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Land use analysis

July 9, 2014

Mr. Sindulfo Castillo
Antilles Regulatory Section
US Army Corps of Engineers
Stop 7½ Antilles Office
400 Fernández Juncos Avenue
San Juan, PR 00901

Re: **No Permit Required Notification**
YFN Yabucoa Solar, LLC
Juan Martín Ward
PR-53
Yabucoa, Puerto Rico

Dear Mr. Castillo:

YFN Yabucoa Solar, LLC, proposes the sitting, construction and operation of a solar energy project in a parcel of approximately 246 acres located at State Road PR-53, Juan Martín Ward, in the Municipality of Yabucoa. The project site, known as Yabucoa Solar Farm is specifically located at X: 262120.3082 and Y: 224103.7381 (See Figure 1, Wetland Jurisdictional Determination).

The project will have a nameplate capacity of 20 MW AC and consist of 90,072 photovoltaic modules in a 200 generation array. The footprint of the project covers approximately 107.81 acres from the total of 246 acres of the site. Each module will be supported by piles and galvanized steel posts. In addition, the project will include above ground and underground collection lines, gravel/dirt roads, a control and operation building, parking area and on-site power substation. An underground off-site transmission line will be crossing beneath State Road PR-901 finalizing in PREPA's Yabucoa Substation.

According to the Soil Survey of the Humacao Area of Eastern Puerto Rico, nine soil mapping units were identified in the study area: Ad, Aguadilla loamy sand; Cf, Cataño loamy sand; Cr, Coloso silty clay; Me, Maunabo clay; PdF, Pandura-Very stony land complex, 40 to 60 % slopes; PeC2, Pandura clay, 5 to 12 % slopes, eroded; Ta, Talante soils; TeE, Teja gravelly sandy loam, 12 to 40 % slopes; Vw, Vivi loam (Appendix B). Aguadilla loamy sand and Cataño loamy sand are considered to be hydric soils when occurring in depressions and coastal plains respectively. In addition, the following soils are considered hydric in flood plains: Coloso silty clay, Maunabo clay, Talante soils, and Vivi loam.

In relation to the hydrology, the precipitation in this part of the island is within the island's mean average of 70 inches per year. The hydrology of the study area is dominated by local rainfall and runoff from higher areas south and west of the property. Several canals drain the property and adjacent lands eastward. Most of the canals have not been maintained, especially where culverts have been installed. Although the canals are mostly open, several culverts have been installed for crossings. Towards the southeastern portion of site B, a small creek also flows eastward. The creek originates in the mountains south of state road PR-901. Accumulated precipitation in the closest USGS station to the site, for the

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last 120 days, (up to June 23, 2014) amounts to approximately 16.2 inches as reported by the USGS Rio Guayanes Hydrologic Unit (http://waterdata.usgs.gov) in a preliminary report.

The project site exhibits typical conditions of pasturelands of the eastern part of Puerto Rico. Vegetation in grazing areas throughout the site is dominated by several grass species including: Guinea grass (*Urochloa maxima*), *Paspalum conjugatum, Paspalum virgatum, Digitaria eriantha,* and *Eriochloa polystachya.* The dominant tree species in open areas are: *Spathodea campanulata, Terminalia catappa,* and *Andira inermis*. Semi-open areas include other tree species such as *Citharexylum fruticosum, Casearia sylvestris, Tabebuia heterophylla,* and *Spondias mombin*. Several clumps of bamboo (*Bambusa vulgaris*) also occur on site, especially along a small creek.

Based on considerations of vegetation, soils and hydrology, our investigation of the property found wetland and non-wetland communities in the parcel. Four wetland areas were mapped in Sites A and B (See Wetland Jurisdictional Determination). Although some of them are contiguous, different polygons were assigned depending on the location of the wetland. All of the wetlands are herbaceous and jurisdictional in nature because of the presence of canals that drain into the ocean. Below is a description of each of the wetlands:

Wetland A – This wetland covers approximately 5.13 acres of Site B. It is enclosed for the most part by two canals. The two dominant species are Carib grass and Coco-yam (*Colocasia esculenta*). This area is fenced and most of the fence perimeter is overgrown by woody vegetation.

Wetland B – This wetland covers approximately 5.44 acres of Site B. It is dominated by Cattails, Carib grass and Coco-yam. It is separated from Wetland B by Canal 2. This wetland could be the result of removal of the soil surface for use in another site or water impoundment caused by an existing berm.

Wetland C – This wetland covers approximately 9.3 acres of Site B . It is dominated by Carib grass. It is separated to the north from Canal 2 by a dirt and rock fill mound. Wetland C drains into Wetland D by Canal 3.

Wetland D – This wetland covers approximately 43.6 acres of Site B. It is dominated by *Cyperus imbricatus, Eleocharis interstincta,* and *Eriochloa polystachya* in the northern half. The southeastern section is covered with *Typha.* Ground is very dissected due to the presence of cattle

Several canals and a small creek have been mapped. It is assumed that only if the canal is adjacent to wetlands it is jurisdictional. Below is a description of each of the waters:

Canal 1 – This L-shaped canal originates from a small creek south of Site B. A small bridge on state road PR-901 allows water to flow freely. The canal has a length of 385 m before it joins Canal 2. Width does not exceed 3 m.

Canal 2 – This eastward running canal also originates from a small creek south of PR-901. A bridge crossing is also present. Total length is about 1,534 m. Width averages 2 m. For the most part the channel is covered with emergent vegetation.

Canal 3 – This canal runs across Wetland D and has an approximate length of 418 m. Average width is 2 m. The channel is covered with emergent vegetation.

Canal 4 – This canal is located in the northern perimeter of Site B. It has an approximate length of 518 m. It drains eastward. Emergent vegetation is present.

Canal 5 – This canal is located in Site A along the property boundary with the adjacent tank farm. It has an approximate length of 541 m. It drains towards the southeast. Emergent vegetation is present.

Creek 1 – This creek originates south of PR -901. It seems to be in its natural state. Total length is approximately 847 m with channel width varying from 2 to 4 m. The channel bottom is composed of gravel and sand. Low water flow volumes were observed during the site visits. Well-defined banks are present with woody vegetation developing at the top of the bank.

This study proposes the limits of the USACE jurisdiction over wetlands and waters of the United States found in the project site. Four herbaceous wetland polygons (Wetlands A through D) were identified within the study area. The wetlands comprise 63.5 acres of jurisdictional wetlands. The wetlands have been determined to be jurisdictional since there is a chemical, physical, and biological connection with traditional navigable waters. In addition, jurisdictional waters also include all channel sections adjacent to wetlands and a small, unnamed creek located in the southeast quarter of the property. Finally, no rare, critical or endangered species were observed in the site during fieldwork.

Based on the foregoing, jurisdictional wetlands and the Waters of the U.S. will not be affected or impacted by the proposed project. Therefore, we respectfully request to the U.S. Army Corps of Engineers to issue the corresponding letter indicating that the proposed project is not subject to the Clean Water Act jurisdiction and that a Clean Water Act Section 404 permit is not required. Enclosed please find a copy of the Wetland Jurisdictional Determination and the project layout for your evaluation.

If you have any questions or need further information regarding this project, please contact the undersigned at 787-647-7480 or by email to reforest@coqui.net.

We look forward to receive at your earlier convenience your concurrence with our determination that the project will not affect the Waters of the U.S.

Cordially yours,

Alejandro Cubiñá

c: Mr. Leslie Hufstetler, YFN Yabucoa Solar, LLC

Enclosures

COPY

WETLAND JURISDICTIONAL DETERMINATION AND DELINEATION (JD) REPORT FOR YABUCOA SOLAR PARK YABUCOA, PUERTO RICO

Submitted to:

U.S. Army Corps of Engineers, Jacksonville District
Antilles Office
400 Fernández Juncos Avenue
San Juan, PR 00901-3299

Submitted by:
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