Company, the maps are based upon the Library's 1981 publication Fire Insurance Maps in the Library of Congress. The online presentation includes entries from all 50 United States, as well as Canada, Mexico, Cuba sugar warehouses, and U.S. whiskey warehouses. However, Puerto Rico is not included in this database. Therefore, the review of Sanborn fire insurance maps was considered not reasonably ascertainable and was not included as part of this Phase I.

According to the Library of the U.S. Congress (https://www.loc.gov/rr/genealogy/bib_guid/telephon.html), there are no current city directories for many major U.S. cities. It is our experience that there is no local street directories centralized digital record for Puerto Rico. Therefore, the review of city directories was considered not reasonably ascertainable and was not included as part of this Phase I.

5.4.1 Historical aerial photographs

In the 1937 photograph the subject site and surrounding areas are observed undeveloped and likely used for agricultural purposes. In this photograph the Patillas irrigation channel is observed constructed to the north of the site.

In the 1951 photograph the subject site and surrounding areas are observed similar to those observed in the 1937 photograph. What appears to be irrigation channels are observed within the subject site. The site use at this time was likely agricultural.

In the 1963 photograph the subject site and surrounding areas are observed similar to those observed in the 1951 photograph. The site use at this time was likely agricultural.

In the 1977 photograph the site and surrounding areas are observed similar to those observed in the 1963 photograph. The site use at this time was likely agricultural.

In the 1985 the subject site and surrounding areas are observed similar to those observed in the 1977 photograph. The site use at this time was likely agricultural.

In the 1993 Google® Earth photograph the subject site and surrounding areas are observed similar to those observed in the 1985 photograph. The site use at this time was likely agricultural.

In the 2004 Google® Earth photograph the subject site is observed undeveloped. The drainage channels within the site appear to have been abandoned. At this time the the agricultural activities at the site had been discontinued. However, the drainage channel observed at the northern portion of the site appears to be in the construction stages. This channel appears to discharge into a retention pond located approximately 0.15 miles to the southwest of the site. The site surrounding conditions are observed similar to those observed in the 1993 photograph. However, increased residential developments are observed to the northwest and east of the site.

In the 2006 Google® Earth photograph the site is observed undeveloped and covered with vegetation. The site surroundings are observed undeveloped except for the Vista del Sol residential development that is observed constructed to the north of the site.

In the 2013 Google® Earth photograph the site is observed undeveloped and covered with vegetation. The site surroundings are observed undeveloped except for the Vista del Sol residential development and the Paseos Brisas del Mar development, observed constructed to the north and east of the site, respectively.

In the 2015 Google® Earth photograph the site and surrounding conditions are similar to those observed in the 2013 photograph. The site is observed undeveloped.

In the 2023 Google® Earth photograph site and surrounding conditions appear very similar to those observed at the time of the site visit.

5.4.2 Historical USGS Topographic Maps

In the 1946 *Topographic Map* the site and surrounding areas are observed undeveloped, likely used for agricultural purposes.

In the 1970 (rev 1982) *Topographic Map* the Subject Property is observed undeveloped.

In the 2018 *Topographic Map,* the Subject Property is observed undeveloped.

5.4.3 Puerto Rico Planning Board Listed Uses and Permits

According to the Puerto Rico Planning Board online database **(**http://gis.jp.pr.gov/itr/), the following uses and permits are listed for the Subject Property and adjoining properties:

Property	Listed Permits Description
Subject Property	• 123 UNIDADES DE VIVIENDA UNIFAMILIAR • CONSTRUCCIÓN DE 123 UNIDADES DE VIVIENDA UNIFAMILIAR DE INTERES SOCIAL LOCALIZADO EN LA PR-54 KM. 0.... • CONSTRUCCIÓN DE 5 UNIDADES DE VIVIENDA • SISTEMA FOTOVOLTÁICO PARA RESIDENCIAS DE ALQUILER DE INTERÉS SOCIAL BRISAS DEL MAR VILLAGE EN BARRIO...
Adjoining Property Northeast	• No Information provided
Adjoining Property Northwest	• No information provided
Adjoining Property South	• Residencial Unifamiliar (Acuarelas Guayama LLC) • SOLICITUD ESTUDIO DE CAMPO PARA LA INSTALACION DE UNA SUBESTACION ELECTRICA DE 300KVA PARA USO AGRICOLA • SIEMBRA DE GRAMA
Adjoining Property southeast	• Same as South
Adjoining Property northeast	• No information provided
Adjoining Property West	• No information provided

5.4.4 Puerto Rico Property Municipal Tax Files

According to the CRIM database, https://catastro.crimpr.net/cdprpc/, the Subject Property and adjoining properties' cadastral identification numbers are:

Cadastral Identification	Owner	Previous Owner	Transaction Date
442-000-001-47-000 (Subject Property)	Kartik SE	No Information provided	No Information provided
442-002-626-01-000 (North East Adjoining Property)	Pontific Catholic University of PR	Kartik SE	8/5/2004
442-000-002-19-000 (South Adjoining Property)	-Autoridad de Tierras de PR -Osvaldo Santiago Arocho	-No information available -Ramon Guzman Correa	-No information available -7/30/2021
442-000-002-19-000 (East Adjoining Property)	-Autoridad de Tierras de PR -Osvaldo Santiago Arocho	-No information available -Ramon Guzman Correa	-No information available -7/30/2021
442-000-001-46-000 (West Adjoining Property)	Guayama Solar Farm Corporation	Kartik	1/3/2012

5.4.5 Land Use

According to the Puerto Rico Planning Board Zone Maps, the Subject Site area is classified as: "Residencial Intermedio" (R-I).

5.4.6 Historic Profile Interview

Interviews with one or more persons knowledgeable about the past use of the Subject Property, Adjoining Properties, or surrounding area may provide information about the past uses of the subject property and adjoining properties.

During the preparation of this report, Mr. Burgos, as the designated owner representative was interviewed. Mr. Burgos has known the property for many years. Based on the information obtained, the Subject Property has always been undeveloped.

5.4.7 Historical Uses Summary

In summary, the historical records available to CES indicate that the subject site has been undeveloped since at least 1937. It is likely that the site was used for agricultural purposes until at least 1985. According to Mr. Burgos the site has always been undeveloped.

We note that although there are gaps of greater than 5 years in the historical review of the Subject Property, during those gaps the subject property appears unchanged. Therefore, we understand that this gap *should not* represent a significant concern or gap for the Subject Property.

5.5 FIRE DEPARTMENT FILES REVIEW

In Puerto Rico, the DNER is the state agency that holds records regarding fuel tanks, hazardous materials, incidents, spills, violations or petroleum/chemical releases that can represent potential environmental concerns. Other departments, such as the Fire and Police departments, Planning Department and others typically do not contain information that are associated with environmental concerns that could be of use for the preparation of the Phase I report. According to the *Cuerpo de Bomberos de PR* (PR Fire Department) this agency does not maintain a digital record of environmental emergencies for individual facilities. They maintain a record of emergencies and activities that they conduct based on the date of occurrence of the incident. They do not keep records that would make reference to the location of the properties or the geographic area where the properties are located. Therefore, for purpose of the preparation of this Phase I such records are considered not practically reviewable.

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6.0 SITE RECONNAISSANCE

6.1 METHODOLOGY AND LIMITING CONDITIONS

A visual reconnaissance of the Subject Property and surrounding areas was performed by engineers Raúl Colón and Luis R. Colón Morales of CES on March 24, 2023. A second visit was conducted by Eng, Raul Colón on April 26, 2023. CES observed accessible areas of the Subject Property to assess obvious visual indications of present or past activities or conditions that have or could have impacted the Subject Property.

The method used to observe the Subject Property consisted of walking along property perimeter boundaries and within the property limits. Site settings and conditions were documented with photographs as appropriate.

6.2 GENERAL SITE SETTING

At the time of CES visits, the subject site was observed to be an undeveloped land parcel covered with vegetation. Additional information and description of the Site's setting, characteristics, uses, and improvements are included in *Sections 3.2* of this report. A Site Sketch, showing the Site's features, general settings, and surroundings is provided as ***Appendix 2***.

6.3 EXTERIOR AND INTERIOR OBSERVATIONS

The following sections describe observations made by CES personnel during the Site reconnaissance.

6.3.1 Water and Wastewater

At the time of the site reconnaissance the Subject Site was not provided with potable water and wastewater infrastructure. According to our site observations, the water and wastewater services for the surrounding areas are provided by the Puerto Rico Aqueduct and Sewer Authority (PRASA). Sanitary manholes were observed along the access road to the Paseos Brisas del Mar development ***(Photograph 9).*** What appears to be sanitary manholes were observed inside the project area ***(Photograph 10).*** According to the owner these manholes were installed as part of a site development that was postponed several years ago.

6.3.2 Toxic Substances

6.3.2.1 Polychlorinated Biphenyl's

Prior to the 1979, PCBs entered the environment during their manufacture and use in the United States. Today PCBs can still be released into the environment from poorly maintained hazardous waste sites that contain PCBs, illegal or improper dumping of PCB wastes, leaks or releases from electrical transformers and hydraulic equipment containing PCBs and hydraulic equipment, and disposal of PCB-containing consumer products into municipal or other landfills not designed to handle hazardous waste. PCBs may also be released into the environment by the burning of some wastes in municipal and industrial incinerators.

During our site reconnaissance we did not identify any electrical installations within the Subject Property.

6.3.2.2 Asbestos Containing Materials (ACM)

Building construction materials such as vinyl floor tiles (VFTs), acoustic ceiling tiles (ACTs), thermal system insulation (TSI), sprayed-on ceiling material, roofing material and others are known to have been manufactured with asbestos in the past. The scope of work of this Phase I was limited to visual observations of accessible areas and did not include the collection and laboratory analysis of bulk samples of suspect ACMs. Suspect ACMs may be present in inaccessible areas, including, but not limited to, roofs, pipe chases behind solid walls and ceilings, concealed floor coverings, interior of machinery or equipment, and water or sewer systems.

No suspect ACM materials were observed as no structures are located within the Subject Property.

6.3.2.3 Lead Based Paint (LBP)

Buildings constructed before 1978, are known to have been painted with lead-based paint. Lead from paint, chips, and dust can pose serious health hazards if not taken care of properly. No structures are located at the site. Therefore, no suspect LBP was identified at the Subject Property.

6.3.3 Non-Hazardous Solid Wastes

At the time of our site reconnaissance no generation of non-hazardous wastes was observed at the site. However, what appears to be illegal garbage and debris dumping was observed at several areas of the property ***(Photograph 11)***. According to the owner, these are unauthorized dumping by unknown individuals. The accumulations were observed to be relatively limited in extent.

6.3.4 Hazardous Wastes

According to our site observations no hazardous wastes generation or storage was observed at the site. According to the owner, no hazardous wastes have been generated or managed at the Subject Property.

6.3.5 Aboveground Storage Tanks (ASTs)

At the time of the site reconnaissance, no AST installations were observed at the Subject Property.

6.3.6 Underground Storage Tanks (USTs)

During our site visit no visual evidence of USTs were observed at the site. According to Mr. Burgos, no USTs have been operated at the Subject Property.

6.3.7 Air Emission Sources

At the time of the site reconnaissance, no air emissions sources were observed at the Subject Property.

6.3.8 Underground Injection Control (UIC) Units

During our site visit no visual evidence of UIC units were observed at the site. According to Mr. Burgos, no UIC units have been operated at the Subject Property.

6.3.9 Drums

At the time of the site reconnaissance no drums with chemicals were observed within the Subject Property.

6.3.10 Miscellaneous Containers with Chemicals, Petroleum and Unknown Products

At the time of the site reconnaissance no containers with chemicals were observed at the Subject Property.

6.3.11 Sumps/Pools of Liquid

At the time of the site visit no sumps or pools with liquids were observed at the Subject Property.

6.3.12 Odors

No foul odors were perceived at the Site during the site reconnaissance's.

6.3.13 Areas of Stained Floor, Vegetation, Concrete Floor and/or Pavement

During the Site reconnaissance no areas of stressed vegetation, stained concrete floors or stained pavement were observed at the Subject Property.

6.3.14 Pits, Ponds, and Lagoons

At the time of the site reconnaissance, CES *did not* observed any pits, ponds or lagoons at the Subject Property.

6.3.15 Stains or Corrosion

During the Site reconnaissance, *no* areas of building stains or corrosion were observed at the Subject Property.

6.3.16 Wells

At the time of the site reconnaissance, CES *did not* observe groundwater extraction wells at the Subject Property. According to Mr. Burgos no groundwater wells are located at the Subject Property.

6.3.17 Used Oil

At the time of the site reconnaissance, CES did not observe the generation or storage of used oil at the Subject Property. According to Mr. Burgos no used oil have been generated or stored at the Subject Property.

6.3.18 Per- and Polyfluoroalkyl (PFAS)

According to EPA information, PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. These are manufactured chemicals that have been used for more than 50 years. There are thousands of PFAS chemicals, and they are found in many different consumer, commercial, and industrial products (https://www.epa.gov/pfas). However, presently these chemicals are not listed as hazardous substances under CERCLA. We note that presently Puerto Rico does not have any regulations or guidance related to PFAS impacts or assessment requirements.

PFASs have been used to provide water, oil, and stain repellency to textiles, carpets, and leather; to create grease-proof and water-proof coatings for paper plates and food packaging; and to aid processing in fluoropolymer manufacturing among many other commercial and consumer applications. They also have been used in chrome plating, firefighting foams, liquid carpet and textile care treatments, and floor waxes and sealants (CECBP 2015).

PFAS chemicals have been widely used, among others, by the following industries:

- Aviation, aerospace & defense
- Household products
- Biocides
- Metal plating
- Cable & wiring
- Oil and mining production
- Construction products (paints and coatings)
- Paper and packaging
- Electronics
- Polymerization
- Fire-fighting
- Textiles, leather and apparel
- Food processing

The manufacture, use, and disposal of items from these industries can contribute to PFAS environmental occurrence. Additional information on potential commercial sources can be found in UNEP (2015), which provides in-depth information on the kinds of articles that might contain PFOS and related chemicals; lists the industries that use and produce the chemicals; describes the supply chain (suppliers, importers and exporters, producers, manufacturers, downstream users); and discusses product end-of-life and recycling relevant to waste, stockpiles, and contaminated sites.

Water resources (i.e., surface water and groundwater) are susceptible to contamination by PFAS release from manufacturing sites, industrial use, aircraft fire and emergency response training

areas, and industrial or municipal waste sites where products are disposed of or applied. PFOA and other PFASs have been reported in wastewater and biosolids as a result of manufacturing activities, disposal of coated paper and other consumer products, and from washing stain-repellant fabrics (https://clu-in.org/contaminantfocus/default.focus/sec/Per-_and_Polyfluoroalkyl_Substances_(PFASs)/cat/Occurrence/).

According to the information provided by Mr. Burgos, the disposal of PFAS within the subject property appears unlikely.

6.3.19 Heating/Cooling

The climate of Puerto Rico falls into the tropical climatic zone. Temperatures are moderate year-round, averaging near 80 °F (27 °C) in lower elevations and 70 °F (21 °C) in the mountains, for this reason no heating of the buildings is required. Cooling is typically provided by electrical cooling systems that do not require fuel (oil/gas) sources that may have been stored in aboveground or underground storage tanks.

6.4 NON-SCOPE CONSIDERATIONS

No considerations outside the scope of the ASTM E1527-21 practice and the AAI Standards were assessed as part of this Phase I except for the general information provided for the following issues:

- Asbestos Containing Building Materials
- Lead-based paint
- Limited Regulatory Compliance observations
- PFAS
- Wetlands

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7.0 INTERVIEWS

7.1 INTERVIEW WITH OWNER

On April 26, 2023, CES conducted a telephone interview with Mr. Carlos Burgos, designated owner representative. During the interview, Mr. Burgos was questioned in relation to the following environmental concerns: (1) any pending, threatened or past litigation relevant to hazardous substances or petroleum products in, on or from the property or vicinity; (2) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the property or vicinity; and (3) any notices from any governmental entity regarding any possible violations of environmental laws or possible liability relating to hazardous substances or petroleum products in connection with the subject property or its surroundings.

Mr. Burgos stated that he does not have knowledge of any environmental concerns associated with the Subject Property.

7.2 INTERVIEW WITH SITE OCCUPANTS

See Section 7.1

7.3 INTERVIEW WITH SITE MANAGER

Same as *Section 7.1*.

7.4 INTERVIEW WITH GOVERNMENT OFFICIALS

On March 21, 2023, CES submitted a letter to the DNER's inquiring on spills or environmental emergencies reported for the Sites, or assessments conducted at the Sites or nearby areas. On

March 23, 2023 the DNER responded indicating that their file review does not indicate any environmental investigations associated with any environmental emergency or accidents.

7.5 INTERVIEW WITH OTHERS

No other personnel was interviewed as part of this Phase I investigation.

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8.0 FINDINGS AND OPINIONS

Based on the findings of our Phase I of the subject property, we offer the following comments and opinions relative to potential environmental concerns:

8.1 ON-SITE FINDINGS

- **Non-Hazardous Wastes**

  At the time of our site reconnaissance no generation of non-hazardous wastes was observed at the site. However, what appears to be illegal garbage and debris dumping was observed at several areas of the property. According to the owner, these are unauthorized dumping by unknown individuals. The accumulations were observed to be relatively limited in extent.

  Based upon our site observations and the information provided by the owner, the generation and storage of non-hazardous wastes ***should not represent*** a REC for the subject site. However, until these wastes are properly removed from the site and disposed-of, they ***should represent*** a Business Environmental Risk (BER) for the subject site.

- **Per- and Polyfluoroalkyl (PFAS)**

  According to EPA information, PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. These are manufactured chemicals that have been used for more than 50 years. There are thousands of PFAS chemicals, and they are found in many different consumer, commercial, and industrial products (https://www.epa.gov/pfas). However, presently these chemicals are not listed as hazardous substances under CERCLA. We note that presently Puerto Rico does not have any regulations or guidance related to PFAS impacts or assessment requirements.

  PFASs have been used to provide water, oil, and stain repellency to textiles, carpets, and leather; to create grease-proof and water-proof coatings for paper plates and food packaging; and to aid processing in fluoropolymer manufacturing among many other commercial and consumer applications. They also have been used in chrome plating, firefighting foams, liquid carpet and textile care treatments, and floor waxes and sealants (CECBP 2015).

According to the information provided to us the disposal of PFAS at the subject property appears unlikely. Therefore, the potential impacts of PFAS at the Subject Property ***should not represent*** a REC for the Subject Property.

8.2 OFF-SITE FINDINGS

- **LUST Facilities**

The following LUST facility is listed within a one-half mile radius of the Subject Site:

- Central Machete with DNER Id. No. 98-0062 located at the Carr. 744 Final, Guayama. This facility is located approximately 0.50 miles to the southeast of the site. This facility was released by the DNER on February 7, 2002

Based upon the hydrogeologic setting of the area this facility is expected to be located down-gradient from the subject site. Therefore, based upon the hydrogeology of the area and the distance from the subject site this LUST site ***should not represent*** a REC for the site.

Our opinion regarding the potential concern that these off-sites facilities may represent for the subject property is based upon our understanding of the general geologic and hydrogeologic setting of the area where these facilities are located and the distance from these facilities to the Subject Site. We note that even if there is the potential that contaminants from the above-mentioned off-sites facilities have reached groundwater or vapors underlying the subject site, information contained in EPA's Final Policy Toward Owners of Property Containing Contaminated Aquifers (60 FR 34790, July 3, 1995), provides ways to manage such unlikely scenario. In general, this policy states that the EPA will not take enforcement action against a property owner to require clean up or the payment of clean-up costs where: (1) hazardous substances have come to the property solely as a result of subsurface migration in an aquifer from a source outside the property, (2) the landowner did not cause, contribute to, or aggravate to the source of contamination and (3) the person that caused the release is not an agent or employee of the landowner, and was not in a direct or indirect contractual relationship with the landowner. A complete copy of this EPA policy can be obtained at the EPA web-site such as (http://www2.epa.gov/enforcement/guidance-owners-property-containing-contaminated-quifers).

8.3 VAPOR MIGRATION

CES reviewed reasonably ascertainable information for the Subject Property and nearby properties limited to the standard environmental record sources discussed in Section 5.1 of this report, for

nearby release sites, and/or historical documentation, to determine if potential vapor-phase migration concerns may be present and could impact the Subject Property.

Based on the review of available resources as documented in this report, CES ***did not*** identify a REC associated with a vapor-phase migration.

9.0 DATA GAPS

According to the ASTM E1527-21, *a data gap* is defined as a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance and interviews.

During the preparation of this Phase I report, no data gaps were identified.

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10.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of an undeveloped land parcel located in Guayama. The property is located at the PR-54 Road, Km. 0.3 (Interior) within the Machete Ward of the Guayama Municipality in Puerto Rico. Presently, the property is undeveloped and covered by vegetation. Based upon the information provided by GDG, the site covers an area of approximately 59,576 square meters (15.15 "cuerdas"). Any exceptions to, or deletions from, this practice are described in *Section 2.4* of this report.

This assessment has revealed ***no recognized environmental conditions, controlled recognized environmental conditions, and/or significant data gaps*** in connection with the Subject Property.

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11.0 DEVIATIONS

This Phase I was prepared in conformance with the scope and limitations of ASTM E1527-21 Standard Practice for Environmental Site Assessments. It is CES opinion that no significant deviations have occurred from ASTM E1527-21 Standard. Limitations and exceptions to our scope of services were discussed in *Section 2.4* of this report.

12.0 ADDITIONAL SERVICES

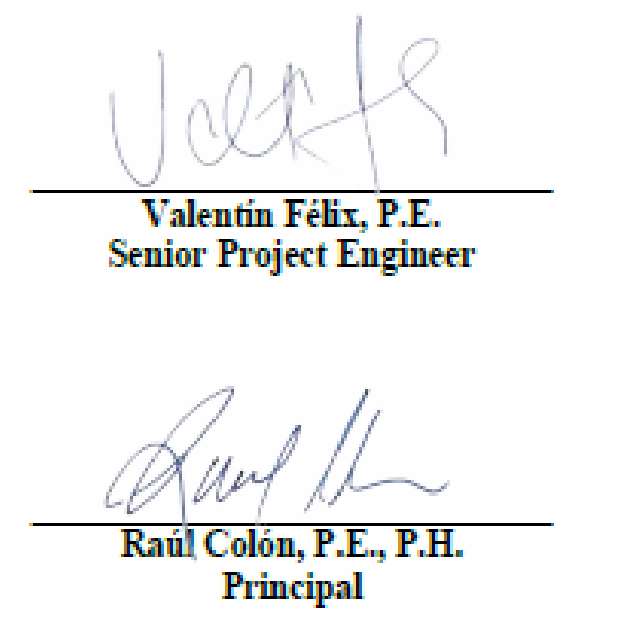
Our scope of services for this Phase I, as well as limitations and exceptions, are included in *Sections 2.2* and *2.4* of this report.

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13.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

The following personnel have prepared and/or reviewed this report for accuracy, content, and quality of presentation.

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Valentín Félix, P.E.
Senior Project Engineer

Raúl Colón, P.E., P.H.
Principal

May 19, 2023

Date

14.0 QUALIFICATION(S) OF ENVIRONMENTAL PROFESSIONAL(S)

The Phase I assessment was performed by CES personnel experienced in these types of services. The site visits, documentation review, personnel interviews, and report preparation were performed by Engineer Raúl Colón. Eng. Colón is a Professional Engineer with more than and 45 years' experience in the environmental field. In accordance with CES quality assurance protocols the Phase I report was revised by Eng. Valentín Félix, to comply with CES QA/QC Corporate policies. Mr. Félix is a licensed professional engineer with more than 40 years of environmental work experience.

The resumes of Eng. Colón and Eng. Félix are provided in ***Appendix 7*** of this report.

15.0 REFERENCES

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UNEP (2015)

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16.0 APPENDICES

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APPENDIX 1

SITE VICINITY MAP



SOURCE: USGS TOPOGRAPHIC MAP OF GUAYAMA QUADRANGLES 1970 (PHOTOREVISED 1982)

SCALE: 1:20,000

CES
Caribe Environmental Services

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
UNDEVELOPED PARCEL OF LAND
BRISAS DEL MAR VILLAGE
PR-54 ROAD, KM. 0.3 (INTERIOR)
MACHETE WARD

GUAYAMA, PUERTO RICO

SITE VICINITY MAP

PROJECT NO. 23-0017A

APPENDIX 1

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APPENDIX 2

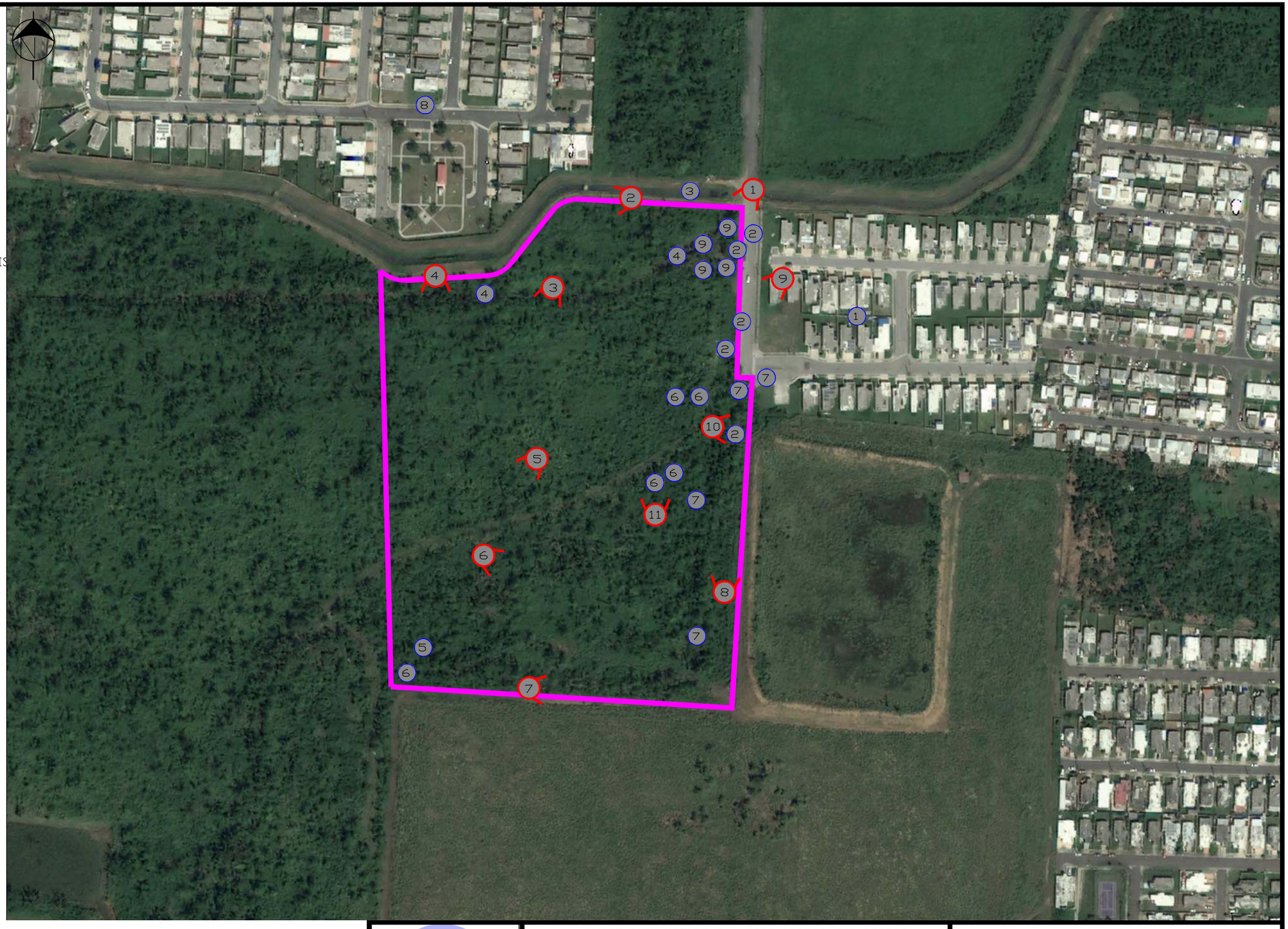
SITE SKETCH

LEGEND:

ESTIMATED PROPERTY BOUNDARY INCLUDED IN PHASE I

1 PHOTOGRAPH NUMBER AND ORIENTATION

1. PASEOS BRISAS DEL MAR
2. PRASA MANHOLES
3. IRRIGATION CHANNEL
4. ON SITE DRAINAGE CHANNEL
5. EXISTING STORM WATER SYSTEM
6. SMALL ACCUMULATION OF GARBAGE & DEBRIS
7. DRAINAGE SWALE ENTERING THE PROJECT SITE
8. VISTA DEL SOL DEVELOPMENT
9. PIPE FROM OFF SITE



NOTE:

ALL LOCATIONS SHOWN ARE APPROXIMATE AND ARE ACCOMMODATED TO FIT THIS FIGURE

SOURCE: GOOGLE EARTH PRO AERIAL PHOTOGRAPH DATED OCTOBER 31, 2017 AND SITE VISIT CONDUCTED BY CES PERSONNEL ON MARCH 24 AND 26, 2023.

NOT TO SCALE

Caribe Environmental Services

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT
UNDEVELOPED PARCEL OF LAND
BRISAS DEL MAR VILLAGE
PR-54 ROAD, KM. 0.3 (INTERIOR)
MACHETE WARD

GUAYAMA, PUERTO RICO

SITE SKETCH

PROJECT NO.
23-0017A

APPENDIX 2

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APPENDIX 3

SITE PHOTOGRAPHS

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Photograph 1: Partial view of Subject Property Eastern Portion Looking South.



Photograph 2: Partial view of Subject Property Northern Portion Looking West.



Photograph 3: Partial view of Subject Property Northern Portion Looking Southwest.



Photograph 4: Partial view of Subject Property Northern Portion Looking South.



Photograph 5: Partial view of Subject Property Central Portion Looking Southwest.



Photograph 6: Partial view of Subject Property Central Portion Looking East.

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Photograph 7: Partial view of Subject Property Southern Portion Looking East



Photograph 8: Partial view of Subject Property Eastern Portion Looking North.



Photograph 9: PRASA Manhole along the Access Road East of the Subject Property.



Photograph 10: One of several manholes inside the property.

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Photograph 11: Garbage accumulation within the property.

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APPENDIX 4

COPY OF THE TITLE STUDY

CONTRATO DE OPCIÓN DE COMPRAVENTA

Este Contrato de Opción de Compraventa de propiedad inmueble (en adelante el "Contrato o la Opción") es suscrito en San Juan, Puerto Rico, hoy _19_ de septiembre de 2018 por y entre BV Holdings, Inc. Y KARTIK, SE.

LAS PARTES

DE LA PRIMERA PARTE:BV HOLDINGS, INC., una corporación organizada y existente al amparo de la Ley General de Corporaciones de Puerto Rico, cuyo número de registro en el Departamento de Estado de Puerto Rico es 334864, y su número de identificación patronal federal es 660816351, representada en este acto por su presidente, Carlos García Sola, mayor de edad, casado, ejecutivo y vecino de Guaynabo, Puerto Rico, en adelante el OPTANTE quien manifiesta estar autorizado a esta comparecencia mediante Certificado de Resolución Corporativa fechado el 17 de septiembre de 2018 y firmado por el Sr. Alberto García Solá, Secretario en funciones del OPTANTE.

DE LA SEGUNDA PARTE:KARTIK SE, una sociedad especial organizada y existente al amparo de las leyes del Estado Libre Asociado de Puerto Rico, representada en este acto por el señor Dilip J. Shah, mayor de edad, casado, arquitecto y vecino de San Juan, Puerto Rico; y por el señor Carlos Manuel Burgos Roca, mayor de edad, casado con capitulaciones, ingeniero y vecino de Humacao, Puerto Rico, ambos son los único socios en adelante el OPTATARIO.

EXPONEN

PRIMERO: El OPTATARIO es titular de una propiedad ubicada en Barrio Machete del término municipal de Guayama (en adelante "La Propiedad"). La Propiedad constade una parcela con una cabida de 15.1578cuerdas.La Propiedad está libre de cargas y gravámenes.Se incluye Plano de Segregación de la Propiedad preparado por el Ingeniero Francisco Pérez Blair e incluido como Anejo de este Contrato. ----------

SEGUNDO: El OPTANTE, al igual que sus oficiales, son personas dedicadas al desarrollo de proyectos de vivienda y con amplia experiencia en este campo. ----------

TERCERO: El OPTATARIO ha decidido vender la Propiedad que se describe a continuación:

---RUSTICA : PARCELA **denominado como** CINCO A (V-A) en plano de inscripci6n, de terreno de forma irregular, localizada en el Barrio Machete del término municipal de Guayama, Puerto Rico, con una cabida superficial de **CINCUENTA Y NUEVE MIL QUINIENTOS SETENTA Y SEIS PUNTO TRES MIL DOSCIENTOS TREINTA Y TRES METROS CUADRADOS(59,576.3233 M.C.)** equivalentes a **QUINCE PUNTO MIL QUINIENTOS SETENTA Y OCHO CUERDAS (15.1578CDAS.).** Colinda por el **NORTE,** con East Channel; por el **SUR** con Parcela de terreno propiedad de la Autoridad de Tierras (Finca Verdaquer y "Aurora Estate"); por el **ESTE** con Parcela de terreno denominado como "Section VI" del plano de inscripción y por **OESTE** con terreno denominado como Remanente en el Plano de Inscripción.----------

CUARTO: La venta planificada por el OPTATARIO y objeto de este Contrato incluye, además de la Propiedad, todos los derechos del OPTATARIO en los planos, endosos, permisos, pago de exacciones de impacto y estudios técnicos periciales realizados como requisitos al desarrollo del proyecto (la propiedad inmueble descrita en el párrafo anterior, sus planos, endosos, permisos, pagos a las agencias e instrumentalidades del ELA por cualquier concepto y estudios técnicos periciales en adelante conocidos en conjunto como el Proyecto). **El OPTATARIO garantiza que, como parte del Proyecto a adquirirse se incluye el derecho irrestricto de: (i) acceso a la laguna de retención localizada fuera de la Propiedad, (ii) remover material de la laguna de retención para ser utilizado como relleno en el Proyecto, y, (iii) acceso para transportar, utilizando equipo pesado, el material removido de la laguna de retención a la Propiedad.** ---------

En virtud de lo anterior, el OPTATARIO ha decidido conceder al OPTANTE una opción de compraventa del Proyecto.

Las Partes, con el beneficio de haber discutido el Contrato con sus respectivas representaciones legales y Junta de Directores, de forma libre, informada y voluntaria, pactan las siguientes Cláusulas y Condiciones:

TÉRMINOS Y CONDICIONES

PRIMERO: Precio de Compraventa del Proyecto: El precio de Compraventa del Proyecto a ser pagado por el OPTANTE al OPTATARIO, en caso del OPTANTE decidir ejercer su derecho exclusivo de opción,se divide en dos componentes principales, a saber: el precio de la Propiedad; y el reembolso de ciertos gastos incurridos por el OPTATARIO relacionados con el desarrollo del Proyecto.

El precio de compraventa aquí pactado de la Propiedad, en caso del OPTANTE ejercer su derecho exclusivo de compraventa, será de NOVECIENTOS NOVENTA Y DOS MIL DÓLARES ($992,000.00);

El total a reembolsar al OPTATARIO por gastos incurridos en el Proyecto durante su desarrollo si el OPTANTE decide ejercer su derecho exclusivo de compraventa será de OCHOCIENTOS SESENTA Y OCHO MIL DÓLARES ($868,000.00) cantidad que se compone de las siguientes partidas: pago por exacción de impacto a la AAA: $248,000.00; pago al Departamento de Recursos Naturales y Ambientales por concepto de mitigación: $30,000.00; pago por planos del *site*, estudios periciales, permisos, y endosos: $590,000.00.

Es decir, el OPTANTE, si decide ejercer su derecho exclusivo de opción, pagaría al OPTATARIO la cantidad de UN MILLÓN OCHOCIENTOS SESENTA MIL ($1,860,000.00) al momento de la compraventa.

SEGUNDO: Precio del Derecho Exclusivo de Opción de Compraventa al OPTATARIO: El OPTANTE pagará al OPTATARIO por el derecho exclusivo de Opción de Compraventa del Proyecto la cantidad de SETENTA Y CINCOMIL DÓLARES ($75,000.00) al momento de suscribir el Contrato.

TERCERO: Término del Derecho Exclusivo de Compraventa: El término del derecho exclusivo de Opción de Compraventa del OPTANTE será de doce (12) meses a partir de suscribir el Contrato.

CUARTO: Otorgación de Escritura de Compraventa: En caso que el OPTANTE decida ejercer su derecho exclusivo de Opción de Compraventa notificará al OPTATARIO su decisión por escrito y el OPTATARIO tendrá un término de diez (10) días para comparecer a otorgar la correspondiente Escritura de Compraventa para transferir la titularidad del Proyecto y entregar todos sus planos, endosos, estudios periciales y todos los otros objetos del Proyecto. Las partes entienden y aceptan que la entidad que finalmente adquiera el Proyecto será una entidad distinta pero relacionada al OPTANTE. En caso que el OPTANTE ejerza su derecho exclusivo de Opción a Compra, el OPTATARIO escogerá y pagará al notario.

SEXTO: Toda cantidad pagadapor concepto del Derecho Exclusivo de Compraventa será acreditada porel OPTATARIO al OPTANTE al precio de Compraventa del Proyecto, en caso de este ejercer su derecho exclusivo de opción de compraventa y adquirir el Proyecto.

SÉPTIMO: El OPTATARIO garantiza al OPTANTE que entregará el Proyecto libre de cargas y gravámenes de todo tipo, incluyendo, pero no limitado a: hipotecas, contribuciones de

cualquier índole, reclamos de profesionales sobre los estudios técnicos y periciales o sobre el trámite de los endosos y permisos, las agencias de permisos, entre otros. Igualmente, garantizan que, tanto al momento de autorizar este Contrato como al momento de autorizar las posibles Escrituras para transferir la titularidad del Proyecto, los endosos y permisos de todas las agencias del Estado Libre Asociado, sus municipios y agencias federales se encuentran y encontrarán vigentes.

OCTAVO: Notificaciones: Las notificaciones entre las partes siempre se realizarán utilizando el correo electrónico o el correo ordinario a las siguientes direcciones:

OPTATARIO	OPTANTE
Vía correo ordinario: PO BOX 1799, Guayama, PR 00785 y vía correo electrónico: shahinpr@yahoo.com.	Vía correo ordinario: PO BOX 362374, San Juan, PR 00936-2374 y vía correo electrónico: carlos@spmancorp.com Con copia a: Lcdo. Arturo Negrón Vargas a su correo electrónico: anv@bnglawpr.com

NOVENO: Las Partes garantizan que tienen la facultad legal para suscribir este Contrato y las obligaciones que representa.

DÉCIMO: Las Partes acuerdan que cualquier reclamación o conflicto sobre el alcance u obligaciones del Contrato se dilucidará en el Tribunal Superior de San Juan.

En San Juan, Puerto Rico, hoy 19 de septiembre de 2018.

OPTATARIOS	OPTANTE
KARTIK, SE Dilip J. Shah Carlos Burgos Roca	BV HOLDINGS, INC. Carlos García Sola

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APPENDIX 5

ERIS REPORT

DATABASE REPORT

Project Property:	*GARCIA DEVELOPMENT BRISAS DEL MAR VILLAGE* *PR-55 Road, Km. 0.0, Machete Ward,* *Guayama, PR* *Guayama PR*
Project No:	*23-0017A*
Report Type:	*Database Report*
Order No:	*23032100760*
Requested by:	*Caribe Environmental Services*
Date Completed:	*March 23, 2023*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as database review of environmental records.

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Executive Summary

Property Information:

Project Property:		*GARCIA DEVELOPMENT BRISAS DEL MAR VILLAGE* *PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR Guayama PR*
Project No:		*23-0017A*
Coordinates:		
	Latitude:	*17.96386622*
	Longitude:	*-66.11736214*
	UTM Northing:	*1,988,558.17*
	UTM Easting:	*805,330.71*
	UTM Zone:	*19Q*
Elevation:		*98 FT*

Order Information:

Order No:	*23032100760*
Date Requested:	*March 21, 2023*
Requested by:	*Caribe Environmental Services*
Report Type:	*Database Report*

Historicals/Products:

ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	0	-	-	0
RCRA NON GEN	Y	0.25	0	0	0	-	-	0
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
FRP	Y	0.25	0	0	0	-	-	0
DELISTED FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	0	0	0	0
SWF	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	0	0	-	0
DELISTED LUST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	0	-	-	0
DELISTED TANKS	Y	0.25	0	0	0	-	-	0
Tribal								
DELISTED INDIAN LST	Y	0.5	0	0	0	0	-	0
DELISTED INDIAN UST	Y	0.25	0	0	0	-	-	0
County	***No County standard environmental record sources available for this State.***							
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS FED SITES	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0
ERNS PFAS	Y	0.5	0	0	0	0	-	0
PFAS NPDES	Y	0.5	0	0	0	0	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS TSCA	Y	0.5	0	0	0	0	-	0
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
LM SITES	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
AFS	Y	PO	0	-	-	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCBT	Y	0.5	0	0	0	0	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
PERMITS	Y	0.25	0	**4**	**12**	-	-	**16**
Tribal	***No Tribal additional environmental record sources available for this State.***							
County	***No County additional environmental record sources available for this State.***							
Total:			0	**4**	**12**	0	0	**16**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	PERMITS	Jos D az Guadalupe	PR	NW	0.07 / 388.25	8	17
1	PERMITS	Jos D az Guadalupe	PR	NW	0.07 / 388.25	8	17
2	PERMITS	Nelia Vega Santos	PR	ENE	0.08 / 397.28	0	17
3	PERMITS	Finca Verdaguer Autoridad de Tierras de Puerto Rico	PR	E	0.12 / 608.89	-4	17
4	PERMITS	Angel M. Ort z G mez	PR	ENE	0.15 / 814.10	-1	18
5	PERMITS	Residencia- Angel L. Perez	PR	NW	0.16 / 823.07	10	18
6	PERMITS	Nancy Rodriguez Castro	PR	WNW	0.19 / 978.74	10	18
6	PERMITS	Nancy Rodr guez Castro	PR	WNW	0.19 / 978.74	10	18
7	PERMITS	Harold R. Santiago Berrios	PR	NNW	0.19 / 1,026.32	10	18
8	PERMITS	Mayda Ortiz	PR	WNW	0.21 / 1,105.18	10	19
9	PERMITS	EDUARDO GARCIA NU EZ	PR	E	0.21 / 1,113.20	-10	19
10	PERMITS	Estadio de F tbol Guayama	PR	N	0.22 / 1,186.68	20	19

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
10	PERMITS	Construccion de Estadio de Futbol	PR	N	0.22 / 1,186.68	20	19
11	PERMITS	Juan Garcia Mart nez	PR	ENE	0.23 / 1,238.17	0	19
12	PERMITS	Estadio de Futbol de Guayama	PR	N	0.24 / 1,278.77	20	20
12	PERMITS	Estadio de Futbol de Guayama	PR	N	0.24 / 1,278.77	20	20

Executive Summary: Summary by Data Source

Non Standard

State

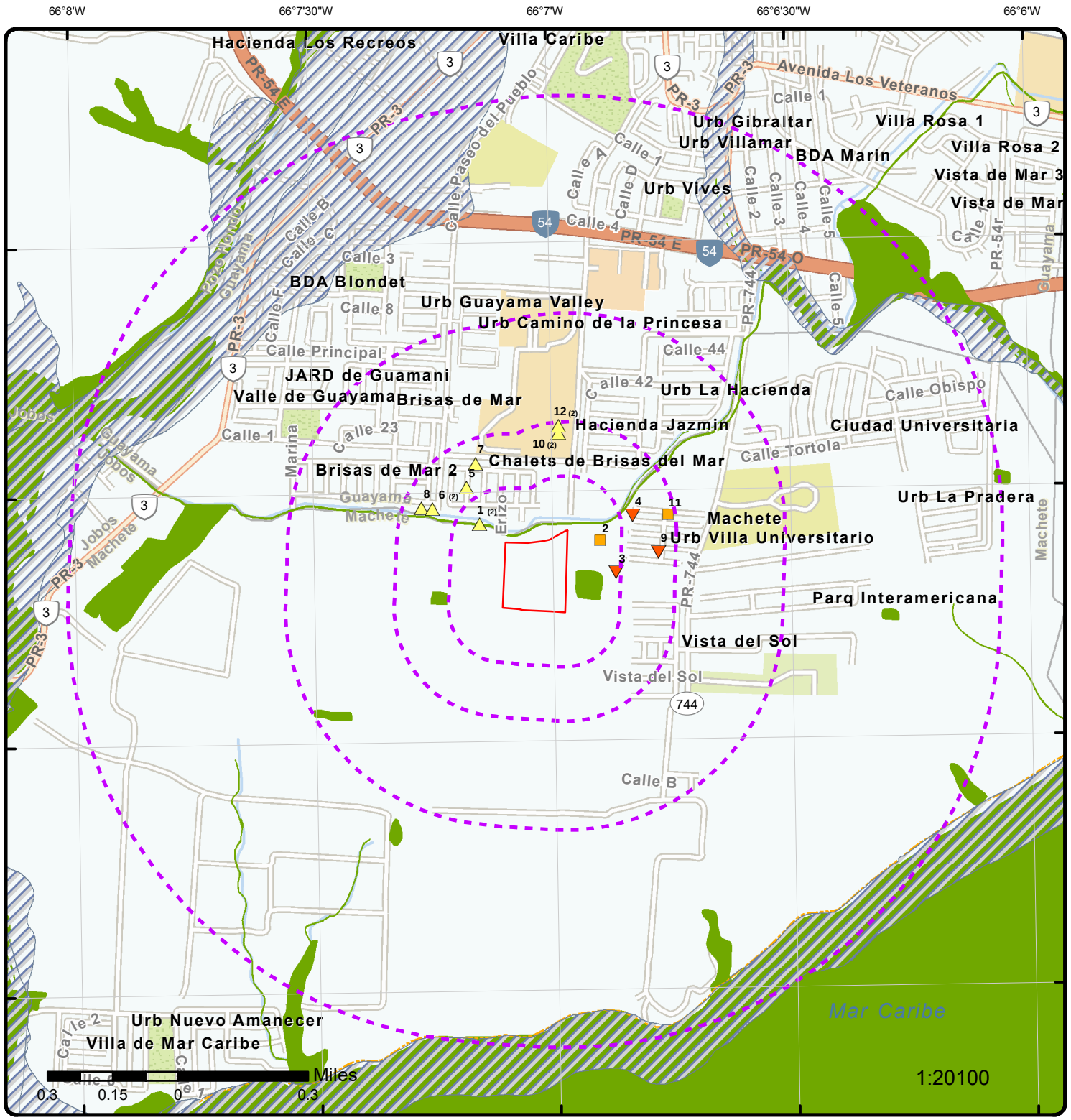
PERMITS - Processed Permits and Procedures

A search of the PERMITS database, dated Aug 24, 2016 has found that there are 16 PERMITS site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Jos D az Guadalupe	PR	NW	0.07 / 388.25	1
Jos D az Guadalupe	PR	NW	0.07 / 388.25	1
Nelia Vega Santos	PR	ENE	0.08 / 397.28	2
Residencia- Angel L. Perez	PR	NW	0.16 / 823.07	5
Nancy Rodriguez Castro	PR	WNW	0.19 / 978.74	6
Nancy Rodr guez Castro	PR	WNW	0.19 / 978.74	6
Harold R. Santiago Berrios	PR	NNW	0.19 / 1,026.32	7
Mayda Ortiz	PR	WNW	0.21 / 1,105.18	8
Estadio de F tbol Guayama	PR	N	0.22 / 1,186.68	10
Construccion de Estadio de Futbol	PR	N	0.22 / 1,186.68	10

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Juan Garcia Mart nez	PR	ENE	0.23 / 1,238.17	11
Estadio de Futbol de Guayama	PR	N	0.24 / 1,278.77	12
Estadio de Futbol de Guayama	PR	N	0.24 / 1,278.77	12

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
Finca Verdaguer Autoridad de Tierras de Puerto Rico	PR	E	0.12 / 608.89	3
Angel M. Ort z G mez	PR	ENE	0.15 / 814.10	4
EDUARDO GARCIA NU EZ	PR	E	0.21 / 1,113.20	9



Map: 1.0 Mile Radius

Order Number: 23032100760

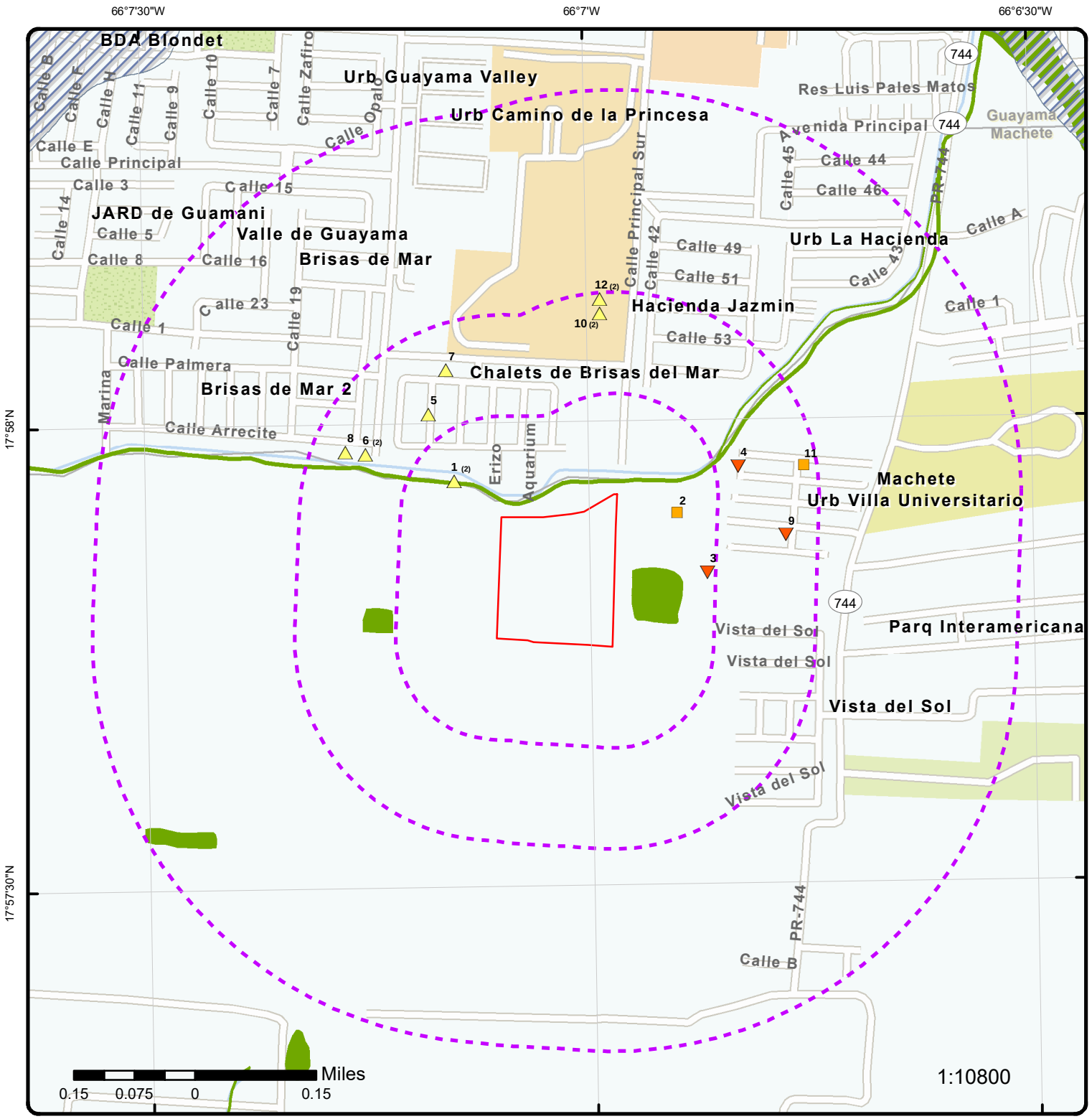
Address: PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR, Guayama, PR

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

© ERIS Information Inc.



Map: 0.5 Mile Radius

Order Number: 23032100760

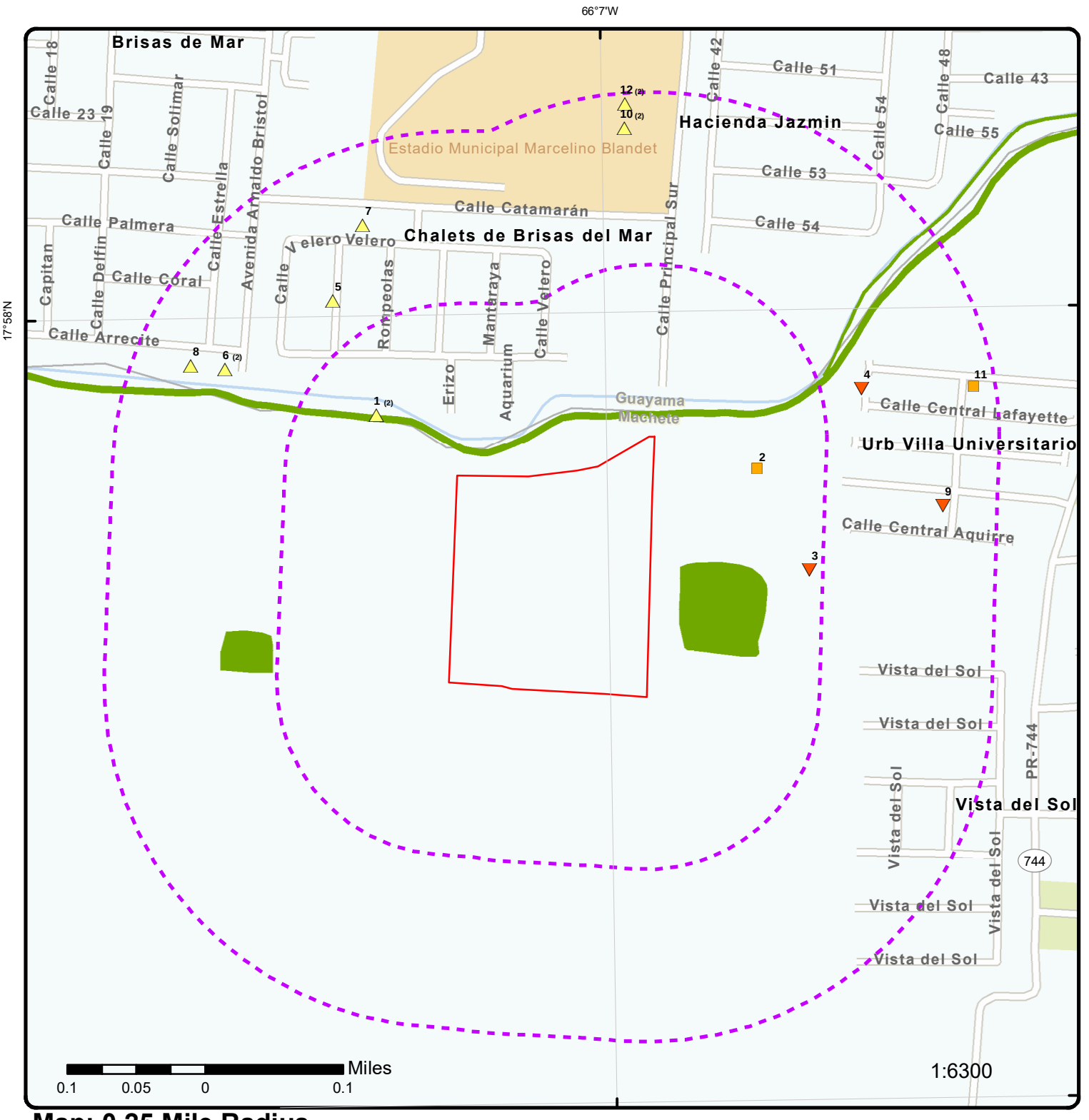
Address: PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR, Guayama, PR

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

© ERIS Information Inc.



Map: 0.25 Mile Radius

Order Number: 23032100760

Address: PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR, Guayama, PR

ERIS

- Project Property
- Buffer Outline
- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- Areas with Higher Elevation
- Areas with Same Elevation
- Areas with Lower Elevation
- Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Plume
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- National Priorities List (Active, Delisted, Proposed, Institutional Control)

Source: © 2021 ESRI StreetMap Premium

© ERIS Information Inc.



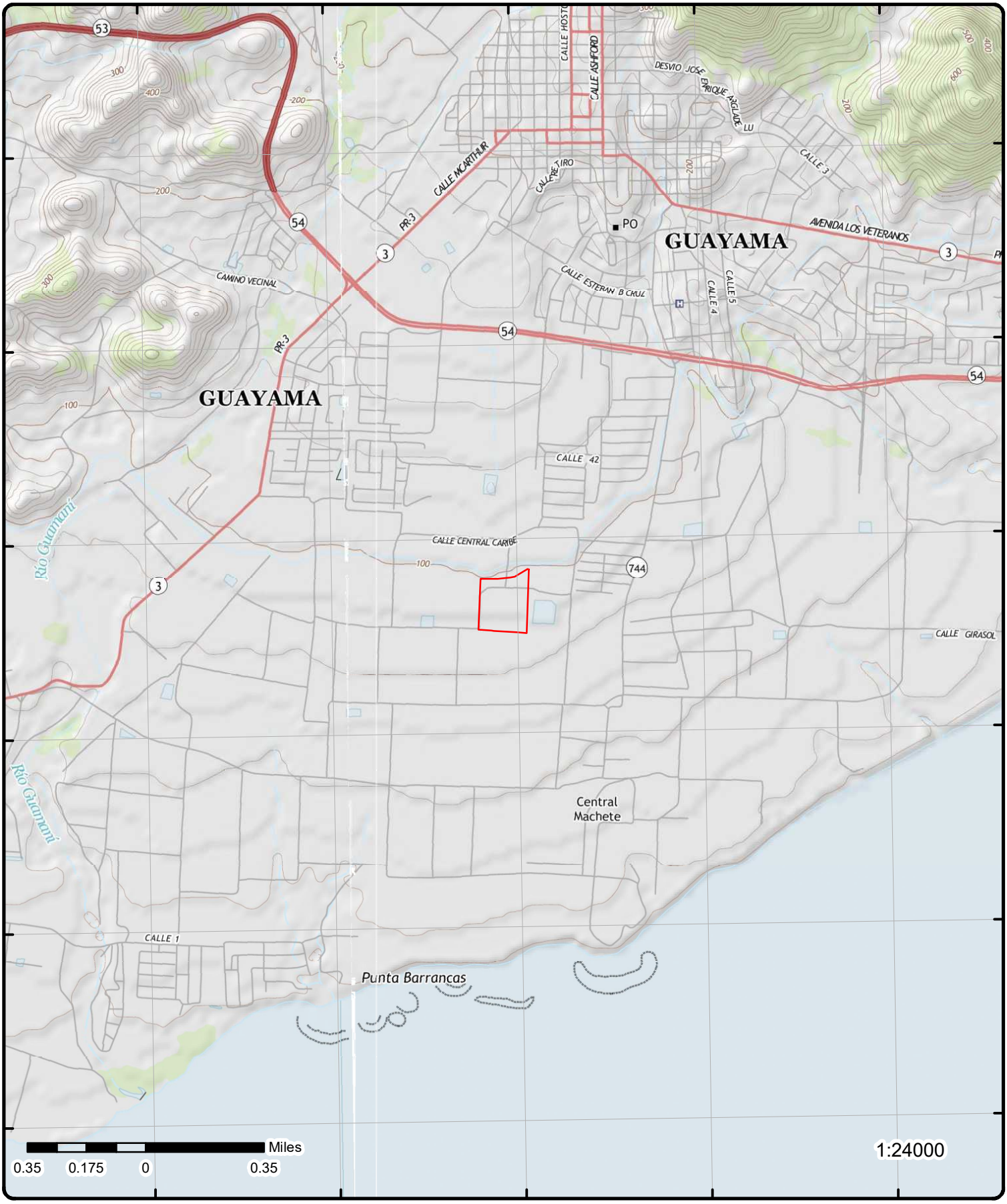
Aerial **Year: 2021**

Order Number: 23032100760

Address: PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR, Guayama, PR

Source: ESRI World Imagery

© ERIS Information Inc.



Topographic Map

Year: 2013

Order Number: 23032100760

Address: PR-55 Road, Km. 0.0, Machete Ward, Guayama, PR, PR

Quadrangle(s): Central Aguirre, PR; Guayama, PR

Source: USGS Topographic Map

© ERIS Information Inc.

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 2	NW	0.07 / 388.25	106.53 / 8	Jos D az Guadalupe PR	PERMITS

No Tramite: 2015-076635-CIS-109625
Permit Type: CIS
Status: PERMIT_APPROVED
Paid: 50
Catastro: 442-000-001-37
Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: Jos¿ D¿az Guadalupe

Coord X: 17.96562162
Coord Y: -66.11930636
Coord XY: (17.96562162, -66.11930636)
Creation Date: 08/20/2015 12:00:00 AM
Last Updated: 08/27/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 2	NW	0.07 / 388.25	106.53 / 8	Jos D az Guadalupe PR	PERMITS

No Tramite: 2015-076635-CIS-109853
Permit Type: CIS
Status: PERMIT_ARCHIVED
Paid: 50
Catastro: 442-000-001-37
Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: Jos¿ D¿az Guadalupe

Coord X: 17.96562162
Coord Y: -66.11930636
Coord XY: (17.96562162, -66.11930636)
Creation Date: 08/21/2015 12:00:00 AM
Last Updated: 09/20/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 1	ENE	0.08 / 397.28	98.47 / 0	Nelia Vega Santos PR	PERMITS

No Tramite: 2016-097284-CIS-149994
Permit Type: CIS
Status: PERMIT_APPROVED
Paid: 50
Catastro: 442-000-001-48
Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: Nelia Vega Santos

Coord X: 17.964996686095642
Coord Y: -66.11512184143065
Coord XY: (17.964996686095642, -66.11512184143065)
Creation Date: 01/11/2016 12:00:00 AM
Last Updated: 01/21/2016 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 1	E	0.12 / 608.89	94.91 / -4	Finca Verdaguer Autoridad de Tierras de Puerto Rico PR	PERMITS

No Tramite: 2016-103722-SRI-161263
Permit Type: SRI
Status: AWAITING_AGENCIES
Paid: 50
Catastro: 442-000-002-19
Estado: Pendiente
Permit Type Desc: Request for Recommendation - Infrastructure
Project Name: Finca Verdaguer Autoridad de Tierras de Puerto Rico

Coord X: 17.96391487296704
Coord Y: -66.11456394195557
Coord XY: (17.96391487296704, -66.11456394195557)
Creation Date: 02/11/2016 12:00:00 AM
Last Updated: 02/24/2016 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 1	ENE	0.15 / 814.10	97.90 / -1	Angel M. Ort z G mez PR	PERMITS

No Tramite:	2016-105018-CIS-164611	**Coord X:**	17.9658183086237
Permit Type:	CIS	**Coord Y:**	-66.1139588898183
Status:	PERMIT_APPROVED	**Coord XY:**	(17.9658183086237, -66.1139588898183)
Paid:	50	**Creation Date:**	02/23/2016 12:00:00 AM
Catastro:	442-002-546-46	**Last Updated:**	02/23/2016 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Certificación de Instalación de Sistemas		
Project Name:	Angel M. Ort¿z G¿mez		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	1 of 1	NW	0.16 / 823.07	108.25 / 10	Residencia- Angel L. Perez PR	PERMITS

No Tramite:	2016-099687-CIS-155675	**Coord X:**	17.96683371208506
Permit Type:	CIS	**Coord Y:**	-66.11976474523544
Status:	PERMIT_APPROVED	**Coord XY:**	(17.96683371208506, -66.11976474523544)
Paid:	50	**Creation Date:**	01/27/2016 12:00:00 AM
Catastro:	420-091-490-05	**Last Updated:**	02/07/2016 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Certificación de Instalación de Sistemas		
Project Name:	Residencia- Angel L. Perez		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	1 of 2	WNW	0.19 / 978.74	108.84 / 10	Nancy Rodriguez Castro PR	PERMITS

No Tramite:	2015-072621-CIS-103816	**Coord X:**	17.966128027671
Permit Type:	CIS	**Coord Y:**	-66.1209632467169
Status:	PERMIT_APPROVED	**Coord XY:**	(17.966128027671, -66.1209632467169)
Paid:	50	**Creation Date:**	08/12/2015 12:00:00 AM
Catastro:	442-001-632-12	**Last Updated:**	08/14/2015 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Certificación de Instalación de Sistemas		
Project Name:	Nancy Rodriguez Castro		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	2 of 2	WNW	0.19 / 978.74	108.84 / 10	Nancy Rodr guez Castro PR	PERMITS

No Tramite:	2015-072605-CIS-103810	**Coord X:**	17.966128027671
Permit Type:	CIS	**Coord Y:**	-66.1209632467169
Status:	PERMIT_APPROVED	**Coord XY:**	(17.966128027671, -66.1209632467169)
Paid:	50	**Creation Date:**	08/12/2015 12:00:00 AM
Catastro:	442-001-632-12	**Last Updated:**	08/14/2015 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Certificación de Instalación de Sistemas		
Project Name:	Nancy Rodr¿guez Castro		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
7	1 of 1	NNW	0.19 / 1,026.32	108.28 / 10	Harold R. Santiago Berrios PR	PERMITS

No Tramite:	2015-028082-CIS-034589	**Coord X:**	17.9676253192067
Permit Type:	CIS	**Coord Y:**	-66.1194217478587
Status:	PERMIT_APPROVED	**Coord XY:**	(17.9676253192067, -66.1194217478587)
Paid:	50	**Creation Date:**	01/24/2015 12:00:00 AM
Catastro:	420-091-751-05	**Last Updated:**	01/26/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: Harold R. Santiago Berrios

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
8	1 of 1	WNW	0.21 / 1,105.18	108.89 / 10	Mayda Ortiz PR	PERMITS

No Tramite: 2015-063082-CIS-089875
Permit Type: CIS
Status: PERMIT_APPROVED
Paid: 50
Catastro: 442-001-632-09
Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: Mayda Ortiz
Coord X: 17.9661738187851
Coord Y: -66.1213407889751
Coord XY: (17.9661738187851, -66.1213407889751)
Creation Date: 07/16/2015 12:00:00 AM
Last Updated: 07/21/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	1 of 1	E	0.21 / 1,113.20	88.25 / -10	EDUARDO GARCIA NU EZ PR	PERMITS

No Tramite: 2016-102313-CIS-157734
Permit Type: CIS
Status: PERMIT_APPROVED
Paid: 50
Catastro: 420-094-595-25
Estado: Adjudicado
Permit Type Desc: Certificación de Instalación de Sistemas
Project Name: EDUARDO GARCIA NU¿EZ
Coord X: 17.964573146838887
Coord Y: -66.11308336257935
Coord XY: (17.964573146838887, -66.11308336257935)
Creation Date: 02/02/2016 12:00:00 AM
Last Updated: 02/03/2016 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	1 of 2	N	0.22 / 1,186.68	118.42 / 20	Estadio de F tbol Guayama PR	PERMITS

No Tramite: 2015-035765-SRI-075480
Permit Type: SRI
Status: PERMIT_APPROVED
Paid: 50
Catastro: 420-092-477-62
Estado: Adjudicado
Permit Type Desc: Request for Recommendation - Infrastructure
Project Name: Estadio de F¿tbol Guayama
Coord X: 17.9686053572503
Coord Y: -66.1165216888378
Coord XY: (17.9686053572503, -66.1165216888378)
Creation Date: 06/01/2015 12:00:00 AM
Last Updated: 06/08/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	2 of 2	N	0.22 / 1,186.68	118.42 / 20	Construccion de Estadio de Futbol PR	PERMITS

No Tramite: 2015-090711-ACP-138316
Permit Type: ACP
Status: PERMIT_APPROVED
Paid: 180
Catastro: 420-092-477-62
Estado: Adjudicado
Permit Type Desc: Authorization for Cutting, Pruning, Transplanting and Tree Planting
Project Name: Construccion de Estadio de Futbol
Coord X: 17.9686053572503
Coord Y: -66.1165216888378
Coord XY: (17.9686053572503, -66.1165216888378)
Creation Date: 11/24/2015 12:00:00 AM
Last Updated: 12/03/2015 12:00:00 AM

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	1 of 1	ENE	0.23 / 1,238.17	98.45 / 0	Juan Garcia Mart nez PR	PERMITS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

No Tramite:	2015-089338-CIS-135683	**Coord X:**	17.9658252753559
Permit Type:	CIS	**Coord Y:**	-66.1127221612952
Status:	PERMIT_APPROVED	**Coord XY:**	(17.9658252753559, -66.1127221612952)
Paid:	50	**Creation Date:**	11/16/2015 12:00:00 AM
Catastro:	442-002-547-15	**Last Updated:**	11/27/2015 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Certificación de Instalación de Sistemas		
Project Name:	Juan Garcia Mart¿nez		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	1 of 2	N	0.24 / 1,278.77	118.13 / 20	Estadio de Futbol de Guayama PR	PERMITS

No Tramite:	2015-091810-PGC-140362	**Coord X:**	17.968859521378334
Permit Type:	PGC	**Coord Y:**	-66.11651659011841
Status:	PERMIT_APPROVED	**Coord XY:**	(17.968859521378334, -66.11651659011841)
Paid:	2750	**Creation Date:**	12/02/2015 12:00:00 AM
Catastro:	420-092-477-62	**Last Updated:**	12/03/2015 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Permiso General Consolidado		
Project Name:	Estadio de Futbol de Guayama		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
12	2 of 2	N	0.24 / 1,278.77	118.13 / 20	Estadio de Futbol de Guayama PR	PERMITS

No Tramite:	2015-091810-PCT-142930	**Coord X:**	17.968859521378334
Permit Type:	PCT	**Coord Y:**	-66.11651659011841
Status:	PERMIT_APPROVED	**Coord XY:**	(17.968859521378334, -66.11651659011841)
Paid:	18.75	**Creation Date:**	12/09/2015 12:00:00 AM
Catastro:	420-092-477-62	**Last Updated:**	12/11/2015 12:00:00 AM
Estado:	Adjudicado		
Permit Type Desc:	Permiso de Corteza Terrestre		
Project Name:	Estadio de Futbol de Guayama		

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List: NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Nov 3, 2022

National Priority List - Proposed: PROPOSED NPL

Sites proposed by the United States Environmental Protection Agency (EPA), the state agency, or concerned citizens for addition to the National Priorities List (NPL) due to contamination by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Nov 3, 2022

Deleted NPL: DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Nov 3, 2022

SEMS List 8R Active Site Inventory: SEMS

The U.S. Environmental Protection Agency's (EPA) Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. This data includes SEMS sites from the List 8R Active file as well as applicable sites from the SEMS GIS/REST file layer obtained from EPA's Facility Registry Service.

Government Publication Date: Jan 25, 2023

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. This data includes sites from the List 8R Archived site file.

Government Publication Date: Jan 25, 2023

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA). This database was provided by the United States Environmental Protection Agency (EPA). Refer to SEMS LIEN as the current data source for Superfund Liens.

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jan 23, 2023

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by RCRA.

Government Publication Date: Jan 23, 2023

RCRA Generator List: RCRA LQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jan 23, 2023

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jan 23, 2023

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jan 23, 2023

RCRA Non-Generators: RCRA NON GEN

RCRA Info is the U.S. Environmental Protection Agency's (EPA) comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jan 23, 2023

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Jan 23, 2023

Federal Engineering Controls-ECs: FED ENG

This list of Engineering controls (ECs) is provided by the United States Environmental Protection Agency (EPA). ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. The EC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2020 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Dec 22, 2022

Federal Institutional Controls- ICs: FED INST

This list of Institutional controls (ICs) is provided by the United States Environmental Protection Agency (EPA). ICs are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site. The IC listing includes remedy component data from Superfund decision documents issued in fiscal years 1982-2020 for applicable sites on the final or deleted on the National Priorities List (NPL); and sites with a Superfund Alternative Approach (SAA) Agreement in place. The only sites included that are not on the NPL; proposed for NPL; or removed from proposed NPL, are those with an SAA Agreement in place.

Government Publication Date: Dec 22, 2022

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: Nov 3, 2022

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Nov 6, 2022

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This data is provided by the United States Environmental Protection Agency (EPA) and includes Brownfield sites from the Cleanups in My Community (CIMC) web application.

Government Publication Date: Sep 13, 2022

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 31, 2021

Delisted Facility Response Plans: DELISTED FRP

Facilities that once appeared in - and have since been removed from - the list of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 31, 2021

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Aug 30, 2022

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jun 29, 2022

LIEN on Property: SEMS LIEN

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System (SEMS) provides Lien details on applicable properties, such as the Superfund lien on property activity, the lien property information, and the parties associated with the lien.

Government Publication Date: Jan 25, 2023

Superfund Decision Documents: SUPERFUND ROD

This database contains a list of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include completed Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD) for active and archived sites stored in the Superfund Enterprise Management System (SEMS), along with other associated memos and files. This information is maintained and made available by the U.S. Environmental Protection Agency.

Government Publication Date: Dec 22, 2022

State

Superfund Sites: SHWS

List of Superfund sites in Puerto Rico made available by the Environmental Quality Board/ Junta de Calidad Ambiental (JCA). The site list was provided by the JCA in May of 2017. Due to agency limitations affecting the availability of environmental data, updates for this database have not been obtainable.

Government Publication Date: May 31, 2017

Solid Waste Collection Centers: SWF

A list of solid waste facilities in Puerto Rico made available by the Autoridad de Desperdicios Solidos (ADS). This data includes collection centers, sanitary landfills, compost plants, and recyclers.

Government Publication Date: Apr 30, 2014

Leaking Underground Storage Tanks: LUST

List of Active and Inactive leaking underground storage tanks in Puerto Rico made available by the Junta de Calidad Ambiental (JCA) Water Quality Area.

Government Publication Date: Jul 27, 2018

Delisted Leaking Storage Tanks: DELISTED LUST

This database contains a list of leaking storage tank sites that were removed from the Junta de Calidad Ambiental (JCA) Water Quality Area Leaking Underground Storage Tank Database.

Government Publication Date: Jul 27, 2018

Underground Storage Tank Installations: UST

A list of underground storage tank installations in Puerto Rico. This list is made available by the Junta de Calidad Ambiental (JCA) Water Quality Area.

Government Publication Date: Feb 28, 2013

Delisted Storage Tanks: DELISTED TANKS

List of tank sites that once appeared on - and have since been removed from - the list of underground storage tank installations made available by the Junta de Calidad Ambiental (JCA) Water Quality Area.

Government Publication Date: Feb 28, 2013

Tribal

Delisted Tribal Leaking Storage Tanks: DELISTED INDIAN LST

Leaking Underground Storage Tank (LUST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian LUST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Nov 23, 2022

Delisted Tribal Underground Storage Tanks: DELISTED INDIAN UST

Underground Storage Tank (UST) facilities which once appeared on - and have since been removed from - the Regional Tribal/Indian UST lists made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Nov 23, 2022

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Aug 18, 2022

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Aug 24, 2021

PFOA/PFOS Contaminated Sites: PFAS NPL

List of National Priorities List (NPL) and related Superfund Alternative Agreement (SAA) sites where PFOA or PFOS contaminants have been found in water and/or soil. The site listing is provided by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Oct 4, 2022

Federal Agency Locations with Known or Suspected PFAS Detections: PFAS FED SITES

List of Federal agency locations with known or suspected detections of Per- and Polyfluoroalkyl Substances (PFAS), made available by the U.S. Environmental Protection Agency (EPA) in their PFAS Analytic Tools data. EPA outlines that these data are gathered from several federal entities, such as the Federal Superfund program, Department of Defense (DOD), National Aeronautics and Space Administration, Department of Transportation, and Department of Energy. Sites on this list do not necessarily reflect the source/s of contamination and detections do not indicate level of risk or human exposure at the site. Agricultural notifications in this data are limited to DOD sites only. At this time, the EPA is aware that this list is not comprehensive of all Federal agencies.

Government Publication Date: Jun 30, 2022

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations https://pfasproject.com/pfas-contamination-site-tr acker/

Government Publication Date: Dec 12, 2019

National Response Center PFAS Spills: ERNS PFAS

National Response Center (NRC) calls from 1990 to the most recent complete calendar year where there is indication of Aqueous Film Forming Foam (AFFF) usage. NRC calls may reference AFFF usage in the "Material Involved" or "Incident Description" fields. Data made available by the US Environmental Protection Agency (EPA). Disclaimer: dataset may include initial or misidentified incident data not yet validated or investigated by a federal/state response agency.

Government Publication Date: Feb 23, 2022

PFAS NPDES Discharge Monitoring: PFAS NPDES

This list of National Pollutant Discharge Elimination System (NPDES) permitted facilities with required monitoring for Per- and Polyfluoroalkyl (PFAS) Substances is made available via the U.S. Environmental Protection Agency (EPA)'s PFAS Analytic Tools. Any point-source wastewater discharger to waters of the United States must have a NPDES permit, which defines a set of parameters for pollutants and monitoring to ensure that the discharge does not degrade water quality or impair human health. This list includes NPDES permitted facilities associated with permits that monitor for Per- and Polyfluoroalkyl Substances (PFAS), limited to the years 2007 - present. EPA further advises the following regarding these data: currently, fewer than half of states have required PFAS monitoring for at least one of their permittees, and fewer states have established PFAS effluent limits for permittees. For states that may have required monitoring, some reporting and data transfer issues may exist on a state-by-state basis.

Government Publication Date: Feb 19, 2023

Perfluorinated Alkyl Substances (PFAS) from Toxic Release Inventory: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Aug 24, 2021

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

PFAS TSCA Manufacture and Import Facilities: PFAS TSCA

The US Environmental Protection Agency (EPA) issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) requiring facilities that manufacture or import chemical substances to report to EPA. This list is specific to TSCA Manufacture and Import Facilities with reported per- and poly-fluoroalkyl substances (PFAS). Data file made available by the EPA and includes CDR/Inventory Update Reporting data from 1998 up to 2020. EPA makes notes the following about these data: this data file includes production and importation data for chemicals identified in EPA's CompTox Chemicals Dashboard list of PFAS without explicit structures and list of PFAS structures in DSSTox. Note that some regulations have specific chemical structure requirements that define PFAS differently than the lists in EPA's CompTox Chemicals Dashboard. Reporting information on manufactured or imported chemical substance amounts should not be compared between facilities, as some companies claim Chemical Data Reporting Rule data fields for PFAS information as Confidential Business Information.

Government Publication Date: Jun 20, 2022

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department"), Drug Enforcement Administration (DEA), provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Aug 30, 2022

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the site cleanup process, the U.S. Environmental Protection Agency (EPA) conducts a search to find the Potentially Responsible Parties (PRPs). The EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site. This listing contains PRPs, Noticed Parties, at sites in the EPA's Superfund Enterprise Management System (SEMS).

Government Publication Date: Jan 25, 2023

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin. Since 2017, the SCRD no longer maintains this data, refer to applicable state source data where available.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online system incorporates data from the Integrated Compliance Information System - National Pollutant Discharge Elimination System (ICIS-NPDES). ICIS-NPDES is an information management system maintained by the Office of Compliance to track permit compliance and enforcement status of facilities regulated by the NPDES under the Clean Water Act. This data includes permit, inspection, violation and enforcement action information for applicable ICIS records.

Government Publication Date: Oct 15, 2022

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) data as made available by the U.S. Environmental Protection Agency (EPA), sourced from the ECHO Exporter file. The EPA tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: Dec 11, 2022

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: Dec 11, 2022

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DOD) is responsible for an environmental restoration. The FUDS Annual Report to Congress (ARC) is published by the U.S. Army Corps of Engineers (USACE). This data is compiled from the USACE's Geospatial FUDS data layers and Homeland Infrastructure Foundation-Level Data (HIFLD) FUDS dataset.

Government Publication Date: Jul 12, 2022

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Mar 31, 2021

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) is provided by the United State Department of Labor, Mine Safety and Health Administration (MSHA). This file, which was originally created in the 1970's, contained many Mine-IDs that were invalid. MSHA removes invalid IDs from the MIF upon discovery. MSHA applicable data includes the following: all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970; mine addresses for all mines in the database except for Abandoned mines prior to 1998 from MSHA's legacy system (addresses may or may not correspond with the physical location of the mine itself); violations that have been assessed penalties as a result of MSHA inspections beginning on 1/1/2000; and violations issued as a result of MSHA inspections conducted beginning on 1/1/2000.

Government Publication Date: Aug 3, 2022

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Aug 18, 2022

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

DOE Legacy Management Sites: LM SITES

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) currently manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The LM manages sites with diverse regulatory drivers (statutes or programs that direct cleanup and management requirements at DOE sites) or as part of internal DOE or congressionally-recognized programs, such as but not limited to: Formerly Utilized Sites Remedial Action Program (FUSRAP), Uranium Mill Tailings Radiation Control Act (UMTRCA Title I, Tile II), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Decontamination and Decommissioning (D&D), Nuclear Waste Policy Act (NWPA). This site listing includes data exported from the DOE Office of LM's Geospatial Environmental Mapping System (GEMS). GEMS Data disclaimer: The DOE Office of LM makes no representation or warranty, expressed or implied, regarding the use, accuracy, availability, or completeness of the data presented herein.

Government Publication Date: Dec 1, 2022

Alternative Fueling Stations: ALT FUELS

This list of alternative fueling stations is sourced from the Alternative Fuels Data Center (AFDC). The U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy launched the AFDC in 1991 as a repository for alternative fuel vehicle performance data, which provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. The data includes Biodiesel (B20 and above), Compressed Natural Gas (CNG), Electric, Ethanol (E85), Hydrogen, Liquefied Natural Gas (LNG), Propane (LPG) fuel type locations.

Government Publication Date: Jan 3, 2023

Superfunds Consent Decrees: CONSENT DECREES

This list of Superfund consent decrees is provided by the Department of Justice, Environment & Natural Resources Division (ENRD) through a Freedom of Information Act (FOIA) applicable file. This listing includes Consent Decrees for CERCLA or Superfund Sites filed and/or as proposed within the ENRD's Case Management System (CMS) since 2010. CMS may not reflect the latest developments in a case nor can the agency guarantee the accuracy of the data. ENRD Disclaimer: Congress excluded three discrete categories of law enforcement and national security records from the requirements of the FOIA; response is limited to those records that are subject to the requirements of the FOIA; however, this should not be taken as an indication that excluded records do, or do not, exist.

Government Publication Date: Jan 11, 2023

Air Facility System: AFS

This EPA retired Air Facility System (AFS) dataset contains emissions, compliance, and enforcement data on stationary sources of air pollution. Regulated sources cover a wide spectrum; from large industrial facilities to relatively small operations such as dry cleaners. AFS does not contain data on facilities that are solely asbestos demolition and/or renovation contractors, or landfills. ECHO Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014; the EPA retired this system for Clean Air Act stationary sources and transitioned to ICIS-Air.

Government Publication Date: Oct 17, 2014

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Mar 30, 2022

Polychlorinated Biphenyl (PCB) Transformers: PCBT

Locations of Transformers Containing Polychlorinated Biphenyls (PCBs) registered with the United States Environmental Protection Agency. PCB transformer owners must register their transformer(s) with EPA. Although not required, PCB transformer owners who have removed and properly disposed of a registered PCB transformer may notify EPA to have their PCB transformer de-registered. Data made available by EPA.

Government Publication Date: Oct 15, 2019

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Nov 3, 2022

State

Processed Permits and Procedures: PERMITS

List of locations included in the map of processed permits and procedures made available by the Permit Management Office (Oficina de Gerencia de Permisos (OGPe)).

Government Publication Date: Aug 24, 2016

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

PRIVILEGED AND CONFIDENTIAL

APPENDIX 6

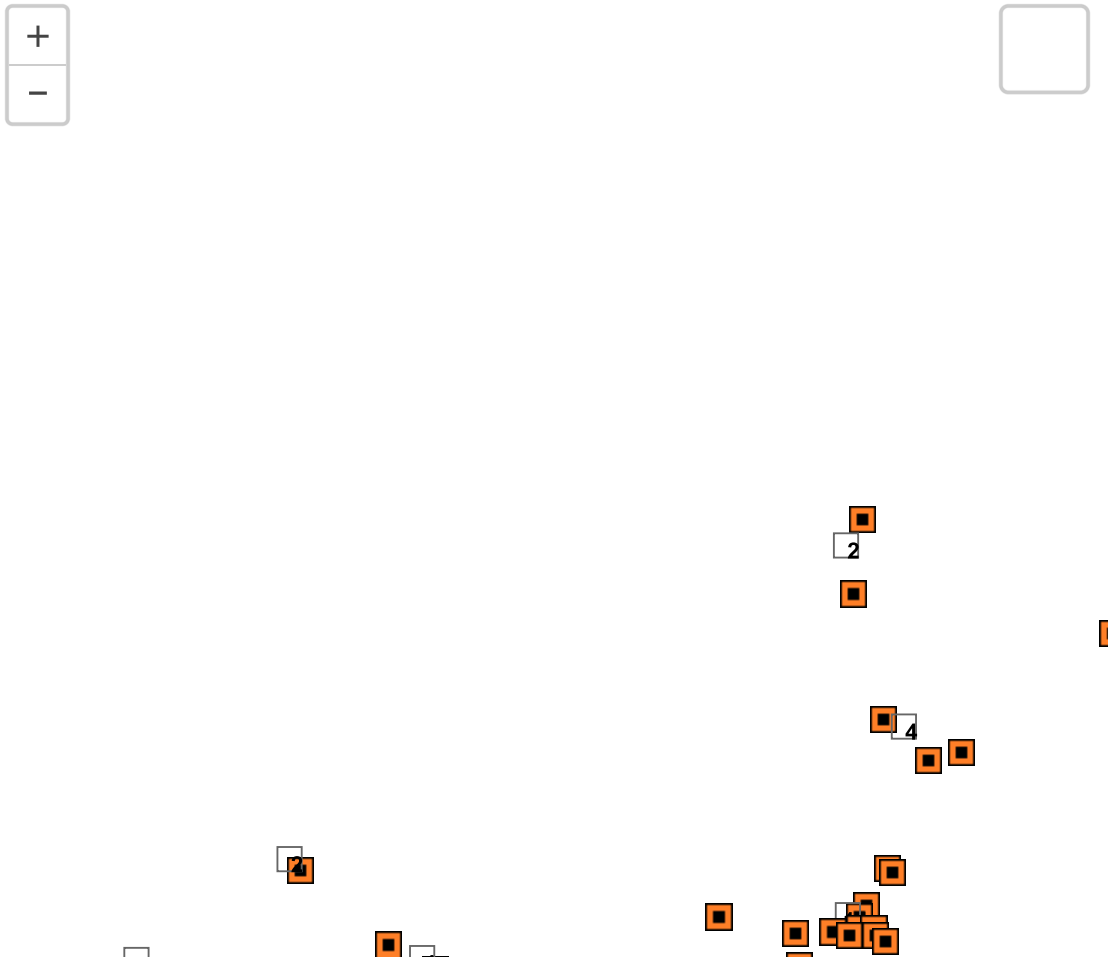
FRS FACILITY QUERY RESULTS

Related Topics: Envirofacts

FRS

FRS Facility Query Results

Your selection returned 146 facilities which are listed below.
Results are sorted by State, City Name, and Facility Name



Facility Registry Service Links:

- Facility Registry Service (FRS) Overview
- FRS Facility Query
- FRS Organization Query
- EZ Query
- FRS Physical Data Model
- FRS Geospatial Model

Report an Error

Map Legend

- Denotes a facility/site location
- Denotes a facility/site location that has been selected by clicking on the 'Magnifying Glass' in the tabular list of facilities/sites displayed below the map.
- Denotes a "Cluster" of facility/site locations. Double clicking on the cluster will automatically zoom the map in at that location. It may take muliple "Double Clicks" to expand all clusters at a particular location. Or just use the "Turn Clustering Off" button to expand the clusters into individual facility/site locations.
- In the tabular list of facilities/sites displayed below the map, a single click on the magnifying class will center and zoom the map to that facility.





Go To The Facility/Site Table
Restore Original Map
Download KML File
Turn Clustering Off
Turn Clustering On
New Query

County Name: guayama
State Abbreviation: PR

Note: Click on the underlined FACILITY NAME to view a detailed facility information report for the Facility Site.
Go To Bottom Of The Page

List of National System Records

FACILITY NAME	Mapped	LOCATION ADDRESS	CITY NAME	COUNTY NAME	STATE	ZIP CODE	Reports
CARIBEAN RESTAURANTS		PR-3 KM 151.3	AGUIRRE	GUAYAMA	PR	00608	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PUERTO RICO LAND AUTHORITY'S AGUIRRE FARM	Not Mapped	17 57' 30" N LAT., 66 15' 0" W LONG.	AGUIRRE	GUAYAMA	PR	00704	Detailed Facility Report
RESOURCES RECYCLING INC	Not Mapped	RD 3 KM 2.5 INT	AGUIRRE	GUAYAMA	PR	00704-0140	Detailed Facility Report , Enforcement and Compliance
BAXTER HEALTHCARE OF PUERTO RICO	Not Mapped	ROAD #3 KM 144.2	COMUNIDAD SAN MARTIN	GUAYAMA	PR	00784	Detailed Facility Report
#805 - UNA ROSA		RD. #3 KM.135.8	GUAYAMA	GUAYAMA	PR	00000	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
#809-JOSE A. FIGUEROA		CARR. PR 54 (DESVIO SUR), KM 0.4	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
5A SEC GUAYAMA	Not Mapped	PR3 INT PR54 URB COSTA AZUL	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , Enforcement and Compliance
ACOSTA S/S	Not Mapped	RD. #33, KM. 141.9	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
AES - PUERTO RICO COGENERATION PLANT		KM 142, RTE. #3 BO. JOBOS	GUAYAMA	GUAYAMA MUNICIPIO	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates

AES PUERTO RICO, LP		CARRETERA #3, KM. 142	GUAYAMA	GUAYAMA MUNICIPIO	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
AES PUERTO RICO, LP	Not Mapped	ROAD #3 KM 142.0 BO. JOBOS	GUAYAMA	GUAYAMA	PR	00789	Detailed Facility Report
ALCO CORP PLT. #3		PR-3 KM 143 BO POZO HONDO	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
ALCO CORPORATION		PR-3, KM 143, POZO HONDO WARD	GUAYAMA	GUAYAMA	PR	00902	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
ALPLA CARIBE INC		RD 3 KM 144.7	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
AMIGO SUPERMARKET #3691		CARR 54 KM 0.9	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
APPLIED ENERGY SYSTEMS		PR-3 KM 143	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
AREA TRANSPORTE-GUAYAMA	Not Mapped	CARR.# 3 FRENTE AL CEMENTERIO KM. 138.5 SALIDA SAL	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
AUTOS VEGA INC		CARR 3 KM 140.1	GUAYAMA	GUAYAMA	PR	00785-2760	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

AYERST-WYETH PHARMACEUTICALS WHITEHALL LABORATORIES DIV		PR-3 KM 141.3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
BAXTER HEALTHCARE OF PUERTO RICO		PR-3 KM 142.5 BO JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
BAXTER HEALTHCARE SA / BAXTER HEALTHCARE OF PUERTO RICO		ROAD 3 KM 142.5	GUAYAMA	GUAYAMA MUNICIPIO	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
BIOCULTURE PUERTO RICO, INC.		STATE ROAD # 712, KM. 14.9,POZO HOMDO WARD	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
BIOGEN S.A.S		PR-53, KM 82, BO. JOBOS	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
BIOGEN S.A.S.		PR-53 KM 84.0 EXIT 83	GUAYAMA	GUAYAMA MUNICIPIO	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
CANTERA CENTRAL	Not Mapped	PR 7707 BO. POZO HONDO	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , Enforcement and Compliance
CARIBE MODULAR		RD 3 KM 135.2	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
CASA LUIS PALES MATOS		ASHFORD AVE & DUQUE ST	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

CEMEX CONCRETOS - GUAYAMA		PR-3 KM 146.5 BO CORAO	GUAYAMA	GUAYAMA	PR	000784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
CHEVRON PHILLIPS CHEMICAL PUERTO RICO CORE LLC		PR-710 KM 1.3 BO LAS MAREAS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Cleanups in My Community , Enforcement and Compliance
CLINICA SANTA ROSA, INC	Not Mapped	LOS VETERANOS AVE	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
COLGATE PALMOLIVE OF PUERTO RICO INC		RD. #3 KM 144.7	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
COMPLETION OF SANITARY SEWER SYSTEM FOR PUNTA POZUELOS SECTOR		PR-7710 PUNTA POZUELOS SECTOR	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
DEPT OF ED - RAFAEL LOPEZ LANDRON	Not Mapped	URB VIVES BO MACHETE STREET #1	GUAYAMA	GUAYAMA	PR	00654	Detailed Facility Report , Enforcement and Compliance
DEPT OF ED - RAMONA MENDOZA SCH		CARR 3 KM 143.8	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
ESSO MUNICIPIO DE GUAYAMA	Not Mapped	ROAD 15 KM 1.1, LA TUNA WARD	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
ESSO SERVICE STATION CO-463		CARR 3 KM 140.7	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
ESSO STANDARD OIL CO - PR CO-465		CARR 3 KM 134.3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

ESSO STANDARD OIL CO PR CO 462		RD 179 KM 1.9 GUAMANI WARD	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
ESSO STANDARD OIL CO PR CO-427		CARR 3 KM 138.3	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
EXECUTIVE DRY CLEANERS		NIEVES PETIT MALL RD 3 KM135.1	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
FARMACIA EL AMAL #22		CALLE DERKES 22E ESQ CALIMANO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
FARMACIA EL AMAL #22	Not Mapped	CARR PEREZ 54 DESVIO SUR	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
FARMACIA PABON	Not Mapped	89 NORTE CALLE CALIMANO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
FIBERS PUBLIC SUPPLY WELLS		PR-3 BO JOBOS	GUAYAMA	GUAYAMA MUNICIPIO	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GUAYAMA FILTRATION PLANT		CARR. MIRASO ESQ. ANGELIE	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GUAYAMA GROUNDWATER CONTAMINATION		PASEO DEL PUEBLO NO. 6	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GUAYAMA MUNICIPAL LANDFILL		PR-7711 KM 138.3 BO POZO HONDO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

GUAYAMA REGIONAL COLLEGE		BO MACHETE RD 744	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
GUAYAMA S/S 806	Not Mapped	ROAD 3 KM. 138.1	GUAYAMA	GUAYAMA	PR	00000	Detailed Facility Report
GUAYAMA SUPER CLEANERS	Not Mapped	CALLE CALIMANO 155 NORTE	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
GUAYAMA VOCATIONAL HIGH SCHOOL		STATE ROAD 54, KM 4.8 ALGARROBO WARD	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GULF 195		PR-3 KM 135.2	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GULF S/S #107		PR-3 KM 140.5	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
HOMECA RECYCLING - GUAYAMA FACILITY	Not Mapped	3 KM. 139 BO. JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
HOMECA RECYCLING CENTER CO INC		CARR 3 KM 139 BO-JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
HOSPITAL AREA GUAYAMA	Not Mapped	AVE CENTRAL ESQUINA PR	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
HOSPITAL SANTA ROSA		AVENIDA LOS VETERANOS & PR-3	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
INTERAMERICAN UNIVERSITY	Not Mapped	MACHETE ROAD, KM 1.5	GUAYAMA	GUAYAMA	PR	00655	Detailed Facility Report
IRAOLA BUILDING (INSTITUTO DE BANCA Y CO	Not Mapped	ROAD NO 3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
ISMAEL EESO SERVICE STATION		RD 3 KM 138.3	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

JJJ CONSTRUCTION & AGREGADOS	Not Mapped	PR 713 KM. 1.3 BO. CIMARRONA	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
KMART #3853		PR HW 3 PLAZA GUAYAMA B3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
KODAK RAHOLA INC		RD 3 KM 134.7 Y 134.9	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
LAS MAREAS S/S #858		PR-3 KM. 141.1	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
LATAS DE ALUMINIO BALL INC		STATE ROAD #3 KM 140.8	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
LATAS DE ALUMINIO BALL INC		PR-3 KM 140.8 BO MACHETE	GUAYAMA	GUAYAMA MUNICIPIO	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
LIFETIME ENERGY SOLUTIONS CORP	Not Mapped	P.O. BOX 131 CAGUAS P.R. 00726	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report
LIFETIME ENERGY SOLUTIONS, CORP	Not Mapped	P.O. BOX 131 CAGUAS, P.R. 00726	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report
LILLY DEL CARIBE (FORMERLY, IPR)		STATE RD 53, KM. 82 JOBOS EXIT # 83	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
LILLY DEL CARIBE INC	Not Mapped	STATE RD #53 KM 84 EXIT 83	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
LILLY DEL CARIBE, INC. - PR06 PLANTSITE	Not Mapped	STATE ROAD # 53, KM. 82	GUAYAMA	GUAYAMA MUNICIPIO	PR	784	Detailed Facility Report

MARTIN MULTI SERVICE STATION		RD 3 KM 135.2	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
MEDISEARCH P.R. INC		ST RD #744 KM 1.1 MACHETE IND	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
MEDISEARCH PR, INC	Not Mapped	MACHETE ROAD KM .14	GUAYAMA	GUAYAMA	PR	00655	Detailed Facility Report
MUNICIPALITY OF GUAYAMA		PR-7710 PUNTA POZUELO SECTOR, JOBOS WARD	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
MUNICIPALITY OF GUAYAMA		VICENTE PALES MATOS STREET	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
OLIMPIC SERVICE STATION		RD. 748, KM 3.4 (NORTH OF RD. 3)	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
P U C P R GUAYAMA CENTER		DERKES CORNER ASHFORD ST	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PEP BOYS 924		CARR 54 KM 0.9	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PF CONSUMER HEALTHCARE B V LLC	Not Mapped	STATE ROAD PR-3 KM 142.1	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
PFIZER PHARMACEUTICALS		PR-3 KM 142.1 BO JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

PFIZER PHARMACEUTICALS		CARR 3 KM 142.1	GUAYAMA	GUAYAMA MUNICIPIO	PR	784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PJ GAS SERVICE STATION		RD. 3, KM 134.3, SALIDA ARROYO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PONTIFICIA UNIVERSIDAD CATOLICA		ASHFORD 9S	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
POZUELO PIER		PR-1770 BO POZUELO	GUAYAMA	GUAYAMA	PR	00654	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PR 53-INTERSECTION WITH PR 713	Not Mapped	CONSTRUCTION OF WEST EXIT RAMP	GUAYAMA	GUAYAMA	PR	00000	Detailed Facility Report , Enforcement and Compliance
PR ARMY NATIONAL GUARD	Not Mapped	MACHETE WARD & HACIENDA URB	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , Enforcement and Compliance
PR DEPT OF EDUCATION - OFFICE OF PUBLIC SCHOOL IMPROVEMENT - REGION VI CAGUAS		CARR 3, KM 738.4	GUAYAMA	GUAYAMA	PR	007851358	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PR PUBLIC HOUSING - RES LUIS PALES MATOS		RD PR 744 & PR 54 BO MACHETE	GUAYAMA	GUAYAMA	PR	00654	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PRASA	Not Mapped	MIRAFLORES ST - END	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
PRASA	Not Mapped	PR-744 KM 7.8	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
PRASA - CARITE WTP		PR-179 KM 17.6	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates

PRASA GUAMANI WTP		PR-179, KM. 5	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PRASA GUAVATE WTP	Not Mapped	PR-184 KM 17.2	GUAYAMA	GUAYAMA	PR	00633	Detailed Facility Report
PRASA GUAYAMA MICROBIOLOGICAL LAB		75 W ENRIQUE GONZALEZ	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PRASA GUAYAMA REGIONAL WWTP		PR-710 KM 1.0	GUAYAMA	GUAYAMA	PR	00785-0910	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PRASA GUAYAMA REGIONAL WWTP		PR-1	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PRASA GUAYAMA REGIONAL WWTP		ROAD 767	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PRASA WTP GUAYAMA FILTER PLANT		CORNER OF J.M. & ANGELI STREET	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PREPA		PR-3 KM 141.4 CENTRAL HYDRO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PREPA - GUAYAMA TECHNICAL OPERATIONS OFFICE		PR-748 KM 0.6 BO ALGARROBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

PREPA JOBOS TURBINE POWER BLOCK		PR-03 KM 142.2 BARRIO JOBOS	GUAYAMA	GUAYAMA MUNICIPIO	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PREPA-JOBOS GAS TURBINES POWER PLANT		PR-3 KM 142.2 BO JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PROYECTO PASEO TABLADO POZUELO		PR-7710 KM 2.0 BO POZUELO	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PRPHA - CARIOCA HOUSING	Not Mapped	CALLE VICENTE ESTE FINAL	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
PUERTO DE JOBOS/POZUELO		PR-7710 LAS MAREAS	GUAYAMA	GUAYAMA	PR	00655	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PUERTO RICO BRAKE MFG		CIMARRONA PR173 K1.9	GUAYAMA	GUAYAMA	PR	00654	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
PUERTO RICO CORE COMPLEX	Not Mapped	CALL BOX 10003	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report
PUERTO RICO INDUSTRIAL DEVELOPMENT CO	Not Mapped	ROAD PR 744 KM 1.1	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance
PUERTO RICO TRANSPORTATION AND HIGHWAY AUTHORITY	Not Mapped	PR-53, INTERSECTION WITH PR-713	GUAYAMA	GUAYAMA	PR	00682	Detailed Facility Report
RAMON BURGOS TEXACO #809		PR-54 KM. 0.4	GUAYAMA	GUAYAMA	PR	00000	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
RUDY SERVICE STATION		RD 3 KM 138.1	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
SANTORI TRUCKING INC	Not Mapped	RD CONNECTOR BARRIO JOBOS &	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , Enforcement and Compliance

SHELL CO PR LTD		PR-3 KM 147.7	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
SHELL CO PR LTD SS 2844 CAIMITAL		PR-179 KM 0.8 BO CAIMITAL	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
SHELL CO PR LTD SS 2852 JOBOS		PR-3 KM 139.9	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
SHELL COR PR LTD GIBRALTAR SS 1279		PR-3 KM 141.9	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
STATE INSURANCE FUND CORP	Not Mapped	AVE PEDRO ALBIZU CAMPOS	GUAYAMA	GUAYAMA	PR	00784-1199	Detailed Facility Report , Enforcement and Compliance
TAPI PUERTO RICO INC		PR-3 KM 143 S BO PUENTE JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Cleanups in My Community , Enforcement and Compliance
TAPI PUERTO RICO, INC.		PR STATE ROAD PR-3 KM 143	GUAYAMA	GUAYAMA	PR	00785	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
TAPI PUERTO RICO, INC.	Not Mapped	STATE ROAD 3, KM.143	GUAYAMA	GUAYAMA MUNICIPIO	PR	785	Detailed Facility Report
TEXACO PR INC LAS MARCAS SS		PR-3 KM 141.1	GUAYAMA	GUAYAMA	PR	00654	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

TOTAL PETRLEUM PUERTO RICO CORP-SERVICE STATION 104235		CARR #3 KM 141.4	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
TOTAL PETROLEUM #1112		RD. 3 KM 135.3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
TOTAL PETROLEUM #1235		RD. 3 KM 141.4 SANTO DOMINGO WARD	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
TOTAL PETROLEUM #1301		RD. 3 KM 149.9 BO. JOBOS	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
TOTAL PETROLEUM PUERTO RICO CORP-SERVICE STATION 104112		CARR #3 KM 135.3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
VILLA VERDE (NON-PRASA)		PR-179 INT 747 SECTOR CULEBRA KM 0.6	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
VILLAS DEL MAR CARIBE		PR-7710 KM 1.3 BARRANCAS SECTOR, MACHETE	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
WAL MART 1 HR PHOTO		PR-3 KM 135 BARRIO AGARROBO	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
WALGREENS #31		1 CALLE MARGINAL STE 2	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance

WALGREENS #31		1 CALLE MARGINAL STE 2	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
WESTERN AUTO 5103		KM 134.6 ST 3	GUAYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates , Enforcement and Compliance
#351-REXCO PARK		CARR. 24, KM 3.6	GUAYNABO	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
GULF 96		PR-3 KM 134.2 BO ALGARROBO	GUYAMA	GUAYAMA	PR	00784	Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
PRASA WTP GUAYAMA FILTER PLANT	Not Mapped	NURAFLORES	GUYAYAMA	GUAYAMA	PR	00784	Detailed Facility Report
AES ILUMINA				GUAYAMA	PR		Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
AES PUERTO RICO				GUAYAMA	PR		Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates
CARITE	Not Mapped			GUAYAMA	PR		Detailed Facility Report
CARITE LAKES	Not Mapped			GUAYAMA	PR		Detailed Facility Report
CIMARRONA	Not Mapped			GUAYAMA	PR		Detailed Facility Report
GUAMANI	Not Mapped			GUAYAMA	PR		Detailed Facility Report
LOS BARROS	Not Mapped			GUAYAMA	PR		Detailed Facility Report
PF CONSUMER HEALTHCARE BV	Not Mapped			GUAYAMA	PR		Detailed Facility Report
PFIZER GUAYAMA				GUAYAMA	PR		Detailed Facility Report , MyEnvironment , Site Demographics , Facility Coordinates

VILLA VERDE	Not Mapped			GUAYAMA	PR		Detailed Facility Report

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Last updated on September 24, 2015

PRIVILEGED AND CONFIDENTIAL

APPENDIX 7

RESUMES OF ENVIRONMENTAL PROFESSIONALS

RESUME OF
RAÚL COLÓN VICENTY
PRINCIPAL ENGINEER

EDUCATION

University of Puerto Rico
Mayaguez Campus - B. S., Civil Engineering, 1975
Mayaguez Campus - M. S., Civil Engineering, 1977

PROFESSIONAL AFFILIATIONS

College of Engineers and Surveyors of Puerto Rico
American Institute of Hydrology
American Society of Civil Engineers
Environmental Assessment Association
National Groundwater Association

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

Professional Engineer in Puerto Rico, License 8119
Professional Hydrologist, AIH, Certification No. 674
Certified Environmental Specialist, Environmental Assessment Association, Certification No. 13969
Certified Environmental Consultant, Environmental Assessment Association, Certification No.13969

CAREER SUMMARY

Mr. Colón has more than 40 years of experience in Water Resources and Environmental Engineering. Mr. Colon is a registered Engineer with the College of Engineers and Surveyors of Puerto Rico and a certified Professional Hydrologist with the American Institute of Hydrology. Mr. Colón has been involved in a variety of water resources and environmental projects including surface and ground water hydrologic investigations as well as soil and groundwater contamination assessments and remediation projects. Mr. Colón has also conducted several groundwater/soil pollution investigations associated with hydrocarbon products and Dense Non-Aqueous Phase Liquids (DNAPLs). He has conducted dam safety investigations, hydrologic/hydraulic studies for a variety of projects, bridge scouring evaluations, sediment transport studies, real time flood forecasting projects in Puerto Rico and the United States, due diligence site evaluations, environmental site assessments, environmental compliance audits, environmental permitting projects and hazardous waste characterizations. Mr. Colón is very familiar with the Federal Emergency Management (FEMA) Flood Insurance Program, since its beginnings in the late 1970's. He conducted several Flood Insurance Studies in Puerto Rico and the United States. These studies included the hydrologic and hydraulic evaluations as well as the preparation of the base maps used by FEMA for the development of the flood maps and flood insurance rate maps published in the Flood Insurance Studies. Eng. Colón has participated in several expert witness cases and has been named as the Court Special Commissioner in three court cases in the Mayaguez, Carolina and Aguadilla Courts.

CONTINUING EDUCATION SEMINARS

"Planes de Control Temporero de Tráfico para Carreteras", UPR Mayaguez Centro de Transferencia de Tecnología en Transportación, August 1-2, 2018

"ASTM 1527-13 Standard for Environmental Site Assessments for Commercial Real Estate", ASTM Technical Training and E- Learning, October 7-8, 2014

"EPA's 2012 Construction General Permit (CGP)", US EPA Stormwater Program's Webcast Series, March 15, 2012

"Two Experts Share Data on Vapor Intrusion in the Real World", Environmental Data Resources, Inc., February 7, 2012

"The Remediation Course, 38 hour continuing education course", Princeton Groundwater, Inc., October 24-28, 2011

"Debida Diligencia Ambiental y Efectos en la Compraventa y Ocupación de Propiedades en Puerto Rico", CIAPR and AIDIS, August 11, 2011

"Nuevo Sistema de Permisos: Reglamento Conjunto de Permisos para Obras de Construcción y Usos de Terrenos", CIAPR, March 18, 2011.

"Cambios Recientes a Leyes y Reglamentos Ambientales y Propuestas Inmediatas de Energia Verde", CIAPR and AIDIS, October 29, 2009.

"Plan para Agilizar los Permisos en Puerto Rico", CIAPR and AIDIS, June 25, 2009.

2008 Final NPDES General Permit for Storm Water Discharges from Industrial Activities, CIAPR and AIDIS, November 20, 2008.

Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions, ASTM International, April 29, 2008

HEC-RAS for Unsteady Flow Applications, American Society of Civil Engineers, Atlanta, GA, September 12-14, 2007.

Streambank Stabilization for Restoration and Flood Control Projects, July 25-27, 2007, American Society of Civil Engineers, Charlotte North Carolina.

"Implantación del Nuevo Permiso General Consolidado de la Junta de Calidad Ambiental de Puerto Rico", College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, April 30, 2007.

Fundamentals of Spray Polyurethane Foam and Covering Systems for the Independent Inspector, Spray Polyurethane Foam Alliance, Tampa, Florida, February 22, 2007.

Environmental Site Assessments for Commercial Real Estate, ASTM Standard E-1527-05 and EPA All Appropriate Inquiry Rule, ASTM Training Course, Orlando, Florida, April 25-26, 2006.

Storm Water Management and Site Solution Workshop, College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, April 6, 2006.

Design and Implementation of Effective Soil Gas Monitoring and Sampling Programs, The Nielsen Environmental Field School, Columbus, Ohio, November 29, 2005.

"Como queda el Ambiente con la Nueva Ley Núm. 416 sobre Política Pública Ambiental", Collage of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, April 28, 2005.

Hydrologic Modeling Using HEC-HMS Computer Model, American Society of Civil Engineers, San Diego, California, February 24-25, 2005

Micropurge Low-Flow Purging and Groundwater Sampling, The Nielsen Environmental Field School, Tampa Florida, March 12, 2004

Risk-Based Corrective Action at Petroleum Release Sites, ASTM Standard E1739, Sponsored by the ASTM, Lansing, Michigan, May 13-14, 2003.

Hydrogeology of Fracture Rock: Characterization, Monitoring, Assessment and Remediation, Niagara Falls, NY, December 2-5, 2002.

"Reglamentación Actual para el Tratamiento de las Aguas de Escorrentías", College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, November 26, 2002.

National Pollutant Discharge Elimination System – Storm Water Regulations and NPDES Permit Seminar, Sponsored by the Environmental Protection Agency (EPA), San Juan, Puerto Rico, November 8, 2002.

Improving Hydrogeologic Analysis of Fracture Bedrock Systems, 2002 Workshop, University of Massachusetts (UMASS), Amherst, Massachusetts, June 18 and 19, 2002.

Highway Traffic Noise Workshop, Sponsored by The Federal Highway Administration and the P.R. Highway and Transportation Authority, San Juan Puerto Rico, June 12-14, 2001

EPA Storm Water Management Model (SWMM) Training Course, Sponsored by Camp Dresser & McKee, Edison New Jersey, May 3-5, 2001

"Seminario sobre Nuevo Permiso Federal para Descargas de Aguas de Escorrentia y Desarrollos Recientes en Reglamentación Ambiental", AIDIS/CIAPR, San Juan, Puerto Rico, May 2, 2000.

Phase II Environmental Site Assessment Process - ASTM E 1903 Standard Guide, ASTM Technical & Professional Training, New York, NY, September 14-15, 1999

Environmental Site Characterization, ASTM Technical and Professional Training in the Performance, Use and Application of ASTM Standards, Orlando Florida, August 13-14, 1998

Field Based Site Characterization Technologies - Short Course, U.S. Environmental Protection Agency's Technology Innovation Office, Westborough, MA, March 30, 1998

HEC-RAS for Experienced HEC-2 Users, Center for Research in Water Resources, The University of Texas at Austin, March 23-25, 1998.

EPA Brownfields Workshop, Sponsored by PRIDCO, San Juan, Puerto Rico, January 29, 1998.

Brownfields 97 Conference, Sponsored by the EPA, Kansas City, Mo., September 3-5, 1997.

Sedimentation in Stream Networks Training Seminar Using the HEC-6 Computer Model, by William A. Thomas, Mobile Boundary hydraulics, May 3 - 5, 1995

Fundamentals of Puerto Rico Environmental Law Compliance, Government Institutes Inc., April 1992.

Project Management, Law Environmental, Inc., Kennesaw, Georgia, May 1989.

Liability and Loss Prevention, Law Environmental Inc.; December 1988.

OSHA Health and Safety 40 Hrs. Training and OSHA Refresher Courses on a yearly basis, April 1988.

Mitigation of Hazard Due to Extreme Natural Events in America; University of Puerto Rico - Mayaguez Campus; January 20-22, 1987.

Unsteady Flow Modeling Using DAMBRK and DWOPER Computer Models - University of Texas at Austin; October 6-10, 1986.

Computer Applications in Water Resources; Sponsored by the ASCE; Buffalo, New York; June 1985.

Dam Safety Seminar, Application of DAMBRK and HEC-1 Models in the Analysis of Flood Waves Produced by Dam Failure; Sponsored by the Federal Emergency Management Agency (FEMA); Atlanta, Georgia; May 1984.

Project Management for Architectural and Engineering Firms; Sponsored by the Institute of Chemical Engineers, College of Engineers and Surveyors of P. R. - April 1981.

Pumps and Piping Systems; Design and Maintenance, Sponsored by the Institute of Mechanical Engineers, College of Engineers and Surveyors of P.R.; March 1981

Flood Plain Hydraulics by Application of HEC-2 Model; University of Texas at Austin; April 1979.

Small Wastewater Treatment Systems and Sludge Treatment and Disposal; Sponsored by the Environmental Protection Agency (EPA); San Juan, Puerto Rico; February 1978.

LIST OF PROFESSIONAL PUBLICATIONS

Colón R., Wallace J.R., Olson R.W. and Massey K. L.,"Flood Forecasting - An Alternate Response for PMF at the Saluda Dam, Proceedings of the American Power Conference, Chicago, Illinois, April 1989.

Editor for the Puerto Rico Water Resources Association Bulletin, 1988.

Raúl Colón and George F. McMahon, "BRASS Model: Application to Savannah River Reservoir System", ASCE - Journal of Water Resources Planning and Management, Vol. 113, No. 2 March 1987.

Raúl Colón; Robert Olson and James R. Wallace; "Increasing Revenues of Existing Hydro Power Reservoirs", A Law Environmental professional publication, September 1987.

Bras, R. L. and Colon R., "Time Average Areal Mean of Precipitation: Estimation and Network Design, Water Resources Research, Volume 14 - No. 5, October 1978.

LIST OF TECHNICAL PRESENTATIONS

Seminario Ambiental (Legal y Técnico) "Debida Diligencia Ambiental y Efectos en la Compraventa y Ocupación de Propiedades en Puerto Rico", CIAPR and AIDIS, August 2011 and July 2012.

Site Assessment Techniques and Technologies for Brownfields, Brownfields Pilot Program, Technical Session, Sponsored by PR Industrial Development Company, February 3, 1999

Flood Forecasting - An Alternate Response for PMF at the Saluda Dam";5lth Power Conference, Chicago, Illinois; April 25, 1989.

Dam Safety Studies - A General Overview; Presentation given at the College of Engineers and Surveyor s of Puerto Rico; Sponsored by APRA; February 3, 1989

Flood Forecasting- Basic Elements; Presentation given at the Puerto Rico' s Fourth Hurricane Conference; Sponsored by the Department of Natural Resources; Caribe Hilton Hotel; June 15, 1988.

Moderator for the APRA Seminar; "Hazardous Wastes in Puerto Rico: Impact in Water Resources, College of Engineers and Surveyors of Puerto Rico; April 15, 1988.

Bolivia's Rio Mamore and Rio Parapeti: Flood Forecasting and Sedimentation Control Projects presentation given to the Puerto Rico' s Speleology Society, March 4, 1988, San Juan, Puerto Rico.

Dynamics of Ground Water Contamination - A typical case study for Puerto Rico, presentation given to the P. R. Industrial Development Company as part of a Real Estate Transactions Seminar, February 1988.

Dynamics and Control of Aquifer Contamination - APRA Symposium June 1987, San Juan, Puerto Rico.

Brass Model Applications - presentation given as part of the Seminar: Unsteady Flow Modeling Using DAMBRK and DWOPER Computer Models, October 6-10, 1986, Austin, Texas.

Basin Runoff and Stream flow Simulation Model Workshop; presentation given to the Army Corps of Engineers Savannah District, October 16, 1984, Savannah, Georgia.

LIST OF PROJECTS

The following list shows a representative sample of Mr. Colón's professional work experience throughout his professional career.

EXPERT WITNESS PROJECTS

- Expert Witness consultation - Papelera Puertorriqueña Superfund Site, Utuado Puerto Rico, ongoing.
- Expert Witness consultation – San German Superfund Site, San German Puerto Rico, ongoing.
- Expert Witness consultation – Cabo Rojo Superfund Site, Cabo Rojo Puerto Rico, ongoing.
- Expert Witness - CIVIL CASE NO. 07-CIV-10470 MTBE PRODUCTS LIABILITY LITIGATION COMMONWEALTH OF PUERTO RICO, ET.AL V. SHELL OIL CO., ET.AL – on going
- Expert Witness consultation – Cidra Superfund Site, Cidra Puerto Rico, 2015.
- Expert Witness – Court Special Commissioner Aguadilla Court– Anel Guzman Urbina V. Victor Bellaflores Hernandez, Aguadilla – July 2012
- Expert Witness – Court Special Commissioner Carolina Court - Blasina Lagoon Contamination, Municipio de Carolina V. Autoridad de Acueductos y Alcantarillados, Carolina – June 2010.
- Expert Witness – Court Special Commissioner Mayaguez Court – PCB Horizon Hazardous Wastes Site, San German Puerto Rico, PRIDCO v. PCB Horizon, July 2008.
- Expert Consultation Groundwater Contamination with Dense Non-Aqueous Phase Liquids (DNAPLs), Puerto Rico Industrial Development Company GE Palmer, Rio Grande, Puerto Rico, 2010.
- Expert Witness – MAPFRE PRAICO Insurance Company V. Sucesion de Jesus Guzman, et. al., Bayamon (McV/Shell/Sol).
- Expert Witness - Supermercados Econo Facundo V. Esso, Site Contamination Assessment in Carolina, 2007.
- Expert Witness Court Case - Loco Dam 1987 Flood Impact on Agricultural Properties Downstream, Guanica, Puerto Rico, March 2007.
- Expert Witness – Eloina Colon v Shell Company Puerto Rico, Mayaguez, January 2007.
- Expert Witness Court Case - Palmas Doradas Developers V. Treasury Point, Dorado, Groundwater Impact by Sanitary Waste Waters, October 2006.
- Expert Witness Court Case – Rio Guamani Guayama Flood, Villa Monte Río y la Academia Regional Adventista del Sur V. Municipio de Guayama, Guayama, June 2006.
- Expert Witness Court Case - Isla del Rio Corco Tallaboa site, Peñuelas, Puerto Rico, December 2005.
- Expert Witness - Hydrologic and Hydraulic Study, Undeveloped lot, Proposed Toyota Facility, Cataño, Puerto Rico, November 2004.
- Expert Witness Court Case - Iglesia Defensores de la Fe, Bayamón Puerto Rico, Surface Hydrology/Hydraulics, October 2004.
- Expert Witness – Felix Albert hydrologic/hydraulic impacts of construction activities adjacent to his residence, Guaynabo, Puerto Rico, November 2003.
- Expert Witness, WORA TV Hacienda Igualdad, Guanica, Puerto Rico, March 2003

- Expert Witness - Alta Vista Development Court Case V. Orchid Paradise, Mayaguez, Surface Hydrology/Hydraulics, March 2003.
- Expert Witness - Hydrogeologic Impacts of Proposed Regional Landfill in Salinas, Puerto Rico, 2002.

HYDROLOGY AND HYDRAULICS

Surface Hydrology/Hydraulics

- Hydrologic Assessments for bridges in Puerto Rico impacted by the Irma and Maria Hurricanes, Project PR ST FEMA PR Contract C3, On-going
- Hydrologic/Hydraulic Study for the proposed Flamboyán Village Residential project, Caguas, Puerto Rico, On-going
- Hydrologic/Hydraulic Study for the proposed Rio Village Residential project, Trujillo Alto, Puerto Rico, On-going
- Hydrologic/Hydraulic Study for locations in Isabela, Las Marias, and Barranquitas, Puerto Rico for the Landslides and Road Damage PRHTA Emergency Relief Program, On-going
- Hydrologic/Hydraulic Study for the AES Guayama facility, Guayama, Puerto Rico, On-going
- Hydrologic/Hydraulic Study for the Bacardi facility, Guaynabo, Puerto Rico, 2017
- Hydrologic/Hydraulic Study for the Cayey Municipal Landfill, Cayey, Puerto Rico, January 2017
- Hydrologic/Hydraulic Study for the proposed One Planet Solar Farm, Vega Baja, UNIPRO, 2015.
- Hydrologic/Hydraulic Study for the Cooper Vision industrial facility, Juana Diaz, Puerto Rico, December 2015
- Hydrologic/Hydraulic Study for the proposed commercial development to be located in Caguas, Puerto Rico, July 2014
- Hydrologic/Hydraulic Study for the Quebrada Prieta and Pueblo Indio Sectors as requested by FEMA, Canovanas, Puerto Rico, June 2013
- Preliminary Hydrologic/Hydraulic Evaluation for the Solar PV Generating Plant Project, San German, Puerto Rico, July 2013
- Hydrologic/Hydraulic Study for the Alternate Temporary Channel/Rio La Plata Flood Control Project, Dorado, Puerto Rico, Construcciones Jose Carro, S.E., October 2011
- Hydrologic/Hydraulic Study for the Turabo River, Caguas, Puerto Rico, as requested by the Puerto Rico Highway and Transportation Authority, September 2012.
- Hydrologic/Hydraulic Study for the AD Bayamon site owned by Mendez & Co., Bayamon, Puerto Rico, 2008.
- Hydrologic/Hydraulic Study for a proposed Mixed-Uses Development Complex, LAIF LLC, Guaynabo, Puerto Rico, 2009
- Hydrologic/Hydraulic Study for a proposed Universal Insurance facility as requested by Sierra Cardona Ferrer, Hatillo, Puerto Rico, 2007.
- Hydrologic/Hydraulic Study, Villa Franca Residential Development, Palmas del Mar, Humacao, Puerto Rico, 2007.
- Hydrologic/Hydraulic Study and Sinkholes Hydraulic Evaluation, Las Americas Technology Industrial Park, Moca, Puerto Rico, January 2007.

- Hydrologic/Hydraulic Study for a Camaseyes parcel of land, Aguadilla, Puerto Rico, 2007.
- Hydrologic/Hydraulic Study for La Vereda Residential Development, Chupacallos Ward, Ceiba, Puerto Rico, 2007.
- Hydrologic/Hydraulic Study for the proposed Redemptorists Fathers Notre Dame School, Caguas, Puerto Rico, 2007.
- Hydrologic and Hydraulic Study for the Degetau Avenue to the Turabo River and FEMA Conditional Letter of Map Revision Request, Caguas, Puerto Rico, June 2005.
- Hydrologic/Hydraulic Study Betteroads Cupey Facility, San Juan, Puerto Rico, April 2006.
- Hydrologic/Hydraulic Study Jardin Central Residential Development, Humacao, Puerto Rico, June 2005.
- Hydrologic/Hydraulic Study La Hacienda Residential Development, Caguas Puerto Rico, October 2004.
- Hydrologic/Hydraulic Study Villa Franca Residential Development, Palmas del Mar, Humacao, Puerto Rico, January 2004.
- Hydrologic and Hydraulic Study for the IPR Pharmaceuticals new facilities, Canovanas, Puerto Rico, July 2004.
- Hydrologic and Hydraulic Study, Ariel Rivera Supermarket, Jayuya, Puerto Rico, June 2002
- Hydrologic and Hydraulic Study, Sun Bay Recreational Complex, Vieques, Puerto Rico, March 2003
- Hydrologic and Hydraulic Study, Villas de Montecielo Residential Development, Guaynabo, Puerto Rico, September 2009.
- Hydrologic and Hydraulic Study, Blasina Estates Residential Development, Carolina, Puerto Rico, October 2001.
- Hydrologic and Hydraulic Study, Aventura Residential Development, Gurabo, Puerto Rico, December 2003
- Sinkhole Hydrologic and Hydraulic Study, School Development, Florida, Puerto Rico, November 1999
- Sinkhole Hydrologic and Hydraulic Study, Residential Development, Barceloneta, Puerto Rico, November 1999
- Sinkhole Hydraulic Capacity Study, School Development, Isabela, Puerto Rico, December 1999
- Hydrologic and Hydraulic Study, School Development, Culebra, Puerto Rico, October 1999
- Hydrologic and Hydraulic Study, Paseo del Prado Residential Development, Barceloneta, Puerto Rico, January 1999
- Hydrologic and Hydraulic Study, Commercial and Residential Complex Development, Bayamon, Puerto Rico, July 1999
- Hydraulic and Bridge Scouring Study, Tren Urbano Bridge Over Bayamón River, January 2005.
- Hydrologic and Hydraulic Study, Tren Urbano Dowels Manufacturing Facility, Bayamón, June 1997
- Unsteady Flow Hydraulic Study, San Juan Emergency Center Complex, Caño Martin Peña, Santurce, Puerto Rico, January 1998
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- Groundwater Sampling, Parking Lot Identified as Parcel B, Martin Peña Sector, Santurce Ward, San Juan, Puerto Rico, December 2018

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- Remedial Action Plan Preparation and Plan Implementation PCE Remediation Project-Former Pharmaseal Facility, Baxter Healthcare Corp., Toa Alta, Puerto Rico, April 1994
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- Phase I Environmental Site Assessment at Commercial Property in St. Thomas, USVI, November 2011.
- Phase I and Phase II Environmental Site Assessment for the Ramallo Brothers Printing facility, Caguas, Puerto Rico, November 2010.
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- Phase II Environmental Site Assessments at the Las Americas and Gregorio Luperon Airports Facilities, Dominican Republic, November 2014.
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- Environmental Audit at the Hertz Facility, Carolina, Puerto Rico, 2008.
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- Phase I Environmental Site Assessment, Proposed Home Depot facility, Arecibo, Puerto Rico, 2003
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- Phase I Environmental Site Assessment, San Juan and Carolina properties, January 2003
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- Phase I and Phase II Assessments, Revitalizacion Centro Urbano de Santurce, San Juan, Puerto Rico, February 2003.
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- Phase I Environmental Site Assessment ACERVO Transportation and Maintenance Facility, Hato Rey, Puerto Rico, October 1995.
- Phase I Environmental Site Assessment and Limited Regulatory Compliance Audit - OSI Facility, Santa Isabel, Puerto Rico, February 1995.
- Regulatory Compliance Audit - Basic Industries Facility, Caguas, Puerto Rico, March 1995.
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- Phase I Environmental Site Assessment - Radio Station, Canovanas, Puerto Rico, June 1995.
- Phase I Environmental Site Assessment Mendez & Co. Commercial Facilities at Guaynabo, Ponce and Mayaguez, Puerto Rico, June 1995.
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- Phase I Environmental Site Assessment - Property Where the Baxter Healthcare San German Facility was Proposed, San German Puerto Rico, February 1993.
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- Inventory and Characterization of Hazardous Wastes - Former National Circuits Facility, Fajardo, Puerto Rico, November 1993.
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Resume of: Valentín Félix Flores, P.E.

Title: Chemical/Environmental Engineer

Profession: Senior Chemical/Environmental Engineer

Education: Graduate Studies towards M.S. in Engineering Administration,
George Washington University
B.S. Chemical Engineering, UPR Mayagüez, 1981

Professional Registrations/ Certifications:

- Professional Engineer (Puerto Rico License Number 16628)
- Certified Environmental Manager (CEM) and Certified Environmental Specialist (CES) at the Environmental Assessment Association (Certification Nos. 14841)

Professional Memberships and Associations:

- College of Engineers and Land Surveyors of Puerto Rico (CIAPR)
- Instituto de Ingenieros Ambientales (CIAPR)
- Environmental Assessment Association
- National Groundwater Association
- Asociacion Interamericana de Ingenieria Sanitaria y Ciencias del Ambiente (AIDIS)

Career Summary:

Mr. Félix has been a Principal Engineer with the environmental consulting firm of Caribe Environmental Services (CES) Inc. in Caguas Puerto Rico, since August, 1996. Mr. Félix is a chemical/environmental engineer with over 30 years of experience, and some of his duties include; marketing, preparation of proposals, coordination, execution, and management of environmental projects, and reports preparation.

Prior to joining CES, Mr. Félix was the Technical Operations Manager of the Law Environmental-Caribe office in San Juan Puerto Rico. He was responsible for the allocation of resources and technical aspects, coordination and execution of Branch projects. He was the Underground Storage Tanks (UST) Department Manager since January 1990 when he joined Law Environmental-Caribe. As UST Department Manager he managed numerous geologic and hydrogeologic assessment projects for pharmaceutical, local and federal government agencies, and industry. These projects involved initial site assessments soil borings and monitoring wells installation, soil and ground water sampling, extent of contamination determination, remedial action plans preparation and execution and USTs removal.

He also managed numerous Phase I assessment, lead paint removal, and other miscellaneous environmental assessment projects. Prior to joining Law in 1990, Mr. Felix worked as the Environmental Compliance Branch Manager at the Naval Ordnance Station, Indian Head, Maryland. He was responsible for the plant environmental permits compliance, NPDES Sampling and Reporting, Discharge Monitoring Reports, PCBs and Hazardous Wastes annual inventories, preliminary environmental assessments review. He was a member of the base Emergency Response Team.

Technical Experience:

PERMITTING/ENVIRONMENTAL AUDITS/ REGULATORY COMPLIANCE

Mr. Félix has worked with environmental projects related to permitting and regulatory compliance. He has dealt extensively with the P.R Environmental Quality Board EQB) Programs with permitting and compliance issues. He has conducted many regulatory compliance audits for industries in Puerto Rico. These projects typically involve conducting an evaluation of facility processes and chemicals handling, storage, and disposal practices and documentation for regulatory compliance. He has participated in numerous regulatory compliance audit of plants in Puerto Rico. The audits typically consist of the evaluation of plant processes, documentation and other recordkeeping to verify compliance with applicable environmental regulations such as RCRA, SARA Title III, TSCA, and other local regulatory agency. Mr. Félix has conducted numerous assessment of industrial facilities for compliance with SARA Title III requirements. He has dealt extensively with the preparation of air emission sources permit applications, Underground Storage Tanks and Underground Injection Facility closure plans preparation and execution.

Conducted environmental audits under the EPA's Voluntary Auditing Program for the following medical facilities: San Pablo Bayamon, San Pablo del Este Fajardo, Caribbean Pediatrics, San Juan Capestrano, Ojos Clinic, Centro Cardiovascular de PR y el Caribe, San Juan Bautista Medical Center.

Other audits included the Papelera Puertorriqueña Utuado, Lanco San Lorenzo facility, the Enco Cidra facility.

GEOLOGIC/HYDROGEOLOGIC ASSESSMENT

Mr. Félix has been managing throughout his career hydrogeologic assessment projects for pharmaceutical, local and federal government agencies, and industry, involving soil and groundwater contamination assessment. These projects typically involve soil borings installation for initial site assessments, monitoring wells installation, soil sampling, wells development and ground water sampling, determination of soil and groundwater extent of contamination, determination of groundwater flow direction.

He has prepared and executed remedial action plans for remediation projects. He is very familiar with field sampling and screening techniques such as Ultraviolet Fluorescence Spectrometer (UVF), X-Ray Fluorescence (XRF), and HAZCAT screening, used to expedite site assessment projects.

Mr. Félix was the project manager for a large assessment project for a former Manufactured Gas Plant (MGP) in Puerto Rico.

UNDERGROUND/ABOVEGROUND STORAGE TANKS

Mr. Felix has managed over 25 projects involving the closure/removal of Underground Storage Tanks (USTs), including the preparation of Closure Plans with sampling requirements, execution of sampling activities and Closure Reports preparation. He managed a Navy contract to conduct groundwater/USTs studies and remedial design documents preparation for various locations in the Commonwealth of Puerto Rico. He was responsible for the negotiation of delivery orders, preparation of Health and Safety and Sampling Plans, overseeing the execution of field activities, reports preparation and overall management of the contract. Under this contract he managed the execution of: Various Site Checks, Site Characterizations, Corrective Action Plans Preparation, Preparation of design drawings and specifications for the removal of over forty five USTs, at the Navy facilities in Puerto Rico.

Mr. Félix executed and managed a Fuel Oil Spill Investigation and Site Assessment at the Kayser Roth facility in Arecibo, Puerto Rico. This project involved the detection of the release source, drilling of soil borings and soil sampling to determine extent of contamination, preparation of a Remedial Action Plan (RAP) which was approved by the Puerto Rico Environmental Quality Board (EQB). The RAP which involved fuel oil contaminated soil excavation, removal and disposal was also executed and a Final Report prepared.

Mr. Félix managed a Six 50,000 gal. Tank Farm Assessment at the U.S.C.G. Air Station Borinquen in Aguadilla, Puerto Rico. This project involved the tanks integrity testing, drilling of soil borings, soil gas survey, installation of over 20 monitoring wells, geologic/hydrogeologic assessment to determine extent of contamination, preparation and execution of a Contamination Assessment Plan which was approved by the P.R Environmental Quality Board. In addition, Mr. Felix prepared a Contamination Assessment Plan (CAP) for a two-USTs site within the Air Station Borinquen. The CAP was reviewed and approved by the P.R. Environmental Quality Board. Mr. Félix managed the execution of the CAP and prepared the Final Report which was submitted to the U.S.C.G. and eventually to the Local Regulatory Agency for approval.

Mr. Félix managed the execution of a Site Assessment and Closure of nine USTs at the Union Carbide Grafito plant in Yabucoa, Puerto Rico. This project consisted of assessing various Underground, on-ground and aboveground storage tanks sites to confirm the presence of hydrocarbons in soil and groundwater. Soil borings were drilled and monitoring wells installed. Nine USTs were permanently closed by removing the tanks and hydrocarbon affected soils surrounding the tank areas.

Mr. Félix has been managing throughout his career UST related projects (tanks removal, geologic and hydrogeologic assessments, tanks testing, for petroleum, pharmaceuticals and other industries in Puerto Rico.

He has also prepared many Spill Prevention Countermeasure and Control (SPCC) Plans as required by 40 CFR 112.

HEALTH AND SAFETY

Mr. Félix has vast experience with Hazardous Waste Operations and Emergency Response as required by the Occupational Health and Safety Agency (OSHA) under 29 CFR 1910.120. He has acquired this experience through numerous courses and seminars involving the management of hazardous materials and wastes, and through field experience managing projects involving hazardous materials/wastes.

Mr. Félix has extensive knowledge preparing Health and Safety Plans for projects involving primarily the removal of Underground Storage Tanks (USTs), USTs Assessment Projects, lead paint removal, geologic and hydrogeologic assessments, contaminated soil removal and disposal. As Hazardous Materials Program Manager at the Naval Ordnance Station, Mr. Felix obtained vast experience with health and safety issues related to hazardous materials identification, exposure, storage, handling, compatibility, labeling and disposal activities in accordance with 40 CFR 265. Mr. Felix has been assigned as the Health and Safety Officer in many of the projects where he has been involved.

PHASE I & II ENVIRONMENTAL SITE ASSESSMENTS

Mr. Félix has executed and managed over 150 projects involving Phase I Environmental Site Assessments, primarily for real estate transactions for facilities in Puerto Rico, St. Thomas and the Dominican Republic. These Phase I site assessments typically involve interviews with facility/property personnel, conducting site reconnaissance, review of property history, surrounding land use, regulatory compliance review, hazardous materials handling, EPA databases review, and EQB Programs files review. He managed the execution of a fast track project involving Phase I Assessments of over twenty five facilities purchased by a U.S. based furniture factory. He has also managed Phase II Assessment projects involving the installation of soil borings, and monitoring wells, asbestos and lead based paint surveys, soil, groundwater, wastes, and other media sampling. He has also conducted cleanup and remediation activities at various of these sites as part of Phase III activities. Mr. Félix conducts Phase I Assessments following the AAI Rule and the ASTM E1527-05 Standard and qualifies as environmental professional as defined by the AAI Rule. As a member of the Environmental Assessment Association, Mr. Félix stays abreast of the constantly changing environmental rules and regulations that impact the execution of Phase I and Phase II projects in accordance with the most recent versions of the ASTM Standard.

REMEDIATION/ HAZARDOUS WASTES CHARACTERIZATION

Mr. Felix managed a project where EPA's issued an Administrative Order of Consent (AOC) in May 2001 for removal action under CERCLA to conduct cleanup and remedial activities at the CIP facility in Caguas, PR.. Mr. Felix was responsible for the preparation of EPA required documentation (Quality Assurance Project Plan (QAPP) Sampling Plan (SP) and Health and Safety Plan (HSP) and managed field/assessment activities. Documents were approved by the EPA and implemented. Final report was submitted to EPA, which changed site's qualification to No Further Remedial Action Planned (NFRAP).

Mr. Félix was the project manager and field supervisor of a waste characterization project for the Puerto Rico Industrial Development Company (PRIDCO) abandoned industrial facility. The facility had unidentified abandoned hazardous and toxic wastes. The project consisted of an initial site entry to identify the need for emergency response activities, inventory of wastes, field chemistry screening (HAZCAT) to identify compatible waste groups, segregation of compatible groups, laboratory analysis, and reporting. Mr. Felix has also prepared requests for proposals for remediation contractors, evaluated contractors proposals and has managed the remediation activities by the selected contractor. Mr. Felix has also provided technical assistance and has served as the liaison between the client and the regulatory agency to comply with the environmental regulations.

Worked on EPA required documentation (Quality Assurance Project Plan (QAPP) Sampling Plan (SP) and Health and Safety Plan (HSP) and managed field/assessment activities for a project at the Metal Finishing Toa Baja. After review of the submitted documents, EPA changed the site's classification from a potential National Priority List Site to a No Further Remedial Action Planned.

Managed a Phase III Assessment/Remediation activities project which consisted of: drums/containers sampling and disposal; characterization, removal and disposal of waste waters and/or sludge in process tanks and sumps; cleaning of sumps and surfaces potentially affected with regulated metals, cleanup verification by sampling and analysis, and; characterization and disposal of waste wasters generated from cleaning activities from properties/ lots formerly owned by PRIDCO, within the Panamerican Grain Facilities in Cataño.

Managed a Phase III Assessment activities/Remediation at Former Electronics facility in Guanica. Waste characterization using the HAZCAT system: inventory, sampling, field screening, waste grouping, laboratory analysis of waste group samples, technical guidance during waste consolidation in preparation for transportation and disposal by PRIDCO's contractor. Field screening, sampling, characterization and disposal of abandoned chemical containers.

AIR EMISSION PERMITTING

Mr. Felix has worked on over 50 air emission permit projects involving the preparation of construction and operation permit applications for various commercial and industrial facilities in P.R. These projects involve the assessment of the facilities to identify the air emission sources, preparation of the applications including the emissions computations, stamping by professional engineer and submittal to Environmental Quality Board.

OSHA PROCESS HAZARD ANALYSIS

Mr. Félix conducted a Process Hazard Analysis (PHA) for seven processes of the Caribbean Refrescos (Coca Cola) facility in Cidra, Puerto Rico, as required by OSHA Process Safety Management under 29 CFR 1910.119.

Career History:

Nov. 2010 – Present	Principal Engineer, Caribe Environmental Services, Inc.
Aug. 1996 – Nov. 2010	Partner/Principal Engr. Caribe Environmental Services, Inc.
Jan. 1990 - Aug. 1996	Manager Law Environmental-Caribe, San Juan, Puerto Rico
Jan 1981 - Dec. 1989	Naval Ordnance Station, Indian Head, Maryland

CONTINUING EDUCATION SEMINARS

2010

- "Phase I and Phase II Assessments, Congreso and Expo Convencion, College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, August 6, 2010

- "Creando Oportunidades de Negocios en Latinoamérica y el Caribe", El Centro de Desarrollo de Pequeñas Empresas y Tecnología, San Juan, Puerto Rico, Mayo 20, 2010

- "Taller Comprensivo Sobre la Nueva Ley para la Reforma y Agilizacion del Proceso de Permisos (Ley #161), College of Engineers and Surveyors of Puerto Rico, March 12, 2010.

2009

- "Plan para Agilizar los Permisos en Puerto Rico", College of Engineers and Surveyors of Puerto Rico and AIDIS, June 25, 2009.

2008

- "Introducción a la Inspección de Calderas y Recipientes a Presion", College of Engineers and Surveyors of Puerto Rico, November 20, 2008

2008 Final NPDES General Permit for Storm Water Discharges from Industrial Activities, CIAPR and AIDIS, November 20, 2008.

2007

- "Implantación del Nuevo Permiso General Consolidado de la Junta de Calidad Ambiental de Puerto Rico", College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, April 30, 2007.

2006

- Environmental Site Assessments for Commercial Real Estate, ASTM Standard E-1527-05 and EPA All Appropriate Inquiry Rule, ASTM Training Course, Orlando, Florida, April 25-26, 2006.

- "DOT HAZMAT Function Specifics" Manifests Completion" (49 CFR 172.200 and 40 CFR 260-265), Environmental Training & Professional Services, San Juan, Puerto Rico, August 18, 2006.

- "DOT HAZMAT General Awareness & Familiarization Training" (49 CFR 172.700), Environmental Training & Professional Services, San Juan, Puerto Rico, August 17, 2006.

2005

- "Actualizandonos con la Reglamentacion Ambiental" College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, November 4, 2005.

- "Introducción a Computos de Emisiones en la Industria Farmaceutica" College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, October 26, 2005.

- " Como Queda el ambiente con la Nueva Ley Num. 416, Sobre Politica Publica Ambiental" College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, April 28, 2005.

2004

- " Fundamentos y Aspectos Practicos de la Recopilacion de Informacion de Seguridad del Proceso (PSI)," College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, December 16, 2004.

- Environmental Workshop for Healthcare Facilities: RCRA Identification and Management, SPCC, Stormwater, Pollution Prevention and EPA's Environmental audit. Policy" San Juan, Puerto Rico, May 17 and 18, 2004.

- Micropurge Low-Flow Purging and Groundwater Sampling, The Nielsen Environmental Field School, Tampa Florida, March 12, 2004

2003

- Air Quality Emissions Factor Model MOBILE 6. US Department of Transportation Federal Highway Administration, San Juan Puerto Rico, December 8 and 9, 2003

- "Risk-Based Corrective Action at Petroleum Release Sites, ASTM Standard E1739, Sponsored by the ASTM, Lansing, Michigan, October 14-15, 2003.

- "Environmental Compliance Update" Technologies for Water and Wastewater, Stormwater Regulations, Toxic Release Inventory Form and SPCC Plans, College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, June 27, 2003.

2002

- "Reglamentación Actual para el Tratamiento de las Aguas de Escorrentías", College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, November 26, 2002.

- "Phase I Environmental Site Assessment Practices for Commercial Real Estate" Sponsored by the ASTM, College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, October 24 and 25, 2002.

2001

- "How to Manage Multiple Projects, Meet Deadlines, and Achieve Objectives" Fred Pryor Seminars, San Juan, Puerto Rico, March 29, 2001.

2000

- " Manufacturers Training Course for NITON's Portable Spectrum Analyzer Instrument XRF Analyzer, San Juan, Puerto Rico, May 8, 2000

- "Seminario sobre Nuevo Permiso Federal para Descargas de Aguas de Escorrentia y Desarrollos Recientes en Reglamentación Ambiental", AIDIS/CIAPR, San Juan, Puerto Rico, May 2, 2000.

1999

- "EPA Voluntary Environmental Audits" Sponsored by Reichard & Escalera Law Firm, San Juan, Puerto Rico, June 30, 1999.

- Risk Management Program RMP (40 CFR 68), F. Irizarry & Asociados, Ponce, Puerto Rico, May 14, 1999.

- EPA Brownfields Workshop, Sponsored by Puerto Rico Industrial Development Company (PRIDCO), San Juan, Puerto Rico, February 3, 1999.

- National Pollutant Discharge Elimination System – Storm Water Regulations and NPDES Permit Seminar, Multi-Sector General Permit (MSGP) Modification Seminar" Sponsored by the Environmental Protection Agency (EPA), San Juan, Puerto Rico, March 17, 1999.

- " Presentacion Nuevo Reglamento Documentos Ambientales" Junta de Calidad Ambiental, Sponsored by Puerto Rico Highway and Transportation Authority" , San Juan, Puerto Rico, December 7, 1999.

- "Generadores de Electricidad Solucion o Agravante a la Emergencia", College of Engineers and Surveyors of Puerto Rico, San Juan, Puerto Rico, September 3, 1999.

1998

- Environmental Site Characterization, ASTM Technical and Professional Training in the Performance, Use and Application of ASTM Standards, Orlando Florida, August 13-14, 1998

- "Expedited Site Assessment Tools for Underground Storage Tanks Sites" Sponsored by Transglobal Environmental Geochemistry, San Juan, Puerto Rico, March 18, 1998.

1997

- " ACCESS Basics" Sponsored by Abremar Computer Learning Center, San Juan, Puerto Rico, September 19, 1997.

- Brownfields 97 Conference, Sponsored by the EPA, Kansas City, Mo., September 3-5, 1997.

1996

- "Bioremediation of Soils and Groundwater Contamination"" On-Site Environmental, Inc. San Juan Puerto Rico May 31, 1996.

1995

- Puerto Rico's Title V Operating Permit Program", Puerto Rico Manufacturers Association" San Juan, Puerto Rico, March 17, 1995.

- "Fugitive Emissions Monitoring and Compliance Seminar" The Foxboro Company, San Juan, Puerto Rico, January 25, 1995.

1994

- " Basic Risk Management Law Engineering and Environmental Services, San Juan, Puerto Rico, January 29, 1994.

1993

- " Basic Project Management" Law Environmental Inc., San Juan, Puerto Rico, August 28, 1993.

- " TCL Seminar" Sponsored by the Environmental Protection Agency, San Juan, Puerto Rico June 14, 1993.

1992

- "8-Hour Supervisory Course for Hazardous Waste Operations OSHA 29 CFR 1910.120", Law Companies Environmental Group, San Juan, Puerto Rico, September 11, 1992.

- "Fundamentals of Puerto Rico Environmental Law Compliance", Government Institutes Inc., April 1992.

- " Quality Assurance Procedures" Law Environmental Inc., San Juan, Puerto Rico, February 14, 1992.

- "Professional Orientation" Law Environmental Inc., San Juan, Puerto Rico, February 18 1992.

1991

- " Thin Layer Chromatography"" Scott Newborne, Law Environmental Government Services, San Juan, Puerto Rico, February 1, 1991.

1990

- " Basic Project Management" Law Environmental Inc., San Juan, Puerto Rico, November 6, 1990.

- "Leaking Underground Storage Tanks, Corrective Action Alternatives" Georgia Institute of Technology, Atlanta Georgia, November 1 and 2 1990.

- "Dye Tests Seminar" Law Environmental Inc., San Juan, Puerto Rico, October 24, 1990.

- "Liability and Loss Prevention" Law Companies Group, Inc., San Juan, Puerto Rico, October 20 1990.

- " The Functional Assessment of Wetlands (WET II) Wetland Delineation"" Office of Environmental Policy, National Highway Institute, Federal Highway Administration, San Juan, Puerto Rico, August 27-31, 1990.

1989

- "Environmental Regulation Course, a Basic Comprehensive Course on Environmental Regulations", Executive Enterprises Inc., Washington, D.C., November 15-17, 1989.

- "Hazardous Materials Leak, Spill and Fire Control School, Special Hands On" "Part 3 Command Considerations" Safety Systems Emergency Response Schools, The St. Augustine Technical Center, November 14 thru 16, 1989.

- "Hazardous Waste in Maryland", National Business Institute, Baltimore, Maryland, August 25, 1989.

- "Prevention of Sexual Harassment" Naval Ordnance Station, Indian Head, Maryland, July 26, 1989.

- "Managing Hazardous Chemicals: Integrating Hazard Communication, Chemical Safety, Hazardous Waste Management and Emergency Response" Occupational Safety and Health Educational Resource Center, University of North Carolina at Chapel Hill, March 1-3, 1989.

1988

- "Federal Hazard Communication Training Program", Naval Ordance Station, Indian Head, Maryland, December 12, 1988.

- "NAVSEA OP-5 Volume I Ammunition and Explosive Ashore", Naval Ordance Station, Indian Head, Maryland, May 12, through October 27, 1988.

- " Beginning DBase III Plus", Charles County Community College September, 23, 1988.

- "Radiation Safety Training" Naval Sea Systems Command Detachment (RASO) Yorktown, Virginia, August 8-19, 1988,

- "OSH-340, Hazardous Material Control", Navy Safety School, Naval Station, Treasure Island, San Francisco, California, June 7 – 16, 1988.

- "Engineering Administration", George Washington University, Naval Ordance Station, Indian Head, Maryland, January 14 – May 15, 1988.

- "Introduction to Engineering Economic Analysis", George Washington University, Naval Ordance Station, Indian Head, Maryland, September 10, – December 17, 1988.

- "Stress Management", Associates in Counseling, Consulting and Training, Naval Ordance Station, Indian Head, Maryland, January 26-29 1988.

1987

- "Performance Improvement Project Planning" ; R.T. Westcott & Associates, Naval Ordance Station, Indian Head, Maryland, October, 1987.

1986

- "Effective Time Management Workshop" ; Vicore Inc., Training, Education Development Consultants, Naval Ordance Station, Indian Head, Maryland, April 23, 1986.

- "Mechanical Stress Analysis"; Research Analysis Corporation, Naval Ordance Station, Indian Head, Maryland, March 28, 1986.

1985

- "Management and Motivation" Naval Ordance Station, Indian Head, Maryland, May 28-30, 1985.

- "Effective Writing Workshop Module 2", Carolyn Sherman, Naval Ordance Station, Indian Head, Maryland, February 26-27, 1985.

"Better Naval Writting", Carolyn Sherman, Naval Ordance Station, Indian Head, Maryland, February 27, 1985.

1984

- "Effective Briefing Techniques" Sponsored by Teleview Inc. Fairfax, Virginia Naval Ordance Station, Indian Head, Maryland, May 22-24, 1984.

- "Engineering Project Management" Sponsored by John Hopkins University, Naval Ordance Station, Indian Head, Maryland, April 17-19, 1984.

- "Evelyn Woods Reading Dynamics (Reading Improvements)" Naval Ordance Station, Indian Head, Maryland, March 5-9, 1984.

- "Configuration Management" James V. Clark and Associates, Naval Ordance Station, Indian Head, Maryland, March 20-21, 1984.

1983

- "EEO for Non Supervisors" Naval Ordance Station, Indian Head, Maryland, October, 1983.

- "Corrosion Engineering", Naval Ordance Station, Indian Head, Maryland, October 25-26, 1983.

- "Kepner Tregoe Genco II" Naval Ordance Station, Indian Head, Maryland, September, 19-23, 1983.

- "Contracting Officers Technical Representative (COTR)" Naval Ordance Station, Indian Head, Maryland, August 4, 1983.

1982

- "Review of Engineering Fundamentals" Naval Ordance Station, Indian Head, Maryland, August 19 – October 21, 1982.

- "Advanced Ordnance Technology (Double Base Rocket Propellant)", Naval Ordance Station, Indian Head, Maryland, July 13-16, 1982.

- "Advanced Ordnance Technology (Motor Design)", Naval Ordance Station, Indian Head, Maryland, May 17-21, 1982.

- "Advanced Ordnance Technology (Sec II Interior Ballistics)", Naval Ordance Station, Indian Head, Maryland, May 10-14, 1982.

- "Advanced Ordnance Technology (Composite Rocket Propellant)", Naval Ordance Station, Indian Head, Maryland, April 19-23, 1982.

- "Effective Writing Workshop", Michael L. Murdock, Communications Consultant, Naval Ordance Station, Indian Head, Maryland, May 5, 1982.

- "Using Instrumentation for Dynamic Measurements", Heiber Engineering, Naval Ordnance Station, Indian Head, Maryland, January 26-28, 1982.

- "Dimensioning and Tolerancing", Bibeau Associates, Naval Ordance Station, Indian Head, Maryland, December 08-10, 1982.

1981

- "Introduction to Engineering Administration", George Washington University, Naval Ordnance Station, Indian Head, Maryland, September 15 – December 15, 1981.

- "Basic Quantitative Methods for Engineering Administration", George Washington University, Naval Ordnance Station, Indian Head, Maryland, September 10 – December 17, 1981.

- "Accelerated Training and Promotion Program for Entry Level Engineers", Naval Ordnance Station, Indian Head, Maryland, January 26 – July 26, 1981.

- "Basic Ordnance Technology", Naval Ordance Station, Indian Head, Maryland, July 31, 1981.

- "Technical Writting Workshop", Charles County Community Collage, Naval Ordnance Station, Indian Head, Maryland, May 19-21, 1981.

- "Vibration and Shock Testing", Tustin Institute of Technology, Santa Barbara, California, Naval Ordance Station, Indian Head, Maryland, April 24, 1981.

OSHA Health and Safety 40 Hrs. Training and OSHA Refresher Courses on a yearly basis, since April 1988.

LIST OF PROJECTS

The following list shows a representative sample of Mr. Félix's professional work experience throughout his professional career.

HYDROGEOLOGY

- Site Characterization of Soil and Groundwater, former Hospital Dr. Pila owned by Metro Pavia, Ponce, Puerto Rico, on-going.
- Site Characterization of Soil and Groundwater, Dense Non-Aqueous Phase Liquids (DNAPLs), Confidential Client, Carolina, Puerto Rico, July 2009
- Assessment of Dense Non-Aqueous Phase Liquids (DNAPLs) in Groundwater, Confidential Client, Carolina, Puerto Rico, On-going.
- Groundwater and deep well sampling at the IPR Canovanas Facility, Canovanas, Puerto Rico, 2007.
- Groundwater and Clean-up Verification Sampling at the former Shell Yabucoa facility, Yabucoa, Puerto Rico, 2007.
- Hydrogeologic and Groundwater Characterization Assessment - Former Manufactured Gas Plant (MGP) Facility, Miramar, San Juan, Puerto Rico, June 1997.
- Subsurface and Groundwater Contamination Assessment - Air Liquid Facility, Cataño, Puerto Rico, October 1996
- Subsurface and Groundwater Contamination Assessment - General Gases Facility, Bayamón, Puerto Rico, October 1996
- Preliminary Subsurface Site Assessment - Former Fortiflex Manufacturing Facility, Bayamón, Puerto Rico
- Hydrogeologic Assessment and Groundwater Characterization - Former Metal Finishing Facility, Toa Baja, Puerto Rico, June 1996
- Subsurface and Groundwater Contamination Assessment ACERVO Transportation and Maintenance Facility, Hato Rey, Puerto Rico, January 1996

ENVIRONMENTAL ENGINEERING

- Soil Investigation, Baxter Healthcare Facility, Aibonito, Puerto Rico, on-going.
- Environmental Site Investigation, Shellfoam Facility, Puerto Rico Industrial Development Company (PRIDCO), Cidra, Puerto Rico, On-going.
- Environmental Assessment for soil contamination, Becton Dickinson Affirm Expansion, Cayey, Puerto Rico, March 2010.
- Site Inventories and Environmental Assessments for Brownfields Petroleum and Hazardous Sites for the Municipality of Canovanas, Canovanas, Puerto Rico, on-going.
- Site Inventories and Environmental Assessments for Brownfields Petroleum and Hazardous Sites for the Municipality of Toa Baja, Toa Baja Puerto Rico, on-going.
- Site Inventories and Environmental Assessments for Brownfields Petroleum and Hazardous Sites for the Municipality of Aguadilla, Aguadilla, Puerto Rico, on-going.
- Environmental Audits and Permitting Compliance for the LANCO Group Facilities located in San Lorenzo, Cidra and Rio Piedras, on-going.
- Phase I and Phase II ESA for former Union Carbide Caribe Facility, as requested by Peerless Oil and Chemicals, Peñuelas/Guayanilla, Puerto Rico, 2009.
- Environmental Audit and Permitting Compliance, Papelera Puertorriqueña, Utuado, Puerto Rico, 2009.
- Baseline Assessment for the Texaco Farm Tank, as requested by Peerless Oil and Chemicals, Guayanilla, Puerto Rico, 2009.
- Environmental Assessments and Remediation for the ACERVO Facility for the proposed Villas El Paraiso Project, Hato Rey, Puerto Rico, 2008.
- Phase I and Phase II ESA for the former Schering Plough manufacturing facility, Manati, Puerto Rico, 2008.
- Phase I ESA for various facilities around Puerto Rico owned by the Banco Gubernamental de Fomento para Puerto Rico, 2009.
- Phase I ESA for 15 facilities around Puerto Rico owned by Empresas Alberic Colon, 2008.
- Phase I ESA for 6 airports facilities at various Dominican Republic, owned by AERODOM, 2008.
- Phase I ESA of former Empresas Santana facilities at the Luis Muñoz Marin International Airport and Base Muñiz, Carolina, Puerto Rico, 2008.
- Phase I ESA for four facilities owned by Borinquen Memorial Funeral Home, First Bank, various locations in Puerto Rico, 2008.
- Phase I for Hogar Manuel Mediavilla of a 11,861 square meter undeveloped lot, Humacao, January 2008
- Phase I and Phase II Environmental Site Assessments for the former Schering Plough Facilities, Manati, 2008
- Phase I and Phase II ESA for the Aguas Puras project at the PRASA Treatment Plant, First Bank, Bayamon, Puerto Rico, 2008.

- Phase I Assessment of the 6.5 lot adjacent to the Manati Medical Center, Manati, January 2007
- RCRA Hazardous Waste Environmental Audit/Inspection for the UPR, Humacao Campus, Humacao, Puerto Rico, April 2007
- RCRA Hazardous Waste Environmental Audit/Inspection for the UPR Arecibo Campus, Arecibo, April 2007
- Environmental Audit of the Quadrel Leasing Toa Baja facility, Toa Baja, Puerto Rico, 2007
- RCRA Hazardous Waste Environmental Audit/Inspection for the UPR, Bayamon Campus, Bayamon, Puerto Rico, March 2007
- Phase I Assessment for Banco Gubernamental de Fomento of the undeveloped lot adjacent to the Westin Rio Mar, Rio Grande, December 2007
- Phase I Assessment of the Empresas Santana facilities at the LMM International Airport, Carolina, November 2007
- Phase I Assessment of a 63 cuerdas lot for the former Ochoa Poultry, Salinas, September 2007
- Phase I Assessment of the Mr. Quicks Bayamon Facility, October 2007
- Phase I Assessment of a property at the Pajaros Ward, Bayamon, July 2007
- Environmental audit of the Centro Cardiovascular de PR medical facility, Rio Piedras, Puerto Rico, February 2006
- Phase II Site Characterization Shell Puerto Rico Former Gasoline Station, Mayaguez, Puerto Rico, August 2005.
- Assessment and Remediation Activities, EPA Brownfields Program, Hato Rey Electroplating PRIDCO Facility, Hato Rey, Puerto Rico, September 2005.
- Assessment and Remediation Activities, EPA Brownfields Program, National Circuit PRIDCO Facility, Fajardo, Puerto Rico, September 2005.
- Soil Assessment Cardinal Health Facility, Humacao, Puerto Rico, August 2005.
- Remedial Action Plans Preparation for the ACERVO Facility (Villas del Paraiso Residential Development), Hato Rey, Puerto Rico, February 2004
- Environmental audits of the following medical facilities: San Pablo Bayamon, San Pablo del Este Fajardo, Caribbean Pediatrics, San Juan Capestrano and Ojos Clinic, June 2004
- Environmental Sampling Assessment, Taller Bufalo, Barceloneta, Puerto Rico, October 2003
- Closure of Septic Tank System, US Navy, Vieques, Puerto Rico.
- Phase I Environmental Site Assessment, Proposed Home Depot facility, Arecibo, Puerto Rico, 2003
- Phase I, Phase II, and Remediation Activities, Saint Luke's Memorial Hospital, Former Hospital Regional de Ponce, Ponce, Puerto Rico, September 2003
- Assessment and Remediation Activities, EPA Superfund Program, Metal Finishing Toa Baja Facility, Toa Baja, Puerto Rico, February 2004
- Technical Assistance, Former San Juan Gas Facility, San Juan, Puerto Rico, December 2000
- Phase III Assessment activities at Former Electronics facility in Guanica. Waste characterization using the HAZCAT system: inventory, sampling, field screening, waste

grouping, laboratory analysis of waste group samples, field screening, sampling, characterization and disposal of abandoned chemical containers. May 2000.

- Phase II Environmental Site Assessment (Soil and Groundwater, Septic Tank Characterization, PCB Testing, Asbestos and Lead-based Paint Limited Surveys, ACERVO Facility, Hato Rey, Puerto Rico, February 2002
- Phase III Assessment/Remediation activities Project: drums/containers sampling and disposal; characterization, removal and disposal of waste waters and/or sludge in process tanks and sumps; cleaning of sumps and surfaces potentially affected with regulated metals, cleanup verification by sampling and analysis, and; characterization and disposal of waste wasters generated from cleaning activities from properties/ lots formerly owned by PRIDCO, within the Panamerican Grain Facilities in Cataño. June 2003.
- Phase I Environmental Site Assessment, Undeveloped property, Guayama, Puerto Rico, January 2003
- Phase I Environmental Site Assessment, San Juan and Carolina properties, January 2003
- Environmental Assessment, Isla Grande Site 36 Site, San Juan, Puerto Rico, January 2010.
- Phase II Assessment activities at the former ACERVO Facilities for the proposed Villas El Paraiso residential development, Hato Rey, 2007
- Environmental audits under the EPA Voluntary Environmental Auditing Program of the Caguas and Humacao medical facilities, Caguas and Humacao, Puerto Rico, June 2006
- Environmental audit under the EPA Voluntary Environmental Auditing Program of the San Juan Bautista Medical Center facility, Caguas, Puerto Rico
- Environmental audit under the EPA Voluntary Environmental Auditing Program of the Centro Cardiovascular de PR y el Caribe medical facility, Rio Piedras, Puerto Rico, February 2006
- Underground Injection Control System Closure, Former Mayaguez Filter Facility, Mayaguez, Puerto Rico, January 2005.
- Hazardous Waste Management and Characterization at the former Hato Rey Electroplating, Hato Rey, September 2005
- Phase II assessment at Sprint Store, Fajardo, August 2005
- Phase II assessment for Alberic Colon at Carolina Day & Night site, May 2005
- Phase I for Home Depot of an Undeveloped Lot, Hatillo, October 2005
- Phase I Environmental Site Assessment, Plaza Tropical Facility, Bayamon, Puerto Rico, January 2003
- Phase I Assessment for ParaPiezas Corp of the San Juan Properties Inc. Site, Rio Cañas Ward, Caguas, January 2004
- Environmental audits under the EPA Voluntary Auditing Program of the following medical facilities: San Pablo Bayamon, San Pablo del Este Fajardo, Caribbean Pediatrics, San Juan Capestrano, and Ojos Clinic, June 2004
- Phase II Assessment for Hewlett Packard for the proposed Las Americas Technology Park, Moca, October 2004
- Phase II assessment for Pfizer Caguas, outside property, December 2004
- Phase I Assessment for the Cayetano Coll y Toste Hospital, PR129, Arecibo, May 2004

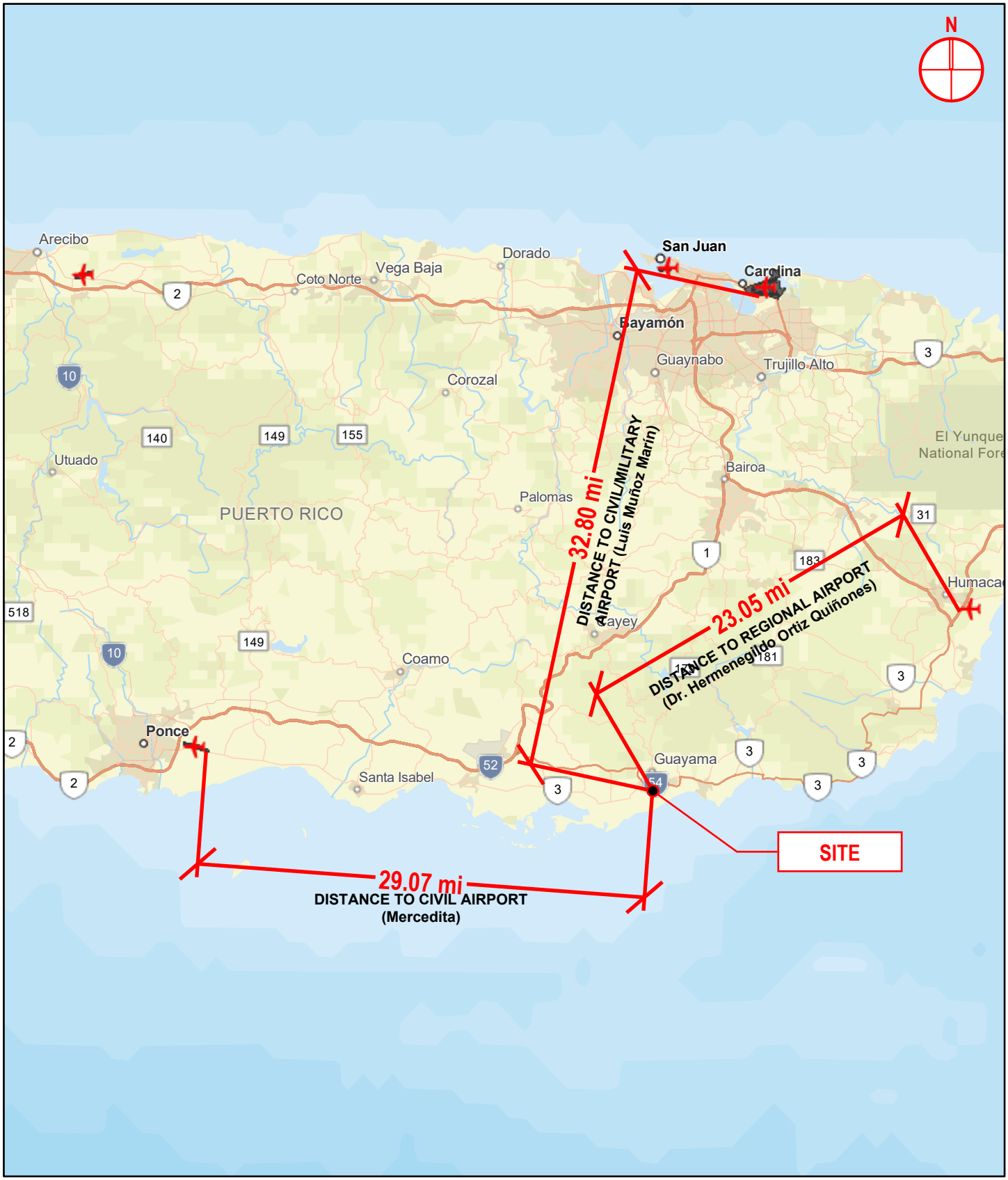
- Phase I Assessment for the Dr. Susoni Hospital, PR129, Arecibo, May 2004
- Environmental assessment and remedial activities, confidential site in Caguas, EPA's AOC was issued in May 2001 for removal action under CERCLA to conduct cleanup and remedial activities. QA/QC plans were prepared and approved by the EPA and implemented. Final report was submitted to EPA, which changed site's qualification to No Further Remedial Action Planned (NFRAP).
- Phase I and Phase II Assessments, Revitalización Centro Urbano de Santurce, San Juan, Puerto Rico, February 2003.
- Phase I Assessment for Reichard & Escalera Law Firm of the Makro Facility, PR Road 834, Guaynabo July 2003
- Phase I Assessment for CAS Management of the Alejandro Otero Lopez Hospital, Manati, September 2003
- Phase II Assessment of the El Mundo WKAQ Broadcasting facility, Cataño, May 2003
- Phase I Assessment of Plaza Tropical at PR167, Bayamon, February 2003
- Air permitting and other environmental consulting services for various Mendez & Co. Facilities in Guaynabo, Añasco, and Cataño, Puerto Rico, since 1996 and on-going..
- Phase II Environmental Assessment, Bard Undeveloped Lot, Humacao, Puerto Rico, November 2002.
- Phase II Assessment; soil borings drilling, concrete sampling, hazardous waste drums/containers sampling at wood treating facility at lots formerly owned by PRIDCO, within the Panamerican Grain Facilities, April 2002
- Phase I Environmental Site Assessment, Leaseway facilities, Cataño and Toa Baja Site, Puerto Rico, September 2002.
- Phase I Environmental Site Assessment, Mountain Union Telecommunication Towers, various location in Puerto Rico, November 2002.
- Phase I Assessment for the San Juan Capestrano Hospital, Rio Piedras, January 2001
- Phase I Assessment for Lifetime properties located at Mayaguez and Hato Rey, March 2001
- Phase I Assessment and Asbestos Survey of the Humacao Regional Hospital, Humacao, January 2001
- Puerto Rico Hospital; Environmental Evaluation document, for the expansion of the Customed Facility, in Fajardo, and air permitting of Ethylene Oxide facility September 2001
- Phase II Assessment activities Biovail Laboratories Carolina:. Soil borings drilling and monitoring wells installation. Soil and groundwater sampling, asbestos survey and lead based paint survey,. June 2001
- Phase I Assessment for Mr. Ian Simmons of Vieques track of land, Vieques, August 2000
- Phase I Assessment of Centro de Diagnostico y Tratamiento de Arecibo, July 2000
- PhaseII Assessment of an industrial building formerly occupied by General Electric in Rio Piedras. Asbestos Survey, PCB sampling, wastes sampling and disposal, February 2000
- Phase II Assessment activities at Underground Storage Tank areas at the Cabo Rojo CDT and the Hospital de San German. Soil borings drilling and soil sampling, June 2000
- Phase I Assessment of the Cabo Rojo CDT and the Hospital de San German, January 1999

- Phase III Assessment at a former electroplating facility at Yabucoa. Implemented limited remedial activities at the facility to achieve EPA action levels for identified metals and EQB cleanup levels for hydrocarbon affected soils. Remedial activities included soil removal and cleanup of floor surfaces affected with regulated metals, followed by cleanup verification by sampling and analysis. Cleanup goals and/or action levels were achieved with the remedial activities implemented, October 1998
- Phase II Assessment: Hospital Regional de Fajardo, asbestos survey, PCB sampling, installation of soil borings, soil sampling, closure of 5 USTs, December 1999
- Phase II Assessment activities including: Sampling and Closure of Septic Tank from Former printing industrial facility (Vieques Graphics) in Vieques, March 1999
- Phase I and Phase II Assessments for Yauco, Guayama and San Pablo Medical Facilities, From 1997 to 1998.
- Phase I Assessment of a property in Bayamón to be acquired by Goya, December 1998
- Phase I Assessment of the HIMA Hospital in Caguas, and the Font Martello Hospital in Humacao, August 1998
- Phase II Assessment; Hospital San Pablo asbestos survey, air emission permitting, April 1998
- Phase II Assessment at a PRIDCO property used as a former electroplating facility at Yabucoa. Soil borings, PCB sampling, asbestos survey, geophysical survey to assess buried containers, May 1998
- Phase II Assessment at San Francisco Hospital in Rio Piedras. Soil borings drilling, soil sampling, UST removal, and asbestos survey, air emission permits application, SPCC plan, April 1998
- Phase II Assessment; (Ranger American Facility) Soil sampling activities at Hato Rey and Ponce facilities, June 1998
- Phase III Assessment/Remediation activities at San Juan Gas Facility in Miramar. Dismantling of gas holder and treatment and disposal of tar material in tanks, closure of several concrete underground storage tanks including cleaning of tanks and fill with inert material., November 1998
- Phase I Assessment for Ranger American, of property in Rio Piedras, April 1998
- Phase I Assessment of the Instituto Oftalmico facilities in Santurce, January, 1998
- Phase I Assessment of the Former Villa Esperanza Resort in Vieques, 1997
- Phase I and Phase II Site Assessment - Confidential Manufacturing Facility, Guaynabo, Puerto Rico, December 1997.
- Phase I Assessment of the Former Fajardo Regional Hospital, December, 1997
- Phase I Assessment of the Santa Rosa Mall in Bayamon, September, 1997
- Septic System UIC Closure Plan - Baxter Sales Facility, Guaynabo, Puerto Rico, February 1997.
- Phase II assessment activities at National Can de PR Inc., consisting of drilling of soil borings (approx 60) and sampling at concrete trenches, dikes and other areas within the facility, August 1997
- Underground Injection Control Permitting - Parque Las Cavernas de Camuy, Camuy, Puerto Rico, November 1996.

- Phase I Environmental Site Assessment Air Liquid Facility, Cataño, Puerto Rico, October 1996.
- Phase I Environmental Site Assessment 3 General Gases Facilities, Cataño, Bayamón and Ponce, Puerto Rico, October 1996.
- Phase I Environmental Site Assessment - Peninsula de Cantera Proposed Development Project, Santurce, Puerto Rico, November 1996.
- Phase I Environmental Site Assessment Tropical Fruit Property, Guanica, Puerto Rico, November 1996.

Exhibit No. 13
Airport Hazards
SOURCE: https://nepassisttool.epa.gov/nepassist/nepamap.aspx

Brisas del Mar



May 11, 2023

1:577,791

0 4.75 9.5 19 mi

0 5 10 20 km

Airport Points

Airport Polygons

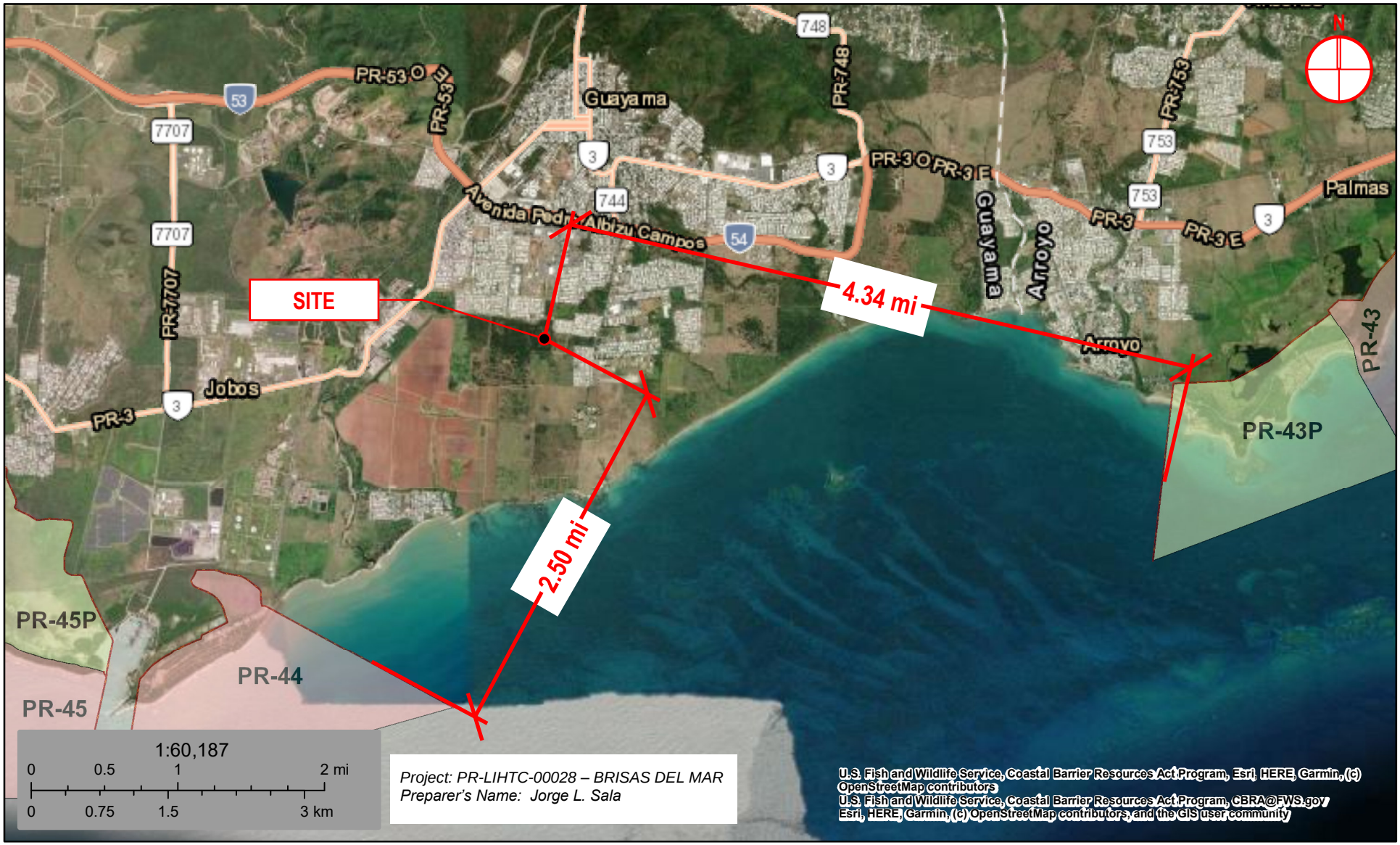
Esri, HERE, Garmin, Foursquare, SafeGraph, FAO, METI/NASA, USGS, NPS, EPA OEI

Project: PR-LIHTC-00028 – BRISAS DEL MAR
Preparer's Name: Jorge L. Sala

Exhibit No. 14
Coastal Barrier Resource System
SOURCE: https://fwsprimary.wim.usgs.gov/CBRSMapper-v2/

U.S. Fish and Wildlife Service
Coastal Barrier Resources System

Brisas del Mar Village



March 19, 2023

CBRS Buffer Zone

System Unit

CBRS Units

Otherwise Protected Area

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/library/collections/official-coastal-barrier-resources-system-maps. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward

Exhibit No. 15
Soils Exploration Report
SOURCE: Victor E. Rivera & Associates

GEOTECHNICAL EVALUATION

124 RESIDENTIAL LOTS SUBDIVISION

STATE ROAD NO. 54 - KM. 0.3 (INT.)

MACHETE WARD, GUAYAMA, PUERTO RICO

VICTOR E. RIVERA ASSOCIATES
GEOTECHNICAL ENGINEERS
& CONCRETE TESTING LABORATORIES

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GEOTECHNICAL EVALUATION
124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO. 54 - KM. 0.3 (INT.)
MACHETE WARD, GUAYAMA, PUERTO RICO
(VERA Job No. 11-3569)

Submitted To:
KARTIK, S.E.
251 CHILE STREET (2ND FLOOR)
SAN JUAN PR 00917-2104

By:
VIVIAN MÉNDEZ BADÍA, M.C.E., P.E.
VICTOR E. RIVERA ROLDAN, M.B.A., P.E.
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GEOTECHNICAL ENGINEERS





NOVEMBER 3, 2011

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EXHIBIT "B"
CD VERSION & CERTIFICATION OF THE SPECIALIST ..... SEE BACK POCKET

1.0 INTRODUCTION

The present report covers the results of the geotechnical evaluation performed along the farm of the proposed residential subdivision located south of State Road No. 54 - Km. 0.3 (Interior) at Machete Ward, Guayama where 124 detached residential units are to be constructed.

This engineering assignment was made according to your kindly instructions given to the undersigner.

2.0 SCOPE OF WORK

The evaluation was conducted with the aim at deciphering the farm prevailing subsoil and geological conditions, and use the data thus gathered in formulating the recommendations for the most feasible farm development and corresponding dwelling units foundations design. Recommendations for the farm development comprise:

a) fill and/or cut to be executed in reaching potential designed grading;

b) street sections preparations and pavement design/construction recommendations;

c) under-ground utilities trenching and foundations;

d) dewatering of excavations, if any, and give alternate(s) to deal with it.

3.0 FIELD AND LABORATORY WORK

To comply with the before discussed scope, a grand total of eleven (11) test borings advanced by powered hollow stem augers were drilled at the approximate locations shown on the enclosed plan as per exhibit A, "*Site Aerial Photo and Site, Borings Location Plan, Borings Logs and Classification Tests Results*". Borings are identified as no. 601 thru 611. The depth of the borings was 15.5 ft. for a total aggregate footage of 165.0 lineal feet of boring being drilled at the subject site.

Soil sampling was accomplished by means of the universally adopted standard penetration test (SPT). All soil samples secured were visual-manually described and examined for the detection of any weak

and/or secondary plane, or foreign matter contain, that could undermine it shearing strength and it compressibility, thus, it load carrying capacity. Routine laboratory tests as moisture content (w_n) and unconfined compressive strength (Qu) tests were ran whenever possible.

All standard procedures followed during routine field and laboratory testing program are fully discussed on exhibit B of this report, "*Routine Field and Laboratory Testing Procedures*". All tests performed were ran either as per the American Society for Testing and Materials (ASTM) or the American Association of State Highway and Transportation Officials (AASHTO) latest revision to related standards.

Besides, Atterberg Limits [Liquid Limit (LL), Plastic Limit (PL) and Plasticity Index (PI)], determination of soil friction finer than No. 200sieve (% <No. 200), and particle size analyses were executed on selected soil samples. Results attained from these tests were adopted in classifying the tested samples as per ASTM D2487 standard, "*Classification of Soils for Engineering Purposes [Unconfined Soil Classification System (USCS)]*" and AASHTO standard M145, "*Classification of Soils and Soil-Aggregate Mixture for Highway Construction Purposes*". In addition, strength parameters were correlated with results attained as per published literature.

4.0 SITE LOCATION AND DESCRIPTION

The site investigated is located at the south skirts of the city of Guayama in turn found at the south, southeast region of the island of Puerto Rico in the Caribbean Sea. The farm area is ±16 cdas. and is delimited by the existing P.R. Electric Power Authority Patillas irrigation channel at north; undeveloped terrains at south and west and by a under-construction house development and "Verdaguer y Aurora" estates at east.

In general, the farm shows a flat ground surface that seems to be natural, exception of some localized spots of fill result of the actual earthwork operation taking place at east grounds. Topographic plan submitted to this office shows a very gently south, southeast down sloping ground. Ground surface elevations range from a highest ±32.0 mts. at northwest sector, close to the irrigation channel, to the lowest of all of ±26.0 mts. at southeast.

The project consists on the construction of one (1) and/or two (2) story-hi steel reinforced cast in-place concrete structures to serve as residential units. As per corresponding grading plans, fill up to 2.36mts (7.7ft) will be required at the southeast sector turning shallower towards north and west. In same fashion, cut of up to 1.2mts (4ft) will be required at the central, northwest sector of the farm. Differences with adjoining terrains are to be managed by means of cut and fill slopes.

Storm and sanitary waters are to be managed by gravity, thus no trenching exceeding 5.0 ft. in depth as referred to any final grade is anticipated for the installation of these underground utilities. Similarly, no deep excavations as for pump or lift station is contemplated.

Please, bear in mind the before given general description is aimed as an assistance for a better understanding of the project and of this report content by the reader. In no case it constitutes a precise and complete description of the project, but most of it highlights as forehanded by the designing office. Complete information pertaining earthwork and all other project details for quantifications and cost estimates should be obtained on corresponding construction final drawings once they become available.

Also to keep present is the fact that all depths on this report mentioned are referred to existing ground at the time of our field exploration (September and October 2011, 2011). Elevations given are referred to the project vertical control as per topographic plan previously mentioned.

5.0 GENERALIZED SUBSOIL CONDITIONS

According to test boring program result, the site is blanketed or carpeted with transported soils of alluvial origins named "alluvium" mainly composed of clay, silt, sand, and gravel of Quaternary Age extending to the drilled depth of 15.5 ft.

It consists of alternated layers of fine (clayey/silty) and coarse (sandy/gravel) materials frequently found blended in different proportions. When cohesive, the soils exhibit consistencies ranging from stiff to hard though occasionally medium ones were detected. The clayey samples meet an A-6 classification as per AASHTO M145 and a CL classification as per USCS standard.

When granular, packing shown widely varies from loose to dense. Typically, the finer sands show the lower state of packing while the coarser the sand and the larger the gravel content an improved state of packing is reported. Granular samples meet a A-1-b and A-4 classification as per AASHTO M145 standard and SM and ML classification as per USCS.

No ground water, static, perched, nor artesian was recorded within the depth drilled at any of the test holes, thus inferring it must be found deeper.

Please, see boring logs as per exhibit B for a more detailed description of each stratigraphic unit encountered, field and laboratory tests results.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Results attained and some simple field theoretical approaches conducted has shown the uncovered local soil profile can safely carry the expected foundation loads from the proposed houses, and even more when combined with anticipated blanket foundation load from the fill at areas to be up-graded by filling. All fill required can be placed, spread and properly compacted directly above provided the specifications and guidelines discussed on forthcoming paragraphs are fully achieved. These specifications and guidelines pursue all residences construction to proceed directly above final grade, either at cut or fill areas.

The soils to be exposed at cut areas final elevations can safely carry the proposed houses and substructures foundation loads. The soils to result from cut operation to down grade the farm grounds and/or underground utilities installations can be also satisfactorily used for permanent fillings purposes, nevertheless, it should be placed on the early lifts of fill. In same fashion, any existing fill to be excavated as required by the designed grading can be re-used for filling purposes. The only exception to these conclusions are to be taken with the probable presence of pockets of clay of high plasticity and swelling/shrinkage potential that could show up as excavation progresses though not uncovered at any of the test borings. Prior experiences during earthwork operations conducted at surrounding projects has shown these clay pockets can be found in a localized manner.

It is most probable a small portion of the residences will fall over a cut to fill transition zone. To avoid any problems with differential behavior of the soil at the cut area from the soil at fill area, it is recommended that the soil at the cut area be over-excavated to at least half the depth of the maximum fill depth as referred to the potential foundation depth along the residences footprint area plus a 2 feet wide belt all around belt. The area shall then be backfilled and compacted as specified on forthcoming section.

The effort rendered in advancing the test holes and in soil sampling clearly point-out any excavation within the anticipated depths can be very satisfactorily executed by means of conventional earth excavating equipment as hydraulic excavators commonly called "diggers" or "backoe" of medium size and/or tractor dozer (Caterpillar D6 or D8, or similar).

Consequently, the farm development, and houses design and construction must fully meet the hereon discussed recommendations.

6.1 FARM DEVELOPMENT

Any earthwork required shall meet the following specifications/guidelines to provide the required grading of the farm:

1. Remove all topsoil supporting any existing vegetation, any other foreign matter, and/or construction debris that might be found along the farm. Depth of the topsoil removal should average twelve (12) inches, except where any other foreign and/or unstable matter exists that could require a deeper removal. All removed material shall be disposed-off in an orderly manner.

2. At cut areas and areas to receive fill, roll the clean exposed grade all throughout until a neat and clean surface is attained. If any soft and/or unstable spot and/or expansive clayey pocket is uncovered, it shall be fully excavated and backfilled.

3. Any material resulting from cuts can be used as fill material as long as it is approved by the geotechnical engineering and possess no swelling/shrinkage properties. In any case fill

material brought in from elsewhere is required it shall possess no swelling/shrinkage properties nor contain any foreign or organic matter and should classify as an A-4 or better according to AASHTO standard specification M-145.

4. Nevertheless, some clay layer and/or pockets exhibiting high plasticity and swelling/shrinkage potential as cut and preparation of fill areas could be uncovered. Whenever these clayey soils are exposed, it must be overexcavated thru a depth not shallower than 2.0 ft. as referred to the lot final grades and be engineered replaced and compacted as herein described. The clay soil thus excavated can be use for filling purposes even for permanent deposits whenever placed at a depth not shallower than 2.0 ft. as referred to final grades, also.

5. The fill material (s) shall be evenly spread along the fill areas in layers or lifts not exceeding twelve (12) inches, loose measured, and each layer shall be imparted with a minimum percent of compaction of 95% of the fill/backfill material maximum dry density (MDD). The fill/backfill material shall exhibit a moisture content ranging from 2 to 4% above the corresponding optimum moisture content (OMC) prior to impart any compaction effort. Maximum dry density (MDD) of the existing natural soil and of any either imported or from project site shall always be determined by laboratory tests conduced as per ASTM D1557 standard, "Modified Proctor Test".

6. On lots where the residential units will lie over a cut to fill transition zone provide an over-excavation that vertically extends down to at least half the depth of the maximum fill depth as referred to the potential foundation depth and horizontally extending within the residence footprint plus a 4 feet wide belt all around. The area shall then be backfilled and compacted as previous items above.

7. The fill procedure shall be followed until final grades are reached.

8. Any resulting cut and/or fill slopes shall be made 2:1 (horizontal to vertical) regardless of it height, and shall be surficially stabilized by chain rolling but to such a density that vegetation growing is allowed. It also shall be protected against gully and sheet erosion by providing

proper drainage facilities and sodding. Avoid any surface drainage down the slopes. Steeper fill slopes can be separately and individually considered, depending on each particular location, physical characteristics, kind of material used for filling, and construction quality control enforced. The geotechnical engineer in charge of construction could evaluate this condition if found necessary and shall make of his own subsequent recommendations.

9. All fill operations shall be supervised by a geotechnical engineer or his representative whom is to certify the quality degree achieved and shall submit his professional opinion predicting the would be behavior under the action of the anticipated loads.

10. All lots surface drainage must be positive, that is, draining to the street in front. In no case drainage towards/throughout the lots surface is to be allowed.

6.2 PROJECT UTILITIES

All project underground utilities can be safely designed resting by its normal bearing over the resultant grade at fill or natural ground after an engineered bedding is provided. All trenches down to an anticipated maximum depth of 5.0 ft. below final grade can be economically executed as before concluded. Temporary side slopes can be made vertical for the anticipated excavation depths not exceeding 5.0 ft. If deeper trenching or any other excavation is required, this office shall be notified to conduct the corresponding evaluation.

6.3 STREETS PAVEMENT

Either a flexible or rigid type of pavement can be used at the project. It must be kept clear in mind that filling along street zones must be done according to the specifications given on section 5.1. In no case the surface most 8" thick of streets alignment shall classify poorer than A-2-4 according to AASHTO standard designation M-145. Therefore, in order to achieve this guideline, overexcavation and backfill could be required at certain street stretches falling at zones of very shallow fill or cut. Pavement design parameters as California Bearing Ratio (CBR) and modulus of subgrade reaction (Ks) should be determined by proper field tests, nonetheless, we suggest the conservatively assumed

following parameters for the recommended uppermost 8"improvement: CBR = 50%; Ks = 250 pounds per cubic inch (PCI). An offsite soil-aggregate mixture should be imported for these purposes. Degree of compaction along this surface most subgrade improvement is 95% of the fill material maximum dry density.

6.4 HOUSES FOUNDATION DESIGN

Once the recommendations herein given are fully accomplished, the contemplated houses can be safely designed resting over a monolithic type of floor and footing system proportioned for an unique allowable soil contact pressure (qa) of 3.0 kips per sq. ft. (KSF) at a foundation depth (Df) of 1.0 ft. below lots final grade at either fill or cut areas. Foundations for load and non-load interior walls might correspond to the floor slab enlarged sections dully structural designed.

Resistance to lateral loads for the shallow foundations may be provided by earth pressure mobilized on the buried vertical face of the footings and by shearing forces acting along the subgrade interface. An internal friction angle of 26 degrees may be used to calculate the coefficient of passive earth pressure (Kp). A friction factor of 0.33 should be used to determine base shear resistance.

6.5 WIND AND EARTHQUAKE DESIGN PARAMETERS

The bearing pressures can be increased to 130% of the given values when dealing with short terms loading as for earthquake and/or wind. In same fashion, a ground acceleration of 0.20 g and an earthquake of 7.0 on the Richter (R) scale are to be adopted. A type of soil S_D (stiff soil) must be also adopted as per Uniform Building Code (1997) volume 2.

6.6 DEWATERING OF EXCAVATIONS

No dewatering problems are anticipated during the phase of the footings excavations, except that resulting from surface run-off waters. Any water entering the excavations can be pumped directly from sumps located at the sides of them and any damped soil remaining at the bottom must be excavated before placement of any concrete and/or bedding.

7.0 ADDITIONAL COMMENTS

Notice the proposed grading and recommendations given calls most of the houses and streets stretches to rest over fill. Moreover, a thorough inspection of soils to be exposed aimed to detect any swelling/shrinkage properties or any other unsuitable type of soil is a must. Hence, the importance all fill and/or earthwork be conducted properly controlled and monitored by an established geotechnical laboratory whom is to certify the degree of excellence and expected behavior of the deposit constructed in such controlled engineered fashion.

The conclusions and recommendations on this report given are based on the results obtained from the field exploration by means of a limited number of test borings, visual inspection of the site, laboratory tests results, and soil parameter assumptions. It is our understanding that the best engineering practice and interpretation were adopted in reaching the previous recommendations. They apply only for the project and site conditions herein detailed. In no case these shall be applicable for other structures or areas out of scope of this work.

Differing conditions could arise between borings locations as the field work progresses, therefore the project potential earthwork contractor must be fully aware of this fact and must do his best in getting acquaint with the site conditions. If any such differing site conditions arise, the geotechnical engineer in charge must carry-out the pertinent evaluation and produce, at his own risk, the recommendations to deal with such event.

Respectfully Submitted,

VIVIAN MENDEZ BADIA, M.C.E., P.E.
Project Engineer

VICTOR E. RIVERA ROLDÁN, P.E., MBA
Associate

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817542
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EXHIBIT "A"

SITE AERIAL PHOTO AND SITE, BORINGS LOCATION PLAN, BORINGS LOGS AND CLASSIFICATION TESTS RESULTS

124 RESIDENTIAL LOTS SUBDIVISION

STATE ROAD NO. 54 - KM. 0.3 (INT.)

MACHETE WARD, GUAYAMA, PUERTO RICO

(VERA Job No. 11-3569)

By:

VIVIAN MÉNDEZ BADÍA, M.C.E., P.E.

VICTOR E. RIVERA ROLDAN, M.B.A., P.E.

VICTOR E. RIVERA ASSOCIATES

GEOTECHNICAL ENGINEERS

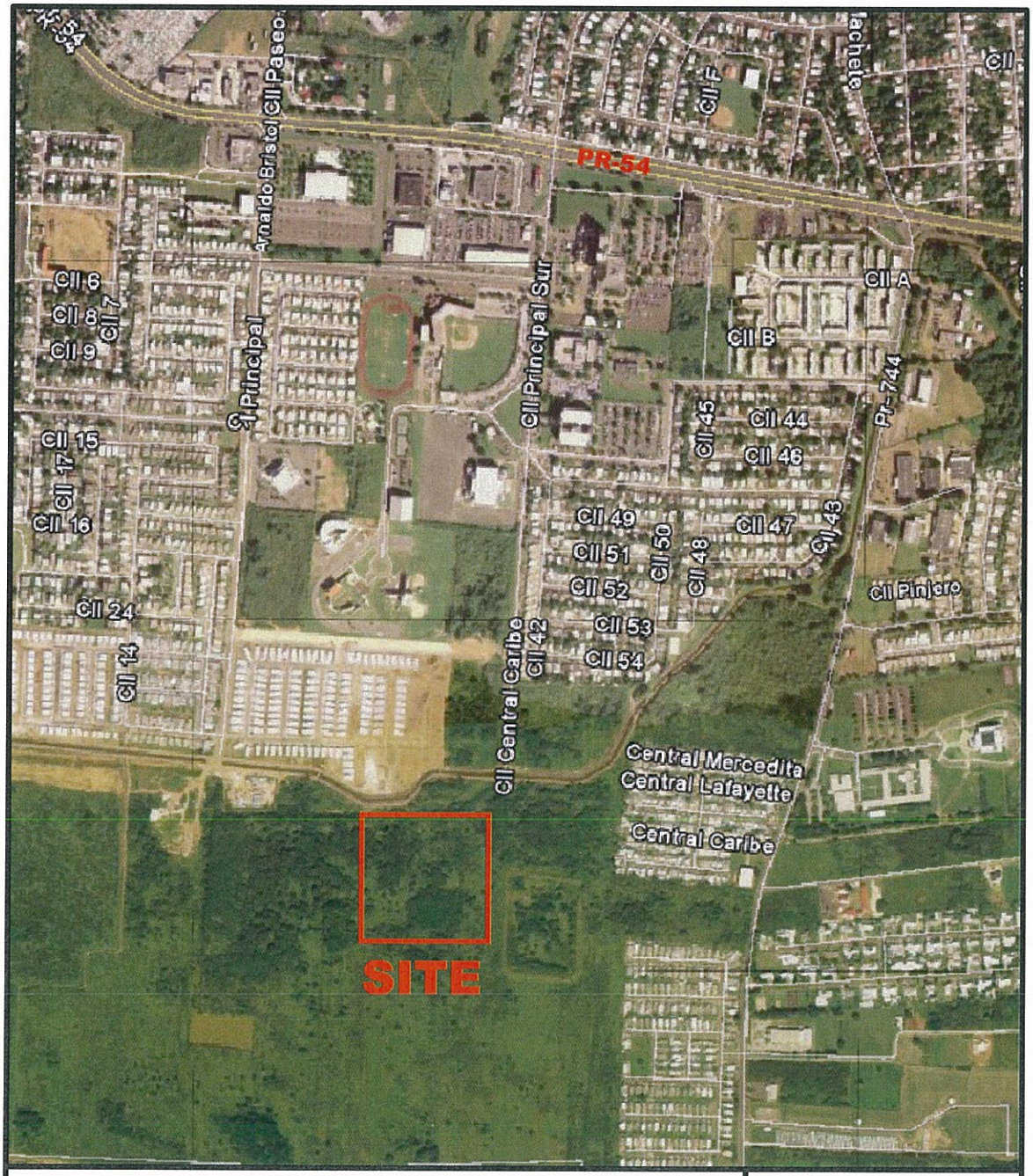
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NOVEMBER 3, 2011

SITE LOCATION AERIAL PHOTO

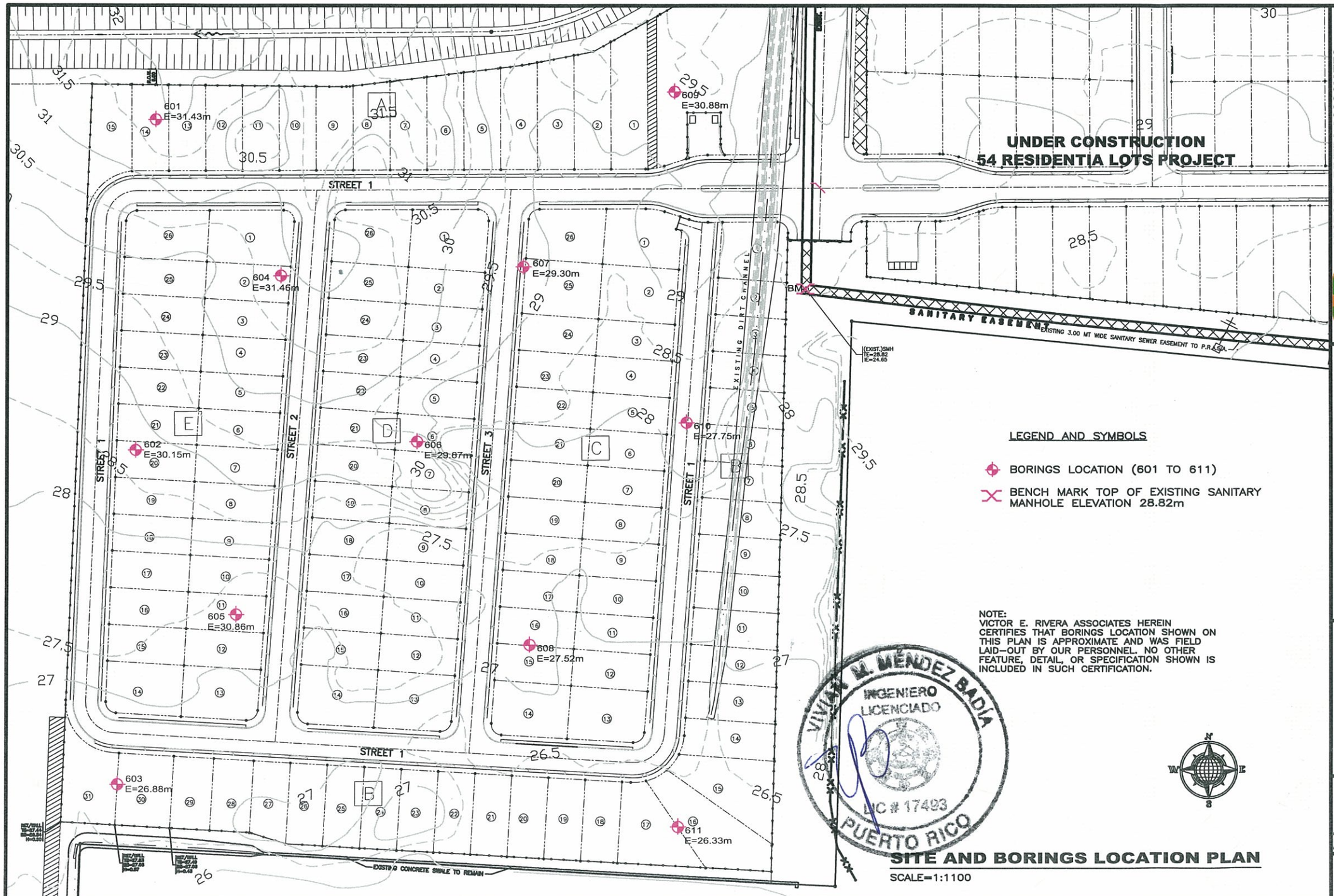
AFTER GOOGLE EARTH



124 RESIDENTIAL LOTS SUBDIVISION **STATE ROAD #54, KM. 0.3 (INT.), MACHETE WARD, GUAYAMA, PUERTO RICO** **SUBMITTED TO:** **KARTIK, S.E.**	**DATE:11/3/2011** **JOB NO.: 11-3569** **SCALE: N.T.S.**

VICTOR E. RIVERA ASSOCIATES
GEOTECHNICAL ENGINEERS
& CONCRETE TESTING LABORATORIES

Road #2 Km. 221.8 • El Tuque - PO Box 32198 • Ponce PR 00732-2198 • Tels. (787) 259-1410 / 843-6538 / Fax (787) 259-1604



VICTOR E. RIVERA ASSOCIATES
GEOTECHNICAL ENGINEERS
SOIL AND CONCRETE TESTING LABORATORIES
ROAD NO. 2 KM. 221.6, EL TUQUE, PONCE, PR
P. O. BOX 32158, PONCE, PR 00732-2158
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ROAD NO. 114 KM. 0.3 (INT.), GUANAJIBO,
MAYAGUEZ, PR 00681
P. O. BOX 7999 - PMB 360
TELS.(787) 986-1400/986-1410
843-6539- FAX: 986-6539

124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD #54, KM. 0.3 (INT.), MACHETE WARD,
GUAYAMA, PUERTO RICO

SUBMITTED TO:
KARTIK, S.E.

SITE AND BORINGS LOCATION PLAN

Drawn by	G.COLON
Approved by	V.MENDEZ
Date	11/3/2011
Job No.	11-3569
Sheet No.	S-1
Sheet	1
Total Sheets	1

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD, BORING NO.: 601 SHEET NO.: 1/1

LOCATION: GUAYAMA, PUERTO RICO CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-3-11 WORK FINISHED: 10-3-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 31.43m JOB NO.: 11-3569

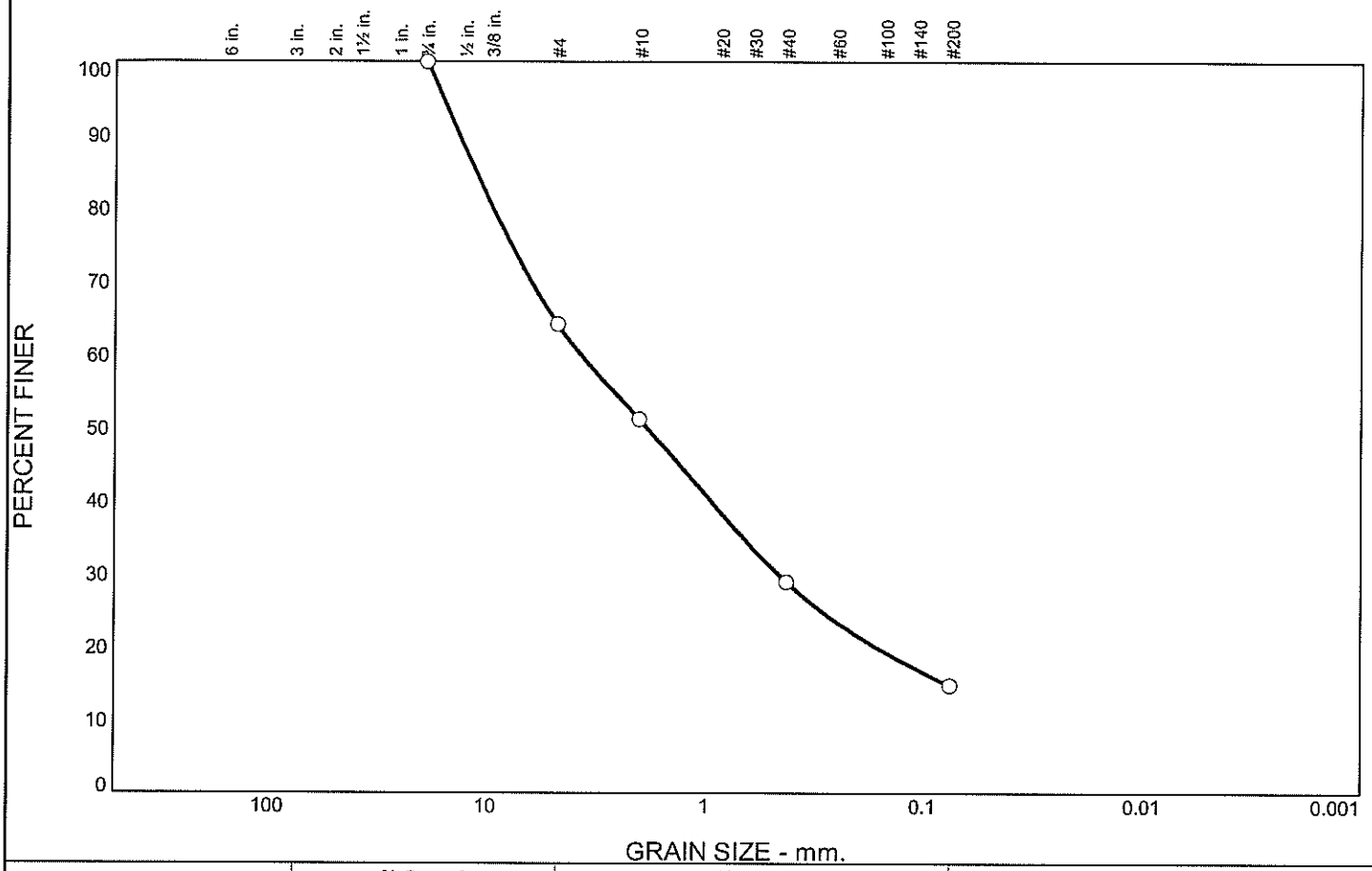
DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 3	Sand and gravel, some silt, loose to medium – dark yellowish brown (a)	6	7.7	---	NV	NP	14.8	A
2		3 – 4					[A-1-b / SM]			
3		5 – 5		10	6.2	---				
4		5 – 6								
5		5 – 10		17	6.8	---				
6		7 – 3								
7	29.30	3 – 4	-7.0'	6	11.5	---				
8		2								
9										
10		2 – 2	Silty clay, some sand, stiff – dark yellowish brown (a)	5	22.5	1.00				
11		3 – 3								
12										
13										
14										
15	26.86	3 – 4	-15.0'	13	6.1	---				
16	26.55	9 – 14	Sand and gravel, some silt, medium – dark yellowish brown (a) -16.0'							
17			END OF BORING							
18										
19										
20			(a)-Alluvial							
21										
22										
23										
24										
25										
26										
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31										
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34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	35.8	13.0	22.2	14.2	14.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
#4	64.2		
#10	51.2		
#40	29.0		
#200	14.8		

VIVIAN M. MÉNDEZ BADÍA
INGENIERO
LICENCIADO
LIC # 17493
PUERTO RICO

* (no specification provided)

Soil Description

sand and gravel, some silt

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 13.5015 D_{85}= 11.3100 D_{60}= 3.7199
D_{50}= 1.8374 D_{30}= 0.4612 D_{15}= 0.0774
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-1-b

Remarks

Source of Sample: BORING NO. 601 **Depth:** 0'@4'
Sample Number: 601-1 **Date:** 11/03/11

VICTOR E. RIVERA ASSOCIATES
Ponce, Puerto Rico

Client: Kartik, S.E.
Project: 124 Residential Loats Subdivision
PR-54 km 0.3 (Int) Machete Ward, Guayama, PR
Project No: 11-3569 **Verified by** V. Mendez

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD, BORING NO.: 602 SHEET NO.: 1/1

LOCATION: GUAYAMA, PUERTO RICO CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-3-11 WORK FINISHED: 10-3-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 30.15m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 5	Clay and sand, some gravel, very stiff – dark yellowish brown (a) -2.0'	7	11.8	3.00				
2	29.54	3 – 5								
3		5 – 5	Clayey sand and gravel, loose – dark yellowish brown (a) -4.0'	9	9.8	---				
4	28.93	4 – 3								
5		2 – 5	Silty clay, some sand, stiff to very stiff – dark yellowish brown (a)	7	25.7	2.49				
6		3 – 4								
7		4 – 4		9	20.1	1.97				
8		5								
9	27.41		-9.0'							A
10		2 – 2	Silty sandy clay, medium – dark yellowish brown (a)	3	16.8	0.75				
11		1 – 3								
12	26.49		-12.0'							
13			Sand and gravel, some silt, medium – dark yellowish brown (a)							
14										
15		10 – 8								
16	25.43	14	-15.5'	22	3.9	---				
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

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VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 603 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-4-11 WORK FINISHED: 10-4-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 26.88m JOB NO.: 11-3569

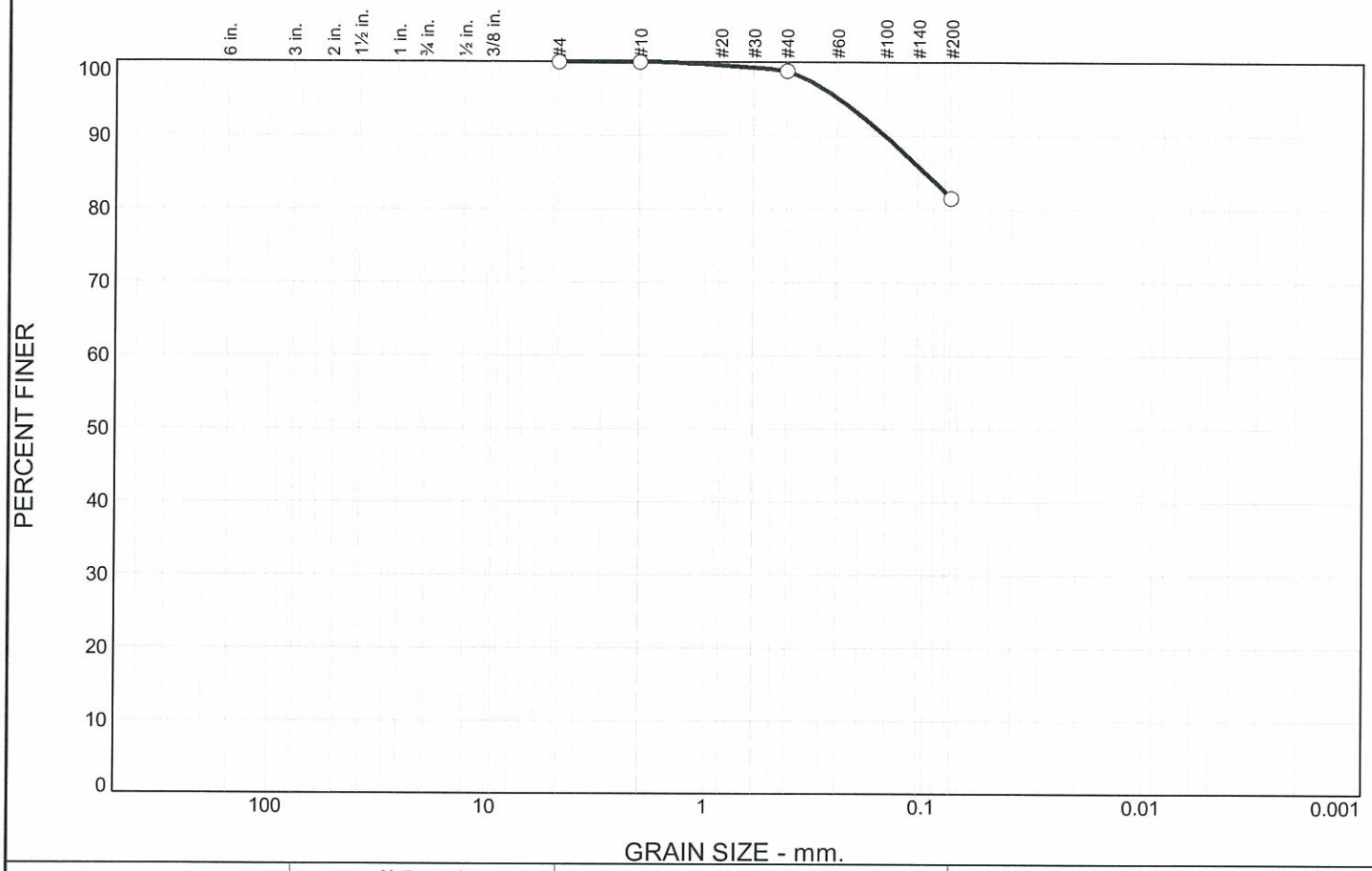
DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		1 – 3	Silty clay, some sand, very stiff – dark yellowish brown (a)	6	21.1	2.10				
2		3 – 3								
3		3 – 5		10	20.8	2.19	32	14	81.5	
4	25.66	5 – 5	-4.0'				[A-6(10) / CL]			
5		1 – 2		4	19.1	1.09				
6		2 – 9	Silty clay, some sand, occasionally trace of gravel, stiff – dark yellowish brown (a)							
7		10 – 9		17	16.9	1.75				
8		8								A
9	24.14		-9.0'							
10		4 – 7		19	14.3	7.88				
11		12								
12			Silty clay, some sand, hard – dark yellowish brown (a)							
13										
14										
15		8 – 8		15	14.0	3.50				
16	22.16	7	-15.5'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
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30										
31										
32										
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35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
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Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
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N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.2	17.3	81.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#40	98.8		
#200	81.5		

VIVIAN M. MÉNDEZ BADÍA
INGENIERO
LICENCIADO
LIC # 17493
PUERTO RICO

* (no specification provided)

Soil Description

silty clay, some sand

Atterberg Limits

PL= 18 LL= 32 PI= 14

Coefficients

D_{90}= 0.1513 D_{85}= 0.0993 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(10)

Remarks

Source of Sample: BORING NO. 603 **Depth:** 2'@4'
Sample Number: 603-1 **Date:** 11/3/11

VICTOR E. RIVERA ASSOCIATES
Ponce, Puerto Rico

Client: Kartik, S.E.
Project: 124 Residential Loats Subdivision
PR-54 km 0.3 (Int) Machete Ward, Guayama, PR
Project No: 11-3569 **Verified by** V. Mendez

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

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Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 604 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-3-11 WORK FINISHED: 10-3-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 31.46m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		3 – 3	Sand and gravel, some silt, loose – dark yellowish brown (a) -2.0'	8	8.1	---				
2	30.85	5 – 5								
3		7 – 10		31	6.5	---				
4		21 – 11								
5		8 – 12	Sand and gravel, some silt, medium dense – dark yellowish brown (a)	24	6.9	---				
6		12 – 12								
7		12 – 8		19	4.2	---				
8		11								A
9	28.72		-9.0'							
10		3 – 1		4	22.7	1.75				
11		3 – 3								
12			Silty clay, some sand, stiff to very stiff – dark yellowish brown (a)							
13										
14										
15		3 – 3		8	18.1	3.06				
16	26.58	5 – 7	-16.0'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
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PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

PO Box 32198
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VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 605 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-3-11 WORK FINISHED: 10-3-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 30.86m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 3	Silty sand, trace clay, loose – dark brown (a)	7	12.0	---				
2	30.25	4 – 4	-2.0'							
3		5 – 9	Silty fine sand, trace clay, loose – dark yellowish brown	7	14.0	---				
4	29.69	3 – 2	(a) -4.0'							
5		2 – 9		19	10.7	---				
6		10 – 12	Sand and gravel, some silt, medium – dark yellowish							
7		8 – 7	brown (a)	12	7.2	---				
8		5								
9	28.12		-9.0'							A
10		1 – 2	Silty clay, some sand, stiff – dark yellowish brown (a)	5	19.0	2.00				
11		3 – 3								
12	27.20		-12.0'							
13										
14			Silty clay, some sand, hard – dark yellowish brown (a)							
15		3 – 5		15	14.4	4.38				
16	25.98	10 – 11	-16.0'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
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* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
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(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
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N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
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PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

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Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

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Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 606 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-4-11 WORK FINISHED: 10-4-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 29.67m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		3 – 3	Sand and gravel, some silt, loose – dark brown (a)	8	9.6	---				
2	29.06	5 – 5	-2.0'							
3		5 – 7		14	8.8	---				
4		7 – 6								
5		5 – 5	Sand and gravel, some silt, medium – dark yellowish brown (a)	10	10.2	---				
6		5 – 4								
7		5 – 5		8	7.1	---				
8		3								
9	26.93		-9.0'							A
10		2 – 2	Silty clay, some sand, medium – dark yellowish brown (a)	5	20.7	0.75				
11		3 – 3								
12										
13	25.71		-13.0'							
14			Silty clay, some sand, hard – dark yellowish brown (a)							
15		4 – 7		18	15.7	6.13				
16	24.79	11 – 12	-16.0'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
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33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
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(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

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Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 607 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 10-3-11 WORK FINISHED: 10-3-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 29.30m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 5	Sandy silty clay, very stiff – dark brown (a)	10	13.1	3.00				
2	28.69	5 – 9	-2.0'							
3		6 – 6	Sand and gravel, some silt, loose – dark yellowish brown (a)	11	8.8	---				
4		5 – 4								
5	27.78	4 – 3	-5.0'	5	22.1	---				
6		2 – 2				2.06				
7		3 – 4		8	20.6	2.25				
8		4								
9			Silty clay, some sand, very stiff – dark yellowish brown (a)							A
10		2 – 4		8	16.2	2.80				
11		4								
12										
13	25.34		-13.0'							
14			Silty clay, some sand, hard – dark yellowish brown (a)							
15		6 – 11		23	11.7	4.00				
16	24.58	12	-15.5'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 608 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 9-30-11 WORK FINISHED: 9-30-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 27.52m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 2	Sandy clay, trace gravel, stiff – dark brown (a)	6	11.5	---				A
2	26.91	4 – 4	-2.0'							
3		4 – 3		6	23.7	2.01				
4		3 – 3								
5		2 – 3	Silty clay, some sand, stiff to very stiff – dark yellowish brown (a)	6	22.2	1.75				
6		3 – 3								
7		4 – 3		7	20.8	1.75				
8		4								
9	24.78		-9.0'							
10		3 – 12	Silty clay, some sand, hard – dark yellowish brown (a)	27	16.6	4.00				
11		15								
12	23.86		-12.0'							
13			Sand and gravel, some silt, dense – dark yellowish brown (a)							
14										
15		12 – 15		29	6.2	---				
16	22.80	14	-15.5'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION
STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD,
LOCATION: GUAYAMA, PUERTO RICO

BORING NO.: 609 SHEET NO.: 1/1

CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ DRILLER: E. VARGAS WORK STARTED: 8-18-11 WORK FINISHED: 8-18-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES 1 3/8" I.D. SPLIT SPOON HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" DRILLING FLUID: NONE CORE DATA-TYPE BARREL: ------ TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE DRILL MANUFACTURER TYPE & NO. CME-55

"X" COORDINATE: ----- "Y" COORDINATE: ----- ELEVATION: 30.88m JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		2 – 3	Silty clay, some sand, very stiff – dark yellowish brown (a)	7	14.9	2.75				
2	30.27	4 – 4	-2.0'							
3		4 – 3	Sandy silty clay, very stiff – dark brown (a)	6	14.4	2.75				
4		3 – 3								
5		2 – 3		6	17.1	2.41				
6	29.05	3 – 6	-6.0'							
7		8 – 10		22	14.7	8.76				
8		12								A
9										
10		8 – 9		21	11.9	---				
11		12	Silty clay, some sand, hard – dark yellowish brown (a)							
12										
13										
14										
15		6 – 10		21	9.7	---				
16	26.16	11	-15.5'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION — BORING NO.: 610 — SHEET NO.: 1/1

LOCATION: STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD, GUAYAMA, PUERTO RICO — CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ — DRILLER: E. VARGAS — WORK STARTED: 9-30-11 — WORK FINISHED: 9-30-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES: 1 3/8" I.D. SPLIT SPOON — HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" — DRILLING FLUID: NONE — CORE DATA-TYPE BARREL: ------ — TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE — DRILL MANUFACTURER TYPE & NO.: CME-55

"X" COORDINATE: ----- — "Y" COORDINATE: ----- — ELEVATION: 27.75m — JOB NO.: 11-3569

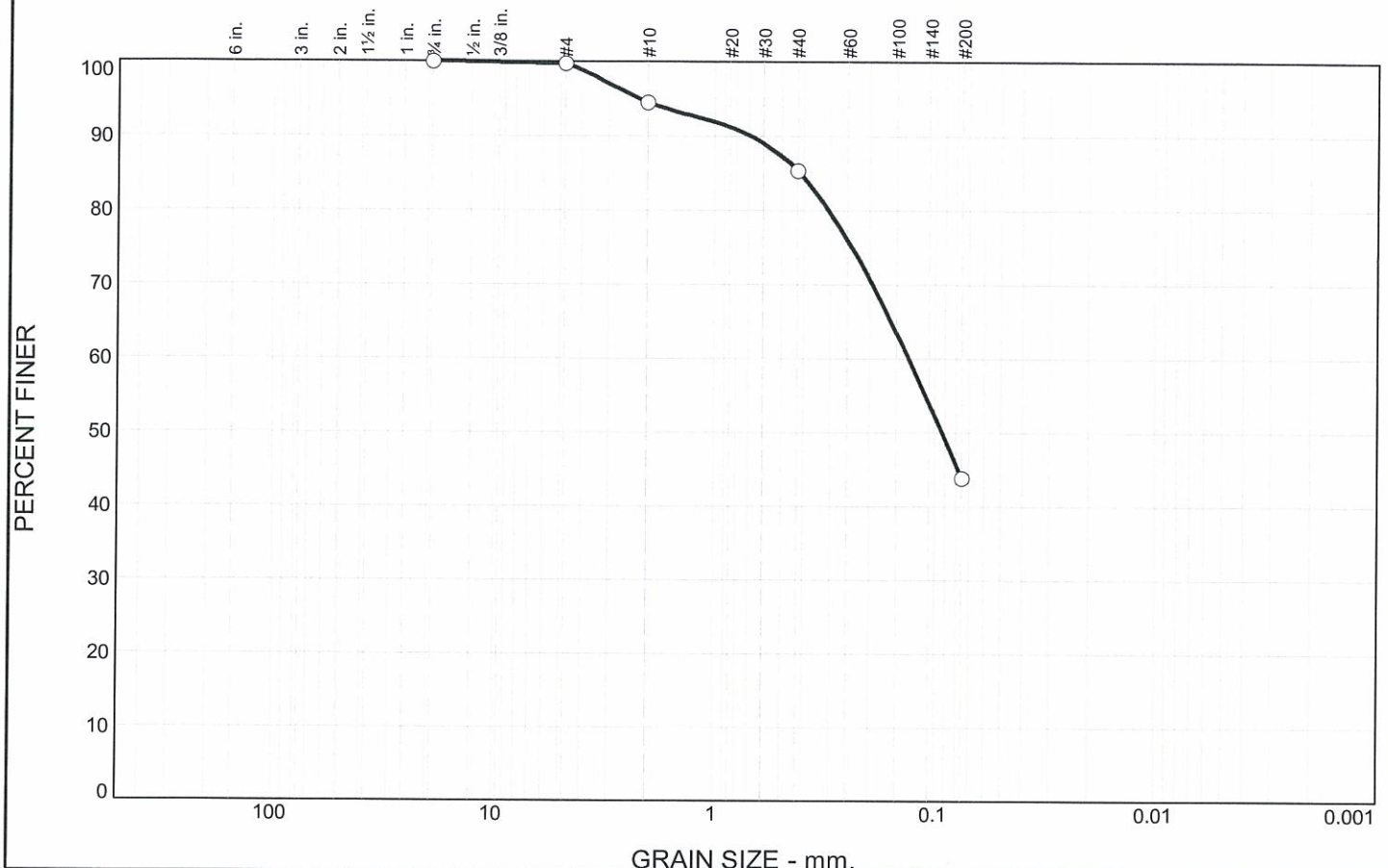
DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		4 – 5	Silty clay, some sand, hard – dark yellowish brown (a)	12	14.0	4.01				
2		7 – 9								
3	26.84	6 – 4	-3.0'	7	15.6	---				
4		3 – 2	Silty sand, loose – dark yellowish brown (a)				NV	NP	43.8	
5	26.23	2 – 2	-5.0'	6	17.2	3.85	[A-4(0) / SM]			
6		4 – 4	Silty clay, some sand, very stiff to hard – dark yellowish brown (a)							
7		5 – 5		13	14.8	6.13				
8		8 – 9								
9	25.01		-9.0'							A
10		3 – 2	Silty sand, loose – dark yellowish brown (a)	4	9.1	---				
11		2 – 3								
12										
13	23.79		-13.0'							
14			Sand and gravel, some silt, loose to medium – dark yellowish brown (a)							
15		14 – 14		28	3.2	---				
16	23.03	14	-15.5'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
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31										
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34										
35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
Qu = UNCONFINED COMPRESSIVE STRENGTH IN TONS PER SQ. FT.
Td = TYPE OF DRILLING
(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
(B) = ROTARY DRILLING USING ALLOY DRAG BIT AND/OR IN SOILS SHOWING "N" VALUES ABOVE 50

N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	5.2	9.2	41.5	43.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
#4	99.7		
#10	94.5		
#40	85.3		
#200	43.8		

* (no specification provided)

Soil Description

silty sand

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.6937 D_{85}= 0.4157 D_{60}= 0.1321
D_{50}= 0.0928 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

VIVIAN M. MÉNDEZ BADÍA
INGENIERO
LICENCIADO
LIC # 17493
PUERTO RICO

Source of Sample: BORING NO. 610 **Depth:** 2'@4'
Sample Number: 610-1 **Date:** 11/3/11

VICTOR E. RIVERA ASSOCIATES
Ponce, Puerto Rico

Client: Kartik, S.E.
Project: 124 Residential Loats Subdivision
PR-54 km 0.3 (Int) Machete Ward, Guayama, PR
Project No: 11-3569 **Verified by** V. Mendez

PO Box 32198
Ponce, PR 00732-2198

VICTOR E. RIVERA & ASSOCIATES

Geotechnical Engineers

PO Box 7999 PMB 360
Mayaguez, PR 00681

PROJECT: 124 RESIDENTIAL LOTS SUBDIVISION — BORING NO.: 611 — SHEET NO.: 1/1

LOCATION: STATE ROAD NO.54-KM. 0.3 (INT.) MACHETE WARD, GUAYAMA, PUERTO RICO — CLIENT: KARTIK, S.E.

INSPECTOR: V. MENDEZ — DRILLER: E. VARGAS — WORK STARTED: 8-18-11 — WORK FINISHED: 8-18-11

POWER DRIVEN HOLLOW STEM AUGER; SAMPLE-TYPES & SIZES: 1 3/8" I.D. SPLIT SPOON — HAMMER WGT: 140 POUNDS

HAMMER DROP: 30" — DRILLING FLUID: NONE — CORE DATA-TYPE BARREL: ------ — TYPE & SIZE BIT: ------

GROUND WATER: DATE AND DEPTH: NONE — DRILL MANUFACTURER TYPE & NO.: CME-55

"X" COORDINATE: ----- — "Y" COORDINATE: ----- — ELEVATION: 26.33m — JOB NO.: 11-3569

DEPTH (FT.)	ELEV. (M)	S.P.T. "N" VALUES	DESCRIPTION OF MATERIALS	N	W_N	Qu	LL	PI	%	Td
1		5 – 6	Silty clay, some sand, very stiff – dark yellowish brown (a) -2.0'	14	19.1	3.63				A
2	25.72	8 – 11								
3		12 – 11		21	16.6	---				
4		10 – 11								
5		3 – 8	Silty clay, some sand, hard– dark yellowish brown (a)	19	14.7	9.19				
6		11 – 13								
7		15 – 15		32	10.0	---				
8		17								
9	23.59		-9.0'							
10		50/2"	Gravel size fragments	50/2"	1.3	---				
11										
12										
13	22.37		-13.0'							
14			Sand and gravel, some silt, loose to medium – dark yellowish brown (a)							
15		13 – 13		25	5.6	---				
16	21.45	12 – 12	-16.0'							
17			END OF BORING							
18										
19			(a)-Alluvial							
20										
21										
22										
23										
24										
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35										

* = INDICATED AS NEEDED (1) NO. OF BLOWS REQUIRED TO DRIVE SAMPLER 0"-6", 6"-12", 12"-18", 18"-24"
(2) FORCE TO CAUSE THIN WALLED SAMPLER TO PENETRATE AT RATE ½ FT/SEC.

W_N = NATURAL MOISTURE CONTENT IN % OF DRY WEIGHT
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(A) = STANDARD BORING IN SOILS SHOWING "N" VALUES BELOW 50
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N = SUM OF SAMPLER PENETRATION FROM 6" TO 18"
LL = LIQUID LIMIT
PI = PLASTICITY INDEX
% = PERCENT FINER THAN NO. 200 SIEVE

EXHIBIT "B"

ROUTINE FIELD AND LABORATORY TESTING PROCEDURES

124 RESIDENTIAL LOTS SUBDIVISION

STATE ROAD NO. 54 - KM. 0.3 (INT.)

MACHETE WARD, GUAYAMA, PUERTO RICO

(VERA Job No. 11-3569)

By:

VIVIAN MÉNDEZ BADÍA, M.C.E., P.E.

VICTOR E. RIVERA ROLDAN, M.B.A., P.E.

VICTOR E. RIVERA ASSOCIATES

GEOTECHNICAL ENGINEERS





NOVEMBER 3, 2011

EXHIBIT "B"

ROUTINE FIELD AND LABORATORY TESTING PROCEDURES

The borings were made by the Auger Drilling Method or Process. The Auger Drilling Method consist of powered turning a continuous flight hollow stem auger 6" O.D. and 2 ½" I.D. into the soil to the desired depth or level. The auger is used to advance and case the test hole simultaneously. It is used with a center rod and plug assembly at it lower end. The plug assembly is held in-place by the cap inside drill rod and is coupled to the auger and its assembly to the rotating spindle on the drill rig, thus preventing dirt from entering the mouth of the auger.

Once the desire depth of level for sampling is reached, the plug is retracted by withdrawing the center rod to permit lowering of the sampler or core barrel, as the case may be, through the auger. After the sampler is retracted, the plug is reinserted and held in-place by the center rod, another auger section is connected to the first, together with one additional center rod to secure the plug to the cap, and the hole is advanced.

This procedure is repeated until the desire hole depth is reached. The auger can always be stopped at any depth level to allow normal sampling practice.

Soil samples are secured from the bottom of the hole by means of a 1 3/8" I.D. Split Spoon Sampler. While securing the soil samples, the standard penetration test is performed and the "N" values obtained. This is the number of blows required to drive the sampling spoon at a distance of 1 foot into the ground with 140 pounds hammer falling 30 inches. The "N" values give an indication of the consistency of cohesive soils and the state of packing of granular soils as follows:

COHESIVE SOILS

"N" Value (Blow/Ft.)	Consistency	Unconfined Compressive Strength (TSF)
Less than 2	Very Soft	0.25
2-4	Soft	0.25 - 0.50
4-8	Medium	0.50 - 1.00
8-15	Stiff	1.00 - 2.00
15-30	Very Stiff	2.00 - 4.00
More than 30	Hard	4.00

GRANULAR SOILS

"N" Values (Blows/Ft.)	Relative Density
0-5	Very Loose
5-10	Loose
10-30	Medium
30-50	Dense
Over 50	Very Dense

LABORATORY WORK

IDENTIFICATION OF SOILS

Soil samples are classified according to their constituents, and the following terminology is used to denote the percentage by weight of each component:

Description Term	Range of Proportion (%)
Trace	1-10
Some	10-20
Adjective (sandy, silty, clayey)	20-35
And	35-50

Granular soils are non-cohesive soils consisting of boulders, gravel, sand, silt, either separately or in combination, that is, soil showing no-plasticity.

Boulders are the constituents with an average diameter larger than 3-inches. Gravel ranges from fine (No. 10 Sieve) to coarse (3 inches sieve). Sand particles are those passing No. 10 Sieve and retained on No. 200 mesh. The silt particle ranges from 0.66 to 0.002 mm.

Cohesive soils are those which possess characteristics of cohesiveness and plasticity. They may be granular soils as described above with the addition of clay or organic silt which causes cohesion and plasticity, or may be clay or organic silt with no coarse components.

The clay fraction is composed of clay minerals and in general has an average particle diameter of less than 0.002 mm.

The organic fraction is that portion with average particle diameter less than 0.06 mm. The clay and organic silt may occur separately or in conjunction.

Both materials will exhibit plastic qualities within a certain range of water content, but the range will be greater in the case of clay. The organic silt has a more granular appearance than the clay.

Besides the constituents and colors, each sample is carefully examined for stratifications, presence of secondary structures, shells, fibrous or disseminated peat, plasticity, or any foreign matter that might undermine it shearing resistance, that is, it load carrying capacity.

NATURAL MOISTURE CONTENT

The natural moisture content is determined by finding the quality of water present in the voids of the soil specimen in the natural condition and dividing it by the dry weight of the sample. The result thus attained is expressed as a percentage (dry weight basis).

The weight of the water is determined by subtracting the weight of a soil specimen in its natural condition from the weight of the specimen after been dried in an oven at 105 C twenty-four (24) hours.

UNCONFINED COMPRESSION TESTS

The cohesive soil specimens obtained from split spoon samples, cannot be considered as undisturbed samples, nevertheless, their unconfined compressive strength can be easily determined to obtain some information as to the shearing strength. Unconfined compressive strength tests were performed by subjecting cylinders of soil some 2.75" high by 1.375" in diameter to axial deflection at a constant load and measuring the resisting stress developed in the soil.

The load applied on the samples is measured by a scale and the deflection recorded on a strain dial calibrated in thousands of an inch.

OTHER DRILLING METHOD

A. Semi-Consolidated or Gravel Materials (B-Type of Drilling) Where Applicable:

Advancement of the hole into semi-consolidated or gravelly deposit generally showing "N" values below 100 by means of the conventional method previously described results on a very low and costly operation, thus, requiring a different system for deepening the hole. On this case, a combined drilling and sampling method is used.

Sampling is made on the standard way already discussed, however, advancement of the hole is achieved by means of rotary drilling using alloy drag bit placed at the lower end of the powered turning rod. This method also combines from the standard wash boring the jet of water to clean-out the soil debris produced by the drilling action.

B. Rock Coring (C-Type of Drilling) Where Applicable:

This method is applied for drilling into hard or consolidated rock and some coarse gravel and boulder deposits, and basically consist of drilling with diamond bits secured to the lower end of a rock sampler (core barrel). This barrel is double tubed to insure a high percentage of core recovery for most adequate evaluation of the rock sample.

Respectfully Submitted,

VICTOR E. RIVERA ASSOCIATES

GEOTECHNICAL ENGINEERS

VERA/vmr

Exhibit No. 16
AEE Endorsement
SOURCE: AEE

AEE 15.2-793
Rev. 9/09

ESTADO LIBRE ASOCIADO DE PUERTO RICO
AUTORIDAD DE ENERGÍA ELÉCTRICA DE PUERTO RICO

NÚM. CERTIFICACIÓN:

CERTIFICACIÓN DE PLANOS DE CONSTRUCCIÓN ELÉCTRICA

En armonía con las disposiciones de la Ley Núm. 7 del 19 de julio de 1985 y de la Ley Núm. 173 del 12 de agosto de 1988, según enmendadas, yo, ENRIQUE FIGUEROA (Nombre y Apellidos) certifico que:

Soy mayor de edad, CASADO (Estado civil), vecino de SAN JUAN (Municipio), Puerto Rico; que soy INGENIERO (Ingeniero o Arquitecto) autorizado a ejercer la profesión en Puerto Rico con licencia número 18923 y soy miembro activo del colegio de mi profesión.

En el ejercicio de la profesión diseñé la fase eléctrica del proyecto de construcción descrita como :

Nombre Proyecto	Brisas del Mar Seccion VI	
Núm. AEE: 90-0-452G1		Carga (kVA): 1150 (350 EXIST)
Dirección Física	Ave. Marcelino "El Indio" Blondet, Bo. Machete	
	Guayama, PR	

Estoy autorizado por el dueño del proyecto a radicar esta certificación ante la AEE.

Dueño Proyecto	BDMV Developers
Dirección Postal	LLC PO Box 362374
	San Juan, PR 00936

Radico esta certificación ante la AEE para:

✔	Endoso de los planos de diseño eléctrico que tienen evaluación vigente desde el 20/OCT/2020.
	Revisión número 1 de los planos de diseño eléctrico previamente endosados por la AEE. Se incluye memorial explicativo.

La fase eléctrica del proyecto preparada o diseñada por mí, según se incluye en los planos, documentos y especificaciones que acompañan esta certificación, está conforme con los reglamentos, códigos, normas, patrones y comunicados técnicos vigentes aplicables promulgados, aprobados o adoptados por la AEE, la Junta de Planificación y la Administración de Reglamentos y Permisos, así como con las políticas públicas y leyes aplicables.

Acepto que el endoso de estos planos, documentos y especificaciones por parte de la AEE no constituye un relevo de la responsabilidad profesional que conlleva esta certificación.

Sustitución del Diseñador: Este proyecto fue endosado anteriormente a _____ (Ingeniero o Arquitecto), por lo que se incluye el relevo de responsabilidad expedido por éste.

Firma: Enrique Miguel Figueroa Santos-Buch, Ingeniero Licenciado, Lic. 18923 PE, Puerto Rico, Fecha de Expiración 2023-08-18

Fecha: Digitally signed by ENRIQUE FIGUEROA SANTOS-BUCH Date: 2021.10.05 15:22:43 -04'00'

Dirección:

ENDOSO DE LA AEE

Firma: ERIC A CARLO HIDALGO, INGENIERO LICENCIADO, LIC. 9786, PUERTO RICO

Nombre: Eric A. Carlo Hidalgo cn=Eric A. Carlo Hidalgo, o=Luma Energy, ou, email=eric.carlo@lumapr.com, c=US

Fecha: 2021.10.20 07:59:25 -04'00'

EXHIBIT 16



NORTH



LOCATION PLAN X: 233,609.04 Y: 214,671.63 SCALE 1:20,000

LEGEND:

- NEW 10'-0" OVERHEAD LINE R/M (5'-0" TO EACH SIDE OF LINE).
- E —— 2" PVC SCH.40 CAPPED CONDUIT WITH PULLING ROPE.
- SINGLE PHASE UNDERGROUND SECONDARY FEEDER 120/240 VOLTS. 3 COPPER CABLE #2, 600 VOLTS, RHH-2, 90°C TYPE CONDUCTORS IN 2" PVC SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE.
- SINGLE PHASE UNDERGROUND SECONDARY FEEDER 120/240 VOLTS, 3-1/0 COPPER CABLE, 600 VOLTS, RHH-2, 90° C TYPE CONDUCTORS IN PVC SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE. SIZE OF CONDUCTORS AND CONDUITS AS INDICATED ON DRAWINGS. (MINIMUM CONDUCTOR 1/0,MINIMUM CONDUIT-2").
- SINGLE PHASE UNDERGROUND LIGHTING CABLE WITH RHH-2-600V INSULATION 2/C #10 AWG COPPER CABLES 600 VOLTS TYPE CONDUCTORS IN 1" PVC. SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE.(OTHER SIZES AS SHOWN ON DWGS)
- E EXISTING OVERHEAD PRIMARY LINE, 3 PH., 4H., 13.2 KV., 556 ACSR.
- OVERHEAD PRIMARY LINE, 1 PHASE, 2H, WITH FULL NEUTRAL CONSISTING OF 2 #3/0 ACAR CABLE, 7.62 KV
- OVERHEAD PRIMARY LINE, 2 PHASE, 3H, WITH FULL NEUTRAL CONSISTING OF 3 #3/0 ACAR CABLE, 13.2/7.62 KV.
- EXISTING OVERHEAD PRIMARY LINE, 3 PHASE, 4H., 13.2/7.62 KV CONSISTING OF 4 #3/0 ACSR CABLE.
- E EXISTING PREPA CONCRETE POLE. POINT OF CONNECTION.
- NEW SQUARE CONCRETE POLE. TYPE AND HEIGHT AS PER POLE SCHEDULE. NUMBER DENOTES IDENTIFICATION.
- $\odot_a$ MAIN SECONDARY PEDESTAL FOR CONNECTING SECONDARY BRANCH FEEDER TO THE TRANSFORMER OR SERVICES. TOTALLY ENCLOSED AND FLUSH WITH THE PLANTING STRIP. PROVIDED WITH A SOLID CAST TAMPERPROOF COVER. MUST NOT BE INSTALLED IN FRONT OF OR BETWEEN TWO CARPORTS OR GARAGES ENTRANCES. GROUND TO A 5/8"x8-0" ROD. THE RESISTANCE FROM THE PEDESTAL TO GROUND SHALL NOT BE GREATER THAN 10 OHMS. P.R.E.P.A. STD. URD-26. (UP TO FIVE SERVICE); URD-28.
- $\odot_b$ MAIN SECONDARY PEDESTAL FOR CONNECTING SECONDARY BRANCH FEEDER TO THE TRANSFORMER OR SERVICES. TOTALLY ENCLOSED AND FLUSH WITH THE PLANTING STRIP. PROVIDED WITH A SOLID CAST TAMPERPROOF COVER. MUST NOT BE INSTALLED IN FRONT OF OR BETWEEN TWO CARPORTS OR GARAGES ENTRANCES. GROUND TO A 5/8"x8-0" ROD. THE RESISTANCE FROM THE PEDESTAL TO GROUND SHALL NOT BE GREATER THAN 10 OHMS. P.R.E.P.A. STD. URD-27, URD-28.
- GUY-WIRE SEE POLE SCHEDULE FOR APPLICABLE P.R.E.P.A. STANDARD.
- △ POLE MOUNTED OISC DISTRIBUTION TRANSFORMER, NON PCB, STAINLESS STEEL, 7.62 KV-120/240V, 2-2 1/2% TAPS BELOW AND 2-2 1/2% TAPS ABOVE RATED VOLTAGE, PREPA STD. T-I-I. SIZE AS SHOWN ON DWNGS. SHALL COMPLY W/PREPA TECHNICAL COMMUNICATE 15-03.

ELECTRICAL SITE PLAN
PRIMARY AND R/W DISTRIBUTION

SCALE: 1:1000

1. ALL WORK ON OR NEAR PREPA ENERGIZED LINES SHALL BE BY PREPA AT OWNER'S EXPENSE.
2. CONTRACTOR SHALL COORDINATE DURING CONSTRUCTION THAT THE INSTALLATION OF POWER POLES, GUYS, TRANSFORMERS, PEDESTALS AND LIGHTING POLES DO NOT INTERFERE WITH DRIVEWAYS AND CARPORT ENTRANCES.
3. PROJECT WILL BE CONNECTED TO EXISTING POLE NO.4. COORDINATE CONNECTION POINT DETAILS AND COST WITH GUAYAMA DISTRICT ENGINEER.
4. NAD-83, MEASUREMENT IN METERS.
5. PROJECTS WITH ENTRANCE ACESS CONTROL SHALL COMPLY WITH PREPA'S "PROCEDIMIENTO PARA EL ENDOSO DE PROYECTOS CON CONTROL DE ACCESO". COMPLIANCE WITH THIS PROCEDURE WILL BE REQUIRED PRIOR TO ENDORSEMENT OF PLANS.
6. PROJECT OWNER WILL PAY PREPA $23,316.70 AS HIS PROPORTIONAL SHARE OF THE ELECTRICAL SYSTEM IN THE AREA. PROJECT OWNER SHALL PRESENT DOCUMENT FROM DEPARTAMENTO DE LA VIVIENDA CERTIFYING PROJECT AS SOCIAL INTEREST PROJECT IN WHICH CASE PROJECT OWNER SHALL PAY $2,553.10.
7. PROJECT OWNER SHALL COORDINATE PRIMARY VOLTAGE WITH GUAYAMA DISTRICT ENGINEER PRIOR TO PURCHASING TRANSFORMERS.

DESIGNER'S CERTIFICATION

1. I CERTIFY I AM A LICENSED ENGINEER OR ARCHITECT, MEMBER OF THE COLLEGE OF MY PROFESSION AND AUTHORIZED BY THIS PROJECT'S OWNER TO PRESENT THESE CONSTRUCTION PLANS TO PREPA.
2. IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED, KNOWN AS CONSTRUCTION PLANS' CERTIFICATION LAW, I CERTIFY THAT I HAVE PREPARED THESE PLANS IN ACCORDANCE WITH THE APPLICABLE CODES, STANDARDS, NORMS AND REGULATIONS APPROVED BY PREPA, PUERTO RICO PLANNING BOARD AND PERMITS AND REGULATION ADMINISTRATION.

18923 P.E.
DESIGNER'S SIGNATURE AND SEAL — LICENSE NUMBER

PUERTO RICO ELECTRIC POWER AUTHORITY
ENDORSEMENT

PROJECT NAME: BRISAS DEL MAR SEC. VI (300 EXIST.)
PROJECT NUMBER: 90-0-45261 LOAD (KVA) (300 NEW)

ENDORSED BY:	REVISION	DATE
	1	
	2	
	3	
	4	

1. PREPA ENDORSES THE ELECTRIC DESIGN SHOWN IN THESE CONSTRUCTION PLANS, BASED ON THE CERTIFICATION PRESENTED BY THE DESIGNER THAT IS IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED.
2. PREPA DOES NOR ASSUME RESPONSIBILITY OVER TH CERTIFIED DESIGN. PREPA'S ENDORSEMENT DOES NOT RELIEVE THE DESIGNER FROM THE PROFESSIONAL RESPONSIBILITY ASSUMED WITH THE CERTIFICATION OF THESE PROJECT'S PLANS. THIS ENDORSEMENT RELIEVES NEITHER THE BUILDER NOR PRIVATE INSPECTOR FROM COMPLIANCE WITH STANDING CONSTRUCTION CODES, STANDARDS, NORMS AND REGULATIONS FROM PREPA AND OTHER GOVERNMENT AGENCIES AS WELL AS FEDERAL AND STATE LAWS RULING BY TIME CONSTRUCTION BEGINS.
3. THIS ENDORSEMENT IS VALID FOR TWO YEAR. IF ELECTRICAL WORKS HAVE BEEN INITIATED WITHIN THIS TIME FRAME AND ARE IN PROGRESS, THE ENDORSEMENT WILL STILL BE VALID UNTIL WORK'S COMPLETION. IN CASE THERE IS NO CERTIFIED ELECTRICAL WORK DURING THAT TIME, THIS ENDORSEMENT WILL LOSE ITS VALIDITY.

e figueroa p.s.c
INGENIEROS CONSULTORES
Repto. El Verbena, Calle A #195, San Juan, PR 00920
Tels. 787.782.4834, 1787.448.5834

PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.
776 GEORGETOWN ST., UNIVERSITY GARDENS, RIO PIEDRAS, P.R. 00927 TEL. (787) 756-7887 / FAX (787) 756-6176

PROJECT:
URB. BRISAS DEL MAR:SECCION VI
MACHETE WARD GUAYAMA, P.R.

PROJECT No.:	
CAD FILE:	
SCALE:	1:1,000
DATE:	II.11
DRAWN BY:	JIRC LIC.2278
CHECKED:	EF

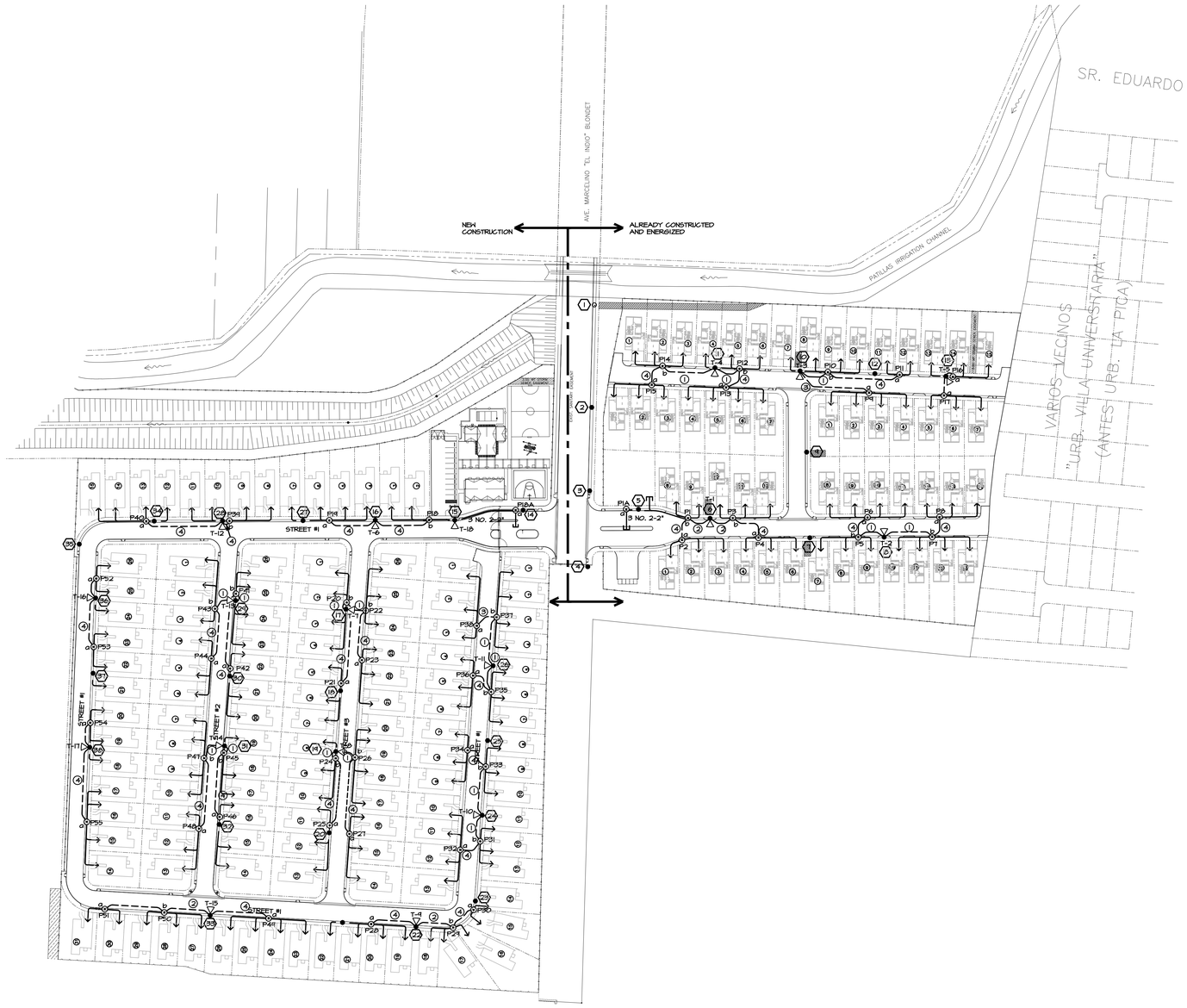
No.	REVISIONS	DATE
No.	REVISIONS	DATE

ELECTICAL SITE PLAN
SECTION VI
PRIMARY DISTRIBUTION

SHEET TITLE

ES-101

OF



NORTH

LEGEND:

- NEW 10'-0" OVERHEAD LINE R/W (5'-0" TO EACH SIDE OF LINE).
- E — 2" PVC SCH.40 CAPPED CONDUIT WITH PULLING ROPE.
- SINGLE PHASE UNDERGROUND SECONDARY FEEDER 120/240 VOLTS. 3 COPPER CABLE #2, 600 VOLTS, RHH-2, 90° C. TYPE CONDUCTORS IN 2" PVC SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE.
- SINGLE PHASE UNDERGROUND SECONDARY FEEDER 120/240 VOLTS. 3-1/0 COPPER CABLE, 600 VOLTS, RHH-2, 90° C TYPE CONDUCTORS IN PVC SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE. SIZE OF CONDUCTORS AND CONDUITS AS INDICATED ON DRAWINGS. (MINIMUM CONDUCTOR 1/0).(MINIMUM CONDUIT-2").
- SINGLE PHASE UNDERGROUND LIGHTING CABLE WITH RHH-2-600V INSULATION 2/C #10 AWG COPPER CABLES 600 VOLTS TYPE CONDUCTORS IN 1" PVC. SCH.40 CONDUIT LOCATED AT A MINIMUM DEPTH OF 36" BELOW FINISH GRADE.(OTHER SIZES AS SHOWN ON DWGS)
- E — EXISTING OVERHEAD PRIMARY LINE, 3 PH., 4H., 13.2 KV., 556 ACSR.
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- OVERHEAD PRIMARY LINE, 2 PHASE, 3H. WITH FULL NEUTRAL CONSISTING OF 3 #3/0 ACAR CABLE, 13.2/7.62 KV.
- EXISTING OVERHEAD PRIMARY LINE, 3 PHASE, 4H., 13.2/7.62 KV CONSISTING OF 4 #3/0 ACSR CABLE.
- E — EXISTING PREPA CONCRETE POLE. POINT OF CONNECTION.
- NEW SQUARE CONCRETE POLE. TYPE AND HEIGHT AS PER POLE SCHEDULE. NUMBER DENOTES IDENTIFICATION.
- $\odot_a$ — MAIN SECONDARY PEDESTAL FOR CONNECTING SECONDARY BRANCH FEEDER TO THE TRANSFORMER OR SERVICES, TOTALLY ENCLOSED AND FLUSH WITH THE PLANTING STRIP. PROVIDED WITH A SOLID CAST TAMPERPROOF COVER. MUST NOT BE INSTALLED IN FRONT OF OR BETWEEN TWO CARPORTS OR GARAGES ENTRANCES. GROUND TO A 5/8"x8'-0" ROD. THE RESISTANCE FROM THE PEDESTAL TO GROUND SHALL NOT BE GREATER THAN 10 OHMS. P.R.E.P.A. STD. URD-26. (UP TO FIVE SERVICES) URD-28.
- $\odot_b$ — MAIN SECONDARY PEDESTAL FOR CONNECTING SECONDARY BRANCH FEEDER TO THE TRANSFORMER OR SERVICES, TOTALLY ENCLOSED AND FLUSH WITH THE PLANTING STRIP. PROVIDED WITH A SOLID CAST TAMPERPROOF COVER. MUST NOT BE INSTALLED IN FRONT OF OR BETWEEN TWO CARPORTS OR GARAGES ENTRANCES. GROUND TO A 5/8"x8'-0" ROD. THE RESISTANCE FROM THE PEDESTAL TO GROUND SHALL NOT BE GREATER THAN 10 OHMS. P.R.E.P.A. STD. URD-27, URD-28.
- GUY-WIRE SEE POLE SCHEDULE FOR APPLICABLE P.R.E.P.A. STANDARD.
- △ — POLE MOUNTED OISC DISTRIBUTION TRANSFORMER, NON PCB, STAINLESS STEEL, 7.62 KV-120/240V, 2-2 1/2% TAPS BELOW AND 2-2 1/2% TAPS ABOVE RATED VOLTAGE, PREPA STD. T-1-1. SIZE AS SHOWN ON DWNGS. SHALL COMPLY W/PREPA TECHNICAL COMMUNICATE 15-03.

ELECTRICAL SITE PLAN
SECONDARY DISTRIBUTION
SCALE: 1:1000

FEEDER SCHEDULE:

① 3 NO. 250-3"
② 3 NO. 4/0-3"
③ 3 NO. 3/0-2 1/2"
④ 3 NO. 2/0-2 1/2"
⑤ 3 NO. 300-3"

NOTE: ALL FEEDERS NO. 1/0 EXCEPT AS NOTED.

DESIGNER'S CERTIFICATION

1. I CERTIFY I AM A LICENSED ENGINEER OR ARCHITECT, MEMBER OF THE COLLEGE OF MY PROFESSION AND AUTHORIZED BY THIS PROJECT'S OWNER TO PRESENT THESE CONSTRUCTION PLANS TO PREPA.
2. IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED, KNOWN AS CONSTRUCTION PLANS' CERTIFICATION LAW, I CERTIFY THAT I HAVE DESIGNED THESE PLANS IN ACCORDANCE WITH THE APPLICABLE CODES, STANDARDS, NORMS AND REGULATIONS APPROVED BY PREPA, PUERTO RICO PLANNING BOARD AND PERMITS AND REGULATION ADMINISTRATION.

DESIGNER'S SIGNATURE AND SEAL — LICENSE NUMBER: 18923 P.E.

PUERTO RICO ENERGY AUTHORITY
ENDORSEMENT

PROJECT NAME: BRISAS DEL MAR SEC. VI (300 EXIST.)
PROJECT NUMBER: 90-0-452G1 LOAD (KVA) (300 NEW)

ENDORSED BY:	REVISION	DATE
—	1	
—	2	
	3	
	4	

1. PREPA ENDORSES THE ELECTRIC DESIGN SHOWN IN THESE CONSTRUCTION PLANS BASED ON THE CERTIFICATION PRESENTED BY THE DESIGNER IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED.
2. PREPA DOES NOR ASSUME RESPONSIBILITY OVER TH CERTIFIED DESIGN. PREPA'S ENDORSEMENT DOES NOT RELIEVE THE DESIGNER FROM THE PROFESSIONAL RESPONSIBILITY ASSUMED WITH THE CERTIFICATION OF THESE PROJECT'S PLANS. THIS ENDORSEMENT RELIEVES NEITHER THE BUILDER NOR PRIVATE INSPECTOR FROM COMPLIANCE WITH STANDING CONSTRUCTION CODES, STANDARDS, NORMS AND REGULATIONS. CONSTRUCTIONS STANDARDS, NORMS AND REGULATIONS FROM PREPA AND OTHER GOVERNMENT AGENCIES AS WELL AS FEDERAL AND STATE LAWS RULING BY TIME CONSTRUCTION BEGINS.
3. THIS ENDORSEMENT IS VALID FOR TWO YEAR. IF ELECTRICAL WORKS HAVE NOT BEEN INITIATED WITHIN THIS PERIOD OF TIME, AS A RULE, THE ENDORSEMENT WILL STILL BE VALID UNTIL WORK'S COMPLETION, IN CASE THERE IS NO CERTIFIED ELECTRICAL WORK DURING THAT TIME, THIS ENDORSEMENT WILL LOSE ITS VALIDITY.

e figueroa p.s.c.
INGENIEROS CONSULTORES
Reparto El Verbenero, Calle A #195, San Juan, PR 00926
Tels. 787.399.4974-1857.288.5870

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PROJECT:
URB. BRISAS DEL MAR:SECCION VI
MACHETE WARD GUAYAMA, P.R.

PROJECT No.:	
CAD FILE:	
SCALE:	1:1,000
DATE:	11.11
DRAWN BY:	JL
CHECKED:	EF

No.	REVISIONS	DATE
No.	REVISIONS	DATE

ELECTICAL SITE PLAN
SECTION VI
SECONDARY DISTRIBUTION
SHEET TITLE

ES-102
OF

NOTAS GENERALES

1. ESTOS PLANOS COINCIDEN CON LOS PLANOS DE INSCRIPCION RADICADOS EN LA ADMINISTRACION DE REGLAMENTOS Y PERMISOS (ARPE).
2. EL DUEÑO DEL PROYECTO ES REPONSABLE DE GESTIONAR Y OBTENER, ANTES DE LA FECHA DE COMIENZO DE LA OBRA, TODOS LOS ENDOSOS, PERMISOS Y SERVIDUMBRES REQUERIDAS POR ENTIDADES GUBERNAMENTALES, ESTATALES, MUNICIPALES, FEDERALES Y PRIVADAS ONCERNIENTES AL DESARROLLO DEL TIPO DE PROYECTO PROPUESTO.
3. EL DUEÑO DE ESTA OBRA TIENE QUE CONTRATAR LOS SERVICIOS DE UN INGENIERO LICENCIADO Y COLEGIADO QUE INSPECCIONE LA CONSTRUCCION DE LAS OBRAS ELECTRICAS DE ACUERDO CON LA LEY NUM. 7 DEL 19 DE JULIO DE 1985, SEGUN ENMENDADA, Y CON EL REGLAMENTO DE CERTIFICACION DE PLANOS DE PROYECTOS DE CONSTRUCCION ELECTRICA DE LA AEE VIGENTE. EL DUEÑO TENDRA QUE NOTIFICAR A LA AEE LA DESIGNACION DE ESTE INSPECTOR PRIVADO ANTES DEL COMIENZO DEL PROYECTO.
4. LA EJECUCION DE LAS OBRAS ELECTRICAS, SEGUN DISEÑADAS EN ESTOS PLANOS, DEBERA OBSERVAR LA MEJOR PRACTICA DE LA INDUSTRIA ELECTRICA Y CONSTRUCCION DE ACUERDO CON LAS NORMAS Y REGLAMENTACION ADOPTADAS POR LA AEE Y AGENCIAS CONCERNIENTES, AL IGUAL QUE CON LOS CODIGOS, NEC Y NESC, Y DEMAS ESTANDARES DE IEEE, NFPA, NEMA Y ANSI ADOPTADOS.
5. EL CONTRATISTA NO ESTA AUTORIZADO A HACER VARIACIONES A ESTE DISEÑO. ES RESPONSABILIDAD DEL CONTRATISTA CONSULTAR CON EL DISEÑADOR O INSPECTOR DESIGNADO PARA ESTA OBRA CUALQUIER DUDA QUE SURJA DE LA INTERPRETACION DE LOS PLANOS, DE LA EJECUCION DE LAS OBRAS PROPUESTAS, ESPECIFICACIONES TECNICAS O DISCREPANCIAS ENTRE LAS CONDICIONES EXISTENTES EN EL CAMPO Y AQUELLAS UTILIZADAS PARA PROPOSITOS DE DISEÑO.
6. EL DUEÑO O CONTRATISTA ELECTRICO NOTIFICARA A LA AEE EL COMIENZO DE ESTAS OBRAS, MEDIANTE LA ESTREGA DEL DOCUMENTO NOTIFICACION DE COMIENZO DE PROYECTO EN EL DEPARTAMENTO DE INGENIERIA DE DISTRIBUCION DE LA REGION CORRESPONDIENTE, CON POR LO MENOS QUINCE DIAS DE ANTICIPACION A LA FECHA PROPUESTA.
7. EL INSPECTOR PRIVADO Y EL CONTRATISTA ELECTRICO SON RESPONSABLES DE ASISTIR A UNA REUNION DE PRECONSTRUCCION A COORDINARSE CON EL DEPARTAMENTO DE INGENIERIA DE DISTRIBUCION DE LA REGION CORRESPONDIENTE.
8. TODO TRABAJO A REALIZARSE EN LINEAS ENERGIZADAS, INCLUYENDO LA CONEXION DE ESTA OBRA, TIENE QUE SER REALIZADO POR LAS AEE. EL PROPONENTE TIENE QUE ASUMIR TODOS LOS COSTOS DE EQUIPO, MATERIALES Y LABOR. EL PROPONENTE TIENE QUE SOLICITAR A LA AEE UN ESTIMADO PARA ESTOS TRABAJOS, EL CUAL TENDRA UNA VIGENCIA DE TRS MESES DESDE SU EXPEDICION.
9. SE PROHIBE LA REALIZACION DE CUALQUIER TIPO DE TRABAJO EN LAS FRANJAS DE SERVIDUMBRE ELECTRICA SIN LA AUTORIZACION POR ESCRITO DE LA AEE.
10. LA AEE NO APROBARA LA CONEXION DE PROYECTOS CON CONDICIONES DE INVASION DE SERVIDUMBRE O QUE NO CUMPLAN CON LOS DESPEJOS DE SEGURIDAD REQUERIDOS.

NOTAS ESPECIALES

1. PROJECT OWNER HILL PAY PREPA $23,916.70 AS HIS PROPORTIONAL SHARE OF THE ELECTRICAL SYSTEM IN THE AREA. PROJECT OWNER SHALL PRESENT DOCUMENT FROM DEPARTAMENTO DE LA VIVIENDA CERTIFYING PROJECT AS SOCIAL INTEREST PROJECT IN WHICH CASE PROJECT OWNER SHALL PAY $2,593.10.
2. LA AEE NO CONECTARA EL PROYECTO A SU SISTEMA ELECTRICO HASTA TANTO EL DUEÑO CONSTITUYA LAS SERVIDUMBRES REQUERIDAS DE ACUERDO CON EL REGLAMENTO DE SERVIDUMVRES PARA LA SUTORIDAD DE ENERGIA ELECTRICA. ESTA NOTA APLICA A TODA SERVIDUMBRE REQUERIDA, YA SEA DENTRO COMO FUERA DE LOS LIMITES DEL PROYECTO.
3. LA INSTALACION DE SISTEMAS DE MEDICION TIENE QUE COORDINARSE CON LA OFICINA DE MEDICION DE LA REGION CORRESPONDIENTE. EL DISEÑADOR O EL CONTRATISTA ELECTRICO TIENE QUE ASEGURARSE DE CONSULTAR CON ESTA OFICINA SOBRE LOS EQUIPOS Y MATERIALES A UTILIZARSE ADEMAS DE LA UBICACION DEL EQUIPO.
4. LA INSTALACION DE SUBESTACIONES, TRANSFORMADORES U OTRO EQUIPO ELECTRICO SOBRE SISTEMAS DE ALCANTARILLADO, LINEAS DE AGUA U OTRAS UTILIDADES ESTA PROHIBIDA.

MATERIALES

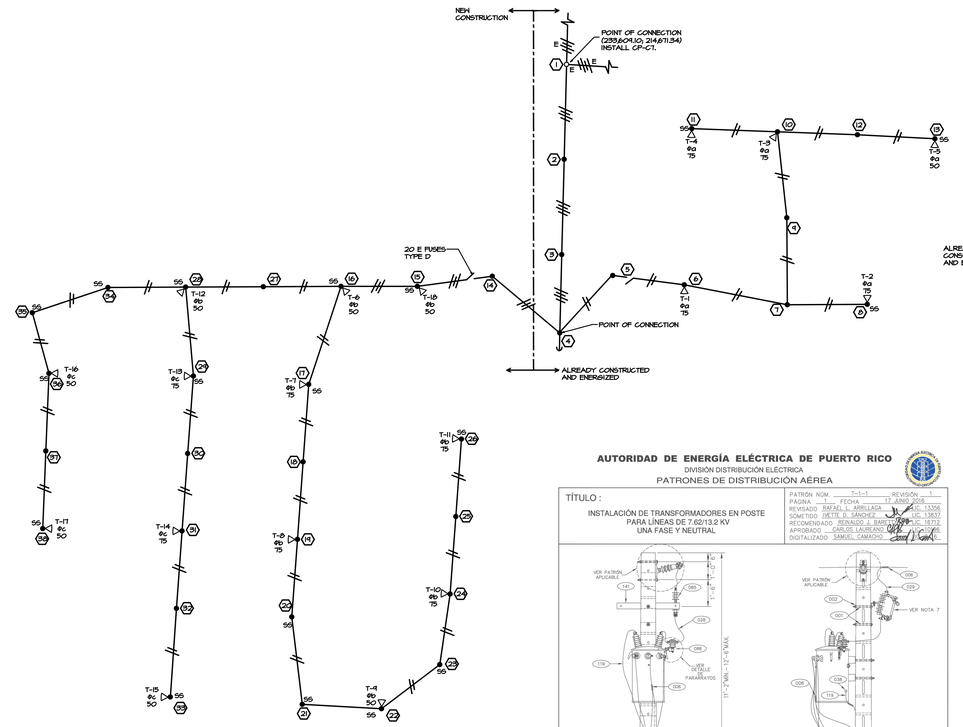
1. TODOS LOS EQUIPOS A UTILIZARSE EN LA CONSTRUCCION TIENEN QUE CUMPLIR CON LOS ESTANDARES DE IEEE, ANSI, NEMA Y ASTM.
2. EL CONTRATISTA ES RESPONSABLE DE VERIFICAR CON LA AEE QUE TODO MATERIAL O EQUIPO A UTILIZARSE ESTE APROBADO POR LA AEE PREVIO A SU INSTALACION. LA AEE SE RESERVA EL DERECHO DE ACEPTAR CUALQUIER EQUIPO QUE SE LE VAYA A TRNSFER.
3. TODO EQUIPO Y MATERIAL (INCLUYENDO TRANSFORMADORES Y GABINETES DE SUBESTACIONES) A SER INSTALADOS A UNA MILLA O MENOS DE DISTANCIA DE CUERPOS DE AGUA SALADA TIENE QUE SER CONSTRUIDO EN ACERO INOXIDABLE, CON EXCEPCION DE LAS BASES DE MEDIDORES.
4. EN LOS SISTEMAS SOTERRADOS, TINEN QUE UTILIZARSE CABLES PRIMARIOS CON TERMINACIONES DE 15 KV PARA VOLTAJES DE DISTRIBUCION Y DE 46 KV PARA LINEAS DE 38 KV.
5. EN LOS SISTEMAS AEREOS, TIENEN QUE UTILIZARSE AISLADORES DE POLIMERO DE 15 KV PARA VOLTAJES DE DISTRIBUCION Y DE 46 KV PARA LINEAS DE 38 KV.
6. EL CONTRATISTA SERA RESPONSABLE DE ROTULAR TODO TRANSFORMADOR A SER TRNSFERIDO A LA AEE CON UN NUMERO DE PROPIEDAD PROVISTO POR EL DEPARTAMENTO DE INGENIERIA DE DISTRIBUCIO CORRESPONDIENTE.

SISTEMAS

1. EL DUEÑO DEL PROYECTO ES RESPONSABLE DE REALIZAR LAS PRUEBAS DE LOS CABLES PRIMARIOS Y SECUNDARIOS CON SUS TERMINACIONES. LOS RESULTADOS DE ESTAS PRUEBAS TIENEN QUE ESTAR DE ACUERDO CON LOS PARAMETROS ESTABLECIDOS POR LAR AEE PARA LAS MISMAS. ESTAS PRUEBAS TIENEN QUE REALIZARSE EN COORDINACION CON UN REPRESENTANTE DE LA OFICINA DE INSPECCIONES DEL DEPARTAMENTO DE INGENIERIA DE DISTRIBUCION CORRESPONDIENTE.
2. DURANTE LA INSTALACION DEL CABLE, ESTE DEBE ESTAR PROTEGIDO DE LA HUMEDAD Y ABRASIONES. EL CONTRATISTA ES RESPONSABLE DE INSTALAR EL CABLE MEDIANTE LAS PRACTICAS RECOMENDADAS DE HALADO PARA NO EXCEDER LA TENSION ESPECIFICADA PARA EL CABLE.
3. LAS TAPAS DE REGISTROS (MANHOLES) A SER INSTALADOS EN EL AREA DE SIEMBRA TIENEN QUE ESTAR PROTEGIDAS MEDIANTE UNA LOZA DE HORMIGON REFORZADO, SEGUN ESPECIFICADO EN EL PATRON URD-52.
4. EN AQUELLOS CASOS DONDE EL PROYECTO ESTE LOCALIZADO A MENOS DE UNA MILLA DE CUERPOS DE AGUA SALADA, LOS CONDUCTOS ASCENDENTES TIENEN QUE SER DE PVC SCHEDULE 80 O DE FIBERGLASS, SEGUN APROBADO POR LA AEE.
5. LAS BANCADAS DEL SISTEMA SOTERRADO SERAN INSPECCIONADAS POR LA AEE ANTES DE SER CUBIERTAS Y COMPACTADAS.
6. TODA BANCADA EXPUESTA A TRAFICO VEHICULAR TENDRA QUE SER PROTEGIDA CON HORMIGON. AQUELLAS QUE SE ENCUENTRAN CERCA DE INSTALACIONES DE OTRAS UTILIDADES TENDRAN UN DESPEJO MINIMO DE 13 PULGADAS DE ESTAS.
7. LA CANTIDAD DE FUSIBLES DE REMPLAZO QUE PITROVEERA EL CONTRATISTA SERA LA MISMA CANTIDAD DE LOS INTALADOS EN CADA SUBESTACION.
8. LOS CONECTORES QUE SE UTILIZAN PARA LA CONEXION A TIERRA DE ANTENAS Y SUBESTACIONES SERAN DE SOLDADURA EXOTERMICA (THERMO-WELD) O DE COMPRESION.
9. EL CONTRATISTA PROVEERA CABLE DE HALADO (FISHWIRE) EN CADA CONDUCTO DE RESGUARDO.
10. TODO SISTEMA DE DISTRIBUCION TENDRA UNA RESISTENCIA MAXIMA A TIERRA DE 10 OHMIOS. SE INSTALARA UNA VARILLA PARA CONECTAR A TIERRA EL NEUTRAL EN CADA CUATRO POSTES O CADA 1,000 PIES Y EN TODOS LOS TRANSFORMADORES.
11. CADA BASE DE HORMIGON PARA POSTE TIENE QUE INCLUIR DOS CONDUCTOS DE RESGUARDO PARA USO FUTURO, SEGUN REQUERIDO POR LA AEE.
12. LAS BASES PARA POSTES TIENEN QUE SER INSPECCIONADAS POR LA AEE EN SU ETAPA DE CONSTRUCCION.

P.R.E.P.A. NOTES

1- ALL EQUIPMENT SHALL BE APPROVED BY P.R.E.P.A. PRIOR TO INSTALLATION.
2- ENERGIZED ELECTRICAL LINES ON PREMISES SHALL BE REMOVED OR RELOCATED BY PREPA WITH CHARGES TO BE BY OWNER.
3- CONNECTION TO EXISTING LINES SHALL BE BY PREPA AT OWNER'S EXPENSE.
4- ALL STREET LIGHTING CIRCUITS SHALL BE PROTECTED BY FUSES AT THE CONNECTION POINT WITH PREPA APPROVED TYPES.
5- AT 24" BELOW FINISHED GRADE AND OVER ANY ELECTRICAL UNDERGROUND CABLE A YELLOW WARNING PVC RIBBON MUST BE INSTALLED.
6- LINES LOCATED ON PROPERTY LINES SHALL BE INSTALLED 5FT. INSIDE LOT AND A 10FT. R/W SHALL BE PROVIDED.
7- ALL CABLES IN CONDUIT SHALL BE INSTALLED WITH PULLING EYES.
8- APPROVAL BEFORE ORDERING EQUIPMENT SHALL BE OBTAINED BY PREPA.
9- UNDERGROUND SERVICE ENTRANCES SHALL BE INSTALLED BY THE CONTRACTOR AND REMAIN THE PROPERTY OF LOT OWNER.
10- ALL CABLES SHALL BE CLASS "B" STRANDED.
11- AT STREET CROSSINGS, SIDEWALKS AND WHERE CABLES CROSS GAS, WATER, SEWAGE, AND OTHER UTILITY FACILITIES, SERVICE CABLES SHALL BE PROTECTED BY PVC CONDUIT AND KEPT AT A MINIMUM SEPARATION OF 13" FROM OTHER UTILITY LINES.
12- ALL THE INSTALLATION SHALL BE MADE ACCORDING TO THE APPLICABLE CONSTRUCTION STANDARDS OF PREPA.
13- FOR ALL STANDARDS NUMBERS ON THESE DRAWINGS REFER TO PREPA DISTRIBUTION MANUAL AND STREET LIGHTING SYSTEMS MANUAL.
14- SPLICES FOR UNDERGROUND DIRECT BURIAL STREET LIGHTING CONDUCTORS SHALL BE AS APPROVED BY PREPA.
15- TRANSFORMERS SHALL BE GROUNDED SO THAT MAXIMUM RESISTANCE TO GROUND IS 10 OHMS.
16- ALL CONSTRUCTION WORK SHALL BE IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND CONSTRUCTION DRAWINGS. THE LAST EDITION OF THE NATIONAL ELECTRICAL CODE SHALL BE FOLLOWED EXCEPT WHEN LOCAL REGULATIONS ARE MORE STRINGENT, IN WHICH CASE LOCAL REGULATIONS SHALL GOVERN.
17- ALL EQUIPMENT SHALL BE CONSTRUCTED ACCORDING TO ANSI, NEMA AND PREPA STANDARD.
18- COORDINATE POINT OF CONNECTION AT PREPA'S LOCAL OFFICE BEFORE CONSTRUCTION BEGINS.
19- BLADES OR FUSE RUNS SHALL ALWAYS BE CLEAR AT LEAST 6" FROM METAL PARTS.
20- WHERE TWO CABLES OF THE SAME OR DIFFERENT LOOPS ARE INSTALLED IN THE SAME TRENCH ONE OF THE TWO CABLES SHALL BE INSTALLED IN CONDUIT.
21- ANY CUSTOMER DEMANDING MORE THAN 50 KVA SHALL BE BILLED ACCORDING TO PRIMARY RATE GSP-1 BY APPLYING A FIXED PERCENTAGE OF TRANSFORMATION COST TO THE CONSUMPTION METERED AT THE SECONDARY SIDE.
22- CONCRETE BASES FOR THE INSTALLATION OF SWITCHING UNITS SHALL BE COORDINATED WITH PREPA AND CONSTRUCTED SO AS TO PROVIDE SUFFICIENT CLEARANCE BETWEEN THE CONDUIT TERMINATION AND THE SWITCHING UNIT.
23- ALL WORK ON EXISTING LINES SHALL BE DONE BY PREPA AT OWNER'S EXPENSE.
24- PREPA SHALL NOT ENERGIZE THE FINAL ELECTRICAL WORK UNTIL ALL RIGHTS OF WAYS ARE DULLY CEDED AND CERTIFIED BY PREPA'S LEGAL DIVISION. THIS
25- CONDUIT RUNS LONGER THAN 450FT. SHALL BE PROVIDED WITH PULL BOXES SO THAT MAXIMUM CABLE PULLS DO NOT EXCEED 450FT. PULL BOXES SHALL BE AS PER PREPA STD. URD-30.
26- ALL ELECTRICAL CONSTRUCTION SHALL BE CERTIFIED AND INSPECTED BEFORE CONNECTION TO PREPA ELECTRICAL SYSTEM BY AN AUTHORIZED INSPECTOR ACCORDING TO THE CERTIFICATION LAW OF JULY 19,1985. (LAW NO. 7).
27- TRANSFORMER SHALL BE DESIGNED AND BUILT WITH LOW LOSSES CHARACTERISTICS AS PER PREPA'S LETTER NO. 94-06 OF NOV. 1994.
28- THE CONTRACTOR SHALL COORDINATE WITH PREPA BEFORE CASTING THE BASES OF THE S.S. POLES.
29- ALL CONDUCTORS SHALL BE COPPER.
30- ALL LIGHTING ARRESTERS SHALL BE POLYMER, INSULATORS AND TERMINATIONS SHALL BE SILICON RUBBER.
31- AT LESS THAN ONE MILE FROM SEASHORE ALL EQUIPMENT MUST BE STAINLESS STEEL.



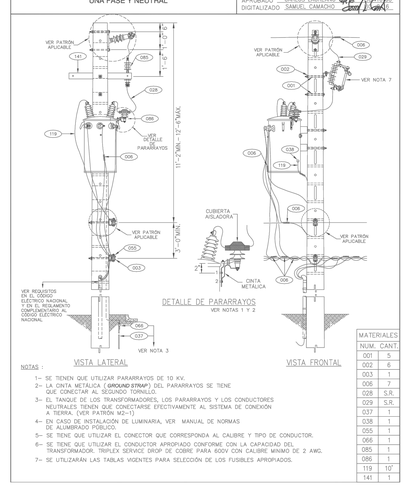
ELECTRICAL ONE LINE DIAGRAM

NOTE:
① ALL LIGHTING ARRESTERS SHALL BE 10 KV, RISER TYPE, POLYMER CONSTRUCTION
② FUSES SHALL TYPE "D" IOE FOR 50 KVA. 15E FOR 75 KVA.

AUTORIDAD DE ENERGÍA ELÉCTRICA DE PUERTO RICO
DIVISIÓN DISTRIBUCIÓN ELÉCTRICA
PATRONES DE DISTRIBUCIÓN AÉREA

TÍTULO :
INSTALACIÓN DE TRANSFORMADORES EN POSTE PARA LÍNEAS DE 7.62/13.2 KV UNA FASE Y NEUTRAL

PATRÓN NÚM.	T-1-1	REVISIÓN	1
PÁGINA	1	FECHA	17 JUNIO 2016
REVISADO	RAFAEL L. ARRILLAGA		LIC. 13356
SOMETIDO	NÉSTE D. SÁNCHEZ		LIC. 13802
RECOMENDADO	REINALDO J. BARTOLOMEI		LIC. 16712
APROBADO	CARLOS LAUREANO		LIC. 12960
DIGITALIZADO	SAMUEL CAMACHO		



MATERIALES	
NUM.	CANT.
001	3
002	6
003	1
006	7
028	S.R.
029	S.R.
037	1
038	1
055	1
066	1
085	1
086	1
119	10'
141	1

NOTAS :
1- SE TIENEN QUE UTILIZAR PARARRAYOS DE 10 KV.
2- LA CINTA METÁLICA (GROUNDSTRAP) DEL PARARRAYOS SE TIENE QUE CONECTAR AL SEGUNDO TORNILLO.
3- EL TANQUE DE LOS TRANSFORMADORES, LOS PARARRAYOS Y LOS CONDUCTORES NEUTRALES TIENEN QUE CONECTARSE EFECTIVAMENTE AL SISTEMA DE CONEXIÓN A TIERRA. (VER PATRÓN M2-1)
4- EN CASO DE INSTALACIÓN DE LUMINARIA, VER MANUAL DE NORMAS DE ALUMBRADO PÚBLICO.
5- SE TIENE QUE UTILIZAR EL CONECTOR QUE CORRESPONDA AL CALIBRE Y TIPO DE CONDUCTOR.
6- SE TIENE QUE UTILIZAR EL CONDUCTOR APROPIADO CONFORME CON LA CAPACIDAD DEL TRANSFORMADOR. TRIPLEX SERVICE DROP DE COBRE PARA 600V CON CALIBRE MINIMO DE 2 AWG.
7- SE UTILIZARÁN LAS TABLAS VIGENTES PARA SELECCIÓN DE LOS FUSIBLES APROPIADOS.

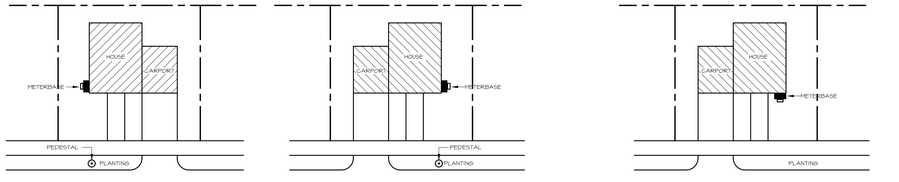
POLE CONSTRUCTION STANDARDS

POLE	STD HEIGHT	GP-C1	GP-A1	GP-A2	GP-A3	GP-A4	GP-A5	GP-B1	GP-B2	GP-C1	GP-C2	GP-C3	GP-C5	GP-C6	GP-B4	B1-3-3	PH-1	GP-A6	T-1	M2-1	AC-AT-1*	STL-II	AC-BT-1*	M2-3	STL-I
1	EXIST.														I				I						
2	45-H4									I									I						
3	45-H4									I									I						
4	45-H4					I		I						I		I	I			I					
5	40-H4															I	I				I				
6	40-H4															I	I	I	I						
7	40-H4				I	I										I	I				I				
8	40-H5					I													I		I	I			
9	40-H4			I												I	I				I				
10	40-H4				I	I										I	I		I		I				
11	40-H5					I													I		I	I			
12	40-H4	I																	I		I				
13	40-H5					I													I		I	I			
14	45-H5														I				I		I	I			
15	45-H5													I					I		I	I			
16	45-H5					2		I											I		I	I			
17	45-H5		I																I		I	I			
18	45-H4	I																	I						
19	45-H4	I																	I		I				
20	45-H5		I																			I			
21	45-H5				I																	I			
22	45-H5				I														I		I	I			
23	45-H5				I																	I			
24	45-H4	I																	I		I				
25	45-H4	I																				I			
26	45-H5		I			I													I		I	I			
27	45-H4	I																	I						
28	45-H5	I				I													I		I	I			
29	45-H5		I																I		I	I			
30	45-H4	I																				I			
31	45-H4	I																	I		I				
32	45-H4	I																				I			
33	45-H5					I		I											I		I	I			
34	45-H5					I																I			
35	45-H5					I													I		I	I			
36	45-H5					I													I		I	I			
37	45-H4	I																				I			
38	45-H5					I													I		I	I			
39	35'-OCT.																								I
40	35'-OCT.																								I
41	35'-OCT.																								I
42	35'-OCT.																								I
43	35'-OCT.																								I
44	35'-OCT.																								I
45	35'-OCT.																								I

* - MODIFIED FOR USE IN CONGRETE POLE.

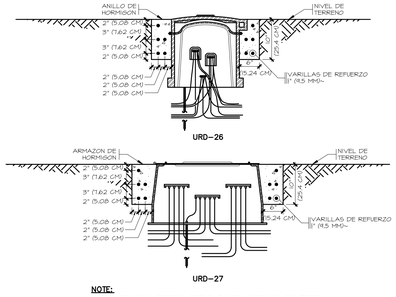
TRANSFER LOAD BALANCE

TRANSFR. NO.	ΦA	ΦB	ΦC	DROPS
T-1	75	-	-	11
T-2	75	-	-	14
T-3	75	-	-	10
T-4	75	-	-	13
T-5	50	-	-	6
T-6	-	50	-	7
T-7	-	75	-	13
T-8	-	75	-	13
T-9	-	50	-	9
T-10	-	75	-	13
T-11	-	75	-	13
T-12	-	-	50	8
T-13	-	-	75	13
T-14	-	-	75	13
T-15	-	-	50	9
T-16	-	-	50	6
T-17	-	-	50	7
T-18	-	-	50	1
TOTAL	350	400	400	179 / 1150



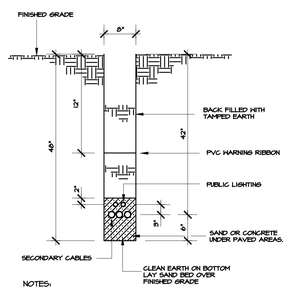
TYPICAL LOCATION OF PEDESTAL IN PLANTING STRIP

TYPICAL LOCATION OF METERBASE FOR SPECIAL CASES (LOTS A-4,15, B-15Ø17, B-31)

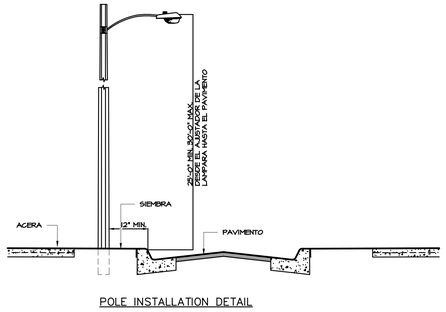


NOTE:
EL HORMIGON DEBERA ESTAR TANTO RODEADO DE TIERRA FIRME COMO DESCANSADO EN TIERRA FIRME.

PREPA STD-URD 28 DETAIL



TRENCH AND RELATIVE POSITIONS OF CONDUCTOR



POLE INSTALLATION DETAIL

DESIGNER'S CERTIFICATION

1. I CERTIFY I AM A LICENSED ENGINEER OR ARCHITECT, MEMBER OF THE COLLEGE OF MY PROFESSION AND AUTHORIZED BY THIS PROJECT'S OWNER TO PRESENT THESE CONSTRUCTION PLANS TO PREPA.
2. IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED, KNOWN AS CONSTRUCTION PLANS' CERTIFICATION LAW, I CERTIFY THAT THESE PLANS ARE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODES, STANDARDS, NORMS AND REGULATIONS APPROVED BY PREPA, PUERTO RICO PLANNING BOARD AND PERMITS AND REGULATION ADMINISTRATION.

18923 P.E.
DESIGNER'S SIGNATURE AND SEAL — LICENSE NUMBER

PUERTO RICO POWER AUTHORITY
ENDORSEMENT
PROJECT NAME: BRISAS DEL MAR SEC. VI (TOO EXIST)
PROJECT NUMBER: 90-0-452G1 LOAD (KVA) (TOO MCH)

ENDORSED BY:	REVISION	DATE
–	1	
–	2	
	3	
	4	

1. PREPA ENDORSES THE ELECTRIC DESIGN SHOWN IN THESE CONSTRUCTION PLANS, BASED ON THE CERTIFICATION PRESENTED BY THE DESIGNER THAT IT IS IN COMPLIANCE WITH LAW NO. 7 OF JULY 19, 1985, AS AMENDED.
2. PREPA DOES NOR ASSUME RESPONSIBILITY OVER THE CERTIFIED DESIGN. PREPA'S ENDORSEMENT DOES NOT RELIEVE THE DESIGNER FROM THE PROFESSIONAL RESPONSIBILITY ASSUMED WITH THE CERTIFICATION OF THESE PLANS. THE ENDORSEMENT DOES NOT ASSUME RESPONSIBILITY FOR THE DESIGN FOR PRIVATE MATTERS, ENDORSEMENT MAKES NO TRACING DISPOSITIONS FROM NATIONAL ELECTRIC SAFETY CODE, CONSTRUCTIONS STANDARDS, NORMS AND REGULATIONS FROM PREPA AND OTHER GOVERNMENT AGENCIES AS WELL AS FEDERAL AND STATE LAWS RULING BY TIME CONSTRUCTION BEGINS.
3. THIS ENDORSEMENT IS VALID FOR TWO YEAR. IF ELECTRICAL WORKS HAVE NOT BEGUN DURING THIS TIME, THE DESIGNER MUST RENEW PREPA. THE ENDORSEMENT WILL STILL BE VALID UNTIL WORK'S COMPLETION, IN CASE THERE IS NO CERTIFIED ELECTRICAL WORK DURING THAT TIME, THIS ENDORSEMENT WILL LOSE ITS VALIDITY.

e figueroa p.s.c.
INGENIEROS CONSULTORES
Repto. El Veterano, Calle A #195, San Juan, PR 00926
Tels. 787 294 4836 • 787 448 3873

PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.
776 GEORGETOWN ST., UNIVERSITY GARDENS, RIO PIEDRAS, P.R. 00927 TEL. (787) 756-7887 / FAX (787) 756-6176

PROJECT:
URB. BRISAS DEL MAR:SECCION VI
MACHETE WARD GUAYAMA, P.R.

PROJECT No.:	
CAD FILE:	
SCALE:	1:1,000
DATE:	11.11
DRAWN BY:	JL
CHECKED:	HF

No.	REVISIONS	DATE
No.	REVISIONS	DATE

ELECTRICAL SITE PLAN
SECTION VI
DETAILS, NOTES, DIAGRAM
SHEET TITLE

ES-104
OF

Exhibit No. 17
AAA Endorsement
SOURCE: AAA

Autoridad de Acueductos
y Alcantarillados
ESTADO LIBRE ASOCIADO DE PUERTO RICO

119 El Tuque Industrial Park – Suite 103
Ponce, PR 00728-2803
Tel. (787) 651-1076
Fax. (787) 812-2529

PROYECTOS PUBLICOS Y PRIVADOS

08 de julio de 2010

ING HECTOR JIMENEZ NEGRON
ADMINISTRACION DE REGLAMENTOS
Y PERMISOS
APARTADO 631
GUAYAMA PR 00785

Ingeniero Jimenez Negrón:

RE: AAA-RS-07-30-0001; 2006-71-0841-JPU
BRISAS DEL MAR IV, V, VI
CARR. 54 KM. 0.3 INT. BO. MACHETE
(747 UEQ)

Deseamos informarle que los planos para el sistema de acueducto y alcantarillado sanitario del proyecto de referencia sometidos por Ing. Francisco Pérez Blair han sido aprobados por esta Autoridad, sujeto a las condiciones aplicables cuyos números de orden aparecen en el pliego adjunto, los cuales se enumeran a continuación:

Sistema de Distribución de Agua

Regirán las Condiciones Núms. *1,3,4,6,7,10,12,18,24,29,30* del pliego adjunto. Además, regirán las siguientes condiciones:

☒1. Las acometidas para el servicio de agua serán de 5/8" de diámetro y se localizarán, según se indica en los planos aprobados.

☒2. El dueño del proyecto suplirá los contadores de 5/8" de diámetro. El dueño o constructor del proyecto suplirá e instalará las cajas de *hierro fundido* con marco y tapa de hierro fundido del tamaño "standard" para la protección de cada contador, así como los accesorios requeridos para sus debidas instalaciones. Estas cajas y demás accesorios de dichas instalaciones pasarán a la propiedad de esta Autoridad. La Autoridad instalará los contadores.

☒3. El cargo por unidad equivalente por conectarse al sistema de acueductos de esta Autoridad será de **$500.00 por unidad** o lo estipulado en la tarifa vigente al momento de la inspección y conexión al sistema de las unidades.

☒4. El dueño del proyecto deberá depositar en el Departamento de Servicios Técnicos de Ingeniería de esta Autoridad, la cantidad de ($**8,957.00**) para sufragar el costo de esterilización de las cañerías de ***4", 6"*** y de ***8"*** de diámetro a ser instaladas en el proyecto.

☒5. EL cargo por incorporación del proyecto al sistema de acueductos de esta Autoridad será de **$11,828.40**, o el costo vigente al momento de la inspección e incorporación del proyecto.

☒6. **Las presiones en la cañería a la cual se conectará este proyecto son altas, por lo cual será necesario que el dueño del proyecto instale una válvula reguladora de presión en la cañería a instalarse.**

Sistema de Alcantarillado Sanitario
Regirán las condiciones núms. 1,2,4,5,6,7,10,13 del pliego adjunto. Además, regirán las siguientes condiciones:

☒1. El cargo por unidad equivalente por conectarse al sistema de alcantarillado sanitario de esta Autoridad será de **$500.00 por unidad** o lo estipulado en la tarifa vigente al momento de la inspección y conexión al sistema de las unidades.

Condiciones Generales
Regirán las Condiciones Núms. 1,3,4,5,11 del pliego adjunto, y las condiciones especiales indicadas en el Exhibit "A".

☒1. El cargo por concepto de aguas usadas en la construcción será a base de **$50.00 por unidad** equivalente o lo estipulado en la tarifa vigente al momento de la inspección de las unidades.

☒2. Para la aceptación final del proyecto el camino de acceso deberá estar pavimentado.

☒3. El diseñador deberá someter una copia del plano digital en formado ArcView (.shp), Microstation (.dng) o Autocad (.dwg). Además deberá incluir las coordenadas State Plane NAD83.

☒4. El inspector designado deberá someter copia de los informes de inspección del proyecto que correspondan a la instalación de las líneas del sistema de distribución de agua o alcantarillado sanitario del proyecto, cuando se vaya a solicitar el endoso de las unidades individuales. Este informe debe tener el sello y la firma del inspector designado en original.

☒5. **Se condiciona a que el proponente debe participar de manera activa en el Consorcio de Guayama para construir mejoras al sistema de acueductos.**

☒6. **La entrega de unidades está condicionada al plan de entrega y otras condiciones que sean estipuladas por el Consorcio y la Oficina de Infraestructura y la terminación de las obras requeridas.**

☒7. **Para la preparación de la ESCRITURA DE CESION DE PARCELA a favor de la Autoridad de Acueductos y Alcantarillados de Puerto Rico se preparará en papel legal de escritura. Luego de preparado se enviará una copia de la misma acompañada de una copia de la misma acompañada de una copia de los planos a la Oficina Regional correspondiente y otra copia del proyecto de escritura a la Oficina de la Asesora Legal General, Avenida Barbosa 604, Piso 10, Hato Rey con los siguientes documentos:**

1. Dos copias del plano demostrativo de la cesión de parcela aprobado por la Autoridad. Deberá tener el Sello Original de ARPE que lee: es copia del original sometido. Ambos planos deberán ser sellados y firmados en original por el ingeniero del proyecto, la Autoridad y ARPE.

2. Una certificación del Registro de la Propiedad de la finca de la que se segrega la parcela; debe ser de fecha reciente. Puede incluir una investigación de título completa. (No debe tener más de un mes)

3. Dos copias del informe de ARPE o de la Junta de Planificación aprobado el proyecto.

4. Se es una Corporación deberá someter Resolución Corporativa en original, autorizando a la persona que va a firmar. Debe tener sello de la Corporación, deberá estar notarizada. Si es una Sociedad Especial deberá someter copia de la escritura de Constitución de Sociedad.

5. Si la finca principal tiene hipotecas, deberá comparecer el Acreedor Hipotecario a liberar la parcela segregada y cedida a favor de la Autoridad.

6. Si la parcela a segregarse es para una estación de bombeo o una planta de tratamiento de aguas servidas, se tiene que construir una servidumbre en equidad para el retiro o zona de amortiguamiento en la misma escritura.

7. Original y copia de la Minuta de Asiento de Presentación.

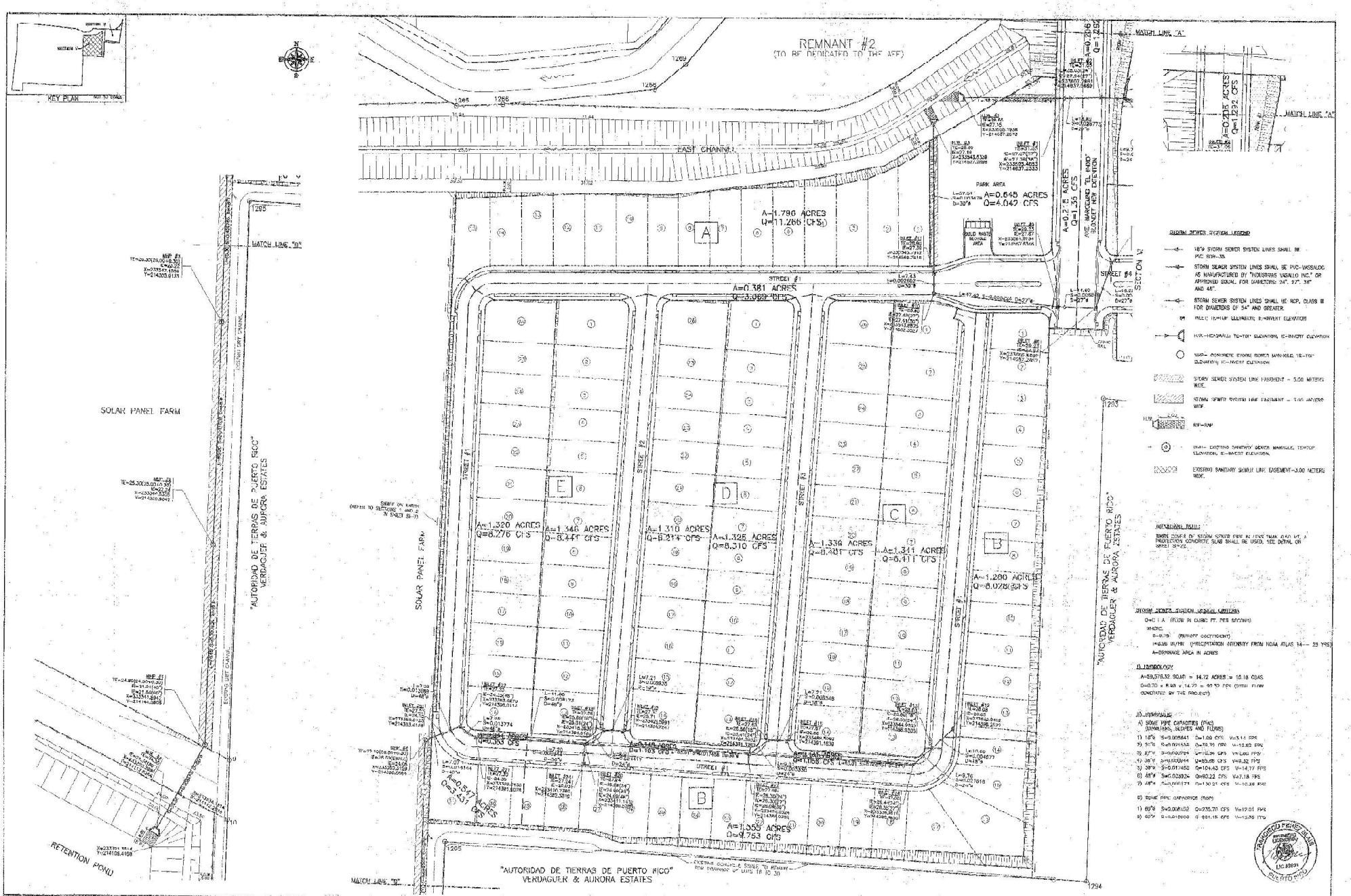
Cordialmente,

Ing. Jorge Fernández García
Director Auxiliar Senior
Región Sur

JFG/JGV/gtb

c: Expediente, Reading File, Reading File CBV, Area File, Ing. Julio V. Pérez, Urbanizador Agencia Comercial (vía email), Director de Área (vía email)

Exhibit No. 18
Storm Management
SOURCE: Perez-Blair Consulting Engineers

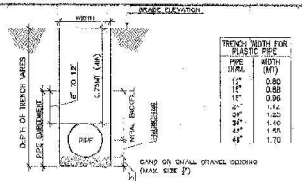


PEREZ BLAIR
CONSULTING ENGINEERS, P.S.C.

URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACLIETE WARD GUAYAMA, P.R.

STORM SEWER SYSTEM LAYOUT AND DRAINAGE AREAS PLAN

SI-20



TRENCH AND PIPE INSTALLATION DETAIL

NOT TO SCALE (FOR PVC-PLASTIC PIPE)

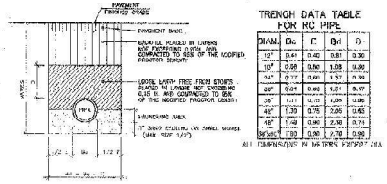
NOTES :

1 - TRENCH BOTTOM SHALL BE FIRM WITH CLEAN AND UNIFORM GRADE REMOVING ALL DIRT, STONES AND OTHER FOREIGN MATERIAL.

2 - PROVIDE SAND OR SMALL GRAVEL BEDDING AS UNIFORM LONGITUDINAL SUPPORT FOR THE PIPE AND PIPE JOINT.

3 - PLACEMENT OF MATERIALS IN THE HAUNCHING AREA IS THE MOST IMPORTANT FACTOR AFFECTING PIPE PERFORMANCE AND DEFLECTION THEREFORE THAT BACKFILL MATERIAL SHALL BE PLACED UNIFORMLY AND CAREFULLY COMPACTED AT THE SIDE OF PIPE TO PROVIDE FULL SUPPORT TO THE PIPE WITHOUT DISPLACEMENT OF THE PIPE CORRECT POSITION.

4 - STORM SEWER PIPE SHALL BE PVC-SDR 35 UP TO 18"ø AND VASSALOC TYPE 10" TO 48" PIPE DIAMETER.



TRENCH DATA TABLE FOR RC PIPE				
DIAM.	Do.	C	Dd	D
12"	0.61	0.40	0.81	0.30
15"	0.68	0.50	1.08	0.30
18"	0.77	0.60	1.37	0.30
24"	0.91	0.80	1.81	0.30
30"	1.11	1.00	2.29	0.30
36"	1.30	0.75	2.20	0.45
42"	1.49	0.90	2.58	0.45
48"	1.80	0.90	2.70	0.60

ALL DIMENSIONS IN METERS EXCEPT DIA.

STORM SEWER PIPE TRENCH DETAIL

SCALE: N.T.S.

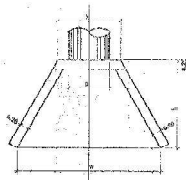
NOTES:

1 - TRENCH BOTTOM SHALL BE FIRM WITH CLEAN AND UNIFORM GRADE REMOVING ALL DIRT, STONES AND OTHER FOREIGN MATERIAL.

2 - PROVIDE GRANULAR MATERIAL AS UNIFORM LONGITUDINAL SUPPORT FOR THE PIPE AND PIPE JOINT.

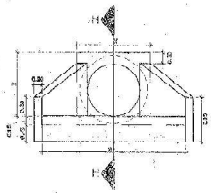
3 - PLACEMENT OF MATERIALS IN THE HAUNCHING AREA IS THE MOST IMPORTANT FACTOR AFFECTING PIPE PERFORMANCE AND DEFLECTION THEREFORE THAT BACKFILLED MATERIAL SHALL BE PLACED UNIFORMLY AND CAREFULLY COMPACTED AT THE SIDE OF PIPE TO PROVIDE FULL SUPPORT TO THE PIPE WITHOUT DISPLACEMENT OF THE PIPE CORRECT POSITION.

4 - BACKFILL LAYERS 0.20 MT./ 0.15 LT. THICK (BEFORE COMPACTED)



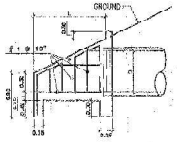
PLAN

NOT TO SCALE



ELEVATION

NOT TO SCALE

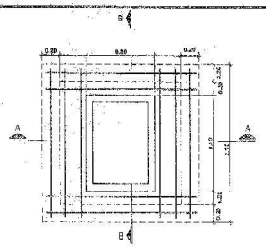


SECTION H-H

NOT TO SCALE

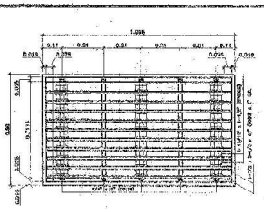
D	W	X	H	L
36"	9'-3"	4'-7"	4'-5"	3'-10"
42"	10'-4"	5'-1"	5'-0"	4'-7"
48"	11'-6"	5'-7"	5'-6"	5'-4"
60"	14'-0"	6'-9"	6'-8"	6'-10"

HEADWALL DIMENSIONS



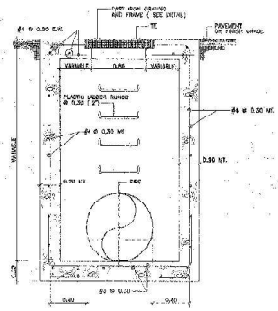
PLAN

INLET TYPE No. 1



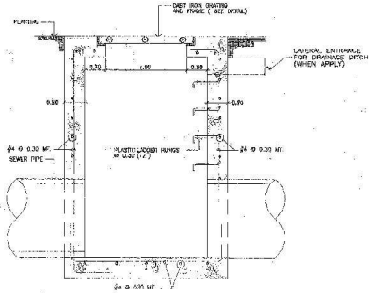
CAST IRON GRATING AND FRAME

SCALE: 1"=1'-0"



SECTION A-A

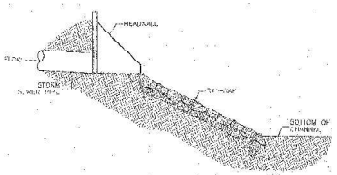
NOT TO SCALE



SECTION B-B

NOT TO SCALE

TYPICAL INLET TYPE No. 1

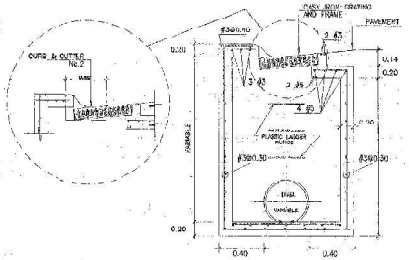


RIP RAP DETAIL

NOT TO SCALE

NOTE:

RIP RAP P.M. LAST TWO LAYERS OF ROCK, MIN. 0.20 OF 12"

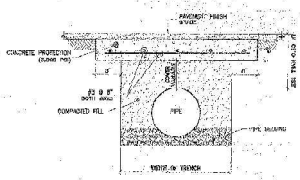


SECTION A-A

NOT TO SCALE

TYPICAL INLET TYPE No. 1

(TO BE INSTALLED ON STREETS)

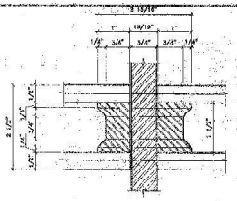


PIPE CONCRETE PROTECTION DETAIL

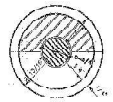
NOT TO SCALE

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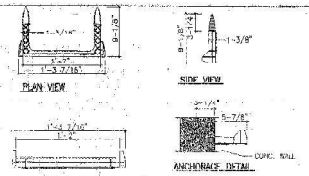
CONCRETE PROTECTION APPLY WHEN COVER IS LESS THAN 0.60 MT.



SPOOL CROSS SECTION

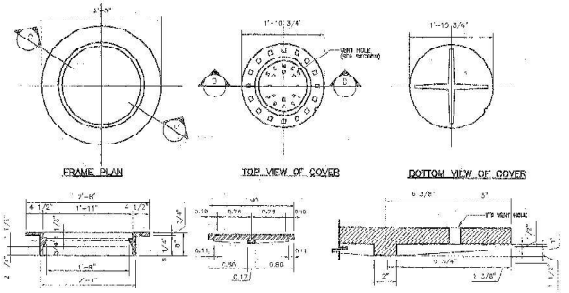


SPOOL HALF PLAN & HALF SECTION



PLASTIC LADDER RUNGS DETAIL

NOT TO SCALE



FRAME PLAN

TOP VIEW OF COVER

BOTTOM VIEW OF COVER

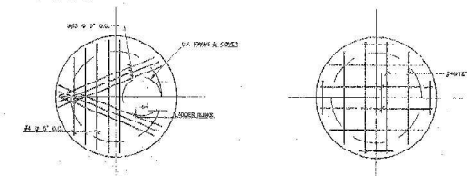
FRAME SECTION

COVER SECTION

SLOPED SHOWING VENTILATION HOLE

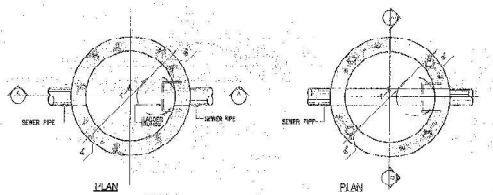
MANHOLE FRAME AND COVER DETAIL

NOT TO SCALE



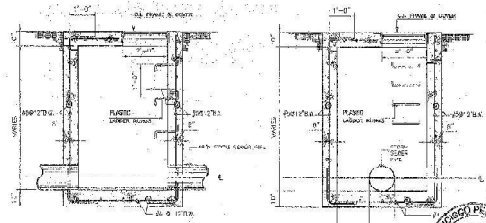
TOP SLAB REINFORCEMENT

BOTTOM SLAB REINFORCEMENT



PLAN

PLAN



SECTION "A"

SECTION "B"

STORM SEWER MANHOLE DETAILS

NOT TO SCALE

PERE2 — BLAIR

CONSULTING ENGINEERS, P.S.C.

778 AVENIDA LUIS VIGOREAUX, GUAYNABO, P.R. 00966 TEL. (787) 706-7676 / FAX (787) 720-5178

PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI

PR-54, KM 0.3 (INTERIOR)

MACHETE WARD GUAYAMA, P.R.

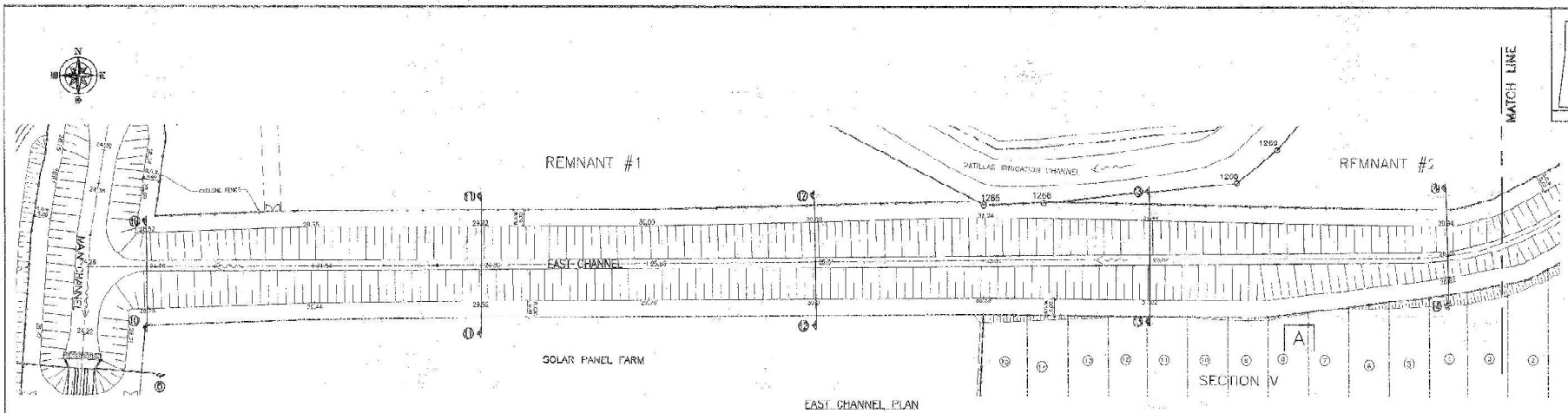
PROJECT No.	98 042
DWG No.	SI-STO-DET
SCALE	AS SHOWN
DATE	JAN./01
DRAWN BY	RMV
CHECKED	FPD

No.	REVISIONS	DATE
No.	REVISIONS	DATE

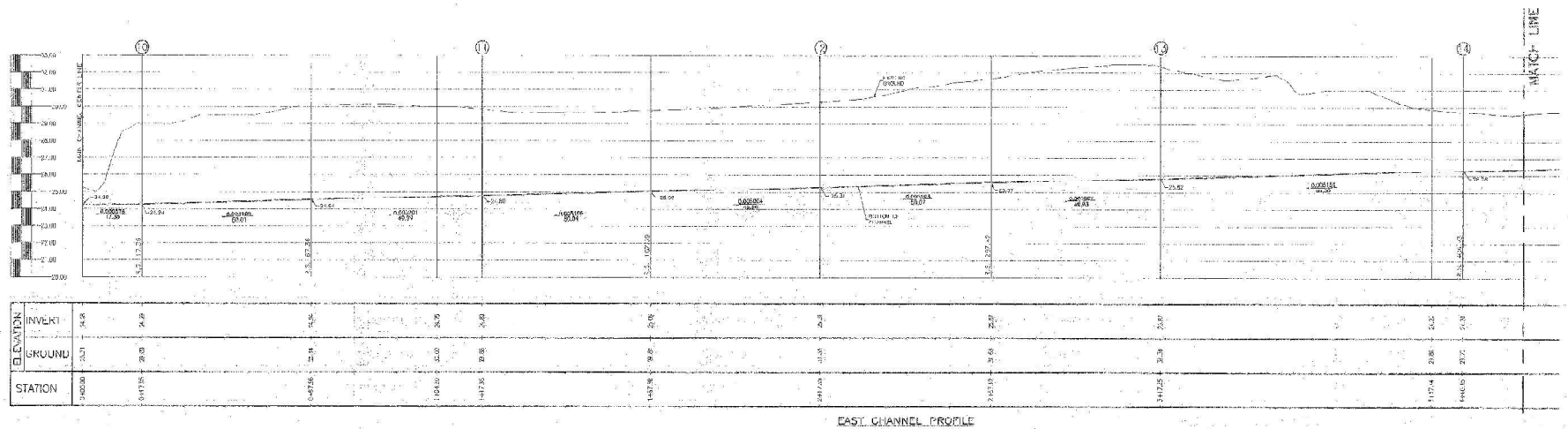
SHEET TITLE: STORM SEWER SYSTEM DETAILS

SI-22

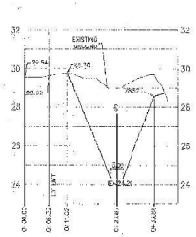
OF



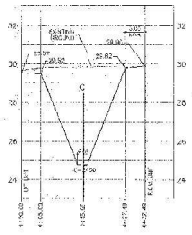
EAST CHANNEL PLAN



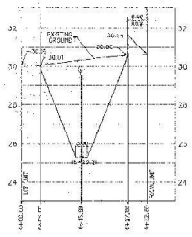
EAST CHANNEL PROFILE



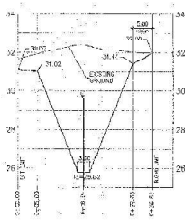
SECTION – 10



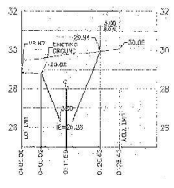
SECTION – 11



SECTION – 12



SECTION – 13



SECTION – 14

KEY PLAN NOT TO SCALE

PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.

270 MUÑOZ RIVERA AVE., UNIVERSITY GARDENS, P.O. BOX 364267 SAN JUAN, P.R. 00936-4267 TEL. (787) 756-7880 / FAX (787) 753-6126

PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACHETE WARD CUAYAMA, P.R.

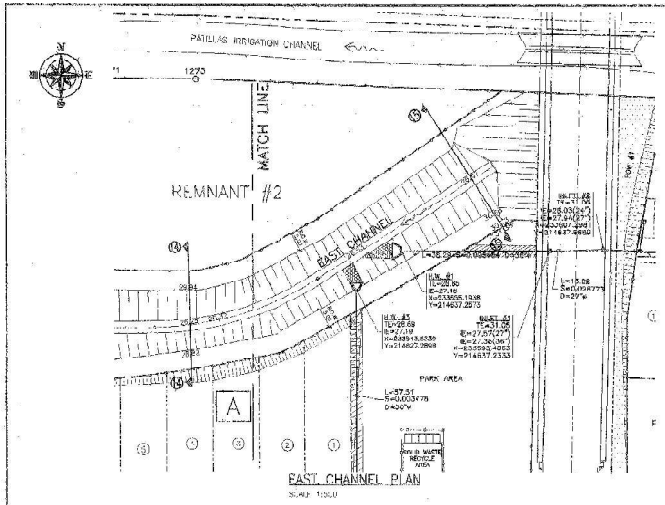
PROJECT No.:	08-046
SCALE (H&V):	1"=50' (HT)
SURVEY:	12/09
DATE:	JAN/11
DESIGN BY:	RMV
DRAWN BY:	FPG

REVISIONS | DATE | NO. | REVISIONS | DATE

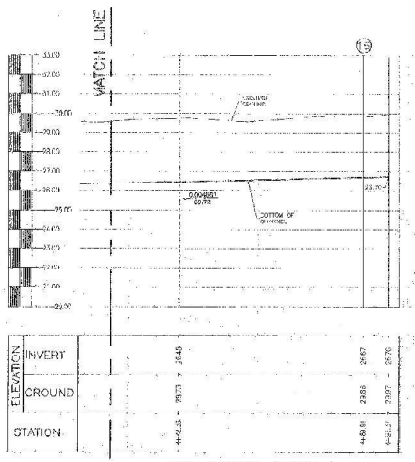
SIORM SEWER SYSTEM
OFFSITE CHANNELS PLAN, PROFILES & SECTIONS
SHEET TITLE

SI-28
OF

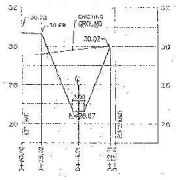
FRANCISCO PEREZ BLAIR
LICENSED PROFESSIONAL ENGINEER
LIC #9901
PUERTO RICO



EAST CHANNEL PLAN

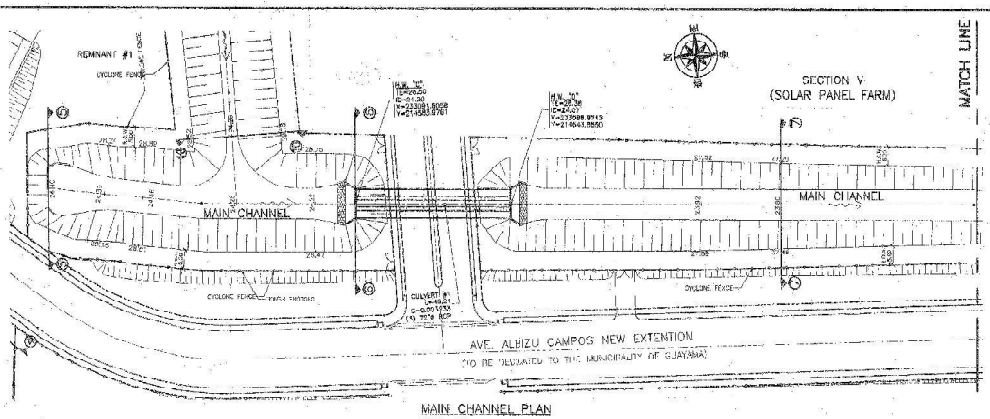


EAST CHANNEL PROFILE

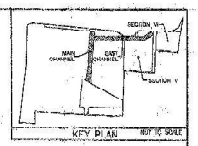


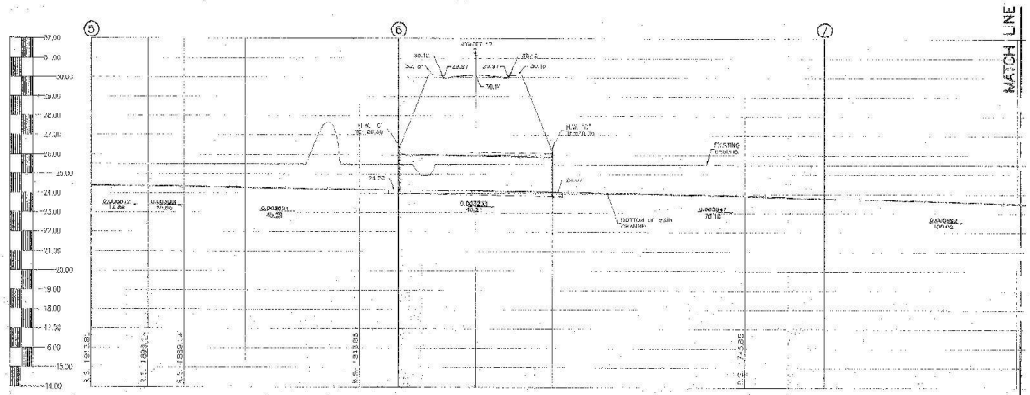
SECTION — 15

EAST CHANNEL

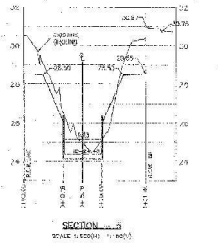


MAIN CHANNEL PLAN

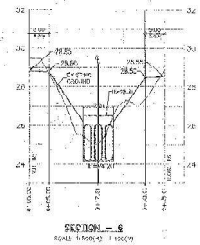




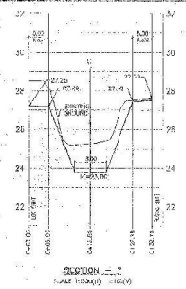
MAIN CHANNEL PROFILE



SECTION — 5



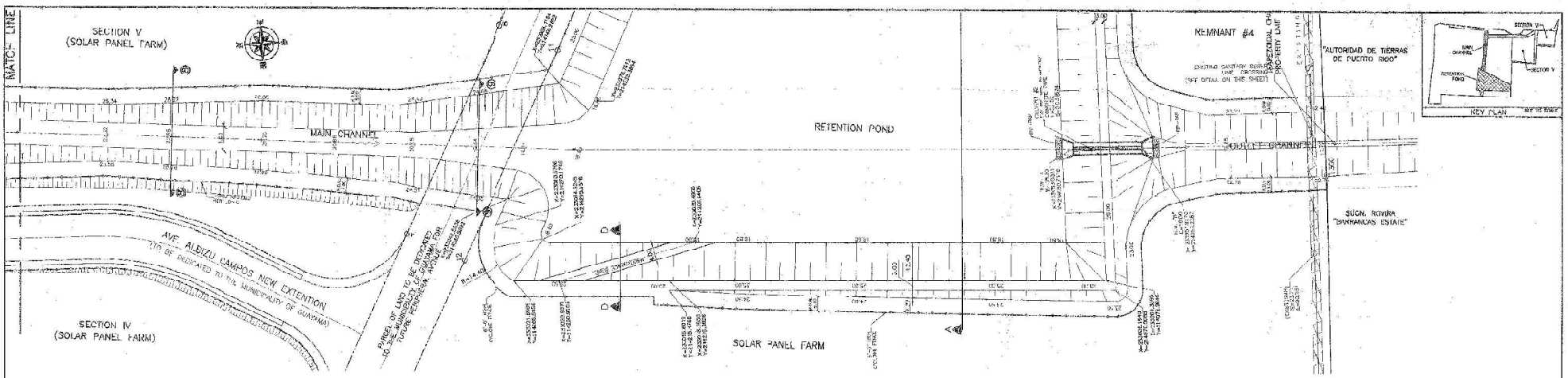
SECTION — 6



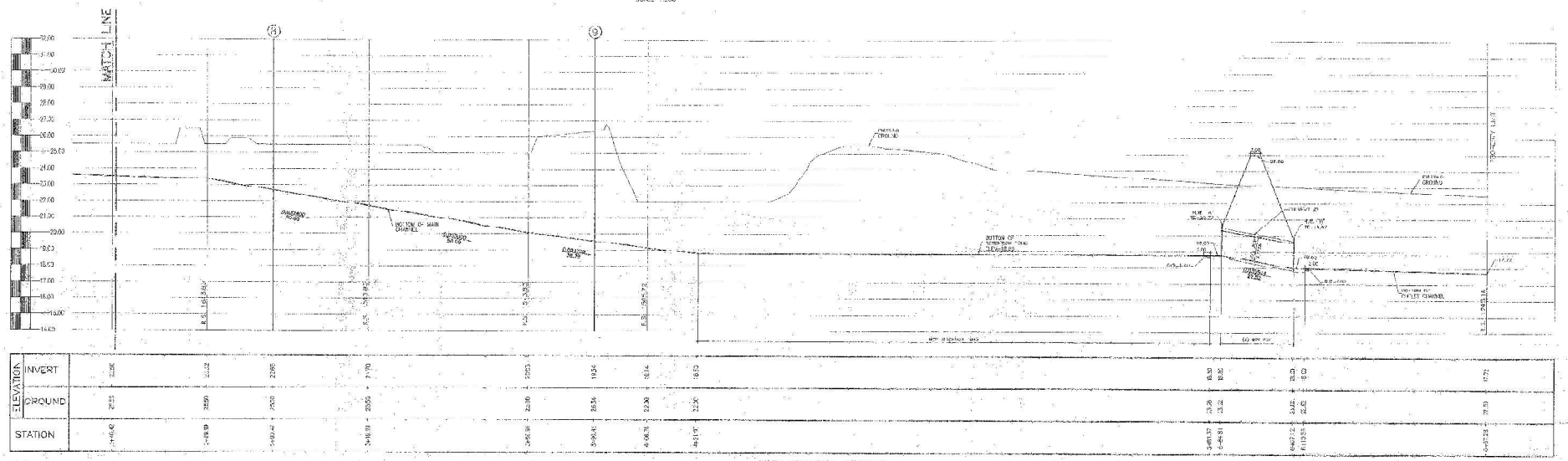
SECTION — 7

MAIN CHANNEL

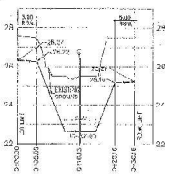
PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.
PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.5 (INTERIOR)
MACHETE WARD GUAYAMA, P.R.
STORM SEWER SYSTEM OFFSITE CHANNELS PLAN, PROFILES & SECTIONS
SHEET TITLE
SI-29
OF



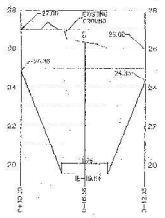
MAIN CHANNEL PLAN
SCALE 1:500



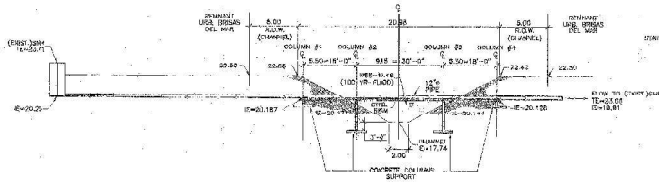
MAIN CHANNEL PROFILE
HORZ. 1:500 VERT. 1:100



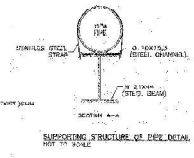
SECTION – B
SCALE 1:500(H) 1:100(V)



SECTION – S
SCALE 1:500(H) 1:100(V)



EXISTING SANITARY SEWER LINE CROSSING PROFILE
SCALE 1:200



SUPPORTING STRUCTURE OF PIPE DETAIL
NOT TO SCALE

NOTES:
1) STAINLESS STEEL STRAP RETURNS TO CHANNEL WITH ¾" BOLT & NUT EVERY 2 FT.
2) EXISTING 12"Ø SANITARY SEWER PIPE SHALL BE SLEEVED WITH FIBERGLASS KIT CLAMSHELL EPOXY OR EQUAL.
3) TOP OF SUPPORTING STRUCTURAL MASTIC SHALL BE THE SAME AS EXISTING 12" PIPE.

IMPORTANT NOTE:
FOR FULLY INFORMATION ABOUT CONCRETE COLUMNS SUPPORT, CONCRETE FOOTINGS, COLUMN PLATE AND STEEL BEAM DETAILS OF EXISTING SANITARY SEWER LINE CROSSING, REFER TO SHEET SI-31.

PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.
776 CLEMENTE VI. UNIVERSITY GARDENS, 00 PIEDRAS, P.R. 00927 TEL. (787) 765-7887 / FAX (787) 758-6775

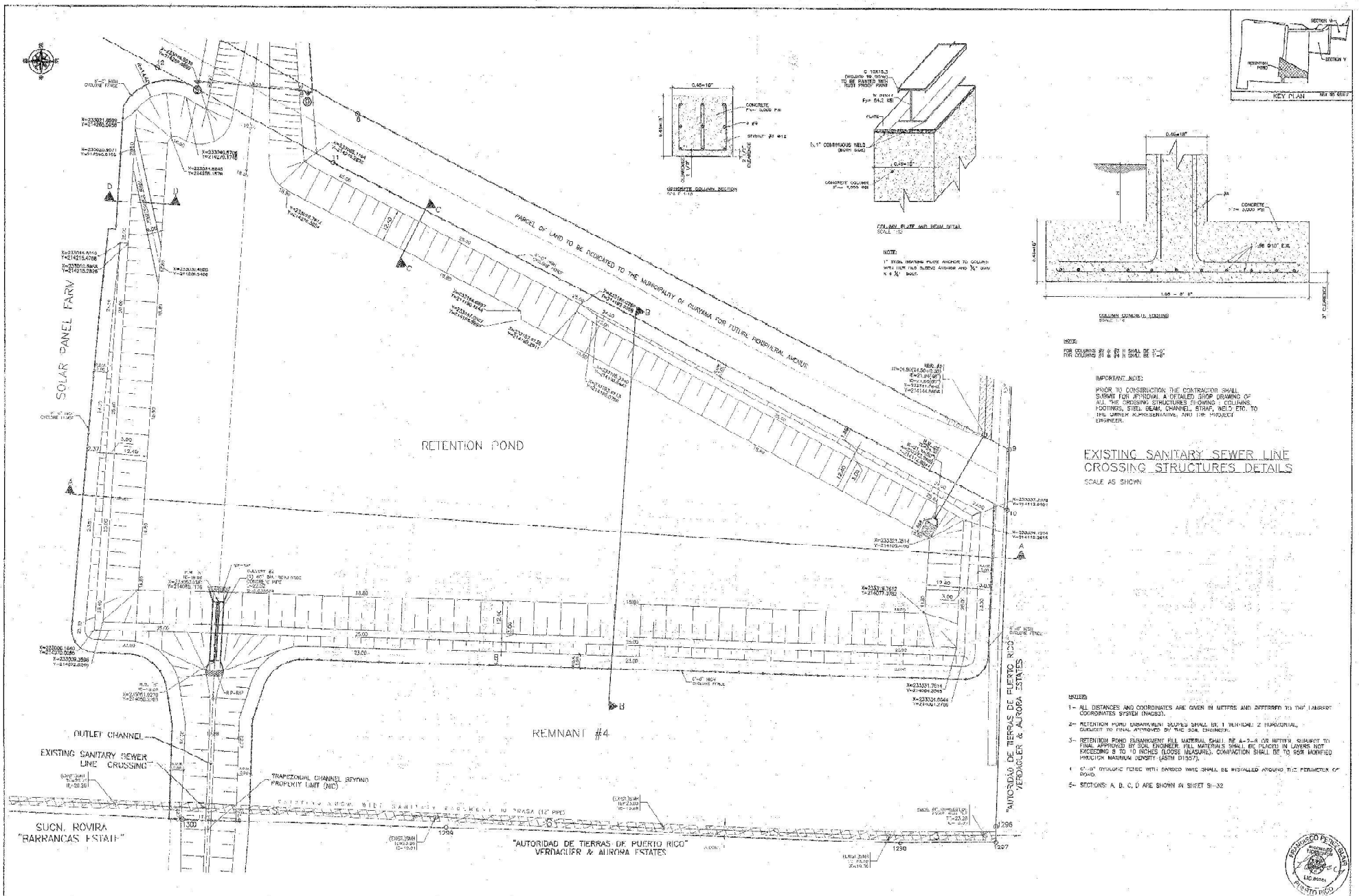
PROJECT
URB. BRISAS DEL MAR. SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACHETE WARD GUAYAMA, P.R.

PROJECT No.	08-046
DWG FILE	SI-800-046
SCALE	1:000
DATE	JAN/11
DRAWN BY	RAV
CHECKED	FTR

No.	REVISIONS	DATE

STORM SEWER SYSTEM
OFFSITE CHANNELS PLAN, PROFILES & SECTIONS
SHEET TITLE

SI-30
OF



IMPORTANT NOTE:

PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED SHOP DRAWING OF ALL THE CROSSING STRUCTURES SHOWING : COLUMNS, FOOTINGS, STEEL BEAM, CHANNEL, STRAP, NELD, ETC. TO THE OWNER REPRESENTATIVE, AND THE PROJECT ENGINEER.

EXISTING SANITARY SEWER LINE CROSSING STRUCTURES DETAILS

SCALE AS SHOWN

NOTES:

1- ALL DISTANCES AND COORDINATES ARE GIVEN IN METERS AND REFERRED TO THE LAMBERT COORDINATES SYSTEM (NAD83).

2- RETENTION POND EMBANKMENT SLOPES SHALL BE 1 VERTICAL: 2 HORIZONTAL, SUBJECT TO FINAL APPROVED BY SOIL ENGINEER. FILL MATERIALS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 TO 10 INCHES (LOOSE MEASURE). COMPACTION SHALL BE TO 90% MODIFIED AMUCTION MAXIMUM DENSITY (ASTM D1557).

3- 6'-0" CYCLONE FENCE WITH BARBED WIRE SHALL BE INSTALLED AROUND THE PERIMETER OF POND.

4- SECTIONS: A, B, C, D ARE SHOWN IN SHEET SI-32

PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.

AVE. GUADALUPE ST., UNIVERSITY GARDENS, RIO PIEDRAS, P.R. 00927 TEL. (787) 765-7887 / FAX (787) 758 6175

PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACHETE WARD GUAYAMA, P.R.

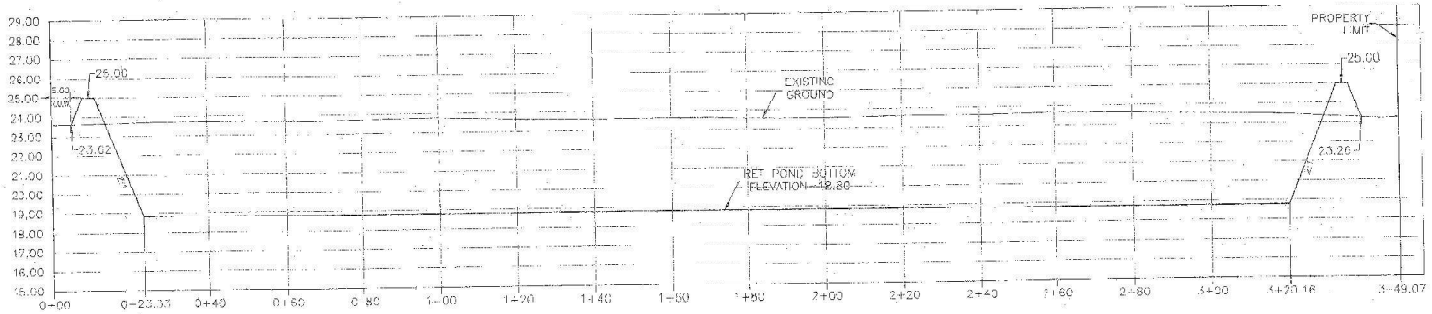
PROJECT No.:	08-045
CAD FILE:	SI-SEW-08R
SCALE:	1:600
DATE:	JAN/11
DRAWN BY:	RMV
CHECKED:	FPB

REVISIONS — NO. | DATE

REVISIONS — NO. | DATE

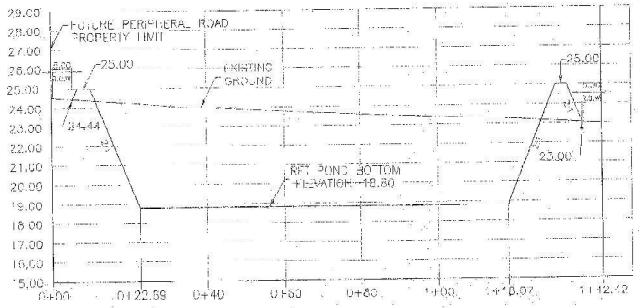
SHEET TITLE: RETENTION POND PLAN

SI-31
OF



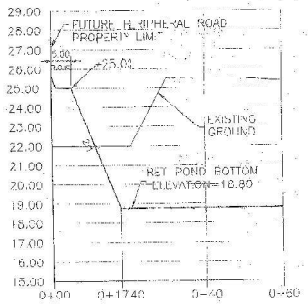
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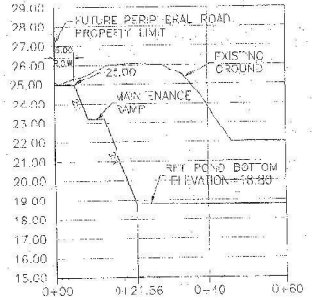
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SECTION--C--C

SCALE: 1:500 (H) 1:100 (V)



SECTION--D--D

SCALE: 1:500 (H) 1:100 (V)

NOTE:

- PLEASE REFER TO SHEET SI-31 RETENTION POND PLAN FOR THE LOCATION OF SECTIONS.

PEREZ — BLAIR

CONSULTING ENGINEERS, P.S.C.

PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI

PR-54, KM 0.3 (INTERIOR)

MACHETE WARD GUAYAMA, P.R.

PROJECT No.	08-046
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DRAWN BY	RAV
CHECKED	PPB

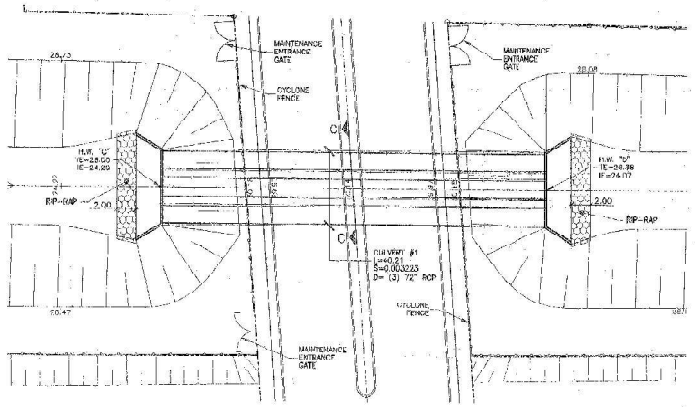
REVISIONS

NO.	REVISIONS	DATE

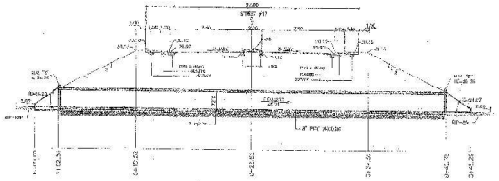
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SI-32

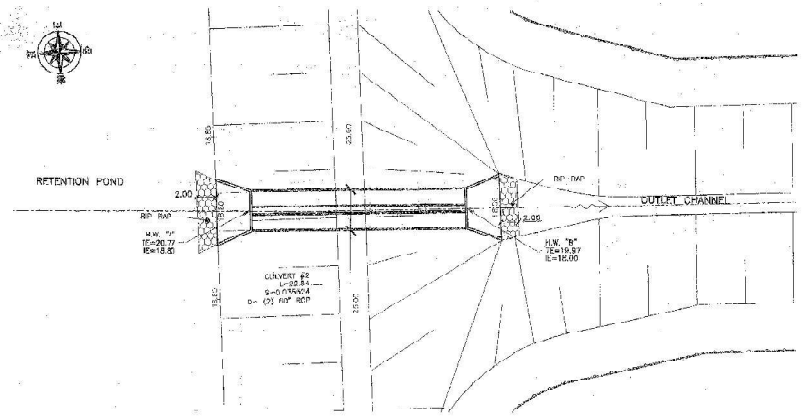
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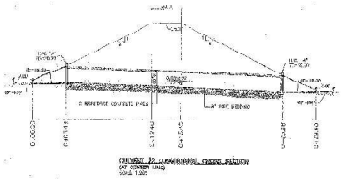
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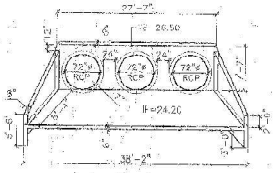
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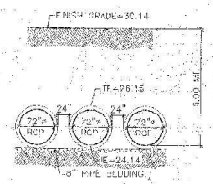
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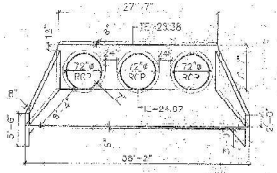
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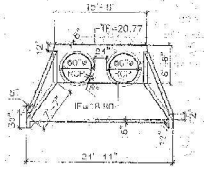
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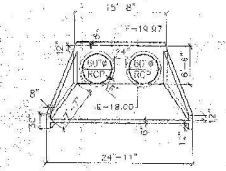
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SCALE 1:100



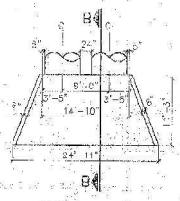
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SCALE 1:100



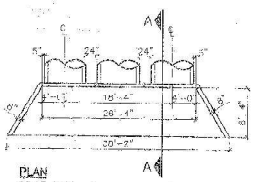
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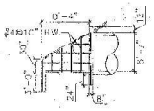
CULVERT #2 DOWNSTREAM ELEVATION
SCALE 1:100



PLAN
SCALE 1:100



PLAN
SCALE 1:100



SECTION B-B
SCALE 1:100

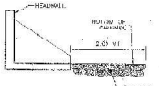
CULVERT #1

CULVERT #2

NOTES:

1- ALL DRAINAGE AND SUBDIVISION ARE GIVEN IN METERS AND REFERED TO LAMBERT COORDINATE SYSTEM (NAD83).

2- GEOTECHNICAL BOREHOLES SHALL DETERMINE T.E. LOCATION AND NUMBER OF BORINGS TO DEFINE THE SOIL CONDITIONS AT THE PROPOSED CULVERT LOCATION AND DETERMINE THE FOUNDATION RECOMMENDATIONS FOR THE CONSTRUCTION OF THE CULVERTS.



RIP RAP TYPICAL DETAIL
NOT TO SCALE

NOTES:

1- RIP-RAP AT LEAST TWO LAYERS OF ROCK, MIN. SIZE OF 12".

2- RIP RAP WIDTH X-ACT. AS THE WIDTH OF THE STRUCTURE PLUS 1'-0" EACH SIDE.

3- WHEN RIP RAP IS SHOWN LONGITUDINAL LENGTH VARIES.

PEREZ-BLAIR
CONSULTING ENGINEERS, P.S.C.
208 OSCO TOWN ST., UNIVERSITY GARDENS, RIO PIEDRAS, P.R. 00927 TEL. (787) 758-7887 / FAX (787) 756-6178

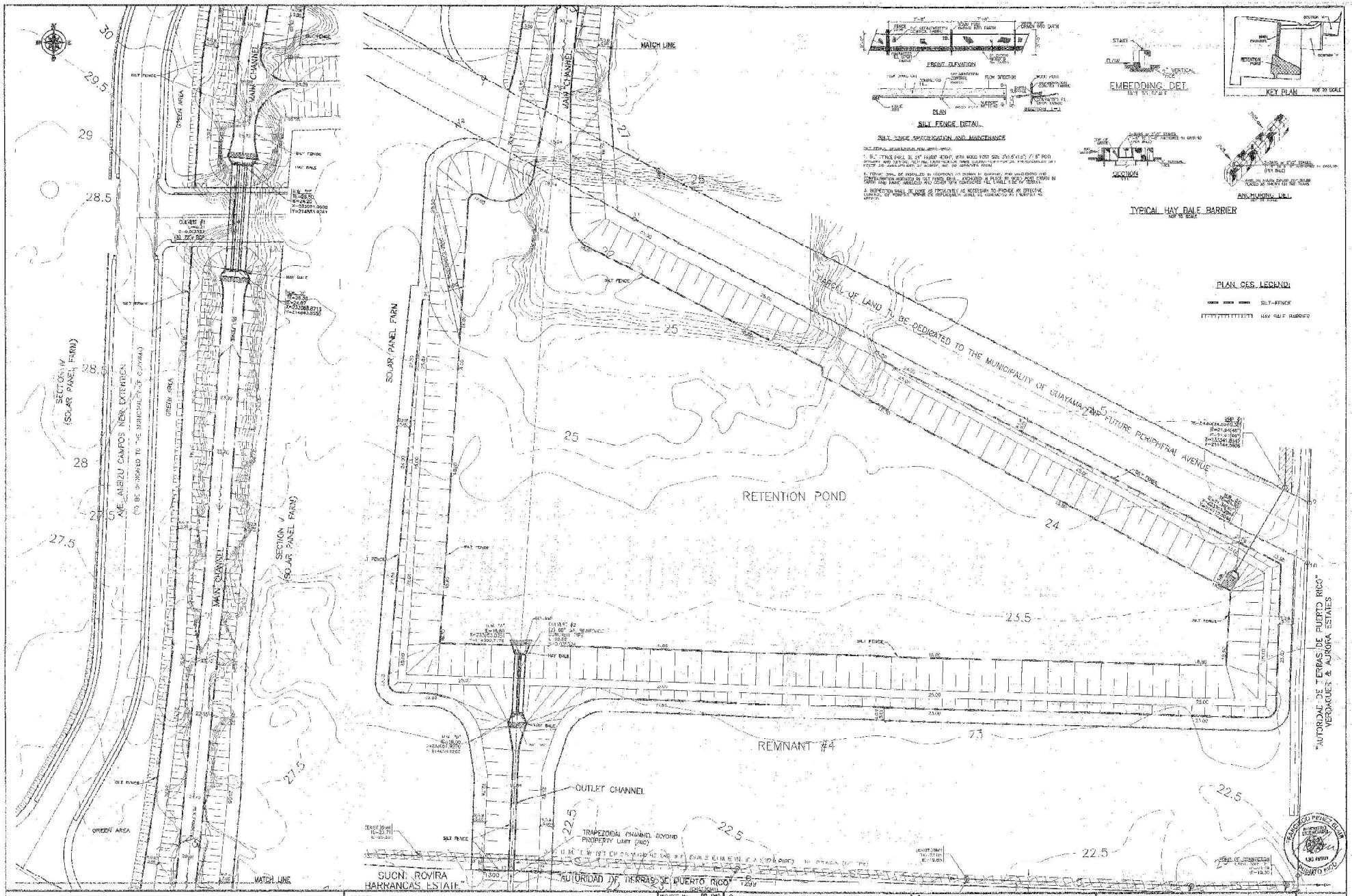
PROJECT: URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACHUELO WARD GUAYAMA, P.R.

PROJECT NO.:	08-018
CAD FILE:	SI_STR_08
SCALE:	1:200
DATE:	JAN/11
DRAWN BY:	RAV
CHK'D BY:	FPB

No.	REVISIONS	DATE
No.	REVISIONS	DATE

DRAINAGE CULVERTS
PLAN, SECTIONS & DETAILS
SHEET TITLE

SI-33
OF



PEREZ — BLAIR
CONSULTING ENGINEERS, P.S.C.

URB. BRISAS DEL MAR: SECTIONS V & VI
PR-54, KM 0.3 (INTERIOR)
MACHETE WARD GUAYAMA, P.R.

MAIN CHANNEL & RETENTION POND SEDIMENT CONTROL PLAN

SI-34
OF

Exhibit No. 19
SWPPP
SOURCE: Caribe Environmental Services

Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

Brisas del Mar Village (Section V)
Road PR-54, Km. 0.3 Int.
Machete Ward
Guayama, PR 00784
787-758-6455

SWPPP Prepared For:

BRISAS DEL MAR VILLAGE, LLC
Mr. Carlos L. García Muñiz
PO Box 2374
San Juan, PR 00936
787-758-6455
sheila@garciadevelopmentgroupllcpr.com

SWPPP Prepared By:

Caribe Environmental Services, Inc.
Eng. Raúl Colón
PO Box 5189
Caguas, PR 00725
(787) 998-7262
rcolon@caribeenvironmental.com

SWPPP Preparation Date:

05/08/2023

Estimated Project Dates:

Project Start Date: 07/01/2023

Project Completion Date: 12/31/2025

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SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 Operator(s) / Subcontractor(s)

Operator(s): Owner

Brisas del Mar Village, LLC
Mr. Carlos L. García Muñiz
PO Box 2374
San Juan, PR 00936
787-758-6455
sheila@garciadevelopmentgroupllcpr.com

Area of control: has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications

Operator(s): Construction Contractor

Bird Group, LLC
Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

Area of control: has day-to-day operational control of those activities at the project that are necessary to ensure compliance with the permit conditions during construction activities.

Subcontractor(s): N/A

Emergency 24-Hour Contact:

Brisas del Mar Village, LLC
Mr. Carlos L. García Muñiz
PO Box 2374
San Juan, PR 00936
787-758-6455
sheila@garciadevelopmentgroupllcpr.com

Bird Group, LLC
Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

1.2 Stormwater Team

Name and/or Position, and Contact	Responsibilities	I Have Completed Training Requirements for Persons Conducting Inspections Required By CPG Part 6.3	I Have Read the CGP and Understand the Applicable Requirements
Brisas del Mar Village, LLC Mr. Carlos L. García Muñiz 787-758-6455 sheila@garciadevelopmentgroupllcpr.com	Owner, Signatory, provide funding as needed.	Not Required to be trained for conducting inspections.	☐ Yes Date:
Bird Group, LLC Mr. Eduardo J. Pardo 787-721-6630 epardo@birdgroupllc.com	SWPPP Manager Conducting site inspections, and taking corrective actions, where and when required	☐ Yes ☐ No	☐ Yes Date:
Bird Personnel:	Maintaining stormwater controls, conducting site inspections, and taking corrective actions, where and when required	☐ Yes ☐ No	☐ Yes Date:
	Support SWPPP Manager conducting site inspections, maintaining stormwater controls and implementing corrective actions	☐ Yes ☐ No	☐ Yes Date:

At a minimum, members of the stormwater team must be trained to understand the following **if related to the scope of their job duties** (only personnel responsible for conducting inspections need to understand how to conduct inspections, See *Section 1.3*):

- The permit deadlines associated with the installation, maintenance, and removal of stormwater controls and with stabilization;

- The location of all stormwater controls on the site required by this permit and how they are to be maintained;

- The proper procedures to follow with respect to the permit's pollution prevention requirements; and

- When and how to conduct inspections, record applicable findings, and take corrective actions.

Each member of the stormwater team must have easy access to an electronic or paper copy of applicable portions of this permit.

1.3 Stormwater Team Members Who Conduct Inspections Pursuant to CGP Part 4

The person inspecting the project site may be a person on the Stormwater Team (see Section 1.2), a third party Brisas del Mar Village, LLC, hires to conduct such inspections.

Brisas del Mar Village, LLC is responsible for ensuring that any person conducting inspections pursuant to this Part is a "qualified person."

Since this is a project that is expected to receive coverage under the 2022 CGP after February 17, 2023, it is required the qualified person(s) to have completed and passed the EPA construction inspection course developed for this permit or hold a current valid construction inspection certification or license.

1.4 Requirement to Post A Notice of Your Permit Coverage

The construction contractor will post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice will be located so that it is visible from the public road that is nearest to the active part of the construction site, and it must use a font large enough to be readily viewed from a public right-of-way.

At a minimum, the notice must include:

- The NPDES ID (i.e., permit tracking number assigned to your NOI);

- A contact name and phone number for obtaining additional construction site information;

- The Uniform Resource Locator (URL) for the SWPPP (if available), or the following statement: "If you would like to obtain a copy of the Stormwater Pollution Prevention Plan (SWPPP) for this site, contact the EPA Regional Office at [include the appropriate CGP Regional Office contact information found at:

    - Region 2: New York City (serving NJ, NY, Puerto Rico, and the U.S. Virgin Islands)
        - Stephen Venezia (venezia.stephen@epa.gov) (212) 637-3856
        - Sergio Bosques (bosques.sergio@epa.gov) (787) 977-5838

  - For CGP questions in Puerto Rico: Sergio Bosques (bosques.sergio@epa.gov) (787) 977-5838
  - For CGP noncompliance reporting in Puerto Rico: Jose A. Rivera (rivera.jose@epa.gov) (787) 977-5842

- The following statement "If you observe indicators of stormwater pollutants in the discharge or in the receiving waterbody, contact the EPA through the following website:

https://www.epa.gov/enforcement/report-environmental-violations

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 Project/Site Information

Project Name and Address

Project/Site Name: Brisas del Mar Village (Section V)
Street/Location: Road PR-54, Km. 0.3 Int., Machete Ward
City: Guayama
State: Puerto Rico
ZIP Code: 00784
County or Similar Government Division: Guayama

Business days and hours for the project: Monday to Friday; 7:00am - 4:00pm

Project Latitude/Longitude

Latitude: 17.963909° N (decimal degrees)

Longitude: - 66.117159 ° W (decimal degrees)

Latitude/longitude data source: ☐ Map ☐ GPS ☒ Other (please specify): Google Earth PRO

Horizontal Reference Datum: ☐ NAD 27 ☐ NAD 83 ☒ WGS 84

Additional Site Information

Are you requesting permit coverage as a "federal operator" as defined in in Appendix A of the 2017 CGP? ☐ Yes ☒ No

Is your site located on Indian country lands, or on a property of religious or cultural significance to an Indian Tribe? ☐ Yes ☒ No

If yes, provide the name of the Indian Tribe associated with the area of Indian country (including the name of Indian reservation if applicable), or if not in Indian country, provide the name of the Indian Tribe associated with the property: **N/A**

If you are conducting earth-disturbing activities in response to a public emergency, document the cause of the public emergency *(e.g., natural disaster, extreme flooding conditions)*, information substantiating its occurrence *(e.g., state disaster declaration)*, and a description of the construction necessary to reestablish effective public services: **N/A**

2.2 Discharge Information

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☒ No

Are there any waters of the U.S. within 50 feet of your project's earth disturbances?

☐ Yes ☒ No

For each point of discharge, provide a point of discharge ID (a unique 3-digit ID, e.g., 001, 002), the name of the first receiving water that receives stormwater directly from the point of discharge and/or from the MS4 that the point of discharge discharges to, and the following receiving water information, if applicable:

Point of Discharge ID	Name of receiving water that receives stormwater discharge:	Is the receiving water impaired (on the CWA 303(d) list)?	If yes, list the pollutants that are causing the impairment:	Has a TMDL been completed for this receiving waterbody?	If yes, list TMDL Name and ID:	Pollutant(s) for which there is a TMDL:	Is this receiving water designated as a Tier 2, Tier 2.5, or Tier 3 water?	If yes, specify which Tier (2, 2.5, or 3)?
001	Punta Figuras to Punta Ola Grande (PRSC33)	☒ Yes ☐ No	Copper Lead Mercury Temperature Turbidity Enterococcus	☐ Yes ☒ No	N/A	N/A	☐ Yes ☒ No	N/A
002	Punta Figuras to Punta Ola Grande (PRSC33)	☒ Yes ☐ No	Copper Lead Mercury Temperature Turbidity Enterococcus	☐ Yes ☒ No	N/A	N/A	☐ Yes ☒ No	N/A
003	Punta Figuras to Punta Ola Grande (PRSC33)	☒ Yes ☐ No	Copper Lead Mercury Temperature Turbidity Enterococcus	☐ Yes ☒ No	N/A	N/A	☐ Yes ☒ No	N/A

Appendix A includes the water body report obtained from the EPA's How's My Waterway (https://mywaterway.epa.gov/waterbody-report/PR_LAKES/PRSC33/2020))

2.3 Nature of the Construction Activities

General Description of Project

The project consists of the construction of the Brisas del Mar Village (Section V) residential project. The proposed project includes the construction of 123 Low-cost single-family housing units on lots with a minimum capacity of 300 square meters. The units will include three bedrooms and two bathrooms for an approximate total of1,815square feet of gross building area. In addition, this project will have recreational facilities, a children's play area, and an administration office.

The area to be disturbed as part of the proposed project is approximately 59,276 square meters (14.75 acres).

Size of Construction Site

Size of Property	14.75 acres
Total Area Expected to be Disturbed by Construction Activities	14.75 acres
Maximum Area Expected to be Disturbed at Any One Time, Including On-site and Off-site Construction Support Areas	14.75 acres

Type of Construction Site *(check all that apply):*

☒ Single-Family Residential ☐ Multi-Family Residential ☐ Commercial ☐ Industrial

☐ Institutional ☐ Highway or Road ☐ Utility ☐ Other

Will you be discharging dewatering water from your site? ☐ Yes ☒ No

If yes, will you be discharging dewatering water from a current or former Federal or State remediation site? ☐ Yes ☐ No ☒ N/A

Pollutant-Generating Activities

Pollutant-Generating Activity (e.g., paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering operations)	**Pollutants or Pollutant Constituents** (e.g., sediment, fertilizers, pesticides, paints, caulks, sealants, fluorescent light ballasts, contaminated substrates, solvents, fuels)
Concrete, paint, and stucco washout and waste disposal	Paints, cement, caulks, PH
Asphalt Paving	Asphalt, PAHs, Oil and grease, PH
Solid waste storage and disposal	Sediment, trash & Organics
Equipment Fueling& Maintenance	Diesel fuel, oils, & grease
Vehicle Oil leaks	Diesel fuel, oils, & grease
Construction Debris	Concrete, wood, metals, etc.

Soil piling	Sediments
Construction Activities	Sediments
Storage of Raw Materials	Sediment, Trash, chemicals
Sanitary Wastewaters	Fecal Coliforms

Construction Support Activities *N/A*

2.4 Sequence and Estimated Dates of Construction Activities

Construction Activities	
Storm Catch Basin Protection	7/1/2024
Stabilized Entrance	7/1/2023
Tire Wash Area and Tire Washing	7/1/2023
Silt Fences or earth berm along property perimeter	7/1/2023
Estimated Start Date of Construction	7/1/2023
Sedimentation Pond No.1	7/15/2023
Sedimentation Pond No.2	7/31/2023
Sediment Trap	8/1/2023
Estimated Date(s) of Application of Stabilization Measures for Areas of the Site Required to be Stabilized	11/4/2024
Estimated Date(s) when Stormwater Controls will be Removed	5/30/2025
Estimated End Date of Construction Activities	6/20/2025

2.5 Prohibited Discharges

The following prohibited non-stormwater discharges are included here as a reminder that the only non-stormwater discharges authorized by this permit are at Part 1.2.2 (Section 2.6 below). Any unauthorized non-stormwater discharges must be covered under an individual permit or alternative general permit.

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and
- Toxic or hazardous substances from a spill or other release.

2.6 Authorized Non-Stormwater Discharges

List of Authorized Non-Stormwater Discharges Present at the Site

Type of Authorized Non-Stormwater Discharge	Likely to be Present at Your Site?
a. Discharges from emergency fire-fighting activities	☐ Yes ☒ No
b. Fire hydrant flushing	☒ Yes ☐ No
c. Landscape irrigation	☒ Yes ☐ No
d. Waters used to wash vehicles and equipment	☒ Yes ☐ No
e. Water used to control dust	☒ Yes ☐ No
f. Potable water including uncontaminated water line flushing	☒ Yes ☐ No
g. External building washdown (soaps/solvents are not used and external surfaces do not contain hazardous substances)	☒ Yes ☐ No
h. Pavement wash waters	☒ Yes ☐ No
i. Uncontaminated air conditioning or compressor condensate	☒ Yes ☐ No
j. Uncontaminated, non-turbid discharges of ground water or spring water	☐ Yes ☒ No
k. Foundation or footing drains	☒ Yes ☐ No
l. Construction dewatering water	☐ Yes ☒ No

2.7 Site Maps

Refer to ***Appendix B*** for a Site Location Map, A Site Map, and Sketches of Storm Water Controls as follows:

Appendix B-1 Site Location Map
Appendix B-2 Existing Conditions Project Site and Approximate Location of Storm Water Controls
Appendix B-3 Developed Stage Project Site and Approximate Location of Storm Water Controls
Appendix B-4 Conceptual Design of Erosion and Sedimentation Control Measures
Appendix B-5 Conceptual Design of Erosion and Sedimentation Control Measures

SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS

3.1 Endangered Species Protection

Eligibility Criterion

Following the process outlined in Appendix D, under which criterion are you eligible for coverage under this permit?

☒ **Criterion A**: No ESA-listed species and/or designated critical habitat present in action area. According to the response provided by the US Fish and Wildlife included in ***Appendix C***, they do not have records of threatened or endangered species in the project area. The USFWS does not recommend further consultation for the proposed project.

☒ Check to confirm you have provided documentation in your SWPPP as required by CGP Appendix D (Note: reliance on State resources is not acceptable; see CGP Appendix D).

3.2 Historic Property Screening Process

Appendix E, Step 1

Do you plan on installing any stormwater controls that require subsurface earth disturbance, including, but not limited to, any of the following stormwater controls at your site? Check all that apply below, and proceed to Appendix E, Step 2.

☐ Dike

☒ Berm

☒ Catch Basin

☒ Pond

☐ Constructed Site Drainage Feature (e.g., ditch, trench, perimeter drain, swale, etc.)

☐ Culvert

☐ Channel

☒ Other type of ground-disturbing stormwater control: Sediment Trap

Appendix E, Step 2

If you answered yes in Step 1, have prior professional cultural resource surveys or other evaluations determined that historic properties do not exist, or have prior disturbances at the site have precluded the existence of historic properties? ☐ YES ☒ NO

- If yes, no further documentation is required for Section 3.2 of the Template and you may provide the prior documentation in your SWPPP.
- If no, proceed to Appendix E, Step 3.

Appendix E, Step 3

If you answered no in Step 2, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? ☐ YES ☒ NO

- If yes, provide documentation of the basis for your determination.
- If no, proceed to Appendix E, Step 4.

Appendix E, Steps 4 and 5

If you answered no in Step 3, did the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), or other Tribal representative (whichever applies) respond to you within 15 calendar days to indicate their views as to the likelihood that historic properties are potentially present on your site and may be impacted by the installation of stormwater controls that require subsurface earth disturbance? ☒ YES ☐ NO

- If yes, describe the nature of their response:

  ☐ Written indication that no historic properties will be affected by the installation of stormwater controls.

  ☒ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions.

  In a letter dated June 14, 2022, ***Appendix D***, SHPO notifies the following: "We have reviewed the additional documentation submitted for the above-referenced project. We concur that the South Coast Irrigation District is eligible for listing on the National Register of Historic Places and that implementation of the undertaking meets the criteria of adverse effect by causing damage or destruction to an element of this district. In accordance with Stipulation II.C.6.a of the FEMA/ Puerto Rico Department of Housing programmatic agreement, as amended in 2019, we agree with the proposed treatment of recording "Element I" by means of Level 111 HAER standard documentation.

  ☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls.

  ☐ Other:

- If no, no further documentation is required for Section 3.2 of the Template.

3.3 Safe Drinking Water Act Underground Injection Control Requirements

Not Applicable

SECTION 4: EROSION AND SEDIMENT CONTROLS AND DEWATERING PRACTICES

4.1 Natural Buffers or Equivalent Sediment Controls

Buffer Compliance Alternatives

Are there any receiving waters within 50 feet of your project's earth disturbances? ☐ YES ☒ NO

4.2 Perimeter Controls

General

As illustrated in ***Appendix B-2***, perimeter controls at the project site will include the installation of control devices located downslope from exposed soil or other disturbed areas at the project site. The devices may be one or more of the following: silt fences, straw bale filters and/or diversion earth berms/ditches.

The perimeter control must be installed upgradient of any natural buffers established.

To prevent stormwater from circumventing the edge of the perimeter control, install the perimeter control on the contour of the slope and extend both ends of the control up slope (e.g., at 45 degrees) forming a crescent rather than a straight line.

1. Silt Fence and/or Straw Bale

Description

Silt fence erosion and sediment control will be installed along the site boundary limits at the areas where potential discharge of sediments to outside areas is likely.

A silt fence is also called Filter Fence. It is a temporary measure for sedimentation control and also used to catch windblown sand and to create an anchor for sand dune creation. A silt fence should be installed prior to major disturbances in the drainage area. The fence should be placed across the bottom of a slope along a line of uniform elevation (perpendicular) to the direction of flow. It can be used at the boundary of the work area where runoff flows to.

The silt fences will be installed at least 6 inches below the ground surface to assure proper anchorage. Straw Bale erosion and sediment control might be installed at selected areas to reinforce the effectiveness of the silt fences.

The straw bale should be installed prior to major disturbances in the drainage area. However, the straw bale shall always be used in conjunction with silt fence and not to be used alone.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – This is a dynamic process that will be contingent upon the timing of the construction activities. Prior to disturbing earth, silt fences will be installed along the property perimeters. Silt fences will remain installed until no earth is been disturbed during the construction activities.

Installation of this measure is expected to be completed before the construction activities begin in July 2023.

Maintenance Requirements

The fence requires frequent inspection and prompt maintenance to maintain its effectiveness. Inspect the fence after each rainfall or where the fence was caused to sag or collapse by runoff flowing over the top.

After installation, to ensure that perimeter controls continue to work effectively:

- Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control; and
- After a storm event, if there is evidence of stormwater circumventing or undercutting the perimeter control, extend controls and/or repair undercut areas to fix the problem.

Also, the straw bales require inspection and prompt maintenance to maintain its effectiveness. Remove straw bale when damaged or show signs of deterioration.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

2. Earth Berm

Description

Earth berms can be used at the project site as needed, to divert runoff from draining outside the project property without passing through a stormwater control. Once the grading at this area is finalized the earth berm may be eliminated or substituted by a Silt Fence.

Installation Dates

APPROXIMATE DATE OF INSTALLATION –Prior to disturbing earth, an earth berm will be installed along the eastern property perimeter and will remain installed until is no longer needed to redirect the runoffs at this area.
Installation of this measure is expected to be completed before the construction activities begin in July 2023.

Maintenance Requirements

The earth berm requires frequent inspection and prompt maintenance to maintain its effectiveness. Inspect the berm after a storm event. Repair or recondition, if required, when signs of collapse by runoff flowing over or under the berm is observed. Remove and properly dispose of sediments when it is one-third to one-half the height of the berm.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

3. Diversion Dikes or Ditches

Description

If needed, diversion dikes and/or diversion ditches could be used along the site boundary limits or at any other area in order to divert runoff from draining outside the project without passing through a stormwater control. Diversion dikes/ditches could also be used to divert excessive runoff that could damage other storm water controls such as the silt fences. Once the grading at a determined area is finalized the diversion dike/ditch may be eliminated or substituted by a Silt Fence.

Installation Dates

If needed, this measure must be installed prior to conduct earth disturbances at a designated area.

Maintenance Requirements

The dikes and ditches require frequent inspection and prompt maintenance to maintain its effectiveness. Inspect the dike/ditch after each rainfall. Repair of the device, if required, when signs of collapse by runoff flowing over or under the device is observed. Remove and properly dispose of sediments when it is one-third to one-half the height of the dike/ditch.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

4.3 Sediment Track-Out

General

Track-out of sediments will be controlled by providing a single designated stabilized project exit and tire wash area at a location where construction vehicles exit the project site.

Bird Group, LLC needs to restrict vehicles to only exit the project through the designated exit.

Bird Group, LLC needs to install the corresponding traffic signs and will instruct drivers on this restriction.

Specific Track-Out Controls

1. Tire Wash Area and Tire Washing System

Description

A Tire Wash Area and Tire Washing System will be installed at the exit of the project site located at the northeastern portion of the project site, to minimize the amount of sediment leaving the site, such as mud and sediment on vehicles and/or machinery/equipment. Tire washing may be conducted using a flooded basing or high-pressure cleaning.

Flooded basin-style washes consist of a shallow basin long enough to permit at least one tire rotation through it. Typical basin washes are 20 to 60 ft. in length. The bottom of the basin may be equipped with rumble strips to improve tire agitation. For best performance, fresh make-up water should be supplied to flush dirty water from the basin for collection and treatment.

This area will drain following the site topography, eventually reaching the sedimentation pond (*see Section 4.11*) or any other appropriate control.

Installation Dates

This measure will be installed prior to conducting earth disturbances at the proposed project site. This measure will remain installed until earth disturbance activities are completed at the project site.

Maintenance Requirements

Bird Group, LLC needs to periodically remove the sediment from the tire wash areas. Also, will add stone and gravel periodically, as necessary, to minimize sedimentation at the tire wash area.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

2. Stabilized Entrance

Description

A stabilized entrance will be provided next to the tire wash area at the construction vehicles exit of the project site located at the northeastern portion of the project site. The purpose of this measure is to minimize the amount of sediment leaving the project site as mud and sediment attached to vehicles.

Ensure that the exit is at least 50 feet long (generally, the length of two dump trucks) and graded so runoff does not enter the adjacent street.

The stabilized entrance can be installed by either constructing a concrete floor slab or by placing a geotextile fabric under a layer of aggregate at least 6–12 inches thick. The stones or aggregate should be 3–6 inches in diameter

The stabilized entrance at the exit of the project site will drain following the site topography, eventually reaching the Sedimentation pond (*see Section 4.11*) or any other appropriate control.

Installation Dates

This measure will be installed prior to conducting earth disturbances at the proposed project site. This measure will remain installed until no earth is been disturbed during the construction activities.

Maintenance Requirements

Bird Group, LLC needs to periodically remove the sediment from the stabilized entrance. Also, if appropriate Bird Group, LLC needs to add stone and gravel periodically, as necessary, to maintain the stabilized area free from sedimentation.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

3. Cleaning Crew

A Cleaning Crew will be available, especially during the construction activities, to remove where sediment has been tracked out from the project site onto paved roads, sidewalks, or other paved areas outside the project site, and to remove the deposited sediment by the end of the same business day in which the track-out occurs, or by the end of the next business day if track-out occurs on a non-business day.

The track-out sediment will be removed by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal.

You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance, storm drain inlet, or water of the U.S., without first discharging it into an appropriate sedimentation control.

Installation Dates

Installation of this measure is expected to begin in July 2023.

Maintenance Requirements - N/A

Design Specifications – N/A

4.4 Stockpiles or Land Clearing Debris Piles Comprised of Sediment or Soil

General

All material and/or soil stockpiles will be located within the boundaries of the project and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated. The stockpiling of project material is a dynamic process that may change location during the construction phase. However, at any location where the materials are stockpiles, they will be protected as specified herein and in the Site Plan.

1. Sediment Barrier

Description

Install a sediment barrier along all downgradient perimeter areas. Examples of sediment barriers include berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale. Also, silt Fences can be located around the stockpile material to prevent runoff and run-on from the piled material.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

The stockpiled material will be inspected regularly and the Sediment Barrier will be repaired if signs of damage are noticed.

You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces directly into any stormwater conveyance, storm drain inlet, or water of the U.S., before discharging it into an appropriate sedimentation control.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

2. Temporary Stabilization

Description

For piles that will be unused for 14 or more days, temporary stabilization will be conducted by using tarps, impermeable sheets or liners, blown straw, and/or hydroseeding.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

The stockpiled material will be inspected regularly and the temporary stabilization will be repaired if signs of tear or damage is noticed.

You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces directly into any stormwater conveyance, storm drain inlet, or water of the U.S., before discharging into an appropriate sedimentation control.

Design Specifications

See **Appendix B-2, B-3, and B-4** for approximate location and typical design drawings.

4.5 Minimize Dust

General

Dust at the project site will be minimized by applying clean water to disturbed areas of the project to control dust.

Specific Dust Controls

1. Tanker Truck

A tanker truck or equivalent equipment will be used for providing irrigation to exposed areas of the project. It is expected that the truck will irrigate the project areas once in the morning and once in the afternoon. However, based upon site conditions the site irrigation schedule may need to be modified. No water irrigation will be conducted during rainfall conditions or when the project site has been saturated by rainfall water. The irrigation daily schedule may be increased contingent upon soil dry conditions.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Installation of this measure is expected to begin in July 2023.

Maintenance Requirements

The tanker truck will be maintained in good working conditions. If the designated tanker truck is damaged it will be substituted by another truck as soon as possible. No truck with an oil dripping condition will be allowed at the project site.

Design Specifications-N/A

4.6 Minimize Steep Slope Disturbances

General
Steep slopes are defined as those that are 15 percent or greater in grade. No steep slopes are expected to be present during the project.

However, where disturbance to steep slopes cannot be avoided, Bird Group, LLC should consider implementing controls suitable for steep slope disturbances that are effective at minimizing erosion and sediment discharge (e.g., preservation of existing vegetation, hydraulic mulch, geotextiles and mats, compost blankets, earth dikes or drainage swales, terraces, velocity dissipation devices).

Specific Steep Slope Controls

1. Preservation of existing vegetation

Whenever possible Bird Group, LLC should consider preserving the existing vegetation to minimize erosion and slope disturbances. This natural vegetation buffer acts as a sedimentation filter.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

N/A

Design Specifications

N/A

2. Seeding / Hydraulic Mulch

If needed, seeding or Hydraulic Mulch will be used to control runoff and erosion in all disturbed areas. It will reduce erosion and sediment loss and will provide permanent stabilization.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

Seeded areas should be inspected often to find where seeds have been loosened or removed. Such areas should be re-seeded and repair as soon as possible.

Design Specifications

Water regularly, if needed, to ensure quick growth. Maintain backup BMPs, such as silt fence.

3. Geotextile

Geotextile may be used to stabilize and to protect seedlings on recently planted slopes until they become vegetated.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

If installed, Bird Group, LLC will inspect geotextiles regularly to determine if cracks, tears, or breaches have formed in the fabric; if so, repair or replace the fabric immediately. Also, Bird Group, LLC will ensure that the geotextile maintains contact with the ground.

Design Specifications – See Seed manufacturer specifications.

4. Erosion Blankets

Erosion Control Blankets are used to temporarily stabilize and protect disturbed soil from raindrop impact, runoff, and increased infiltration while aiding in decreased compaction and conserving soil moisture. With an Erosion Control Blanket, the resulting stabilized soils will allow the native vegetation to repopulate, which will provide a permanent barrier to soil erosion.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

If installed, Bird Group, LLC will inspect Erosion Control Blankets regularly to determine if cracks, tears, or breaches have formed in the blanket; if so, repair or replace the blanket immediately. Also, Bird Group, LLC will ensure that the geotextile maintains contact with the ground.

Design Specifications

See **Appendix B-4** for typical design drawings.

4.7 Topsoil

General

The removed topsoil from the project area will be located within the project limits. This material will be located within the boundaries of the project and away from areas subject to concentrated overland flow. The stockpiling of topsoil project material is a dynamic process that may change location during the construction phase. However, at any location where the materials are stockpiled, they will be protected as specified herein and in the Site Plan and will be eventually used as part of the final grading.

Specific Topsoil Controls

1. Sediment Barrier

Description

Install a sediment barrier along all downgradient perimeter areas. Examples of sediment barriers include berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale. Also, silt Fences can be located around the stockpile material to prevent runoff and run-on from the piled material.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Variable to be provided as needed during the construction activities.

Maintenance Requirements

The stockpiled material will be inspected regularly and the Sediment Barrier will be repaired if signs of damage are noticed.

You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or water of the U.S., before discharging into an appropriate sedimentation control.

Design Specifications

See **Appendix B-2** for approximate location.

4.8 Minimize Soil Compaction

General

Bird Group, LLC will minimize soil compaction in areas of the site where final vegetative stabilization will occur or where infiltration practices will be installed by:

- Restricting vehicle and equipment use in these locations to avoid soil compaction; and
- Before seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.

At areas where no development is present the impacted area will be left for natural vegetation to grow again, similar to the conditions found prior to the project development or seeded, as needed.

Specific Soil Compaction Controls NOT-APPLICABLE

4.9 Storm Drain Inlets

General

No inlets are installed prior to the project construction.

Inlet protection measures will be provided at the proposed inlets that may be impacted by the project construction, to remove sediments prior to entering the drain inlet.

Inlet protection measures are not required for storm drain inlets that are conveyed to a sediment basin, sediment trap, or similarly effective control. However, installing Inlet protection measures will also minimize sedimentation or clogging of the stormwater sewer.

Specific Storm Drain Inlet Controls

1. Installation of Inlet Protection Device

Storm drains will be protected by surrounding or covering the inlet with a filtering material. Several types of filters are commonly used for inlet protection: silt fence, filter socks, rock-filled bags, or block and gravel. The type of filter used depends on the inlet type (for example, curb inlet, drop inlet), slope, and volume of flow.

A common commercially available protection alternative is to place Sediment Logs around the inlet. Sediment Logs are versatile excelsior logs comprised of an outside containment fabric that is filled with fibers. An example is the Curlex fibers logs which are made of Great Lake Aspen excelsior fibers. The fibers are curled with soft interlocking barbs and 80% will be six inches in length or longer. The outside, open weave containment fabric is degradable; thus, Sediment Logs will degrade in place if not removed. Sediment Logs are porous, allowing water to pass through the excelsior matrix, progressively slowing velocity and filtering sediment as it passes

through the log diameter. Sediment Logs are extremely flexible and contour to the terrain to maintain intimate contact with the subgrade. In addition, they come with six other benefits; lightweight, no trenching, no weed seeds, no disposal hassles, are reusable, and they hold their shape.

Alternatively, straw bales or inlet filters similar to Ultra-Grate Guard® (https://spillcontainment.com/products/ultra-grate-guard/) inlet filter covers may be used as needed for the protection of storm inlets.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – Since the first inlet is constructed (approximately July 2024).

Maintenance Requirements

Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible.

Design Specifications

See **Appendix B-3, B-4,** and **B-5** for approximate location and typical design drawings.

4.10 Constructed Site Drainage Feature

General

Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points

Specific Constructed Site Drainage Feature

1. Sediment Traps

Sediment traps are small impoundments that allow sediment to settle out of construction runoff. They are usually installed in a drainage way or other point of discharge from a disturbed area. Sediment traps detain sediments in stormwater runoff to protect receiving streams, lakes, drainage systems, and the surrounding area. The traps are formed by excavating an area or by placing an earthen embankment along a low area of drainage swale.

As part of the proposed conditions, a sediment trap will be installed a the stormwater sewer pipe discharge at the northern portion of the project site.

Additional sediment traps may be installed at the project site depending on the site's construction conditions. The need for the installation of sediment traps will be evaluated after site inspections and if needed they will be installed to control site runoff. Hay stacks might be needed to be installed at the culvert inlet or at the sediment trap outflow.

Installation

APPROXIMATE DATE OF INSTALLATION – July 2024. Additional traps may be installed as needed throughout the project

Maintenance Requirements

The primary maintenance consideration for temporary sediment traps is removing accumulated sediment. Do this periodically to ensure that the trap continues to operate effectively. Remove sediments when the trap reaches about 50 percent sediment capacity. Inspect the sediment trap after each rainfall event to ensure that the trap is draining properly. Also, check the structure for damage from erosion. Check the depth of the spillway and maintain it at a minimum of 1.5 feet below the low point of the trap embankment. Repair the trap exit filtration system as necessary.

Design Specifications

See ***Appendix B-3*** and ***B-4*** for approximate location and design options.

2. Conveyance Structure

NOT APPLICABLE

4.11 Sediment Basins or Similar Impoundments

General

Sedimentation Ponds can be used to capture sediment from stormwater runoff before it leaves a construction site. It allows a pool to form in an excavated or natural depression, where sediment can settle. The pool is dewatered through a single riser and drainage hole leading to a suitable outlet on the downstream side of the embankment or through the gravel at the pond exit.

Alternatively, a weir-type outlet control structure constructed of hay stacks, gabions and sediment filters may be used to discharge surface waters in a controlled manner into the downstream side of the basin.

The water is released more slowly than it would be without the control structure.

A Sedimentation Pond is constructed by excavation or by erecting an earthen embankment across a low area or drainage swale. The Sedimentation Pond can be temporary (up to 3 years) or permanent. Some Sedimentation/Retention Ponds basins are designed to drain completely during dry periods. Others are constructed so that a shallow pool of water remains between storm events.

Specific Sediment Basin Controls

1. Sediment Pond

Initially, two sedimentation ponds will be located along the southern portion of the project site (Pond No. 1 and Pond No.2). However, as the construction activities progress, Pond No.2 will be eliminated, since the proposed project grading will be towards the southwest towards Pond No.1.

These ponds are temporary ponds to be constructed by excavation or by erecting an earthen embankment across a low areas. These sedimentation ponds will be closed once the project site has been stabilized.

The ponds will be provided with stabilized exit channels to minimize flow erosion at the discharge area.

Installation

APPROXIMATE DATE OF INSTALLATION –July 2023.

Maintenance Requirements

Routine inspection and maintenance of sedimentation ponds is essential to their continued effectiveness.

Inspect the ponds after each storm event to ensure proper drainage from the collection pool and determine the need for structural repairs. Replace material eroded from earthen embankments or stones moved from rock exit immediately. Remove sediment from the basin when the storage capacity has reached approximately 50 percent. Remove trash and debris from around dewatering devices promptly after rainfall events.

Design Specifications

Pond No 1 will initially collect runoff water from the drainage area (DA-1) which covers an area of approximately 5.80 acres. However, eventually, it will collect runoffs from the entire project which covers an area of approximately 14.75 acres. Therefore, this pond will have at least a storage capacity of 3,600 cubic feet per acre drained = 3,600 x 14.75 acres = 53,100 cubic feet (1.22 acre-feet). A possible configuration to obtain this volume would be the following:

- Trapezoidal pond
- Side Slopes = 2H;1V
- Top Length = 115 feet
- Top Width = 85 feet
- Depth = 11.5 feet

A 24 inch pipe outlet will be installed at a depth of 1 feet from the top surface. In addition, erosion controls and velocity dissipation devices will be placed at the pond outlet to prevent erosion.

Pond No 2 will collect runoff water from a drainage area (DA-2) which covers an area of approximately 8.95 acres from the project site and will have at least a storage capacity of 3,600 cubic feet per acre drained = 3,600 x 8.95 acres = 32,220 cubic feet (0.74 acre-feet). A possible configuration to obtain this volume would be the following:

- Trapezoidal pond
- Side Slopes = 2H;1V
- Top Length = 95 feet
- Top Width = 69.5 feet
- Depth = 7.5 feet

A 24 inch pipe outlet will be installed at a depth of 1 feet from the top surface. In addition, erosion controls and velocity dissipation devices will be placed at the pond outlet to prevent erosion.

See ***Appendix B2*** and ***B-4*** for approximate location and design options.

4.12 Chemical Treatment – NOT APPLICABLE

4.13 Dewatering Practices– NOT APPLICABLE

4.14 Other Stormwater Controls - NOT APPLICABLE

4.15 Site Stabilization

Total Amount of Land Disturbance Occurring at Any One Time

☐ *Five Acres or less*

☒ *More than Five Acres*

SITE STABILIZATION PRACTICE
☒ *Vegetative* ☒ *Non-Vegetative* ☒ *Temporary* ☒ *Permanent*
Description: Most of the project site will be developed and eventually covered with residential buildings, recreational facilities, and asphalt roads. The remaining areas will be replanted with grass seeds and will be left as open grass area or lawns. Any other disturbed areas will be left for natural occurring vegetation to grow or be seeded. The area where natural vegetation is expected to grow or seeded will be prepared within seven calendar days, after the temporary or permanent cessation Bird Group, LLC needs to initiate the installation of stabilization measures immediately in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days; and

Bird Group, LLC needs to complete the installation of stabilization measures as soon as practicable, but no later than 7 calendar days after stabilization has been initiated.

To be considered adequately stabilized (for any areas not covered by permanent structures), Bird Group, LLC must meet the criteria below depending on the type of cover you are using, either vegetative or non-vegetative.

- Vegetative Stabilization.
  - If you are vegetative stabilizing any exposed portion of your site through the use of seed or planted vegetation, you must provide established uniform vegetation (e.g., evenly distributed without large bare areas), which provides 70 percent or more of the provided density of coverage that was by vegetation native to local undisturbed areas. You should avoid the use of invasive species;
  - For final stabilization, the vegetative cover must be perennial; and
  - Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, Bird Group, LLC needs to install non-vegetative erosion controls that provide cover (e.g., mulch, rolled erosion control products) to the area while vegetation is becoming established.
- Non-Vegetative Stabilization. If Bird Group, LLC will use non-vegetative controls to stabilize exposed portions of your site, or if Bird Group, LLC needs to is using such controls to temporarily protect areas that are being vegetative stabilized, Bird Group, LLC needs provide effective non-vegetative cover to stabilize any such exposed portions of the project site.

Installation*	11/30/2025
Completion*	12/31/2025
Maintenance Requirements	No Maintenance required
Design Specifications	N/A

*** The installation and completion of any slope stabilization will be conducted as needed during the construction phase.**

Use this template box if unforeseen circumstances have delayed the initiation and/or completion of vegetative stabilization. Note: You will not be able to include this information in your initial SWPPP. If you are affected by circumstances such as those described in CGP Part 2.2.14.b.ii, you will need to modify your SWPPP to include this information.

Insert name of site stabilization practice
☐ *Vegetative* ☐ *Non-Vegetative* ☐ *Temporary* ☐ *Permanent*
Description: ▪ Insert description of stabilization practice to be installed ▪ Note how design will meet requirements of Part 2.2.14.b.ii

Insert name of site stabilization practice	
Justification	Insert description of circumstances that prevent you from meeting the deadlines required in CGP CGP Parts 2.2.14.a
Installation and completion schedule	**Vegetative Measures:** Describe the schedule you will follow for initiating and completing vegetative stabilization ▪ Approximate installation date: Insert approximate date ▪ Approximate completion date: Insert the approximate date
	Non-Vegetative Measures: *(Must be completed within 14 days of the cessation of construction if disturbing 5 acres or less; within 7 days if disturbing more than 5 acres)* ▪ Approximate installation date: Insert the approximate date ▪ Approximate completion date: Insert the approximate date
Maintenance Requirements	Insert maintenance requirements for the stabilization practice
Design Specifications	Include copies of design specifications here

[Repeat as needed for additional stabilization practices.]

SECTION 5: POLLUTION PREVENTION CONTROLS

5.1 Potential Sources of Pollution

Construction Site Pollutants

Pollutant-Generating Activity	**Pollutants or Pollutant Constituents** (that could be discharged if exposed to stormwater)	**Location on Site** (or reference SWPPP site map where this is shown)
Waste handling and disposal.	Sediment, trash & Organics	Staging and parking Area
Equipment Fueling	Diesel, Oil & Grease	Staging Area
Vehicle Oil leaks	Diesel fuel, oils, & grease	Throughout the project site
Concrete Placement	Concrete washout	Throughout the project site
Concrete, paint, and stucco washout and waste disposal	Paints, cement, caulks, PH	Cement Truck Washing Pit
Storage of Raw Materials	Sediment, Trash, chemicals	Staging area
Construction Debris Generation	Asphalt, wood, metals, etc.	Throughout the project site
Soil piling	Sediments	Throughout the project site
Construction activities	Sediments, dust	Throughout the project site
Asphalt Paving	Asphalt, PAHs, Oil and grease, PH	Along roads
Sanitary Wastewaters Generation	Fecal Coliforms	Portable Toilets

5.2 Spill Prevention and Response

Discharges of toxic or hazardous substances from a spill or other release are prohibited.

Personnel Responsible for Spill Prevention, Response and Clean-up

Bird Group, LLC
Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

Practices for spill prevention and cleanup:

- Manufactures' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- ***Appendix B-2*** illustrates the approximate location where spill kits will be stored.
- All spills will be cleaned up immediately after discovery.
- Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements.
- The project requires the storage of a small amount of chemicals used in the daily maintenance of the equipment. These chemicals will be stored within a containment area protected against the elements. The chemical containers will be placed back into the containment after use to avoid leaving them exposed to the elements.
- The person responsible for the day-to-day site operations will be the spill prevention and cleanup coordinator. He will designate other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area and in the office trailer onsite.

Emergency Spill Notification Requirements

- Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR part 110, 40 CFR part 117, or 40 CFR part 302 occurs during a 24-hour period, Bird Group, LLC must notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR part 110, 40 CFR part 117, and 40 CFR part 302 as soon as you have knowledge of the release.
- Bird Group, LLC must also, within seven (7) calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies

Operating Procedures to Prevent Spills

- If is determined that a fuel storage tank is needed to be brought, the tank will be provided with a containment dike made of impermeable materials. Containment dikes are temporary or permanent earth, plastic or concrete berms or retaining walls that are designed to store potential spills.

- Containment dikes should be large enough to hold and amount equal to the largest single storage tank at the particular facility plus the volume of rainfall. Materials used to

construct the dike should be strong enough to safely hold spilled materials. The material used usually depends on what is available onsite and the substance to be contained and may consist of earth (i.e., soil or clay, concrete, synthetic materials (liners), metal or other impervious materials.

- Containment dikes may need to be designed with impervious materials to prevent leaking or contamination of stormwater, surface, and groundwater supplies. Uncontrolled overflows from dike areas containing spilled materials or contaminated storm water should be prevented to protect nearby surface waters or ground waters. Therefore, dikes should have either pumping systems or vacuum trucks available to remove the spilled material if overflow systems do not exist; accumulated storm water should be released periodically. Contaminated stormwater should be properly treated or disposed-of prior to release.

- Inspections of containment dikes should be conducted during or after significant storms or spills events to check for washouts or overflows. Soil dikes may need to be inspected on a more frequent basis.

- Changes in vegetation, the inability of the structure to retain stormwater, dike erosion or soggy areas indicate problems with the dike's structure. Damaged areas should be patched and stabilized immediately, where necessary. Earthen dikes may require special maintenance of vegetation, such as mowing and irrigation.

- All other oil or hazardous containers should follow the same procedure. Spill cleanup equipment should be readily available at the project site.

5.3 Fueling and Maintenance of Equipment or Vehicles

General

If a third party qualified contractor will be retained for fueling and maintenance of equipment. Bird Group, LLC will require the contractor to provide effective means to eliminate the discharge of spilled or leaked chemicals, including, conducting fueling and/or maintenance activities away from surface waters, stormwater inlets or stormwater conveyance systems. The contractor will have available at the fueling or maintenance area spill clean-up kits.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description - Provide containment systems such as drip pans, spill containment pallets or absorbent pads to any vehicle or machinery leaking located within the project site.

Installation – as necessary

Maintenance Requirements

Conduct regular inspection and clean-up. Dispose of absorbent pads when impacted by chemicals. Keep these materials properly stored.

Pollution Prevention Practice # 2

Description - Dispose of or recycle oil and oily wastes in accordance with federal, state, tribal, or local requirements.

Installation – as necessary

Maintenance Requirements

Keep these materials properly stored.

Pollution Prevention Practice # 3

Description - Clean up spills or contaminated surfaces immediately, using dry clean-up measures where possible, and eliminate the source of the spill to prevent a discharge or furtherance of an ongoing discharge.

Installation – as necessary
Maintenance Requirements

Keep clean-up wastes properly stored.

Pollution Prevention Practice # 4

Description - Do not clean surfaces by hosing the area down.

Installation – N/A
Maintenance Requirements –N/A

5.4 Washing of Equipment and Vehicles

General

Other than the washing of the vehicle's tires at the tire washing area, no washing of vehicles and/or equipment is expected to be conducted at the project site.

Specific Pollution Prevention Practices

Description

Tire washing may be conducted using a flooded basing or high-pressure cleaning. This area will drain following the site topography, eventually reaching the sedimentation pond (*see Section 4.11*) or any other appropriate control.

Employees will be instructed that no soaps, detergents, or solvents will be used.

Installation Dates

APPROXIMATE DATE OF INSTALLATION – July 2023. This measure will remain installed until no earth is been disturbed during the construction activities.

Maintenance Requirements

Bird Group, LLC needs to periodically remove the sediment from the tire wash area.

Also, Bird Group, LLC needs to add stone and gravel periodically to minimize sedimentation at the tire wash area.

Design Specifications

See **Appendix B-2, B-3,** and **B-4** for approximate location and typical design drawings.

5.5 Storage, Handling, and Disposal of Building Products, Materials, and Wastes

5.5.1 Building Materials and Building Products

General

Bird Group, LLC needs to minimize the exposure to stormwater of any of the products, materials, or wastes that are present at the site (Examples include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures, and gravel and mulch stockpiles).

Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description - Provide cover to prevent building products to have contact with rainwater, such as covering with tarps, plastic sheeting, or storage inside containers or dedicated sheds.

Installation – as necessary

Maintenance Requirements –N/A

5.5.2 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

General

Bird Group, LLC needs to minimize the exposure to stormwater of any of the *Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials* that are present at the site.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

The chemicals will be stored in water-tight containers and will be provided with either (1) cover (e.g., plastic sheeting or temporary roofs) to prevent these containers from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas (e.g., spill kits), or provide secondary containment (e.g., spill berms, decks, spill containment pallets).

Bird Group, LLC needs to comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label.

Installation – as necessary

Maintenance Requirements

Regular inspection of the containers and the containment areas will be conducted. Damaged containers will be substituted and any damages to the containment system will be fixed.

Pollution Prevention Practice # 2

Description

Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

Installation – As necessary

Maintenance Requirements

Collected clean-up material should be properly stored until its disposal.

5.5.3 Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals

General

Diesel fuel, gasoline, and other petroleum products such as oil and hydraulic fluids may be temporarily stored at the project site.

If any chemical container has a storage capacity of less than 55 gallons:

- The containers must be water-tight, and must be kept closed, sealed, and secured when not being actively used;
- If stored outside, use a spill containment pallet or similar device to capture small leaks or spills; and
- Have a spill kit available on site that is in good working condition (i.e., not damaged, expired, or used up) and ensure personnel are available to respond immediately in the event of a leak or spill.

If any chemical container has a storage capacity of 55 gallons or more:

- The containers must be water-tight, and must be kept closed, sealed, and secured when not being actively used;
- Store containers a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away from these features as the site permits. If site constraints prevent you from storing containers 50 feet away from receiving waters or the other features identified, you must document in your SWPPP the specific reasons why the 50-foot setback is infeasible, and how you will store containers as far away as the site permits;
- Provide either (1) cover (e.g., temporary roofs) to minimize the exposure of these containers to precipitation and to stormwater, or (2) secondary containment (e.g., curbing, spill berms, dikes, spill
- Have a spill kit available on site that is in good working condition (i.e., not damaged, expired, or used up) and ensure personnel are available to respond immediately in the event of a leak or spill. Additional secondary containment measures are listed at 40 CFR § 112.7(c)(1).

For these chemicals stored at the project site, the following practices will be implemented.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

The chemicals will be stored in water-tight containers, and will be provided with either (1) cover (e.g., plastic sheeting or temporary roofs) to prevent these containers from coming into contact

with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas (e.g., spill kits), or provide secondary containment (e.g., spill berms, decks, spill containment pallets)

Installation – As necessary

Maintenance Requirements

Regular inspection of the containers and the containment areas will be conducted. Damaged containers will be substituted and any damages to the containment system will be fixed.

Pollution Prevention Practice # 2

Description

Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

Installation – As necessary

Maintenance Requirements

Collected clean-up material should be properly stored until its disposal.

Pollution Prevention Practice # 3

Description

Store hazardous or toxic waste separate from construction and domestic waste. Store these materials in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements.

Installation – As necessary

Maintenance Requirements

Regular inspection of the containers and the containment areas will be conducted. Damaged containers will be substituted and any damages to the containment system will be fixed.

Pollution Prevention Practice # 4

Description

Store all containers that will be stored outside within appropriately sized secondary containment *(e.g., spill berms, decks, spill containment pallets)* to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., storing chemicals in covered area or having a spill kit available on site)*.

Installation – As necessary

Maintenance Requirements

Regular inspection of the containers and the containment areas will be conducted. Damaged containers will be substituted and any damages to the containment system will be fixed.

Pollution Prevention Practice # 5

Description

Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements.

Installation – As necessary

Maintenance Requirements

Keep materials properly stored.

Pollution Prevention Practice # 6

Description

Dispose and/or recycled of diesel fuel, hydraulic, and dielectric oils in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements.

Installation – As necessary

Maintenance Requirements

Keep materials properly stored.

5.5.4 Hazardous or Toxic Waste

General

No hazardous or toxic wastes are expected to be generated during the execution of this project. However, if any is generated the contractor will properly dispose of it. Examples of hazardous or toxic waste that may be present at construction sites include paints, caulks, sealants, fluorescent light ballasts, solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

Separate hazardous or toxic wastes from construction and domestic waste.

Installation – as necessary

Maintenance Requirements

Clean up material following manufacturer instructions. Properly labeled wastes containers.

Pollution Prevention Practice # 2

Description

Store wastes in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements.

Store all outside containers within appropriately-sized secondary containment (e.g., spill berms, dikes, spill containment pallets) to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas (e.g., storing chemicals in a covered area, having a spill kit available on site);

Bird Group, LLC needs to comply with all application and disposal requirements included on the federal and state regulations.

Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements

Installation – as necessary

Maintenance Requirements

Regular inspection of the containers and the containment areas will be conducted. Damaged containers will be substituted and any damages to the containment system will be fixed.

Pollution Prevention Practice # 3
Description

Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

Follow all other Federal, State, Tribal, and local requirements regarding hazardous or toxic waste.

Installation – As necessary

Maintenance Requirements

Collected clean-up material should be properly stored until its disposal.

5.5.5 Construction and Domestic Waste

Construction and domestic wastes expected at the project site include packaging materials, scrap construction materials, concrete, wood, pipe and electrical cuttings, plastics, Styrofoam, and other trash or building materials.)

General

The construction and domestic wastes will be stored in *dumpsters or trash receptacles* of sufficient size and number to contain construction and domestic wastes.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description - On work days, clean up and dispose of waste in designated waste containers

Installation – Since project commencement in July 2023.

Maintenance Requirements -N/A

Pollution Prevention Practice # 2

Description - Clean up immediately if containers overflow, and if there is litter elsewhere on the site from escaped trash.

Installation – Since project commencement in July 2023.

Maintenance Requirements -N/A

Pollution Prevention Practice # 3

Description - For waste containers with lids, keep waste container lids closed when not in use, and close lids at the end of the business day and during storm events.

For waste containers without lids, provide either (1) cover (e.g., a tarp, plastic sheeting, temporary roof) to minimize exposure of wastes to precipitation, or (2) a similarly effective means designed to minimize the discharge of pollutants (e.g., secondary containment);

Installation – Since project commencement in July 2023.

Maintenance Requirements -N/A

5.5.6 Sanitary Waste

General

Portable toilets will be located away from waters of the U.S. and stormwater inlets or conveyances and they will be secured to prevent tip or knock over.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description

All sanitary waste will be sent to a Puerto Rico Aqueduct and Sewer Authority Waste Water Treatment facility.

Installation – Since project commencement in July 2023.

Maintenance Requirements

Portable toilets will be emptied at least once a week.

5.6 Washing of Applicators and Containers used for Stucco, Paint, Concrete truck wash, Form Release Oils, Cutting Compounds, or Other Materials

General

To comply with this requirement Bird Group, LLC needs to provide effective means of eliminating the discharge of water from the washout and cleanout of stucco, paint, concrete, form-release oils, curing compounds, and other construction materials.

None of these materials will be allowed to be discharged into the water of the United States.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description - Direct all wash waters into a leak-proof container or leak-proof pit so that no overflows can occur due to inadequate sizing or precipitation.

Pollution Prevention Practice # 2

Description

Do not dump liquid wastes or allow them to enter into constructed or natural site drainage features, storm inlets, or receiving waters;

Do not allow liquid wastes to be disposed of through infiltration or to otherwise be disposed of on the ground;

Comply with applicable State, Tribal, or local requirements for disposal.

Pollution Prevention Practice # 3

Description

Conduct any washout or cleanout activities as far away as possible from surface waters and storm water inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

Pollution Prevention Practice # 4

Description

Dispose of liquid wastes in accordance with applicable requirements in Part 2.3.3 of the permit;

Pollution Prevention Practice # 5

Description

Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3 of the permit

Maintenance Requirements

Regular inspection of the washout or cleanout activities areas will be conducted. If identify any deficiency, it will be corrected promptly.

5.7 Application of Fertilizers

General

If fertilizer are applied, Bird Group, LLC needs to minimize discharges of fertilizers containing nitrogen or phosphorus.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1

Description - Apply at a rate and in amounts consistent with manufacturer's specifications, or document departures from the manufacturer specifications where appropriate.

Pollution Prevention Practice # 2

Description - Apply at the appropriate time of year for the project location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth.

Pollution Prevention Practice # 3

Description - Avoid applying before heavy rains that could cause excess nutrients to be discharged.

Pollution Prevention Practice # 4

Description - Never apply to stormwater conveyance channels with flowing water.

Pollution Prevention Practice # 5

Description - Follow all other federal, state, and local requirements regarding fertilizer application.

5.8 Other Pollution Prevention Practices – N/A

SECTION 6: INSPECTION, MAINTENANCE, AND CORRECTIVE ACTION

6.1 Inspection Personnel and Procedures

Personnel Responsible for Inspections

Bird Group, LLC
Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

Note: All personnel conducting inspections must be considered a "qualified person." Since this is a project that is expected to receive coverage under the 2022 CGP after February 17, 2023, it is required the qualified person(s) to have completed and passed the EPA construction inspection course developed for this permit or hold a current valid construction inspection certification or license.

Site Inspection Schedule
Select the inspection frequency(ies) that applies, based on CGP Parts 4.2, 4.3, or 4.4

Standard Frequency: Not Applicable

☐ Every 7 calendar days

☐ Every 14 calendar days and within 24 hours of either:

- A storm event that produces 0.25 inches or more of rain within a 24-hour period (including when there are multiple, smaller storms that alone produce less than 0.25 inches but together produce 0.25 inches or more in 24 hours), or
- A storm event that produces 0.25 inches or more of rain within a 24-hour period on the first day of a storm and continues to produce 0.25 inches or more of rain on subsequent days (you conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the last day of the storm that produces 0.25 inches or more of rain (i.e., only two inspections would be required for such a storm event)), or
- A discharge caused by snowmelt from a storm event that produces 3.25 inches or more of snow within a 24-hour period.

Increased Frequency (if applicable): The project Site eventually discharges into surface water impaired by turbidity.

For areas of sites discharging to sediment or nutrient-impaired waters or to waters designated as Tier 2, Tier 2.5, or Tier 3

☒ Every 7 days and within 24 hours of either:

- A storm event that produces 0.25 inches or more of rain within a 24-hour period, or
- A discharge caused by snowmelt from a storm event that produces 3.25 inches or more of snow within a 24-hour period.

Reduced Frequency (if applicable):
For stabilized areas ☐ Twice during first month, no more than 14 calendar days apart; then once per month after first month until permit coverage is terminated consistent with Part 9 in any area of your site where the stabilization steps in 2.2.14.a have been completed. ▪ Specify locations where stabilization steps have been completed ▪ Insert date that they were completed (Note: It is likely that you will not be able to include this in your initial SWPPP. If you qualify for this reduction (see CGP Part 4.4.1), you will need to modify your SWPPP to include this information. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required in Parts 4.2 and 4.3, as applicable.)

Dewatering Inspection Schedule: Not Applicable

Select the inspection frequency that applies based on CGP Part 4.3.2

Dewatering Inspection
☐ Once per day on which the discharge of dewatering water occurs.

Rain Gauge Location A rain gauge will be installed at the Project Site.

Record the rainfall gauge readings at the beginning and end of each work day. ***Appendix E*** presents a typical rainfall data collection log.

If you are inspecting your site at the frequency described above and you conducted an inspection because of a storm event that produced rainfall measuring 0.25 inches or more within a 24-hour period, you must include the applicable rain gauge or weather station readings that triggered the inspection.

Areas That Must Be Inspected

During the site inspection, Bird Group, LLC must at a minimum inspect the following areas of the project site:

- All areas that have been cleared, graded, or excavated and that have not yet completed stabilization consistent with Part 2.2.14a, of the Permit;
- All stormwater controls, including pollution prevention controls, installed at the site (This includes the requirement to inspect for sediment that has been tracked out from the site onto paved roads, sidewalks, or other paved areas);
- Material, waste, borrow, and equipment storage and maintenance areas;
- All areas where stormwater typically flows within the site, including constructed or natural site drainage features designed to divert, convey, and/or treat stormwater;
- All areas where construction dewatering is taking place, including controls to treat the dewatering discharge and any channelized flow of water to and from those controls;

- All points of discharge from the site; and
- All locations where stabilization measures have been implemented.
- Bird Group, LLC is not required to inspect areas that, at the time of the inspection, are considered unsafe to the inspection personnel.

Requirements For Inspections

During each site inspection, Bird Group, LLC must at a minimum:

- Check whether all stormwater controls (i.e., erosion and sediment controls and pollution prevention controls) are properly installed, appear to be operational, and are working as intended to minimize pollutant discharges.
- Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
- Identify any locations where new or modified stormwater controls are necessary.
- Check for signs of visible erosion and sedimentation (i.e., sediment deposits) that have occurred and are attributable to your discharge at points of discharge and, if applicable, on the banks of any receiving waters flowing within or immediately adjacent to the site;
- Check for signs of sediment deposition that are visible from your site and attributable to your discharge (e.g., sand bars with no vegetation growing on top in receiving waters or in other constructed or natural site drainage features, or the buildup of sediment deposits on nearby streets, curbs, or open conveyance channels).
- Identify any incidents of noncompliance observed.

If a discharge is occurring during the inspection:

- Identify all discharge points at the site; and
- Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants. Check also for signs of these same pollutant characteristics that are visible from your site and attributable to your discharge in receiving waters or in other constructed or natural site drainage features.

Inspection Report

Bird Group, LLC must complete an inspection report within 24 hours of completing any site inspection.

For each site inspection, the form included in ***Appendix F*** should be completed and signed by the designated authorized representative of Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC

Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC must keep a copy of all inspection reports at the site or at an easily accessible location so that it can be made immediately available at the time of an on-site inspection or upon request by EPA.

Inspection reports may be prepared, signed, and kept electronically, rather than in paper form, if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) immediately accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form.

Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC must retain all inspection reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

Inspections by EPA

Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC must allow EPA, or an authorized representative of EPA, to conduct the following activities at reasonable times. To the extent that you are utilizing shared controls, that are not on-site, to comply with this permit, you must make arrangements for EPA to have access at all reasonable times to those areas where the shared controls are located.

- Enter all areas of the site, including any construction support activity areas covered by this permit, any off-site areas where shared controls are utilized to comply with this permit, discharge locations, adjoining waterbodies, and locations where records are kept under the conditions of this permit;
- Access and copy any records that must be kept under the conditions of this permit;
- Inspect your construction site, including any construction support activity areas covered by this permit, any stormwater controls installed and maintained at the site, and any off-site shared controls utilized to comply with this permit; and
- Sample or monitor for the purpose of ensuring compliance.

6.2 Corrective Action

Corrective action would be required when one or more of the following conditions are identified:

- A stormwater control needs a significant repair or a new or replacement control is needed, or, Bird Group, LLC finds it necessary to repeatedly (i.e., three (3) or more times) conduct the same routine maintenance fix to the same control at the same location (unless you document in your inspection report that the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix);

- A stormwater control necessary to comply with the requirements of this permit was never installed or was installed incorrectly

- Your discharges are not meeting applicable water quality standards; or

- A prohibited discharge has occurred;

NOTE: since no dewatering activities will be conducted, no corrective actions triggered by dewatering activities are included.

For any corrective action triggering conditions described above, Bird Group, LLC must:

- Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events;

- When the problem does not require a new or replacement control or significant repair, the corrective action must be completed by the close of the next business day;

- When the problem requires a new or replacement control or significant repair, install the new or modified control and make it operational, or complete the repair, by no later than seven (7) calendar days from the time of discovery.

  If it is infeasible to complete the installation or repair within seven (7) calendar days, Bird Group, LLC must document why it is infeasible to complete the installation or repair within the 7-day timeframe and document the schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within seven (7) calendar days of completing this work.

Personnel Responsible for Corrective Actions

Operator(s): Construction Contractor

Bird Group, LLC
Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

Corrective Action Required By Epa

Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC must comply with any corrective actions required by EPA as a result of permit violations found during an inspection carried out.

Corrective Action Report

For each corrective action taken, Bird Group, LLC and BRISAS DEL MAR VILLAGE, LLC will complete a report in accordance with the following:

- Within 24 hours of identifying the corrective action condition, document the specific condition and the date and time it was identified.
- Within 24 hours of completing the corrective, document the actions taken to address the condition, including whether any SWPPP modifications are required.
- Each corrective action report ***must be signed by the owner and contractor*** in accordance with Appendix G, Part G.11.2 of the CGP.
- The contractor and owner must keep a copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by EPA.
- The contractor and owner must retain all corrective action reports completed for at least 3 years from the date that your permit coverage expires or is terminated.

Corrective Action Form
See **Appendix G**

6.3 Delegation of Authority

Duly Authorized Representative(s) or Position(s):

Mr. Eduardo J. Pardo
PO Box 367249
San Juan, PR 00936-7249
787-721-6630
epardo@birdgroupllc.com

See **Appendix H**

SECTION 7: TURBIDITY BENCHMARK MONITORING FOR DEWATERING DISCHARGES : Not Applicable

SECTION 8: TRAINING

Documentation for Completion of Training

Name	Describe Training	Date Training Completed

See **Appendix I**

SECTION 9: CERTIFICATION AND NOTIFICATION

Brisas del Mar Village, LLC
Certification and Notification
OWNER OPERATOR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

Bird Group, LLC
Certification and Notification
CONSTRUCTION CONTRACTOR OPERATOR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A - Water Body Report
Appendix B – Site Maps
Appendix C - Endangered Species Documentation
Appendix D – Historic Preservation Documentation
Appendix E – Rainfall Gauge Recording
Appendix F – Site Inspection Form and Dewatering Inspection Form (if applicable)
Appendix G – Corrective Action Log
Appendix H – Delegation of Authority
Appendix I – Training Documentation
Appendix J – SWPPP Amendment Log
Appendix K – Copy of 2022 CGP
Appendix L – NOI and EPA Authorization Email
Appendix M – Subcontractor Certifications/Agreements
Appendix N – Grading and Stabilization Activities Log

Appendix A – Water Body Report

How's My Waterway?

Informing the conversation about your waters.

Waterbody Report

Punta Figuras to Punta Ola Grande

Assessment Unit ID: PRSC33

Waterbody Condition: Impaired (Issues Identified)

Existing Plans for Restoration: No

303(d) Listed: Yes

Year Reported: 2020

Organization Name (ID): Puerto Rico (PR_LAKES)

What type of water is this?

Coastal (8.1 Miles)

Where is this water located?

Punta Figuras to Punta Ola Grande



Assessment Information from 2020

State or Tribal Nation specific designated uses:

Collapse All

Aquatic Life — Impaired

Identified Issues for Use

Impaired Parameters	Plan in Place
Copper	No
Lead	No
Mercury	No

Impaired Parameters	Plan in Place
Temperature	No
Turbidity	No

Other Water Quality Parameters Evaluated

Assessed Good

- Dissolved Oxygen

Primary Contact Recreation Impaired

Identified Issues for Use

Impaired Parameters	Plan in Place
Enterococcus	No

Other Water Quality Parameters Evaluated

No other parameters evaluated for this use.

Secondary Contact (Recr) Impaired

Identified Issues for Use

Impaired Parameters	Plan in Place
Enterococcus	No

Other Water Quality Parameters Evaluated

No other parameters evaluated for this use.

Probable sources contributing to impairment from 2020:

Clear Filters

Source	Parameter	Confirmed
Filter...	Filter...	Filter...
Industrial Point Source Discharge	Copper	No
Industrial Point Source Discharge	Enterococcus	No
Industrial Point Source Discharge	Lead	No
Industrial Point Source Discharge	Mercury	No
Industrial Point Source Discharge	Temperature	No
Industrial Point Source Discharge	Turbidity	No
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Enterococcus	No
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Lead	No
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Mercury	No
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Temperature	No
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Turbidity	No
Urban Runoff/storm Sewers	Enterococcus	No
Urban Runoff/storm Sewers	Lead	No
Urban Runoff/storm Sewers	Mercury	No
Urban Runoff/storm Sewers	Temperature	No
Urban Runoff/storm Sewers	Turbidity	No

Clear Filters

Assessment Documents

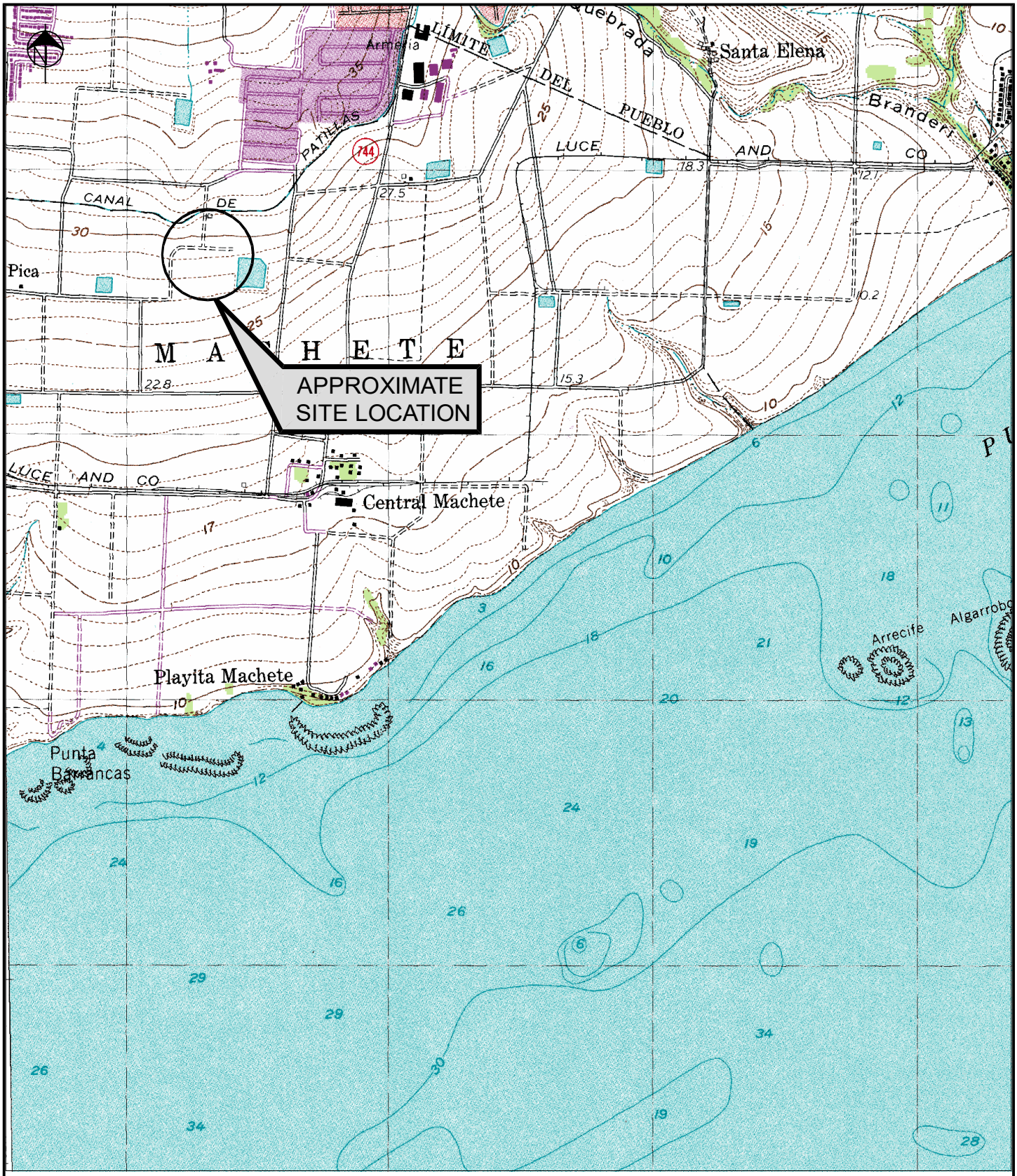
No documents are available

Plans to Restore Water Quality

What plans are in place to protect or restore water quality?

No plans specified for this waterbody.

Appendix B – Site Maps



SOURCE: USGS 7.5 MIN TOPOGRAPHIC MAP OF GUAYAMA QUADRANGLE, 1970 (PHOTOREVISED 1982)

SCALE: 1: 20,000

Caribe Environmental Services

STORMWATER POLLUTION PREVENTION PLAN
BRISAS DEL MAR VILLAGE (SECTION V)
ROAD PR–54, KM. 0.3 INT.
MACHETE WARD

GUAYAMA, PUERTO RICO

SITE LOCATION MAP

PROJECT NO.
23–0017

APPENDIX B–1

LEGEND:

- APPROXIMATE PROJECT SITE LIMITS
- APPROXIMATE MAN-MADE DRY CHANNEL
- EXISTING DRAINAGE SWALE
- ESTIMATED RUNOFF
- DA-1 DRAINAGE AREA IDENTIFICATION
- ESTIMATED DRAINAGE AREA BOUNDARY OF THE AREA WHERE SOIL WILL BE DISTURBED
- SILT FENCE / SEDIMENT FILTER (SEE SKETCH NO. 2, APPENDIX B-4)
- EARTH BERM, OR DIVERSION DITCH TO REDIRECT RUNOFFS (SEE SKETCH NO. 7A & 7B, APPENDIX B-4)
- INLET PROTECTION (SEE SKETCH NO. 4, APPENDIX B-4 & APPENDIX B-5)
- TIRE WASH AREA (SEE SKETCH NO. 6, APPENDIX B-4)
- STABILIZED CONSTRUCTION ENTRANCE (SEE SKETCH NO. 1, APPENDIX B-4)
- SOIL STORAGE AREA (THE LOCATION OF SOIL STORAGE AREAS IS A DYNAMIC PROCESS AND MAY NEED TO CHANGE AS PROJECT PROGRESS. HOWEVER THE SOIL STORAGE AREAS WILL BE PROTECTED AS SHOWN
- APPROXIMATE STAGING OF EQUIPMENT AND MATERIAL STORAGE
- CEMENT TRUCK WASHING PIT
- SPILL KITS

NOTES:

IF NEEDED, FIRE HYDRANT FLUSHING WILL BE CONDUCTED AT FIRE HYDRANTS LOCATED ALONG THE PROJECT.

MINIMAL LANDSCAPE IRRIGATION WILL BE CONDUCTED WHEN SITE GRASS IS SEEDED.

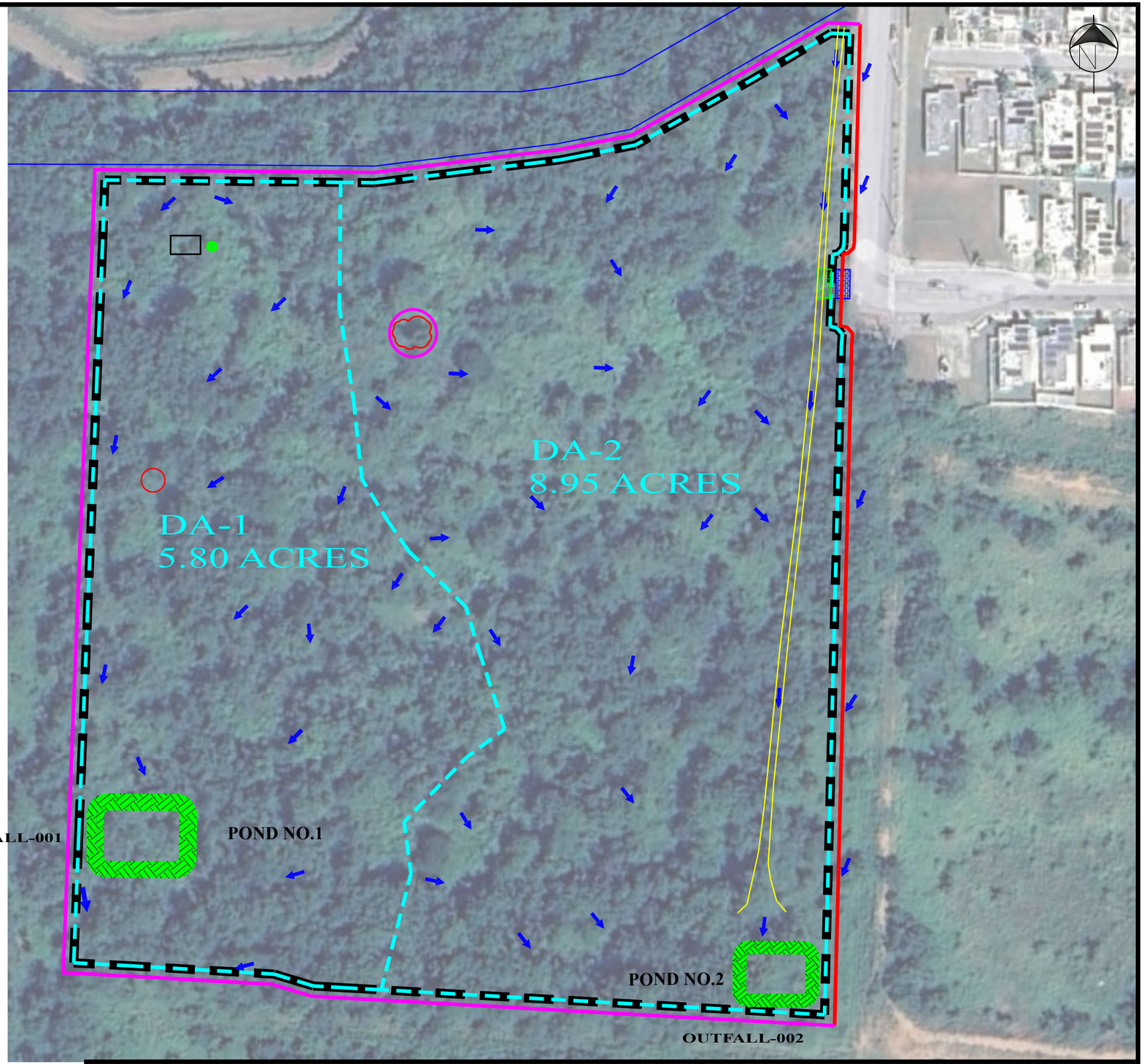
AS NEEED, A TANKER TRUCK WILL BE USED FOR PROVIDING IRRIGATION TO EXPOSED AREAS OF THE PROJECT TO PROVIDE DUST CONTROL

POND NO.1

(SEE SKETCH NO. 5A, 5B, 5C, APPENDIX B-4)
VOLUME NEEDED = 1.22 ACRE-FT
TOP LENGTH = 115 FEET
TOP WIDTH = 85 FEET
DEPTH = 11.5 FEET
SIDE SLOPES = 2H:1V

POND NO.2

(SEE SKETCH NO. 5A, 5B, 5C, APPENDIX B-4)
VOLUME NEEDED = 0.74 ACRE-FT
TOP LENGTH = 96 FEET
TOP WIDTH = 69.5 FEET
DEPTH = 7.5 FEET
SIDE SLOPES = 2H:1V



SOURCE: GOOGLE EARTH PRO AERIAL PHOTO MARCH 11, 2023 AND SITE VISIT CONDUCTED BY CES PERSONNEL ON AUGUST 4, 2022

Caribe Environmental Services

STORMWATER POLLUTION PREVENTION PLAN
BRISAS DEL MAR VILLAGE (SECTION V)
ROAD PR-54, KM. 0.3 INT.
MACHETE WARD

GUAYAMA, PUERTO RICO

EXISTING CONDITIONS AND APPROXIMATE LOCATION OF STORMWATER CONTROLS

PROJECT NO.
23-0017

APPENDIX B-2

LEGEND:

- APPROXIMATE PROJECT SITE LIMITS
- APPROXIMATE MAN–MADE DRY CHANNEL
- ESTIMATED RUNOFF
- DA-1 DRAINAGE AREA IDENTIFICATION
- ESTIMATED DRAINAGE AREA BOUNDARY OF THE AREA WHERE SOIL WILL BE DISTURBED
- SILT FENCE / SEDIMENT FILTER (SEE SKETCH NO. 2, APPENDIX B–4)
- EARTH BERM, OR DIVERSION DITCH TO REDIRECT RUNOFFS (SEE SKETCH NO. 7A & 7B, APPENDIX B–4)
- INLET PROTECTION (SEE SKETCH NO. 4, APPENDIX B–4 & APPENDIX B–5)
- TIRE WASH AREA (SEE SKETCH NO. 6, APPENDIX B–4)
- STABILIZED CONSTRUCTION ENTRANCE (SEE SKETCH NO. 1, APPENDIX B–4)
- SOIL STORAGE AREA (THE LOCATION OF SOIL STORAGE AREAS IS A DYNAMIC PROCESS AND MAY NEED TO CHANGE AS PROJECT PROGRESS. HOWEVER THE SOIL STORAGE AREAS WILL BE PROTECTED AS SHOWN
- APPROXIMATE STAGING OF EQUIPMENT AND MATERIAL STORAGE
- SEDIMENT TRAP (SEE SKETCH NO. 3)
- CEMENT TRUCK WASHING PIT
- SPILL KITS

NOTES:

IF NEEDED, FIRE HYDRANT FLUSHING WILL BE CONDUCTED AT FIRE HYDRANTS LOCATED ALONG THE PROJECT.

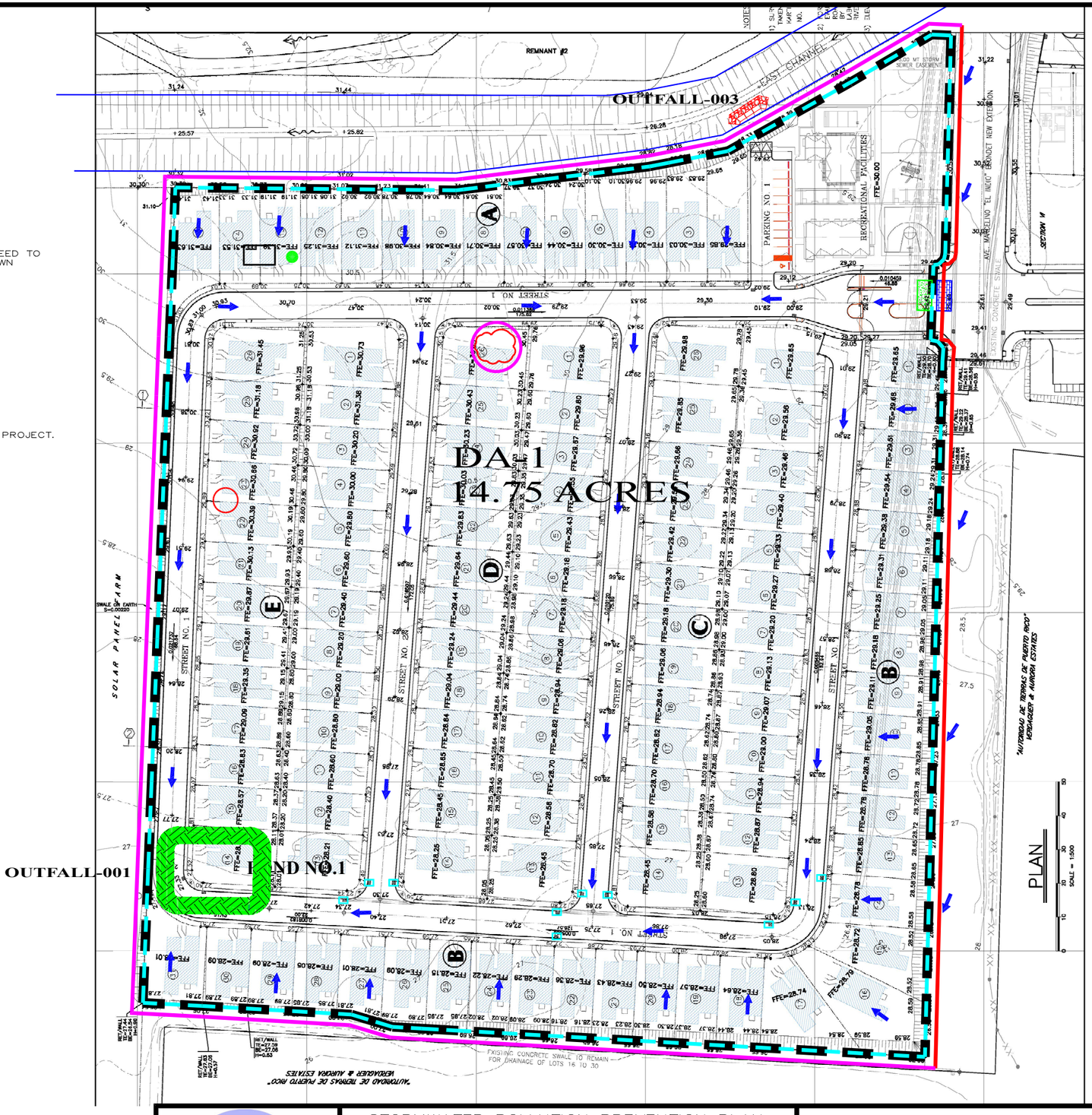
MINIMAL LANDSCAPE IRRIGATION WILL BE CONDUCTED WHEN SITE GRASS IS SEEDED.

AS NEEED, A TANKER TRUCK WILL BE USED FOR PROVIDING IRRIGATION TO EXPOSED AREAS OF THE PROJECT TO PROVIDE DUST CONTROL

POND NO.1

(SEE SKETCH NO. 5A, 5B, 5C, APPENDIX B–4)
VOLUME NEEDED = 1.22 ACRE–FT
TOP LENGTH = 115 FEET
TOP WIDTH = 85 FEET
DEPTH = 11.5 FEET
SIDE SLOPES = 2H:1V

SOURCE: SITE PLAN PREPARED BY AAF ENGINEERING JUNE2020



Caribe Environmental Services

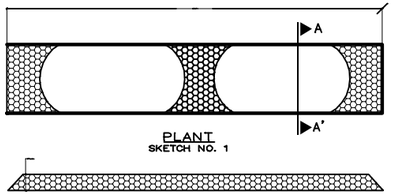
STORMWATER POLLUTION PREVENTION PLAN
BRISAS DEL MAR VILLAGE (SECTION V)
ROAD PR–54, KM. 0.3 INT.
MACHETE WARD

GUAYAMA, PUERTO RICO

PROPOSED CONDITIONS AND APPROXIMATE LOCATION OF STORMWATER CONTROLS

PROJECT NO.
23–0017

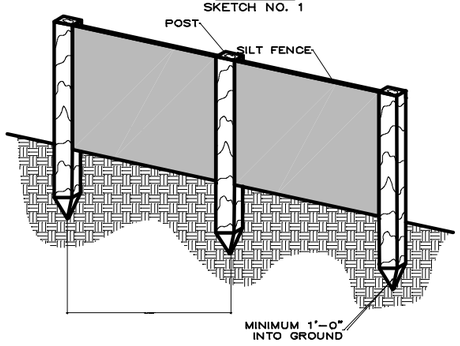
APPENDIX B–3



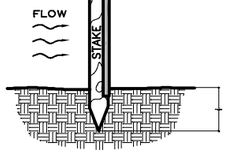
PLANT
SKETCH NO. 1

SECTION A–A'
SKETCH NO. 1

STABILIZED CONSTRUCTION ENTRANCE DETAILS
SKETCH NO. 1

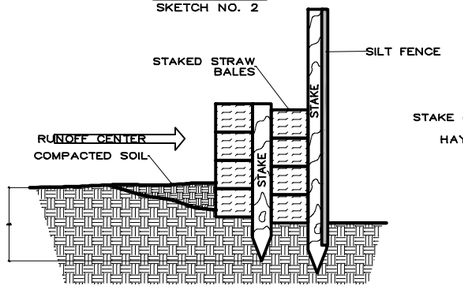


FRONT VIEW
SKETCH NO. 2

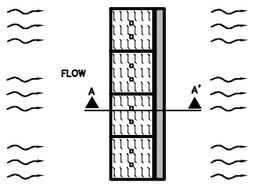


CROSS SECTION
SKETCH NO. 2

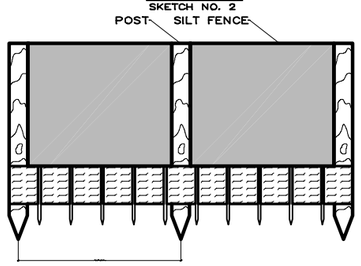
SILT FENCE
SKETCH NO. 2



SECTION A–A'
SKETCH NO. 2

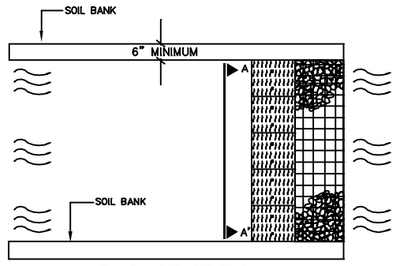


PLANT–SILT FENCE REINFORCED
SKETCH NO. 2

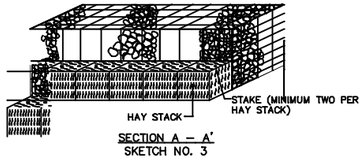


FRONT VIEW
SKETCH NO. 2

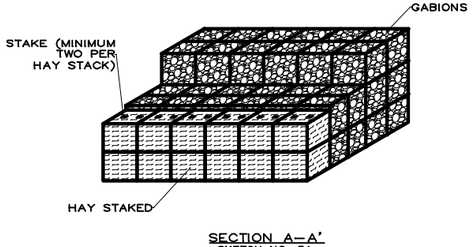
SILT FENCE
SKETCH NO. 2



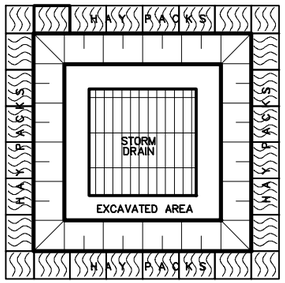
PLANT – SEDIMENT TRAP
SKETCH NO. 3



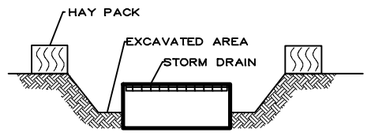
SECTION A – A'
SKETCH NO. 3



SECTION A–A'
SKETCH NO. 5A



PLAN
SKETCH NO. 4



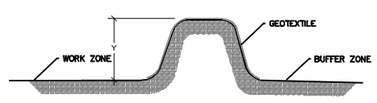
SECCION A –A'

DETAIL
SKETCH NO. 4

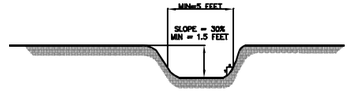
STORM DRAIN PROTECTION
SKETCH NO. 4



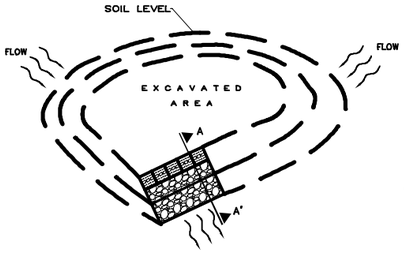
DIVERSION DITCH OR BERM
SKETCH NO. 7A



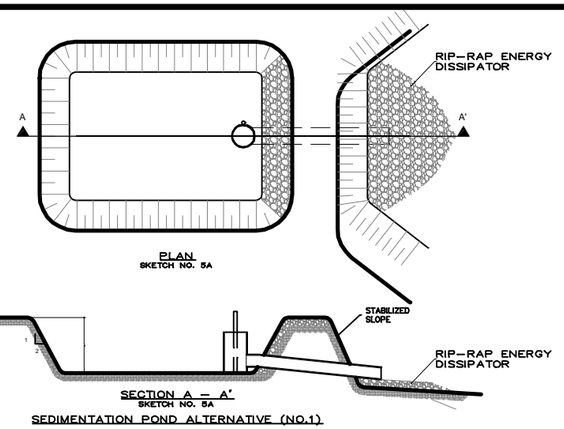
DIVERSION DIKE
SKETCH NO. 7B



CONVEYANCE STRUCTURE
SKETCH NO. 8



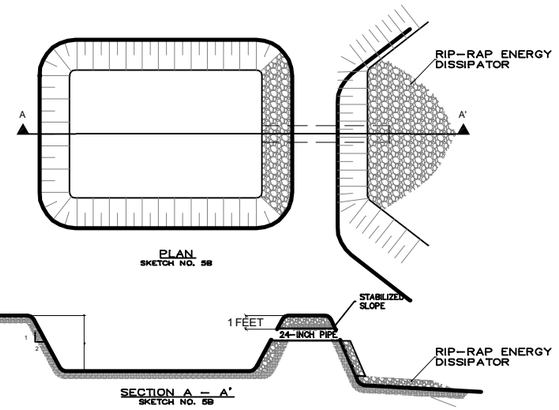
PLANT: SEDIMENTATION POND



PLAN
SKETCH NO. 5A

SECTION A – A'
SKETCH NO. 5A

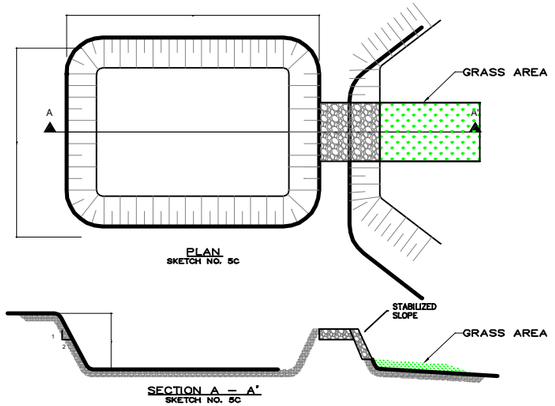
SEDIMENTATION POND ALTERNATIVE (NO.1)



PLAN
SKETCH NO. 5B

SECTION A – A'
SKETCH NO. 5B

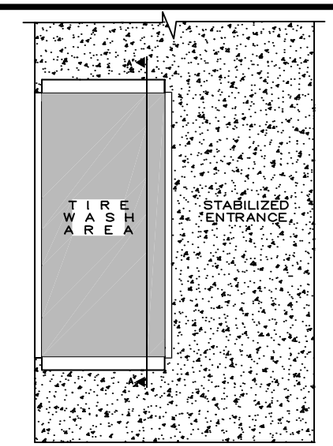
SEDIMENTATION POND ALTERNATIVE (NO.2)



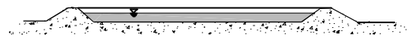
PLAN
SKETCH NO. 5C

SECTION A – A'
SKETCH NO. 5C

SEDIMENTATION POND ALTERNATIVE (NO.3)

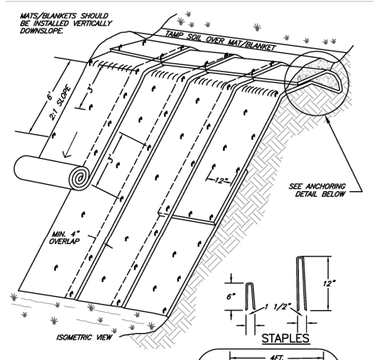


PLAN
SKETCH NO. 6



SECTION A – A'
SKETCH NO. 6

TIRE WASH AREA
SKETCH NO. 6



TYPICAL SLOPE SOIL STABLIZATION

ANCHORING DETAIL

NOT TO SCALE

ISOMETRIC: EROSION BLANKET INSTALLATION
SKETCH NO. 9

SOURCE: https://www.portland.gov/sites/default/files/2021/4-5c-erosion-control-

NOTE: NOT FOR CONSTRUCTION PURPOSES.
NOT TO SCALE

Caribe Environmental Services

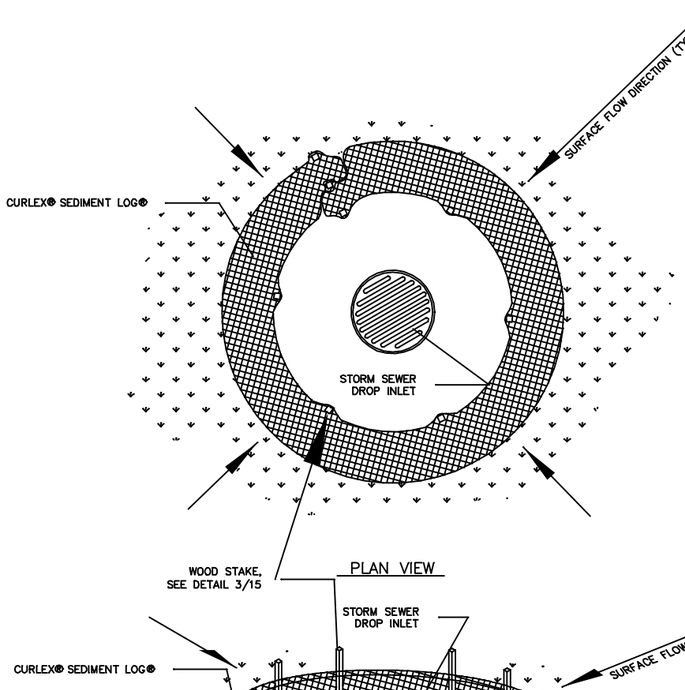
STORMWATER POLLUTION PREVENTION PLAN
BRISAS DEL MAR VILLAGE (SECTION V)
ROAD PR–54, KM. 0.3 INT.
MACHETE WARD

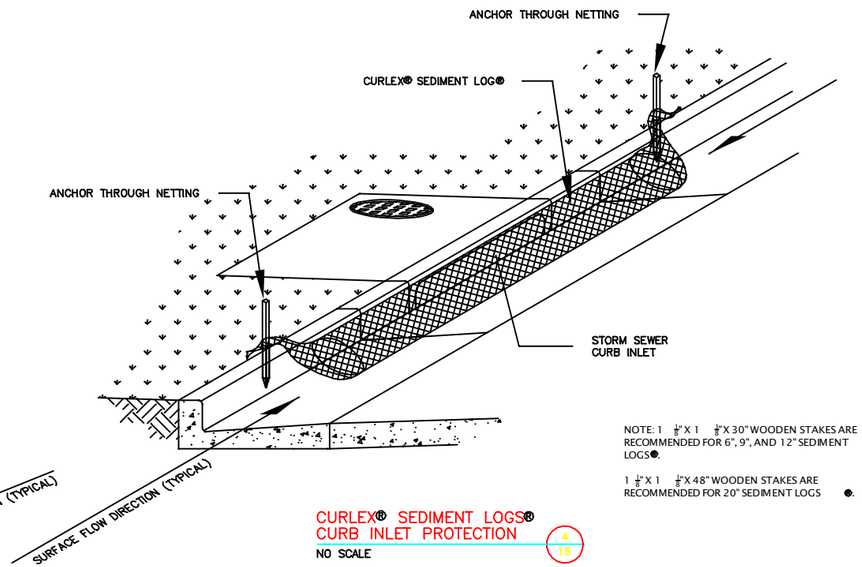
GUAYAMA, PUERTO RICO

CONCEPTUAL DESING OF EROSION AND SEDIMENTATION CONTROL MEASURES

PROJECT NO.
23–0017

APPENDIX B–4





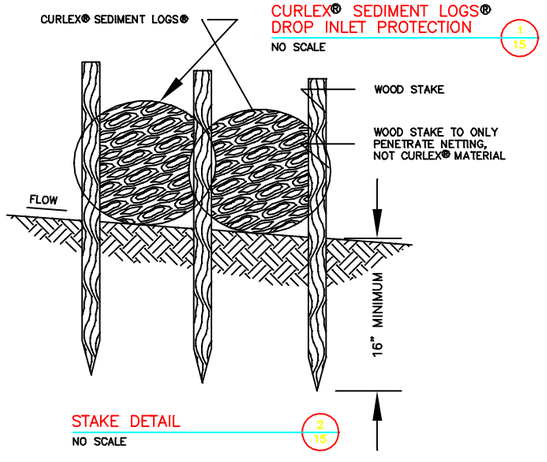
CURLEX® SEDIMENT LOGS®
CURB INLET PROTECTION
NO SCALE
4/15

NOTE: 1 ½" X 1 ½" X 30" WOODEN STAKES ARE RECOMMENDED FOR 6", 9", AND 12" SEDIMENT LOGS●.

1 ½" X 1 ½" X 48" WOODEN STAKES ARE RECOMMENDED FOR 20" SEDIMENT LOGS ●.

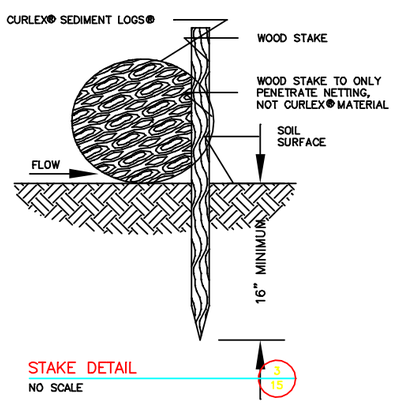






CURLEX® SEDIMENT LOGS®
DROP INLET PROTECTION
NO SCALE
1/15

STAKE DETAIL
NO SCALE
2/15



STAKE DETAIL
NO SCALE
3/15

SKETCH NO. 4: CURLEX SEDIMENT LOG INLET PROTECTION ALTERNATIVE

INSTALLATION AND MAINTENANCE INSTRUCTIONS

Installation:

1. The empty Ultra—GrateGuard™ unit should be placed over the grate as the grate stands on end.
2. For Oil and Sediment Model; to install or replace absorbent pillow, place absorbent pillow in pouch, on the bottom (below—grade side) of the unit. As desired, or required, attach absorbent pillow to provided tether loop.
3. Tuck the enclosure flap inside to completely enclose the grate.
4. Holding the lifting devices, being careful not to damage the sewn fabric unit, insert the grate into its frame street side edge first then lower back into place.
5. If the unit is not installed in this manner, it will not function properly. The user is solely responsible for compliance with installation laws and regulations. The manufacturer or seller assumes no responsibility for proper or improper installation.

Maintenance and Disposal:

1. Remove all accumulated sediment and debris from surface and vicinity of unit after each storm event. If the unit is not maintained in this manner, it will not function properly.
2. For Oil and Sediment Model; remove and replace absorbent when near saturation. If the absorbent is not replaced in this manner, the unit will not function properly.
3. Dispose of unit and/or absorbent in accordance with applicable Federal, state and local environmental laws and regulations. The user is solely responsible for compliance with maintenance and disposal laws and regulations. The manufacturer or seller assumes no responsibility for proper or improper maintenance or disposal.

SKETCH NO. 5: ULTRA—GRATE GUARD ® ALTERNATIVE
(https://spillcontainment.com/products/ultra—grate—guard/))

SOURCE: HTTP://WWW.AMERICANEXCELSIOR.COM/EROSIONCONTROL/LIBRARY.PHP

Appendix C – Endangered Species Documentation

United States Department of the Interior

FISH & WILDLIFE SERVICE
Boqueron Field Office
Carr. 301, KM 5.1, Bo. Corozo
P.O. Box 491
Boqueron, PR 00622

JAN 04 2007

Mr. (Ms.) Dilip J. Shah
Architect
KARTIK, S.E.
251 Chile Street, 2nd floor
Hato Rey, Puerto Rico 00917

Re: Brisas del Mar IV, V y VI

Dear Applicant:

We have reviewed your request for information about endangered and threatened species and their habitats for the above referenced project. Our comments are provided under the Endangered Species Act (Act) of 1973, as amended (87 Stat. 884, as amended; 16 United States Code 1531 et seq.).

Based on a review of the information provided and that available in this office, we do not have records of threatened or endangered species in the project area. Therefore, we do not recommend further consultation for the proposed activity. Nevertheless, if the project is modified or if information on impacts to listed species becomes available this office should be contacted concerning the need for the initiation of consultation under section 7 of the Act.

Sincerely yours,

Edwin E. Muñiz
Field Supervisor
Caribbean Field Office

Appendix D – Historic Preservation Documentation

GOVERNMENT OF PUERTO RICO
STATE HISTORIC PRESERVATION OFFICE
Executive Director I Carlos A. Rubio-Cancela I carubio@prshpo.pr.gov

June 14, 2022

Lauren Bair Poche
HORNE
10000 Perkins Rowe, Suite 610, Bldg G
Baton Rouge, LA 70810

SHPO 12-09-21-02 CONSTRUCTION OF 123 UNITS OF LOW-INCOME HOUSING, PR-54, KM 0.3, MACHETE WARD, GUAYAMA, PUERTO RICO / TPID: 442-000-001-47

Dear Ms. Bair,

We have reviewed the additional documentation submitted for the above referenced project. We concur that the South Coast Irrigation District is eligible for listing on the National Register of Historic Places and that implementation of the undertaking meets the criteria of adverse effect by causing damage or destruction to an element of this district. In accordance with Stipulation II.C.6.a of the FEMA / Puerto Rico Department of Housing programmatic agreement, as amended in 2019, we agree with the proposed treatment of recording "Element 1" by means of Level III HAER standard documentation. We also agree with the implementation of an archaeological monitoring and protection plan for elements 2 to 5.

If you have any questions regarding our comments, please do not hesitate to contact our Office.

Sincerely,

Carlos A. Rubio-Cancela
State Historic Preservation Officer

CARC/GMO/MB

Appendix E – Rainfall Gauge Recording

Use the table below to record the rainfall gauge readings at the beginning and end of each work day. An example table follows.

Month/Year			Month/Year			Month/Year		
Day	Start time	End time	Day	Start time	End time	Day	Start time	End time
1			1			1		
2			2			2		
3			3			3		
4			4			4		
5			5			5		
6			6			6		
7			7			7		
8			8			8		
9			9			9		
10			10			10		
11			11			11		
12			12			12		
13			13			13		
14			14			14		
15			15			15		
16			16			16		
17			17			17		
18			18			18		
19			19			19		
20			20			20		
21			21			21		
22			22			22		
23			23			23		
24			24			24		
25			25			25		
26			26			26		
27			27			27		
28			28			28		
29			29			29		
30			30			30		
31			31			31		

Example Rainfall Gauge Recording

April 2022			May 2022			June 2022		
Day	7:00 am	4:00 pm	Day	7:00 am	4:00 pm	Day	7:00 am	4:00 pm
1	--	--	1	0.2	0	1	0	0.4
2	--	--	2	0	0	2	0	0
3	0	0	3	0.1	0.3	3	--	--
4	0	0.3	4	0	0	4	--	--
5	0	0	5	0	0	5	0	0

In this example (for only partial months), 0.25-inch rainfall inspections would have been conducted on April 4 and June 1.

Appendix F – Site Inspection Form

Section A – General Information (If necessary, complete additional inspection reports for each separate inspection location.)	
Inspector Information	
Inspector Name:	**Title:**
Company	**Email:**
Address:	**Phone Number:**
Inspection Details	
Inspection Date:	**Inspection Location:**
Inspection Start Time:	**Inspection End Time:**
Current Phase of Construction:	**Weather Conditions During Inspection:**

Did you determine that any portion of your site was unsafe for inspection per CGP Part 4.5? ☐ Yes ☐ No

If "Yes," provide the following information:

Location of unsafe conditions:

The conditions that prevented you inspecting this location:

Indicate the required inspection frequency: (Check all that apply. You may be subject to different inspection frequencies in different areas of the site.)

Standard Frequency (CGP Part 4.2):

☐ At least once every 7 calendar days; **OR**

☐ Once every 14 calendar days *and* within 24 hours of the occurrence of either:

- A storm event that produces 0.25 inches or more of rain within a 24-hour period, or
- A snowmelt discharge from a storm event that produces 3.25 inches or more of snow within a 24-hour period

Increased Frequency (CGP Part 4.3.1) (If site discharges to sediment or nutrient-impaired waters or to waters designated as Tier 2, Tier 2.5, or Tier 3):

☒ Once every 7 calendar days *and* within 24 hours of the occurrence of either:

- A storm event that produces 0.25 inches or more of rain within a 24-hour period, or
- A snowmelt discharge from a storm event that produces 3.25 inches or more of snow within a 24-hour period

Reduced Frequency (CGP Part 4.4):

☐ For stabilized areas: Twice during first month, no more than 14 calendar days apart; then once per month after first month until permit coverage is terminated

Was this inspection triggered by a storm event producing 0.25 inches or more of rain within a 24-hour period? ☐ Yes ☐ No

If "Yes," how did you determine whether the storm produced 0.25 inches or more of rain?

- ☐ On-site rain gauge
- ☐ Weather station representative of site.
  Weather station location:

Total rainfall amount that triggered the inspection (inches):

Section B – Condition and Effectiveness of Erosion and Sediment (E&S) Controls (CGP Part 2.2)					
Type and Location of E&S Control	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
1. Silt Fence/Sediment Filter	☐ Yes ☐ No		☐ Yes ☐ No		
2. Earth Berm/Regrading	☐ Yes ☐ No		☐ Yes ☐ No		
3. Inlet Protection	☐ Yes ☐ No		☐ Yes ☐ No		
4. Stabilized Construction Entrance	☐ Yes ☐ No		☐ Yes ☐ No		
5. Tire Wash Area	☐ Yes ☐ No		☐ Yes ☐ No		
6. Stock Pile Storage Area Protection	☐ Yes ☐ No		☐ Yes ☐ No		
7. Material Storage Area Protection	☐ Yes ☐ No		☐ Yes ☐ No		
8. Sediment Trap	☐ Yes ☐ No		☐ Yes ☐ No		
9. Tanker Truck	☐ Yes ☐ No		☐ Yes ☐ No		
10. Entrance area	☐ Yes ☐ No		☐ Yes ☐ No		
11. Outfall-001	☐ Yes ☐ No		☐ Yes ☐ No		
12. Outfall-002	☐ Yes ☐ No		☐ Yes ☐ No		
13. Outfall-003	☐ Yes ☐ No		☐ Yes ☐ No		

Section B – Condition and Effectiveness of Erosion and Sediment (E&S) Controls (CGP Part 2.2)					
Type and Location of E&S Control	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
14. Pond No.1	☐ Yes ☐ No		☐ Yes ☐ No		
15. Pond No.2	☐ Yes ☐ No		☐ Yes ☐ No		
16. Cement Truck Washing	☐ Yes ☐ No		☐ Yes ☐ No		
17.	☐ Yes ☐ No		☐ Yes ☐ No		
18.	☐ Yes ☐ No		☐ Yes ☐ No		
19.					
If the same routine maintenance was found to be necessary three or more times for the same control at the same location (including this occurrence), follow the corrective action requirements and record the required information in your corrective action log, or describe here why you believe the specific condition should still be addressed as routine maintenance:					

[1] Routine maintenance includes minor repairs or other upkeep performed to ensure that the site's stormwater controls remain in effective operating condition, not including significant repairs or the need to install a new or replacement control. Routine maintenance is also required for specific conditions: (1) for perimeter controls, whenever sediment has accumulated to half or more the above-ground height of the control (CGP Part 2.2.3.c.i); (2) where sediment has been tracked-out from the site onto paved roads, sidewalks, or other paved areas (CGP Part 2.2.4.d); (3) for inlet protection measures, when sediment accumulates, the filter becomes clogged, and/or performance is compromised (CGP Part 2.2.10.b); and (4) for sediment basins, as necessary to maintain at least half of the design capacity of the basin (CGP Part 2.2.12.f)

[2] Corrective actions are triggered only for specific conditions (CGP Part 5.1):

1. A stormwater control needs a significant repair or a new or replacement control is needed, or, in accordance with Part 2.1.4.c, you find it necessary to repeatedly (i.e., three (3) or more times) conduct the same routine maintenance fix to the same control at the same location (unless you document in your inspection report under Part 4.7.1.c that the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix under 2.1.4); or
2. A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or
3. Your discharges are not meeting applicable water quality standards; or
4. A prohibited discharge has occurred (see CGP Part 1.3); or
5. During the discharge from site dewatering activities:
   a. The weekly average of your turbidity monitoring results exceeds the 50 NTU benchmark (or alternate benchmark if approved by EPA pursuant to Part 3.3.2.b); or

b. You observe or you are informed by EPA, State, or local authorities of the presence of the conditions specified in Part 4.6.3.e.

[3] If a condition on your site requires a corrective action, you must also fill out a corrective action log found at https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates. See CGP Part 5.4 for more information.

Section C – Condition and Effectiveness of Pollution Prevention (P2) Practices and Controls (CGP Part 2.3)					
Type and Location of P2 Practices and Controls	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
1. Provide containment systems such as drip pans, spill containment pallets or absorbent pads to any vehicle or machinery leaking located within the project site	☐ Yes ☐ No		☐ Yes ☐ No		
2. Dispose of or recycle oil and oily wastes in accordance with federal, state, tribal, or local requirements	☐ Yes ☐ No		☐ Yes ☐ No		
3. Clean up spills or contaminated surfaces immediately, using dry clean up measures where possible, and eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge	☐ Yes ☐ No		☐ Yes ☐ No		
4. Do not clean surfaces by hosing the area down	☐ Yes ☐ No		☐ Yes ☐ No		
5. No washing of vehicles and/or equipment is expected to be conducted at the project site (except at tire wash area)	☐ Yes ☐ No		☐ Yes ☐ No		
6. Minimize the exposure to storm water of any of the products, materials, or wastes that are present at the site	☐ Yes ☐ No		☐ Yes ☐ No		

Section C – Condition and Effectiveness of Pollution Prevention (P2) Practices and Controls (CGP Part 2.3)					
Type and Location of P2 Practices and Controls	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
7. Chemicals will be stored in water-tight containers, and will be provided with either (1) cover (e.g., plastic sheeting or temporary roofs) or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas (e.g., spill kits), or provide secondary containment (e.g., spill berms, decks, spill containment pallets)	☐ Yes ☐ No		☐ Yes ☐ No		
8. Fuel containers provide with secondary containment	☐ Yes ☐ No		☐ Yes ☐ No		
9. Store hazardous or toxic waste separate from construction and domestic waste	☐ Yes ☐ No		☐ Yes ☐ No		
10. Clean up and dispose of waste in designated waste containers	☐ Yes ☐ No		☐ Yes ☐ No		
11. Clean up immediately if containers overflow	☐ Yes ☐ No		☐ Yes ☐ No		
12. Keep waste container lids closed when not in use and close lids at the end of the business day for those containers that are actively used throughout the day. For waste containers that	☐ Yes ☐ No		☐ Yes ☐ No		

Section C – Condition and Effectiveness of Pollution Prevention (P2) Practices and Controls (CGP Part 2.3)					
Type and Location of P2 Practices and Controls	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
do not have lids, provide either cover					
13. Portable toilets will be located away from waters of the U.S. and stormwater inlets or conveyances and they will be secured to prevent tip or knock over	☐ Yes ☐ No		☐ Yes ☐ No		
14. Direct all wash waters into a leak-proof container or leak-proof pit so that no overflows can occur due to inadequate sizing or precipitation	☐ Yes ☐ No		☐ Yes ☐ No		
15. Conduct any washout or cleanout activities as far away as possible from surface waters and storm water inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas	☐ Yes ☐ No		☐ Yes ☐ No		
16. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes	☐ Yes ☐ No		☐ Yes ☐ No		
17. Minimize discharges of fertilizers containing nitrogen or phosphorus	☐ Yes ☐ No		☐ Yes ☐ No		

Section C – Condition and Effectiveness of Pollution Prevention (P2) Practices and Controls (CGP Part 2.3)					
Type and Location of P2 Practices and Controls	**Conditions Requiring Routine Maintenance?[1]**	**If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?**	**Conditions Requiring Corrective Action?[2, 3]**	**Date on Which Condition First Observed (If Applicable)?**	**Description of Conditions Observed**
If the same routine maintenance was found to be necessary three or more times for the same control at the same location (including this occurrence), follow the corrective action requirements and record the required information in your corrective action log, or describe here why you believe the specific condition should still be addressed as routine maintenance:					

Section D – Stabilization of Exposed Soil (CGP Part 2.2.14)					
Specific Location That Has Been or Will Be Stabilized	**Stabilization Method and Applicable Deadline**	**Stabilization Initiated?**	**Final Stabilization Criteria Met?**	**Final Stabilization Photos Taken?**	**Notes**
1. Slope Stabilization		☐ Yes ☐ No If "Yes," date initiated:	☐ Yes ☐ No If "Yes," date criteria met:	☐ Yes ☐ No	
2. Roads		☐ Yes ☐ No If "Yes," date initiated:	☐ Yes ☐ No If "Yes," date criteria met:	☐ Yes ☐ No	
3. Buildings		☐ Yes ☐ No If "Yes," date initiated:	☐ Yes ☐ No If "Yes," date criteria met:	☐ Yes ☐ No	
4. Landscaping		☐ Yes ☐ No If "Yes," date initiated:	☐ Yes ☐ No If "Yes," date criteria met:	☐ Yes ☐ No	
5.		☐ Yes ☐ No If "Yes," date initiated:	☐ Yes ☐ No If "Yes," date criteria met:	☐ Yes ☐ No	

Section E – Description of Discharges (CGP Part 4.6.2) (Insert additional rows if needed)	
Was a discharge (not including dewatering) occurring from any part of your site at the time of the inspection?[4] ☐ Yes ☐ No **If "Yes," for each point of discharge, document the following:** • The visual quality of the discharge. • The characteristics of the discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants. • Signs of the above pollutant characteristics that are visible from your site and attributable to your discharge in receiving waters or in other constructed or natural site drainage features.	
Discharge Location	**Observations**
1.	
2.	
3.	
4.	
5.	

[4] If a dewatering discharge was occurring, you must conduct a dewatering inspection pursuant to CGP Part 4.3.2 and complete a separate dewatering inspection report.

Bird Group, LLC

Section F – Signature and Certification (CGP Part 4.7.2) Bird Group, LLC	
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	
MANDATORY: Signature of Operator or "Duly Authorized Representative:"	
Signature:	**Date:**
Printed Name:	**Affiliation:**

Brisas del Mar Village, LLC

Section F – Signature and Certification (CGP Part 4.7.2) Brisas del Mar Village, LLC	
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	
MANDATORY: Signature of Operator or "Duly Authorized Representative:"	
Signature:	**Date:**
Printed Name:	**Affiliation:**

Appendix G –Corrective Action Log

2022 CGP Corrective Action Log
Project Name: __ Brisas del Mar Village (Section V)_____
NPDES ID Number: _____

Section A – Individual Completing this Log	
Name:	**Title:**
Company Name:	**Email:**
Address:	**Phone Number:**
Section B – Details of the Problem (CGP Part 5.4.1.a) Complete this section within 24 hours of discovering the condition that triggered corrective action.	
Date problem was first identified:	**Time problem was first identified**:
What site conditions triggered this corrective action? *(Check the box that applies. See instructions for a description of each triggering condition (1 thru 6).)* ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5a ☐ 5b ☐ 6	
Specific location where problem identified:	
Provide a description of the specific condition that triggered the need for corrective action and the cause (if identifiable):	
Section C – Corrective Action Completion (CGP Part 5.4.1.b) Complete this section within 24 hours after completing the corrective action.	
For site condition # 1, 2, 3, 4, or 6 (those not related to a dewatering discharge) confirm that you met the following deadlines (CGP Part 5.2.1):	
☐ Immediately took all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events. **AND**	
☐ Completed corrective action by the close of the next business day, unless a new or replacement control, or significant repair, was required. **OR**	
☐ Completed corrective action within seven (7) calendar days from the time of discovery because a new or replacement control, or significant repair, was necessary to complete the installation of the new or modified control or complete the repair. **OR**	
☐ It was infeasible to complete the installation or repair within 7 calendar days from the time of discovery. Provide the following additional information: Explain why 7 calendar days was infeasible to complete the installation or repair:	

Provide your schedule for installing the stormwater control and making it operational as soon as feasible after the 7 calendar days:

For site condition # 5a, 5b, or 6 (those related to a dewatering discharge), confirm that you met the following deadlines:

- ☐ Immediately took all reasonable steps to minimize or prevent the discharge of pollutants until a solution could be implemented, including shutting off the dewatering discharge as soon as possible depending on the severity of the condition taking safety considerations into account.
- ☐ Determined whether the dewatering controls were operating effectively and whether they were causing the conditions.
- ☐ Made any necessary adjustments, repairs, or replacements to the dewatering controls to lower the turbidity levels below the benchmark or remove the visible plume or sheen.

Describe any modification(s) made as part of corrective action: (Insert additional rows below if applicable)	**Date of completion:**	**SWPPP update necessary?**	**If yes, date SWPPP was updated:**
1.		☐ Yes ☐ No	
2.		☐ Yes ☐ No	

Section D - Signature and Certification (CGP Part 5.4.2)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

MANDATORY: Signature of Operator or "Duly Authorized Representative:"

Signature:	**Date:**
Printed Name:	**Affiliation:**

General Instructions

This Corrective Action Log Template is provided to assist you creating a corrective action log that complies with the minimum reporting requirements of Part 5.4 of the EPA's Construction General Permit (CGP). For each triggering condition on your site, you will need to fill out a separate corrective action log.

The entire form must be completed to be compliant with the requirements of the permit. (Note: In Section C, if you do not need the number of rows provided in the corrective action log, you may delete these or cross them off. Alternatively, if you need more space to describe any modifications, you may insert additional rows in the electronic version of this form or use the bottom of the page in the field version of this form.)

If you are covered under a State CGP, this template may be helpful in developing a log that can be used for that permit; however, you will likely need to modify this form to meet the specific requirements of any State-issued permit. If your permitting authority requires you to use a specific corrective action log, you should not use this template.

Instructions for Section A

Individual completing this form Enter the name of the person completing this log. Include the person's contact information (title, affiliated company name, address, email, and phone number).

Instructions for Section B

You must complete Section B within 24 hours of discovering the condition that triggered corrective action. (CGP Part 5.4)

When was the problem first discovered?
Specify the date and time when the triggering condition was first discovered.

What site conditions triggered this corrective action? (CGP Parts 5.1 and 5.3)
Check the box corresponding to the numbered triggering condition below that applies to your site.

1. A stormwater control needs a significant repair or a new or replacement control is needed, or, in accordance with Part Error! Reference source not found., you find it necessary to repeatedly (i.e., 3 or more times) conduct the same routine maintenance fix to the same control at the same location (unless you document in your inspection report under Part Error! Reference source not found. that the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix under Part Error! Reference source not found.);
2. A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly;
3. Your discharges are not meeting applicable water quality standards;
4. A prohibited discharge has occurred (see Part 1.3);
5. During discharge from site dewatering activities:
   a. The weekly average of your turbidity monitoring results exceeds the 50 NTU benchmark (or alternate benchmark if approved by EPA pursuant to Part **Error! Reference source not found.**); or
   b. You observe or you are informed by EPA, State, or local authorities of the presence of any of the following at the point of discharge to a receiving water flowing through or immediately adjacent to your site and/or to constructed or natural site drainage features or storm drain inlets:
      - sediment plume
      - suspended solids
      - unusual color
      - presence of odor
      - decreased clarity
      - presence of foam
      - visible sheen on the water surface or visible oily deposits on the bottom or shoreline of the receiving water
6. EPA requires corrective action as a result of permit violations found during an inspection carried out under Part 4.8.

Provide a description of the problem (CGP Part 5.4.1.a)
Provide a summary description of the condition you found that triggered corrective action, the cause of the problem (if identifiable), and the specific location where it was found. Be as specific as possible about the location; it is recommended that you refer to a precise point on your site map.

Instructions for Section C

You must complete Section C within 24 hours after completing the correction action. (CGP Part 5.4)

Deadlines for completing corrective action for condition # 1, 2, 3, 4, or 6 (if not relating to a dewatering discharge) (CGP Part 5.2.1)
Check the box to confirm that you met the deadlines that apply to each triggering condition. You are always required to check the first box (i.e., Immediately took all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.). Only one of the next three boxes should be checked depending on the situation that applies to this corrective action.

Check the second box if the corrective action for this particular triggering condition does not require a new or replacement control, or a significant repair. These actions must be completed by the close of the next business day from the time of discovery of the condition.

Check the third box if the corrective action for this particular triggering condition requires a new or replacement control, or a significant repair. These actions must be completed by no later than seven calendar days from the time of discover of the condition.

Check the fourth box if the corrective action for this particular triggering condition requires a new or replacement control, or a significant repair, and if it is infeasible to complete the work within seven calendar days. Additionally, you will need to fill out the table below the checkbox that requires:

1. An explanation as to why it was infeasible to complete the installation or repair within seven calendar days of discovering the condition.
2. Provide the schedule you will adhere to for installing the stormwater control and making it operational as soon as feasible after the seventh day following discovery.

Note: Per Part 5.2.1.c, where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within seven calendar days of completing this work.

Deadlines for completing corrective action for condition # 5a, 5b, or 6 related to a dewatering discharge (CGP Part 5.2.2)
These deadlines apply to conditions relating to construction dewatering activities. Check the box to confirm that you met the deadlines that apply to each triggering condition. You are required to check all of the boxes in this section to indicate your compliance with the corrective action deadlines.

List of modification(s) to correct problem
Provide a list of modifications you completed to correct the problem.

Date of completion
Enter the date you completed the modification. The work must be completed by the deadline you indicated above.

SWPPP update necessary?
Check "Yes" or "No" to indicate if a SWPPP update is necessary consistent with Part 7.4.1.a in order to reflect changes implemented at your site. If "Yes," then enter the date you updated your SWPPP. The SWPPP updates must be made within seven calendar days of completing a corrective action. (CGP Part 5.2.1.c)

Instructions for Section D

Each corrective action log entry must be signed and certified following completion of Section D to be considered complete. (CGP Part 5.4.2)

Operator or "Duly Authorized Representative" – MANDATORY (CGP Appendix G Part G.11.2 and CGP Appendix H Section X)

At a minimum, the corrective action log must be signed by either (1) the person who signed the NOI, or (2) a duly authorized representative of that person. The following requirements apply:

If the signatory will be the person who signed the NOI for permit coverage, as a reminder, that person must be one of the following types of individuals:

- *For a corporation*: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- *For a partnership or sole proprietorship*: By a general partner or the proprietor, respectively.
- *For a municipality, State, Federal, or other public agency*: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

If the signatory will be a duly authorized representative, the following requirements must be met:

- The authorization is made in writing by the person who signed the NOI (see above);
- The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
- The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.

Sign, date and print your name and affiliation.

Contractor or Subcontractor - OPTIONAL

Where you rely on a contractor or subcontractor to complete this log and the associated corrective action, you should consider requiring the individual(s) to sign and certify each log entry. Note that this does not relieve you, the permitted operator, of the requirement to sign and certify the log as well. If applicable, sign, date, and print your name and affiliation.

Recordkeeping

Logs must be retained for at least 3 years from the date your permit coverage expires or is terminated. (CGP Part 5.4.4)

Keep copies of your signed corrective action log entries at the site or at an easily accessible location so that it can be made immediately available at the time of an on-site inspection or upon request by EPA. (CGP Part 5.4.3) Include a copy of the corrective action log in your SWPPP. (CGP Part 7.2.7.e)

Note

While EPA has made every effort to ensure the accuracy of all instructions contained in this template, it is the permit, not this template, that determines the actual obligations of regulated construction stormwater discharges. In the event of a conflict between this template and any corresponding provision of the CGP, you must abide by the requirements in the permit. EPA welcomes comments on this Corrective Action Log Template at any time and will consider those comments in any future revision. You may contact EPA for CGP-related inquiries at cgp@epa.gov

Appendix H –Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the EPA's Construction General Permit (CGP), at the _____Brisas del Mar Village (Section V)_____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

Mr. Carlos L. García Muñiz	(name of person)
Senior Project Manager	(position)
BRISAS DEL MAR VILLAGE, LLC	(company)
P.O. Box 2128	(address)
San Juan, PR 00922-2128	(city, State, zip)
787-758-6455	(phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix G of EPA's CGP, and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix G.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix I –Training Documentation

Appendix J –SWPPP Amendment Log

Instructions (see CGP Part 7.4):

- Create a log here of changes and updates to the SWPPP. You may use the table below to track these modifications.
- SWPPP modifications are required pursuant to CGP Part 7.4.1 in the following circumstances:
  - ✓ Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater controls, or other activities at your site that are no longer accurately reflected in your SWPPP (this includes changes made in response to corrective actions triggered under CGP Part 5);
  - ✓ To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
  - ✓ If inspections or investigations determine that SWPPP modifications are necessary for compliance with this permit;
  - ✓ Where EPA determines it is necessary to install and/or implement additional controls at your site in order to meet requirements of the permit;
  - ✓ To reflect any revisions to applicable Federal, State, Tribal, or local requirements that affect the stormwater control measures implemented at the site; and
  - ✓ If applicable, if a change in chemical treatment systems or chemically-enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	
		INSERT DATE	

Appendix K – Copy of 2022 CGP

National Pollutant Discharge Elimination System (NPDES)
Construction General Permit (CGP) for Stormwater Discharges from Construction Activities

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et. seq., (hereafter CWA), as amended by the Water Quality Act of 1987, P.L. 100-4, "operators" of construction activities (defined in Appendix A) that meet the requirements of Part 1.1 of this National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), are authorized to discharge pollutants in accordance with the effluent limitations and conditions set forth herein. Permit coverage is required from the "commencement of construction activities" (see Appendix A) until one of the conditions for terminating CGP coverage has been met (see Part 8.2).

This permit becomes effective on 12:00 am, February 17, 2022.

This permit and the authorization to discharge expire at 11:59pm, February 16, 2027.

Signed and issued this 18 day of January 2022

DEBORAH SZARO
Digitally signed by DEBORAH SZARO
Date: 2022.01.18 08:31:14 -05'00'

Deborah Szaro,
Acting Regional Administrator, EPA Region 1.

Signed and issued this 18 day of January 2022

JAVIER LAUREANO
Digitally signed by JAVIER LAUREANO
Date: 2022.01.18 11:21:16 -05'00'

Javier Laureano,
Director, Water Division, EPA Region 2.

Signed and issued this 18 day of January 2022

CARMEN GUERRERO PEREZ
Digitally signed by CARMEN GUERRERO PEREZ
Date: 2022.01.18 10:19:51 -04'00'

Carmen Guerrero-Perez,
Director, Caribbean Environmental Protection Division, EPA Region 2.

Signed and issued this 18 day of January 2022

CATHERINE LIBERTZ
Digitally signed by CATHERINE LIBERTZ
Date: 2022.01.18 12:05:24 -05'00'

Catherine A. Libertz,
Director, Water Division, EPA Region 3.

Signed and issued this 18 day of January 2022

JEANEANNE GETTLE
Digitally signed by JEANEANNE GETTLE
Date: 2022.01.18 13:09:48 -05'00'

Jeaneanne Gettle,
Director, Water Division, EPA Region 4.

Signed and issued this 18 day of January 2022

Digitally signed by TERA FONG
Date: 2022.01.18 13:03:49 -06'00'

Tera Fong,
Director, Water Division, EPA Region 5.

Signed and issued this 18 day of January 2022

CHARLES MAGUIRE
Digitally signed by CHARLES MAGUIRE
DN: c=US, o=U.S. Government, ou=Environmental Protection Agency, cn=CHARLES MAGUIRE, 0.9.2342.19200300.100.1.1=68001003650036
Date: 2022.01.18 14:06:55 -06'00'

Charles W. Maguire,
Director, Water Division, EPA Region 6.

Signed and issued this 18 day of January 2022

JEFFERY ROBICHAUD
Digitally signed by JEFFERY ROBICHAUD
Date: 2022.01.18 14:41:37 -06'00'

Jeffery Robichaud,
Director, Water Division, EPA Region 7.

Signed and issued this 18 day of January 2022

DARCY OCONNOR
Digitally signed by DARCY OCONNOR
Date: 2022.01.18 14:00:05 -07'00'

Darcy O'Connor,
Director, Water Division, EPA Region 8.

Signed and issued this 18 day of January 2022

TOMAS TORRES
Digitally signed by TOMAS TORRES
Date: 2022.01.18 13:30:16 -08'00'

Tomás Torres,
Director, Water Division, EPA Region 9.

Signed and issued this 18 day of January 2022

DANIEL OPALSKI
Digitally signed by DANIEL OPALSKI
Date: 2022.01.18 15:10:20 -08'00'

Daniel D. Opalski,
Director, Water Division, EPA Region 10.

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1 HOW TO OBTAIN COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT (CGP)

To be covered under this permit, you must meet the eligibility conditions and follow the requirements for obtaining permit coverage in this Part.

1.1 ELIGIBILITY CONDITIONS

1.1.1 You are an "operator" of a construction site for which discharges will be covered under this permit. For the purposes of this permit and in the context of stormwater discharges associated with construction activity, an "operator" is any party associated with a construction project that meets either of the following two criteria:

a. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

b. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Where there are multiple operators associated with the same project, all operators must obtain permit coverage.[1] Subcontractors generally are not considered operators for the purposes of this permit.

1.1.2 Your site's construction activities:

a. Will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale (as defined in Appendix A) that will ultimately disturb one or more acres of land; or

b. Have been designated by EPA as needing permit coverage under 40 CFR § 122.26(a)(1)(v) or 40 CFR § 122.26(b)(15)(ii);

1.1.3 Your site is located in an area where EPA is the permitting authority and where coverage under this permit is available (see Appendix B);

1.1.4 Discharges from your site are not:

a. Already covered by a different NPDES permit for the same discharge; or

b. In the process of having coverage under a different NPDES permit for the same discharge denied, terminated, or revoked.[2, 3]

1.1.5 You can demonstrate you meet one of the criteria in the Endangered Species Protection section of the Notice of Intent (NOI) that you submit for coverage under this permit, per Part 1.4, with respect to the protection of Federally listed endangered or threatened species and Federally designated critical habitat under the Endangered Species Act

[1] If the operator of a "construction support activity" (see Part 1.2.1c) is different than the operator of the main site, that operator must also obtain permit coverage. See Part 7.1 for clarification on the sharing of permit-related functions between and among operators on the same site and for conditions that apply to developing a SWPPP for multiple operators associated with the same site.

[2] Parts 1.1.4a and 1.1.4b do not include sites currently covered under the 2017 CGP that are in the process of obtaining coverage under this permit, nor sites covered under this permit that are transferring coverage to a different operator.

[3] Notwithstanding a site being made ineligible for coverage under this permit because it falls under the description of Parts 1.1.4a or 1.1.4b, above, EPA may waive the applicable eligibility requirement after specific review if it determines that coverage under this permit is appropriate.

(ESA). If the EPA Regional Office grants you a waiver from electronic reporting per Part 1.4.2, you must complete the ESA worksheet in Appendix D to demonstrate you meet one of the criteria and submit it with your paper NOI (Appendix I).

1.1.6 You have completed the screening process in Appendix E relating to the protection of historic properties; and

1.1.7 You have complied with all requirements in Part 9 imposed by the applicable State, Indian Tribe, or Territory in which your construction activities and/or discharge will occur.

1.1.8 For "new sources" (as defined in Appendix A) only:

a. EPA has not, prior to authorization under this permit, determined that discharges from your site will not meet applicable water quality standards. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures designed to bring your discharge into compliance with this permit, specifically the requirement to meet water quality standards. In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit, including the requirements applicable to such discharges in Part 3, will result in discharges that meet applicable water quality standards.

b. Discharges from your site to a Tier 2, Tier 2.5, or Tier 3 water[4] will not lower the water quality of the applicable water. In the absence of information demonstrating otherwise, EPA expects that compliance with the requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not lower the water quality of such waters.

1.1.9 If you plan to add "cationic treatment chemicals" (as defined in Appendix A) to stormwater and/or authorized non-stormwater prior to discharge, you may not submit your NOI until you notify your applicable EPA Regional Office (see Appendix J) in advance and the EPA Regional Office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will result in discharges that meet applicable water quality standards.

[4] Note: Your site will be considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first receiving water to which you discharge is identified by a State, Tribe, or EPA as a Tier 2, Tier 2.5, or Tier 3 water. For discharges that enter a storm sewer system prior to discharge, the first receiving water to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system. The current list of Tier 2, Tier 2.5, and Tier 3 waters located in the areas eligible for coverage under this permit can be found at https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates. You can also use EPA's Discharge Mapping Tool (https://www.epa.gov/npdes/epas-stormwater-discharge-mapping-tools) to assist you in identifying whether any receiving waters to which you discharge are listed as impaired (and the pollutant for which it is impaired) and whether an approved total maximum daily load (TMDL) exists for that waterbody.

1.2 TYPES OF DISCHARGES AUTHORIZED[5]

1.2.1 The following stormwater discharges are authorized under this permit provided that appropriate stormwater controls are designed, installed, and maintained (see Parts 2 and 3):

- **a.** Stormwater discharges, including stormwater runoff, snowmelt runoff, and surface runoff and drainage, associated with construction activity under 40 CFR § 122.26(b)(14) or § 122.26(b)(15)(i);
- **b.** Stormwater discharges designated by EPA as needing a permit under 40 CFR §122.26(a)(1)(v) or § 122.26(b)(15)(ii);
- **c.** Stormwater discharges from on or off-site construction support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided that:
  - **i.** The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
  - **ii.** The support activity is not a commercial operation, nor does it serve multiple unrelated construction sites;
  - **iii.** The support activity does not continue to operate beyond the completion of the construction activity at the site it supports; and
  - **iv.** Stormwater controls are implemented in accordance with Part 2 and Part 3 for discharges from the support activity areas; and
- **d.** Stormwater discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining.

1.2.2 The following non-stormwater discharges associated with your construction activity are authorized under this permit provided that, with the exception of water used to control dust and to irrigate vegetation in stabilized areas, these discharges are not routed to areas of exposed soil on your site and you comply with any applicable requirements for these discharges in Parts 2 and 3:

- **a.** Discharges from emergency fire-fighting activities;
- **b.** Fire hydrant flushings;
- **c.** Landscape irrigation;
- **d.** Water used to wash vehicles and equipment, provided that there is no discharge of soaps, solvents, or detergents used for such purposes;
- **e.** Water used to control dust;
- **f.** Potable water including uncontaminated water line flushings;

[5] See "Discharge" as defined in Appendix A. Note: Any discharges not expressly authorized in this permit cannot become authorized or shielded from liability under CWA Section 402(k) by disclosure to EPA, State, or local authorities after issuance of this permit via any means, including the Notice of Intent (NOI) to be covered by the permit, the SWPPP, or during an inspection.

g. External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (as defined in Appendix A) (e.g., paint or caulk containing polychlorinated biphenyls (PCBs));

h. Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. You are prohibited from directing pavement wash waters directly into any receiving water, storm drain inlet, or constructed or natural site drainage features, unless the feature is connected to a sediment basin, sediment trap, or similarly effective control;

i. Uncontaminated air conditioning or compressor condensate;

j. Uncontaminated, non-turbid discharges of ground water or spring water;

k. Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated ground water; and

l. Uncontaminated construction dewatering water[6] discharged in accordance with Part 2.4.

1.2.3 Also authorized under this permit are discharges of stormwater listed above in Part 1.2.1, or authorized non-stormwater discharges listed above in Part 1.2.2, commingled with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES permit authorization.

1.3 PROHIBITED DISCHARGES[7]

The discharges listed in this Part are prohibited outright or authorized only under the identified conditions. To prevent the discharges in Parts 1.3.1 through 1.3.5, operators must comply with the applicable pollution prevention requirements in Part 2.3 or ensure the discharge is authorized by another NPDES permit consistent with Part 1.2.3 for commingled discharges.

1.3.1 Wastewater from washout of concrete, unless managed by an appropriate control as described in Part 2.3.4;

1.3.2 Wastewater from washout and/or cleanout of stucco, paint, form release oils, curing compounds, and other construction materials;

1.3.3 Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

1.3.4 Soaps, solvents, or detergents used in vehicle and equipment washing or external building washdown; and

1.3.5 Toxic or hazardous substances from a spill or other release.

[6] EPA notes that operators may need to comply with additional procedures to verify that the dewatering discharge is uncontaminated. Operators should review Part 9 to determine if any of these requirements apply to their discharge and should ensure that they have complied with any State, Tribal, or local dewatering requirements that apply.

[7] EPA includes these prohibited non-stormwater discharges here as a reminder to the operator that the only non-stormwater discharges authorized by this permit are at Part 1.2.2. Any unauthorized non-stormwater discharges must be covered under an individual permit or alternative general permit.

1.4 SUBMITTING YOUR NOTICE OF INTENT (NOI)

All "operators" (as defined in Appendix A) associated with your construction site who meet the Part 1.1 eligibility conditions, and who seek coverage under this permit, must submit to EPA a complete and accurate NOI in accordance with the deadlines in Table 1 prior to commencement of construction activities (as defined in Appendix A).

Exception: If you are conducting construction activities in response to a public emergency (e.g., mud slides, earthquake, extreme flooding conditions, widespread disruption in essential public services), and the related work requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish essential public services, you may discharge on the condition that a complete and accurate NOI is submitted within 30 calendar days after commencing construction activities (see Table 1) establishing that you are eligible for coverage under this permit. You must also provide documentation in your Stormwater Pollution Prevention Plan (SWPPP) to substantiate the occurrence of the public emergency pursuant to Part 7.2.3i.

1.4.1 Prerequisite for Submitting Your NOI

You must develop a SWPPP consistent with Part 7 before submitting your NOI for coverage under this permit.

1.4.2 How to Submit Your NOI

You must use EPA's NPDES eReporting Tool (NeT) to electronically prepare and submit your NOI for coverage under the 2022 CGP unless you received a waiver from your applicable EPA Regional Office.

To access NeT, go to https://cdx.epa.gov/cdx.

Waivers from electronic reporting may be granted based on one of the following conditions:

a. If your operational headquarters is physically located in a geographic area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission; or

b. If you have limitations regarding available computer access or computer capability.

If the EPA Regional Office grants you approval to use a paper NOI, and you elect to use it, you must complete the form in Appendix H.

1.4.3 Deadlines for Submitting Your NOI and Your Official Date of Permit Coverage

Table 1 provides the deadlines for submitting your NOI and the official start date of your permit coverage, which differ depending on when you commence construction activities.

Table 1 NOI Submittal Deadlines and Official Start Date for Permit Coverage.

Type of Operator	NOI Submittal Deadline[8]	Permit Authorization Date[9]
Operator of a new site (i.e., a site where construction activities commence on or after February 17, 2022)	At least 14 calendar days before commencing construction activities.	14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied.
Operator of an existing site (i.e., a site with 2017 CGP coverage where construction activities commenced prior to February 17, 2022)	No later than May 18, 2022.	14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied. Provided you submit your NOI no later than May 18, 2022, your authorization under the 2017 CGP is automatically continued until you have been granted coverage under this permit or an alternative NPDES permit, or coverage is otherwise terminated.
New operator of a permitted site (i.e., an operator that through transfer of ownership and/or operation replaces the operator of an already permitted construction site that is either a "new site" or an "existing site")	At least 14 calendar days before the date the transfer to the new operator will take place.	14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied.
Operator of an "emergency-related project" (i.e., a project initiated in response to a public emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services)	No later than 30 calendar days after commencing construction activities.	You are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA notifies you that it has received a complete NOI, unless EPA notifies you that your authorization is delayed or denied.

[8] If you miss the deadline to submit your NOI, any and all discharges from your construction activities will continue to be unauthorized under the CWA until they are covered by this or a different NPDES permit. EPA may take enforcement action for any unpermitted discharges that occur between the commencement of construction activities and discharge authorization.

[9] Discharges are not authorized if your NOI is incomplete or inaccurate or if you are not eligible for permit coverage.

1.4.4 Modifying your NOI

If after submitting your NOI you need to correct or update any fields, you may do so by submitting a "Change NOI" form using NeT. Waivers from electronic reporting may be granted as specified in Part 1.4.2. If the EPA Regional Office has granted you approval to submit a paper NOI modification, you may indicate any NOI changes on the same NOI form in Appendix H.

When there is a change to the site's operator, the new operator must submit a new NOI, and the previous operator must submit a Notice of Termination (NOT) form as specified in Part 8.3.

The following modifications to an NOI form will result in a 14-day review process:

- Changes to the name of the operator;
- Changes to the project or site name;
- Changes to the estimated area to be disturbed;
- Changes to the name of the receiving water[10], or additions to the applicable receiving waters;
- Changes to eligibility information related to endangered species protection or historic preservation;
- Changes to information provided related to the use of chemical treatment at your site; and
- Changes to answers provided regarding the demolition of structures over 10,000 square feet of floor space built or renovated before January 1, 1980.

During the 14-day review process, you may continue to operate based on the information provided in your original NOI, but you must wait until the review period has ended before you may commence or continue activities on any portion of your site that would be affected by any of the above modifications, unless EPA notifies you that the authorization is delayed or denied.

1.4.5 Your Official End Date of Permit Coverage

Once covered under this permit, your coverage will last until the date that:

a. You terminate permit coverage consistent with Part 8; or

b. You receive permit coverage under a different NPDES permit or a reissued or replacement version of this permit after expiring on February 16, 2027; or

c. You fail to submit an NOI for coverage under a reissued or replacement version of this permit before the deadline for existing construction sites where construction activities continue after this permit has expired.

1.5 REQUIREMENT TO POST A NOTICE OF YOUR PERMIT COVERAGE

You must post a sign or other notice of your permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice must be located so it is visible from the public road that is nearest to the active part of the construction

[10] As defined in Appendix A, a "receiving water" is "a "Water of the United States" as defined in 40 CFR §122.2 into which the regulated stormwater discharges.

site, and it must use a font large enough to be readily viewed from a public right-of-way.[11] At a minimum, the notice must include:

a. The NPDES ID (i.e., permit tracking number assigned to your NOI and the EPA webpage where a copy of the NOI can be found (https://permitsearch.epa.gov/epermit-search/ui/search));

b. A contact name and phone number for obtaining additional construction site information;

c. The Uniform Resource Locator (URL) for the SWPPP (if available), or the following statement: "If you would like to obtain a copy of the Stormwater Pollution Prevention Plan (SWPPP) for this site, contact the EPA Regional Office at [*include the appropriate CGP Regional Office contact information found at* https://www.epa.gov/npdes/contact-us-stormwater#regional];" and

d. The following statement "If you observe indicators of stormwater pollutants in the discharge or in the receiving water, contact the EPA through the following website: https://www.epa.gov/enforcement/report-environmental-violations."

2 TECHNOLOGY-BASED EFFLUENT LIMITATIONS

You must comply with the following technology-based effluent limitations in this Part for all authorized discharges.[12]

2.1 GENERAL STORMWATER CONTROL DESIGN, INSTALLATION, AND MAINTENANCE REQUIREMENTS

You must design, install, and maintain stormwater controls required in Parts 2.2, 2.3, and 2.4 to minimize the discharge of pollutants in stormwater from construction activities.[13] To meet this requirement, you must:

2.1.1 Account for the following factors in designing your stormwater controls:

a. The expected amount, frequency, intensity, and duration of precipitation;[14]

b. The nature of stormwater runoff (i.e., flow) and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. You must design stormwater controls to control stormwater volume, velocity, and peak flow rates to minimize discharges of pollutants in stormwater and to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points; and

c. The soil type and range of soil particle sizes expected to be present on the site.

[11] If the active part of the construction site is not visible from a public road, then place the notice of permit coverage in a position that is visible from the nearest public road and as close as possible to the construction site.

[12] For each of the effluent limits in Part 2, as applicable to your site, you must include in your SWPPP (1) a description of the specific control(s) to be implemented to meet the effluent limit; (2) any applicable design specifications; (3) routine maintenance specifications; and (4) the projected schedule for installation/implementation. See Part 7.2.6.

[13] The permit does not recommend or endorse specific products or vendors.

[14] Stormwater controls must be designed using the most recent data available to account for recent precipitation patterns and trends.

If your site is exposed to or has previously experienced major storms, such as hurricanes, storm surge, extreme/heavy precipitation, and flood events, you should also include consideration of and contingencies for whether implementing structural improvements, enhanced/resilient stormwater controls, and other mitigation measures may help minimize impacts from stormwater discharges from such major storm events.

2.1.2 Design and install all stormwater controls in accordance with good engineering practices, including applicable design specifications.[15]

2.1.3 Complete installation of stormwater controls by the time each phase of construction activities has begun.

a. By the time construction activity in any given portion of the site begins, install and make operational any downgradient sediment controls (e.g., buffers, perimeter controls, exit point controls, storm drain inlet protection) that control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities.[16]

b. Following the installation of these initial controls, install and make operational all stormwater controls needed to control discharges prior to subsequent earth-disturbing activities.

2.1.4 Ensure all stormwater controls are maintained and remain in effective operating condition during permit coverage and are protected from activities that would reduce their effectiveness.

a. Comply with any specific maintenance requirements for the stormwater controls listed in this permit, as well as any recommended by the manufacturer.[17]

b. If at any time you find that a stormwater control needs routine maintenance (i.e., minor repairs or other upkeep performed to ensure the site's stormwater controls remain in effective operating condition, not including significant repairs or the need to install a new or replacement control), you must immediately initiate the needed work, and complete such work by the close of the next business day. If it is infeasible to complete the routine maintenance by the close of the next business day, you must document why this is the case and why the repair or other upkeep to be performed should still be considered routine maintenance in your inspection report under Part 4.7.1c and complete such work no later than seven (7) calendar days from the time of discovery of the condition requiring maintenance.

c. If you must repeatedly (i.e., three (3) or more times) make the same routine maintenance fixes to the same control at the same location, even if the fix can be completed by the close of the next business day, you must either:

i. Complete work to fix any subsequent repeat occurrences of this same problem under the corrective action procedures in Part 5, including keeping any records

[15] Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practices and must be explained in your SWPPP. You must also comply with any additional design and installation requirements specified for the effluent limits in Parts 2.2, 2.3, and 2.4.

[16] Note that the requirement to install stormwater controls prior to each phase of construction activities for the site does not apply to the earth disturbance associated with the actual installation of these controls. Operators should take all reasonable actions to minimize the discharges of pollutants during the installation of stormwater controls.

[17] Any departures from such maintenance recommendations made by the manufacturer must reflect good engineering practices and must be explained in your SWPPP.

of the condition and how it was corrected under Part 5.4; or

ii. Document in your inspection report under Part 4.7.1c why the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix under this Part.[18]

d. If at any time you find that a stormwater control needs a significant repair or that a new or replacement control is needed, you must comply with the corrective action deadlines for completing such work in in Part 5.2.1c.

2.2 EROSION AND SEDIMENT CONTROL REQUIREMENTS

You must implement erosion and sediment controls in accordance with the following requirements to minimize the discharge of pollutants in stormwater from construction activities.

2.2.1 Provide and maintain natural buffers and/or equivalent erosion and sediment controls for discharges to any receiving waters that is located within 50 feet of the site's earth disturbances.

a. Compliance Alternatives. For any discharges to receiving waters located within 50 feet of your site's earth disturbances, you must comply with one of the following alternatives:

i. Provide and maintain a 50-foot undisturbed natural buffer; or

ii. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve, in combination, the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or

iii. If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

See Appendix F, Part F.2 for additional conditions applicable to each compliance alternative.

b. Exceptions. See Appendix F, Part F.2 for exceptions to the compliance alternatives.

2.2.2 Direct stormwater to vegetated areas and maximize stormwater infiltration and filtering to reduce pollutant discharges, unless infiltration would be inadvisable due to the underlying geology (e.g., karst topography) and ground water contamination concerns, or infeasible due to site conditions.[19]

[18] Such documentation could include, for example, that minor repairs completed within the required timeframe are all that is necessary to ensure that the stormwater control continues to operate as designed and installed and that the stormwater control remains appropriate for the flow reaching it.

[19] Operators should consider whether factors such as specific contaminant concerns from the construction site, the underlying soils or geology, hydrology, depth to the ground water table, or proximity to source water or wellhead protection area(s) make the site unsuitable for infiltrating construction stormwater. Site conditions that may be of particular concern include proximity to: a current or future drinking water aquifer; a drinking water well or spring (including private/household wells); highly conductive geology such as karst; known pollutant hot spots, such as hazardous waste sites, landfills, gas stations, brownfields; an on-site sewage system or underground storage tank; or soils that do not allow for infiltration. Operators may find it helpful to consult EPA's Drinking Water Mapping Application to Protect Source Waters (DWMAPS). DWMAPS is an online mapping tool that can be used to locate drinking water providers, potential sources of contamination, polluted waterways, and information on protection initiatives in the site area.

2.2.3 Install sediment controls along any perimeter areas of the site that are downslope from any exposed soil or other disturbed areas.[20]

a. The perimeter control must be installed upgradient of any natural buffers established under Part 2.2.1, unless the control is being implemented pursuant to Part 2.2.1a.ii-iii;

b. To prevent stormwater from circumventing the edge of the perimeter control, install the perimeter control on the contour of the slope and extend both ends of the control up slope (e.g., at 45 degrees) forming a crescent rather than a straight line;

c. After installation, to ensure that perimeter controls continue to work effectively:

i. Remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control; and

ii. After a storm event, if there is evidence of stormwater circumventing or undercutting the perimeter control, extend controls and/or repair undercut areas to fix the problem.

d. Exception. For areas at "linear construction sites" (as defined in Appendix A) where perimeter controls are infeasible (e.g., due to a limited or restricted right-of-way), implement other practices as necessary to minimize pollutant discharges to perimeter areas of the site.

2.2.4 Minimize sediment track-out.

a. Restrict vehicle use to properly designated exit points;

b. Use appropriate stabilization techniques[21] at all points that exit onto paved roads;

i. Exception: Stabilization is not required for exit points at linear utility construction sites that are used only episodically and for very short durations over the life of the project, provided other exit point controls[22] are implemented to minimize sediment track-out;

c. Implement additional track-out controls[23] as necessary to ensure that sediment removal occurs prior to vehicle exit; and

d. Where sediment has been tracked-out from your site onto paved roads, sidewalks, or other paved areas outside of your site, remove the deposited sediment by the end of the same business day in which the track-out occurs or by the end of the next business day if track-out occurs on a non-business day. Remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out

[20] Examples of perimeter controls include filter berms; different types of silt fence such as wire-backed silt fence, super silt fence, or multi-layer geotextile silt fence; compost filter socks; gravel barriers; and temporary diversion dikes.

[21] Examples of appropriate stabilization techniques include the use of aggregate stone with an underlying geotextile or non-woven filter fabric, and turf mats.

[22] Examples of other exit point controls include preventing the use of exit points during wet periods; minimizing exit point use by keeping vehicles on site to the extent possible; limiting exit point size to the width needed for vehicle and equipment usage; using scarifying and compaction techniques on the soil; and avoiding establishing exit points in environmentally sensitive areas (e.g., *karst areas; steep slopes)*.

[23] Examples of additional track-out controls include the use of wheel washing, rumble strips, and rattle plates.

sediment into any constructed or natural site drainage feature, storm drain inlet, or receiving water.[24]

2.2.5 Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil:[25]

a. Locate the piles outside of any natural buffers established under Part 2.2.1 and away from any constructed or natural site drainage features, storm drain inlets, and areas where stormwater flow is concentrated;

b. Install a sediment barrier along all downgradient perimeter areas of stockpiled soil or land clearing debris piles;[26]

c. For piles that will be unused for 14 or more days, provide cover[27] or appropriate temporary stabilization (consistent with Part 2.2.14);

d. You are prohibited from hosing down or sweeping soil or sediment accumulated on pavement or other impervious surfaces into any constructed or natural site drainage feature, storm drain inlet, or receiving water.

2.2.6 Minimize dust. On areas of exposed soil, minimize dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged in stormwater from the site.

2.2.7 Minimize steep slope disturbances. Minimize the disturbance of "steep slopes" (as defined in Appendix A).[28]

2.2.8 Preserve native topsoil, unless infeasible.[29]

2.2.9 Minimize soil compaction.[30] In areas of your site where final vegetative stabilization will occur or where infiltration practices will be installed:

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[24] Fine grains that remain visible (e.g., staining) on the surfaces of off-site streets, other paved areas, and sidewalks after you have implemented sediment removal practices are not a violation of Part 2.2.4.

[25] The requirements in Part 2.2.5 do not apply to the storage of rock, such as rip rap, landscape rock, pipe bedding gravel, and boulders. Refer to Part 2.3.3a for the requirements that apply to these types of materials.

[26] Examples of sediment barriers include berms, dikes, fiber rolls, silt fences, sandbags, gravel bags, or straw bale.

[27] Examples of cover include tarps, blown straw and hydroseeding.

[28] Where disturbance to steep slopes cannot be avoided, operators should consider implementing controls suitable for steep slope disturbances that are effective at minimizing erosion and sediment discharge (e.g., preservation of existing vegetation, hydraulic mulch, geotextiles and mats, compost blankets, earth dikes or drainage swales, terraces, velocity dissipation devices). To identify slopes and soil types that are of comparatively higher risk for sediment discharge in areas of the country where the CGP is in effect, operators can use the tables in Appendix F (see Tables F-2 thru F-6).

[29] Stockpiling topsoil at off-site locations, or transferring topsoil to other locations, is an example of a practice that is consistent with the requirements in Part 2.2.8. Preserving native topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed. For example, some sites may be designed to be highly impervious after construction, and therefore little or no vegetation is intended to remain, or may not have space to stockpile native topsoil on site for later use, in which case it may not be feasible to preserve topsoil.

[30] Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.

a. Restrict vehicle and equipment use in these locations to avoid soil compaction; and

b. Before seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.

2.2.10 Protect storm drain inlets.

a. Install inlet protection measures that remove sediment from discharges prior to entry into any storm drain inlet that carries stormwater from your site to a receiving water, provided you have authority to access the storm drain inlet.[31] Inlet protection measures are not required for storm drain inlets that are conveyed to a sediment basin, sediment trap, or similarly effective control; and

b. Clean, or remove and replace, the inlet protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, remove the deposited sediment by the end of the same business day in which it is found or by the end of the following business day if removal by the same business day is not feasible.

2.2.11 Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.[32]

2.2.12 If you install a sediment basin or similar impoundment:

a. Situate the basin or impoundment outside of any receiving water. and any natural buffers established under Part 2.2.1;

b. Design the basin or impoundment to avoid collecting water from wetlands;

c. Design the basin or impoundment to provide storage for either:

i. The calculated volume of runoff from a 2-year, 24-hour storm;[33] or

ii. 3,600 cubic feet per acre drained.

d. Utilize outlet structures that withdraw water from the surface of the sediment basin or similar impoundment, unless infeasible;[34]

e. Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets; and

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[31] Inlet protection measures can be removed in the event of flood conditions or to prevent erosion.

[32] Examples of stormwater controls that can be used to comply with this requirement include the use of erosion controls and/or velocity dissipation devices (e.g., check dams, sediment traps), within and along the length of a constructed site drainage feature and at the outfall to slow down stormwater.

[33] Operators may refer to https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates for guidance on determining the volume of precipitation associated with their site's local 2-year, 24-hour storm event.

[34] The circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include areas with extended cold weather, where using surface outlets may not be feasible during certain time periods (although they must be used during other periods). If you determine that it is infeasible to meet this requirement, you must provide documentation in your SWPPP to support your determination, including the specific conditions or time periods when this exception will apply.

f. Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.

2.2.13 If using treatment chemicals (e.g., *polymers, flocculants, coagulants*):

a. Use conventional erosion and sediment controls before and after the application of treatment chemicals. Chemicals may only be applied where treated stormwater is directed to a sediment control *(e.g., sediment basin, perimeter control)* before discharge.

b. Select appropriate treatment chemicals*.* Chemicals must be appropriately suited to the types of soils likely to be exposed during construction and present in the discharges being treated *(i.e., the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area)*.

c. Minimize discharge risk from stored chemicals. Store all treatment chemicals in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures *(e.g., spill berms, dikes, spill containment pallets),* or provide equivalent measures designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means *(e.g., storing chemicals in a covered area, having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill)*.

d. Comply with State/local requirements. Comply with applicable State and local requirements regarding the use of treatment chemicals.

e. Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier. Use treatment chemicals and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals, or document in your SWPPP specific departures from these specifications and how they reflect good engineering practice.

f. Ensure proper training. Ensure all persons who handle and use treatment chemicals at the construction site are provided with appropriate, product-specific training prior to beginning application of treatment chemicals. Among other things, the training must cover proper dosing requirements.

g. Perform additional measures specified by the EPA Regional Office for the authorized use of cationic chemicals. If you have been authorized to use cationic chemicals at your site pursuant to Part 1.1.9, you must perform all additional measures as conditioned by your authorization to ensure the use of such chemicals will not result in discharges that do not meet water quality standards.

2.2.14 Stabilize exposed portions of the site. Implement and maintain stabilization measures (*e.g., seeding protected by erosion controls until vegetation is established,*[35] *sodding, mulching, erosion control blankets, hydromulch, gravel*) that minimize erosion from any areas of exposed soil on the site in accordance with Part.

[35] If you will be evaluating the use of some type of erosion control netting to the site as part of your site stabilization, EPA encourages you to consider employing products that have been shown to minimize

a. Stabilization Deadlines:[36]

Table 2 Deadlines for Initiating and Completing Site Stabilization.

Total Amount of Land Disturbance Occurring At Any One Time[37]	**Deadline**
i. Five acres or less (≤5.0) **Note: this includes sites disturbing more than five acres (>5.0) total over the course of a project, but that limit disturbance at any one time (i.e., *phase the disturbance*) to five acres or less (≤5.0)**	• Initiate the installation of stabilization measures immediately[38] in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days;[39] and • Complete the installation of stabilization measures as soon as practicable, but no later than 14 calendar days

impacts on wildlife. For instance, the U.S. Fish & Wildlife Service provides recommendations on the type of netting practices that are considered "wildlife friendly," including those that use natural fiber or 100 percent biodegradable materials and that use a loose weave with a non-welded, movable jointed netting, as well as those products that are not wildlife friendly including square plastic netting that are degradable (e.g., photodegradable, UV-degradable, oxo-degradable), netting made from polypropylene, nylon, polyethylene, or polyester. Other recommendations include removing the netting product when it is no longer needed. See https://www.fws.gov/midwest/eastlansing/library/pdf/WildlifeFriendlyErosionControlProducts_revised.pdf for further information. There also may be State, Tribal, or local requirements about using wildlife friendly erosion control products.

[36] EPA may determine, based on an inspection carried out under Part 4.8 and corrective actions required under Part 5.3, that the level of sediment discharge on the site makes it necessary to require a faster schedule for completing stabilization. For instance, if sediment discharges from an area of exposed soil that is required to be stabilized are compromising the performance of existing stormwater controls, EPA may require stabilization to correct this problem.

[37] Limiting disturbances to five (5) acres or less at any one time means that at no time during the project do the cumulative earth disturbances exceed five (5) acres. The following examples would qualify as limiting disturbances at any one time to five (5) acres or less:

1. The total area of disturbance for a project is five (5) acres or less.
2. The total area of disturbance for a project will exceed five (5) acres, but the operator ensures that no more than five (5) acres will be disturbed at any one time through implementation of stabilization measures. In this way, site stabilization can be used to "free up" land that can be disturbed without exceeding the five (5)-acre cap to qualify for the 14-day stabilization deadline. For instance, if an operator completes stabilization of two (2) acres of land on a five (5)-acre disturbance, then two (2) additional acres could be disturbed while still qualifying for the longer 14-day stabilization deadline.

[38] The following are examples of activities that would constitute the immediate initiation of stabilization:

1. Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable, but no later than one (1) calendar day of completing soil preparation;
2. Applying mulch or other non-vegetative product to the exposed area;
3. Seeding or planting the exposed area;
4. Starting any of the activities in # 1 – 3 on a portion of the entire area that will be stabilized; and
5. Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.

[39] The requirement to initiate stabilization immediately is triggered as soon as you know that construction work on a portion of the site is temporarily ceased and will not resume for 14 or more days, or as soon as you know that construction work is permanently ceased. In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next business day, following the day when the construction activities have temporarily or permanently ceased.

Total Amount of Land Disturbance Occurring At Any One Time[37]	Deadline
	after stabilization has been initiated.[40]
ii. More than five acres (>5.0)	• Initiate the installation of stabilization measures immediately[41] in any areas of exposed soil where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days;[42] and • Complete the installation of stabilization measures as soon as practicable, but no later than seven (7) calendar days after stabilization has been initiated.[43]

b. Exceptions:

i. Arid, semi-arid, and drought-stricken areas (as defined in Appendix A)**.** If it is the seasonally dry period (as defined in Appendix A)[44] or a period in which drought is occurring, and vegetative stabilization measures are being used:

(a) Immediately initiate and, within 14 calendar days of temporary or permanent cessation of work in any portion of your site, complete the installation of temporary non-vegetative stabilization measures to the extent necessary to prevent erosion;

(b) As soon as practicable, given conditions or circumstances on the site, complete all activities necessary to seed or plant the area to be stabilized; and

(c) If construction is occurring during the seasonally dry period, indicate in your SWPPP the beginning and ending dates of the seasonally dry period and your site conditions. Also include the schedule you will follow for initiating and completing vegetative stabilization.

ii. Unforeseen circumstances. Operators that are affected by unforeseen circumstances[45] that delay the initiation and/or completion of vegetative stabilization:

[40] If vegetative stabilization measures are being implemented, stabilization is considered "installed" when all activities necessary to seed or plant the area are completed, including the application of any non-vegetative protective cover (e.g., mulch, erosion control blanket), if applicable. If non-vegetative stabilization measures are being implemented, stabilization is considered "installed" when all such measures are implemented or applied.

[41] See footnote 38.

[42] See footnote 39.

[43] See footnote 40.

[44] The term "seasonally dry period" as defined in Appendix A refers to a month in which the long-term average total precipitation is less than or equal to 0.5 inches. Refer to EPA's Seasonally Dry Period Locator Tool at https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates and supporting maps for assistance in determining whether a site is operating during a seasonally dry period for the area.

[45] Examples include problems with the supply of seed stock or with the availability of specialized equipment and unsuitability of soil conditions due to excessive precipitation and/or flooding.

(a) Immediately initiate and, within 14 calendar days, complete the installation of temporary non-vegetative stabilization measures to prevent erosion;

(b) Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on your site; and

(c) Document in the SWPPP the circumstances that prevent you from meeting the deadlines in Part 2.2.14a and the schedule you will follow for initiating and completing stabilization.

iii. Discharges to a sediment- or nutrient-impaired water or to a water that is identified by your State, Tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes. Complete stabilization as soon as practicable, but no later than seven (7) calendar days after stabilization has been initiated.

c. Final Stabilization Criteria (for any areas not covered by permanent structures)**:**

i. Establish uniform, perennial vegetation *(*i.e.*, evenly distributed, without large bare areas)* to provide 70 percent or more of the vegetative cover native to local undisturbed areas; and/or

ii. Implement permanent non-vegetative stabilization measures[46] to provide effective cover of any areas of exposed soil.

iii. Exceptions:

(a) **Arid, semi-arid, and drought-stricken areas** (as defined in Appendix A). Final stabilization is met if the area has been seeded or planted to establish vegetation that provides 70 percent or more of the vegetative cover native to local undisturbed areas within three (3) years and, to the extent necessary to prevent erosion on the seeded or planted area, non-vegetative erosion controls have been applied to provide cover for at least three years without active maintenance.

(b) **Disturbed areas on agricultural land that are restored to their preconstruction agricultural use.** The Part 2.2.14c final stabilization criteria do not apply.

(c) **Areas that need to remain disturbed.** In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed, and only the minimum area needed remains disturbed *(*e.g.*, dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, materials)*.

2.3 POLLUTION PREVENTION REQUIREMENTS[47]

You must implement pollution prevention controls in accordance with the following requirements to minimize the discharge of pollutants in stormwater and to prevent the discharge of pollutants from spilled or leaked materials from construction activities.

[46] Examples of permanent non-vegetative stabilization measures include riprap, gravel, gabions, and geotextiles.

[47] Under this permit, you are not required to minimize exposure for any products or materials where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

2.3.1 For equipment and vehicle fueling and maintenance:

a. Provide an effective means of eliminating the discharge of spilled or leaked chemicals, including fuels and oils, from these activities;[48]

b. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR part 112 and Section 311 of the CWA;

c. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;

d. Use drip pans and absorbents under or around leaky vehicles;

e. Dispose of or recycle oil and oily wastes in accordance with other Federal, State, Tribal, or local requirements; and

f. Clean up spills or contaminated surfaces immediately, using dry clean up measures (do not clean contaminated surfaces by hosing the area down), and eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

2.3.2 For equipment and vehicle washing:

a. Provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of wash waters;[49]

b. Ensure there is no discharge of soaps, solvents, or detergents in equipment and vehicle wash water; and

c. For storage of soaps, detergents, or solvents, provide either (1) cover *(*e.g., *plastic sheeting, temporary roofs)* to minimize the exposure of these detergents to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

2.3.3 For storage, handling, and disposal of building products, materials, and wastes:[50]

a. *For building materials and building products*,[51] provide either (1) cover (e.g., *plastic sheeting, temporary roofs*) to minimize the exposure of these products to

[48] Examples of effective means include:

- Locating activities away from receiving waters, storm drain inlets, and constructed or natural site drainage feature so that stormwater coming into contact with these activities cannot reach waters of the U.S.;
- Providing secondary containment (e.g., *spill berms, dikes, spill containment pallets*) and cover where appropriate; and
- Having a spill kit available on site and ensuring personnel are available to respond expeditiously in the event of a leak or spill.

[49] Examples of effective means include locating activities away from receiving waters and storm drain inlets or constructed or natural site drainage features and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags or sand filters, or using other similarly effective controls.

[50] Compliance with the requirements of this permit does not relieve compliance requirements with respect to Federal, State, or local laws and regulations governing the storage, handling, and disposal of solid, hazardous, or toxic wastes and materials.

[51] Examples of building materials and building products typically present at construction sites include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures, and gravel and mulch stockpiles.

precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas.

Exception: Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

b. *For pesticides, herbicides, insecticides, fertilizers, and landscape materials:*

i. In storage areas, provide either (1) cover (e.g., *plastic sheeting, temporary roofs*) to minimize the exposure of these chemicals to precipitation and to stormwater, or (2) a similarly effective means designed to minimize the discharge of pollutants from these areas; and

ii. Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label (see also Part 2.3.5).

c. *For diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals:* The following requirements apply to the storage and handling of chemicals on your site. If you are already implementing controls as part of an SPCC or other spill prevention plan that meet or exceed the requirements of this Part, you may continue to do so and be considered in compliance with these provisions provided you reference the applicable parts of the SPCC or other plans in your SWPPP as required in Part 7.2.6b.viii.

i. If any chemical container has a storage capacity of less than 55 gallons:

(a) The containers must be water-tight, and must be kept closed, sealed, and secured when not being actively used;

(b) If stored outside, use a spill containment pallet or similar device to capture small leaks or spills; and

(c) Have a spill kit available on site that is in good working condition (i.e., not damaged, expired, or used up) and ensure personnel are available to respond immediately in the event of a leak or spill.

ii. If any chemical container has a storage capacity of 55 gallons or more:

(a) The containers must be water-tight, and must be kept closed, sealed, and secured when not being actively used;

(b) Store containers a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away from these features as the site permits. If site constraints prevent you from storing containers 50 feet away from receiving waters or the other features identified, you must document in your SWPPP the specific reasons why the 50-foot setback is infeasible, and how you will store containers as far away as the site permits;

(c) Provide either (1) cover (e.g., temporary roofs) to minimize the exposure of these containers to precipitation and to stormwater, or (2) secondary containment (e.g., curbing, spill berms, dikes, spill containment pallets, double-wall, above-ground storage tank); and

(d) Have a spill kit available on site that is in good working condition (i.e., not

damaged, expired, or used up) and ensure personnel are available to respond immediately in the event of a leak or spill. Additional secondary containment measures are listed at 40 CFR § 112.7(c)(1).

iii. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

d. *For hazardous or toxic wastes:*[52]

i. Separate hazardous or toxic waste from construction and domestic waste;

ii. Store waste in sealed containers, constructed of suitable materials to prevent leakage and corrosion, and labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable Federal, State, Tribal, or local requirements;

iii. Store all outside containers within appropriately-sized secondary containment (e.g., *spill berms, dikes, spill containment pallets*) to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(*e.g., *storing chemicals in a covered area, having a spill kit available on site);*

iv. Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements;

v. Clean up spills immediately, using dry clean-up methods, and dispose of used materials properly. You are prohibited from hosing the area down to clean surfaces or spills. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and

vi. Follow all other Federal, State, Tribal, and local requirements regarding hazardous or toxic waste.

e. *For construction and domestic wastes:*[53]

i. Provide waste containers *(*e.g., *dumpster, trash receptacle)* of sufficient size and number to contain construction and domestic wastes;

(a) For waste containers with lids, keep waste container lids closed when not in use, and close lids at the end of the business day and during storm events. For waste containers without lids, provide either (1) cover *(*e.g., *a tarp, plastic sheeting, temporary roof)* to minimize exposure of wastes to precipitation, or (2) a similarly effective means designed to minimize the discharge of pollutants *(*e.g., *secondary containment)*;

(b) On business days, clean up and dispose of waste in designated waste

[52] Examples of hazardous or toxic waste that may be present at construction sites include paints, caulks, sealants, fluorescent light ballasts, solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids.

[53] Examples of construction and domestic wastes include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, demolition debris; and other trash or discarded materials.

containers; and

(c) Clean up immediately if containers overflow, and if there is litter elsewhere on the site from escaped trash.

ii. Waste containers are not required for the waste remnant or unused portions of construction materials or final products that are covered by the exception in Part 2.2.3a provided that:

(a) These wastes are stored separately from other construction or domestic wastes addressed by Part 2.3.3e.i (i.e., wastes not covered by the exception in Part 2.3.3a). If the wastes are mixed, they must be stored in waste containers as required in Part 2.3.3e.i; and

(b) These wastes are stored in designated areas of the site, the wastes are described in the SWPPP (see Part 7.2.6b.ix), and identified in the site plan (see Part 7.2.4i).

f. *For sanitary waste*, position portable toilets so they are secure and will not be tipped or knocked over, and are located away from receiving waters, storm drain inlets, and constructed or natural site drainage features.

2.3.4 For washing applicators and containers used for stucco, paint, concrete, form release oils, curing compounds, or other materials:

a. Direct wash water into a leak-proof container or leak-proof and lined pit designed so no overflows can occur due to inadequate sizing or precipitation;

b. Handle washout or cleanout wastes as follows:

i. For liquid wastes:

(a) Do not dump liquid wastes or allow them to enter into constructed or natural site drainage features, storm inlets, or receiving waters;

(b) Do not allow liquid wastes to be disposed of through infiltration or to otherwise be disposed of on the ground;

(c) Comply with applicable State, Tribal, or local requirements for disposal

ii. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3e; and

c. Locate any washout or cleanout activities as far away as possible from receiving waters, constructed or natural site drainage features, and storm drain inlets, and, to the extent feasible, designate areas to be used for these activities and conduct such activities only in these areas.

2.3.5 For the application of fertilizers:

a. Apply at a rate and in amounts consistent with manufacturer's specifications, or document in the SWPPP departures from the manufacturer specifications where appropriate in accordance with Part 7.2.6b.x;

b. Apply at the appropriate time of year for your location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;

c. Avoid applying before heavy rains that could cause excess nutrients to be discharged;

d. Never apply to frozen ground;

e. Never apply to constructed or natural site drainage features; and

f. Follow all other Federal, State, Tribal, and local requirements regarding fertilizer application.

2.3.6 Emergency Spill Notification Requirements

Discharges of toxic or hazardous substances from a spill or other release are prohibited, consistent with Part 1.3.5. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR part 110, 40 CFR part 117, or 40 CFR part 302 occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR part 110, 40 CFR part 117, and 40 CFR part 302 as soon as you have knowledge of the release. You must also, within seven (7) calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State, Tribal, or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies.

2.4 CONSTRUCTION DEWATERING REQUIREMENTS

Comply with the following requirements to minimize the discharge of pollutants from dewatering[54] operations.

2.4.1 Route dewatering water through a sediment control (e.g., sediment trap or basin, pumped water filter bag) designed to prevent discharges with visual turbidity; [55]

2.4.2 Do not discharge visible floating solids or foam;

2.4.3 The discharge must not cause the formation of a visible sheen on the water surface, or visible oily deposits on the bottom or shoreline of the receiving water. Use an oil-water separator or suitable filtration device (such as a cartridge filter) designed to remove oil, grease, or other products if dewatering water is found to or expected to contain these materials;

2.4.4 To the extent feasible, use well-vegetated (e.g., grassy or wooded), upland areas of the site to infiltrate dewatering water before discharge.[56] You are prohibited from using receiving waters as part of the treatment area;

2.4.5 To prevent dewatering-related erosion and related sediment discharges:

a. Use stable, erosion-resistant surfaces (e.g., well-vegetated grassy areas, clean filter stone, geotextile underlayment) to discharge from dewatering controls;

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[54] "Dewatering" is defined in Appendix A as "the act of draining accumulated stormwater and/or ground water from building foundations, vaults, and trenches, or other similar points of accumulation."

[55] For the purposes of this permit, visual turbidity is present where there is a sediment plume in the discharge or the discharge appears cloudy, or opaque, or has a visible contrast that can be identified by an observer.

[56] See footnote 19.

b. Do not place dewatering controls, such as pumped water filter bags, on steep slopes (as defined in Appendix A); and

c. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.2.11.

2.4.6 For backwash water, either haul it away for disposal or return it to the beginning of the treatment process;

2.4.7 Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications; and

2.4.8 Comply with dewatering-specific inspection requirements in Part 4.

3 WATER QUALITY-BASED EFFLUENT LIMITATIONS

3.1 GENERAL EFFLUENT LIMITATION TO MEET APPLICABLE WATER QUALITY STANDARDS

Discharges must be controlled as necessary to meet applicable water quality standards. Discharges must also comply with any additional State or Tribal requirements that are in Part 9.

In the absence of information demonstrating otherwise, EPA expects that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards. If at any time you become aware, or EPA determines, that discharges are not being controlled as necessary to meet applicable water quality standards, you must take corrective action as required in Parts 5.1 and 5.2, and document the corrective actions as required in Part 5.4.

EPA may insist that you install additional controls (to meet the narrative water quality-based effluent limit above) on a site-specific basis, or require you to obtain coverage under an individual permit, if information in your NOI or from other sources indicates that your discharges are not controlled as necessary to meet applicable water quality standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA-established or approved TMDL.

If during your coverage under a previous permit, you were required to install and maintain stormwater controls specifically to meet the assumptions and requirements of an EPA-approved or established TMDL (for any parameter) or to otherwise control your discharge to meet water quality standards, you must continue to implement such controls as part of your coverage under this permit.

3.2 WATER QUALITY-BASED CONDITIONS FOR SITES DISCHARGING TO CERTAIN IMPAIRED AND HIGH QUALITY RECEIVING WATERS

For any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified by your State, Tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes,[57] you must comply with the inspection frequency specified in Part 4.3 and you must comply with the stabilization deadline specified in Part 2.2.14b.iii.[58]

[57] Refer to Appendix A for definitions of "impaired water" and "Tier 2," "Tier 2.5," and "Tier 3" waters. For assistance in determining whether your site discharges to impaired waters, EPA has developed a tool that is available at https://www.epa.gov/npdes/epas-stormwater-discharge-mapping-tools. For assistance in determining whether your site discharges to a Tier 2, 2.5, or 3 water, refer to the list of such waters at https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates.

[58] If you qualify for any of the reduced inspection frequencies in Part 4.4, you may conduct inspections in

If you discharge to a water that is impaired for a parameter other than a sediment-related parameter or nutrients, EPA will inform you if any additional controls are necessary for your discharge to be controlled as necessary to meet water quality standards. These controls might include those necessary for your discharge to be consistent with the assumptions of any available wasteload allocation in any applicable TMDL. In addition, EPA may require you to apply for and obtain coverage under an individual NPDES permit.

In addition, on a case-by-case basis, EPA may notify operators of new sites or operators of existing sites with increased discharges that additional analyses, stormwater controls, and/or other measures are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary.

If you discharge to a water that is impaired for polychlorinated biphenyls (PCBs) and are engaging in demolition of any structure with at least 10,000 square feet of floor space built or renovated before January 1, 1980, you must:

a. Implement controls[59] to minimize the exposure of PCB-containing building materials, including paint, caulk, and pre-1980 fluorescent lighting fixtures, to precipitation and to stormwater; and

b. Ensure that disposal of such materials is performed in compliance with applicable State, Federal, and local laws.

3.3 TURBIDITY BENCHMARK MONITORING FOR SITES DISCHARGING DEWATERING WATER TO PROTECT THE WATER QUALITY OF SENSITIVE WATERS

For sites discharging dewatering water to "sensitive waters" (i.e., receiving waters listed as impaired for sediment or a sediment-related parameter (as defined in Appendix A), or receiving waters designated as a Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes) you are required to comply with the benchmark monitoring requirements in this Part and document the procedures you will use at your site in your SWPPP pursuant to Part 7.2.8. A summary of these requirements is included in Table 1.

EPA notes that the benchmark threshold is not an effluent limitation, rather it is an indicator that the dewatering controls may not be working to protect water quality, which the operator must investigate and correct as appropriate. A benchmark exceedance is not a permit violation. However, if a benchmark exceedance triggers corrective action in Part 5.1.5a, failure to conduct any required action is a permit violation.

Where there are multiple operators associated with the same site, the operators may coordinate with one another to carry out the monitoring requirements of this Part in order to avoid duplicating efforts. Such coordinating arrangements must be described in the SWPPP consistent with Part 7.2.8. Regardless of how the operators divide the

accordance with Part 4.4 for any portion of your site that discharges to a sensitive water.

[59] Examples of controls to minimize exposure of PCBs to precipitation and stormwater include separating work areas from non-work areas and selecting appropriate personal protective equipment and tools, constructing a containment area so that all dust or debris generated by the work remains within the protected area, and using tools that minimize dust and heat (<212°F). For additional information, refer to Part 2.3.3 of the CGP Fact Sheet.

responsibilities for monitoring and reporting, each operator remains responsible for compliance with these requirements.[60]

3.3.1 Turbidity monitoring requirements[61]

a. **Sampling frequency.** You must collect at least one turbidity sample from your dewatering discharge each day a discharge occurs.

b. **Sampling location.** Samples must be taken at all points where dewatering water is discharged. Samples must be taken after the dewatering water has been treated by installed treatment devices pursuant to Parts 2.4.1 and 2.4.3 and prior to its discharge off site into a receiving water, constructed or natural site drainage feature, or storm drain inlet.

c. **Representative samples.** Samples taken must be representative of the dewatering discharge for any given day as required in Appendix G (standard permit conditions), Part G.10.2.

d. **Test methods.** Samples must be measured using a turbidity meter that reports results in nephelometric turbidity units (NTUs) and conforms with a Part 136-approved method (e.g., methods 180.1 and 2130). You are required to use the meter, and conduct a calibration verification prior to each day's use, consistent with the manufacturer's instructions.

3.3.2 Turbidity benchmark

a. The benchmark threshold for turbidity for this permit is 50 NTUs (referred to elsewhere in this permit as the "standard 50 NTU benchmark") unless EPA has authorized the use of an alternate benchmark in accordance with Part 3.3.2b.

b. **Request for alternate benchmark threshold.**

i. At any time prior to or during your coverage under this permit, you may request that EPA approve a benchmark for your site that is higher than 50 NTUs if you have information demonstrating the higher number is the same as your receiving water's water quality standard for turbidity. Unless EPA approves an alternate benchmark, you will be required to use the standard 50 NTU benchmark. To request approval of an alternate benchmark, you must submit the following information to your applicable EPA Regional Office (see Appendix K):
(a) The current turbidity water quality standard that applies to your receiving

[60] For instance, if Operator A relies on Operator B to meet the Part 3.3.1 turbidity monitoring requirements, the Part 3.3.4 reporting and recordkeeping requirements, and the Part 5.2.2 corrective action provisions when applicable, Operator A does not have to duplicate these same functions if Operator B is implementing them for both operators to be in compliance with the permit. However, Operator A remains responsible for complying with these permit requirements if Operator B fails to take actions that were necessary for Operator A to comply with the permit. See also footnote 83. EPA notes that both Operator A and B are required to submit turbidity monitoring reports as required under Part 3.3.4, however, Operator A's report does not need to include the data collected by Operator B as long as Operator B submits the required data and Operator A's report indicates that it is relying on Operator B to report the data. See Part 3.3.4a.

[61] Operators may find it useful to consult EPA's *Monitoring and Inspection Guide for Construction Dewatering*, available at https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates, which provides guidelines on how to correctly monitor for turbidity, determine if the weekly average exceeds the benchmark, and, if so, how to proceed with corrective action.

water and the source/citation.[62]

(b) If the applicable turbidity water quality standard requires information on natural or background turbidity levels (e.g., "no more than 10 NTU above natural turbidity levels") to determine the specific standard for the receiving water, include available data that can be used to establish the natural turbidity levels of your receiving water (including literature studies or Federal, State, Tribal, or local government data). Data must be representative of the natural turbidity levels of your specific receiving water. Identify the source(s) of all data provided, including if the data are from samples you collected of the receiving water.

ii. EPA will inform you of its decision on whether to approve the requested alternate benchmark within 30 days. EPA may approve your request, request additional time (e.g., if additional information is needed to substantiate the data you provided), or deny your request. Unless and until EPA approves your request to use an alternate benchmark, you are required to use the standard benchmark of 50 NTUs and take any required corrective actions if an exceedance occurs.

3.3.3 Comparison of turbidity samples to benchmark. Compare the weekly average[63] of your turbidity monitoring results to the standard 50 NTU benchmark, or alternate benchmark if approved by EPA.

a. If the weekly average of your turbidity monitoring results exceeds the standard benchmark (or your approved alternate benchmark), you are required to conduct follow-up corrective action in accordance with Part 5.2.2 and document any corrective action taken in your corrective action log in accordance with Part 5.4.

b. For averaging purposes, a "monitoring week" starts with a Monday and ends on Sunday. Once a new monitoring week starts, you will need to calculate a new average for that week of turbidity monitoring results.[64] A weekly average may consist of one or more turbidity monitoring results.

c. Although you are not required to collect and analyze more than one turbidity sample per day from your dewatering discharge, if you do collect and analyze more than one sample on any given day, you must include any additional results in the

[62] For instance, if your site is located in Washington, DC, and you are discharging to a Class B water, for which the water quality standard is that turbidity may not increase above ambient levels by more than 20 percent, you would reference "Water Quality Standards for the District of Columbia, Chapter 11, Section 1104.8."

[63] A "weekly average" is defined as the sum of all of the turbidity samples taken during a "monitoring week" divided by the number of samples measured during that week. Average values should be calculated to the nearest whole number.

[64] For example, if turbidity samples from your dewatering discharge in week 1 result in values of 30 NTU on Tuesday, 40 NTU on Wednesday, and 45 NTU on Thursday, your weekly average turbidity value would be 38.33 NTU ((30+40+45) ÷ 3 = 38 NTU). If in week 2, your turbidity samples resulted in values of 45 NTU on Monday, 30 NTU on Tuesday, 25 NTU on Wednesday, and 15 NTU on Thursday, you would calculate a new average for that week, which would yield an average turbidity value of 28.75 NTU ((45+30+25+15) ÷ 4 = 29 NTU). By comparison, if your samples on consecutive days from Friday to Monday were 60 NTU, 45 NTU, 40 NTU, and 43 NTU, respectively, and there are no other dewatering discharges for the remainder of the week, you would calculate one weekly average for the Friday to Sunday to be 48 NTU ((60+45+40) ÷ 3 = 48 NTU), and a separate weekly average for the one Monday to be 43 NTU (43 ÷ 1 = 43 NTU).

calculation of your weekly average (i.e., add all individual results for that monitoring week and divide by the total number of samples).[65]

d. If you are conducting turbidity monitoring for more than one dewatering discharge point, you must calculate a weekly average turbidity value for each discharge point and compare each to the turbidity benchmark.

3.3.4 Reporting and recordkeeping.

a. You must submit reports of your weekly average turbidity data to EPA no later than 30 days following the end of each monitoring quarter. If there are monitoring weeks in which there was no dewatering discharge, or if there is a monitoring quarter with no dewatering discharge, indicate this in your turbidity monitoring report. If another operator associated with your same site is conducting turbidity monitoring on your behalf pursuant to Part 3.3, indicate this in your turbidity monitoring report.

b. For the purposes of this permit, the following monitoring quarters and reporting deadlines apply:

Table 3. Monitoring Quarters and Deadlines for Reporting Turbidity Benchmark Monitoring Data.

Monitoring Quarter #	**Months**	**Reporting Deadline** (no later than 30 days after end of the monitoring quarter)
1	January 1 – March 31	April 30
2	April 1 – June 30	July 30
3	July 1 – September 30	October 30
4	October 1 – December 31	January 30

c. You must use EPA's NPDES eReporting Tool (NeT) to electronically submit your quarterly turbidity data, unless, consistent with Part 1.4.2, you received a waiver from your applicable EPA Regional Office. If the EPA Regional Office grants you approval to use a paper turbidity monitoring report form, and you elect to use it, you must complete the form in Appendix K. If EPA approves of your request to use an alternate turbidity benchmark pursuant to Part 3.3.2b, EPA will substitute the alternate benchmark in your NeT account.

d. For each day in which you are required to monitor, you must record the monitoring information required by Appendix G, Parts G.10.2 and G.10.3 and retain all such information for a period of at least three years from the date this permit expires or from the date your authorization is terminated.

[65] For example, if during a monitoring week you take two turbidity samples on Tuesday with a value of 30 NTU and 35 NTU, three samples on Wednesday with a value of 40 NTU, 45 NTU, and 48 NTU, and one sample on Thursday with a value of 45 NTU, your weekly average turbidity value for this week would be 41 NTU ((30+35+40+45+48+45) ÷ 6 = 41 NTU).

Table 4. Summary of Turbidity Benchmark Monitoring Requirements.

Applicability	Sampling Requirement	Turbidity Benchmark	Corrective Action	Reporting
Sites discharging dewatering water to a sediment-impaired water or to a water designated as a Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes.	Collect at least one turbidity sample per day, from each discharge point, on any day there is a dewatering discharge. Use turbidity sampling procedures specified in Part 3.3.1.	Compare the weekly average of your turbidity monitoring results to the 50 NTU benchmark (or alternate benchmark if approved by EPA).	If the weekly average of turbidity monitoring results exceeds the 50 NTU turbidity benchmark (or alternate benchmark if approved by EPA), you are required to take follow-up corrective action in accordance with Part 5.2.2.	Report all weekly average turbidity monitoring results on a quarterly basis via NeT-CGP (unless use of the paper monitoring form in Appendix K is approved by EPA) no later than 30 days following the end of each monitoring quarter.

4 INSPECTION REQUIREMENTS

4.1 PERSON(S) RESPONSIBLE FOR CONDUCTING SITE AND DEWATERING INSPECTIONS

The person(s) inspecting your site may be a person on your staff or a third party you hire to conduct such inspections. You are responsible for ensuring that any person conducting inspections pursuant to this Part is a "qualified person." A qualified person is someone who has completed the training required by Part 6.3.

4.2 FREQUENCY OF INSPECTIONS.[66]

At a minimum, you must conduct a site inspection in accordance with one of the two schedules listed below, unless you are subject to the Part 4.3 site inspection frequency for discharges to sediment or nutrient-impaired or high quality waters, or qualify for a Part 4.4 reduction in the inspection frequency:

4.2.1 At least once every seven (7) calendar days; *or*

4.2.2 Once every 14 calendar days *and* within 24 hours[67] of the occurrence of:

- **a.** A storm event that produces 0.25 inches or more of rain within a 24-hour period.
  - **i.** If a storm event produces 0.25 inches or more of rain within a 24-hour period (including when there are multiple, smaller storms that alone produce less than 0.25 inches but together produce 0.25 inches or more in 24 hours), you are required to conduct one inspection within 24 hours of when 0.25 inches of rain or more has fallen.

[66] Inspections are only required during the site's normal working hours.

[67] For the purposes of the inspection requirements in this Part, conducting an inspection "within 24 hours" means that once either of the two conditions in Parts 4.2.2a or 4.2.2b are met you have 24 hours from that time to conduct an inspection. For clarification, the 24 hours is counted as a continuous passage of time, and not counted by business hours (e.g., 3 business days of 8 hours each). When the 24-hour inspection time frame occurs entirely outside of normal working hours, you must conduct an inspection by no later than the end of the next business day.

ii. If a storm event produces 0.25 inches or more of rain within a 24-hour period on the first day of a storm and continues to produce 0.25 inches or more of rain on subsequent days, you must conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the last day of the storm that produces 0.25 inches or more of rain (i.e., only two inspections would be required for such a storm event).[68]

b. A discharge caused by snowmelt from a storm event that produces 3.25 inches[69] or more of snow within a 24-hour period. You are required to conduct one inspection once the discharge of snowmelt from a 3.25-inch or more snow accumulation occurs. Additional snowmelt inspections are only required if following the discharge from the first snowmelt, there is a discharge from a separate storm event that produces 3.25 inches or more of snow.

4.2.3 To determine whether a storm event meets either of the thresholds in Parts 4.2.2a or 4.2.2b:

a. For rain, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any 24-hour period during which there is 0.25 inches or more of rainfall, you must record the total rainfall measured for that day in accordance with Part 4.7.1d.

b. For snow, you must either take measurements of snowfall at your site,[70] or rely on similar information from a local weather forecasting provider that is representative of your location.

4.3 INCREASE IN INSPECTION FREQUENCY FOR CERTAIN SITES.

The increased inspection frequencies established in this Part take the place of the Part 4.2 inspection frequencies for the portion of the site affected.

4.3.1 For any portion of the site that discharges to a sediment or nutrient-impaired water or to a water that is identified by your State, Tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes (see Part 3.2), you must conduct an once every seven (7) calendar days *and* within 24 hours of the occurrence of a storm event that produces 0.25 inches or more of rain within a 24-hour period, or within 24 hours of a snowmelt discharge from a storm event that produces 3.25 inches or more of snow within a 24-hour period.

[68] For example, if 0.30 inches of rain falls on Day 1, 0.25 inches of rain falls on Day 2, and 0.10 inches of rain fall on Day 3, you would be required to conduct a first inspection within 24 hours of the Day 1 rainfall and a second inspection within 24 hours of the Day 2 rainfall, but a third inspection would not be required within 24 hours of the Day 3 rainfall.

[69] This is the amount of snow that is equivalent to 0.25 inches of rain, based on information from the National Oceanic and Atmospheric Administration (NOAA) indicating that 13 inches of snow is, on average, equivalent to 1 inch of rain. See https://www.nssl.noaa.gov/education/svrwx101/winter/faq/.

[70] For snowfall measurements, EPA suggests use of NOAA's National Weather Service guidelines at https://www.weather.gov/jkl/snow_measurement. These guidelines recommend use of a "snowboard" (a piece of wood about 16 inches by 16 inches) that is placed in an unobstructed part of the site on a hard surface.

Refer to Parts 4.2.3a and 4.2.3b for the requirements to determine if a storm event produces enough rain or snow to trigger the inspection requirement.

4.3.2 For sites discharging dewatering water, you must conduct an inspection in accordance with Part 4.6.3 during the discharge once per day on which the discharge occurs. The Part 4.2 inspection frequency still applies to all other portions of the site, unless the site is affected by either the increased frequency in Part 4.3.1 or the reduced frequency in Part 4.4.

4.4 REDUCTIONS IN INSPECTION FREQUENCY

4.4.1 Stabilized areas.

a. You may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, then once per month until permit coverage is terminated consistent with Part 8 in any area of your site where the stabilization steps in Part 2.2.14a have been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required in Parts 4.2 and 4.3, as applicable. You must document the beginning and ending dates of this period in your SWPPP.

b. Exception. For "linear construction sites" (as defined in Appendix A) where disturbed portions have undergone final stabilization at the same time active construction continues on others, you may reduce the frequency of inspections to twice per month for the first month, no more than 14 calendar days apart, in any area of your site where the stabilization steps in Part 2.2.14a have been completed. After the first month, inspect once more within 24 hours of the occurrence of a storm event that produces 0.25 inches of rain or more within a 24-hour period, or within 24 hours of a snowmelt discharge from a storm event that produces 3.25 inches or more of snow within a 24-hour period. If there are no issues or evidence of stabilization problems, you may suspend further inspections. If "wash-out" of stabilization materials and/or sediment is observed, following re-stabilization, inspections must resume at the inspection frequency required in Part 4.4.1a. Inspections must continue until final stabilization is visually confirmed following a storm event that produces 0.25 inches of rain or more within a 24-hour period.

4.4.2 Arid, semi-arid, or drought-stricken areas (as defined in Appendix A). If it is the seasonally dry period[71] or a period in which drought is occurring, you may reduce the frequency of inspections to once per month and within 24 hours of the occurrence of a storm event that produces 0.25 inches of rain or more within a 24-hour period, or within 24 hours of a snowmelt discharge from a storm event that produces 3.25 inches or more of snow within a 24-hour period. You must document that you are using this reduced schedule and the beginning and ending dates of the seasonally dry period in your SWPPP. Follow the procedures in Part 4.2.3a and 4.2.3b, accordingly, to determine if a storm event occurs that produces 0.25 inches or more of rain or 3.25 inches or more of snow within a 24-hour period. For any 24-hour period during which there is 0.25 inches or more of rainfall, or 3.25 inches or more of snow, you must record the total rainfall or snow measured for that day in accordance with Part 4.7.1d.

[71] See footnote 44.

4.4.3 Frozen conditions:

a. If you are suspending construction activities due to frozen conditions, you may temporarily suspend inspections on your site until thawing conditions (as defined in Appendix A) begin to occur if:

i. Discharges are unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages.[72] If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable;

ii. Land disturbances have been suspended; and

iii. All disturbed areas of the site have been stabilized in accordance with Part 2.2.14a.

b. If you are still conducting construction activities during frozen conditions, you may reduce your inspection frequency to once per month if:

i. Discharges are unlikely due to continuous frozen conditions that are likely to continue at your site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.2 and 4.3, as applicable; and

ii. Except for areas in which you are actively conducting construction activities, disturbed areas of the site have been stabilized in accordance with Part 2.2.14a.

You must document the beginning and ending dates of this period in your SWPPP.

4.5 AREAS THAT MUST BE INSPECTED

During your site inspection, you must at a minimum inspect the following areas of your site:

4.5.1 All areas that have been cleared, graded, or excavated and that have not yet completed stabilization consistent with Part 2.2.14a;

4.5.2 All stormwater controls, including pollution prevention controls, installed at the site to comply with this permit;[73]

4.5.3 Material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit;

4.5.4 All areas where stormwater typically flows within the site, including constructed or natural site drainage features designed to divert, convey, and/or treat stormwater;

4.5.5 All areas where construction dewatering is taking place, including controls to treat the dewatering discharge and any channelized flow of water to and from those controls;

[72] Use data sets that include the most recent data available to account for recent precipitation patterns and trends.

[73] This includes the requirement to inspect for sediment that has been tracked out from the site onto paved roads, sidewalks, or other paved areas consistent with Part 2.2.4.

4.5.6 All points of discharge from the site; and

4.5.7 All locations where stabilization measures have been implemented.

You are not required to inspect areas that, at the time of the inspection, are considered unsafe to your inspection personnel.

4.6 REQUIREMENTS FOR INSPECTIONS

4.6.1 During each site inspection, you must at a minimum:

a. Check whether all stormwater controls *(*i.e.*, erosion and sediment controls and pollution prevention controls)* are properly installed, appear to be operational, and are working as intended to minimize pollutant discharges.

b. Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.

c. Identify any locations where new or modified stormwater controls are necessary to meet the requirements of Parts 2 and/or 3.

d. Check for signs of visible erosion and sedimentation *(*i.e.*, sediment deposits)* that have occurred and are attributable to your discharge at points of discharge and, if applicable, on the banks of any receiving waters flowing within or immediately adjacent to the site;

e. Check for signs of sediment deposition that are visible from your site and attributable to your discharge (e.g., sand bars with no vegetation growing on top in receiving waters or in other constructed or natural site drainage features, or the buildup of sediment deposits on nearby streets, curbs, or open conveyance channels).

f. Identify any incidents of noncompliance observed.

4.6.2 If a discharge is occurring during your inspection:

a. Identify all discharge points at the site; and

b. Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants. Check also for signs of these same pollutant characteristics that are visible from your site and attributable to your discharge in receiving waters or in other constructed or natural site drainage features.

4.6.3 For dewatering inspections conducted pursuant to Parts 4.3.2, record the following in a report within 24 hours of completing the inspection:

a. The inspection date;

b. Names and titles of personnel making the inspection;

c. Approximate times that the dewatering discharge began and ended on the day of inspection;[74]

d. Estimates of the rate (in gallons per day) of discharge on the day of inspection;

[74] If the dewatering discharge is a continuous discharge that continues after normal business hours, indicate that the discharge is continuous.

e. Whether or not any of the following indications of pollutant discharge were observed at the point of discharge to any receiving waters flowing through or immediately adjacent to the site and/or to constructed or natural site drainage features or storm drain inlets:[75]

i. a sediment plume, suspended solids, unusual color, presence of odor, decreased clarity, or presence of foam; and/or

ii. a visible sheen on the water surface or visible oily deposits on the bottom or shoreline of the receiving water; and

f. Photographs of (1) the dewatering water prior to treatment by a dewatering control(s) and the final discharge after treatment; (2) the dewatering control(s); and (3) the point of discharge to any receiving waters flowing through or immediately adjacent to the site and/or to constructed or natural site drainage features, storm drain inlets, and other conveyances to receiving waters.

You must also comply with the Part 4.7.2, 4.7.3, and 4.7.4 requirements for signing the reports, keeping them available on site, and retaining copies.

4.6.4 Based on the results of your inspection:

a. Complete any necessary maintenance repairs or replacements under Part 2.1.4 or under Part 5, whichever applies; and

b. Modify your SWPPP site map in accordance with Part 7.4.1 to reflect changes to your stormwater controls that are no longer accurately reflected on the current site map.

4.7 INSPECTION REPORT

4.7.1 You must complete an inspection report within 24 hours of completing any site inspection. Each inspection report (except for dewatering inspection reports, which are covered in Part 4.6.3) must include the following:

a. The inspection date;

b. Names and titles of personnel making the inspection;

c. A summary of your inspection findings, covering at a minimum the observations you made in accordance with Part 4.6, including any problems found during your inspection that make it necessary to perform routine maintenance pursuant to Part 2.1.4b or corrective action pursuant to Part 5. Include also any documentation as to why the corrective action procedures under Part 5 are unnecessary to fix a problem that repeatedly occurs as described in Part 2.1.4c;

d. If you are inspecting your site at the frequency specified in Part 4.2.2, Part 4.3, or Part 4.4.1b, and you conducted an inspection because of a storm event that produced rainfall measuring 0.25 inches or more within a 24-hour period, you must include the applicable rain gauge or weather station readings that triggered the inspection. Similarly, if you conducted an inspection because of a snowmelt discharge from a storm event that produced 3.25 inches or more of snow within a 24-hour period, you must include any measurements taken of snowfall at your site, or weather station information you relied on; and

[75] If the operator observes any of these indicators of pollutant discharge, corrective action is required consistent with Parts 5.1.5b and 5.2.2.

e. If you determined that it is unsafe to inspect a portion of your site, you must describe the reason you found it to be unsafe and specify the locations to which this condition applies.

4.7.2 Each inspection report must be signed by the operator's signatory in accordance with Appendix G, Part G.11 of this permit.

4.7.3 You must keep a copy of all inspection reports at the site or at an easily accessible location, so that it can be made immediately available at the time of an on-site inspection or upon request by EPA.[76]

4.7.4 You must retain all inspection reports completed for this Part for at least three (3) years from the date that your permit coverage expires or is terminated.

4.8 INSPECTIONS BY EPA

You must allow EPA, or an authorized representative of EPA, to conduct the following activities at reasonable times. To the extent that you are utilizing shared controls, that are not on site, to comply with this permit, you must make arrangements for EPA to have access at all reasonable times to those areas where the shared controls are located.

4.8.1 Enter onto all areas of the site, including any construction support activity areas covered by this permit, any off-site areas where shared controls are utilized to comply with this permit, discharge locations, adjoining waterbodies, and locations where records are kept under the conditions of this permit;

4.8.2 Access and copy any records that must be kept under the conditions of this permit;

4.8.3 Inspect your construction site, including any construction support activity areas covered by this permit (see Part 1.2.1c), any stormwater controls installed and maintained at the site, and any off-site shared controls utilized to comply with this permit; and

4.8.4 Sample or monitor for the purpose of ensuring compliance.

5 CORRECTIVE ACTIONS

5.1 CONDITIONS TRIGGERING CORRECTIVE ACTION.

You must take corrective action to address any of the following conditions identified at your site:

5.1.1 A stormwater control needs a significant repair or a new or replacement control is needed, or, in accordance with Part 2.1.4c, you find it necessary to repeatedly (i.e., three (3) or more times) conduct the same routine maintenance fix to the same control at the same location (unless you document in your inspection report under Part 4.7.1c that the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix under Part 2.1.4); or

5.1.2 A stormwater control necessary to comply with the requirements of this permit was never installed, or was installed incorrectly; or

[76] Inspection reports may be prepared, signed, and kept electronically, rather than in paper form, if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) immediately accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form. For additional guidance on the proper practices to follow for the electronic retention of inspection report records, refer to the Fact Sheet discussion related to Part 4.7.3.

5.1.3 Your discharges are not meeting applicable water quality standards;

5.1.4 A prohibited discharge has occurred (see Part 1.3); or

5.1.5 During discharge from site dewatering activities:

a. The weekly average of your turbidity monitoring results exceeds the 50 NTU benchmark (or alternate benchmark if approved by EPA pursuant to Part 3.3.2b); or

b. You observe or you are informed by EPA, State, or local authorities of the presence of the conditions specified in Part 4.6.3e.

5.2 CORRECTIVE ACTION DEADLINES

5.2.1 If responding to any of the Part 5.1.1, 5.1.2, 5.1.3, or 5.1.4 triggering conditions, you must:

a. Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events; and

b. When the problem does not require a new or replacement control or significant repair, the corrective action must be completed by the close of the next business day; or

c. When the problem requires a new or replacement control or significant repair, install the new or modified control and make it operational, or complete the repair, by no later than seven (7) calendar days from the time of discovery. If it is infeasible to complete the installation or repair within seven (7) calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7-day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as feasible after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within seven (7) calendar days of completing this work.

5.2.2 If responding to either of the Part 5.1.5 triggering conditions related to site dewatering activities, you must:

a. Immediately take all reasonable steps to minimize or prevent the discharge of pollutants until you can implement a solution, including shutting off the dewatering discharge as soon as possible depending on the severity of the condition[77] taking safety considerations into account;

b. Determine whether the dewatering controls are operating effectively and whether they are causing the conditions; and

c. Make any necessary adjustments, repairs, or replacements to the dewatering controls to lower the turbidity levels below the benchmark or remove the visible plume or sheen.

[77] For instance, if the weekly average of your turbidity monitoring results or a single sample is extremely high (e.g., a single turbidity sample results in 355 NTUs or higher), you should take action to safely shut off the discharge so that you can evaluate the cause of the high turbidity. Note: A single turbidity sample of 355 NTUs or higher means that the weekly average turbidity value will exceed 50 NTU regardless of the turbidity values the other days during the week.

When you have completed these steps and made any changes deemed necessary, you may resume discharging from your dewatering activities.

5.3 CORRECTIVE ACTION REQUIRED BY EPA

You must comply with any corrective actions required by EPA as a result of permit violations found during an inspection carried out under Part 4.8.

5.4 CORRECTIVE ACTION LOG

5.4.1 For each corrective action taken in accordance with this Part, you must record the following in a corrective action log:

- **a.** Within 24 hours of identifying the corrective action condition, document the specific condition and the date and time it was identified.
- **b.** Within 24 hours of completing the corrective action (in accordance with the deadlines in Part 5.2), document the actions taken to address the condition, including whether any SWPPP modifications are required.

5.4.2 Each entry into the corrective action log, consisting of the information required by both Parts 5.4.1a and 5.4.1b, must be signed by the operator's signatory in accordance with Appendix G, Part G.11.2 of this permit.

5.4.3 You must keep a copy of the corrective action log at the site or at an easily accessible location, so that it can be made immediately available at the time of an on-site inspection or upon request by EPA.[78]

5.4.4 You must retain the corrective action log for at least three (3) years from the date that your permit coverage expires or is terminated.

6 STORMWATER TEAM FORMATION/STAFF TRAINING REQUIREMENTS

6.1 STORMWATER TEAM

Each operator, or group of multiple operators, must assemble a "stormwater team" that will be responsible for carrying out activities necessary to comply with this permit. The stormwater team must include the following people:

- **a.** Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention controls);
- **b.** Personnel responsible for the application and storage of treatment chemicals (if applicable);
- **c.** Personnel who are responsible for conducting inspections as required in Part 4.1; and
- **d.** Personnel who are responsible for taking corrective actions as required in Part 5.

Members of the stormwater team must be identified in the SWPPP pursuant to Part 7.2.2.

[78] The corrective action log may be prepared, signed, and kept electronically, rather than in paper form, if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) immediately accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form. For additional guidance on the proper practices to follow for the electronic retention of corrective action log records, refer to the Fact Sheet discussion related to Part 4.7.3.

6.2 GENERAL TRAINING REQUIREMENTS FOR STORMWATER TEAM MEMBERS

Prior to the commencement of construction activities, you must ensure that all persons[79] assigned to the stormwater team understand the requirements of this permit and their specific responsibilities with respect to those requirements, including the following related to the scope of their job duties:

a. The permit requirements and deadlines associated with installation, maintenance, and removal of stormwater controls, as well as site stabilization;

b. The location of all stormwater controls on the site required by this permit and how they are to be maintained;

c. The proper procedures to follow with respect to the permit's pollution prevention requirements; and

d. When and how to conduct inspections, record applicable findings, and take corrective actions. Specific training requirements for persons conducting site inspections are included in Part 6.3.

You are responsible for ensuring that all activities on the site comply with the requirements of this permit. You are not required to provide or document formal training for subcontractors or other outside service providers (unless the subcontractors or outside service providers are responsible for conducting the inspections required in Part 4, in which case you must provide such documentation consistent with Part 7.2.2), but you must ensure that such personnel understand any requirements of this permit that may be affected by the work they are subcontracted to perform.

6.3 TRAINING REQUIREMENTS FOR PERSONS CONDUCTING INSPECTIONS

For projects that receive coverage under this permit on or after February 17, 2023, to be considered a qualified person under Part 4.1 for conducting inspections under Part 4, you must, at a minimum, either:

a. Have completed the EPA construction inspection course developed for this permit and have passed the exam; or

b. Hold a current valid construction inspection certification or license from a program that, at a minimum, covers the following:[80]

- **i.** Principles and practices of erosion and sediment control and pollution prevention practices at construction sites;
- **ii.** Proper installation and maintenance of erosion and sediment controls and pollution prevention practices used at construction sites; and
- **iii.** Performance of inspections, including the proper completion of required reports and documentation, consistent with the requirements of Part 4.

[79] If the person requiring training is a new employee who starts after you commence construction activities, you must ensure that this person has the proper understanding as required above prior to assuming particular responsibilities related to compliance with this permit. For emergency-related projects, the requirement to train personnel prior to commencement of construction activities does not apply, however, such personnel must have the required training prior to NOI submission.

[80] If one of the following topics (e.g., installation and maintenance of pollution prevention practices) is not covered by the non-EPA training program, you may consider supplementing the training with the analogous module of the EPA course (e.g., Module 4) that covers the missing topic.

For projects that receive coverage under this permit prior to February 17, 2023, any personnel conducting site inspections pursuant to Part 4 on your site must, at a minimum, be a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality, and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.[81]

6.4 STORMWATER TEAM'S ACCESS TO PERMIT DOCUMENTS

Each member of the stormwater team must have easy access to an electronic or paper copy of applicable portions of this permit, the most updated copy of your SWPPP, and other relevant documents or information that must be kept with the SWPPP.

7 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

7.1 GENERAL REQUIREMENTS

All operators associated with a construction site under this permit must develop a SWPPP consistent with the requirements in Part 7 prior to their submittal of the NOI.[82, 83, 84] The SWPPP must be kept up-to-date throughout coverage under this permit.

If a SWPPP was prepared under a previous version of this permit, the operator must review and update the SWPPP to ensure that this permit's requirements are addressed prior to submitting an NOI for coverage under this permit.

7.2 SWPPP CONTENTS

At a minimum, the SWPPP must include the information specified in this Part and as specified in other parts of this permit.

7.2.1 All Site Operators. Include a list of all other operators who will be engaged in construction activities at the site, and the areas of the site over which each operator has control.

[81] If you receive coverage for a project prior to February 17, 2023, and construction activities for the same project will continue after February 17, 2023, the personnel conducting inspections do not need to take the additional training specified in Parts 6.3a and 6.3b for inspections conducted on the project site. If the same operator obtains coverage for a different project on or after February 17, 2023, personnel conducting inspections would be required to meet the requirements for a qualified person by completing the training in either Part 6.3a or Part 6.3b.

[82] The SWPPP does not establish the effluent limits and/or other permit terms and conditions that apply to your site's discharges; these limits, terms, and conditions are established in this permit.

[83] Where there are multiple operators associated with the same site, they may develop a group SWPPP instead of multiple individual SWPPPs. Regardless of whether there is a group SWPPP or multiple individual SWPPPs, each operator is responsible for compliance with the permit's terms and conditions. In other words, if Operator A relies on Operator B to satisfy its permit obligations, Operator A does not have to duplicate those permit-related functions if Operator B is implementing them such that both operators are in compliance with the permit. However, Operator A remains responsible for permit compliance if Operator B fails to take actions necessary for Operator A to comply with the permit. In addition, all operators must ensure, either directly or through coordination with other operators, that their activities do not cause a violation or compromise any other operators' controls and/or any shared controls. See also footnote 60.

[84] There are a number of commercially available products to assist operators in developing the SWPPP, as well as companies that can be hired to help develop a site-specific SWPPP. The permit does not state which are recommended, nor does EPA endorse any specific products or vendors. Where operators choose to rely on these products or services, the choice of which ones to use to comply with the requirements of this Part is a decision for the operator alone.

7.2.2 Stormwater Team. Identify the personnel (by name and position) that you have made part of the stormwater team pursuant to Part 6.1, as well as their individual responsibilities, including which members are responsible for conducting inspections.

Include verification that each member of the stormwater team has received the training required by Part 6.2. Include documentation that members of the stormwater team responsible for conducting inspections pursuant to Part 4 have received the training required by Part 6.3. If personnel on your team elect to complete the EPA inspector training program pursuant to Part 6.3a, you must include copies of the certificate showing that the relevant personnel have completed the training and passed the exam. If personnel on your team elect to complete a non-EPA inspector training program pursuant to Part 6.3b, you must include documentation showing that these persons have successfully completed the program and their certification or license is still current. You must also confirm that the non-EPA inspector training program satisfies the minimum elements for such programs in Part 6.3b.

7.2.3 Nature of Construction Activities. Include the following:

- **a.** A description of the nature of your construction activities, including the age or dates of past renovations for structures that are undergoing demolition;
- **b.** The size of the property (in acres or length in miles if a linear construction site);
- **c.** The total area expected to be disturbed by the construction activities (to the nearest quarter acre or nearest quarter mile if a linear construction site);
- **d.** A description of any on-site and off-site construction support activity areas covered by this permit (see Part 1.2.1c);
- **e.** The maximum area expected to be disturbed at any one time, including on-site and off-site construction support activity areas;
- **f.** A description and projected schedule for the following:[85]
  - **i.** Commencement of construction activities in each portion of the site, including clearing and grubbing, mass grading, demolition activities, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization;
  - **ii.** Temporary or permanent cessation of construction activities in each portion of the site;
  - **iii.** Temporary or final stabilization of exposed areas for each portion of the site; and
  - **iv.** Removal of temporary stormwater controls and construction equipment or vehicles, and the cessation of construction-related pollutant-generating activities.

[85] If plans change due to unforeseen circumstances or for other reasons, the requirement to describe the sequence and estimated dates of construction activities is not meant to "lock in" the operator to meeting these dates. When departures from initial projections are necessary, this should be documented in the SWPPP itself, or in associated records, as appropriate.

g. A list and description of all pollutant-generating activities[86] on the site. For each pollutant-generating activity, include an inventory of pollutants or pollutant constituents (e.g., *sediment, fertilizers, pesticides, paints, caulks, sealants, fluorescent light ballasts, contaminated substrates, solvents, fuels*) associated with that activity, which could be discharged in stormwater from your construction site. You must take into account where potential spills and leaks could occur that contribute pollutants to stormwater discharges, and any known hazardous or toxic substances, such as PCBs and asbestos, that will be disturbed or removed during construction;

h. Business days and hours for the project;

i. If you are conducting construction activities in response to a public emergency (see Part 1.4), a description of the cause of the public emergency *(*e.g., *mud slides, earthquake, extreme flooding conditions, widespread disruption in essential public services)*, information substantiating its occurrence *(*e.g., *State disaster declaration or similar State or local declaration)*, and a description of the construction necessary to reestablish affected public services.

7.2.4 Site Map. Include a legible map, or series of maps, showing the following features of the site:

a. Boundaries of the property;

b. Locations where construction activities will occur, including:

i. Locations where earth-disturbing activities will occur (note any phasing), including any demolition activities;

ii. Approximate slopes before and after major grading activities (note any steep slopes (as defined in Appendix A));

iii. Locations where sediment, soil, or other construction materials will be stockpiled;

iv. Any receiving water crossings;

v. Designated points where vehicles will exit onto paved roads;

vi. Locations of structures and other impervious surfaces upon completion of construction; and

vii. Locations of on-site and off-site construction support activity areas covered by this permit (see Part 1.2.1c).

c. Locations of any receiving waters within the site and all receiving waters within one mile downstream of the site's discharge point(s). Also identify if any of these receiving waters are listed as impaired or are identified as a Tier 2, Tier 2.5, or Tier 3 water;

d. Any areas of Federally listed critical habitat within the action area of the site as defined in Appendix A;

e. Type and extent of pre-construction cover on the site (e.g., vegetative cover, forest, pasture, pavement, structures);

f. Drainage patterns of stormwater and authorized non-stormwater before and after major grading activities;

[86] Examples of pollutant-generating activities include paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering activities.

g. Stormwater and authorized non-stormwater discharge locations, including:

i. Locations where stormwater and/or authorized non-stormwater will be discharged to storm drain inlets, including a notation of whether the inlet conveys stormwater to a sediment basin, sediment trap, or similarly effective control;[87]

ii. Locations where stormwater or authorized non-stormwater will be discharged directly to receiving waters (i.e., not via a storm drain inlet); and

iii. Locations where turbidity benchmark monitoring will take place to comply with Part 3.3, if applicable to your site.

h. Locations of all potential pollutant-generating activities identified in Part 7.2.3g;

i. Designated areas where construction wastes that are covered by the exception in Part 2.3.3e.ii because they are not pollutant-generating will be stored;

j. Locations of stormwater controls, including natural buffer areas and any shared controls utilized to comply with this permit; and

k. Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

7.2.5 Non-Stormwater Discharges. Identify all authorized non-stormwater discharges in Part 1.2.2 that will or may occur.

7.2.6 Description of Stormwater Controls.

a. For each of the Part 2.2 erosion and sediment control requirements, Part 2.3 pollution prevention requirements, and Part 2.4 construction dewatering requirements, as applicable to your site, you must include the following:

i. A description of the specific control(s) to be implemented to meet these requirements;

ii. The design specifications for controls described in Part 7.2.6a.i (including references to any manufacturer specifications and/or erosion and sediment control manuals/ordinances relied upon);[88]

iii. Routine stormwater control maintenance specifications; and

iv. The projected schedule for stormwater control installation/implementation.

b. You must also include any of the following additional information as applicable.

i. **Natural buffers and/or equivalent sediment controls** (see Part 2.2.1 and Appendix F). You must include the following:

(a) The compliance alternative to be implemented;

(b) If complying with alternative 2, the width of natural buffer retained;

[87] The requirement to show storm drain inlets in the immediate vicinity of the site on your site map only applies to those inlets that are easily identifiable from your site or from a publicly accessible area immediately adjacent to your site.

[88] Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practice and must be explained in the SWPPP.

(c) If complying with alternative 2 or 3, the erosion and sediment control(s) you will use to achieve an equivalent sediment reduction, and any information you relied upon to demonstrate the equivalency;

(d) If complying with alternative 3, a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size;

(e) For "linear construction sites" where it is infeasible to implement compliance alternative 1, 2, or 3, a rationale for this determination, and a description of any buffer width retained and/or supplemental erosion and sediment controls installed; and

(f) A description of any disturbances that are exempt under Part 2.2.1 that occur within 50 feet of a receiving water.

ii. Perimeter controls for a "linear construction site" (see Part 2.2.3d). For areas where perimeter controls are not feasible, include documentation to support this determination and a description of the other practices that will be implemented to minimize discharges of pollutants in stormwater associated with construction activities.

Note: Routine maintenance specifications for perimeter controls documented in the SWPPP must include the Part 2.2.3c.i requirement that sediment be removed before it has accumulated to one-half of the above-ground height of any perimeter control.

iii. Sediment track-out controls (see Parts 2.2.4b and 2.2.4c). Document the specific stabilization techniques and/or controls that will be implemented to remove sediment prior to vehicle exit.

iv. Inlet protection measures (see Part 2.2.10a). Where inlet protection measures are not required because the storm drain inlets to which your site discharges are conveyed to a sediment basin, sediment trap, or similarly effective control, include a short description of the control that receives the stormwater flow from the site.

v. Sediment basins (see Part 2.2.12). In circumstances where it is infeasible to utilize outlet structures that withdraw water from the surface, include documentation to support this determination, including the specific conditions or time periods when this exception will apply.

vi. Treatment chemicals (see Part 2.2.13), you must include the following:

(a) A listing of the soil types that are expected to be exposed during construction in areas of the project that will drain to chemical treatment systems. Also include a listing of soil types expected to be found in fill material to be used in these same areas, to the extent you have this information prior to construction;

(b) A listing of all treatment chemicals to be used at the site and why the selection of these chemicals is suited to the soil characteristics of your site;

(c) If the applicable EPA Regional Office authorized you to use cationic treatment chemicals for sediment control, include the specific controls and implementation procedures designed to ensure that your use of cationic

treatment chemicals will not lead to a discharge that does not meet water quality standards;

(d) The dosage of all treatment chemicals to be used at the site or the methodology to be used to determine dosage;

(e) Information from any applicable Safety Data Sheet (SDS);

(f) Schematic drawings of any chemically enhanced stormwater controls or chemical treatment systems to be used for application of the treatment chemicals;

(g) A description of how chemicals will be stored consistent with Part 2.2.13c;

(h) References to applicable State or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems; and

(i) A description of the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to use of the treatment chemicals at your site.

vii. Stabilization measures (see Part 2.2.14). You must include the following:

(a) The specific vegetative and/or non-vegetative practices that will be used;

(b) The stabilization deadline that will be met in accordance with Part 2.2.14;

(c) If complying with the deadlines for sites in arid, semi-arid, or drought-stricken areas, the beginning and ending dates of the seasonally dry period (as defined in Appendix A)[89] and the schedule you will follow for initiating and completing vegetative stabilization; and

(d) If complying with deadlines for sites affected by unforeseen circumstances that delay the initiation and/or completion of vegetative stabilization, document the circumstances and the schedule for initiating and completing stabilization.

viii. Spill prevention and response procedures (see Parts 1.3.5, 2.3.3c, 2.3.3d, and 2.3.6). You must include the following:

(a) Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or position of the employee(s) responsible for detection and response of spills or leaks; and

(b) Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.6 and established under either 40 CFR part 110, 40 CFR part 117, or 40 CFR part 302, occurs

[89] See footnote 44.

during a 24-hour period. Contact information must be in locations that are readily accessible and available to all employees.

You may also reference the existence of SPCC plans developed for the construction activity under Section 311 of the CWA, or spill control programs otherwise required by an NPDES permit for the construction activity, provided that you keep a copy of that other plan on site.[90]

ix. Waste management procedures (see Part 2.3.3). Describe the procedures you will follow for handling, storing, and disposing of all wastes generated at your site consistent with all applicable Federal, State, Tribal, and local requirements, including clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste. You must also include the following additional information:

(a) If site constraints prevent you from storing chemical containers 50 feet away from receiving waters or the other site drainage features as required in Part 2.3.3c.ii(b), document in your SWPPP the specific reasons why the 50-foot setback is not feasible, and how you will store containers as far away as the site permits; and

(b) If there are construction wastes that are subject to the exception in Part 2.3.3e.ii, describe the specific wastes that will be stored on your site.

x. Application of fertilizers (see Part 2.3.5). Document any departures from the manufacturer specifications where appropriate.

7.2.7 Procedures for Inspection, Maintenance, and Corrective Action. Describe the procedures you will follow for maintaining your stormwater controls, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Part 2.1.4, Part 4, and Part 5 of this permit, accordingly. Also include:

a. The inspection schedule you will follow, which is based on whether your site is subject to Part 4.2 or Part 4.3, or whether your site qualifies for any of the reduced inspection frequencies in Part 4.4;

b. If you will be conducting inspections in accordance with the inspection schedule in Part 4.2.2, Part 4.3, or Part 4.4.1b, the location of the rain gauge or the address of the weather station you will be using to obtain rainfall data;

c. If you will be reducing your inspection frequency in accordance with Part 4.4.1b, the beginning and ending dates of the seasonally defined arid period for your area or the valid period of drought;

d. If you will be reducing your inspection frequency in accordance with Part 4.4.3, the beginning and ending dates of frozen conditions on your site; and

e. Any maintenance or inspection checklists or other forms that will be used.

7.2.8 Procedures for Turbidity Benchmark Monitoring from Dewatering Discharges (if applicable). If you are required to comply with the Part 3.3 turbidity benchmark

[90] Even if you already have an SPCC or other spill prevention plan in existence, your plans will only be considered adequate if they meet all of the requirements of this Part, either as part of your existing plan or supplemented as part of the SWPPP.

monitoring requirements, describe the procedures you will follow to collect and evaluate samples, report results to EPA and keep records of monitoring information, and take corrective action when necessary. Include the specific type of turbidity meter you will use for monitoring, as well as any manuals or manufacturer instructions on how to operate and calibrate the meter. Describe any coordinating arrangement you may have with any other permitted operators on the same site with respect to compliance with the turbidity monitoring requirements, including which parties are tasked with specific responsibilities. If EPA has approved of an alternate turbidity benchmark pursuant to Part 3.3.2b, include any data and other documentation you relied on to request use of the specific alternative benchmark.

7.2.9 Compliance with Other Requirements.

a. Threatened and Endangered Species Protection. Include documentation required in the Endangered Species Protection section of the NOI in NeT, or the ESA worksheet in Appendix D, supporting your eligibility with regard to the protection of threatened and endangered species and designated critical habitat.

b. Historic Properties. Include documentation required in Appendix E supporting your eligibility with regard to the protection of historic properties.

c. Safe Drinking Water Act Underground Injection Control (UIC) Requirements for Certain Subsurface Stormwater Controls. If you are using any of the following stormwater controls at your site, document any contact you have had with the applicable State agency[91] or EPA Regional Office responsible for implementing the requirements for underground injection wells in the Safe Drinking Water Act and EPA's implementing regulations at 40 CFR § 144 -147. Such controls would generally be considered Class V UIC wells:

i. Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system);

ii. Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow; and

iii. Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system).

7.2.10 SWPPP Certification. Your signatory must sign and date your SWPPP in accordance with Appendix G, Part G.11.

7.2.11 Post-Authorization Additions to the SWPPP. Once you are authorized for coverage under this permit, you must include the following documents as part of your SWPPP:

a. A copy of your NOI submitted to EPA along with any correspondence exchanged between you and EPA related to coverage under this permit;

b. A copy of the acknowledgment letter you receive from NeT assigning your NPDES ID (i.e.*, permit tracking number*);

[91] For State UIC program contacts, refer to the following EPA website: https://www.epa.gov/uic.

c. A copy of this permit (an electronic copy easily available to the stormwater team is also acceptable).

7.3 ON-SITE AVAILABILITY OF YOUR SWPPP

You must keep a current copy of your SWPPP at the site or at an easily accessible location so that it can be made available at the time of an on-site inspection or upon request by EPA; a State, Tribal, or local agency approving stormwater management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).[92]

EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) will be withheld from the public, but may not be withheld from EPA, USFWS, or NMFS.[93]

If an on-site location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of your construction site.

7.4 SWPPP MODIFICATIONS

7.4.1 You must modify your SWPPP, including the site map(s), within seven (7) days of any of the following conditions:

a. Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater controls, or other activities at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered under Part 5. You do not need to modify your SWPPP if the estimated dates in Part 7.2.3f change during the course of construction;

b. To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;

c. If inspections or investigations by EPA or its authorized representatives determine that SWPPP modifications are necessary for compliance with this permit;

d. Where EPA determines it is necessary to install and/or implement additional controls at your site in order to meet the requirements of this permit, the following must be included in your SWPPP:

i. A copy of any correspondence describing such measures and requirements; and

[92] The SWPPP may be prepared, signed, and kept electronically, rather than in paper form, if the records are: (a) in a format that can be read in a similar manner as a paper record; (b) legally dependable with no less evidentiary value than their paper equivalent; and (c) immediately accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form. For additional guidance on the proper practices to follow for the electronic retention of the SWPPP, refer to the Fact Sheet discussion related to Part 4.7.3.

[93] Information covered by a claim of confidentiality will be disclosed by EPA only to the extent of, and by means of, the procedures set forth in 40 CFR part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may be disclosed to other employees, officers, or authorized representatives of the United States concerned with implementing the CWA. The authorized representatives, including employees of other executive branch agencies, may review CBI during the course of reviewing draft regulations.

ii. A description of the controls that will be used to meet such requirements.

e. To reflect any revisions to applicable Federal, State, Tribal, or local requirements that affect the stormwater controls implemented at the site; and

f. If applicable, if a change in chemical treatment systems or chemically enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

7.4.2 You must maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change (see Part 7.2.9 above) and a brief summary of all changes.

7.4.3 All modifications made to the SWPPP consistent with Part 7.4 must be authorized by a person identified in Appendix G, Part G.11.b.

7.4.4 Upon determining that a modification to your SWPPP is required, if there are multiple operators covered under this permit, you must immediately notify any operators who may be impacted by the change to the SWPPP.

8 HOW TO TERMINATE COVERAGE

Until you terminate coverage under this permit, you must comply with all conditions and effluent limitations in the permit. To terminate permit coverage, you must submit to EPA a complete and accurate Notice of Termination (NOT), which certifies that you have met the requirements for terminating in Part 8.

8.1 MINIMUM INFORMATION REQUIRED IN NOT

8.1.1 NPDES ID (i.e*., permit tracking number)* provided by EPA when you received coverage under this permit;

8.1.2 Basis for submission of the NOT (see Part 8.2);

8.1.3 Operator contact information;

8.1.4 Name of site and address (or a description of location if no street address is available); and

8.1.5 NOT certification.

8.2 CONDITIONS FOR TERMINATING CGP COVERAGE

You may terminate CGP coverage only if one or more of the conditions in Parts 8.2.1, 8.2.2, or 8.2.3 has occurred. Until your termination is effective consistent with Part 8.5, you must continue to comply with the conditions of this permit.

8.2.1 You have completed all construction activities at your site and, if applicable, construction support activities covered by this permit (see Part 1.2.1c), and you have met all of the following requirements:

a. For any areas that (1) were disturbed during construction, (2) are not covered by permanent structures, and (3) over which you had control during the construction activities, you have met the requirements for final vegetative or non-vegetative stabilization in Part 2.2.14c.

To document that you have met these stabilization requirements, you must take either ground or aerial photographs that show your site's compliance with the Part 2.2.14 stabilization requirements and submit them with your NOT. If any portion of your

site is covered by one of the exceptions in Part 2.2.14c.iii, indicate which exception applies and include a supplementary explanation with your photographs that provides the necessary context for why this portion of the site is in compliance with the final stabilization criteria even though it appears to be unstabilized. You are not required to take photographs of every distinct part of your site that is being stabilized, however, the conditions of the site portrayed in any photographs that are submitted must be substantially similar[94] to those of the areas that are not photographed. You must also comply with the following related to these photographs:

i. Take photographs both before and after the site has met the final stabilization criteria in Part 2.2.14c;

ii. All photographs must be clear and in focus, and in the original format and resolution; and

iii. Include the date each photograph was taken, and a brief description of the area of the site captured by the photograph (e.g., photo shows application of seed and erosion control mats to remaining exposed surfaces on northeast corner of site).

b. You have removed and properly disposed of all construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use following your termination of permit coverage;

c. You have removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following your termination of permit coverage or those that are biodegradable (as defined in Appendix A); and

d. You have removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following your termination of permit coverage; or

8.2.2 You have transferred control of all areas of the site for which you are responsible under this permit to another operator, and that operator has submitted an NOI and obtained coverage under this permit; or

8.2.3 Coverage under an individual or alternative general NPDES permit has been obtained.

8.3 HOW TO SUBMIT YOUR NOT

You must use EPA's NPDES eReporting Tool (NeT) to electronically prepare and submit an NOT for the 2022 CGP.

To access NeT, go to https://cdx.epa.gov/cdx.

Waivers from electronic reporting may be granted as specified in Part 1.4.2. If the EPA Regional Office grants you approval to use a paper NOT, and you elect to use it, you must complete the form in Appendix I.

[94] Stabilization conditions that are substantially similar would include areas that are using the same type of stabilization measures and that have similar slopes, soils, and topography, and have achieved the same level of stabilization.

8.4 DEADLINE FOR SUBMITTING THE NOT

You must submit an NOT within 30 calendar days after any one of the conditions in Part 8.2 occurs.

8.5 EFFECTIVE DATE OF TERMINATION OF COVERAGE

Your authorization to discharge under this permit terminates at midnight of the calendar day that a complete NOT is submitted to EPA.

9 PERMIT CONDITIONS APPLICABLE TO SPECIFIC STATES, INDIAN COUNTRY LANDS, OR TERRITORIES

The provisions in this Part provide additions to the applicable conditions of this permit to reflect specific additional conditions required as part of the State or Tribal CWA Section 401 certification process, or the Coastal Zone Management Act (CZMA) certification process, or as otherwise established by the permitting authority. The specific additional revisions and requirements only apply to activities in those specific States, Indian country, and areas in certain States with Federal Facilities or areas subject to construction projects by Federal Operators. States, Indian country, and other areas not included in this Part do not have any additions to the applicable conditions of this permit.

9.1 EPA REGION 1

9.1.1 NHR100000 State of New Hampshire

a. Should the permit coverage for an individual applicant be insufficient to achieve water quality standards, the New Hampshire Department of Environmental Services (NHDES) may prepare additional 401 certification conditions for that applicant. Any additional 401 certification conditions will follow all required NHDES public participation requirements.

b. If you disturb 100,000 square feet or more of contiguous area, you must also comply with RSA 485-A:17 and Env-Wq 1500, and, unless exempt, apply for an Alteration of Terrain (AoT) permit from NHDES. This requirement also applies to a lower disturbance threshold of 50,000 square feet or more when construction occurs within the protected shoreline under the Shoreland Water Quality Protection Act (see RSA 483-B and Env-Wq 1400). A permit application must also be filed if your project disturbs an area of greater than 2,500 square feet, is within 50 feet of any surface water, and has a flow path of 50 feet or longer disturbing a grade of 25 percent or greater. Project sites with disturbances smaller than those discussed above, that have the potential to adversely affect state surface waters, are subject to the conditions of an AoT General Permit by Rule (Env-Wq 1503.03).

c. You must determine that any excavation dewatering discharges are not contaminated before they will be authorized as an allowable non-stormwater discharge under this permit (see Part 1.2.2 of the Construction General Permit or CGP). In the absence of information demonstrating otherwise, the water is considered uncontaminated if there is no groundwater contamination within 1,000 feet of the groundwater dewatering location. Information on groundwater contamination can be generated over the Internet via the NHDES web site http:// des.nh.gov/ by using the One Stop Data Mapper. For a toxic substance included in the New Hampshire surface water quality standards, see Env-Wq 1703.21 (see https://www.des.nh.gov/sites/g/fi1es/ehbemt 341/files/documents/2020-01/Env-Wg

1700.pdf). If it is determined that the groundwater to be dewatered is near a remediation or other waste site, you must apply for the Remediation General Permit (see https://www3.epa.gov/region1/npdes/rgp.html)

d. As a minimum, you must treat any uncontaminated excavation "dewatering" discharges and "stormwater" discharges, as those terms are defined in Appendix A of the CGP, as necessary, to remove suspended solids and turbidity so that the surface waters receiving the construction discharges[95] meet New Hampshire surface water quality standards for turbidity (Env-Wq 1703.11 and Env-Wq 1703.03(c)(1)c), benthic deposits (Env-Wq 1703.03(c)(1)a), and Env-Wq 1703.08) and foam, debris, scum or other visible substances (i.e., plumes or visual turbidity)[96] (Env-Wq 1703.03(c)(1)b).

i. For all Construction Activities covered under this CGP, the following shall apply to ensure compliance with the aforementioned regulations for turbidity, benthic deposits and visible substances:

Unless otherwise specified, site inspection requirements shall comply with Part 4 of the CGP. As a minimum site inspection frequency shall be in accordance with Part 4.2.2 of the CGP (and Part 4.3.2 of the CGP for sites discharging dewatering water). Site inspection frequency may be reduced in accordance with Part 4.4 of the CGP (Reductions in Inspection Frequency). Monitoring of the receiving water for visible turbidity and benthic sediment deposits shall be conducted each site inspection and results reported in the Inspection Report required in Part 4.7 of the CGP. Should visible turbidity or benthic sediment deposits attributable or partly attributable to your construction activities be present in the receiving water, the "Corrective Actions" specified in Part 5 shall be immediately implemented to correct the water quality standard violations. In addition, daily monitoring (including photographs) of the receiving water shall be conducted until there is no visible turbidity or benthic deposits. Inspection Reports required in Part 4.7 of the CGP shall include, but not be limited to, the distance downstream and the percent of the river width[97] where visible turbidity was observed, and the period of time that the visible turbidity persisted. A copy of the Inspection Report(s) shall be made available to NHDES within 24 hours of receiving a written request from NHDES.

ii. For Construction Activities, disturbing 5 acres or more of land at any one time (excluding areas that have been completely stabilized in accordance with the final stabilization criteria specified in Part 2.2.14.c of the CGP), the following shall

[95] Construction Discharges include uncontaminated "dewatering" and "stormwater" discharges as those terms are defined in Appendix A of the CGP. Controlled construction discharges are construction discharges where the rate of flow can be regulated such as from a construction settling basin or NHDES approved flocculation system.

[96] For the definition of visual turbidity, see the definition for "Non-Turbid" in Appendix A of the CGP, which states the following:" "Non-Turbid" - a discharge that is free from visual turbidity. For the purposes of this permit, visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer." *[EPA interprets the text of this footnote as intending to reference the Appendix A definitions of "visual turbidity" and "non-turbid" in the final permit.]*

[97] The distance downstream and the percent of river width where visible turbidity (i.e., plume) is observed is required to determine the extent of the river affected and to determine if there was a "zone of passage" (i.e., a portion of the receiving water where there was no visible turbidity where mobile organisms could pass without being adversely impacted). The percent of river width affected is equal 100 multiplied by the width of the plume (in feet) divided by the width of the receiving water (in feet).

apply to ensure compliance with the aforementioned regulations for turbidity, benthic deposits and visible substances.

Item 9.1.1.d.i) above shall apply to all construction discharges and the minimum site inspection frequency shall comply with Part 4.3.1 of the CGP (and Part 4.3.2 of the CGP for sites discharging dewatering water). Site inspection frequency may be reduced in accordance with Part 4.4 of the CGP (Reductions in Inspection Frequency).

With regards to controlled construction discharges, if there is no visible turbidity (i.e., plumes) or benthic deposits, and, in the absence of information demonstrating otherwise, turbidity measurements of less than or equal to 50 nephelometric turbidity units (NTU) in the controlled construction discharges at the outlet prior to mixing with the receiving surface waters, shall be presumed to meet New Hampshire surface water quality standards for the parameters listed above. As a minimum, the controlled construction discharges must be sampled at each site inspection.

If any controlled construction discharge exceeds 50 NTU, or if visible turbidity or benthic sediment deposits attributable or partly attributable to any construction discharge are observed in the receiving water, then the "Corrective Actions" specified in Part 5 of the CGP shall be immediately implemented.

In addition, should such violation occur, and, in order to determine compliance with surface water quality standards for turbidity (Env-Wq 1703.11 and Env-Wq 1703.03(c)(1)c), benthic deposits (Env-Wq 1703.03(c)(1)a), and Env-Wq 1703.08) and foam, debris, scum or other visible substances (Env-Wq 1703.03(c)(1)b)), turbidity monitoring shall be immediately implemented as specified below:

Turbidity samples of the receiving water shall be immediately taken in the receiving water upstream and beyond the influence of the construction activity, and, unless a mixing zone[98] is approved by NHDES, no more than 75 feet downstream of each controlled construction discharge that exceeded 50 NTU and no more than 75 feet downstream of each construction discharge that caused visible turbidity.

Downstream samples shall be taken at locations in the receiving water that are most likely influenced by the discharge (e.g., if visible turbidity (i.e., a plume) is present, the sample shall be taken in the plume). Samples shall be collected a minimum of 2 times per day during the daylight hours at times when construction activities are most likely to cause turbidity in the receiving water and shall continue until the turbidity water quality standards are met in the receiving water (i.e., the difference between the upstream and downstream turbidity level is no greater than 10 NTU).

[98] Permittees may request a distance greater than 75 feet downstream of a construction discharge for determining compliance with turbidity standards in Class B surface waters, by submitting a mixing zone request to NHDES that complies with Env-Wq 1707.02. If a mixing zone is approved, NHDES is required to include conditions to ensure that the criteria on which the approval is based are met (Env-Wq 1707.03).

If water quality standards are not met during daylight hours on any day, sampling shall resume the next day and continue no fewer than 2 times per day until water quality standards are met. The date, time, location and results of turbidity measurements, as well as a summary identifying the cause of the violations, corrective actions that were implemented, the period of time that the receiving water exceeded turbidity standards and the distance downstream and the percent of the river width where visible turbidity was observed, and the period of time that the visible turbidity persisted, shall be recorded and included in the Inspection Report required in Part 4.7 of the CGP. Turbidity measurements shall be conducted via a field meter in accordance with the requirements for turbidity specified in Table 1B in 40 CFR 136.3 (see 40 CFR §136.3 Identification of test procedures - Code of Federal Regulations ecfr.io). Field meters shall be calibrated every day sampling is conducted and prior to the first sample.

e. Construction site owners and operators are encouraged to consider opportunities for post- construction groundwater recharge using infiltration best management practices (BMPs) during site design and preparation of the SWPPP in order to assure compliance with Env-Wq 1703.03 and Env-Wq 1703.11. If your construction site is in a town that is required to obtain coverage under the NPDES General Permit for discharges from Municipal Separate Storm Sewer Systems (MS4) you may be required to use such practices. The SWPPP must include a description of any on-site infiltration that will be installed as a post-construction stormwater management measure or reasons for not employing such measures such as 1) The facility is located in a wellhead protection area as defined in RSA 485- C:2; or 2) The facility is located in an area where groundwater has been reclassified to GAA, GA1 or GA2 pursuant to RSA 485-C and Env-DW 901; or 3) Any areas that would be exempt from the groundwater recharge requirements contained in Env-Wq 1507.04, including all land uses or activities considered to be a "High-load Area" (see Env-Wq 1502.30). For design considerations for infiltration measures see Env-Wq 1508.06. Note that there may be additional local requirements that fall under the NH MS4 permittee's Authorization to Discharge Permit for those regulated areas.

f. Appendix F of the CGP contains information regarding Tier 2, or high quality waters in the various states. ***[EPA notes that this information has now been moved to https://www.epa.gov/npdes/construction-general-permit-resources-tools-and-templates]*** Although there is no official list of tier 2 waters for New Hampshire, it can be assumed that all New Hampshire surface waters are tier 2 for turbidity unless 1) the surface water that you are proposing to discharge into is listed as impaired for turbidity in the states listing of impaired waters (see https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/) or 2) sampling upstream of the proposed discharge location shows turbidity values greater than 10 NTU (Env-Wq 1703.11). A single grab sample collected during dry weather (no precipitation within 48 hours) is acceptable.

g. To ensure compliance with RSA 485-C, RSA 485-A, RSA 485-A:13, I(a), Env-Wq 1700 and Env-Wq 302, the following information may be requested by NHDES. This information must be kept on site unless you receive a written request from NHDES that it be sent to the address shown below in 9.1.1.h.

i. A list of all non-stormwater discharges that occur at the facility, including their source locations and the control measures being used (see Part 1.2.2 of the CGP).

ii. Records of sampling and analysis required for construction dewatering and stormwater discharges (see 9.1.1.d above).

h. All required or requested documents must be sent to: NH Department of Environmental Services, Watershed Management Bureau, P.O. Box 95 Concord, NH 03302-0095.

9.1.2 MAR100000 Commonwealth of Massachusetts (except Indian country)

a. All discharges covered by the Construction General Permit shall comply with the provisions pursuant to 314 CMR 3.00, 314 CMR 4.00, 314 CMR 9.00, including applicable construction stormwater standards and 310 CMR 10.00.

b. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, permittees are prohibited from discharging dewatering water under the CGP from sites that are designated as Superfund/CERCLA or RCRA, and must make accommodations to dispose of the dewatering discharges appropriately, such as coverage under the Remediation General Permit (RGP).

c. Pursuant to 314 CMR 3.11 (2)(a), and in accordance with MassDEP's obligation to protect Outstanding Resource Waters under 314 CMR 4.04(3), applicants seeking coverage under the 2022 CGP that propose to carry out construction activities near Outstanding Resource Waters as identified in 314 CMR 4.06, shall submit to MassDEP for review:

i. a copy of the Stormwater Pollution Prevention Plan (SWPPP),

ii. a copy of the EPA NOI, and

iii. MassDEP's Stormwater BMP Checklist.

For purposes of this review, the permittee shall submit these documents to MassDEP at the same time they are submitted to EPA. Instructions on how to submit these documents to MassDEP and where to find the MassDEP Stormwater BMP Checklist and obtain authorization to discharge can be found here: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of- intent.

d. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, applicants that propose to dewater under the 2022 CGP and plan to discharge to certain waters as described below, shall determine that any dewatering discharges are not contaminated by testing the proposed discharge as described below as part of the application for WM15 authorization. Unless otherwise specified, testing described in this section should be conducted using the methods in 40 CFR 136.

i. Applicants for sites that plan to discharge to Outstanding Resource Waters as identified in 314 CMR 4.06 shall test one sample of the proposed dewatering discharge water for pH, E. Coli (for discharges to freshwater), fecal coliform (for

discharges to salt water), Enterococci (for discharges to salt water), total suspended solids, oil and grease, total nitrogen, total phosphorus, and all parameters with numeric criteria listed in the Massachusetts Surface Water Quality Standards at 314 CMR 4.05(e). Results shall be reported to MassDEP as part of the WM15 application. To determine if the dewatering discharge could be covered under the 2022 CGP, the effluent at zero dilution must meet numeric water quality criteria. If the effluent does not meet numeric water quality criteria, the applicant shall contact EPA Region 1 to discuss coverage under the Remediation General Permit.

ii. Applicants for sites that propose to discharge to Public Water Supplies (314 CMR 4.06(1)(d)1) shall also test one sample of the proposed dewatering discharge water for per- and polyfluoroalkyl substances (PFAS), as outlined in the table below. Results shall be reported to MassDEP as part of the WM15 application. If any PFAS compounds are detected, the applicant shall apply for coverage under the NPDES Remediation General Permit for Massachusetts if required.

PFAS Testing Parameters for Discharges to Public Drinking Water Supplies[99]	
Perfluorohexanesulfonic acid (PFHxS), grab	Report ng/L
Perfluoroheptanoic acid (PFHpA), grab	Report ng/L
Perfluorononanoic acid (PFNA), grab	Report ng/L
Perfluorooctanesulfonic acid (PFOS), grab	Report ng/L
Perfluorooctanoic acid (PFOA), grab	Report ng/L
Perfluorodecanoic acid (PFDA), grab	Report ng/L

iii. Applicants for sites that propose to discharge to an impaired water as identified in the most recent final Massachusetts Integrated List of Waters,shall test one sample of the proposed dewatering discharge water for the parameter(s) for which the waterbody is impaired. To determine if the dewatering discharge could be covered under the 2022 CGP, the effluent at zero dilution must meet numeric water quality criteria. If the effluent does not meet numeric water quality criteria, the applicant shall contact EPA Region 1 to discuss coverage under the Remediation GeneralPermit and shall apply for RGP coverage if required.

iv. For dewatering discharges to all other waters, if any pollutants are knownor believed present in the proposed dewatering discharge water, the applicant shall apply for coverage under the NPDES Remediation General Permit for Massachusetts if required. For the purposes of this condition, a pollutant is "known present" if measured above the analytical detection limit using a sufficiently sensitive test method in an environmental sample, and "believed present" if a pollutant has not been measured in an environmental sample but will be added or generated prior to discharge, such as through a treatment process. Consequently, a pollutant is "known absent" if measured as non-detect relative to the analytical detection limit using a sufficiently sensitive test method in an environmental sample, and "believed absent" if a pollutant has not been measured in an environmentalsample but will not be added or generated prior to discharge and is not a parameter that applies to the applicable activity category for a site. If any pollutants are known or believed present in the

[99] PFAS testing shall follow established EPA methods 537 or 537.1 for drinking water until EPA Method 3512 for non-potable water becomes available.

proposed dewatering discharge water, the applicant shall test one sample of the proposed dewatering discharge water for the pollutants known or believed to be present. To determine if the dewatering discharge could be covered under the 2022 CGP, the effluent at zero dilution must meet numeric water quality criteria. If the effluent does not meet numeric water quality criteria, the applicant shall contact EPA Region 1 to discuss coverage under the Remediation General Permit.

e. Pursuant to 314 CMR 3.11 (2)(a), and in accordance with MassDEP's obligation to protect Outstanding Resource Waters under 314 CMR 4.04(3), applicants that propose to dewater under the 2022 CGP and discharge to Outstanding Resource Waters as identified in 314 CMR 4.06, shall submit the SWPPP and associated documents to MassDEP to review. MassDEP shall complete review within 30 daysof receipt.

f. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05 to maintain surface waters free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to the waterbody, permittees that have been authorized to dewater under the 2022 CGP and that discharge to Outstanding Resource Waters as identified in 314 CMR 4.06 shall carry out daily benchmark monitoring for turbidity[100] for the duration of dewatering. Permittees shall compare the weekly average of the turbidity monitoring results with the established benchmark turbidity value of 25 Nephelometric Turbidity Units (NTU). If a permittee's weekly average turbidity results exceed the benchmark, the operator shall conduct follow-up corrective action to determine the source of the problem and to make any necessary repairs or upgrades to the dewatering controls to lower the turbidity levels. The permittee shall document any corrective action taken in its corrective action log. Furthermore, permittees at these sites shall carry out inspections at higher frequency, specifically, daily inspections of the dewatering discharge treatment for the duration of the discharge. The permittee shall inspect the site for sediment plume or whether a hydrocarbon sheen is visible at the point of discharge, estimate the flow rate at the point of discharge, and inspect the site downstream to assess whether sedimentation is attributable to the dewatering discharges.

g. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05 to maintain surface waters free from color and turbidity in concentrations or combinations that are aesthetically objectionable or would impair any use assigned to the waterbody, permittees shall store materials outside the Base Flood Elevation[101] when feasible to prevent displacing runoff and erosion.

h. Pursuant to 314 CMR 3.11 (2)(a), and in accordance with MassDEP's obligation to maintain surface waters free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses under 314 CMR 4.05(5)(c), all applicants who apply for coverage under the 2022 CGP shall follow guidelines on fertilizer application, including use of fertilizer containing no phosphorus, in accordance with 330 CMR 31.00 Plant Nutrient Application Requirements for

[100] Applicants shall follow EPA Method 180.1 to monitor for turbidity

[101] Base Flood Elevation (BFE) is the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. The BFE is shown on the Flood Insurance Rate Map (FIRM) for zones AE, AH, A1–A30, AR, AR/A, AR/AE, AR/A1– A30, AR/AH, AR/AO, V1–V30 and VE. (Source: https://www.fema.gov/node/404233).

Agricultural Land and Non-Agricultural Turf and Lawns. Further, fertilizer shall never be applied to a site when a rain event greater than 0.5 inches is forecast in the next 48 hours.

i. Pursuant to 314 CMR 3.11 (2)(a), all applicants who apply for coverage under the 2022 CGP and elect to carry out site inspections every 14 days shall also inspect sites within 24 hours of 0.25 inches of precipitation events or greater over 24 hours,or within 24 hours of a discharge that occurred due to snowmelt from 3.25 inches or greater of snow accumulation.[102] During the high flow periods in spring (i.e., months of April to June), inspection frequency shall be increased to once per week for all sites.

  i. To determine whether 3.25 inches or greater of snow accumulation has occurred at a site, snowfall measurements can be taken at the site,[103] or theoperator can rely on similar information from a local weather forecast.

j. Implementing structural improvements, enhanced/resilient pollution prevention measures, and other mitigation measures can help to minimize impacts from stormwater discharges from major storm events such as hurricanes, storm surge, extreme/heavy precipitation,[104] and flood events. Pursuant to 314 CMR 3.11 (2)(a), if such stormwater control measures are already in place due to existing requirements mandated by other state, local or federal agencies, the SWPPP shall include a brief description of the controls and a reference to the existing requirement(s). If the site may be exposed to or has previously experienced suchmajor storm events[105], additional stormwater control measures that may be considered, and implemented as necessary, include, but are not limited to:

  i. Reinforce materials storage structures to withstand flooding and additional exertion of force;

  ii. Prevent floating of semi-stationary structures by elevating to the Base Flood Elevation (BFE) level or securing with non-corrosive device;

  iii. When a delivery of exposed materials is expected, and a storm is anticipated within 48 hours, delay delivery until after the storm or storematerials as appropriate (refer to emergency procedures);

[102] This is the amount of snow that is equivalent to 0.25 inches of rain, based on information from the National Oceanic and Atmospheric Administration (NOAA) indicating that 13 inches of snow is, on average, equivalent to 1 inch of rain. See https://www.nssl.noaa.gov/education/svrwx101/winter/faq/.

[103] NOAA's National Weather Service has guidelines on snowfall measurements at https://www.weather.gov/jkl/snow_measurement. These guidelines recommend use of a "snowboard" (a piece of wood about 16 inches by 16 inches) that is placed in an unobstructed part of the site on a hard surface.

[104] Heavy precipitation refers to instances during which the amount of rain or snow experienced in a location substantially exceeds what is normal. What constitutes a period of heavy precipitation varies according to location and season. Heavy precipitation does not necessarily mean the total amount of precipitation at a location has increased— just that precipitation is occurring in more intense or more frequent events.

[105] To determine if your facility is susceptible to an increased frequency of major storm events that could impact the discharge of pollutants in stormwater, you may reference FEMA, NOAA, or USGS flood map products at https://www.usgs.gov/faqs/where-can-i-find-flood-maps?qt-news_science_products=0#qtnews_science_products.

iv. Temporarily store materials and waste above the Base Flood Elevation ***[EPA notes that it has deleted a footnote reference to the term "Base Flood Elevation" since the same footnote is already included in Part 9.1.2.g, above.]*** level;

v. Temporarily reduce or eliminate outdoor storage;

vi. Temporarily relocate any mobile vehicles and equipment to higher ground;

vii. Develop scenario-based emergency procedures for major storms that are complementary to regular stormwater pollution prevention planning andidentify emergency contacts for staff and contractors; and

viii. Conduct staff training for implementing your emergency procedures atregular intervals.

k. Pursuant to 314 CMR 3.11 (2)(a)6., and in accordance with MassDEP's obligation under 314 CMR 4.05(5)(e) to maintain surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, permittees who seek coverage under the 2022 CGP and anticipate to carry out dust control shall limit their dust control methodology to using water only and specifically avoid using other techniques, such as solutions containing calcium chloride.

l. If MassDEP requests a copy of the Stormwater Pollution Prevention Plan (SWPPP) for any construction site at any time, the permittee shall submit the SWPPP to MassDEP within 14 days of such a request. MassDEP may conduct an inspection of any site covered by this permit to ensure compliance with state lawrequirements, including state water quality standards.

9.1.3 MTR10F000 Areas in the State of Vermont located at a federal facility

a. Earth disturbance at any one time is limited to five acres.

b. All areas of earth disturbance must have temporary or final stabilization within 14 days of the initial disturbance. After this time, disturbed areas must be temporarily or permanently stabilized in advance of any runoff producing event. A runoff producing event is an event that produces runoff from the construction site. Temporary stabilization is not required if precipitation is not forecast and work is to continue in the next 24-hours or if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of two feet or greater (e.g. house foundation excavation, utility trenches). Areas of a construction site that drain to sediment basins are not considered eligible for this exemption, and the exemption applies only to the excavated area itself.

c. Site inspections on active construction sites shall be conducted daily during the period from October 15 through April 15.

d. The use of chemical treatments (e.g. polymers, flocculants, and coagulants) for the settling and/or removal of sediment from stormwater runoff associated with construction and construction-related activities requires prior written approval and an approved site and project-specific plan, from the Vermont Agency of Natural Resources. In addition, the use of cationic polymers is prohibited unless approved by the Vermont Agency of Natural Resources under a site and project-specific plan.

e. Any applicant under EPA's CGP shall allow authorized Vermont Agency of Natural Resources representatives, at reasonable times and upon presentation of credentials, to enter upon the project site for purposes of inspecting the project and determining

compliance with this Certification.

f. The Vermont Agency of Natural Resources may reopen and alter or amend the conditions of this Certification over the life of the EPA 2022 Construction General Permit when such action is necessary to assure compliance with the VWQS.

9.2 EPA REGION 2

9.2.1 NYR10I000 Indian country within the State of New York

a. Saint Regis Mohawk Tribe

i. Any Responsible-Person/Decision-Maker required under the CGP to submit a Notice of Intent (NOI) to EPA for coverage under the CGP, must concurrently submit an electronic copy of the NOI to the SRMT Environmental Division, Water Resource Program Manager. Additionally, an electronic copy of the Notice of Termination (NOT) must be provided within three business days after electronic confirmation is received from EPA that the NOT has been accepted. The NOI and NOT must be electronically provided to the following addresses:

Mr. Tieman W. Smith
Water Resources Program Manager Saint Regis Mohawk Tribe
449 Frogtown Road
Akwesasne, NY 13655 Tiernan.Smith@srmt-nsn.gov 518.358.2272 ext. 5073

ii. Any Responsible-Person/Decision-Maker that is required as part of the CGP to prepare a Discharge Management Plan (OMP) or Storm Water Management Plan (SWMP) and/or Storm Water Pollution Prevention Plan (SWPPP) must submit an electronic copy of the DMP, SWMP and/or SWPPP to the SRMT Environment Division, Water Resources Program Manager IO business days prior to the start of construction of any work to be conducted under the CGP. The applicable documents must be provided to the electronic address listed above.

iii. Any Responsible-Person/Decision-Maker that is required under the CGP to submit an annual report to EPA must submit an electronic copy of the annual report concurrently to the SRMT Water Resource Program. Additionally, any correspondences between the applicant and EPA related to analytical data, written reports, corrective action, enforcement, monitoring, or an adverse incident must likewise be routed to the SRMT Water Resources Program at the above electronic address.

iv. An "Authorization to Proceed Letter" with site-specific mitigation requirements may be sent out to the permittee when a review of the NOI and OMP, SWMP and /or SWPPP on a case-by-case basis, is completed by the SRMT Environment Division, Water Resource Program. This approval will allow the application to proceed if all mitigation requirements are met.

b. Seneca Nation

i. Under Part 1.1.5 of the CGP, the Seneca Nation requests that an applicant must demonstrate that they meet the eligibility criteria listed in Appendix D (certify in your Notice of Intent (NOI) that you meet one of the eligibility criteria [Criterion A-F]) as well as species and critical habitats that are listed under the Seneca Nation's "Fishing and Conservation Laws" and the "Seneca Nation of Indians Comprehensive Conservation Law".

ii. The Tribal Historic Preservation Office (THPO) was established in 2000 after the Seneca Nation received a recognition letter from the National Park Service (NPS); therefore under Part 1.1.6 of the CGP (Appendix E) and prior to submitting a Notice of Intent (NOI) operators must complete the Nation's TPHO, Project Review Form (https://sni.org/media/246603/sni-thpo-project-review-form.pdf) and submit the completed form with associated information to the Tribal Historic Preservation Officer at 90 Ohi:yo' Way, Salamanca, NY 14779. Federal agencies engaging in construction activities must provide for construction review by a certified construction reviewer in accordance with 7 Del. C. §§4010 & 4013 and 7 DE Admin. Code 5101, subsection 6.1.6.

iii. Under Part 1.2 of the CGP, discharges must also follow the Section 13 of the Guide for Construction (Seneca Nation of Indians Source Water Code) and respectively, Council Resolution, dated April 13, 2013 (CN: R-04-13-13-11) to ensure that the health, safety and welfare of the citizens of the Seneca Nation, and all other within the Lands and Territories of the Seneca Nation of Indians, and to facilitate the adequate provisions of water through the elimination or prevention of ground water contamination in the vicinity of wells that supply drinking water for the Nation. The area is known as the Source Water Protection Area (SWPA) and specified activities are regulated within this SWPA, as cited in Section 13 of the Guide for Construction and Section VI, of CN: R-04-13-13-11.

iv. Under Part 1.4, any operator who seeks coverage of the CGP, and is required to submit a notice of intent NOI and Notice of Termination (NOT) (as necessary) to the EPA for coverage, under Part 1.4.2 must also submit a copy of the NOI to the Seneca Nation's Environmental Protection Department (EPD) within three business days of submittal to the EPA, (address shown below). Respectively, a copy of the NOT (as described under Part 8.3 of the CGP), which certifies that you have met the requirements of Part 8, must be provided within three business days after electronic confirmation is received from the EPA that the NOT has been accepted. In addition to a NOI and NOT, the Seneca Nation (Environmental Protection Department [EPD]) would require an Environmental Impact Assessment (EA) (Long Form), as shown in Section 2 of the Seneca Nation of Indians Laws, Ordinances & Policies (Guide for Construction), to be completed and submitted to the EPD prior to any project to determine whether the impacts from a project would create significant and detrimental effects to the Nation's lands, water (violate WQS), and environment. The NOI, NOT, and EA must be submitted electronically to epd@sni.org and provided to the following address:

Seneca Nation
Environmental Protection Department (EPD) Attn: Director of EPD
12837 Route 438
Irving, NY 14081

v. Under Part 3.0 of the CGP, discharges must be controlled as necessary to meet applicable WQS. The Seneca Nation is working actively towards finalizing and implementing the; therefore, the EPD would require an applicant to submit or grant access to the permit to obtain information on the impact of effluents on receiving waters, including the capability of receiving waters to support future designated uses and achieve the WQS of the Nation; and to advise prospective dischargers of discharge requirements, and coordinate with the appropriate

permitting agencies. As stated in the Decision Document, under Section 303(c) of the CWA, 33 U.S.C. § 1313(c), states develop, review, and revise (as appropriate) water quality standards for surface waters of the United States. At a minimum, such standards are to include designated water uses, water quality criteria to protect such uses, and an antidegradation policy. 40 C.F.R. § 131.6. In addition, under Section 401 of the CWA states may grant, condition, or deny "certification" for federally permitted or licensed activities that may result in a discharge to the waters of the United States 33 U.S.C. § 1341.

vi. Under Part 7.2.8(a)(b)(c) and for Part 9 of the CGP, the following Sections of the Seneca Nation's Guide for Construction shall be considered, in conjunction with the CGP:

(a) Section 1. Executive Order - To Establish a Policy for Governing Access to Nation Territories and Facilities by Officials of Foreign Government, dated March 31, 2011

(b) Section 3. Natural Resources Committee, Sand and Gravel Law (CN: R-06-24-05-08)

(c) Section 4. Fishing and Conservation Laws - Part 1.1.5 of the CGP

(d) Section 5. Seneca Nation of Indians Comprehensive Conservation Law, adopted January 14, 2012

(e) Section 9. Food is Our Medicine (FIOM) Program/Native Planting Policy (CN: R-03- 08-14-14)

(f) Section 10. Forestry Management Plan (CN: R-08-14-10-23)

(g) Section 11. Timber Ordinance #411-092, dated May 8, 1982

(h) Section 14. Flood Damage Prevention Local Law, dated September 27, 1988

(i) Section 16. Utilities Ordinance No. 87-100

(j) Authorizing Emergency Action and Contingency Plan to Restrain Pollution of Nations Waters, (Council Resolution: R-03-01-18-10), dated March 10, 2018 Seneca Nation of Indians Permit Application for Construction within Waterways Permit, Form NR98-01.00

9.3 EPA REGION 3

9.3.1 DCR100000 District of Columbia

a. Discharges authorized by this permit shall comply with the District of Columbia Water Pollution Control Act of 1984, as amended (DC Official Code § 8-103.01 and § 8-103.06, et seq.) to ensure that District of Columbia waters, waters in adjacent and downstream states, and the beneficial uses of these waters will not be harmed or degraded by the discharges.

b. Discharges authorized by this permit must comply with §§ 1104.1 and 1104.8 of Chapter 11 and the provisions of Chapter 19 of Title 21of District of Columbia Municipal Regulations in order to attain and maintain designated uses of the District of Columbia waters.

c. The permittee shall comply with the District of Columbia Stormwater Management and Soil Erosion and Sediment Control regulations in Chapter 5 of Title 21 of the District of Columbia Municipal Regulations.

d. The permittee shall comply with the District of Columbia Flood Management Control regulations in Chapter 31 of Title 20 of the District of Columbia Municipal Regulations.

e. The permittee shall submit a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Regulatory Review Division, Department of Energy & Environment, Government of the District of Columbia, 1200 First Street, NE, 5th Floor, Washington, DC 20002, during the review and approval of the permittee's DOEE Erosion and Sediment Control Plan in accordance with the provisions of Chapter 542 of Title 21 of the District of Columbia Municipal Regulations.

f. Upon request, the permittee shall submit all inspection and monitoring reports as required by this permit and 40 CFR § 122.41 to the Associate Director, Inspection and Enforcement Division, Department of Energy & Environment, Government of the District of Columbia, 1200 First Street, NE, 5th Floor, Washington, DC 20002; telephone (202) 535-2226, or by email at Joshua.Rodriguez@dc.gov.

g. In the event the permittee intends to discharge dewatering water, groundwater, or groundwater comingled with stormwater from a known contaminated site, the permittee shall contact the Regulatory Review Division, Department of Energy & Environment, Government of the District of Columbia, 1200 First Street, NE, 5th Floor, Washington, DC 20002; telephone (202) 535-2600, or by email at MS4DischargeAuthorization@dc.gov to request authorization to discharge dewatering water, groundwater, or groundwater comingled with stormwater to the District's Municipal Separate Storm Sewer System (MS4) or to a surface water body pursuant to §§ 8-103.02, 8-103.06, and 8-103.07 of the District of Columbia Water Pollution Control Act of 1984, as amended.

9.3.2 DER10F000 Areas in the State of Delaware located at a federal facility (as defined in Appendix A)

a. Federal agencies must submit a sediment and stormwater management plan (SSMP) and receive Department approval prior to undertaking any land clearing, soil movement or construction activity unless conducting an exempt activity.

b. Federal construction activities are required to have a third-party Certified Construction Reviewer (CCR) perform weekly reviews to ensure the adequacy of construction activities pursuant to the approved SSMP and regulations.

Implementation of approved SSMPs requires the daily oversight of construction activity by certified responsible personnel.

c. Implementation of approved SSMPs requires the daily oversight of construction activity by certified responsible personnel.

d. A current copy of the SSMP must be maintained at the construction site.

e. Unless authorized by the Department, not more than 20 acres may be disturbed at any one time.

9.4 EPA REGION 4

No additional conditions

9.5 EPA REGION 5

9.5.1 MIR10I000 Indian country within the State of Minnesota

a. Fond du Lac Reservation

i. New dischargers wishing to discharge to an Outstanding Reservation Resource Water (ORRW)[106] must obtain an individual permit from EPA for storm water discharges from large and small construction activities.

ii. A copy of the Storm Water Pollution Prevention Plan (SWPPP) must be submitted to the Office of Water Protection at least fifteen (15) days in advance of sending the Notice of Intent to EPA. The SWPPP can be submitted electronically to richardgitar@FDLREZ.com or by hardcopy sent to:

Fond du Lac Reservation
Office of Water Protection
1720 Big Lake Road
Cloquet, MN 55720

iii. Copies of the Notice of Intent (NOI) and the Notice of Termination (NOT) must be sent to the Fond du Lac Office of Water Protection at the same time they are submitted to EPA. [The condition helps the Office of Water Protection keep track of when a project is about to start and when it has ended. FDL Water Quality Certification Ordinance, Section 204 (a) (2)).

iv. If the project will entail a discharge to any watercourse or open water body, the turbidity limit shall NOT exceed 10% of natural background within the receiving water(s) as determined by Office of Water Protection staff. For such discharges, turbidity sampling must take place within 24 hours of a ½-inch or greater rainfall event. The results of the sampling must be reported to the Office of Water Protection within 7 days of the sample collection. All sample reporting must include the date and time, location (GPS: UTM/Zone 15), and NTU. CGP applicants are encouraged to work with the Office of Water Protection in determining the most appropriate location(s) for sampling. [This condition helps both the Office of Water Protection and the project proponent in knowing whether or not their erosion control efforts are effective. FDL Water Quality Certification, Section 204 (b) (1)).

v. Receiving waters with open water must be sampled for turbidity prior to any authorized discharge as determined by Office of Water Protection staff. This requirement only applies to receiving waters which no ambient turbidity data exists. [This condition allows the Office of Water Protection to obtain a baseline turbidity sample in which to compare to other samples. FDL Water Quality Certification Ordinance, Section 204 (b) (2)].

vi. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Fond du Lac Reservation, Ordinance #12/98, as amended. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Fond du Lac

[106] Although additional waters may be designated in the future, currently Perch Lake, Rice Portage Lake, Miller Lake, Deadfish Lake, and Jaskari Lake are designated as ORRWs.

Reservation for any of the uses designated in the Water Quality Standards of the Fond du Lac Reservation. These uses include wildlife, aquatic life, warm water fisheries, cold water fisheries, subsistence fishing (netting), primary contact recreation, secondary contact recreation, cultural, wild rice areas, aesthetic waters, agriculture, navigation, commercial and wetlands. It also includes the designated uses of wetlands including, but not limited to, baseflow discharge, cultural opportunities, flood flow attenuation, groundwater recharge, indigenous floral and fauna) diversity and abundance, nutrient cycling, organic carbon export/cycling, protection of downstream water quality, recreation, resilience against climactic effects, sediment/shoreline stabilization, surface water storage, wild rice, and water dependent wildlife. [In addition to listing the designated uses of waters of the Fond du Lac Reservation, this condition also limits the project proponent to discharges that will not violate our Water Quality Standards. FDL Water Quality Certification Ordinance, Section 204 (a) (7)).

vii. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the Fond du Lac Reservation. All spills must be reported to the appropriate emergency management Agency (National Response Center AND the State Duty Officer), and measures shall be taken immediately to prevent the pollution of waters of the Fond du Lac Reservation, including groundwater. The Fond du Lac Office of Water Protection must also be notified immediately of any spill regardless of size. [This condition helps protect water quality and also reminds project proponents of their responsibility in reporting spill events. FDL Water Quality Certification Ordinance, Section 204 (b) (3)).

viii. All seed mixes, whether used for temporary stabilization or permanent seeding, shall NOT contain any annual ryegrass (Lolium species). Wild rye (Elymus species) or Oats (Avena species) may be used as a replacement in seed mixes. [This condition prevents the use of annual ryegrass on the Reservation. Annual ryegrass is allelopathic, which means it produces biochemical in its roots that inhibit the growth of native plants. If used in seed mixes, annual ryegrass could contribute to erosion, especially on slopes. However, the condition also specifies substitute grasses that germinate almost as fast as annual ryegrass for use as a cover crop to help prevent erosion. FDL Water Quality Certification Ordinance, Section 204 (t) (1)).

ix. To prevent the introduction of invasive species, ALL contractors and subcontractors MUST disclose information stating prior equipment location(s) and ALL known invasive species potentially being transported from said location(s). All equipment MUST undergo a high pressure wash (including any equipment mats) BEFORE ENTERING the Fond du Lac Reservation. Personal equipment such as work boots, gloves, vest, etc. MUST be clean of debris, dirt and plant and animal material BEFORE ENTERING the Fond du Lac Reservation. Equipment being transported from known infested areas MUST undergo a high pressure wash as soon as possible after leaving the infested site and again BEFORE ENTERING the Fond du Lac Reservation, to avoid transport of invasive species into areas surrounding the Reservation. Written certification of equipment cleaning MUST be provided to the Fond du Lac Office of Water Protection. Upon arrival, ALL contractor and subcontractor equipment will be inspected by appointed Fond du Lac staff. If equipment is deemed unsatisfactory, the equipment MUST

undergo a high pressure washing until the equipment is cleared by the inspector, until such time, minimal travel will be allowed through the Reservation. The contractor shall be held responsible for the control of any invasive species introduced as a result of their project. [This condition requires the project proponent to prevent the inadvertent introduction of invasive species by taking an active role in cleaning all vehicles, equipment, and equipment mats before entering the Reservation. This condition has been placed in certifications since 2012, due to the introduction of Wild Parsnip in 2011 from a pipeline contractor. It is much easier to prevent the introduction of an invasive species than it is to eradicate it once it has been introduced. Many invasive plant species form monocultures, preventing native plants from growing. This situation often leads to cases of erosion, which in turn effects water quality. FOL Water Quality Certification Ordinance, Section 204 (g) (1)].

x. A copy of this certification MUST be kept by the contractor on-site at all times and be available for viewing by all personnel, including inspectors. [This condition ensures that the information contained in the certification, especially the conditions, is readily available onsite for reference. FOL Water Quality Certification Ordinance, Section 204 (a) (9)].

b. The Grand Portage Band of Lake Superior Chippewa

i. The CGP authorization is for construction activities that may occur within the exterior boundaries of the Grand Portage Reservation in accordance to the Grand Portage Land Use Ordinance. The CGP regulates stormwater discharges associated with construction sites of one acre or more in size. Only those activities specifically authorized by the CGP are authorized by this certification (the "Certification").

ii. All construction stormwater discharges authorized by the CGP must comply with the Water Quality Standards and Water Resources Ordinance, as well as Applicable Federal Standards (as defined in the Water Resources Ordinance).

iii. All appropriate steps must be taken to ensure that petroleum products or other chemical pollutants are prevented from entering the Waters of the Reservation. All spills must be reported to the appropriate emergency-management agency, and measures must be taken to prevent the pollution of the Waters of the Reservation, including groundwater.

iv. The 2022 CGP requires inspections and monitoring reports of the construction site stormwater discharges by a qualified person. Monitoring and inspection reports must comply with the minimum requirements contained in the 2022 CGP. The monitoring plan must be prepared and incorporated into the Storm Water Pollution Prevention Plan (the "SWPP"). A copy of the SWPP must be submitted to the Board at least 30 days in advance of sending the requisite Notice of Intent to EPA. The SWPP should be sent to:

Grand Portage Environmental Resources Board

P.O. Box 428

Grand Portage, MN 55605

Copies of the Notice of Intent and Notice of Termination required under the General Permit must be submitted to the Board at the address above at the same time they are submitted to the EPA.

v. If requested by the Grand Portage Environmental Department, the permittee must provide additional information necessary for a case-by-case eligibility determination to assure compliance with the Water Quality Standards and any Applicable Federal Standards. The burden is on the applicant to demonstrate compliance with the Water Quality Standards, the Water Resources Ordinance, and Applicable Federal Standards whether or not the application is ultimately eligible for the CGP.

vi. CGP discharges must not cause nuisance conditions as defined in Grand Portage Water Quality Standards.

vii. The Board retains full authority to ensure compliance with and to enforce the provisions of the Water Resource Ordinance and Water Quality Standards, Applicable Federal Standards, and these Certification conditions. Nothing herein affects the scope or applicability of other controlling tribal or federal requirements, including but not limited to impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, 54 U.S.C. §§ 300101 et seq.

viii. Appeals related to Board actions taken in accordance with any of the preceding conditions may be heard by the Grand Portage Tribal Court.

c. Leech Lake Band of Ojibwe

i. The water quality standards that apply to the construction site are the standards at the time the operator submits its Notice of Intent (NOI) to EPA and the LLBO WRP (see conditions # 2 and # 3).

ii. A copy of the Stormwater Pollution Prevention Plan (SWPPP) must be submitted to the LLBO WRP at least 30 days in advance of sending the NOI for the project to EPA. See attached LLBO 401 Water Quality Certification Ordinance. Section 304(a)(1). The SWPPP should be submitted electronically to Jeff.Harper@llojibwe.net and by hardcopy sent to:

Leech Lake Band of Ojibwe
ATTN: Water Resources Program - 401 Cert
Division of Resource Management
190 Sailstar Drive NW
Cass Lake, Minnesota 56633

iii. Copies of the NOI and the Notice of Termination (NOT) must be submitted to the LLBO WRP at the same time they are submitted to EPA. See attached LLBO 401 Water Quality Certification Ordinance, Section 304(a)(2). The NOI and NOT should be submitted electronically to Jeff.Harper@llojibwe.net and sent by hardcopy to the address cited in condition # 2.

iv. Any and all other conditions listed in Section 304 of the attached LLBO 401 Water Quality Certification Ordinance shall be observed unless the LLBO WRP deems that certain conditions therein are not applicable to the project in need of a permit under this certification.

v. A copy of this certification MUST be kept by the contractor on-site at all times and be available for viewing by all personnel, including inspectors.

vi. Upon consideration of the NOI, if the LLBO WRP finds that the discharge will not be controlled as necessary to meet applicable water quality standards, the LLBO WRP may insist, consistent with Part 3.1 of the CGP, that additional controls are installed to meet applicable water quality standards, or recommend to EPA that the operator obtain coverage under an individual permit.

9.5.2 WIR10I000 Indian country within the State of Wisconsin

a. Bad River Band of Lake Superior Tribe of Chippewa Indians

i. Only those activities specifically authorized by the CGP are authorized by this Certification. This Certification does not authorize impacts to cultural properties, orhistorical sites, or properties that may be eligible for listing as such.

ii. All projects which are eligible for coverage under the CGP and are located within the exterior boundaries of the Bad River Reservation shall be implemented in such a manner that is consistent with the Tribe's Water Quality Standards (WQS). The Tribe's WQS can be viewed at: http://www.badriver-nsn.gov/wp-content/uploads/2020/01/NRD_WaterQualityStandards_2011.pdf

iii. Operators are not eligible to obtain authorization under the CGP for all new discharges to an Outstanding Tribal Resource Water (OTRW or Tier 3 water). OTRWs, or Tier 3 waters, include the following: Kakagon Slough and the lower wetland reaches of its tributaries that support wild rice, Kakagon River, Bad River Slough, Honest John Lake, Bog Lake, a portion of Bad River, from where it enters the Reservation through the confluence with the White River, and Potato River. OTRWs can be viewed at: https://www.arcgis.com/apps/View/index.html?appid=6f44c371217e4ee8b5f1c2c705c 7c7c5

iv. An operator proposing to discharge to an Outstanding Resource Water (ORW or Tier 2.5 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. ORWs, or Tier 2.5 waters, include the following: a portion of Bad River, from downstream the confluence with the White River to Lake Superior, White River, Marengo River, Graveyard Creek, Bear Trap Creek, Wood Creek, Brunsweiler River, Tyler Forks, Bell Creek, and Vaughn Creek. ORWs can be viewed at: https://www.arcgis.com/apps/View/index.html?appid=6f44c371217e4ee8b5f1c2c705c 7c7c5. The antidegradation demonstration materials described in provision E.4.iii., and included on the antidegradation demonstration template found at: https://www.badriver-nsn.gov/natural-resources/projectreviews/, must be submitted to the following address:

Bad River Tribe's Natural Resources Department

Attn: Water Regulatory Specialist

P.O. Box 39 Odanah, WI 54861

WaterReg@badriver-nsn.gov

v. An operator proposing to discharge to an Exceptional Resource Water (ERW or Tier 2 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. ERWs, or Tier 2 waters, include the following: any surface water within the exterior boundaries of the Reservation that is not specifically classified as an Outstanding Resource Water (Tier 2.5 water) or an Outstanding Tribal Resource Water (Tier 3 water). ERWs can be viewed at:

https://www.arcgis.com/apps/View/index.html?appid=6f44c371217e4ee8b5f1c2c705c 7c7c5. The antidegradation demonstration materials described in provision E.4.ii., and included on the antidegradation demonstration template found at: https://www.badriver-nsn.gov/natural-resources/projectreviews/, must be submitted to the following address:

Bad River Tribe's Natural Resources Department
Attn: Water Regulatory Specialist
P.O. Box 39 Odanah, WI 54861
WaterReg@badriver-nsn.gov

vi. Projects utilizing cationic treatment chemicals within the Bad River Reservation boundaries are not eligible for coverage under the CGP.

vii. A discharge to a surface water within the Bad River Reservation boundaries shall not cause or contribute to an exceedance of the turbidity criterion included in the Tribe's WQS, which states: Turbidity shall not exceed 5 NTU over natural background turbidity when the background turbidity is 50 NTU or less, or turbidity shall not increase more than 10% when the background turbidity is more than 50 NTU.

viii. All projects which are eligible for coverage under the CGP within the exterior boundaries of the Bad River Reservation must comply with the Bad River Reservation Wetland and Watercourse Protection Ordinance, or Chapter 323 of the Bad River Tribal Ordinances, including the erosion and sedimentation control, natural buffer, and stabilization requirements. Questions regarding Chapter 323 and requests for permit applications can be directed to the Wetlands Specialist in the Tribe's Natural Resources Department at (715) 682-7123 or wetlands@badriver-nsn.gov.

ix. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must notify the Tribe prior to the commencing earth-disturbing activities. The operator must submit a copy of the Notice of Intent (NOI) to the following addresses at the same time it is submitted to the U.S. EPA:

Bad River Tribe's Natural Resources Department
Attn: Water Regulatory Specialist
P.O. Box 39 Odanah, WI 54861
WaterReg@badriver-nsn.gov

Bad River Tribe's Natural Resources Department
Attn: Tribal Historic Preservation Officer (THPO)
P.O. Box 39 Odanah, WI 54861
THPO@badriver-nsn.gov

The operator must also submit a copy of the Notice of Termination (NOT) to the above addresses at the same time it is submitted to the U.S. EPA. Photographs showing the current site conditions must be included as part of the NOT to document the stabilization requirements have been met.

x. The THPO must be provided 30 days to comment on the project.

xi. The operator must obtain THPO concurrence in writing. This written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties. For more information regarding the specifics of the cultural resources process, see 36 CFR Part 800. A best practice for an operator is to consult with the THPO during the planning stages of an undertaking.

xii. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must submit a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the following address at the same time as submitting the NOI:

Bad River Tribe's Natural Resources Department
Attn: Water Regulatory Specialist
P.O. Box 39 Odanah, WI 54861
WaterReg@badriver-nsn.gov

xiii. Any corrective action reports that are required under the CGP must be submitted to the following address within one (1) working day of the report completion:

Bad River Tribe's Natural Resources Department
P.O. Box 39 Odanah, WI 54861
WaterReg@badriver-nsn.gov

xiv. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must submit a copies of the inspection reports (including photographs) to the following address within 24 hours of completing any site inspection required:

Bad River Tribe's Natural Resources Department Attn: Water Regulatory Specialist
P.O. Box 39 Odanah, WI 54861
WaterReg@badriver-nsn.gov

xv. An operator shall be responsible for meeting any additional permit requirements imposed by the U.S. EPA necessary to comply with the Tribe's antidegradation policies if the discharge point is located upstream of waters designated by the Tribe.

9.6 EPA REGION 6

9.6.1 NMR100000 State of New Mexico, except Indian country

a. In Outstanding National Resource Waters (ONRWs) in New Mexico, no degradation is permitted except in limited, specifically defined instances. Therefore, Operators are not eligible to obtain authorization under this general permit for stormwater discharges to waters classified as ONRWs listed in Paragraph D of 20.6.4.9 New Mexico Administrative Code (NMAC), also referred to as "Tier 3 waters" as defined in Appendix A of this permit. Exception: When construction activities are in response to a public emergency (e.g., wildfire, extreme flooding, etc.) and the related work requires immediate authorization to avoid a threat to public health or safety.

i. Operators who conduct construction activities in response to a public emergency to mitigate an immediate threat to public health or safety shall

adhere to the requirements in 20.6.4.8(A)(3)(c) NMAC, including notifying the New Mexico Environment Department (NMED) within seven days of initiation of the emergency action and providing NMED with a summary of the action taken within 30 days of initiation of the emergency action.

ii. For all other scenarios, Operators with proposed discharges to ONRWs in New Mexico shall obtain coverage from EPA under an NPDES Individual Permit and will comply with the additional standards and regulations related to discharges to ONRWs in 20.6.4.8(A) NMAC. Additional information is available from:

New Mexico Environment Department Surface Water Quality Bureau
P.O. Box 5469
Santa Fe, NM 87502-5469 Telephone: 505-827-0187
https://www.env.nm.gov/surface-water-quality/wqs/
https://gis.web.env.nm.gov/oem/?map=swqb

b. If construction dewatering activities are anticipated at a construction site and non-stormwater discharges of groundwater, subsurface water, spring water, and/or other dewatering water are anticipated, the Operators/Permittees must complete the following steps:

1. Review the state's Ground Water Quality Bureau Mapper (https://gis.web.env.nm.gov/GWQB/) and Petroleum Storage Tank Bureau Mapper (https://gis.web.env.nm.gov/GWQB/).

   Check if the following sources are located within the noted distance from the anticipated construction dewatering activity. At a minimum, a list of the following potential sources of contaminants and pollutants at the noted distance is to be kept in the SWPPP.

Source of Potential Contamination or Pollutants*	Constituents likely to be required for testing*
Within 0.5 mile of an open Leaking Underground Storage Tank (LUST) site	BTEX (Benzene, Toluene, Ethylbenzene, and Xylene) plus additional parameters depending on site conditions**
Within 0.5 mile of an open Voluntary Remediation site	All applicable parameters or pollutants listed in 20.6.4.13, 20.6.4.52, 20.6.4.54, 20.6.4.97 thru 20.6.4.99, 20.6.4.101 through 20.6.4.899, and 20.6.4.900 NMAC (or an alternate list approved by the NMED-SWQB)*
Within 0.5 mile of an open RCRA Corrective Action Site	
Within 0.5 mile of an open Abatement Site	
Within 0.5 mile of an open Brownfield Site	
Within 1.0 mile or more of a Superfund site or National Priorities List (NPL) site with associated groundwater contamination.	
Construction activity contaminants and/or natural water pollutants	Additional parameters depending on site activities and conditions (Contact NMED- SWQB for an alternate list)*

*For further assistance determining whether dewatering may encounter contaminated sources, please contact the NMED Ground Water Quality Bureau at 505-827-2965 or NMED Surface Water Quality Bureau (SWQB) at 505-827-0187.

** EPA approved sufficiently sensitive methods must be used. For known PCB sources and analysis, EPA Method 1668C must be used (see https://www.epa.gov/cwa-methods).

2. If dewatering activities are anticipated, information on the flow rate and potential to encounter contaminated groundwater, subsurface water, spring water, or dewatering water must be provideddirectly to NMED at the following address:

   NMED Surface Water Quality Bureau

   Program Manager, Point Source Regulation
   SectionPO Box 5469, Santa Fe, NM 87502

   Please call the SWQB to obtain the appropriate email address (505-827-0187).

3. In addition, the Operator/Permittee must characterize the quality of the groundwater and subsurface water, spring water, or dewatering water being considered for discharge according to the table above and including dissolved hardness and pH. Considering the contaminant sources listed in the table above, water quality data may already be available. For further assistance, contactthe

NMED Surface Water Quality Bureau (505-827-0187), Ground Water Quality Bureau (505-827- 2965), Petroleum Storage Tank Bureau (505-476-4397), or Hazardous Waste Bureau (505-476- 6000).

i. The Operator/Permittee must submit recent analytical test results (i.e., within the past 5 years) according to the table above, and including dissolved hardness and pH, to the EPA Region 6 Stormwater Permit Contact and the NMED Surface Water Quality Bureau (see contact information in #2 above). If the test data exceed applicable water quality standards, then the groundwater, subsurface water, spring water, or dewatering water cannot be discharged into surface waters under this general permit. Operators/Permittees may submit an NPDES Individual Permit application to treat and discharge to waters of the U.S. or find alternative disposal measures. No discharges to surface waters are allowed until authorized.

ii. If the discharge has the potential to affect groundwater (e.g., land application), the Operator/Permittee must submit an NOI to the NMED Ground Water Quality Bureau (see 20.6.2.1201 NMAC – Notice of Intent to Discharge).

4. The Operator/Permittee must document any findings and all correspondence with NMED and EPA in the SWPPP.

c. Operators who intend to obtain authorization under this permit for new and existing storm water dischargesfrom construction sites must satisfy the following condition:

i. The SWPPP must include site-specific interim and permanent stabilization, managerial, and structural solids, erosion and sediment control best management practices (BMPs) and/or other controls that are designed to prevent to the maximum extent practicable an increase in the sediment yield and flow velocity from pre-construction, pre-development conditions to assure thatapplicable standards in 20.6.4 NMAC, including the antidegradation policy, and TMDL waste load allocations (WLAs) are met. This requirement applies to discharges both during construction and after construction operations have been completed. The SWPPP must identify and document the rationale for selecting these BMPs and/or other controls. The SWPPP must also describe design specifications, construction specifications, maintenance schedules (including a long-term maintenance plan), criteria for inspections, and expected performance and longevity of these BMPs.For sites greater than 5 acres in size, BMP selection must be made based on the use of appropriatesoil loss prediction models (i.e. SEDCAD, RUSLE, SEDIMOT, MULTISED, etc.) OR equivalent generallyaccepted (by professional erosion control specialists) soil loss prediction tools.

ii. For all sites, the Operator(s) must demonstrate, and include documentation in the SWPPP, that implementation of the site-specific practices will ensure that the applicable standards and TMDL WLAs are met, and will result in sediment yields and flow velocities that, to the maximum extent practicable, will not be greater than the sediment yield levels and flow velocities from preconstruction, pre-development conditions.

iii. All SWPPPs must be prepared in accordance with good engineering practices by qualified (e.g., CPESC certified, engineers with appropriate training) erosion control specialists familiar with the use of soil loss prediction models and design of erosion and sediment control systems based on these models (or equivalent soil

loss prediction tools). Qualifications of the preparer (e.g., professional certifications, description of appropriate training) must be documented in the SWPPP.The Operator(s) must design, implement, and maintain BMPs in the manner specified in the SWPPP.

NMED supports the use of EPA's small residential lot template if a site qualifies to use it as explained inthe permit, as long as it is consistent with the above requirements. NMED's requirement does not preclude small residential sites from using the template, but it may require an additional short paragraphto justify the selection of specific BMPs for the site.

d. Operators must notify NMED when discharges of toxic or hazardous substances or oil from a spill or other release occurs - see Emergency Spill Notification Requirements, Part 2.3.6 of the permit. For emergencies, Operators can call 505-827-9329 at any time. For non-emergencies, Operators can call 866-428-6535 (voice mail 24-hours per day) or 505-476-6000 during business hours from 8am-5pm, Monday through Friday. Operators can also call the NMED Surface Water Quality Bureau directly at 505-827-0187.

e. Operators of small construction activities (i.e., 1-5 acres) are not eligible to qualify for a waiver in lieu of needing to obtain coverage under this general permit based on Item C.3 of Appendix C (Equivalent Analysis Waiver) in the State of New Mexico.

9.6.2 NMR10I000 Indian country within the State of New Mexico, except Navajo Reservation Lands that are covered under Arizona permit AZR10000I and Ute Mountain Reservation Lands that are covered under Colorado permit COR10000I.

a. Nambe Pueblo

i. The operator must provide a copy of the Notice of Intent (NOI) and Notice of Termination (NOT) to the Nambe Pueblo Governor's Office at the same time it is provided to the US Environmental Protection Agency. The NOI and NOT should be provided to the following address:

Office of the Governor Nambe Pueblo

!SA NPI02 WEST

Nambe Pueblo, New Mexico 87506

ii. The operator must provide a copy of the Storm Water Pollution Prevention Plan (SWPPP) to Nambe Pueblo at the same time it is submitted to the EPA, either by email to governor@nambepueblo.org or mailed to the above address.

iii. The operator must provide copies of inspection reports, a copy of the corrective action log, and modifications made to the SWPPP as a result of inspection findings, upon request by the Nambe Pueblo Department of Environmental and Natural Resources or Nam be Governor.

b. Ohkay Owingeh Tribe

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOI) to the Ohkay Owingeh Office of Environmental Affairs, a copy of NOI modifications and the Notice of Termination (NOT), must be provided within three business days after EPA provides electronic confirmation that the submission has been received. The NOI and NOT must be provided to the following address:

Naomi L. Archuleta - Environmental Programs Manager Ohkay Owingeh Office of Environmental Affairs
P.O. Box 717
Ohkay Owingeh, NM 87566
naomi.archuleta@ohkay.org

Noah Kaniatobe - Environmental Specialist Ohkay Owingeh, Office of Environmental Affairs
P.O. Box 717
Ohkay Owingeh, NM 87566
noah.kaniatohe@ohkay.org

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copy of the Storm Water Pollution Prevention Plan (SWPPP) to Ohkay Owingeh Office of Environmental Affairsat the same time that the NOI is submitted to the tribe (see contact information listed above).

iii. Following each incident where the operator takes a corrective action the operator must provide thecorrective action log to the Ohkay Owingeh Office of Environmental Affairs.

iv. The operator must notify Ohkay Owingeh Office of Environmental Affairs within 24 hours, in the event of an emergency spill in addition to the notification requirements at Part 2.3.6 of the CGP. Please contact: Ohkay Owingeh Tribal Police Department at 505.852.2757.

Please contact:
Ohkay Owingeh
Tribal Police Department
505.852.2757

c. Pueblo of Isleta

i. All operators obtaining permit coverage under the EPA CGP must submit a copy of the certified Notice ofIntent (NOI) to the Pueblo of Isleta at the same time it is submitted to EPA for projects occurring within the exterior boundaries of the Pueblo of Isleta. Additionally, a copy of NOI modifications and the Notice of Termination (NOT), must be provided within three business days after EPA provides electronic confirmation that the submission has been received. The Notices must be provided to the following address:

Water Quality Control OfficerPueblo of Isleta
Environment DepartmentPO Box 1270
Isleta NM 87022
505-869-7565
WQCO@isletapueblo.com

ii. The operator must notify the Pueblo of Isleta's Dispatch at 505-869-3030 as soon as possible and thePueblo of Isleta Water Quality Control Officer within 10 hours, in the event of a spill of hazardous ortoxic substances or if health or the

environment become endangered in addition to the notification requirements at Part 2.3.6 and at I.12.6.1 of the CGP.

iii. All operators obtaining permit coverage under the EPA CGP must submit an electronic copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Pueblo of Isleta Water Quality Control Officer atthe above address, 30 days prior to submitting the certified NOI to EPA. If the electronic file is too largeto send through e-mail, a zip file or flash drive may be submitted.

iv. All operators obtaining permit coverage under the EPA CGP must give 2 days advance notice to the Pueblo of Isleta Water Quality Control Officer of any planned changes in the permitted activity whichmay result in noncompliance with permit requirements.

v. All operators obtaining permit coverage under the EPA CGP must post a sign or other notice of permit coverage at a safe, publicly accessible location in close proximity to the construction site. The notice mustbe located so that it is visible from the public road or tribal road that is nearest to the active part of the construction site. The sign must be maintained on-site from the time construction activities begin until final stabilization is met.

vi. Erosion and sediment controls shall be designed to retain sediment on-site and project-generatedwaste materials that have the potential to discharge pollutants shall not be placed on open soil oron a surface that is not stabilized. Volumes of sediment over five (5) cubic yards must be removed from the active construction site; additionally, if sediment is placed for disposal withinthe exterior boundaries of the Pueblo of Isleta, disposal must be within a tribally approved sediment disposal site.

d. Pueblo of Laguna

i. All operators obtaining permit coverage under the EPA CGP must submit an electronic copy of the certified (signed) Notice of Intent (NOI) to the Pueblo of Laguna's Environmental & Natural Resources Department (ENRD) within three business days of submittal to the EPA. Additionally, a copy of NOI modifications and the Notice of Termination (NOT), must be provided within three business days after the EPA provides electronic confirmation that the submission has been received. The NOI and NOT must be electronically submitted to info.environmental@pol-nsn.gov.

ii. All operators obtaining permit coverage under the EPA CGP must submit an electronic copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Pueblo of Laguna's ENRD 14 days prior to the submittal of the NOI (see contact information listed above).

iii. The operator must provide copies of corrective actions logs and modifications made to the SWPPP as a result of inspection findings to the Pueblo of Laguna ENRD (see contact information above).

iv. In addition to the notification requirements of Part 2.3.6 of the CPG ***[EPA interprets this intending to refer to the CGP]***, the operator must notify the Pueblo of Laguna ENRD at 505-552-7512 in the event of an emergency spill as soon as possible.

e. Pueblo of Sandia. The following conditions apply only to discharges on the Pueblo of Sandia Reservation:

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOI) to the Pueblo of Sandia Environment Department concurrently with submittal to the EPA. Additionally, a copy of NOI modifications and the Notice of Termination (NOT), must be provided concurrently with submittal to the EPA. The NOI and NOT must be provided electronically to the following addresses:

Electronic Addresses:

Amy Rosebrough (Water Quality Manager): rosebrough@sanidapueblo.nsn.us
Greg Kaufman (Environment Director):gkaufman@sandiapueblo.nsn.us

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copy of the Stormwater Pollution Prevention Plan (SWPPP) to the Pueblo of Sandia Environment. Department at least 14 days prior to submittal of the NOI to the Pueblo (see contact information listed above).

iii. If requested by the Pueblo of Sandia Environment Department, the permittee must provide additional information necessary on a case-by-case basis to assure compliance with the Pueblo of Sandia Water Quality Standards and/or applicable Federal Standards.

iv. An "Authorization to Proceed Letter" with site specific mitigation requirements may be sent out to the permittee when a review of the NOI and SWPPP, on a case-by-case basis, is completed by the Pueblo of Sandia Environment Department. This approval will allow the application to proceed if all mitigation requirements are met.

v. The Pueblo of Sandia will not allow Small Construction Waivers (Appendix C) to be granted for any small construction activities.

vi. The operator must provide copies of inspection reports, a copy of the corrective action log, and modifications made to the SWPPP as a result of inspection findings to the Pueblo of Sandia Environment Department upon request. An inspection report and corrective action log must be submitted to the Pueblo within 3 days of any inspection that results in corrective action (see contact information listed above).

vii. The operator must notify the Pueblo of Sandia within 24 hours in the event of an emergency spill, in addition to the notification requirements at Part 2.3.6 of the COP (see contact information listed above).

viii. Before submitting a Notice of Termination (NOT) to the EPA, permittees must clearly demonstrate to the Pueblo of Sandia Environment Department through a site visit or documentation that requirements for site stabilization have been met and any temporary erosion control structures have been removed. A short letter stating that the NOT is acceptable and all requirements have been met will be sent to the permittee to add to the permittee's NOT submission to the EPA.

f. Pueblo of Santa Ana. The following conditions apply only to discharges on the Pueblo of Santa Ana Reservation:

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOI) to the Pueblo's Department of Natural Resources within three business days of submittal to EPA. Additionally, a copy of NOI modifications and the Notice of Termination (NOT), must be

provided within three business days after EPA provides electronic confirmation that the submission has been received. The NOI and NOT must be provided to the following address:

Regular U.S. Delivery Mail:
Pueblo of Santa Ana
Department of Natural Resources Water Resources Division
Attn: Andrew Sweetman 02 Dove Rd
Santa Ana Pueblo, NM 87004

Electronically:
Andrew Sweetman
Water Resources Division Manager Andrew.Sweetman@santaana-nsn.gov
Tammy Montoya Hydrologist
Tammy.Montoya@santaana-nsn.gov

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copyof the Stormwater Pollution Prevention Plan (SWPPP) to the to the Pueblo's Department of Natural Resources at the same time that the NOI is submitted to the tribe (see contact information listed above).

iii. The operator must provide copies of inspection reports, a copy of the corrective action log, and modifications made to the SWPPP as a result of inspection findings, upon request by the Pueblo's Department of Natural Resources.

iv. The operator must notify the Pueblo's Department of Natural Resources within 24 hours in the event of an emergency spill, in addition to the notification requirements at Part 2.3.6 of the CGP.

g. Pueblo of Taos

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOi) to the Taos Pueblo Environmental Office and Taos Pueblo Governor's Office within three business days of submittal to EPA. Additionally, a copy of NOi modifications and the Notice of Termination (NOT), must be provided within three business days after EPA provides electronic confirmation that the submission has been received. The NOi and NOTmust be provided to the following addresses:

Honorable Governor of Taos Pueblo PO Box 1846
Taos, New Mexico 87571

Taos Pueblo Environmental Office PO Box 1846
Taos, New Mexico 87571

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copy of theStormwater Pollution Prevention Plan (SWPPP) to the Taos Pueblo Environmental Office when the NOI is submitted to the tribe. Electronic copy of SWPPP downloaded on flash drive may be sent to the above address for the Taos Pueblo Environmental Office.

iii. The operator must provide a copy of the corrective action log following each corrective action undertaken and modifications made to the SWPPP as a result of

a corrective action to the Taos Pueblo Environmental Office at address listed above.

h. Pueblo of Tesuque.

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOI) to the Pueblo of Tesuque Department of Environment and Natural Resources (DENR) and the Pueblo's Governor within three business days of submittal to EPA. Additionally, a copy of any NOi modifications and the Notice of Termination (NOT), must be provided within three business days after EPA provides electronic confirmation that the submission has been received. The NOI and NOT must be provided to the following address:

Governor Mark Mitchell Pueblo of Tesuque
20 TP 828
Santa Fe, NM 87506 governor@puebloftesuque.org

Sage Mountain.flower Pueblo of Tesuque
Department of Environment and Natural Resources Director
20 TP 828

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copyof the Stormwater Pollution Prevention Plan (SWPPP) to Pueblo of Tesuque DENR and the Pueblo's Governor at the same time that the NO! is submitted to the EPA (see contact information listed above).

iii. The operator must provide a copy of the corrective action log, and any modifications made tothe SWPPP as a result of inspection findings, or upon request by the Pueblo of Tesuque DENR.

iv. The operator must notify the Pueblo of Tesuque DENR within 24 hours in the event of an emergency spill, in addition to the notification requirements at Part 2.3.6 of the CGP (seecontact information listed above).

i. Santa Clara Indian Pueblo.

i. All operators obtaining permit coverage under the EPA CGP, must submit a copy of the certified (signed) Notice of Intent (NOI) to the Santa Clara Pueblo Office of Environmental Affairs at the same time the NOI is submitted to the U.S. EPA. Additionally, a copy of the NOI modifications and the Notice of Termination (NOT), must be provided at the same time after electronic confirmation is received from EPA that the NOT has been accepted. The NOI and NOT shall be provided to the following address in electronic format:

Dino Chavarria,
Santa Clara Pueblo
Office of Environmental Affairs
dinoc@santaclarapueblo.org

ii. All operators obtaining permit coverage under the EPA CGP, must submit an electronic copy of the Stormwater Pollution Prevention Plan to the Santa Clara Pueblo Office of Environmental Affairs at the same time the NOI is submitted to the U.S. EPA (see contact information listed above).

iii. The operator must notify the Santa Clara Pueblo Office of Environmental Affairs at the address above within 24 hours, in the event of an emergency spill, in addition to the notification requirements at Part 2.3.6 of the CGP

9.6.3 OKR10I000 Indian country within the State of Oklahoma, except areas of Indian country covered by an extension of state program authority pursuant to Section 10211 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA).

a. Pawnee Nation. The following conditions apply only to discharges within Pawnee Indian country:

i. Copies of the Notice of Intent (NOI) and Notice of Termination (NOT) must be provided to the Pawnee Nation at the same time it is submitted to the Environmental Protection Agency to the following address:

Pawnee Nation Department of Environmental Conservation and Safety
P.O. Box 470
Pawnee, OK 74058
Or email to dnrs@pawneenation.org

ii. An electronic copy of the Storm Water Pollution Prevention Plan (SWPPP) must be submitted to the Pawnee Nation Department of Environmental Conservation and Safety at the same time the NOI is submitted.

iii. The operator must provide access to the site for inspections and for copies of inspection reports, copy of the corrective action log and modifications, made to the SWPPP because of inspection findings, upon request by the Pawnee Nation DECS.

iv. The Pawnee Nation Department of Environmental Conservation and Safety must be notified at 918.762.3655 immediately upon discovery of any noncompliance with any provision of the permit conditions.

9.6.4 OKR10F000 Discharges in the State of Oklahoma that are not under the authority of the Oklahoma Department of Environmental Quality, or the Oklahoma Department of Agriculture and Forestry including activities associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171), and point source discharges associated with agricultural production, services, and silviculture (includes SIC Groups 01, 02, 07, 08, 09).

a. For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Lee Creek or any water or watershed designated "ORW" in Oklahoma's Water Quality Standards, this permit may only be used to authorize discharges from temporary construction activities. Certification is denied for any on-going activities such as sand and gravel mining or any other mineral mining.

b. For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Lee Creek or any water or watershed designated "ORW" in Oklahoma's Water Quality Standards, certification is denied for any discharges originating from support activities, including, but not limited to, concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, or borrow areas.

c. Dewatering discharges into sediment or nutrient-impaired waters, and waters identified as Tier 2, Tier 2.5, or Tier 3 (OAC 785:46-13) shall be controlled to meet water quality standards for turbidity in those waters as follows:

i. Cool Water Aquatic Community/Trout Fisheries: 10 NTUs (OAC 785: 45-5-12(f)(7)(A)(i)

ii. Lakes: 25 NTUs (OAC 785: 45-5-12(f)(7)(A)(ii)

iii. In waters where background turbidity exceeds these values, turbidity from dewatering discharges should be restricted to not exceed ambient levels (OAC 785: 45-5-12(f)(7)(B)

9.7 EPA REGION 7

No additional conditions.

9.8 EPA REGION 8

9.8.1 MTR10I000 Indian country within the State of Montana

a. Blackfeet Nation.

i. The Applicant and applicants for projects authorized under the NWPs should obtain all other permits, licenses, and certifications that may be required by federal, state, or tribal authority. Primary relevant tribal permit will be ALPO (Ordinance 117). Others may apply. It is the applicant's responsibility to know the tribal and local ordinances and complete all necessary permissions before they can commence work.

ii. If a project is unable to meet the enclosed conditions, or if certification is denied for an applicable NWP, the Applicant may request an individual certification from Blackfeet. An individual certification request must follow the requirements outlined in 40 CFR 121.5 of EPA's CWA § 401 Certification Rule, effective September 11, 2020.

iii. Copies of this certification should be kept on the job site and readily available for reference.

iv. If the project is constructed and/or operated in a manner not consistent with the applicable NWP, general conditions, or regional conditions, the permittee may be in violation of this certification.

v. Blackfeet and EPA representatives may inspect the authorized activity and any mitigation areas to determine compliance with the terms and conditions of the NWP.

vi. This NWP Reissuance does not reduce Tribal authority under any other rule.

vii. The project, including any stream relocations and restoration, must be built as shown and as otherwise described in the application, the construction plans, cross sections, mitigation plans and other supporting documents submitted to this office. Impacts to aquatic systems and restoration efforts will be monitored by an appropriate aquatic resource professional to ensure that disturbed areas are restored to at least their original condition.

viii. All existing water uses will be fully maintained during and after the completion of the project. (If applicable)

ix. Where practicable, perform all in-channel and wetland work during periods of low flow or drawn—down or when dry

x. Equipment staging areas must be located out of all delineated wetlands

xi. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during and immediately after construction, and all exposed soil and other fills, as well as any work below the ordinary high-water mark or in a wetland, must be permanently stabilized as soon as possible

xii. Materials such as piling, culverts, sandbags, fabric, mats, timbers used for temporary facilities in wetlands or below the high- water mark of Waters of the US must be free from oil, gas, excess dirt, loose paint and other pollutants.

xiii. Equipment staging areas in wetlands or in stream or river channels must be placed on mats, or other measures must be taken to minimize soil disturbance and compaction.

xiv. Clearing of riparian or wetland vegetation for the sole purpose of constructing work bridges, detours, staging areas or other temporary facilities must be limited to the absolute minimum necessary. When temporary impacts to native riparian or wetland vegetation are unavoidable, it must be mowed or cut above ground with the topsoil and root mass left intact.

xv. Remove all temporary fills and structures in the entirety when they are no longer needed. Restore affected areas to the appropriate original and planned contours where possible. Re-vegetate disturbed areas with appropriate native species when native species are impacted.

xvi. Construction methods and best management practices (BMPs) must minimize aquatic resource impacts to the maximum extent possible. Any BMPs described in the Joint Application must be followed. BMPs should include installation and maintenance of sediment control measures; separation, storage and reuse of any topsoil; and recovery of all disturbed areas where possible. All best management practices must in place prior to the onset of construction or as soon as practicable during the construction process.

xvii. Best available technology and/or best management practices must be utilized to protect existing water uses and maintain turbidity and sedimentation at the lowest practical level.

xviii. Applicant/contractor should manage disturbed streambank topsoil in a manner that optimizes plant establishment for the site.

xix. When operating equipment or otherwise undertaking construction in wetlands and water bodies the following conditions apply:

(a) Work should be done in dry conditions if possible.

(b) All equipment is to be inspected for oil, gas, diesel, anti-freeze, hydraulic fluid or other petroleum leaks. All such leaks will be properly repaired and equipment cleaned prior to being allowed on the project site. Leaks that occur after the equipment is moved to the project site will be fixed the same day or the next day or removed from the project area. The equipment is not allowed to continue operation once a leak is discovered.

(c) All equipment is to be inspected and cleaned before and after use to minimize the spread or introduction of invasive or undesirable species.

(d) Construction equipment shall not operate below the existing water surface except as follows:

- Impacts from construction should be minimized through the use of best management practices submitted in the permit application.
- Essential work below the waterline shall be done in a manner to minimize impacts to aquatic system and water quality.

(e) Containment booms and/or absorbent material must be available onsite. Any spills of petroleum products must be reported to the Army Corps, Blackfeet Nation BEO Office and the US EPA within 24 hours.

xx. Upland, riparian and in-stream vegetation should be protected except where its removal is necessary for completion of work. Revegetation should be completed as soon as possible. Applicant/contractor should revegetate disturbed soil in a manner that optimizes plant establishment for the site. Revegetation must include topsoil replacement, planting, seeding, fertilization, liming and weed-free mulching as necessary. Applicant must use native plant material and soils where appropriate and feasible. This certification does not allow for the introduction of non-native flora and fauna. All disturbed surface areas must be restored to pre-construction contours and elevation.

xxi. Spoils piles should not be placed or stored within the delineated wetlands or streams unless protected by a temporary structure designed to divert and handle high flows that can be anticipated during permit activity. Spoils piles should be placed on landscaping fabric or some other material to separate spoils material and allow retrieval of spoils material with minimal impact.

xxii. Impacts to wetlands shall not exceed 4.92 acres.

xxiii. Any unexpected and additional impacts to waters of the US should be reported to the

xxiv. Army Corps, Blackfeet Environmental Office Water Quality Coordinator and the US EPA.

xxv. All instream and stream channel reconstruction work must be completed before the stream is diverted into the new channel.

xxvi. Any temporary crossings, bridge supports, cofferdams, or other structures that are necessary during permit activity should be designed to handle high flows that can be anticipated during permit activity. All temporary structures should be completely removed from the water body at the conclusion of the permitted activity and the area restored to a natural function and appearance.

xxvii. The certification does not authorize any unconfined discharge of liquid cement into the waters of the United States. Grouting riprap must occur under dry conditions with no exposure of wet concrete to the water body.

xxviii. BMPs shall include application of certified weed-free straw or hay across all disturbed wetland areas that are temporarily impacted; installation and maintenance of sediment control measures during construction and if necessary, after construction is completed; use of heavy mud mats if necessary; separation,

storage and reuse of all streambank topsoil and wetland topsoil, as appropriate; and recovery of all disturbed wetland and streambank areas where possible. All conditions set by the Blackfeet Tribe and US Army Corps must be followed.

xxix. All applicants, including federal agencies, must notify EPA and the Blackfeet Environmental Office of the use of all NWPs for which certification has been granted prior to commencing work on the project. Notifications must include:

(a) project location (lat. Long., exact point on map);

(b) NWP that will be used and the specific activity that will be authorized under the NWP;

(c) amount of permanent and temporary fills;

(d) a short summary of the proposed activity, and all other federal, state, tribal or local permits or licenses required for the project;

(e) complete contact information of both the applicant and contractor (name, name of the company or property if applicable, telephone, mobile, and email); and,

(f) Summary of best management practices that will be used.

(g) A summary of communications with the affected Tribe's water quality staff regarding the project, including any concerns or issues.

(h) Notify Blackfeet and EPA at least 7 days before the completion of construction and operations begin.

xxx. Point source discharges may not occur: (1) in fens, bogs or other peatlands; (2) within 100 feet of the point of discharge of a known natural spring source; or (3) hanging gardens.

xxxi. Except as specified in the application, no debris, silt, sand, cement, concrete, oil or petroleum, organic material, or other construction related materials or wastes shall be allowed to enter into or be stored where it may enter into waters of the U.S.

xxxii. Silt fences, straw wattles, and other techniques shall be employed as appropriate to protect waters of the U.S. from sedimentation and other pollutants.

xxxiii. Water used in dust suppression shall not contain contaminants that could violate water quality standards.

xxxiv. Erosion control matting that is either biodegradable blankets or loose-weave mesh must be used to the maximum extent practicable.

xxxv. All equipment used in waters of the U.S. must be inspected for fluid leaks and invasive species prior to use on a project. All fluid leaks shall be repaired and cleaned prior to use or when discovered, or if the fluid leak can't be repaired, the equipment shall not be used on site. Equipment used in waters with the possibility of aquatic nuisance species infestation must be thoroughly cleaned and effectively decontaminated before they are used on the project.

xxxvi. Vegetation should be protected except where its removal is necessary for completion of the work. Locations disturbed by construction activities should be revegetated with appropriate native vegetation in a manner that optimizes plant establishment for the specific site.

xxxvii. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching, as necessary. Where practical, stockpile weed- seed-free topsoil and replace it on disturbed areas. All revegetation materials, including plants and plant seed shall be on site or scheduled for delivery prior to or upon completion of the earth moving activities.

xxxviii. Activities may not result in any unconfined discharge of liquid cement into waters of the U.S. Grouting riprap must occur under dry conditions with no exposure of wet concrete to the waterbody.

xxxix. Activities that may result in a point source discharge shall occur during seasonal low flow or no flow periods to the extent practicable.

xl. The placement of material (discharge) for the construction of new dams is not certified, except for stream restoration projects.

xli. Any decision-maker that is required under 7.0 of the CGP to prepare a Stormwater Pollution Prevention Plan (SWPPP), must submit an electronic copy of the SWPPP to the Blackfeet Environmental Office at least 30 days before construction starts for review and approval. Any modifications to the SWPPP should be submitted to the Blackfeet Environmental Office.

xlii. Any Decision-maker required under Part 1.4 of the CGP to submit a Notice of Intent (NOI) to EPA for coverage under the CGP, must submit a copy of the NOI to the Blackfeet Environmental Office within three business days of submittal to EPA. Additionally, a copy of the Notice of Termination (NOT) must be provided within three business days after electronic confirmation is received from EPA that the NOT has been accepted. The NOI and NOT must be provided to the following address Gerald Wagner, Blackfeet Environmental Office Director.

62 Hospital Drive, Browning, MT 59417

beo.director@gmail.com

b. Fort Peck Tribes.

i. Any Decision-maker required under Part 1.4 of the CGP to submit a Notice of Intent (NOI) to EPA for coverage under the CGP, must submit a copy of the NOI to the Fort Peck Tribes Office of Environmental Protection within three business days of submittal to EPA. Additionally, a copy of the Notice of Termination (NOT) must be provided within three business days after electronic confirmation is received from EPA that the NOT has been accepted. The NOI and NOT must be provided to the following address:

Martina Wilson, Office of Environmental Protection Director

501 Medicine Bear Rd Poplar, MT 59255

martinawilson@fortpecktribes.net

ii. Any Decision-maker that is required under Part 7.0 of the CGP to prepare a Stormwater Pollution Prevention Plan (SWPPP), must submit an electronic copy of the SWPPP to the Fort Peck Tribes Office of Environmental Protection at least 30 days before construction starts for review and approval. Any modifications to the

SWPPP should be submitted to the Fort Peck Tribes Office of Environmental Protection.

iii. Any Decision-maker that is required under Part 8.0 of the CGP to submit a weekly, bi-weekly, and/or annual report to EPA, must submit an electronic copy of the annual report to the Fort Peck Tribes Office of Environmental Protection within three business days after submittal to EPA.

9.9 EPA REGION 9

9.9.1 CAR10I000 Indian country within the State of California

a. Morongo Band of Mission Indians

i. A copy of the Stormwater Pollution Prevention Plan (SWPPP) must be submitted (either mailed or electronically) to the MEPD no less than thirty (30) days before commencing construction activities:

Morongo Band of Mission Indians
Environmental Protection Department
12700 Pumarra Road
Banning, CA 92220
Email: epd@morongo-nsn.gov

ii. Copies of the Notice of Intent (NOI) and the Notice of Termination (NOT) must be sent to the MEPD at the same time they are submitted to EPA.

iii. Operators of an "emergency-related project" must submit notice to the MEPD within twenty- four (24) hours after commencing construction activities.

iv. Spills, leaks, or unpermitted discharges must be reported to the MEPD within twenty-four (24) hours of the incident, in addition to the reporting requirements of the CGP.

v. Projects utilizing cationic treatment chemicals (as defined in Appendix A of the CGP) within the Morongo Reservation are not eligible for coverage under this certification of the CGP.

vi. Facilities covered under the CGP will be subject to compliance inspections by MEPD staff, including compliance with final site stabilization criteria prior to submitting an NOI ***[EPA assumes this intended to refer to an NOT]***.

9.9.2 GUR100000 Island of Guam

a. For purposes of this Order, the term "Project Proponent" shall mean U.S. Environmental Protection Agency, and its agents, assignees, and contractors.

b. For purposes of this Order, the permit "Operator" shall mean any party associated with a construction project that meets either of the following two criteria:

i. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications (e.g. in most cases this is the owner of the site); or

ii. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit; in most cases this is the general contractor of the project).

Subcontractors generally are not considered operators for the purposes of this permit.

c. The Project Proponent shall enforce the proposed 2022 CGP and ensure that the Operator complies with the conditions of the permit at all times.[107] (40 CFR §121.11(c))

d. All submittals required by this Order shall be sent to the Guam Environmental Protection Agency Attn: 401 Federal Permit Manager, Non-Point Source Program, EMAS Division, 3304 Mariner Avenue, Bldg. 17-3304, Barrigada, Guam 96913, AND via email to jesse.cruz@epa.guam.gov. The submittals shall be identified with WQC Order #2021- 04 and include the COP Permit Number, certifying representative's name, title, mailing address and phone number. (§51060)(4) 2017 GWQS)

e. A copy of the Operator's signed Stormwater Pollution Prevention Plan (SWPPP) and signed Notice of Intent (NOI) and Notice of Termination (NOT) submitted to EPA for review and approval, shall concurrently be submitted to Guam EPA, consistent with condition A4. Coordination with Guam EPA is encouraged when the receiving water(s) for the proposed discharge is/are being identified. (§10105.B.5.d.) GSESCR; (§51060)(4) 2017 GWQS)

f. The Operator must comply with the conditions and requirements set forth in 22 GAR 10, Guam Soil Erosion and Sediment Control Regulations (GSESCR).

g. Before submitting the NOT to EPA, Operators shall comply with GSESC regulations at §10105.B10. (Stabilization of Affected Areas) and §10107.B. {Final Inspection and Approval)

h. All operators/owners shall comply with the general design criteria for best management practices (BMPs) acceptable for meeting the Construction and Post-construction stormwater criteria in the 2006 CNMI and Guam Stormwater Management Manual. (E.O. 2012-02)

i. Operating reports and monitoring and analytical data (e.g. Discharge Monitoring Reports (DMRs), follow-up monitoring reports, Exceedance Reports for Numerical Effluent Limits, etc.) submitted to EPA shall be concurrently submitted to Guam EPA, consistent with condition A4. §51060)(4) 2017 GWQS

j. The Operators who install a sediment basin or similar impoundment shall maintain the storage capacity of five thousand cubic feet {5,000 cu. ft.) per acre of project area tributary to the basin. (§10105.B.5.i.) GSESCR

k. (1) This Order does not authorize EPA to qualify Rainfall Erosivity Waivers to stormwater discharges associated with small construction activities (i.e. 1-5 acres). Operators are required to apply for an NOI for those projects eligible for coverage under the proposed 2022 CGP. An Erosion and Sediment Control Plan is required for every site that would be covered by the proposed 2022 CGP. (22 GAR §10104) The average annual rainfall for Guam and the CNMI exceeds I00 inches per year in many locations. These climatic conditions combined with the region's unique limestone, volcanic geologic formations, sensitive water resources and significant land

[107] By incorporating this condition into the permit, EPA acknowledges receipt of Guam's certification conditions.

development forces make stormwater discharges a very significant environmental and economic issue. (2006 CNMJ/Guam Stormwater Management Manual) E.O. 2012-02

(2) This Order does not authorize EPA to approve a Sediment TMDL Waiver for the Ugum River. Operators of construction activities eligible for a TMDL Waiver in lieu of coverage under the proposed 2022 CGP, shall submit a complete and accurate waiver certification as described in C.2., Appendix C - (Small Construction Waivers) to Guam EPA per condition A4., prior to notifying EPA of its intention to obtain a waiver. §51060)(4) 2017 GWQS

l. The Project Proponent shall submit to Guam EPA a signed Statement of Understanding of Water Quality Certification Conditions.[108] (see Attachment A for an example) per condition A4. §51060)(4) 2017 GWQS

m. The Operator shall comply with applicable provisions of the Guam Pesticides Act of2007 (10 GCA Chapter 50) and implementing regulations at Title 22 GAR Chapter 15 for any use and application of pesticides.

n. Point source discharge(s) to waterbodies under the jurisdiction of Guam EPA must be consistent with the antidegradation policy in 22 GAR §510l(b).

o. The operator shall carry out construction activities in such a manner that will not violate Guam Water Quality Standards (GWQS). Proposed 2022 CGP discharges are prohibited as follows:

- **i.** In Marine Waters, Category M-1 Excellent 22 GAR Chapter 5 §5102(b)(I); and
- **ii.** In Surface Waters, Category S-1 High 22 GAR Chapter 5 §5102(c)(I)

p. In addition to complying with construction dewatering requirements in Part 2.4 and site inspection requirements for all areas where construction dewatering is taking place in Part 4 of the proposed 2022 CGP, Operators shall comply with all dewatering conditions and requirements set forth in 22 GAR 7, Water Resources Development and Operating Regulations, to include securing Guam EPA permits prior to any dewatering activities.

q. The Operator shall develop and implement a Spill Prevention and Containment Plan.

r. The Operator shall have adequate and appropriate spill response materials on hand to respond to emergency release of oil, petroleum or any other material into waters of the territory.

s. Any unpermitted discharge into territorial waters or onto land with a potential for entry into territorial waters, is prohibited. If this occurs, the Operator shall immediately take the following actions:

- **i.** Cease operations at the location of the violation or spill.
- **ii.** Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.
- **iii.** Notify Guam EPA of the failure to comply. All petroleum spills shall be reported immediately to:

[108] By incorporating this condition into the permit, EPA acknowledges receipt of Guam's certification conditions.

(a) Guam's Emergency 911 system

(b) Guam EPA's 24-Hour Spill Response Team at (671) 888-6488 or during working hours (671) 300-4751

(c) US Coast Guard Sector Guam (671) 355-4824

(d) National Response Center 1-800-424-8802

iv. Submit a detailed written report to Guam EPA within five days of noncompliance that describes the nature of the event corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.

t. Compliance with this condition does not relieve the Operator from responsibility to maintain continuous compliance with the terms and conditions of this Order or the resulting liability from failure to comply.

u. Submittal or reporting of any of this information does not provide relief from any subsequent enforcement actions for unpermitted discharges to waters of the United States.

v. This Order is valid for five (5) Years from Date of Certification, unless otherwise approved by the Guam EPA Administrator.

w. The Operator shall be required to adhere to the current Guam Coral Spawning Moratorium dates for both hard and soft corals where in-water activities and/or construction activity in close proximity with marine waters may impair water quality. These dates can be obtained from the Guam Department of Agriculture, Division of Aquatic and Wildlife Resources, or the NOAA NMFS Pacific Islands Regional Office Habitat Conservation Division.

x. The Operator shall provide notice to Guam EPA consistent with Condition A4:

(a) Immediately upon discovery of noncompliance with the provisions of this Order.

y. A Notice of Violation/Work Stop Order will be issued if certification conditions are not adhered to or when significant or sustained water quality degradation occurs. Work or discharge shall be suspended or halted until the Operator addresses environmental problems/concerns to Guam EPA's satisfaction. Guam EPA may also levy penalties and fines (10 GCA §47111). Invalidity or enforceability of one or more provisions of this certification shall not affect any other provision of this certification.

9.10 EPA REGION 10

9.10.1 IDR10I000 Indian country within the State of Idaho, except Duck Valley Reservation lands (see Region 9)

a. Shoshone-Bannock Tribes

i. Copies of the following information must be sent to the SBT-WRD:

(a) Notice of Intents (NOI)

The Notice of Intent shall be forwarded to the SBT-WRD within thirty (30) days of receipt of submitting NOI to the USEPA.

Shoshone-Bannock Tribes Water Resources Department
PO Box 306 Pima Drive
Fort Hall, ID 83203 Phone: (208) 239-4582
Fax: (208) 239-4592
Or Email ctanaka@sbtribes.com

b. If requested by the SBT-WRD, the permittee must submit a copy of the SWPPP to SBT-WRD within fourteen (14) days of the request.

9.10.2 ORR10I000 Indian country within the State of Oregon, except Fort McDermitt Reservation lands (see Region 9)

a. Confederated Tribes of Coos, Lower Umpqua, and Siuslaw

i. No activities allowed under the CGP shall result in the degradation of any Tribal waters or affect resident aquatic communities or resident or migratory wildlife species at any life stage.

ii. The operator shall be responsible for achieving compliance with CTCLUSI Water Quality Standards and all other tribal codes, regulations, and laws as they exist at the time that the permit is submitted.

iii. The operator shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the CTCLUSI Water Quality Program before, or at the same time as, it is submitted to EPA.

iv. The operator shall be responsible for submitting all Stormwater Pollution Prevention Plans (SWPPP) required under this general permit to the CTCLUSI Water Quality Program for review and determination that the SWPPP is sufficient to meet Tribal Water Quality Standards, prior to the beginning of any discharge activities taking place.

v. The operator shall be responsible for reporting an exceedance to Tribal Water Quality Standards to the CTCLUSI Water Quality Program at the same time it is reported to EPA.

vi. The THPO will be provided 30 days to comment on the APE as defined in the permit application.

vii. If the project is an undertaking, a cultural resource assessment must occur. All fieldwork must be permitted by the THPO (as appropriate), conducted by qualified personnel (as outlined by the Secretary of Interior's Standards and Guidelines; http://www.nps.gov/history/local-law/arch_stnds_O.htm) and documented according to Oregon Reporting Standards (Reporting_Guidelines.pdf) (oregon.gov). The resulting report must be submitted to the THPO and the THPO must concur with the finding of effect and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.

viii. The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or mitigate adverse effects to historic properties.

b. Confederated Tribes of the Umatilla Indian Reservation

i. The operator shall be responsible for achieving compliance with the

Confederated Tribes of the Umatilla Indian Reservation's (CTUIR) Water Quality Standards.

ii. The operator shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the CTUIR Water Resources Program at the address below, at the same time it is submitted to EPA.

iii. The operator shall be responsible for submitting all Stormwater Pollution Prevention Plans (SWPPP) required under this general permit to the CTUIR Water Resources Program for review and determination that the SWPPP is sufficient to meet Tribal Water Quality Standards, prior to the beginning of any discharge activities taking place.

iv. The operator shall be responsible for reporting an exceedance to Tribal Water QualityStandards to the CTUIR Water Resources Program at the same time it is reported to EPA.

Confederated Tribes of the Umatilla Indian Reservation
Water Resources Program
46411 Timíne Way
Pendleton, OR 97801
(541) 429-7200

v. The THPO will be provided 30 days to comment on the APE as defined in the permit application.

vi. If the project is an undertaking, a cultural resource assessment must occur. All fieldwork must be permitted by the Tribal Historic Preservation Office (as appropriate), conducted by qualified personnel (as outlined by the Secretary of Interior's Standards and Guidelines; http://www.nps.gov/history/local-law/arch_stnds_0.htm) and documented according to Oregon Reporting Standards (Reporting_Guidelines.pdf (oregon.gov). The resulting report must be submitted to the THPO and the THPO must concur with the finding of effect and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.

vii. The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or mitigate adverse effects to historic properties.

9.10.3 WAR10F000 Areas in the State of Washington, except those located on Indian country, subject to construction activity by a Federal Operator

a. For purposes of this Order, the term "Project Proponent" shall mean those that are seeking coverage under this permit, and its agents, assignees and contractors.

b. The Federal Agency shall mean the US Environmental Protection Agency. The Federal Agency shall enforce the permit and ensure that the Project Proponent complies with the conditions of the permits at all times.

c. Failure of any person or entity to comply with this Certification may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Certification.

d. The Certification conditions within this Order must be incorporated into EPA's final NPDES permit. Per 40 CFR 121.10(a), all certification conditions herein that satisfy the

requirements of 40 CFR 121.7(d) must be incorporated into the permit. Per 40 CFR 121.10(b), the permit must clearly identify all certification conditions.

e. This Certification does not authorize exceedances of water quality standards established in chapter 173-201A WAC.

f. Discharges from construction activity must not cause or contribute to violations of the Water Quality Standards for Surface Water of the State of Washington (chapter 173-201A WAC), Ground Water Quality Standards (chapter 173- 200 WAC), Sediment Management Standards (chapter 173-204 WAC), and standards in the EPA's Revision of certain Federal water quality criteria applicable to Washington (40 CFR 131.45). Discharges that do not comply with these standards are prohibited.

g. Prior to discharge of stormwater and non-stormwater to waters of the State, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate Stormwater Pollution Prevention Plan (SWPPP), with all appropriate Best Management Practices (BMPs) installed and maintained in accordance with the SWPPP and the terms and conditions of the permit.

i. BMPs must be consistent with:

(a) The Stormwater Management Manual for Western Washington (most current approved edition at the time this permit was issued), for sites west of the crest of the Cascade Mountains; or

(b) The Stormwater Management Manual for Eastern Washington (most current approved edition at the time this permit was issued), for sites east of the crest of the Cascade Mountains; or

(c) Revisions to either manual, or other stormwater management guidance documents or manuals which provide equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230. (For purposes of this section, the stormwater manuals listed in Appendix 10 of the Phase I Municipal Stormwater Permit are approved by Ecology); or

(d) Documentation in the SWPPP that the BMPs selected provided an equivalent level of pollution prevention, compared to the applicable stormwater management manuals, including:

- The technical basis for the selection of all stormwater BMPs (scientific, technical studies, and/or modeling) that support the performance claims for the BMPs being selected.
- An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

The Stormwater Management Manuals for Eastern and Western Washington can be found at: https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals.

ii. An adequate SWPPP must include a narrative and drawings. All BMPs must be clearly referenced in the narrative and marked on the drawings. The SWPPP

narrative must include documentation to explain and justify the pollution prevention decisions made for the project. Documentation must include:

(a) Information about existing site conditions (topography, drainage, soils, vegetation, etc.).

(b) Potential erosion problem areas.

(c) The 13 elements of a SWPPP, including BMPs used to address each element. Unless site conditions render the element unnecessary and the exemption is clearly justified in the SWPPP, the 13 elements are as follows:

- Preserve Vegetation/Mark Clearing Limits
- Establish Construction Access
- Control Flow Rates
- Install Sediment Controls
- Stabilize Soils
- Protect Slopes
- Protect Drain Inlets
- Stabilize Channels and Outlets
- Control Pollutants
- Control Dewatering
- Maintain BMPs
- Manage the Project
- Protect Low Impact Development (LID) BMPs

h. Discharges of stormwater and authorized non-stormwater must be monitored for turbidity (or transparency) and, in the event of significant concrete work or engineered soils, pH must also be monitored. As applicable based on project specifics, monitoring, benchmarks, and reporting requirements contained in Condition S.4. (pp.10-16) of the Washington State Construction Stormwater General Permit, effective January 1, 2021, shall apply.

i. Discharges to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, phosphorus, or pH must comply with the following numeric effluent limits:

Parameter identified in 303(d) listing	Parameter Sampled	Unit	Analytical Method	Numeric Effluent Limit
• Turbidity • Fine Sediment • Phosphorus	Turbidity	NTU	SM2130	25 NTUs at the point where the stormwater is discharged from the site.
High pH	pH	su	pH meter	In the range of 6.5 – 8.5

All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current EPA-approved listing of impaired waters that exists on the

effective date of the permit, or the date when the operator's complete permit application is received by EPA, whichever is later.

The EPA approved WQ Assessment can be found at: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d

j. Discharges to a waterbody that is subject to a Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus must be consistent with the TMDL.

- **i.** Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges shall be consistent with any specific waste load allocations or requirements established by the applicable TMDL.
- **ii.** Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but no specific requirements have been identified, compliance with this permit will be assumed to be consistent with the approved TMDL.
- **iii.** Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with this permit will be assumed to be consistent with the approved TMDL.
- **iv.** Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus which has been completed and approved by EPA as of the effective date of the permit, or prior to the date of the operator's complete application for permit coverage is received by EPA, whichever is later.

k. Discharges to waters of the state from the following activities are prohibited:

- **i.** Concrete wastewater.
- **ii.** Wastewater from washout and clean-up of stucco, paint, form release oils, curing compounds and other construction materials.
- **iii.** Process wastewater as defined by 40 Code of Federal Regulations (CFR) 122.2.
- **iv.** Slurry materials and waste from shaft drilling, including process wastewater from shaft drilling for construction of building, road, and bridge foundations unless managed to prevent discharge to surface water.
- **v.** Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
- **vi.** Soaps or solvents used in vehicle and equipment washing.
- **vii.** Wheel wash wastewater, unless managed to prevent discharge to surface water.
- **viii.** Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed according to appropriate controls described within the permit.

l. This Certification is valid until the expiration date including any administrative extension or termination date of the NPDES 2022 Construction General Permit. (40 CFR § 122.46)

m. The Federal Agency shall enforce and the Project Proponent must comply with all the reporting and notification conditions of the NPDES 2022 Construction General Permit in order to comply with this Order and the certification conditions herein (40 CFR § 121.11).

n. You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person (see addresses below). E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

CONTACT INFORMATION

Please direct all questions about this Order to:

Noel Tamboer
Department of Ecology
P.O. Box 47600
Olympia, WA 98503-7600

(360) 701-6171
noel.tamboer@ecy.wa.gov

9.10.4 WAR10I000 Indian country within the State of Washington

a. Lummi Nation

i. This certification does not exempt and is provisional upon compliance with other applicable statutes and codes administered by federal and Lummi tribal agencies. Pursuant to Lummi Code of Laws (LCL) 17.05.020(a), the operator must also obtaina land use permit from the Lummi Planning Department as provided in Title 15 of theLummi Code of Laws and regulations adopted thereunder.

ii. Pursuant to LCL 17.05.020(a), each operator shall develop and submit a Storm WaterPollution Prevention Plan to the Lummi Water Resources Division for review and approval by the Water Resources Manager prior to beginning any discharge activities.

iii. Pursuant to LCL Title 17, each operator shall be responsible for achieving compliance with the Water Quality Standards for Surface Waters of the Lummi

iv. Indian Reservation (Lummi Administrative Regulations [LAR] 17 LAR 07.010 through 17 LAR 07.210 together with supplements and amendments thereto).

v. Each operator shall submit a signed copy of the Notice of Intent (NOI) to the Lummi Water Resources Division at the same time it is submitted electronically to the Environmental Protection Agency (EPA) and shall provide the Lummi Water Resources Division the acknowledgement of receipt of the NOI from the EPA and the associated NPDES tracking number provided by the EPA within 7 calendar days of receipt from the EPA.

vi. Each operator shall submit a signed copy of the Notice of Termination (NOT) to the Lummi Water Resources Division at the same time it is submitted electronically to the EPA and shall provide the Lummi Water Resources Division the EPA acknowledgement of receipt of the NOT.

vii. Storm Water Pollution Prevention Plans, Notice of Intent, Notice of Termination and associated correspondence with the EPA shall be submitted to:

Lummi Natural Resources Department
ATTN: Water Resources Manager 2665 Kwina Road
Bellingham, WA 98226-9298

b. Port Gamble S'Klallam Tribe

i. No discharge from the project site shall cause exceedances of Port Gamble S'KlallamSurface Water Quality Standards narrative or numeric criteria in Tribal waters. This includes activities outside of Tribal lands that occur upstream of Tribal waters.

(a) If any exceedance of these water quality standards occurred, the Natural Resources Department shall be notified immediately.

- The Department shall additionally be provided a complete draft of the proposed corrective action within a reasonable timeframe and its approval will be required before any corrective action may be taken.

ii. Operators performing activities under the CGP that may affect Tribal waters will requirea permit and shall submit their plans to the Port Gamble S'Klallam Natural Resources Department for review.

- The Department has the right to require conditions outside of this Water QualityCertification prior to permit approval.

iii. No activities allowed under the CGP shall result in the degradation of any Tribal watersor change in designated uses.

iv. No activities allowed under the CGP shall affect resident aquatic communities or resident/migratory wildlife species at any life stage.

- Biological assessment methods used to determine the effect of an activity allowedunder the CGP shall be approved by the PGST Natural Resources Department.

v. No activities allowed under the CGP shall be conducted within wetland and stream bufferzones, nor shall said activities affect in any way wetland or stream buffers, as defined by *PGST Law and Order Code 24.08.01(c)*.

vi. Concentrations for substances listed within the table in *Water Quality Standards for Surface Waters* sec. 7(7) shall not be exceeded by activities allowed under the CGP.

c. Spokane Tribe of Indians

i. Pursuant to Tribal Law and Order Code (TLOC) Chapter 30 each operator shall be responsible for achieving compliance with the Surface Water Quality Standards of the Spokane Tribe. The operator shall notify the Spokane Tribe, Water Control Board (WCB) of any spills of hazardous material and;

ii. Each operator shall submit a signed hard copy of the Notice of Intent (NOI) to the WCB at the same time it is submitted to EPA.

iii. The permittee shall allow the Tribal Water Control Board or its designee to inspect and sample at the construction site as needed.

iv. Each operator shall submit a signed copy of the Notice of Termination (NOT) to the WCB at the same time it is submitted to EPA

The correspondence address for the Spokane Tribe Water Control Board is:

Water Control Board c/o Brian Crossley PO Box480
Wellpinit WA 99040
(509)626-4409
crossley@spokanetribe.com

d. Swinomish Tribe

i. Owners and operators seeking coverage under this permit must submit a copy of the Notice of Intent (NOI) to the DEP at the same time the NOI is submitted to EPA.

ii. Owners and operators must also submit to the DEP changes in NOI and/or Notices of Termination at the same time they are submitted to EPA.

iii. Owners and operators seeking coverage under this permit must also submit a Stormwater Pollution Prevention Plan to the DEP for review and approval by DEP prior to beginning any discharge activities.

e. Tulalip Tribes

i. Submission of NOI: Copies of the Notice of Intent (NOI),) Certification shall be submitted to the Tribe's Natural Resources Department to notify the Tribes of the

pending project and in order for the Tribes to review the projects potential impacts to endangered or threatened species.

ii. Submission of SWPPP: A copy of the Stormwater Pollution Plans (SWPPPs) shall be submitted to the Tribe's Natural Resources Department along with the NOI during the 30 day waiting period.

iii. Submission of Monitoring Data and Reports: The results of any monitoring required by this permit and reports must be sent to the Tribe's Natural Resources Depa1tment,

iv. The Tulalip Tribes are federally recognized successors in the interest to the Snohomish, Snoqualmie, Skykomish, and other allied tribes and bands signatory to the Treaty of Point Elliott.

v. including a description of the corrective actions required and undertaken to meet effluent limits or benchmarks (as applicable).

vi. Authorization to Inspect: The Tribe's Natural Resources Department may conduct an inspection of any facility covered by this permit to ensure compliance with tribal water quality standards. The Department may enforce its certification conditions.

vii. Submission of Inspection Reports: Inspection reports must be sent to the Tribe's Natural Resources Department, including a description of the corrective actions required and undertaken to meet effluent limits or benchmarks (as applicable).

viii. Permits on-site: A copy of the pe1mit shall be kept on the job site and readily available for reference by the construction supervisor, construction managers and foreman, and Tribal inspectors.

ix. Project Management: The applicant shall ensure that project managers, construction managers and foreman, and other responsible parties have read and understand conditions of the permit, this certification, and other relevant documents, to avoid violations or noncompliance with this certification.

x. Emergency Spill Notification Requirements: In the event of a spill or the contractor shall immediately take action to stop the violation and correct the problem, and immediately repo1t spill to the Tulalip Tribes Police Department (425) 508-1565. Compliance with this condition does not relieve the applicant from responsibility to maintain continuous compliance with the tem1S and conditions of this certification or the resulting liability from failure to comply.

xi. Discharges to CERCLA Sites: This permit does not autho1ize direct stormwater discharges to certain sites undergoing remedial cleanup actions pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) unless first approved by the appropriate EPA Regional office. In the case of the Tulalip Landfill site (WAD980639256), the Tulalip Tribes also requests notification by the facility and consultation with EPA prior to discharge. Contaminants at this site may include but are not limited to: dioxins, furans, arsenic, copper, lead, zinc, 4- methyl-phenol, Hex-CB, HPAHs, PCBs, PCE, cadmium, mercury, and LPAHs.

xii. Discharge-related Activities that have Potential to Cause an Adverse Effect on Historic Properties: Installation of stormwater controls that involve subsurface disturbances may potentially have an adverse impact on historic properties.

xiii. Procedures detailed in the permit shall be completed. Richard Young, of the Tulalip Tribe's Cultural Resources Department shall be contacted prior to initiating discharge- related activities that may have an impact on historic properties. His contact information is (360) 716-2652, ryoung@tulaliptribes-nsn.gov.

xiv. Invalidation: This certification will cease to be valid if the project is constructed and/or operated in a manner not consistent with the project description contained in

xv. the permit. This certification will also cease to be valid and the applicant must reapply with an updated application if info1mation contained in the permit is voided by subsequent submittals.

xvi. Modification: Nothing in this certification waives the Tulalip Tribes of Washington's authority to issue modifications to this ce1iification if additional impacts due to operational changes are identified, or if additional conditions are necessary to protect water quality or further protect the Tribal Communities interest.

xvii. incorporation by reference: TI1is certification does not exempt the applicant from compliance with other statues and codes administered by the Tribes, county, state and federal agencies.

xviii. Compliance with Tribe's I996 Water Quality Standards: Each permittee shall be responsible for controlling discharges and achieving compliance with the T1ibe's Water Quality Standards.

xix. Compliant with Tulalip Tribes Tidelands Management Policy: Permittee shall be responsible for achieving compliance with applicable sections of the Tulalip Tribe's Tidelands Management Policy. (Tulalip Tribal Code Title 8 Chapter 8.30).

xx. Compliant with Tulalip Tribes Environmental Infractions: Permittee shall be responsible for achieving compliance with applicable sections of the Tulalip Tribe's Environmental Infractions. (Tulalip Tribal Code Title 8 Chapter 8.20).

xxi. Where to Submit information and for further Coordination: All requested documents should be sent to the: Tulalip Tribes Natural Resources Environmental Department c/o Kurt Nelson and Valerie Streeter, 6704 Marine Drive, Tulalip, Washington 98271. For further 40 I Certification coordination with the Tulalip Tribes Natural Resources Department, please contact Mr. Kurt Nelson (360) 716-4617 knelson@tu1aliptribes- nsn.gov. 6406 Marine Dr., Tulalip WA 98271.

f. Makah Tribe

i. The permittee shall be responsible for meeting any additional permit requirements imposed by EPA necessary to comply with the Makah Tribe's Water Quality Standards if the discharge point is located within the Makah's U&A treaty reserved areas.

ii. Each permittee shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to Makah Fisheries Management, Water Quality Department at the address listed below at the same time it is submitted to the EPA.

Makah Water Quality
Makah Fisheries Management (MFM)
ray.colby@makah.com

PO Box 115
Neah bay, WA 98357

iii. All supporting documentation and certifications in the NOI related to coverage under the general permit for Endangered Species Act purposes shall be submitted to the Tribe's Habitat programs for their review.

iv. If EPA requires coverage under an individual or alternative permit, the permittee shall submit a copy of the permit to Assistant Fisheries Director, ray.colby@makah.com.

v. The permittee shall submit all Stormwater Pollution Prevention plan (SWPP) to MFM for review and approval prior to beginning any activities resulting in a discharge to Makah tribal waters.

vi. The permittee shall notify Ray Colby, ray.colby@makah.com (360) 645-3150 prior to conducting inspections at construction sites generating stormwater discharges to tribal waters.

vii. The operator shall treat dewatering discharges with controls necessary to minimize discharges of pollutants to surface waters, or ground waters, and from stormwater runoff onsite from excavations, trenches, foundations, or storage areas. To the extent feasible, at all points where dewatering is discharged, comply with the velocity dissipation using check dams, sediment traps, and grouted outlets.

g. Puyallup Tribe of Indians

i. The permittee shall be responsible for meeting any additional permit requirements imposed by EPA necessary to comply with the Puyallup Tribe's antidegradation procedures.

ii. Each permittee shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to Char Naylor, Tribal Water Quality Manager at the following e-mail address: (char.naylor@puyalluptribe-nsn.gov) at the same time it is submitted to EPA.

iii. All supporting documentation and certifications in the NOI related to coverage under the general permit for Endangered Species Act purposes shall be submitted to Char Naylor, Tribal Water Quality Manager/Assistant Fisheries Director (char.naylor@puyalluptribe-nsn.gov) for review.

iv. If EPA requires coverage under an individual or alternative permit, the permittee shall submit a copy of the permit to Char Naylor at the email address listed above.

v. The permittee shall submit all stormwater pollution prevention plans to Char Naylor for review and approval prior to beginning any activities resulting in a discharge to Puyallup tribal waters.

vi. The permittee shall contact Brandon Reynon (Brandon.reynon@puyalluptribe-nsn-gov), Tribe's Historic Preservation Officer or Jennifer Keating (Jennifer.keating@puyalluptribe-nsn.gov), Tribe's Assistant Historic Preservation Officer regarding historic properties and cultural resources.

vii. To minimize the discharge of pollutants to groundwater or surface waters from stormwater that is removed from excavations, trenches, foundations, vaults, or

other storage areas, treat dewatering discharges with controls necessary to minimize discharges of pollutants. Examples of appropriate controls include sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, and filtration systems (e.g., bag or sand filters) that are designed to remove sediment.

To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. At all points where dewatering water is discharged, utilize velocity dissipation controls. Examples of velocity dissipation devices include check dams, sediment traps, riprap, and grouted riprap at outlets.

viii. The permittee shall provide and maintain natural buffers to the maximum extent possible (and/or equivalent erosion and sediment controls) when tribal waters are located within 100 feet of the boundaries. If infeasible to provide and maintain an undisturbed 100 foot natural buffer, erosion and sediment controls to achieve the sediment load reduction equivalent to a 100-foot undisturbed natural buffer shall be required.

Appendix L – NOI and EPA Authorization Email

Appendix M –Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix N –Grading and Stabilization Activities Log

Date Grading Activity Initiated	**Description of Grading Activity**	**Description of Stabilization Measure and Location**	**Date Grading Activity Ceased** (Indicate Temporary or Permanent)	**Date When Stabilization Measures Initiated**
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE
INSERT DATE			INSERT DATE ☐ Temporary ☐ Permanent	INSERT DATE

Exhibit No. 20
Natural Settings
SOURCE: Section 106 NHPA Effect Determination, Archaeology

GOVERNMENT OF PUERTO RICO Department of Housing	**PUERTO RICO 2017 DISASTER RECOVERY, CDBG-DR PROGRAM:** **LOW INCOME HOUSING TAX CREDIT (LIHTC) PROGRAM** **Section 106 NHPA Effect Determination, Archaeology**
Case ID:	**Project Location** (Street Address)**:** Road PR-54 Km. 0.3 Machete Ward
City: Guayama	**Project Coordinates:** 17.964362 -66.117295

NATURAL SETTING *(Discuss the natural setting of the proposed project including location, landform, slope, distance to water, soils, and vegetation.)***:**

The town of Guayama is in the southeast of the island and is located in the Llano Costanero del Sur. The project area is located in the rural coastal area of Guayama, southwest of the historic center. The proposed project site slopes gently to the south and is between 88 to 98 feet above sea level. The Patillas channel is 0.07 miles northwest and the Caribbean Sea is 1.05 miles south.

The soil in this area has been classified as Vives silty clay loam high bottom (Vs). This nearly level soil is on river flood plains in the semiarid part of the survey area. This soil has moderate limitations for farming because rainfall is low.

Vegetation in the project area is dense. It consists of trees, shrubs, vines and some grasses.

CULTURAL SETTING AND PREVIOUS INVESTIGATIONS *(Discuss the cultural setting for the proposed project including previously identified archaeological sites, NRHP listed/eligible historic properties, and cultural resource studies conducted within a half-mile of the project area.)***:**

The general area of Guayama was inhabited since early times. In Guayama there are 31 reported pre-Columbian archaeological sites, from pre-ceramic to Taino.

The town of Guayama was founded in 1736 at 1.42 miles northeast of the proposed project. During the 19th century Guayama became one of the most important towns in Puerto Rico due to the great development of its agriculture and commerce. Its port was one of the most important in the area. Its economy was based on agriculture through the planting of coffee, tobacco, corn, cane, yucca and vegetables in addition to livestock. During the 19th and 20th centuries it had two great sugar mills as well as diverse haciendas.

There are two (2) cultural resources properties within 0.50 miles radius of the proposed project area: Hacienda Gregoria M. Pica (GY0200010) located 0.44 miles southwest and Canal Patillas (AY0200020), located 0.07 miles northwest.

There are thirteen (13) archaeological studies within a 0.50-mile radius of the proposed project area, two of them with positive results. Rodriguez (1987) reported historic remains associated with a site located 0.86 miles northwest and Melendez documented remains from the Hacienda Gregoria M. Pica located 0.44 miles southwest of the project area.

Archaeologist Marisol Martínez conducted a Phase IA-IB archaeological assessment for the Brisas del Mar Project, Sections IV, V and VI for the firm Pérez Blair Consulting Engineers at the request of the Archaeology and Ethnohistory Program of the Institute of Puerto Rican Culture by letter dated January 12, 2007. This report is dated October 2007. Martínez conducted documentary research, a surface inspection and the excavation of mechanical and manual test pits.

Exhibit No. 21
DRNA
SOURCE: Department of Natural Resources

756-6176

ESTADO LIBRE ASOCIADO DE PUERTO RICO
DEPARTAMENTO DE RECURSOS NATURALES Y AMBIENTALES

OCT 30 2008

ARQUITECTO FEDERICO DEL MONTE
SECRETARIO AUXILIAR
PLANIFICACIÓN Y SERVICIOS TÉCNICOS
PO BOX 21365
SAN JUAN, PR 00928-1365

Estimado arquitecto del Monte:

Declaración de Impacto Ambiental Preliminar (DIA-P)
Urb. Brisas del Mar
Secciones IV, V y VI
PR-54 Km. 0.3
Bo. Machete, Guayama

O-PA-DIA01-SJ-00106-22012008
O-CE-EJP01-SJ-00543-15052007
2006-71-0841-JPU

A.U.

El Departamento de Recursos Naturales y Ambientales (DRNA) recibió información adicional, relacionada al proyecto identificado en el epígrafe como resultado de la comunicación que a esos efectos se emitiera el 22 de agosto de 2008 y a reunión efectuada el 24 de septiembre de 2008. Se propone la construcción de 571 unidades de vivienda unifamiliar y 176 apartamentos tipo *walk-up*, para un total de 747 unidades de vivienda. El predio objeto de desarrollo tiene una cabida de 104.59 cuerdas y un remanente de 71 cuerdas. De las 104.59 cuerdas se impactarán 79.48 cuerdas. Es importante destacar que la finca principal tiene una cabida de 257.7 cuerdas, de las cuales se han desarrollado en aproximadamente 82 cuerdas, las primeras fases del proyecto (572 unidades de vivienda), así como también un *Elderly* y un Centro Comercial Vecinal. Entre las unidades propuestas y las ya construidas y aprobadas el desarrollo cuenta con 1,319 unidades de vivienda.

El DRNA categorizó la propiedad siguiendo los parámetros establecidos por la Nueva Ley de Vida Silvestre de Puerto Rico (Ley Núm. 241 de 15 de agosto de 1999, según enmendada) y el Reglamento 6765 (Reglamento para regir la conservación de la Vida Silvestre, las Especies Exóticas y la Caza en el Estado Libre Asociado de Puerto Rico), como Hábitat Natural de Valor Ecológico (Categoría 4). Tal y como se le informó en nuestras comunicaciones anteriores, el impacto de un hábitat Categoría 4 conlleva una mitigación *in situ*, adyacente o

dentro de la misma región fisiográfica en proporción de **1:1**, es decir, si impacta 79.48 cuerdas para el proyecto deberá mitigar con otras 79.48 cuerdas de terreno.

La parte proponente presentó un plan de mitigación en el cual destinan 56.49 cuerdas correspondientes al remanente y a las colindancias de los canales presentes en el predio, para permanecer en su estado natural y solicita se acepte éstas en lugar de las 79.48 cuerdas requeridas para mitigación. Esto lo sustenta indicando que el proyecto es uno de interés social y de que los terrenos propuestos para el desarrollo están clasificados como urbanizables por el Plan de Ordenamiento Territorial del Municipio de Guayama. Indica además, que los predios fueron utilizados para la agricultura y luego abandonados y están rodeados de terrenos urbanizados y de bajo laboreo agrícola. Se hace énfasis en que la vegetación arbórea y arbustiva de la propiedad está dominada por *Albizia procera* y *Leucaena leucocephala* y la fauna detectada no incluye especies en peligro o amenazadas y está compuesta por especies comunes en Puerto Rico, usualmente asociadas a ecosistemas impactados.

El DRNA en comunicación del 22 de agosto de 2008 se reafirmó en la categoría conferida al predio y le informó que una de las especies más observadas en el mismo fue la *Zenaida macroura*, especie nativa cuya distribución es el área suroeste de la Isla. Tal y como le informáramos, el Reglamento 6765 le otorga un gran valor a aquellas áreas que son hábitats para especies de cacería, como la *Z. macroura* y dado a la disminución de las mismas en los últimos años es importante que se conserven los hábitats donde esta especie se encuentra. Por tal razón, el predio fue categorizado como Hábitat Natural de Valor Ecológico y como tal le correspondería una mitigación 1:1.

A. C.

No obstante lo anterior, hemos evaluado la propuesta presentada de mitigar con 56.59 cuerdas en vez de 79.48 cuerdas. Luego de evaluar los terrenos propuestos para mitigar hemos determinado que los mismos son adecuados para mitigar el impacto al hábitat de la *Z. macroura*. Sin embargo, deberá incorporar otras medidas *in situ* para compensar las 22.89 cuerdas restantes. Entre estas se encuentran las siguientes:

- Deberá establecer un programa de reforestación utilizando **especies nativas** que además de ayudar a minimizar la erosión beneficien la vida silvestre. Esta medida es cónsona con la Ley para Fomentar la Siembra de Árboles Cuyas Frutas y/o Semillas Provean Alimento a Especies de Aves Silvestres de Puerto Rico (Ley Núm. 97 de 24 de junio de 1998), la cual establece lo siguiente: "*En todo proyecto de reforestación en que se utilicen fondos públicos o privados, o en una combinación de estos, un 15% en las áreas rurales y un 10% en las áreas urbanas del total de árboles a ser sembrados, serán de especies cuyas frutas y/o semillas sirvan de alimento*

a las aves silvestres que residan temporal o permanentemente en ésta". Entre las especies a utilizar para reforestar el predio se encuentran: Moca, Palo de Vaca, Almácigo, Ficus, Guayacán, Capa Blanco.

- Deberá destinar para Servidumbre de Conservación las 56.59 cuerdas identificadas como Remanentes 1, 2, 3, 4 y 5. Esto, según las disposiciones de la Ley Núm. 183 de 27 de diciembre de 2001. Previo a iniciar alguna gestión dirigida a la obtención de cualquier permiso, autorización, concesión o franquicia, deberá presentar copia certificada de la escritura del área a conservar y copia de la minuta de asiento de presentación de la misma en el Registro de la Propiedad.

Con relación a la DIA-P presentada el DRNA entiende que la misma discute adecuadamente los aspectos ambientales de nuestra jurisdicción. No obstante, además de las condiciones antes expuestas, para el desarrollo del proyecto deberá cumplir con lo siguiente:

- Deberá obtener de la Junta de Calidad Ambiental, el Permiso para el Control de Erosión y Sedimentación para minimizar la erosión hacia los cuerpos de agua. Además, se deberá obtener cualquier permiso requerido por esa entidad para realizar el proyecto o actividad.

- Deberá cumplir con las disposiciones del Reglamento de Planificación Núm. 25 (Reglamento de Siembra, Corte y Forestación para Puerto Rico). Se le apercibe que la Ley Núm. 133 de 1 de julio de 1975, según enmendada prohíbe el corte y poda de árboles sin el permiso correspondiente del Departamento.

- Deberá cumplir con las disposiciones del Reglamento de Planificación Núm. 3 (Reglamento de Lotificación y Urbanización), Sección 14 (Manejo de Aguas Pluviales). Se le apercibe que del sistema pluvial ser conectado a uno existente o descargar a un terreno colindante receptor de las aguas de escorrentía, no será necesario presentarlo en el DRNA.

- Deberá cumplir con las disposiciones del Reglamento Núm. 6916 (Reglamento para Regir la Extracción, Excavación, Remoción y Dragado de los Componentes de la Corteza Terrestre). Se le apercibe que la Ley Núm. 132 de 25 de junio de 1968, según enmendada y su Reglamento, prohíben la extracción, excavación, remoción y dragado de material de la corteza terrestre sin el permiso correspondiente del Departamento.

- De descubrirse en el predio objeto de desarrollo algún cuerpo de agua superficial o subterráneo, sea perenne o intermitente, cueva o sumidero,

deberá informarlo inmediatamente al DRNA y demás agencias concernidas. No informar hallazgos de este tipo así como las medidas de mitigación que se implantarán para proteger estos recursos naturales conllevará una revocación automática de la presente comunicación de no objeción y podrá ser base para acciones legales por parte del DRNA en los foros disponibles.

Este endoso es solamente aplicable a la situación de hechos y los datos según presentados y evaluados en el caso y el Secretario se reserva el derecho de reevaluar, variar o modificar el mismo en cualquier momento anterior a la emisión del permiso o la acción administrativa correspondiente por parte de la agencia solicitante o proponente cuando surja nueva información oficial específica estableciendo que el derecho aplicable o las condiciones ambientales en el predio han cambiado sustancialmente, o cuando el endoso original se emitió bajo premisas falsas o fraudulentas.

Cordialmente,

Allyson Goyco Valentín
Secretaria Auxiliar
Secretaría de Permisos, Endosos
y Servicios Especializados

AGV/GFS/MAC/ACH/JAS/ach

cf: Teófilo de Jesús Nieves
Director
Asesoramiento Científico
Junta de Calidad Ambiental

cf: Myrna Martínez
Secretaria
Junta de Planificación
PO Box 41119
San Juan, PR 00940-1119

Exhibit No. 22
Junta de Calidad Ambiental
SOURCE: Junta de Calidad Ambiental de PR

ESTADO LIBRE ASOCIADO DE PUERTO RICO
Oficina del Gobernador
Junta de Calidad Ambiental

AREA ASESORAMIENTO CIENTIFICO

11 de marzo de 2010

DR CARLOS RAMOS
SECRETARIO AUXILIAR DE PLANIFICACION
DEPARTAMENTO DE LA VIVIENDA
PO BOX 21365
SAN JUAN PUERTO RICO 00928-1365

Estimado doctor Ramos:

JCA 08-0001 DV/CASO: 20006-71-0841-JPU
DECLARACION DE IMPACTO AMBIENTAL FINAL
PROYECTO RESIDENCIAL URB. BRISAS DEL MAR
SECCIONES IV, V Y VI, CARR. PR #54, BO. MACHETE
GUAYAMA, PUERTO RICO

Mediante Resolución R-10-1-2 la Junta de Calidad Ambiental le notificó cumplimiento con el Artículo 4B(3) de la Ley Sobre Política Publica Ambiental, Ley Número 416 del 22 de septiembre de 2004, para el proyecto en referencia.

Esta consiste en el desarrollo de las secciones IV, V y VI para la construcción de 571 solares unifamiliares con cabida mínima de 300 metros cuadrados y 176 apartamentos distribuidos en edificios del tipo "walk-up", para un total de 747 unidades de vivienda en un predio de 104.59 cuerdas, dentro de una finca con cabida total de 175.05 cuerdas. No obstante, para una mejor realización del proyecto en las etapas posteriores de permisos y operación, se deberá cumplir con las siguientes recomendaciones:

1. Se debe cumplir con el Reglamento para el Control de la Contaminación por Ruido en lo relacionado al nivel de sonido máximo permitido.

2. Deberá obtener de esta Junta el Permiso General Consolidado que establece el Reglamento para el Trámite de los Permisos Generales que incluye:

a. Permiso para Fuente de Emisión para movimiento de tierra y fases de construcción en áreas de novecientos metros cuadrados (900m^2) o más.
b. Permiso para el Control de la Erosión y Prevención de la Sedimentación, si el movimiento de tierra se realiza en áreas de superficie de terrenos de 900 metros cuadrados o más, o excedan los 40 metros cúbicos.
c. Permiso para Actividad Generadora de Desperdicios Sólidos.

3. Deberán consultar con el Cuerpo de Ingenieros del Departamento del Ejército de los Estados Unidos, para determinar si es necesario obtener un permiso conforme a la Ley de Ríos y Puertos de 1899 y la Sección 404 de la Ley de Agua Limpia ("*Clean Water Act*").

4. Si durante el desarrollo de las diferentes fases del proyecto se encuentran depósitos arqueológicos, los mismos deberán ser informados inmediatamente al Instituto de Cultura Puertorriqueña y a la Oficina de Preservación Histórica Estatal (SHPO, por sus siglas en inglés).

5. Si durante el desarrollo de las diferentes fases del proyecto se encuentran depósitos arqueológicos, los mismos deberá ser informados inmediatamente al Instituto de Cultura Puertorriqueña.

6. Deberá cumplir con las disposiciones del Reglamento de Planificación Número 25 (Reglamento de Siembra, Corte y Forestación para Puerto Rico).

7. Durante la fase de construcción, deberán tomar las medidas necesarias para evitar que residuos de sustancias orgánicas e inorgánicas tales como: aceites, combustibles u otras sustancias químicas, puedan ser arrastradas por la escorrentía y ganen acceso a cualquier cuerpo de agua o al sistema pluvial.

8. Debido a que el mantenimiento de las áreas verdes estará sujeto al uso de fertilizantes y plaguicidas, se recomienda desarrollar un Plan de Mejores Prácticas de Manejo para el uso de estos, y así evitar o minimizar el posible impacto al ambiente y a los recursos de agua superficiales y subterráneos.

9. Previo al inicio de la construcción deberá realizar la coordinación correspondiente con la Autoridad de Acueductos y Alcantarillados para la conexión del proyecto propuesto de manera que la planta de tratamiento de aguas usadas a la cual planean conectarse, las líneas y tróncales estén en condiciones de aceptar la descarga de las aguas usadas a ser generadas durante la fase operacional del proyecto. Esto incluye obtener todos los permisos necesarios de dicha agencia, previo a su conexión.

10. Consultar con la Autoridad de Acueductos y Alcantarillados (AAA) en relación a las mejoras necesarias para suplir agua potable al proyecto.

11. Toda área, solar o predio de terreno que esté destinado para el estacionamiento de vehículos y que tenga una capacidad mayor de 900 pies cuadrados, deberá estar pavimentado con hormigón, asfalto, superficie sólida equivalente o estabilizada químicamente, en todos sus accesos y carreteras internas donde vías de rodaje no pavimentadas colindan con carreteras pavimentadas y áreas de estacionamiento, de acuerdo con la Regla 404 del Reglamento para el Control de la Contaminación Atmosférica.

12. Deberá cumplir con las disposiciones de la Sección 14 del Reglamento de Planificación Núm. 3 (Reglamento de Lotificación y Urbanización), con relación al manejo de aguas pluviales.

13. Cumplir con las recomendaciones de la Autoridad de Carreteras y Transportación en su carta fechada 23 de julio de 2009, Departamento de Recursos Naturales y Ambientales en carta fechada 30 de octubre de 2008, Autoridad de Energía Eléctrica en carta fechada 20 de junio de 2009, Autoridad de Acueductos y Alcantarillados en carta fechada 24 de marzo de 2009, Instituto de Cultura Puertorriqueña en su carta fechada 21 de mayo de 2009 y demás agencias concernidas.

Agradecemos su cooperación por conservar y mantener la calidad de nuestro ambiente.

Cordialmente,

BRENDA RODRIGUEZ
GERENTE
AREA ASESORAMIENTO CIENTIFICO

Exhibit No. 23
Market Study
SOURCE: J. Porrata Tasadores

Comprehensive Market Study

Proposed Brisas del Mar Village

123-unit Single-Family Rental Project
PR-54, Km. 0.3, Machete Ward
Guayama, Puerto Rico

At the request of

Brisas del Mar Village, LLC
Metropolis Commercial
419 Ponce de León Avenue, Suite 112
San Juan, Puerto Rico 00919

As of

June 26, 2020

Prepared by

J.Porrata, PSC
898 Muñoz Rivera Avenue, Suite 300
San Juan PR 00927

Prepared on

July 23, 2020

#898 Muñoz Rivera Avenue
Suite 300
San Juan, PR 00927
Tel. 787-772-9056
Fax 787-754-3285
www.jporrata.com

J. PORRATA TASADORES

July 23, 2020

Mr. Carlos L. García Muñíz
Brisas del Mar Village, LLC
Metropolis Commercial
419 Ponce de León Avenue, Suite 112
San Juan, Puerto Rico 00919

Re: Comprehensive Market Study
Proposed Brisas del Mar Village Rental Project
PR-54, Km. 0.3
Machete Ward
Guayama, Puerto Rico

Dear Mr. García:

Per your request, we have prepared a comprehensive market study to assess if there is adequate potential demand in the market area for a proposed 123-Unit Low Income Rental Project conceptualized under the Low Income Housing Tax Credits (LIHTC) program. The attached report provides essential data and detailed reasoning employed in reaching our final conclusions.

The conceptual project would consist of 123 affordable single-family rental units distributed among 98 three bedroom units and 25 two bedroom units. The project site represents a section of 15.16 cuerdas segregated from a larger partially developed residential parcel located behind Chalets de Brisas del Mar and across the street from Paseos de Brisas del Mar single-family subdivisions. The intended use of the market study is to form part of the requirements for the application for the LIHTC program. The intended users are the Puerto Rico Housing Finance Authority officials involved in the application process. Demographic analysis and actual field research evidence adequate demand for low income rental housing under the LIHTC program for two and three bedrooms units in the market area.

We expect the information and analysis included in the attached report meet your request. Please contact us if you require further assistance.

Very truly yours,

Javier E. Porrata Monserrate, MAI
State Certified General R. E. Appraiser
Certificate No. 127CG
State License No. 644EPA

Melvin Ramírez Rodríguez
State Certified General R.E. Appraiser
Certificate No. 231CG
State License No. 935EPA

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Introduction

Scope of the Analysis

The scope of the analysis includes the research of the low income rental housing market characteristics to determine if a market exists for the conceptual project of two and three bedroom units conditioned to the tenants qualification requirements of the LIHTC program for families whose income is 60% or less of the area median family gross income.

Our analysis includes an observation of the area and its surroundings, conversations with the managers of competing properties in the area to assess demand and actual operations including contracted rents, and vacancies, and analysis of census data to gather information regarding general and specific demographics of the market area which comprises the Guayama Municipality, where the project will be located, along with the nearby and adjacent municipalities of Arroyo, Patillas, Cayey, and Salinas.

Finally, we estimated the rental population and rental housing inventory at the target bracket to determine captive demand using data from the 2010 Census with additional demographic information from field visits and the 2018 American Community Survey 5-Year Estimates. Additional information was obtained from other local government agencies and private local business consulting firms. The information gathered provided an adequate basis for the analysis developed.

Competence

Our firm, J.Porrata, PSC, has been involved in several valuations of local projects developed under the LIHTC and Home programs, and has performed various rental studies for such low income oriented housing rental projects for the past 18 years. The firm has vast experience in the preparation of market studies and appraisals of subject type properties. Please refer to the qualification data included in the addenda which details the education and experience of the authors of this report.

The authors of this report have no present or prospective interest in the subject property, and no personal interest with respect to the parties involved.

The Neighborhood

The subject lies at the southern section of the Guayama urban area and south of PR-54 also known as Pedro Albizu Campos Avenue. The area evidences a mix of single-family developments with commercial and institutional uses as typical of the periphery of town cores. The neighborhood enjoys adequate road linkages by PR-3 and PR-54 with nearby supporting facilities such as hospitals, shopping centers and institutional concerns. The following table provides relevant data regarding the neighborhood.

Neighborhood Description	
Municipality	Guayama
Population	
2000	44,301
2010	45,362
2018 (5 Year ACS Est.)	41,706
% change (decrease by)	Decreased by 8.1% from 2010 to 2018
Neighborhood Location	Guayama urban core
Boundaries:	
North	Palmas and Caimital Wards
South	Machete Ward
East	Arroyo municipal limits
West	Guamani River
Zoning Parameters	Residential, Commercial and Institutional
Land Uses	A mix use of residential, commercial and institutional uses.
Neighborhood Characteristics	The neighborhood represents the southern section of the Guayama urban core south of PR-54. The immediate vicinity is mostly comprised of residential developments with supporting commercial concerns and institutional uses. Institutional uses include a Convention Center, Judicial Center, Police Headquarters, Dr. Roque Stella municipal coliseum, public recreational facilities, Menonita Hospital, and Interamerican University. Plaza Guayama is located along PR-3 at the north section of PR-54. In summary, the neighborhood evidences several single-family subdivisions mixed with supporting commercial and institutional uses.
Economic Base, Factors	Pharmaceutical and industrial plants in the region along with the commercial and institutional concerns of the Guayama town core.

The Neighborhood

The project site is located at the end of the José A. Torres Avenue leading from PR-54. There are several nearby single-family projects such as Chalets de Brisas del Mar, Paseos de Brisas del Mar, and Brisas del Mar.

Within a one mile radius along the José A. Torres Avenue lie the Judicial Center and other government offices and facilities such as the Police Headquarters, and the Menonita Medical Center at the corner with PR-54. There are also recreational and sport facilities such as Dr. Roque Stella municipal coliseum, Marcelino Blondet Stadium, and the athletic track Dr. Roberto Monroig. Pavia Medical Clinic is located along Arnaldo Bristol Avenue while the Guayama Convention Center is located at the corner of PR-54 and Arnaldo Bristol Avenue.

In term of educational facilities in the immediate vicinity there are the Leopoldo Sanabria fine arts school, the Oscar Hernández Guevara public school and the Dra. María S. Lacot Vocational School. The Interamerican University Campus is located within a one mile radius along PR-744.

Commercial concerns long PR-54 in the immediate vicinity include Walgreens, Amigo supermarket and a small neighborhood shopping center known as La Fuente Town Center with small commercial locales including a clinic laboratory. El Molino Shopping Center located at the north of PR-54 is under advanced stages of construction with Rent a Center and Selectos supermarket currently under operation. There are also additional small commercial establishments in the area.

At the north section of PR-54 are additional public and private schools and colleges, institutional and government offices, and medical services. Plaza Guayama anchored by Walmart is located along PR-3. This is a regional shopping center with national stores such as Marshalls, auto parts, commercial outlots including fast foods, and Caribbean Cinemas.

Guayama as one of the largest cities in the south region provide services and support to the smallest nearby municipalities of Arroyo, Patillas, and Salinas. It enjoys adequate road linkages to the San Juan metropolitan area by the Luis A.Ferré Expressway while PR-3 connects the towns along the south coast.

In summary, the project site is nearby health care facilities, government offices, schools, shopping centers, employment centers and supporting commercial and institutional concerns.

Surrounding Community Services



Site Analysis

The subject site consists of a residential parcel located at the end of José A. Torres Avenue and across the avenue from Paseos de Brisas del Mar single-family subdivision in Guayama. The site formed part of a larger parcel that have been partially developed with residential projects. The site has mostly level terrain and original approvals for 124 single-family units (123 are currently proposed). The following table summarizes the most important details of the site.

Site Description	
Land Area	15.1578 cuerdas
Shape	Basicaly rectangular
Topography	Mostly Level
Road Frontage	José A. Torres Avenue
Zoning District	Intermediate Residential (R-I)
Government Permits	Reportedly, the site had government approvals for a 124-unit single-family residential development (123 are currently proposed).
Utility Connections	The utility connections are reported to be available in the immediate vicinity as per the off site work performed for the existing units in the adjacent parcels. However, the availability and connection to public utilities and services required for the medium density residential use have not been determined by us, thus, we assume no liability regarding the connections to any or all of the necessary utilities and services.
Hazardous Materials	No signs of hazardous materials that could have a significant negative impact were noted on the site after visually observing the property and its surroundings. We have no knowledge of the possible existence of hazardous materials, nor any has been informed to us by the developer. Nevertheless, we are not qualified to detect any such substances. Therefore, the value opinions reported in this report assume that there are no such material affecting the property.
Environmental Impact	No environmental impact studies have been made in conjunction with this appraisal, nor any has been submitted to us. Thus, the value conclusion could be affected by subsequent environmental impact studies, research, investigation, and resulting governmental actions.

Easements, Encroachments, or Liens	Other than the typical public utility easements, the site does not appear to have any major adverse easements, encroachments, or liens noted, and/or identified. Therefore, it is assumed that the site is free of legal constraints, including expropriations, which could have a negative impact on the development contemplated at the property. We cannot guarantee that the property is free of encroachments or easements, and recommends further investigation and survey.
Archeological Materials	The values reported herein are predicated on the assumption that the properties are free from archeological materials.
Flood Panel No.	72000C2130J
Effective Date	November 18, 2009
Flood Zone	The site falls under a Zone X according to the map, which is an area of minimal flood hazard. We are not experts in flood related matters, thus a professional advise is recommended with no responsibility assumed by us in this respect.
Soil Conditions	The property is assumed to be adaptable and qualify for its intended residential development. Our conclusion of value is based upon the assumption that there are no hidden or unapparent conditions of the property that might impact upon buildability. We recommend due diligence be conducted to investigate buildability and wether property is suitable for the intended use. We make no representations, guarantees or warranties.

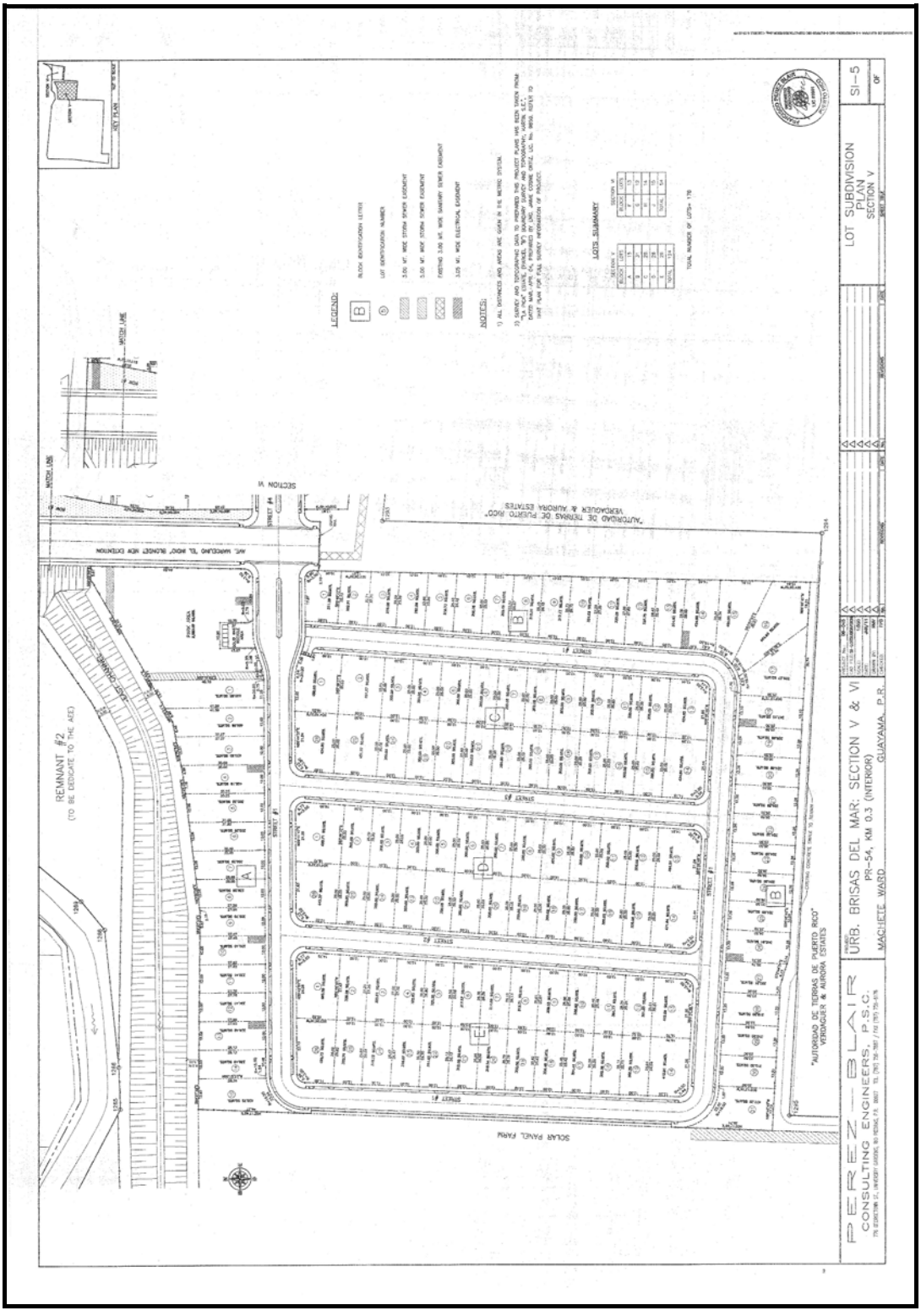
The overall project site represents a residential parcel of 15.16 cuerdas with frontage to José A.Torres Avenue leading from PR-54. It has mostly level topography and rectangular shape and is adequate for residential development. An irrigation channel passes along the north boundary of the site.

The property had approvals for a residential project of 124 single-family units. The property is currently under an option to purchase agreement and the buyer plans an alternative low income rental housing development under the LIHTC program on the site.

CRIM
Properties in Puerto Rico, for the purpose of taxation, are identified by a cadastre or codification number. This number is used to identify the property on the taxation maps prepared by the Municipal Revenue Collection Center, known by its Spanish acronym, CRIM.

The property has a tax codification number of 442-000-001-47-000. The following images present a section of the site plan and an aerial photo as extracted from the Planning Board web page.

Site Plan


LOT SUBDIVISION PLAN SECTION V
SI-5
URB. BRISAS DEL MAR: SECTION V & VI
PR-54, KM 0.3 (INTERIOR)
GUAYAMA, P.R.
MACHETE WARD
PERREZ BLAIR
CONSULTING ENGINEERS, P.S.C.
REMNANT #2
(TO BE DEDICATE TO THE AEE)
"AUTORIDAD DE TIERRAS DE PUERTO RICO"
VERDAGUER & AURORA ESTATES
SOLAR PANEL FARM
LEGEND:
NOTES:
LOTS SUMMARY

Project Site





Aerial View



Proposed Improvements

The proposed improvements will comprise 123 single-family units of one story distributed among 98 three bedrooms and 25 two bedroom units on a minimum lot area of 280 square meters. The three bedroom model will have a living-dining area, kitchen, two bathrooms, and a single carport while the two bedroom units will have a similar layout but with two bedrooms and one bathroom. The project will have recreational and communal facilities including an administrative office. The following table presents a general description of the 123 units.

Proposed Brisas del Mar Village

Total Gross Construction Area		179,565 SF	Total No. of Units	123
Total Gross Living Area		142,911 SF	Sellable Land Area	N/A
Model Unit	2BR-1BA	3BR-2BA	Basic Sellable	N/A
Gross Living Area (SF)	985 SF	1,207 SF	Basic Lot Areas	280 SM
Entrance Porch	22 SF	22 SF	Corner Locations	N/A
Single Carport	276 SF	276 SF	Communal Facilities	Park/Adm. Office
Gross Construction Area	1,283 SF	1,505 SF		
Units	25	98		
Construction Type		Concrete	Deferred Maintenance	None
Improvement Class		B/Average	Functional Obsolescence	None
Stories		One	External Obsolescence	Market Conditions

The 123 proposed units will have a combined gross construction area of 179,565 square feet. The unit areas were extracted from the floor plan submitted by the developer. The residential dwellings will have a modern type facade and design, having typical trimming and quality details consistent with its low market positioning. Exterior walls will consist of reinforced concrete and concrete blocks, with a concrete roof. Interior unit finishes will include terrazo tile floor, aluminum/mirror sliding closet doors, wooden kitchen cabinets, modern bathroom cabinets, interior semi-solid wooden doors, exterior aluminum/glass doors, and aluminum glass jalousie windows.

The project's entrance will consist of a two lane street with controlled access gate. Site improvements will include concrete paved streets and traffic areas, concrete curbs/gutters and sidewalks, as well as concrete poles with sodium light bulbs for street illumination.

The recreational facilities and common areas will include a park with playgrounds and administrative office.

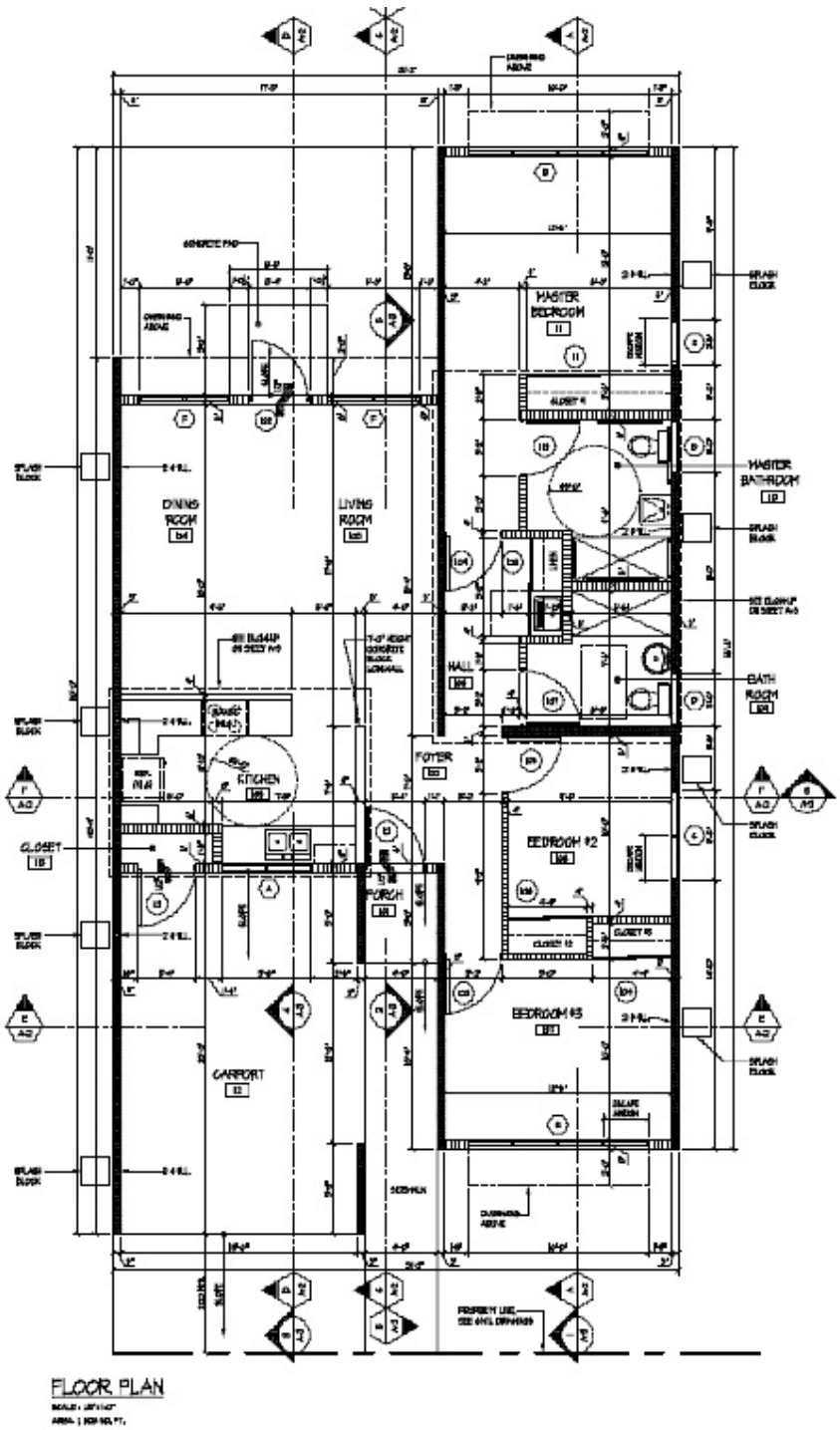
The following table summarizes the layout, stories, carport type, gross living areas and number of units for the proposed subject units.

Layout	Stories	Carport	Living Area	Units
3BR-2BA	One	Single	1,207 SF	98
2BR-1BA	One	Single	985 SF	25

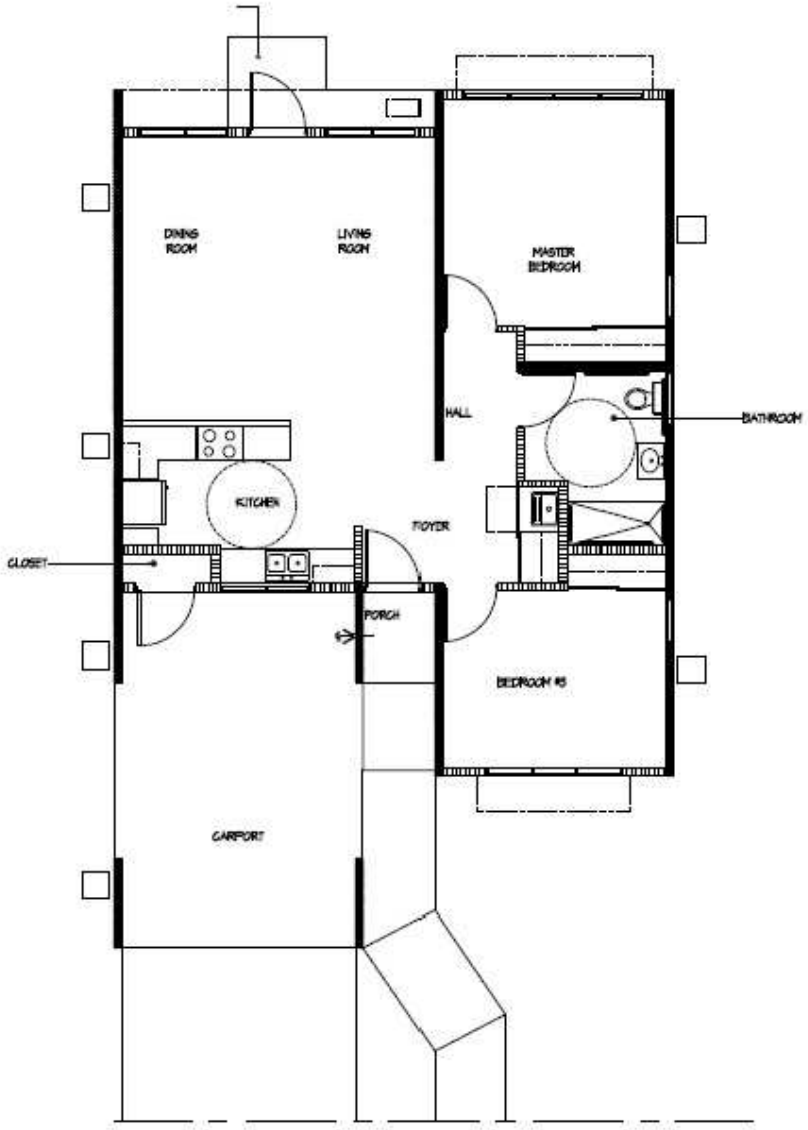
The gross living areas and interior finishes and amenities are consistent with the current market trends for low and moderate income rental and retail market segment.

Therefore, under the proposed restricted gross rents of $331 and $382 for the two and three bedroom units, respectively, the improvements are considered adequate and superior to the existing inventory considering the new condition of the units.

Three Bedroom Model Unit



Two Bedroom Model Unit



FLOOR PLAN

Low Income Housing Tax Credit Program

Congress adopted the Low Income Housing Tax Credit (LIHTC or Tax Credit) program as part of a Tax Reform Act of 1986. The Tax Credits provide a financial incentive to construct, rehabilitate, and operate rental housing for low income tenants. A 10 year Tax Credit is available for each unit set aside for low income as long as elegible households occupy a specific proportion of units in a building or project. The rents charged on the set asides units are restricted and elegible households must occupy them for at least 15 years, plus a minimum of 15 additional years that Puerto Rico Housing Finance Authority requires.

The tax credits are determined by the development costs, excluding land, and are used by the property owner. However, often, because of IRS regulations and program restrictions, the owner of the property will not be able to use all of the tax credits, and therefore, many LIHTC properties are owned by limited partnership groups that are put together by syndicators. In this manner, a variety of companies and private investors participate within the LIHTC program, investing in housing development and receiving credit against their federal tax liability in return.

When applying for an allocation of Tax Credits, the developer must choose one or two minimum set aside requirements that must be followed during the compliance period. Set asides obligate the property owner to rent a certain percentage of the units to households of a specific income level. The minimum set asides are as follows:

20/50 At least 20% or more of the residential units in the project are both rent restricted and occupied by individuals whose income is 50%t or less of area median gross income, or

40/60 At least 40% or more of the residential units in the project are both rent restricted and occupied by individuals whose income is 60% or less of area median gross income.

Typically, the project owner will agree to a higher percentage of low income usage than these minimums, up to 100%. In the LIHTC program the rent of each unit must be established so that tenant monthly housing costs, including an utility allowance do not exceed the applicable LIHTC rent limit. These limits are based on a percentage of area median income, as adjusted by unit size.

In exchange of the use restrictions the LIHTC property owner receives a series of tax credits that provide dollar for dollar reductions in its federal tax liabilities. The contracted amount of tax credits are receive annually during the first ten years of the agreement.

An LIHTC property are typically developed by limited partneships (LP), because this ownership structure is a convenient vehicle for distributing the tax benefit. Limited partnerships that are created for this purpose are typically structured with a general partner (the developer) that owns 1% or less of the LP, and a number of limited partners that own 99% or more.

The general partner does all the work and receives a development fee upfront, while the limited partners contribute the start up capital in return for their ownership share and the expectation of receiving the tax credits over a 10 year period.

The development of low-income rental housing in Puerto Rico began approximately 40 years ago, when HUD commenced a program to guarantee mortgages for low-income multi-family developments. HUD's mortgage guarantee program permitted longer loan terms (20- 40 yrs), at lower or, sometimes subsidized interest rates and with no personal guarantees. These favorable financing terms, together with HUD's granting of housing assistance payments (HAP), fostered the development of low-income rental multifamily residential projects.

In addition to tax credits the financing gap for certain LIHTC projects may be filled by HOME Funds or private loans. When combining two types of funding both sets of rules apply. Qualified LIHTC units must not exceed LIHTC rents while HOME assisted units must meet high and low Home rent requirements.

Project-based rental assistance provides for federally contracted and subsidized rent in designated buildings that are privately owned and operated. The Housing Choice Voucher provides federally funded, portable vouchers that recipients use to help pay for housing they choose in the private market.

The proposed rental project will be developed under the LIHTC program with no subsidized project based rental program but could be benefit from low income tenants with housing vouchers approved. All the units will be occupied by individuals whose income is 60% or less of the area median income rents. The maximun rents are established by the LIHTC program according to the region the project is located.

Community Development Block Grant- Disaster Recovery (CDBG-DR)
The projected sources to cover the total development costs of the proposed project also includes a grant from the Community Development Block Grant Program for Disaster Recovery (CDBG-DR).

The CDBG Disaster Recovery program helps cities, counties, and States recover from some Presidentially-declared disasters, especially in low-income areas. CDBG-DR funds can be used to assist housing activities such as new construction or rehabilitation. This includes activities for single family or multifamily housing, either owner-occupied or rental.

The U.S. Department of Housing and Urban Development (HUD) recently awarded a record $18.5 billion to support long-term disaster recovery in Puerto Rico following Hurricane Maria. These funds are provided through HUD's Community Development Block Grant – Disaster Recovery (CDBG-DR) Program and are intended to address unmet housing needs, economic development, and infrastructure. The CDBG-DR grant announced in March 2018 represents the largest single amount of disaster recovery assistance ever awarded in HUD's history and follows $1.5 billion the Department allocated to Puerto Rico in February, bringing HUD's total investment in Puerto Rico's recovery to $20 billion.

Economic Characteristics

Guayama Municipality

Guayama is located at the southern region of Puerto Rico and represents the major city along the ocean shore after Ponce. The PR-53 Expressway leading from the Luis A. Ferré Expressway (PR-52) is the main access to Guayama while PR-3 connects the south eastern municipalities including Patillas, Arroyo, Guayama, Salinas, Santa Isabel, and Ponce.

The Guayama population of 16 years and over totaled 34,770 in 2010 with a similar 34,133 level in 2018. The labor force in the municipality is on a downward trend from 17,150 in 2010 to10,379 in 2018. The unemployment rate has decreased from 22.1% to 7.8% over the same period but with a decreased in the labor forced and the employed persons. The COVID-19 pandemia has influenced unemployment in the recent months. The following table summarizes labor force, employment, and unemployment trends based on the American Community Survey five year estimates:

Employment Status	2010	2011	2012	2013	2014	2015	2016	2017	2018
Population 16 years and over	34,770	34,931	35,138	34,969	34,830	34,781	34,785	34,571	34,133
In labor force	17,150	16,626	15,571	14,225	12,982	11,754	11,023	10,331	10,379
Civilian labor force	17,127	16,603	15,559	14,213	12,971	11,754	11,023	10,331	10,379
Employed	13,350	13,258	12,235	11,328	10,371	9,713	9,422	9,518	9.570
Unemployed	3,777	3,345	3,324	2,885	2,600	2,041	1,601	813	809
Armed Forces	23	23	12	12	11	0	0	0	0
Not in Labor Force	17,620	18,305	19,567	20,744	21,848	23,027	23,762	24,240	23,754
Unemployed Rate	22.1	20.1	21.4	20.3	20.0	17.4	14.5	7.9%	7.8%

The civilian labor force decreased from 17,150 in 2010 to 10,331 in 2017. The unemployed has decreased from 3,777 in 2010 to 809 in 2018 with the unemployment rate decreasing from 22.1% in 2010 to 7.8% in 2018. However, the population not in the labor force increased from 17,620 in 2010 to 23,754 in 2018 while the employed has decreased from 13,350 to 9,570.

The 2018 Census data shows that educational services, and health care and social assistance total 2,580 employees representing the leading industry sector with 27.0% of the civilian employed population. Public Administration is second with 1,337 employees, or 14.0%, followed by manufacturing with 1,242 (13.0%), retail trade with 1,132 (11.8%), and arts, entertainment, recreation, accommodation and food services with 779 (8.1%).

The income sources for households in Guayama in 2017 include earnings (45.3%), Social Security (45.7%), retirement income (15.4%), supplemental security income (0.4%), cash public assistance income (37.5%), and Food Stamps/SNAP benefits (48.1%).

Demand Analysis

Market Area



The primary market area delineated for the subject project includes Guayama, where the project site is located, and the nearby municipalities of Arroyo, Patillas, Salinas, and Cayey. Cayey (towncore) is located at the longest driving distance from the subject site of approximately 30 minutes. The listed municipalities included in the market area are based on similar socio economics characteristics and interviews with rental project administrators in Guayama regarding the previous location of the existing renter households and the current location of interested families to occupy the units. Guayama, Arroyo and Patillas are delineated as the Guayama region by the Puerto Rico Housing Authority. Specifically, Arroyo and Patillas are strongly related to Guayama in terms of employment center and services. The commercial and industrial base of Guayama also attract households from Cayey and Salinas.

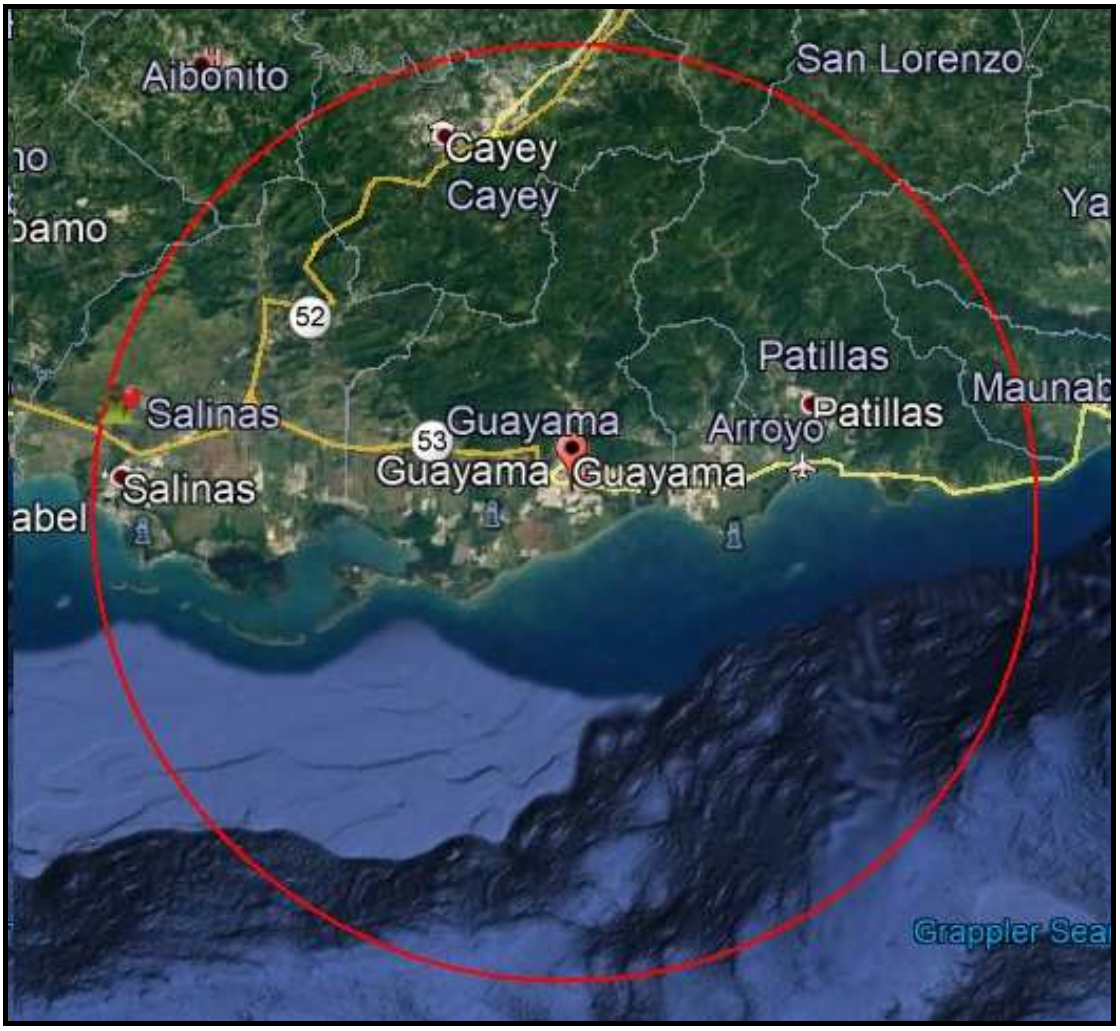
Demographics Information

The market area delineated for the subject project includes Guayama, Arroyo, Patillas, Salinas, and Cayey, as previously delineated as our primary market area. The following table presents the change in population in the delineated market area from 2010 to 2018 based on the Five Year American Community Survey Annual Population Estimate and Census 2010.

Municipality	Population						Total Change	% Change
	2010	2014	2015	2016	2017	2018		
Guayama	45,362	43,286	42,655	41,998	41,281	41,706	-3,656	-8.06%
Arroyo	19,575	18,817	18,533	18,220	17,881	18,111	-1,464	-7.48%
Patillas	19,277	18,159	17,792	17,412	17,004	17,334	-1,943	-10.08%
Salinas	31,078	29,740	29,286	28,777	28,216	28,633	-2,445	-7.87%
Cayey	48,119	46,126	45,466	44,767	44,027	44,530	-3,589	-7.46%
Total	**163,411**	**156,128**	**153,732**	**151,174**	**148,409**	**150,314**	**-13,097**	**-8.01%**

The table above shows a decrease in population from 2010 to 2018 of 13,097 individuals or 8.01% in the subject market area. Puerto Rico as a whole experienced a decline in population from 3,725,789 in 2010 to 3,386,941(5-Year ACS) in 2018, for a reduction of 9.09%. Therefore, the market area evidences a slightly lower decreasing rate in population than for Puerto Rico. Patillas is the only municipality that shows a decrease in population higher than the average for Puerto Rico. The following table summarizes the households and families in the market area for 2010 and 2018.

Market Area


Aibonito
San Lorenzo
Cayey
Cayey
52
Patillas
Salinas
Guayama
Arroyo
Patillas
53
Guayama
Guayama
Salinas

Municipality	Households			Families			Fam. Under Poverty Level		
	2010	2018	Change	2010	2018	Change	2010	2018	Change
Guayama	14,736	14,476	-1.76%	11,097	9,472	-14.64%	4,794	4,613	-3.77%
Arroyo	6,102	6,002	1.67%	4,420	4,351	1.56%	2,100	2,367	12.74%
Patillas	6,499	6,233	-4.09%	4,738	3,942	-16.80%	2,459	1,782	-27.53%
Salinas	10,161	10,374	2.10%	7,659	7,208	-5.89%	4,304	3,618	-15.95%
Cayey	15,760	16,183	2.68%	11,555	11,482	-0.63%	4,414	4,535	2.74%
Total	**53,258**	**53,268**	**0.02%**	**39,469**	**36,455**	**-7.64%**	**18,071**	**16,915**	**-6.40%**

The preceding table evidences a decrease in households in Guayama and Patillas but increases in Arrroyo, Salinas and Cayey resulting, on average, in a rather stable total households in the overall market area with a mere 0.02% increase over the eight year period.

Family households evidence a decrease of 7.64% in the overall market area with higher decreases of 14.64% and 16.80% in Guayama and Patillas, respectively, and a slightly increase in Arroyo. The demographics analysis evidences a substantial decrease in families under poverty levels in Patillas and Salinas with a small decrease in Guayama and an increase in Arroyo and Cayey. Overal, total families under poverty level decreased 6.40% from 2010 to 2018 in the market area.

Demographic analysis also evidences a decrease in the average household size, or number of persons per households (owner and renter), which is consistent with a decreasing trend in population levels. The following table presents the 2010 and 2018 percentages of renter households per persons and the average household size as per ACS data.

Municipality	1 Person		2 Persons		3 Persons		4 or More		Average*	
	2010	2018	2010	2018	2010	2018	2010	2018	2010	2018
Guayama	30.4%	26.8%	27.0%	20.3%	19.5%	22.9%	23.1%	30.0%	3.08	2.72
Arroyo	29.4%	8.7%	17.3%	26.0 %	24.7%	29.7%	28.6%	35.6%	3.21	3.01
Patillas	30.0%	50.1%	24.1%	19.0 %	14.8%	13.3%	31.1%	17.7%	3.01	2.78
Salinas	19.5%	29.9 %	22.9%	29.6 %	20.9%	17.2%	36.7%	23.4%	3.08	2.75
Cayey	27.0%	31.0 %	21.8%	26.1 %	23.3%	23.9%	27.9%	19.0%	3.05	2.74

*Household size

The demographic data shows Arroyo with the highest average household size of 3.01 (persons per occupied housing) in 2018, with lower but consistent average household sizes of 2.72 to 2.78 at the other municipalities. Guayama where the project is located along with the adjacent Arroyo municipality show 73.20% to 91.30% of the total renter households occupied by two, three and four or more persons thus presenting positive economics for the subject's two and three bedroom units. The other municipalities show a decrease in the renter households with four and more persons and an increment in one person households.

Income Elegible Households
Tax credit housing units are subject to income limits from tenants based on percentages of area median gross income. In order for the household to qualify for a low-income, rent-restricted unit, the total household income must be less than or equal to the maximum qualifying income for the household size in effect at the time of tenant certification. If the household income is greater than the maximum allowable qualifying income, the household cannot be certified for a tax credit unit.

The income levels analyzed are based on the 60% average median income (AMI). According to the fiscal year 2020 Income Limits Summary System, the maximum qualifying incomes per household size for the municipality of Guayama, based on the 60% area median income (AMI), are presented on the following table.

Guayama Municipality	**FY 2020**	
Median Income	$25,700	
Income Limit Category	50% AMI	60% AMI
Maximum Qualifying Income:		
1 Person	$8,600	$10,320
2 Person	$9,800	**$11,760**
3 Person	$11,050	**$13,260**
4 Person	$12,250	**$14,700**
5 Person	$13,250	**$15,900**
6 Person	$14,250	**$17,100**

The subject's two and three bedroom units will most likely target households with two to six persons. Based on the 60% AMI, the maximum qualifying income levels range from $11,760 to $17,100. The 50% AMI scenario lowers the minimum income to $9,800 for two person households.

The conceptual project represents an unsubsidized project where families will be required to cover 100% of the approved rent. Minimum income levels to cover rental payments was considered at a rounded $10,000 consistent with the maximum income level for two persons under 50% AMI and supported by income levels at unsubsidized projects. There are not specific minimum income levels established by HUD, with the management of the projects performing the evaluations of the potential renters based on their capacity to cover the rent.

Therefore, the eligible renter households for the proposed subject units would fall within an income bracket of $10,000 to $17,000, rounded, based on the income of $9,800 for 50% AMI and supported by the market, with the maximum income consistent to the established level by HUD for six-person households under 60% AMI.

Households data on the Census is analyzed based on income brackets from $10,000 to $14,999 and from $15,000 to $19,999, slightly wider than the $10,000 to $17,000 delineated income bracket.

Renter Households - Income Levels ($10,000 - $17,000)
The total number of renter households that would qualify under the $10,000 to $19,999 income bracket as per the Census must be estimated to identify the potential demand for the conceptual subject rental units. A household is composed of one or more people who occupy a housing unit but not all households are family households. The market study analysis is based on households numbers.

The following tables present the numbers of total households (owner and renter), the renter occupied households and their percentage to total households, and the change in renter occupied households per bracket for 2010 and 2018.

Income Levels - $10,000 - $14,999

Municipality	2010			2018			Renter Occupied Change	%
	Total Households	Renter Occupied	%	Total Households	Renter Occupied	%		
Guayama	1,680	524	31.19%	2,153	597	27.73%	73	13.93%
Arroyo	842	232	27.55%	1,056	244	23.11%	12	5.17%
Patillas	786	221	28.12%	830	240	28.92%	19	8.60%
Salinas	1,666	468	28.09%	1,585	354	22.33%	-114	-24.36%
Cayey	2,096	667	31.82%	1,882	897	47.66%	230	34.48%
Total	**7,070**	**2,112**	**29.87%**	**7,506**	**2,332**	**31.07%**	**220**	**10.42%**

The number of renter households under the $10,000 to $14,999 income bracket shows an increase of 220, or 10.42% from 2010 to 2018 in the market area. Salinas shows a decrease in renter households of 114, influencing the net increment in the market area. Cayey has the highest increment in renter households with 230 which is higher than the 220 net increment, while Guayama presents an increase of 73 renter households over that period. Renter households as a percentage of total households in this income bracket evidence an increase from 28.87% in 2010 to 31.07% in 2018, but with Guayama showing a decrease from 31.19% to 27.73% in Guayama due to an substantial increase in total households in this income bracket.

Income Levels - $15,000 - $19,999

Municipality	2010			2018			Renter Occupied Change	%
	Total Households	Renter Occupied	%	Total Households	Renter Occupied	%		
Guayama	1,532	397	25.91%	1,701	616	36.21%	219	55.16%
Arroyo	610	108	17.70%	690	99	14.35%	-9	-8.33%
Patillas	786	145	18.45%	906	123	13.58%	-22	-15.17%
Salinas	843	197	23.37%	1,248	156	12.50%	-41	-20.81%
Cayey	1,765	590	33.43%	1,785	594	33.28%	4	0.68%
Total	**5,536**	**1,437**	**25.96%**	**6,330**	**1,588**	**25.09%**	**151**	**10.51%**

The number of renter households under the $15,000 to $19,999 income bracket show an increase of 151, or 10.51% from 2010 to 2018 in the overall market area. Arroyo, Patillas and Salinas show a

small decrease in the number of renter households, while Guayama shows a substantial increase of 219 renter households higher than the net increment in the overall market area. Renter households as a percentage of total households in this income bracket evidence a slight decrease from 25.96% in 2010 to 25.09% in 2018, but with an increase in both total households and renter households. Guayama shows a significant increase in renter households as a percentage of total households from 25.91% in 2010 to 36.21% in 2018.

The numbers of total renter occupied households in the subject qualifying income levels are summarized in the following table.

Income Level	Renter Households		Increment	%
	2010	2018		
$10,000 - $14,999	2,112	2,332	220	10.42%
$15,000 - $19,999	1,437	1,588	151	10.51%
Total	**3,549**	**3,920**	**371**	**10.45%**

The census data indicates total renter households of 3,920 in 2018 under the $10,000 to $19,999 income bracket. The 2020 census data is not available and the subject units will be developed in approximately two years, thus suggesting an adjustment in the number of renter households up to 2022 when completion of the project is expected. The following table presents the renter households from 2014 to 2018 in the $10,000 - $14,999 and $15,000 - $19,999 income brackets in Guayama.

Municipality of Guayama					
Income Bracket	**2014**	**2015**	**2016**	**2017**	**2018**
$10,000 - $14,999	625	620	661	636	597
$15,000 - $19,999	539	472	452	511	616
Total Renter HHs	**1,164**	**1,092**	**1,113**	**1,147**	**1,213**

Census data for the Municipality of Guayama indicates a decrease of 64 renter households, or a 9.7% reduction in the $10,000 to $14,999 income bracket from 2016 to 2018. However, the number of renter household in the $15,000 to $19,999 shows an increasing trend from 452 to 616, or 36.2% during the same period. The devastation caused by Hurricane María in September 2017 affected local demographics due to the heavy emigration, permanent and temporary, of families to the continental United States. We are beginning to feel the effects of the COVID-19 pandemia. Overall, total renter households at the $10,000 to $19,999 income bracket increased on average 1.0% per year from 2014 to 2018, consistent with the trend in the overall market area.

Field analysis and interviews with administrator of rental properties indicated a considerable increment in vacancy rates after the hurricane but with subsequent stabilization at normal levels. Total renter households will be adjusted downward 60% in the higher income bracket to account for the narrower qualifying income level range delineated for the subject units of $10,000 to $17,000 (versus the $10,000 to $19,999 bracket of the Census). In summary:

Income Level	Renter Households	Adjustment	Adjusted Total
$10,000 - $14,999	2,332	100%	2,332
$15,000 - $17,000	1,588	40%	635
Total	**3,920**		**2,967**

As such, based on the 2018 ACS data, the number of renter households in the delineated market area with qualifying income levels under 60% AMI for the subject units is estimated at 2,967, rounded to 2,970. This figure represents a year 2018 level. Thus, to account of the expected completion date of the proposed project in 2022, or two years down the road, the 2,970 households estimate in 2018 will be adjusted at the 1.0% historical growth rate per year to 3,089 (2,970 x 1.04) households, rounded to 3,100 in 2022, the expected completion year.

Qualified Renters - Two or More Household Size (persons per unit)
The proposed two and three bedroom subject units will target the family market with 2 or more persons per unit. The estimated 3,100 renter households represent all renter households under the qualifying income levels without considering household size. The following table presents the total renter households at all income brackets and unit distribution per household size in the market area based on the 2018 ACS data.

Municipality	Total Renter Households	One Person		Two Persons		Three Persons		4 or More Persons	
Guayama	4,058	26.8%	1,087	20.3%	825	22.9%	929	32.2%	1,217
Arroyo	1,404	8.7%	122	26.0%	365	29.7%	417	36.8%	500
Patillas	1,945	50.1%	974	19.0%	369	13.3%	258	20.7%	344
Salinas	2,055	29.9%	614	29.6%	608	17.2%	353	23.5%	480
Cayey	5,680	31.0%	1,763	26.1%	1,480	23.9%	1,360	17.9%	1,077
Total	**15,142**	**30.1%**	**4,560**	**24.1%**	**3,647**	**21.9%**	**3,317**	**23.9%**	**3,618**

The above table shows a total of 15,142 renter households in the overall market area, with 10,582 (3,647 + 3,317 + 3,618), or 69.9% with two or more persons. Therefore, the number of renter households with two or more persons in the market area is estimated at a rounded 10,580 and total renter households at a rounded 15,140. The 10,580 renter households include all income levels thus requiring an adjustment to account for those at the qualifying income levels.

The estimated 3,100 renter households with qualifying income levels represent 20.5% of total renter households (3,100 ÷ 15,140). Therefore, to estimate the number of qualifying renter households based on income levels and household size, the number of renter households with two or more persons was adjusted by 20.5%. In summary:

Household Size	Total of Renter Households	% at Qualifying Income	Qualifying Renter Households
Three or More Persons	10,580	20.5%	2,169

Based on the demographic analysis an estimated 2,169, rounded to 2,170 renter households would qualify under the 60% AMI requirements for low income rental units in the subject market area for two and three bedroom units.

Overall Capture Rate for Two and Three Bedroom Units
Capture rate is defined as the percentage of size, and income qualifying renter households in the market area that the property must capture to achieve the stabilized level of occupancy. The capture rate is calculated by dividing the total proposed units by the total number of size and income qualified renter households in the market rate area. Consequently, based upon the formula:

Description	Total
Proposed Subject Units	123
Qualified Renter Households	÷ 2,170
Capture Rate - Total Units	**5.7%**

The resulting capture rate for the overall 123-unit proposed project based on the ACS data analysis is 5.7% which evidences adequate demand potential in the market area for a two and three bedroom unit rental project.

There are no other low income rental projects in the pipeline (approved to be developed) or in the absorption period in the market area as reported by the Puerto Rico Housing Authority that could affect the initial lease up of the units. In addition, there is only one low income family rental project in Guayama but with subsidized rents (Section 8) and mostly targeting tenants with lower income levels than the subject consistent with the nature of the Section 8 program to provide affordable housing for extremely low and very low income tenants (30% & 50% AMI).

Penetration Rate
Penetration rate is defined as the percentage of size and income qualifying renter households in the market area that all the existing and proposed properties, to be completed within six months of the subject, and competitive to the subject that must be captured to achieve the stabilized level of occupancy. It is calculated by dividing the total of existing and proposed (including the subject) competitive low income rental units by the number of qualified renter households in the market area.

Field analysis evidences a total of 663 affordable units, including subsidized rental units not necessarily competitive to the subject units. However, there is one existing LIHTC rental project competitive to the subject in the market area, known as Beatriz Village with 120 units. There are no other rental projects with allocated tax credits for development within the subject market area, though other developers may submit proposals to the Puerto Rico Housing Authority under the 2020 Qualified Allocation Plan. For this analysis we only considered the existing inventory at Beatriz Village of 210 units and the proposed subject units. In summary:

Description	Households
Existing Competitive Low Income Units	120
Proposed Subject Units	123
LIHTC Units with allocated tax credits	0
Total of Units	243
Qualified Renter Households	2,170
Penetration Rate	**11.20%**

The penetration rate considering competitive (LIHTC) rental units in the market area results in 11.20%. In addition, there is only one subsidized multi-family rental project in Guayama known as El Coqui Apartments with 64 units, distributed among four 2BR units and 60 3BR units, thus presenting positive economics for the subject units.

Potential Capture Demand

This analysis is based on the potential qualified households searching for apartments in the market area at the subject completion and the competition to determine net households demand. This is an indication of the percentage of net demand capture that the Subject must attract in order to reach stabilized occupancy. The net demand considers population change and existing households available to move to a new home.

Due to the emigration caused by Hurricane María, including temporary emigration, it is difficult to project households change thus the analysis will be based on the existing 2018 data, as previously determined. Moves of households to new homes occur because the households are searching for a housing in better condition, more affordable or in a better location.

In the previous section we estimated 2,170 qualified renter households for a two and three bedroom unit rental project. The following table presents the qualifying renter households with gross rents 35% or higher of their household income which are considered rent overburdened for the five municipalities.

Municipality	Qualifying Renter Households	% Rent Over Burdened	Total
Guayama	609	48.8 %	297
Arroyo	263	46.1 %	121
Patillas	199	38.7 %	77
Salinas	295	42.1 %	124
Cayey	803	44.7 %	359
Total	**2,169**	**45.1%**	**978**

The preceding analysis indicates that 45.1% of total qualifying renter households are rent overburdened in the market area. In addition, the ACS data shows that 1.9% of units in Guayama lack kitchen facilities and 1.7% lack plumbing facilities. The additional municipalities have 0.7% to 3.3% of units with lack of kitchen facilities and 0.3% to 6.9% without plumbing facilities, thus a conservative 3.0% of the units could be deemed as in deteriorated physical condition.

The net demand analysis deducts existing and proposed units in competitive (new/rehabilitation) projects currently in the pipeline with allocated tax credits, under construction and/or in the delivery process. Nevertheless, there is no reported competition in the pipeline for the subject units, though there is another project in the early planning process in Guayama with 136 conceptual units. The following table summarizes the resulting potential net household demand.

Description	Households
Qualified Renter Households	2,170
Rent Overburdened (45.1%)	979
Physical conditions (3%)	65
Potential Renter Household Turnover	1,044
LIHTC Projects in the Absoption Process	0
Net Demand	1,044
Net Captive Demand - 123 units	**11.8%**

The potential captive demand analysis shows existing available demand for the two and three bedroom units.

Capture Rate by Bedroom Type for the Specific Unit Mix

This capture rate considers the number of each unit type divided by the number of potential qualified renter household for that unit type. For this analysis we considered a unit mix of 98 three bedroom units and 25 two bedroom units, as proposed.

Renters per Household Size (persons per unit)
As previously concluded the renter households with qualifying income levels represent 20.5% of the total renter households in the market area. Therefore, to estimate the number of qualifying renter households per income levels and household size, the qualified renter households by household size as extracted from the ACS data was adjusted by 20.5%. In summary:

Household Size	Total of Renter Households	% of Income Qualified	Qualified Renter Households
2 Persons	3,647	20.5%	748
3 Persons	3,317	20.5%	680
4 or More	3,618	20.5%	742
Total	**10,582**	**20.5%**	**2,170**

The above analysis indicates similar numbers of qualified renter households in the one person and four or more person households with 748 and 742 renter households, respectively. This analysis distributes the previously concluded 2,170 qualified renter households by household size.

Renter Households per Bedroom Type
We also performed an analysis of qualifying renter households by type of unit (number of bedrooms). The following table presents our assumptions in terms of the reasonable rates of household size that occupies each unit type based on market data to estimate capture rate by bedroom unit.

Unit Type	2 Persons	3 Persons	4 or More
Two Bedroom	100%	60%	0
Three Bedroom	0	40%	100%
Total	100%	100%	100%

For this capture rate analysis we considers a minimum of two person households to occupy the two bedroom units thus 100% of two persons household has potential to occupy two bedroom units. For the three person household, ratios of 60% and 40% were assumed for two and three bedroom units, respectively. Finally, 100% of four or more person households is assumed to occupy three bedroom units.

The resulting qualifying renter households distribution among unit type based on the above percentage rates of household size occupying each unit type is as follows:

Unit Type	2 Persons	3 Persons	4 or More	Qualif. Renter Households	%
Two Bedroom	748	408	0	1,156	53.3%
Three Bedroom	0	272	742	1,014	46.7%
Total	**748**	**680**	**742**	**2,170**	**100.0%**

The preceding table provides the potential qualifying renter households distribution by unit type. The majority of qualifying renter households would demand two bedroom units consistent with a decreasing trend in household size, followed by three bedroom units, thus supporting a unit mix of two and three bedroom units.

The following table presents the capture rate analysis by unit type for the specific subject unit mix.

Unit Type	No. of Units	Qualif. Renter Households	Capture Rate
Two Bedroom	25	1,156	2.2%
Three Bedroom	98	1,014	9.7%
Overall	123	2,170	5.7%

The demographic analysis show capture rate of 9.7% for the three bedroom units and a lower, attractive capture rate of 2.2% for two bedroom units, again supporting the mix of two and three bedroom units, with potential to increase the proposed ratio of number of two bedroom units.

Proposed Rent

The proposed project will comprise 123 single-family units of two and three bedroom units to be developed as a rental project under the LIHTC program. The potential subject's rental income stream would be restricted to a maximum rental rate under the LIHTC. This market study analyzed rent limits for three bedroom units under 60% median family income as determined by HUD. The following table summarizes the 2020 LIHTC rent limits for Guayama.

LIHTC Rent Limits	1BR	2BR	3BR
50% of Median Income	$230	$276	$318
60% of Median Income	$276	**$331**	**$382**

The conceptual project assumes it will be developed under the LIHTC program for families whose income is 60% or less of the area median income with no subsidized rental program or Home funds. In the case of any subsidized rents, the government agency would subsidize the rental difference between what the tenants could pay and the maximum rent approved resulting in higher restricted rents in some cases. The restricted unsubsidized gross rent for the subject units is considers at $331 and $382 for two and three bedroom units, respectively.

The Fair Market Rent guidelines set by the U.S. Department of Housing and Urban Development (HUD) for the Guayama Municipality for the year 2020 are as follows.

Final FY 2020 & Final FY 2019 FMRs By Unit Bedrooms					
Year	Efficiency	One-Bedroom	Two-Bedroom	Three-Bedroom	Four-Bedroom
FY 2020 FMR	$359	$370	$421	$568	$570
FY 2019 FMR	$360	$369	$423	$570	$572

Fair market rents and the indicated subject rent previously indicated are gross rent estimates and and include the shelter rent plus the cost of all tenant-paid utilities, except telephones, cable or satellite television service, and internet service. The subject's restricted gross rents of $331 and 382 for two and three bedroom units, including utilities, are lower than the corresponding $421 and $568 fair market rents also including utilities thus providing positive economics with lower than market attractive rent levels.

Rental Housing Supply

Field Analysis

Low income rental projects in Puerto Rico have been mostly developed as multi-family structures (hight rise or walk-up units) or row house units and not necessarily as single-family units under the LIHTC program. In addition, the existing rental projects represents mostly subsidized projects under Section 8 program. The following table presents low income family rental projects in the subject market area including type of construction, rent structure, total units, unit mix, vacant units and occupancy level.

Project	Location	Rent Structure	Type	Total	1BR	2BR	3BR	4BR	Vacant	Occup.
El Coqui Apartments	Guayama	Section 8	Walk-up	64	0	4	60	0	0	100%
Brisas de Arroyo	Arroyo	Section 8	Walk-up	104	8	18	66	12	14	87%
Sagrado Corazón	Arroyo	Section 8	Row-house	105	10	60	30	5	8	92%
Palmar de Arroyo	Arroyo	Section 8	Single-family	122	0	84	38	0	32	74%
Esmeralda del Sur	Patillas	Section 8	Row-house	100	0	0	100	0	1	99%
Beatriz Village	Cayey	LIHTC	Walk-up	120	0	0	120	0	2	98%
Los Robles Apts.	Cayey	Section 8	Walk-up	48	0	16	32	0	0	100%
Total				**663**	**18**	**182**	**446**	**17**	**57**	**95%[1]**

The listed low income family rental projects total 663 rental units with 182 units, or 27.4% representing two bedroom units, and 446 units, or 67.3% three bedroom units for a combined 94.7% of the units. The only unsubsidized project under the LIHTC rental program is Beatriz Village in Cayey. The other rental projects have subsidized rents with Section 8 income and rental restrictions.

Palmar de Arroyo is an old and deteriorated single-family rental project under Section 8 program in Guayama with several units under repair and renovation. Reportedly, there are approximately 30 units under complete rehabilitation and other requiring repairs.

The rental projects, excluding Palmar de Arroyo, reported adequate occupancy levels with typical turnovers. However, Brisas de Arroyo and Sagrado Corazón show current higher vacancy levels due to the ongoing COVID-19 pandemia as the resulting vacant units during the past months could not be occupied for delays in the preparation of the units and the qualification process. Both projects reported qualified tenants available to occupy the units.

[1]Excluding Palmar de Arroyo with vacant units due to deteriorated physical conditions.

In addition, Brisas de Arroyo has a waiting list of 15 qualified tenants and Sagrado Corazón of 12. El Coqui Apartments in Guayama has a waiting list of only three potential tenants but reported that they do not maintain large waiting lists due to the limited tenant turnover of the project. The reported vacancies represent typical turnovers with vacant units undergoing minor repairs for re-leasing to new qualified tenants. The current occupancy levels including the one at the unsubsidized rental project in Cayey present favorable conditions for low income (below market rent) rental units.

The subject's unsubsidized gross rents under LIHTC program of $331 and $382 are based on the LIHTC maximum gross restricted rents. The developer will include solar panels to provide free electric power to the units thus the tenants only will paid for water (PRASA) services. The utility allowances estimated by the developer are $28 and $41 for the two and three bedroom units, respectively, resulting in net rents of $303 ($331 - $28) and $341($382-$41) for two and three bedroom units, respectively.

The following table presents the listed low income multi-family rental projects with their respective reported net rents. In summary:

Project	Location	Program	Total	1BR	2BR	3BR	4BR
El Coqui Apartments	Guayama	Section 8	64	--	$504	$575	--
Brisas de Arroyo	Arroyo	Section 8	104	$318	$349	$422	$471
Sagrado Corazón	Arroyo	Section 8	105	$433	$473	$545	$605
Palmar de Arroyo	Arroyo	Section 8	122	--	$390	$468	--
Esmeralda del Sur	Patillas	Section 8	100	--	--	$507	--
Beatriz Village	Cayey	LIHTC	120	--	--	$374[2]	--
Los Robles Apts.	Cayey	Section 8	48	--	$697	$804	--
Subject	Guayama	LIHTC	124	--	$303	$341	--

The only unsubsidized rental project is Beatriz Village project in Cayey with LIHTC net rental level for three bedroom units of $374, below the subsidized projects and higher than the projected subject net rent consistent with a lower utility allowance of the subject units due to solar panels. Cayey has historically commanded higher rents and income levels than Guayama. The 2020 LIHTC gross rent limit for three bedroom units in Cayey is $459 while for Guayama is at a substantially lower $382 level. The subsidized rental projects show higher gross monthly rental levels ranging from $390 to $697 for two bedroom units, and from $422 to $804 for three bedroom units.

The solar panel system of the subject units provide higher net rents for the developer and lower utility costs for the renter households since they only have to paid for potable water service.

[2]Beatriz Village has 7 units with Home net rents of $260 to $368.

The higher subsidized rental levels reflect units with Housing Assistance Payment (HAP) contracts under Section 8 subsidized program which allows units with rents exceeding the LIHTC rental limits.

However, under the Section 8 program, the tenant contribution is 30% of their adjusted family income and HUD pays the owner the rental difference between the tenant's contribution and the monthly rental rate approved for the project. Therefore, net rents paid by tenants are substantially lower than the contracted rents. In addition, the eligible income levels could be lower than on projects with unsubsidized rents thus targeting different family income levels.

The subject project will be developed within the Guayama urban core, thus near employment centers and supporting commercial and institutional concerns. The subject units will have unsubsidized rents substantially below market levels and will enjoy a central urban location. Therefore, the location and rental schedule of the proposed project present potential for adequate demand and leased up implications.

Beatriz Village is a 120-unit walk-up rental project located along PR-1 in Cayey recently completed with three bedrooms and one bathroom units. All units were absorbed within eight months between December 2016 and July 2017. The net rent was reported at $374, net of utilities, with no subsidy program except for families with Section 8 vouchers. The administrator reported visits and/or existing tenants at the project from the Municipalities of Guayama and Salinas. The reported waiting list is of 114 qualified families.

We visited the Section 8 Department and the Housing Department of Guayama. The officials reported an increase in affordable housing needs after the devastation caused by Hurricane María in September 2017. However, there are no recent studies quantifying the housing needs. Reportedly, there was a waiting list of approximately 300 new admissions after Hurricane María, of which approximately 120 persons were relocated while there are 180 families still in the waiting lists.

In summary, demographic analysis and field research evidence demand and a real need for low income oriented housing in the market area. Considering the needs for new affordable units and no competitive units in the pipeline, the proposed 123 subject units would present adequate economics for development.

Conclusions

Social and economic factors such as those listed below, among others, contribute to adequate demand for low income rental housing in the market area. In summary:

- The proposed project would consist of 123 low income single-family rental units, distributed among 98 three bedroom units and 25 two bedroom units. Although the project will be developed in one phase, the delivery of units in a single-family subdivision typically commences before final completion of the overall project, as the units are occupied according to their completion schedule. This condition presents better economics than a typical condominium project, allowing for gradual absorption.

- The demand analysis shows a total of 2,170 qualified renter households with the qualified income levels and household size in the market area to occupy two and three bedroom units under the LIHTC program. The subject will total 123 units providing an overall capture rate of 5.7% (123 ÷ 2,170) in the market area, evidencing positive demand economics. The penetration rate which represents the percentage of qualified households that all the existing and proposed units, including the subject, must be captured results in 11.20% also presenting positive economics.

- The potential net capture demand analysis takes into account the renter households searching for a housing in better condition, more affordable or in a better location but deducting any additional supply of units in the pipeline that represent competition to the subject units. Based on Census data, 45.1% of the total qualified renter households have rents overburned and 3% of the households are living in deteriorated units. The analysis results in 1,044 qualified renter households with rent overburned or in deteriorated housing with potential to move to the 123 subject units. No other rental project is currently under construction, in the pipeline or in the delivery process in the market area thus there will be no competition for the proposed subject units, though there is one project with 136 units in the planning stages. Therefore, considering net potential qualifying households of 1,044 households a captive demand for the 123 subject units of 11.8% (123 ÷ 1,044) results.

- We also performed a capture rate analysis by bedroom type for the specific subject unit mix of 98 three bedroom units and 25 two bedroom units. This analysis provide 1,014 qualified renter households with the required income level and household size for the 98 three bedroom units and 1,156 renter households for the 25 two bedroom units, evidencing capture rates of 9.7% for the 98 three bedroom units and 2.2% for the 25 two bedroom units. In summary:

Unit Type	No. of Units	Qualif. Renter Households	Capture Rate
Two Bedroom	25	1,156	2.2%
Three Bedroom	98	1,014	9.7%
Overall	123	2,170	5.7%

- The low capture rate for two bedroom units shows potential for development of additional two bedroom units while the 9.7% capture rate for the three bedroom units adequately support development of the 98 proposed three bedroom units.

- Being a new project in the urban area of Guayama close to services and supporting uses of all types including commercial, educational, health care, and easy access to employment centers, the subject project should capture not only unserved demand but should also be able to draw from older, ageing projects with physical plant deficiencies, and from those in inferior location.

- Given the limited income in the general area and the current high living costs the population prefers rental housing as evidenced by the increasing trend in the number of renter households.

- There is a substantial number of households under the poverty status that will demand additional housing. Our field analysis shows the low income oriented multi-family housing projects in the market area with reported typical occupancy levels averaging 95%, including the new unsubsidized Beatriz Village LIHTC rental project in Cayey, thus reflecting typical turnover and presenting adequate economics for this type of projects. However, at the time of our visit Brisas de Arroyo and Sagrado Corazón had lower occupancy levels of 87% and 92%, respectively, reflecting the ongoing COVID-19 pandemia with the lockdown period affecting the occupancy and qualification of tenant process for vacant units during the past months. There is adequate implied demand to absorb the subject units, thus it would not affect other existing affordable rental housing in the market area which mostly targets the subsidized rental sub-market. There is only one Tax Credit rental project in the market area which enjoys high occupancy levels, with no recently approved Tax Credit developments.

- The recently completed and only unsubsidized rental project competitive to the proposed subject units in the market area is Beatriz Village in Cayey. This 120-unit rental project reported an absorption of approximately 8 months at an average absorption rate of 15 units per month. The good demand levels with effective lease-ups for unsubsidized rental units support adequate absorption for the proposed subject units.

- In interviews at the municipal housing departments, the officials reported an increase in affordable housing needs after Hurricane María with currently 180 households in the waiting list out of an original total of 300 after Hurricane María in 2017. . The subject project would represent alternative housing post Hurricanes Irma and Maria and would benefit the community in the situation of a natural disaster by providing resilient housing.

- The devastation caused by Hurricanes Irma and María in September 2017, result in more families willing for relocation from vulnerable and rural areas with sometimes weak structures to stronger and modern structures in the urban areas which will include solar panel systems among other security fixtures. The subject project will provide a safe place to families from places with higher risk flood prone and weak structures thus government agencies will not require the use of disaster funds for this persons in the future.

- There is only one multi-family affordable rental project in Guayama with 64 units of two and three bedroom types but with subsidized rents. Therefore, the proposed 123 subject units with a superior new condition and single-family layout along with a central urban location will attract renter households but without affecting the occupancy of this existing project with subsidized rents that targets households who would not qualify for the unsubsidized subject rents.

Demographic analysis and the actual field studies performed evidence adequate demand for low income rental housing in the market area. The potential subject project would enjoy an attractive position in the low income rental market and presents favorable economics and amenities for adequate absorption and high occupancy levels.

Again, in single-family projects, the units are occupied according to their completion schedule. The recently built unsubsidized 120-unit Beatriz Village is a walk-up project and evidenced an absorption rate of 15 units per month. Therefore, full occupancy of the units within one year after initial delivery could be expected for the 123 proposed subject units. Absorption of units in a single-family project are mostly affected by construction delays and the permit process.

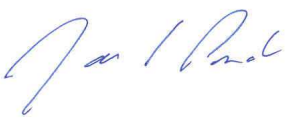
Demographics and market analysis support development of the proposed single-family rental project with a unit mix of two and three bedroom units. The low capture rate for two bedroom units provides potential to increase their ratio to total units.

In addition, the solar panel system would provide for lower utility costs for the tenants as they would only have to pay for potable water utility thus presenting an additional amenity to move to the subject project.

Certification

We certify, that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions and conclusions.
- We have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved.
- We have performed services as an appraiser regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
- We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- Our analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
- Mr. Ramírez has performed a personal inspection of the property (project site) that is the subject of this report. Mr. Porrata did not observe the site.
- No one provided significant real property appraisal assistance to the person signing this report.
- The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, Mr. Porrata has completed the continued education program for Designated Members of the Appraisal Institute.



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State Certified General R. E. Appraiser
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Licenses, Commonwealth of Puerto Rico	Certified General Real Estate Appraiser, Certificate 127 Authorized Professional Real Estate Appraiser, Certificate 644 Federal Housing Administration (FHA), HUD Certification PR-644
Professional Experience	
6/2002 to Present	*President* **Javier Porrata, PSC** Real Estate Appraisers & Consultants 898 Muñoz Rivera Avenue, Suite 300 San Juan, Puerto Rico
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1992 to 8/2000	*Certified General Appraiser* **Vallejo & Vallejo** 1610 Ponce de León Avenue San Juan, Puerto Rico
1989 to 2004	*Administrator* **HEM Holding Corporation** Commercial Properties PO Box 20222 San Juan, Puerto Rico 00928

1989 to 1992	*Staff Consultant* **Manuel L. Porrata & Associates** Economic and Management Consultants 898 Muñoz Rivera Avenue San Juan, Puerto Rico
Special Appointments	Special Commissioner, Tribunal de Primera Instancia Sala Superior de San Juan
Board Member	
2019 to Present	SFM Charities, Inc., non-profit organization
2013 to Present	Fundación para Río Piedras, non-profit organization
1999 to 2003	Appraisal Institute, Puerto Rico & Caribbean Chapter
1989 to 2006	HEM Holding Corporation
1999 and 2000	Mansiones Reales Homeowners Association
Professional Affiliations	**MAI Member** of the Appraisal Institute
Offices Held	
2019	Treasurer, SFM Charities, Inc.
2013 to Present	President, Fundación para Rio Piedras
2007	Approved Instructor, Appraisal Institute
2006	Education Chair, Puerto Rico & Caribbean Chapter
2003	Board Member, Appraisal Institute, Puerto Rico & Caribbean Chapter
2002	President, Appraisal Institute, Puerto Rico & Caribbean Chapter
2001	Education Chair, Puerto Rico & Caribbean Chapter, Appraisal Institute
1999 and 2000	Secretary, Puerto Rico & Caribbean Chapter, Appraisal Institute
1999	Government Relations Committee Chair, Puerto Rico Chapter
1998 and 1999	Member,Young Advisory Council, Appraisal Institute Washington
1998	Vice President, Puerto Rico Committee, Appraisal Institute
1998 to 2000	Editor, *REALities...Real Issues on Real Estate Valuation*

Appraisal Courses

Appraisal Institute

Course Name	Year
PR Law & Regulations	2020
7 Hour National USPAP	2019
7 Hour National USPAP	2016
PR Law and Regulations	2015
Supervisory Appraiser/Trainer Appraiser	2015
7 Hour National USPAP	2014
7 Hour National USPAP	2012
PR Law and Regulations	2012
7 Hour National USPAP	2011
7 Hour National USPAP	2008
Committee CE Credit - Chapter level	2006
7 Hours National USPAP Equivalent Course	2006
Residential Site Valuation and Cost Approach	2006
Residential Market Analysis and Highest & Best Use	2006
National USPAP Course	2004
Appraisal Principles	2002

	USPAP, Part C	2000
	Litigation Valuation	1998
	Advanced Applications	1997
	Report Writing and Valuation Analysis	1997
	Highest & Best Use & Market Analysis	1996
	Advanced Sales Comparison & Cost Approaches	1995
	Advanced Income Capitalization	1995
	USPAP, Part A	1994
	USPAP, Part B	1994
	General Applications	1994
	Appraisal Principles	1994
	Basic Income Capitalization	1993
	Residential Case Study	1993
	Applied Residential Property Valuation	1991
Instituto de Evaluadores	Leyes y Reglamentos	2008
	Eminent Domain Valuation	1991
	Mathematics for Real Estate Appraisers	1991
Colegio de Ingenieros	Mathematics for Real Estate Appraisers	1990

Appraisal Seminars	**Seminar Name**	**Year**
Appraisal Institute	Business Practices and Ethics	2020
	Cool Tools: New Technology for Real Estate Appraisers	2020
	Comparative Analysis	2019
	Appraising Convenience Stores	2019
	Introduction to Green Buildings: Principles and Concepts	2019
	Hurricane Damaged Economic	2018
	The Discounted Cash Flow Model	2016
	Real Estate Appraisal Operations	2016
	Thinking Outside the Form	2016
	Business Practices and Ethics	2015
	Small Hotel / Motel Valuation	2014
	Forecasting Revenue	2013
	Appraisal Curriculum Overview - General	2011
	Appraisal Curriculum Overview - Residential	2011
	What Commercial Clients Would Like Appraisers to Know	2010
	Business Practices and Ethics	2010
	FHA and The Appraisal Process	2010
	Analyzing Distressed Real Estate	2010
	What Commercial Clients Would Like Appraisers to know	2010
	Business Practices and Ethics	2010
	FHA and the appraiser process	2010
	Analyzing Distressed Real Estate	2010
	Commercial Appraisal Engagement Review	2009
	Appraising Distressed Commercial Real Estate	2009
	Subdivision Valuation	2008
	AQB Awarenss Training Appraisal Institute for Instructors	2007

	The Professional's Guide to the URAR	2005
	Convincing Residential Appraisals	2004
	Business Practices and Ethics	2004
	20 Common Appraisal Errors	2004
	Appraisal Consulting	2003
	Subdivision Analysis	2002
	Instructor Leadership & Development Conference	2001
	Chapter Presidents Leadership Program	2001
	Case Studies in Residential Highest & Best Use	2000
	Comprehensive Appraisal Workshop (Ted Whitmer)	2000
	FHA and the Appraisal Process	1999
	Appraising from Blueprints & Specifications1	1999
	National Summer Conference - Orlando, FL.	1999
	Case Studies in Commercial Highest & Best Use	1999
	Non-Residential Demonstration Report Writing	1997
	Environmental Risk & the RE Appraisal Process	1997
	Accrued Depreciation Seminar	1997
	Appraisal of Retail Properties	1996
	Dynamics of Office Building Valuation	1995
	Feasibility Analysis and Highest & Best Use	1994
	Rates, Ratios & Reasonableness	1994
	Rates, Ratios and Reasonableness, Part II	1994
	The Appraiser's Guide to the URAR Form	1993
	Exam Preparation for State Appraiser Certification	1990
Massachusetts Institute of Technology (MIT)	Capital Markets I: Advanced Topics on REITs and CMBSs	1998
	Capital Markets II: Advanced Topics on REITs and CMBSs	1998
Marshall & Swift Publication	Marshall & Swift Cost Service, Residential Cost Approach	1996
	Marshall & Swift Cost Service, Commercial Cost Approach	1996
PR Association of Realtors	Lease Agreements	1995

Type of Appraisals
Performed

Single-Family Residences and Condominium Apartment Units
Single-Family Residential Subdivisions
Condominium Residential Projects (High-Rise, Walk-Up)
Condominium Commercial Projects (Office, Medical Office)
Vacant Parcels (Residential, Commercial, Agricultural)
Low Income Housing Projects
Office and Industrial Buildings
Hotels & Resorts
Shopping Centers
Hospitals and Special Purpose Properties
Special Purpose Properties

Major Clients Served

Banks

Banco Popular de Puerto Rico
Banco Santander Puerto Rico
Oriental Bank
Scotiabank of Puerto Rico
FirstBank
Banesco USA
Acrecent Financial

Private

F&R Construction, S.E.
Interlink Group, Inc.
Prisa Group
Gutiérrez-Latimer C.S.P.
Northwestern Selecta, Inc.
Acana Real Estate
T. Development Group
Fernando L. Sumaza & Co.
O'Neill & Borges
Garage Isla Verde, Inc.
Commercial Centers Management, Inc.
Pan American Grain
Pepsico Caribbean
Wyeth-Ayerst Laboratories (PR) Inc.
Abbott Laboratories
Quest Diagnostics
Conceptos Urbanos, Inc.
Cemex - Puerto Rican Cement
Río Construction Corp.
McConnell - Valdés
Martinal Management Corp.
Fiddler, González & Rodríguez PSC
John Dewey College
Luis Freire Division of K.M.A.
Donato, Design & Development
Puerto Rico Telephone Company
Ralph's Food Warehouse

U.S.

First Union Corporation, Miami FL
Integra Realty Resources-Krauser & Cirz, New York, NY
Structured Capital Corp., New York, NY
Visteon Caribbean, Inc., Rio Grande, PR
The Riverside Company, Rockefeller Center, NY
Simpson Housing Solutions, LLC, Long Beach, California
MMA Financial, LLC, Boston, MA
Gibraltar Construction, Clearwater, FL
Chevron-Texaco Industries Limited, San Ramon, CA

Dorado Beach Hotel Corporation, Chicago, IL
Department of the Treasury (IRS), Laguna Miguel, CA
Forest City, LLC, New York, NY
Federal Aviation Administration (FAA), Atlanta, GA
Wal-Mart Corp.
UMB Bank, N.A., MN
Oppenheimer Funds, Inc. NY

Government

Government Development Bank for Puerto Rico
United States Department of Agriculture
Department of Family, Commonwealth of PR
Puerto Rico Industrial Development Company
Department of Housing, Commonwealth of PR
Puerto Rico Tourism Company
Puerto Rico Housing Finance Authority
Puerto Rico Economic Development Bank
University of Puerto Rico

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Professional Experience	
6/2002 to Present	*Real Estate Appraiser* **Javier Porrata, PSC** Real Estate Appraisers & Consultants 898 Muñoz Rivera Avenue, Suite 300 San Juan, Puerto Rico
6/2001 to 6/2002	*Associate* **TasaTech, PSC** 898 Muñoz Rivera Avenue, Suite 202 San Juan, Puerto Rico
1996 to 12/2000	*Engineer* **Multiplastic, Inc.** Saint Just Industrial Park Trujillo Alto, Puerto Rico
1992 to 1996	*Assistant Appraiser* **Erasto Santiago Arevalo & Associates** San Agustin Development San Juan, Puerto Rico

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Valcor
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San Juan, Puerto Rico

1989 to 1990

Construction Inspector
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Mayaguez Terrace
Mayaguez, Puerto Rico

Professional Affiliations

Appraisal Institute, Puerto Rico & Caribbean Chapter

Appraisal Courses

Course Name	Year
National USPAP (7-hour update course)	2007
Advanced Income Capitalization	2006
National USPAP (7-hour update course)	2005
National USPAP Course	2005
Appraisal Principles	2002
Appraisals Procedures	2002
Residential Case Study	2002
Apartment Appraisal	2002
Basic Income Capitalization	2002
USPAP, Part A	2002

Appraisal Seminars

Seminar Name	Year
Real Estate Market Trends Symposium	2006
Uniform Residential Appraisal Report	2005
Convincing Residential Appraisals	2004
Real Estate Market Trends Symposium	2004
Subdivision Analysis	2002

Type of Appraisals Performed

Single-Family Residences and Condominium Apartment Units
Single-Family Residential Subdivisions
Condominium Residential Projects (High-Rise, Walk-Up)
Condominium Commercial Projects (Office)
Vacant Parcels (Residential, Commercial, Industrial)
Low Income Housing Projects
Office and Industrial Buildings

Major Clients Served

Banks

Banco Bilbao Vizcaya
Banco Popular de Puerto Rico
Banco Santander Puerto Rico
Citibank, N.A.
Doral Bank
FirstBank
RG Premier Bank of Puerto Rico
Oriental Group
Scotiabank de Puerto Rico
The Bank & Trust of Puerto Rico
Westernbank de Puerto Rico
Doral Mortgage
H.F. Mortgage
Popular Mortgage
R&G Mortgage
Santander Mortgage

Private

F&R Construction, S.E.
Interlink Group, Inc.
Gutiérrez-Latimer C.S.P.
Acana Real Estate
Lema Developers & Associates, Inc.
Wyeth-Ayerst Laboratories (PR) Inc.
Abbott Laboratories
Conceptos Urbanos, Inc.
Instituto de Banca y Comercio
Martinal Management Corp.
Fiddler, González & Rodríguez PSC
VSJ Realty, Inc.

U.S.

The Riverside Company, Rockefeller Center, NY

Government

Department of Family, Commonwealth of PR
Department of Housing, Commonwealth of PR
Puerto Rico Housing Finance Authority