



Parque solar Infinigen Oriana



EA-2262

Environmental Assessment and Finding of No Significant Impact – YFN Yabucoa Solar, LLC

Department of Energy Loan Programs Office –
Title XVII Program

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Acrónimos y Abreviaturas

AVE	Área de efecto visual
BESS	Sistema de almacenamiento de energía en baterías
BMP	Mejores prácticas de gestión
CA	Corriente alterna
CAA	Ley de Aire Limpio
CC	Corriente continua
CEQ	Consejo de Calidad Ambiental
CFR	Código de Reglamentaciones Federales
CO ₂	Dióxido de carbono
CUB	Consulta de uso de tierras
CZIB	Límite interior de la zona costanera
dBA	Nivel de presión sonora ponderado en A
DEA	Determinación de cumplimiento ambiental
DOE	Departamento de Energía de EE. UU.
DRNA	Departamento de Recursos Naturales y Ambientales de Puerto Rico
EA	Evaluación ambiental
EJ	Justicia ambiental
EPA	Agencia de Protección Ambiental de EE. UU.
EPAct	Ley de Política Energética de 2005
FEMA	Agencia Federal para el Manejo de Emergencias
FPPA	Ley de Política de Protección de Tierras Agrícolas
GEI	Gas de efecto invernadero
ICP	Instituto de Cultura Puertorriqueña
Infinigen	Infinigen Renewables LLC
IPaC	Información para planificación y consulta
ISU	Transformador de aumento del inversor
kV	kilovoltios
Ley 17	Ley de Política Pública Energética de Puerto Rico de 2019
Lord RES	Sistemas de energía renovable Lord
LPO	Oficina de programas de préstamos
Mapas ABFE	Mapas de Niveles de Inundación Base Recomendados de Puerto Rico
MLAA	Puede afectar, con probabilidad de afectar negativamente
MVA	megavoltios-ampérios
MW	megavatio
NATA	Evaluación Nacional para Contaminantes Tóxicos del Aire
NEPA	Ley Nacional de Política Ambiental
NOAA	Administración Nacional Oceánica Atmosférica
NRCS	Servicio de Conservación de Recursos Naturales
O&M	Operaciones y mantenimiento
OGPe	Oficina de Administración de Permisos de Puerto Rico
OSHA	Administración de Seguridad y Salud Ocupacional de EE. UU.
PBO	Evaluación biológica programática
PCS	Sistema de conversión de energía
PCU	Permiso de desarrollo
Plan CES	Plan para el control de la erosión y prevención de la sedimentación
POI	Punto de interconexión
PPOA	Acuerdo operativo y de compra de energía
PR	Puerto Rico
PR100	Estudio de Resiliencia de la Red Eléctrica de Puerto Rico y Transiciones a Energía 100% Renovable
PRAD	Departamento de Agricultura de Puerto Rico
PRASA	Autoridad de Acueductos y Alcantarillado de Puerto Rico
PRCZMP	Programa de Gestión de Zonas Costeras de Puerto Rico

PRDTP	Departamento de Transporte y Obras Públicas de Puerto Rico
PREPA	Autoridad de Energía Eléctrica de Puerto Rico
PREQB	Junta de Calidad Ambiental de Puerto Rico
Programa EIR	Programa de reinversión de infraestructura energética
Proyecto	Instalación de energía fotovoltaica con sistema de almacenamiento de energía en baterías de 32.1 MW y hasta 75 MW en Yabucoa, PR
PRPB	Junta de Planificación de Puerto Rico
PUI	Permiso incidental único
PV	fotovoltaico
SCADA	Control de supervisión y adquisición de datos
SHPO	Oficina Estatal de Preservación Histórica
Solicitante	YFN Yabucoa Solar LLC
SWPPP	Plan de prevención de contaminación de aguas pluviales
U.S.C.	Código de los Estados Unidos
USACE	Cuerpo de Ingenieros del Ejército de EE. UU.
USDA	Departamento de Agricultura de EE. UU.
USFWS	Servicio de Pesca y Vida Silvestre de EE. UU.

1. PROPÓSITO Y NECESIDAD

1.1 Introducción

YFN Yabucoa Solar, LLC (Solicitante), una subsidiaria indirecta de propiedad absoluta de Infinigen Renewables LLC (Infinigen), propone construir una instalación de energía solar fotovoltaica (PV) de 32.1 megavatios (MW) y un Sistema de almacenamiento de energía en baterías (BESS) de hasta 75 MW en la municipalidad de Yabucoa, Puerto Rico (Proyecto). El sitio del Proyecto es propiedad de la Administración de Terrenos de Puerto Rico y está ubicado en la intersección de las autopistas estatales PR-53, PR-901 y PR-9914 en el vecindario de Juan Martín en Yabucoa (sitio del Proyecto; consulte la Imagen 1). El Proyecto se interconectará con la red de transmisión de la Autoridad de Energía Eléctrica de Puerto Rico (PREPA) en la subestación existente de 115 kilovoltios (kV) en Juan Martín (Yabucoa) de PREPA ubicada a 147 pies al oeste del sitio del Proyecto, del otro lado de la autopista estatal PR-901.

El Solicitante ha solicitado una garantía de préstamo de conformidad con el Programa de Financiamiento de Energía Limpia Título XVII del Departamento de Energía (DOE) de los EE. UU., autorizado por la Ley de Políticas Energéticas de 2005 (EPAAct), y sus enmiendas. En virtud del Título XVII, el Secretario de Energía está autorizado a proporcionar garantías de préstamos para proyectos que respalden la implementación de energía limpia y la reinversión de infraestructura energética en Estados Unidos, para incluir el Estado Libre Asociado de Puerto Rico.

El programa Título XVII es administrado por la Oficina de Programas de Préstamos (LPO) del DOE. La LPO origina, suscribe y brinda préstamos y garantías de préstamos a solicitantes elegibles para proyectos que aceleran la implementación comercial de tecnología energética innovadora. La LPO ha revisado y determinado que la solicitud del Solicitante cumple con los requisitos para recibir una posible garantía de préstamo (10 Partes 609.3 y 609.5 del Código de Regulaciones Federales [CFR]).

La decisión de proporcionar una garantía de préstamo (asistencia financiera federal) constituye una acción federal importante, que requiere que el DOE realice una revisión ambiental en virtud de la Ley Nacional de Política Ambiental (NEPA). La LPO ha preparado esta Evaluación ambiental (EA) de acuerdo con NEPA (Código 42 de los Estados Unidos [U.S.C.] 4321 y siguientes), las regulaciones de implementación de NEPA del Consejo de Calidad Ambiental (CEQ) (40 CFR, Partes 1500–1508) y las regulaciones de implementación de NEPA del DOE (10 CFR, Parte 1021). La LPO está utilizando el proceso de NEPA para informar su decisión de emitir una garantía de préstamo al Solicitante para respaldar el Proyecto.

1.2 Propósito y Necesidad de Acción de la Agencia

El propósito y la necesidad de la acción propuesta por el DOE, la emisión de una garantía de préstamo federal, es implementar la autoridad del DOE en virtud del Título XVII de la EPAAct, que fue reautorizada, enmendada y revisada por la Ley de Reducción de la Inflación de 2022 para crear el Programa de Reinversión de Infraestructura Energética (EIR). El propósito del Programa EIR es financiar proyectos e instalaciones en EE. UU. que reequipen, repotencien, reutilicen o reemplacen la infraestructura energética que ha finalizado sus operaciones o que habilitan que la infraestructura energética operativa evite, reduzca, utilice o secuestre contaminantes del aire o emisiones antropogénicas de gases de efecto invernadero (GEI)(42 U.S.C. 16517(a)(2)).

1.3 Antecedentes

El Solicitante es una subsidiaria indirecta de propiedad absoluta de Infinigen, un operador de energía renovable con sede en Puerto Rico (PR) que posee y ha operado Horizon Solar Park en Salinas, PR y Oriana Solar Park en Isabela, PR desde 2015 y 2016, respectivamente. El Solicitante tiene un acuerdo operativo y de compra de energía (PPOA) de 25 años con PREPA para desarrollar, construir y ser propietario del Proyecto, que contribuirá al objetivo de la Ley de Política Pública Energética de Puerto Rico de 2019 (Ley 17).

La Ley 17 exige que el 100 por ciento de las necesidades de electricidad de Puerto Rico estén cubiertas con energía renovable para el año 2050. El lunes 1 de abril de 2024, el DOE y la Agencia Federal para el Manejo de Emergencias (FEMA) publicaron el Estudio de Resiliencia de la Red Eléctrica de Puerto Rico y Transiciones a Energía 100% Renovable (PR100), cuya conclusión fue que el objetivo de la Ley 17 puede lograrse a través de la generación de energía renovable a escala de servicios públicos, fuentes de energía distribuida y medidas de estabilización de la red (DOE y FEMA 2024).

El Programa de Financiamiento de Energía Limpia Título XVII es fundamental para la misión de la LPO de servir como “puente a la capacidad de financiamiento” para proyectos de energía limpia que son fundamentales para lograr la descarbonización del sector energético. Con el Programa EIR, la LPO puede apoyar proyectos que reinviertan en infraestructura energética en todo Estados Unidos para incluir la actualización de la infraestructura energética a fin de que pueda reiniciarse u operar de manera más eficiente, con mayor producción o con menos emisiones; reemplazar la infraestructura energética retirada con infraestructura energética limpia; y construir nuevas instalaciones para fines de energía limpia que utilicen infraestructura energética heredada.

1.4 Alcance de la Evaluación Ambiental

La LPO está preparando esta EA para abordar la construcción y operación del Proyecto, una instalación de generación y de BESS de energía solar PV en Yabucoa, Puerto Rico. El DOE está preparando esta EA de acuerdo con la Ley Nacional de Política Ambiental (NEPA) de 1969, las regulaciones de implementación de NEPA del Consejo de Calidad Ambiental (CEQ) (40 CFR, Partes 1500–1508) y los procedimientos de implementación de NEPA del DOE (10 CFR, Parte 1021). Si no se identifican impactos significativos durante la preparación de esta EA, el DOE emitirá un Hallazgo de Sin impacto significativo. Si se identifican impactos potencialmente significativos, el DOE preparará una declaración de impacto ambiental. Como se presenta a continuación, se identifican los recursos naturales, físicos y socioeconómicos que pueden estar sujetos a problemas ambientales potencialmente significativos, así como los recursos que no estarían sujetos a problemas ambientales potencialmente significativos; por lo tanto, se reduce el alcance de la revisión ambiental a aquellos problemas ambientales que sí merecen ser estudiados.

El Solicitante propone construir el Proyecto en el vecindario de Juan Martín en Yabucoa, Puerto Rico, en la intersección de las autopistas estatales PR-53, PR-901 y PR-9914 (consulte Imagen 1). Las fases de construcción incluyen la demarcación de humedales y un arroyo; el despeje del sitio; la instalación de cercas perimetrales y la preparación de un área de depósito de materiales temporal; nivelación, excavación y llenado del sitio; construcción de entradas y caminos de acceso interno; instalación de módulos fotovoltaicos y bastidores; construcción del edificio de Operación y Mantenimiento (O&M), subestación y BESS; instalación del sistema de distribución eléctrica necesario; y la construcción de la línea de transmisión y cualquier actualización necesaria al punto de interconexión (POI), la subestación existente Juan Martín de PREPA. La fase final de la construcción del Proyecto incluiría la prueba de equipos y la estabilización del sitio antes de desmovilizar y restaurar el área de depósito de materiales

temporal al finalizar la construcción. Las instalaciones relacionadas con la generación, el almacenamiento y la transmisión de energía necesarias para completar el Proyecto propuesto serían nuevas y estarían dentro del alcance del préstamo de la LPO del DOE.

La documentación de la coordinación entre agencias del DOE realizada para el proyecto se proporciona en el Apéndice A. A nivel estatal, el Proyecto ha completado el proceso ambiental, y obtenido una Determinación de Cumplimiento Ambiental (DEA) de la Oficina de Gestión de Permisos (OGPe). La DEA exige que el Solicitante cumpla con las pautas regulatorias que protegen el medioambiente, como obtener los permisos de construcción necesarios, prevenir la contaminación por escorrentía y cumplir con las regulaciones de control de ruido y residuos sólidos. Además, requiere el cumplimiento de las recomendaciones realizadas por el Departamento de Recursos Naturales y Ambientales (DRNA) de Puerto Rico que se han incluido en el diseño del proyecto. El Proyecto también completó su proceso de consulta de uso de la tierra y cuenta con la aprobación de la Junta de Planificación de Puerto Rico (PRPB). Ha recibido una Certificación de Consistencia con el Programa de Administración Costera de Puerto Rico de la PRPB. A nivel federal, el Proyecto ha obtenido el consentimiento del Servicio de Pesca y Vida Silvestre de EE. UU. (USFWS), la Oficina Estatal de Preservación Histórica (SHPO) y el Servicio de Conservación de Recursos Naturales (NRCS). Para obtener una descripción general más detallada de los permisos y las autorizaciones emitidos para los proyectos, consulte el Appendix B.

En esta EA se describe el Proyecto propuesto y sus posibles impactos en múltiples áreas de recursos debido a la construcción y operación de una instalación solar fotovoltaica. Entre las áreas de recursos evaluadas en esta EA se incluyen:

- Recursos culturales
- Recursos hídricos, incluidos humedales, aguas superficiales y llanuras aluviales
- Ruido
- Transporte
- Recursos estéticos y visuales
- Recursos biológicos
- Socioeconomía y justicia ambiental
- Suelos y tierras de cultivo de primera
- Uso de la tierra

Estas áreas de recursos se identificaron como potencialmente afectadas por el Proyecto, y cada una se evaluó para determinar la naturaleza, el alcance y la importancia de esos impactos (consulte la Sección 3). La evaluación combinó la investigación de escritorio y el análisis de la información disponible con estudios de campo seleccionados, incluidas evaluaciones del sitio relacionadas con la presencia de humedales, cuerpos de agua, llanuras aluviales, recursos culturales, especies amenazadas o en peligro de extinción, vida silvestre y vegetación.

Los recursos no incluidos en esta EA se refieren a intereses de geología, aguas subterráneas, calidad del aire, salud y seguridad, recreación y de pueblos nativos americanos. La geología no se incluye en esta EA porque la clasificación de la tierra y la instalación de los paneles solares y otros elementos del Proyecto afectarían principalmente la superficie y no tendrían un impacto significativo en la geología subyacente. El agua subterránea no se vería afectada por la colocación y operación de las instalaciones solares fotovoltaicas y los sistemas de almacenamiento de energía, y el contratista del Solicitante

seguiría las mejores prácticas de gestión (BMP) para la prevención y el control de derrames. Las emisiones asociadas con la construcción del Proyecto y la falta de emisiones durante la operación no tendrían un impacto significativo en la calidad del aire. Además, la construcción y operación de los proyectos no daría lugar a inquietudes significativas de salud y seguridad o de gestión de residuos, ya que la construcción y operación del Proyecto se realizaría de acuerdo con las normas y prácticas vigentes correspondientes de salud y seguridad y gestión de residuos. La recreación tampoco se incluye en esta EA porque no se producirían impactos razonablemente previsibles en los recursos recreativos conocidos, dados los usos pasados y actuales de la tierra industrial y agrícola asociados con el sitio del Proyecto, y el hecho de que este no afectaría el uso o acceso al área de Hacienda Lucía. Por último, debido a la ausencia de tribus de nativos americanos reconocidas a nivel federal en Puerto Rico, el DOE no ha evaluado los impactos en los intereses de los nativos americanos ni realizado comunicaciones tribales para el Proyecto.

2. DESCRIPCIÓN DE LA ACCIÓN PROPUESTA

El Proyecto consistirá en una instalación fotovoltaica de 32.1 MW, un BESS de hasta 75 MW, una subestación, un edificio de O&M con un área de estacionamiento pequeña, una línea de transmisión de 285 pies y 115 kV a la subestación Juan Martín existente de PREPA, carreteras de acceso con grava, un área de mitigación arbolada y estanques de mitigación de planicies aluviales. Durante la construcción, el Proyecto tendrá un área de depósito de materiales temporal.

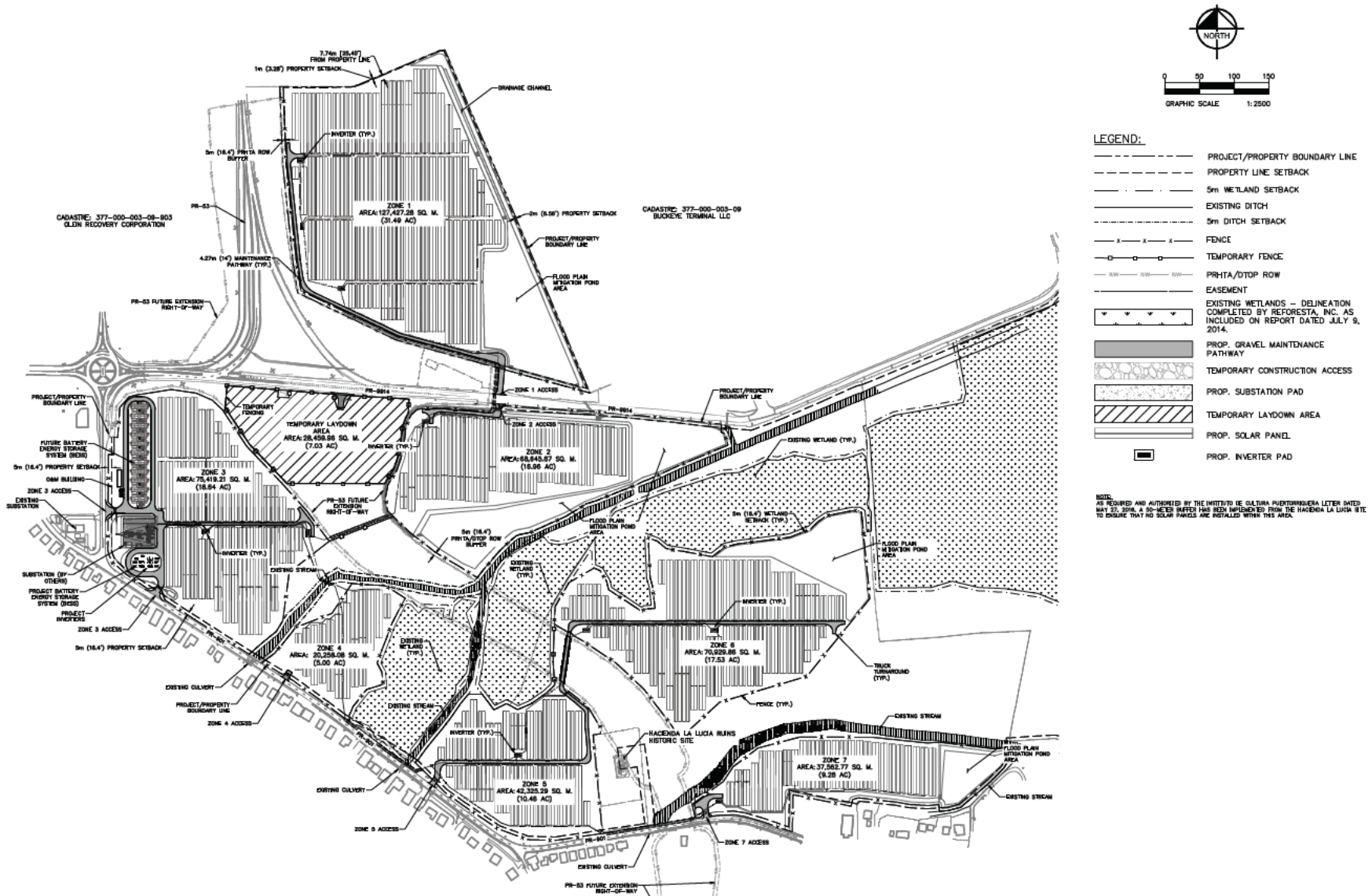
El Solicitante está alquilando una propiedad de aproximadamente 247 acres propiedad de la Administración de Terrenos de Puerto Rico para el Proyecto, pero no la utilizará en su totalidad. El Proyecto afectará aproximadamente 122 acres, como se describe con más detalle a continuación. Los componentes del Proyecto se ubicarán principalmente dentro de siete zonas cercadas; otras áreas donde habrá alteración del lugar incluirán el área de depósito de materiales temporal, el área de mitigación arbolada, la línea de transmisión, los cruces de cables y las carreteras de acceso (consulte la Imagen 1 y la Imagen 2). El Proyecto fue diseñado para no afectar directamente los cuatro humedales, un arroyo y las ruinas de Hacienda Lucía que se encuentran en la propiedad arrendada.

La construcción y operación del proyecto alterará de manera permanente 115 acres, que comprenden lo siguiente (consulte la Imagen 1 y la Imagen 2):

- Un área cercada de la Zona 1 de 31.49 acres que contendrá un campo fotovoltaico, tres inversores, una carretera de acceso con grava y un estanque de mitigación de llanuras aluviales. En el borde del lado este de esta zona se encuentra un canal de drenaje existente que se reubicará aproximadamente 30 pies hacia el este hasta el borde del área cercada. Esto requerirá aprobación como parte del Permiso Único Incidental (PUI) del Proyecto. El acceso a la Zona 1 se realizará a través de una entrada de asfalto permanente a la salida de la autopista PR-9914 que utilizará aproximadamente 0.02 acres.
- Un área cercada de la Zona 2 de 16.96 acres que contendrá un campo fotovoltaico, un inversor, una carretera de acceso con grava y un estanque de mitigación de planicie aluvial. El acceso a la Zona 2 se realizará a través de una entrada de asfalto permanente en la salida de la autopista PR-9914 que utilizará aproximadamente 0.02 acres.
- Un área cercada de la Zona 3 de 18.64 acres que contendrá un campo fotovoltaico, dos inversores, el BESS, la subestación, un edificio de O&M de 1,200 pies cuadrados, un área de estacionamiento de asfalto de 20 pies por 30 pies y una carretera de acceso con grava. El acceso a la Zona 3 se realizará a través de dos entradas permanentes de asfalto, ambas a la salida de la autopista PR-901, que utilizarán aproximadamente 0.02 acres cada una.
- Un área cercada de la Zona 4 de 5.0 acres, que contendrá un campo fotovoltaico. El acceso a la Zona 4 se realizará a través de una entrada de asfalto permanente en la salida de la autopista PR-901 que utilizará aproximadamente 0.02 acres.
- Un área cercada de la Zona 5 de 10.46 acres, que contiene un campo fotovoltaico, un camino de acceso con grava y un inversor. El acceso a la Zona 5 se realizará a través de una entrada permanente de asfalto en la salida de la autopista PR-901 que utilizará aproximadamente 0.02 acres.

Imagen 1: Áreas de alteración del proyecto con imágenes satelitales

Imagen 2: Plan del sitio del proyecto



- Un área cercada de la Zona 6 de 17.53 acres que contendrá un campo fotovoltaico, dos inversores, una carretera de acceso con grava y un estanque de mitigación de planicie aluvial. El acceso a la Zona 6 se realizará a través de una carretera de acceso con grava de aproximadamente 285 pies de largo desde la Zona 5 que utilizará aproximadamente 0.31 acres. Un cruce de cable eléctrico se perforará direccionalmente debajo de esta carretera de acceso. El cruce se realizará en la propiedad arrendada, por lo que no se requieren derechos de acceso a la propiedad de otros.
- Un área cercada de la Zona 7 de 9.28 acres que contendrá un campo fotovoltaico, un inversor, una carretera de acceso con grava y un estanque de mitigación de planicie aluvial. El acceso a la Zona 7 se realizará a través de una entrada de asfalto permanente fuera de la autopista PR-901 que utilizará aproximadamente 0.02 acres.
- Un cable eléctrico de aproximadamente 100 pies de largo con perforación direccional que cruza entre la Zona 1 y la Zona 2 y que utilizará menos de 0.01 acres. El cruce se realizará por debajo de la autopista PR-9914 y requerirá un derecho de acceso a la propiedad del Departamento de Transporte y Obras Públicas de Puerto Rico (PRDTOP).
- Un cable eléctrico de aproximadamente 315 pies de largo con perforación direccional que cruza entre la Zona 2 y la Zona 3 y que utilizará aproximadamente 0.01 acres. Este cruce se realizará en la propiedad arrendada, por lo que no se requieren derechos de acceso a la propiedad de otros.
- Un cable eléctrico de aproximadamente 245 pies de largo con perforación direccional que cruza entre la Zona 3 y la Zona 4 y que utilizará aproximadamente 0.01 acres. El cruce se realizará por debajo de un canal de drenaje y requerirá la aprobación del Cuerpo de Ingenieros del Ejército de EE. UU. (USACE).
- Un cable eléctrico de aproximadamente 400 pies de largo con perforación direccional que cruza entre la Zona 4 y la Zona 5 y que utilizará aproximadamente 0.01 acres. El cruce se realizará debajo de la autopista PR-901, no debajo del humedal entre estas dos zonas, y requerirá un derecho de acceso a la propiedad de PRDTOP.
- Un cable eléctrico de aproximadamente 475 pies de largo con perforación direccional que cruza entre la Zona 5 y la Zona 7 y que utilizará aproximadamente 0.01 acres. El cruce se realizará tanto por debajo de la autopista PR-901 como del arroyo; por lo tanto, requerirá la aprobación de USACE y un derecho de acceso a la propiedad de PRDTOP.
- Una línea de transmisión de 115 kV que mide aproximadamente 285 pies lineales que conectará la subestación del Proyecto en la Zona 3 a la subestación existente Juan Martín de la PREPA. Aproximadamente 147 pies lineales de esta línea de transmisión se extenderán más allá de la Zona 3 cercada, que cruza en forma aérea la autopista PR-901 hasta un solo polo junto a la subestación de la PREPA. La base de este poste tendría aproximadamente 3 pies de diámetro (una perturbación del suelo de 0.05 pies cuadrados) y será la única perturbación adicional del suelo requerida por la línea de transmisión. No se requiere un derecho de paso permanente para esta línea de transmisión.
- Un área de 5.5 acres entre las Zonas 6 y 7 donde el Solicitante plantará árboles como parte de su plan de mitigación de árboles (consulte la Sección 3.7.1)

La construcción del Proyecto perturbará temporalmente 7.05 acres, compuesto por un área de descanso temporal de 7.03 acres y una entrada de asfalto temporal junto a la autopista PR-9914 que utilizará

aproximadamente 0.02 acres. El área de depósito de materiales solo se utilizará durante la construcción, y toda el área, incluida su cerca y entrada, se retirará una vez finalizada la construcción.

2.1 Construcción

La construcción del Proyecto requerirá el uso de maquinaria pesada, como topadoras, niveladoras, excavadoras, camiones volquete y camiones de cemento, junto con herramientas más pequeñas como martillos elevadores y pistolas de clavos. Se espera que las fases de construcción del Proyecto sean las siguientes:

- Demarcación de los humedales y del arroyo: Un retroceso de 5 metros alrededor del perímetro de los cuatro humedales y el arroyo dentro del sitio del Proyecto será demarcado con vallas contra la erosión.
- Limpieza: Se eliminará la vegetación y se limpiará y quitarán troncos y raíces del sitio.
- Cerca perimetral: Se instalará una cerca perimetral alrededor del sitio del Proyecto para mejorar la seguridad durante la construcción y la operación.
- Área de depósito de materiales: Se establecerá un área de depósito de materiales temporal, cubierta con tela de filtro geotextil y piedra triturada en la parte superior, para uso durante la construcción como estacionamiento y almacenamiento temporal de equipos. Se construiría una entrada temporal para acceder a esta zona de depósito de materiales de uso temporal.
- Nivelación, excavación y llenado del sitio: La nivelación del sitio se realizará para garantizar una superficie uniforme para la instalación de paneles solares y otra infraestructura. El relleno permanente se colocaría en aquellos lugares donde fuera necesario para garantizar una superficie nivelada y un correcto soporte para las estructuras. La pérdida de la capacidad aluvial por la colocación de relleno permanente en llanuras aluviales se compensará con la excavación de estanques de mitigación de llanuras aluviales.
- Entradas y caminos de acceso: Se construirán siete entradas de asfalto permanente al sitio del Proyecto y caminos de acceso de grava en el interior de este sitio.
- Instalación de pilotes y colocación de bastidores: Los pilotes necesarios para soportar el sistema de estanterías solares se introducirán en el suelo, a una profundidad de 10 a 19 pies. Si un pilote introducido no se sostiene, se lo anclaría en el punto de introducción o se perforaría un muelle de anclaje que se rellenaría con concreto. Se ensamblarán y erigirán los sistemas de bastidores que contendrán los módulos solares.
- Instalación de módulos solares: Se instalarán los módulos solares en los sistemas de bastidores.
- Trabajos eléctricos: Se excavarán zanjas para la instalación de conductos y cables eléctricos y otros componentes del sistema de distribución eléctrica.
- Edificio de O&M: Construcción del edificio de O&M y su área de estacionamiento.
- Pruebas y puesta en marcha: Cada componente de la instalación se probará una vez que todos estén instalados.
- Estabilización del sitio: Durante la construcción, las áreas alteradas se estabilizarán mediante agua o paliativos de polvo para minimizar la erosión del viento y del agua, así como el polvo fugitivo.

- Desmovilización y restauración: Todas las instalaciones temporales de fabricación y construcción se retirarán del sitio una vez que finalice la construcción. Se retirará el área de depósito de materiales temporal, incluida su entrada y cerca.

La secuencia se realizará de acuerdo con la Sección 2.1.2, a partir del 1 de septiembre de 2024 y se finalizará el 14 de agosto de 2025.

2.1.1 Construcción de Estructuras de Proyectos e Instalación de Equipos

El Plan del sitio del Proyecto (Imagen 2) muestra las ubicaciones de las estructuras y los equipos que se construirán en el sitio del Proyecto.

2.1.1.1 Cerca Perimetral

Se instalarán aproximadamente 22,767 pies lineales (4.31 millas) de cerca permanente construida con malla de alambre sobre postes de acero alrededor del perímetro de las Zonas 1-6. Se instalarán cercas temporales de aproximadamente 3,136 pies lineales (0.59 millas) alrededor del perímetro del área de depósito de materiales temporal.

2.1.1.2 Área de Depósito de Materiales Temporal

Se preparará un área de depósito de materiales temporal junto a la autopista PR-9914 para uso durante la construcción. La preparación de esta área implicará cortar toda la maleza y los arbustos que allí se encuentren, colocar tela de filtro geotextil en el área, distribuir ~4-12" de piedra triturada sobre la tela de filtro e instalar cercas alrededor del área para proporcionar seguridad al equipo de la planta. Se construiría una entrada temporal para acceder a esta zona de depósito de materiales de uso temporal.

2.1.1.3 Marco del Sistema Solar

Aproximadamente 79,000 paneles solares canadienses modelo CS6W-545MB-AG (consulte la Figura 1) se instalarán en el sitio del Proyecto. Los paneles solares medirán 89.2 pulgadas por 44.6 pulgadas y estarán contenidos dentro de un marco de metal. Los marcos se montarán en estructuras de acero de soporte erigidas sobre pilotes incrustados en la tierra y diseñados para inclinar permanentemente el panel solar en un ángulo fijo al sol. Los paneles se instalarán a una altura de entre cuatro y diez pies sobre el nivel del suelo, según sea el grado de inclinación del marco.

2.1.1.4 Sistema de Distribución Eléctrica

El sistema de distribución eléctrica recibe electricidad de los paneles solares y la dirige a donde se necesita. Los cables de corriente continua (CC) de cada cadena de paneles solares se sujetarán a la estructura de bastidores y se enrutarán bajo tierra, luego hasta una caja de conexiones. A cada caja de conexiones se le conectarán entre 10 y 20 ramales e incluirá características de seguridad como protección contra sobretensiones y un interruptor de desconexión. La salida de la caja de conexiones se enruta a una zanja subterránea y regresa a un sistema de conversión de energía (PCS). El PCS, construido sobre patines, tendrá secciones para entradas de CC de las cajas de conexiones; inversores para convertir la CC en corriente alterna (CA); y energía auxiliar para redes, comunicaciones y monitoreo SCADA.

Las secciones de entrada de la CC del PCS pueden aceptar hasta un total de 40 entradas fotovoltaicas en cuatro secciones, y cada sección se conectará a un bus común que combina todas las entradas a la sección del inversor a través de un interruptor motorizado. Cada inversor tendrá un voltaje de salida de 660 V y está conectado a un transformador de aumento del inversor (ISU). El ISU aumenta el voltaje a 34.5 kV para su distribución y está protegida por un disyuntor.

Figura 1: Dibujo de especificaciones del panel solar canadiense



Cada ISU se conectará a un alimentador de recolección de 34.5 kV. El Proyecto tendrá dos alimentadores de recolección, cada uno con cinco PCS, configurados para permitir el mantenimiento sin alterar otras unidades. Los alimentadores se enrutarán como tres conductores únicos junto con un conductor de tierra de zanja y un conductor de comunicaciones de fibra óptica en el conducto a una estructura elevadora en la subestación del Proyecto. El Solicitante ha solicitado los permisos necesarios de USACE y PRDTP para perforar direccionalmente ciertos cruces como se describe en la Sección 2 y se muestra en la Imagen 1. Si las aprobaciones para perforaciones se retrasan o rechazan, los cruces se rediseñarán como cruces aéreos.

2.1.1.5 Inversores

El proyecto tendrá un total de diez inversores de electrónica de potencia modelo FS4200 de 4200 kW que convertirán la CC generada por los paneles en CA utilizada en el sistema eléctrico.

2.1.1.6 Subestación del Proyecto y Transformador de Energía Principal

En la subestación del proyecto, se instalará un transformador de potencia de 34.5/115 kV con una capacidad de 70 megavoltios-amperios (MVA) para convertir el voltaje para la conexión al sistema de transmisión de PREPA.

2.1.1.7 BESS

El Proyecto requiere la instalación de bancos de baterías con una capacidad de almacenamiento de 14.45 MW y una capacidad de generación de hasta 20 MVA para cumplir con los Requisitos Técnicos Mínimos (MTR) de PREPA para la modulación de frecuencia y el mantenimiento de voltaje. Este equipo se instalará con un sistema de extinción de incendios y medidas para prevenir derrames. Se instalarán por encima del nivel del suelo para protegerlos de los elementos. Se construirían hasta 60 MW de BESS adicional en el mismo sitio del Proyecto y con la misma infraestructura como segunda fase del proyecto.

2.1.1.8 Línea de Transmisión de Interconexión a la Subestación de la PREPA

Se construirá una línea de transmisión aérea de aproximadamente 285 pies lineales en la autopista PR-901 para conectar la subestación del Proyecto en la Zona 3 a la subestación existente de Juan Martín de PREPA (consulte la Imagen 1).

2.1.1.9 Edificio de Operaciones y Mantenimiento (O&M)

Se construirá un edificio de O&M de un solo piso de 1200 pies cuadrados que contiene espacio de oficinas, un baño, una sala de descanso, un área de almacenamiento y el equipo SCADA y de TI. Se proporcionará un área de grava para estacionamiento y almacenamiento de aproximadamente 20 pies por 30 pies. El edificio de O&M requerirá una nueva conexión con la Autoridad de Acueductos y Alcantarillado de Puerto Rico (PRASA) para el agua doméstica. Se necesitará una conexión de aproximadamente 40 pies de largo para llegar a las tuberías de PRASA a lo largo de la autopista PR-901. Cualquier agua usada se descargará en un tanque séptico en el sitio que será limpiado según sea necesario por un proveedor de servicio local.

2.1.1.10 Control de Supervisión y Adquisición de Datos (SCADA)

Se instalará un sistema SCADA para la recopilación de datos operativos y de rendimiento. Los módulos solares y BESS se vincularán a una red de fibra óptica a través de una o más computadoras centrales. Los cables de fibra óptica para el sistema SCADA se instalarán en las zanjas de cables del colector por encima de las zanjas eléctricas. Se espera que la computadora del host esté ubicada en el edificio de O&M en el sitio del Proyecto.

2.1.1.11 Entradas y Caminos de Acceso

Se construirán siete entradas permanentes (además de una entrada temporal al área de descanso también temporal) de 48 pies x 14 pies con asfalto y se diseñarán bajo la dirección de un ingeniero profesional autorizado y se compactarán para cumplir con los requisitos de carga del equipo. Las entradas se ubicarán a la salida de las autopistas PR-9914 y PR-901 como se describe en la Sección 2 y conducirán a 7,597 pies lineales (1.44 millas) de carreteras de grava para todo tipo de clima de 14 pies de ancho que se construirán para permitir el acceso a través de los campos fotovoltaicos.

2.1.2 Cronograma del Proyecto

Actualmente, se espera que la construcción del Proyecto tenga lugar durante un período aproximado de 18 meses a partir de septiembre de 2024, sujeto a cambios debido a retrasos en la obtención de la totalidad de las autorizaciones y los permisos necesarios. A continuación, se proporciona una descripción general del cronograma de construcción asociado con el Proyecto.

Tabla 1: Cronograma de construcción

Tarea	Inicio	Final
Movilización del Sitio y Comienzo de Limpieza del Terreno	9/3/24	10/8/25
Nivelación del Terreno	10/8/24	4/1/25
Instalación de Pilotes y Estructuras	10/15/24	5/15/25
Instalación de Módulos	12/10/24	7/3/25
Instalación de Inversores	12/17/24	4/24/25
Cables de Corriente Continua (DC) (Sobre el terreno)	12/26/24	8/25/25
Cables de Corriente Continua (DC) (Subterráneo)	4/4/25	7/18/25

Tarea	Inicio	Final
Cables de Corriente Alterna (AC)	2/28/25	5/12/25
Subestación	9/24/24	9/22/25
Sistema de Almacenamiento de Energía en Baterías (BESS)	11/4/24	6/17/25
Puesta en Marcha (Commissioning)	10/14/25	2/23/26

2.1.3 Personal de Construcción

El recuento de personal durante la construcción (sin incluir la puesta en servicio) fluctuará entre 30 y 120 en los momentos máximos, como se muestra en la Tabla 2:

Tabla 2: Personal estimado para la construcción y puesta en marcha

Mes	Recuento de personal estimado
Septiembre de 2024	30
Octubre de 2024	30
Noviembre de 2024	40
Diciembre de 2024	60
Enero de 2025	80
Febrero de 2025	120
Marzo de 2025	120
Abril de 2025	120
Mayo de 2025	100
Junio de 2025	100
Julio de 2025	80
Agosto de 2025	80
Septiembre de 2025	60
Octubre de 2025	40
Noviembre de 2025	30
Diciembre de 2025	10
Enero de 2026	10
Febrero de 2026	10
Enero de 2026	10

2.1.4 Envío y Recepción

El sitio de construcción recibirá aproximadamente 150 toneladas de acero estructural para el sistema de bastidores, entregadas principalmente a través de plataformas planas y contenedores de 40 pies, 142 contenedores de 40 pies que contienen alrededor de 2268 palés de módulos solares, 15 contenedores con inversores, 5 contenedores con módulos de batería, un transformador de energía principal grande, un transformador auxiliar pequeño, aproximadamente cinco plataformas que transportan equipos de subestación y aproximadamente 250,000 pies de cables eléctricos. En caso de que el sitio del Proyecto no esté listo para recibir material, se utilizará una ubicación de almacenamiento en el almacén. En función de la cantidad prevista de empleados de construcción indicada anteriormente, el Solicitante estima que el tráfico diario de vehículos en el pico de construcción, cuando habría 120 empleados de construcción en el sitio, será de alrededor de 200 vehículos.

2.1.5 Gestión de Desechos

Durante la construcción, se estima que se generará un promedio de 40 yardas cúbicas de desechos calificados para vertederos, como materiales de embalaje para equipos o desechos comunes producidos por trabajadores de la construcción (p. ej., alimentos, bebidas y desechos generales de oficinas) en promedio por semana durante la fase de construcción general. La gestión estará a cargo de la compañía de construcción contratada según las regulaciones ambientales federales, estatales y locales aplicables. No se generarán residuos peligrosos.

2.2 Operación

La instalación tiene una obligación de ejecución de 25 años desde el inicio de la operación comercial, que actualmente se prevé que ocurra en septiembre de 2025. Si se acuerda mutuamente entre PREPA y el Solicitante, el acuerdo de contratación puede extenderse por 10 años adicionales. A medida que la vida útil de las instalaciones llegue a su fin, el Solicitante buscará un nuevo acuerdo de compra y reemplazará el equipo según sea necesario para continuar la operación o retirará el servicio de las instalaciones, y ofrecerá los equipos a otras compañías para fines de reventa o reciclaje. Se desarrollaría un plan de desmantelamiento antes de la retirada del servicio.

Cuando esté completamente operativo, el Proyecto tendrá aproximadamente dos trabajos de O&M de tiempo completo. Durante la vida del Proyecto, el personal de O&M seguirá un Plan de mantenimiento anual, que establecerá cronogramas detallados para realizar las tareas de Mantenimiento preventivo, como inspecciones visuales o reemplazos ad hoc de piezas. El equipo también realizará mantenimiento correctivo si se detectan fallas en el equipo mientras se monitorea la instalación. El equipo de O&M también supervisará los servicios adicionales de mantenimiento del sitio, como la limpieza del panel y el control de la vegetación.

2.2.1 Dotación de Personal de Operaciones

Se prevé que las operaciones regulares requerirán un equipo de 2 personas en el sitio con turnos de día entre semana y turnos de día de guardia de monitoreo remoto alternos los fines de semana.

Un enfoque principal del personal de O&M será monitorear continuamente el estado operativo, la salida, el rendimiento y el diagnóstico de la instalación desde la sala de control principal en el edificio de O&M con el sistema SCADA. El personal de O&M también realizará mantenimiento preventivo y correctivo fuera del edificio de O&M. Se establecerán procedimientos de O&M para definir actividades específicas de mantenimiento e inspección de rutina según las recomendaciones del fabricante. Algunos ejemplos de mantenimiento preventivo incluyen el reemplazo periódico de líquidos lubricantes, la verificación del desgaste de las piezas, el registro de los parámetros operativos y el control de la vegetación para permitir el acceso al equipo.

2.2.2 Envío y Recepción

En caso de falla del equipamiento que requiera sustitución, el equipo de O&M solicitará las piezas de reemplazo. Una vez que se emita la orden de compra al proveedor y se la cumpla, la entrega del equipo se realizará directamente al equipo de O&M en el sitio. Las carreteras de acceso al sitio planificadas son suficientes para gestionar estos requisitos poco frecuentes y generalmente pequeños.

2.2.3 Gestión de Desechos

Durante las operaciones, la instalación generará desechos sólidos no peligrosos generales asociados con el funcionamiento de rutina del edificio y el mantenimiento durante las operaciones. Todos los desechos generados en las instalaciones se recolectarán, categorizarán, desecharán y reciclarán de

acuerdo con todas las regulaciones ambientales federales, estatales y locales aplicables. Los materiales peligrosos en cantidades limitadas, como lubricantes, solventes, suministros de limpieza, pintura, desengrasantes, herbicidas, pesticidas, gasolina, pueden almacenarse en el sitio para actividades de O&M, pero dichos materiales generalmente se utilizarán y almacenarán en pequeñas cantidades.

3. CONSECUENCIAS AMBIENTALES

3.1 Introducción

En cada una de las siguientes secciones, se aborda un área de recursos específica con información cualitativa y, cuando corresponda, cuantitativa para describir concisamente la naturaleza y las características del recurso que puede verse afectado por el Proyecto propuesto, así como los posibles impactos directos e indirectos en dicho recurso dados los controles propuestos del Proyecto. Se proporciona una conclusión sobre la importancia de los impactos para cada área de recursos.

En la Sección 3.11 se proporciona una revisión de las acciones federales y no federales presentes y razonablemente previsibles que pueden contribuir a un impacto acumulativo cuando se agregan a los impactos de la Acción propuesta. Se revisaron los impactos de las acciones pasadas y se incluyen como parte del entorno afectado para establecer la condición actual del recurso (la condición de referencia) que puede verse afectada por la Acción propuesta.

3.2 Recursos Culturales

En marzo de 2013, se llevó a cabo un estudio arqueológico de fase 1A sobre la propiedad arrendada de aproximadamente 247 acres para el Proyecto (González Colón 2013a). El estudio, que consistió en una investigación documental y una inspección de campo, identificó un sitio histórico conocido como Hacienda Lucía dentro del área del proyecto. Hacienda Lucía, ubicada en el extremo sur de la propiedad arrendada a lo largo de la autopista estatal PR-901 (consulte la Imagen 1), está compuesta por las ruinas y los restos de maquinaria de un molino de azúcar del siglo XIX. Su importancia proviene de su representación de la historia de la caña de azúcar del área y de tener parte de su maquinaria original incluida en la lista oficial del Registro Histórico de Ingeniería Estadounidense. El estudio de fase 1A concluyó que el Proyecto no afectaría a la Hacienda Lucía, ya que se encuentra dentro de una zona de amortiguamiento y se delineó en un estudio de 2004 preparado para el proyecto de expansión de la autopista PR-53 (Pantel del Cueto & Associates 2004). La inspección de campo tampoco encontró presencia de materiales precolombinos.

El Programa de Arqueología y Etnohistoria del Instituto de Cultura Puertorriqueña (ICP) solicitó un estudio arqueológico de fase 1B que se llevó a cabo en septiembre de 2013 en la misma parcela (González Colón 2013b). El estudio consistió en una inspección de campo y 579 sondas de prueba de suelo, que confirmaron la ausencia de materiales culturales precolombinos o históricos. El estudio de fase 1B recomendó la instalación de una cerca alrededor de las ruinas de la Hacienda Lucía para protegerlas. Tanto el Programa de Arqueología y Etnohistoria como el Programa de Herencia Construida del ICP otorgaron autorización para continuar con el Proyecto en 2016, con la condición de que el trabajo deba detenerse si se descubren o afectan materiales de valor arqueológico, histórico o cultural durante la construcción.

Para confirmar los hallazgos de los estudios de 2013, se realizó un estudio arqueológico complementario de fase 1A en febrero de 2024 (Freytes Rodríguez 2024). Consistió en una búsqueda y revisión de registros de investigaciones de recursos culturales completadas previamente, una inspección a pie y con drones aéreos de la zona y un estudio de imágenes LiDAR. El estudio concluyó que el Proyecto no tendría ningún efecto adverso en los recursos culturales.

Además, desde los estudios de 2013, el Gobierno Municipal de Yabucoa ha construido un parque pasivo alrededor de las ruinas de la Hacienda Lucía, con cercas de cadena instaladas tanto alrededor de estas como alrededor del perímetro del parque de aproximadamente 2.5 acres. El gobierno municipal de Yabucoa mantiene y promociona el parque como una atracción turística. Debido al parque pasivo

existente y a las cercas, así como a la incorporación del diseño del Proyecto de un retroceso de 50 metros entre el panel solar más cercano y las ruinas, los impactos relacionados con el Proyecto en este sitio histórico no serían significativos.

El 13 de marzo de 2024, se envió una carta de consulta a la Oficina de Preservación Histórica del Estado de Puerto Rico para la consulta de la Sección 106, en la que se solicitaba el consentimiento con la revisión del DOE y se determinaba que la propiedad histórica de Hacienda Lucía no se vería afectada, dada la incorporación de medidas de evasión en el diseño del Proyecto. El 20 de marzo de 2024, la SHPO coincidió con el hallazgo del DOE de que ninguna propiedad histórica se vería afectada por el Proyecto (consulte el Appendix A).

En caso de que se descubran recursos culturales inesperados durante la construcción del Proyecto, las actividades cesarán en las inmediaciones del descubrimiento, y se notificará a ICP, SHPO y DOE dentro de un plazo de 24 horas para que se evalúe dicho descubrimiento e implementen las medidas adecuadas antes de reanudar las actividades de construcción. Debido a que la SHPO coincidió con la conclusión de que ninguna propiedad histórica se vería afectada y debido a los controles que se implementan en caso de un descubrimiento imprevisto de dichos materiales, el impacto del Proyecto en los recursos culturales no sería directa o indirectamente significativo.

3.3 Recursos Hídricos

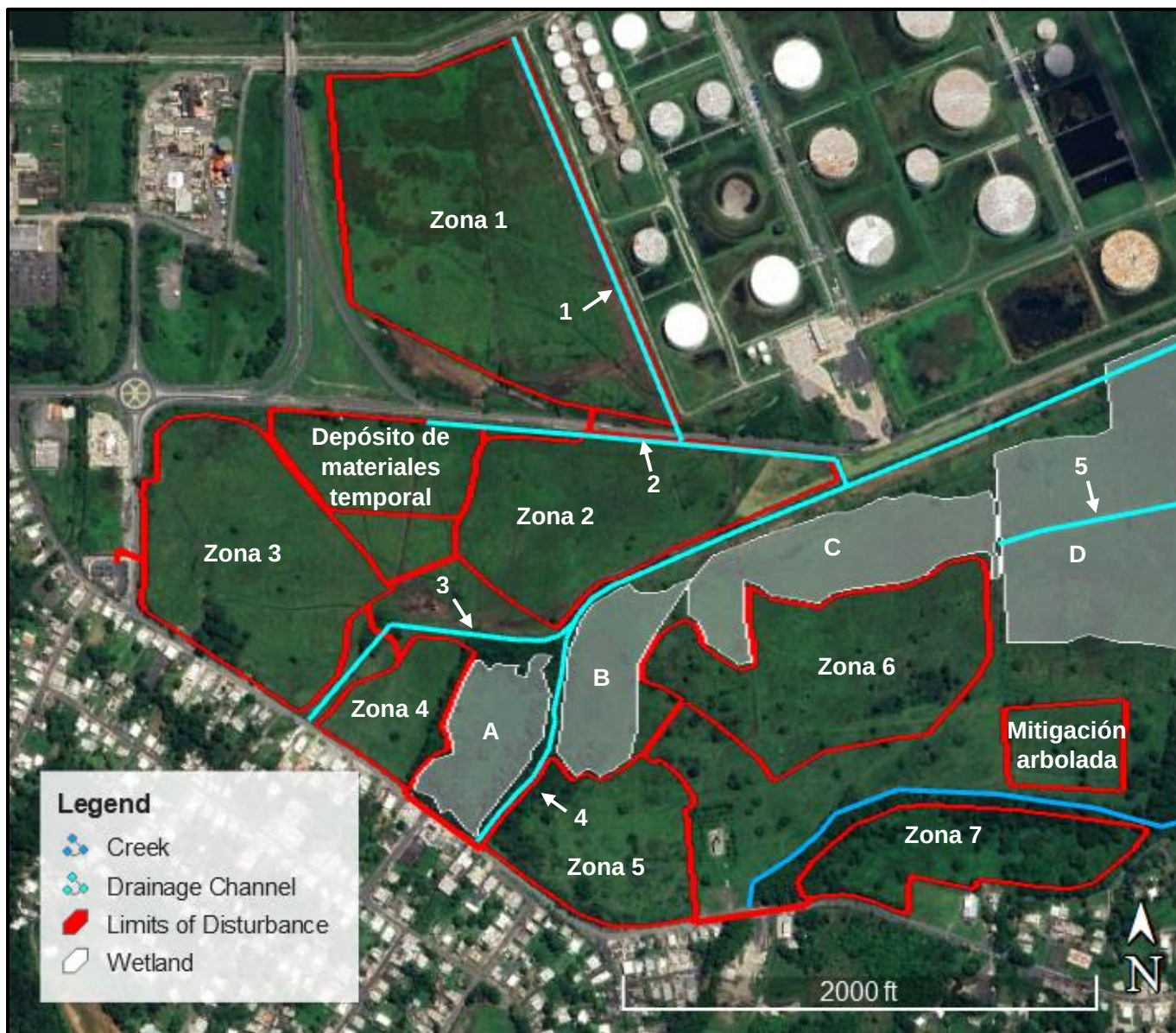
3.3.1 Humedales

Se llevó a cabo una Determinación Jurisdiccional y Delineación de Humedales en todo el sitio arrendado en 2014 que identificó cuatro humedales emergentes en el sitio del Proyecto (Reforesta, Inc. 2014; consulte la Imagen 3). El humedal A tiene una superficie de aproximadamente 5.13 acres y está principalmente encerrado por dos canales de drenaje que se unen cerca del centro del sitio del Proyecto y fluyen hacia el este en dirección a la costa. El humedal B tiene una superficie de aproximadamente 5.44 acres y está separado del humedal A por un canal de drenaje. El humedal C tiene una superficie de aproximadamente 9.3 acres. Los bordes norte de los humedales B y C están separados hacia el norte de un canal de drenaje por un montículo de tierra y roca. El humedal D tiene una superficie de aproximadamente 43.6 acres y se encuentra en su mayoría más allá de los límites más orientales del sitio del Proyecto. Los cuatro humedales están dominados por pastos, taro y colas de gato.

Después de la delineación, se rediseñó el proyecto para evitar completamente las actividades de construcción en los humedales. El 10 de julio de 2014, se envió una carta al USACE en la que se solicitaba el consentimiento del estudio y el nuevo diseño del proyecto (Cubiñá 2014). Nunca se recibió una respuesta del USACE; sin embargo, dado el estudio completado y el nuevo diseño del proyecto, la DRNA respaldó el Proyecto como parte del proceso de DEA del Proyecto, con la condición de que una zona de amortiguación de 5 metros en relación con los humedales se demarcara en el suelo. Además, como parte de una inspección del campo de flora y fauna realizada en febrero de 2024, el consultor ambiental del Proyecto descubrió que las condiciones de los humedales en la propiedad siguen siendo las mismas (Vélez Arocho 2024).

De conformidad con la carta de aprobación de la DRNA, el Solicitante demarcaría una zona de amortiguación de 5 metros medida desde los bordes de los humedales identificados antes de comenzar la construcción. Para minimizar los posibles impactos en los humedales durante la construcción, se instalarían vallas temporales contra la erosión a lo largo de la demarcación, y no se alteraría la vegetación entre el borde del humedal y la demarcación. El Solicitante ha desarrollado e implementaría un Plan de prevención de contaminación de aguas pluviales (SWPPP) y un Plan de control de erosión y sedimentos (Plan CES) para minimizar la erosión y sedimentación.

Imagen 3: Humedales y aguas superficiales dentro de la propiedad arrendada



Debido a que el Proyecto evita la construcción y colocación de rellenos o estructuras permanentes en los humedales, no se espera un impacto directo en estos. Debido a la zona de amortiguamiento, las vallas contra la erosión y los controles del SWPPP y el plan CES, los posibles impactos indirectos en los humedales como resultado del Proyecto no serían significativos.

3.3.2 Agua Superficial

El Proyecto se encuentra en la cuenca del este de Puerto Rico (HUC – 21010005). Se llevó a cabo un estudio hidrológico e hidráulico en el sitio del proyecto (García 2023). Según el estudio, hay un arroyo y cinco canales de drenaje existentes que drenan la propiedad y las tierras adyacentes hacia el este. Los canales de drenaje se etiquetan del 1 al 5 en la Imagen 3. El canal de drenaje 1 se encuentra entre la Zona 1 y las instalaciones del tanque de aceite y corre hacia el sudeste. Las alcantarillas a ambos lados de la autopista PR-9914 permiten que el agua discurra desde este canal hasta el canal de drenaje 2 en la carretera, que corre hacia el este a lo largo de la autopista PPR-9914. El canal de drenaje 3 se origina en un pequeño arroyo al sur del sitio del Proyecto. El canal de drenaje 4 drena el agua que fluye hacia el este desde la comunidad El Negro que se encuentra al sur del sitio del Proyecto. En ambos casos, las alcantarillas y los pequeños puentes que se encuentran en la autopista estatal PR-901 permiten que el agua fluya desde el sur del sitio a través de estos canales de drenaje. El canal de drenaje 5 atraviesa el humedal D y está más allá de los límites externos de las diversas áreas de alteración del Proyecto. Ninguno de estos canales de drenaje se menciona como afectado en la Sección 303(d) de la Ley de Agua Limpia.

Como se describe en la Sección 2, el Canal de drenaje 1 se reubicará a aproximadamente 30 pies hacia el este hasta el borde de la zona cercada. Esto requerirá aprobación como parte del permiso de construcción (PUI) del Proyecto. Además, habrá dos cruces de cables eléctricos con perforación direccional que requerirán la aprobación del USACE: un cruce debajo del Canal de drenaje 3 y otro debajo del arroyo. Si las aprobaciones para perforaciones se retrasan o rechazan, los cruces se rediseñarán como cruces aéreos.

Para minimizar los impactos indirectos en el agua superficial, y según lo requiera el respaldo del proyecto por parte de la DRNA, se mantendrá un amortiguador de 5 metros desde el borde del arroyo y desde los Canales de drenaje 3, 4 y 5. El Solicitante también monitoreará y mantendrá regularmente los canales de drenaje, además de eliminar la vegetación o los residuos artificiales que puedan caer en los canales de drenaje, a fin de promover un drenaje positivo en el sitio. No se alteraría la vegetación ribereña. Además, el Solicitante desarrollaría e implementaría un plan SWPPP y CES para minimizar la erosión y sedimentación, y se utilizarían vallas contra la erosión durante la construcción para evitar que los sedimentos ingresen a los canales de drenaje o al arroyo.

El Proyecto también ha sido diseñado para minimizar el aumento de las áreas superficiales impermeables. Los inversores y BESS se construirían sobre muelles de concreto en lugar de sobre cimientos de concreto. El césped se mantendría en la mayor parte de la huella del sitio del Proyecto, incluso debajo de los paneles solares, y las carreteras de acceso se construirán con grava en lugar de asfalto. Los componentes del proyecto que requerirían cimientos de concreto son el edificio de O&M, dos transformadores auxiliares y el transformador de energía principal en la subestación del proyecto. Estas construcciones combinadas representarían un aumento de aproximadamente 0.5 acres en las áreas superficiales impermeables, lo cual no sería significativo.

3.3.2.1 Uso del Agua

Hay tuberías de agua potable presentes a lo largo de la autopista estatal PR-901, que limita con la parte oeste y sudoeste del sitio del proyecto. Por lo tanto, el Proyecto obtendría su agua del sistema PRASA, que tiene la capacidad adecuada para satisfacer las necesidades anticipadas del Proyecto.

El uso de agua durante la construcción incluiría aplicaciones de agua para compactación, control de polvo y creación de concreto en el sitio si no se puede obtener el abastecimiento de un proveedor de concreto en el área de Yabucoa. La mayor parte del agua se utilizaría para controlar el polvo. La cantidad de agua aplicada diariamente al sitio del Proyecto sería variable y dependería de las temperaturas climáticas diarias, la humedad, las velocidades del viento y los niveles de precipitación local. Durante la fase de construcción de 9 meses, el uso total estimado del agua de construcción para el Proyecto es de 900,000 galones.

Una vez que el Proyecto esté operativo, el uso del agua disminuiría sustancialmente. El requisito principal de agua para el personal de trabajo ocurriría en el edificio de O&M y se limita a baños, lavabos/estaciones de lavado de manos y mangueras internas/externas. Se emplearían hasta dos empleados de tiempo completo en el Proyecto, y el uso operativo del agua sería de aproximadamente 5000 galones mensuales, lo que se alinea con el uso observado del agua en dos instalaciones operativas similares propiedad indirecta de Infinigen, la compañía matriz del Solicitante. Cualquier agua usada en el edificio de O&M se descargará en un tanque séptico en el sitio que será limpiado según sea necesario por un proveedor de servicio local.

Los módulos solares deben mantenerse libres de suciedad y residuos, ya que pueden afectar el rendimiento de la planta fotovoltaica. Las actividades de operación y gestión subcontratarían el lavado de los paneles solares, utilizando agua limpia. En otras plantas propiedad de Infinigen y operadas por esta, el uso promedio de agua es de 0.29 galones por limpieza. El Proyecto contiene 78,180 paneles; por lo tanto, el uso estimado de agua para la limpieza de paneles solares es de 22,672 galones, y esto tendría lugar aproximadamente cada 3 años.

Dado que la construcción y operación del Proyecto no exigiría un uso intensivo de agua y que se llevó a cabo un Estudio Hidráulico e Hidrológico, y debido a que los impactos indirectos en las aguas superficiales se minimizarían a través del diseño del Proyecto, la implementación de zonas de amortiguación, el uso de vallas contra la erosión y el seguimiento de un Plan SWPPP y CES, el Proyecto no tendría impactos significativos en el agua superficial.

3.3.3 Planicies Aluviales

Según el panel 72000C1815J del Mapa de tarifas de seguro contra inundaciones de FEMA y los Mapas de Niveles de Inundación Base Recomendados de Puerto Rico (mapas ABFE), el sitio del proyecto incluye áreas de riesgo de inundaciones designadas por FEMA (FEMA 2009 y PRPB 2018). Más de la mitad del sitio del Proyecto se mapea como Zona AE (planicie aluvial de 100 años, un área con una probabilidad anual del 1 por ciento de inundaciones), con elevaciones de inundaciones base predeterminadas entre 5.0 y 5.1 metros, o Zona X sombreada (entre los límites de las inundaciones de 100 años y 500 años, un área de riesgos de inundación menores a moderados); consulte la Imagen 4. De los 115 acres que serán alterados por el Proyecto, aproximadamente 73 acres se encuentran en el área de peligro de inundación de 100 años. La Reglamentación número 13 de la Junta de Planificación de Puerto Rico (Reglamentación sobre áreas especiales de riesgo de inundación) permite el desarrollo en dichas áreas (PRPB 2021).

La construcción del proyecto requerirá corte y llenado en todo el sitio. De las áreas ubicadas en la planicie aluvial, la Zona 1 tendrá un relleno neto de aproximadamente 40,157 yardas cúbicas, la Zona 2 tendrá un relleno neto de aproximadamente 4,300 yardas cúbicas, la Zona 6 tendrá un corte neto de aproximadamente 2,927 yardas cúbicas y la Zona 7 tendrá un corte neto de aproximadamente 9,077 yardas cúbicas. No habría una calificación en el área de depósito de materiales temporal ni en el área de mitigación de árboles. Para compensar la pérdida de capacidad de la planicie aluvial, se construirían estanques de mitigación de la planicie aluvial (consulte la Imagen 4), diseñados para mejorar la hidrología natural del área y promover el flujo de agua superficial hacia los canales de drenaje

Imagen 4: Zonas de inundación en el sitio del proyecto



existentes. Además, el Solicitante ha contratado a Kimley-Horn para que realice un análisis de los impactos en las planicies aluviales al finalizar la construcción para actualizar el Estudio Hidrológico e Hidráulico ya realizado y para validar que el impacto en las planicies aluviales se haya mitigado. Se proporcionará un memorando de los resultados a la LPO.

De conformidad con el Título 10 del CFR, Sección 1022, Cumplimiento de los requisitos de revisión de planicies aluviales y humedales, y la Orden Ejecutiva 11988, Gestión de planicies aluviales, esta EA proporciona una declaración de los hallazgos, según se requiere en la Sección 1022.14. El Proyecto ocurriría en 73 acres de planicies aluviales. En el Capítulo 2 de esta EA se proporciona una descripción del Proyecto e información sobre la ubicación de este, junto con las alternativas que el DOE está considerando al decidir si financia la garantía del préstamo. La acción cumple con todos los estándares de protección de planicies aluviales aplicables, según lo requerido por las autoridades de permisos en Puerto Rico. El Proyecto modificaría las elevaciones; sin embargo, esto se compensaría a través de estanques de mitigación de planicies aluviales. Además, el Proyecto mantendría la permeabilidad de los suelos al conservar el césped y la vegetación debajo y alrededor de los paneles solares y construyendo sus caminos de acceso mínimo de grava; por lo tanto, se espera una infiltración continua de precipitaciones e inundaciones en los suelos, sin cambios en los patrones de escorrentía. Los paneles fotovoltaicos se instalarían por encima de las elevaciones de la base aluvial de 100 años, en cumplimiento con las disposiciones aplicables de la Reglamentación número 13 de la Junta de Planificación de Puerto Rico (PRPB 2021). Por último, la LPO revisaría los estudios de validación proporcionados por el Solicitante después de la construcción para verificar que no haya impacto en las planicies aluviales. Debido a consideraciones de diseño y revisiones de permisos, no se esperan impactos significativos relacionados con los niveles de inundación o las planicies aluviales como resultado del Proyecto.

3.4 Ruido

Las regulaciones estatales para el control de la contaminación acústica exigen que las fuentes de emisión de ruido cumplan con los límites regulatorios, según lo publicado por la Junta de Calidad Ambiental de Puerto Rico (PREQB) y regulado por DRNA (PREQB 2011). Estos límites se muestran en la Tabla 3.

Tabla 3: Límites de emisión de ruido (dBA) por zonas receptoras

Fuente de emisión	Zonas receptoras							
	Zona I (residencial)		Zona II (comercial)		Zona III (industrial)		Zona IV (zona tranquila)	
	D	N	D	N	D	N	D	N
Zona I (residencial)	60	50	65	55	70	60	55	50
Zona II (comercial)	65	50	70	60	75	65	55	50
Zona III (industrial)	65	50	70	65	75	75	55	50
Zona IV (zona tranquila)	65	50	70	65	75	75	55	50

Notas: dBA = Decibeles ponderados en A; D = período diurno; N = período nocturno

El sitio del proyecto está zonificado para usos agrícolas, lo que convierte a la Zona III (industrial), la fuente de emisiones utilizada para la evaluación. Las áreas circundantes son agrícolas y comerciales hacia el oeste y el norte, industriales (una terminal petrolera) hacia el norte y el este, y residenciales hacia el sur. Las fuentes de ruido existentes cerca del Proyecto incluyen tráfico vehicular diario en las

autopistas circundantes, incluidos camiones que transportan materiales hacia y desde la terminal petrolera, la operación de maquinaria agrícola y aeronaves en las alturas.

El Proyecto generaría ruido temporal durante la construcción a partir del uso de maquinaria pesada, como topadoras, niveladoras, excavadoras, camiones volquete y camiones de cemento, junto con el uso de herramientas más pequeñas como martillos elevadores y pistolas de clavos. Los niveles de ruido y sonido serían típicos de las actividades de construcción nueva, y serían intermitentes y temporales. Además, el ruido producido por equipos específicos variaría considerablemente durante las diferentes fases y ciclos de trabajo. En la Tabla 4 se muestran los niveles de emisión de ruido en decibeles ponderados en A para equipos de construcción comunes que pueden utilizarse en el sitio del Proyecto, medidos a una distancia de 50 pies.

Tabla 4: Niveles de emisión de ruido (dBA) para equipos de construcción a 50 pies

Equipo	Niveles de ruido
Raspador	89-95
Bulldozer	77-87
Bulldozer, oruga	90-93
Cargador de ruedas	80-81
Cargador ("terex")	96
Excavadora	79-85
Camión de bomba de concreto	91
Camión de 14 ruedas	88
Compresor	71-97
Taladro para rocas (manual, neumático)	88
Taladro (oruga)	91
Tanque de la bomba de agua	79
Generador	76
Nivelador	87-89
Nivelador de motor	71-87
Grúa	80-85
Excavadora Gradall	87-88
Bomba de concreto	69-75

La Imagen 5 muestra las zonas receptoras más cercanas al sitio del Proyecto, las cuales serían las aproximadamente cuarenta casas y negocios localizados a lo largo de la autopista PR-901, y frente a las Zonas 3, 4, y 5, y un grupo de aproximadamente 12 casas y negocios al sur de la Zona 7. Las casas y negocios a lo largo de la autopista PR-901 se encuentren en general a 65 pies de distancia de los límites del Proyecto. Los que están debajo de la Zona 7 están entre 30 y 200 pies de distancia de los límites del Proyecto. Es posible que, durante la construcción, los niveles de emisiones de ruido excedan el límite PREQB de 65 dBA durante las horas de luz del día por una fuente de emisiones de la Zona III (Industrial) a una zona receptora de la Zona I (Residencial) a 50 pies de distancia. Sin embargo, dichos ruidos serían temporales y probablemente no serían de naturaleza continua. En caso de que las emisiones de ruido superen este límite reglamentario, una parte afectada podría presentar una queja ante el DRNA, que enviaría a un representante para medir los niveles de ruido. El Solicitante implementaría medidas de mitigación de ruido, según lo requerido por el DRNA. En general, el Proyecto manejaría el ruido con las mejores prácticas de gestión y limitando las actividades de construcción a las horas de trabajo diurnas, entre aproximadamente las 7:00 a. m. y las 6:00 p. m.

Imagen 5: Residencias y negocios más cercanas al lugar



Con respecto a los impactos en los empleados que trabajan en el sitio, todas las actividades de construcción se llevarían a cabo según las pautas de la Administración de Seguridad y Salud Ocupacional (OSHA) de EE. UU., que abordan el ruido y la conservación de la audición en estándares específicos para la industria de la construcción. Si los trabajadores de la construcción u otros contratistas o empleados tienen el potencial de estar expuestos a ruidos que exceden las normas de la OSHA, se les proporcionaría equipo de protección personal según las regulaciones.

En general, el funcionamiento de una instalación estacionaria no aumentaría los niveles de ruido ambiental existentes. La mayor fuente de ruido durante la operación del Proyecto sería la subestación del Proyecto, que según la Asociación Nacional de Fabricantes Eléctricos, genera niveles de sonido de 71 dBA cuando se mide a 5 pies. Con la residencia más cercana a aproximadamente 150 pies de distancia de la subestación del Proyecto, se espera que esté dentro de los límites del PREQB.

Debido a las fuentes de ruido temporales e intermitentes, así como a los controles que se implementarían durante la construcción y al mínimo ruido producido durante la operación, los impactos de ruido del Proyecto no serían significativos.

3.5 Transporte

El sitio del proyecto está ubicado en la intersección de las autopistas PR-53 y PR-9914. La autopista PR-53 abarca múltiples municipios y es la principal ruta de acceso desde la parte este de la isla hasta el municipio de Yabucoa. También es la autopista principal que se toma si viaja a Yabucoa desde las áreas metropolitanas de San Juan o Caguas, Puerto Rico. La autopista PR-901 comienza en el centro de la ciudad de Yabucoa antes de llegar a la intersección, luego continúa hacia el sur hasta llegar a las autopistas PR-3 y PR-53, que corren a lo largo de la costa sur de la isla. La autopista PR-9914 comienza en esta intersección y solo corre hacia el este durante un poco más de una milla hasta llegar a la costa. Las autopistas estatales PR-53 y PR-901 serían las principales rutas de acceso al sitio del Proyecto durante la construcción y la operación, y ya experimentan un flujo de tráfico frecuente y constante desde otras partes de la isla. Se estima que el tráfico diario promedio anual estimado en la intersección de las autopistas estatales PR-53 y PR-9914 es de aproximadamente 19,300 vehículos (PR.Data 2024).

3.5.1.1 Construcción

Durante la fase de construcción estimada de 12 meses, habría un aumento leve y temporal en la cantidad de vehículos que viajan en las autopistas PR-53 y PR-901. En el momento más activo de la etapa de construcción, se estima que los viajes diarios en vehículos ligeros de pasajeros serán de aproximadamente 200, distribuidos durante 10 horas debido a la entrada y salida de los aproximadamente 120 empleados de la construcción. El aumento en el flujo vehicular durante la etapa de construcción no sería un notable en relación con los volúmenes vehiculares ya experimentados en las autopistas PR-53 y PR-901 diariamente. Además, durante el momento más activo de la fase de construcción, se estima que habrá 30 viajes de vehículos pesados no permitidos en un día entregando equipos. Se colocarían carteles para alertar a los conductores sobre la actividad de construcción y sobre la entrada y salida de vehículos de construcción. Los vehículos de construcción que entregan equipos ingresarían principalmente al sitio del Proyecto en la entrada temporal al área de depósito de materiales temporal, ubicada junto a la autopista PR-9914. Se prevé que la mayoría de estos vehículos viajen hacia el sur por la autopista PR-53, tomen la rotonda en la intersección con la autopista PR-9914 y luego continúen hacia el este durante 0.5 millas para llegar a esta entrada temporal.

3.5.1.2 Operación

Durante la operación, los dos empleados en el edificio de O&M accederían al Proyecto a través de una entrada cerca de dicho edificio, a un pequeño estacionamiento pavimentado en el borde de la autopista

PR-901. Se estima que se generarán cinco viajes diarios durante su operación. Este cálculo se realizó en función de los dos empleados de tiempo completo que trabajarían diariamente en las instalaciones y posibles proveedores de servicios.

En lo que respecta al interior del sitio del proyecto, se construirían carreteras sin pavimentar para proporcionar acceso al equipo fotovoltaico y del inversor. Habrá siete entradas a estas carreteras de acceso, ubicadas a la salida de las autopistas PR-9914 y PR-901 (consulte la Imagen 2). Dichas entradas solo serán utilizadas por los dos empleados de O&M o contratistas externos durante la realización de funciones de mantenimiento. Los impactos a largo plazo no serían importantes porque las operaciones y el mantenimiento del proyecto no generarían un aumento significativo en el tráfico en el área.

Debido a que las principales carreteras de acceso ya experimentan tráfico abundante, y debido a las medidas que se implementarán durante la construcción, los impactos que podría generar el tráfico del Proyecto no serían significativos.

3.6 Recursos Estéticos y Visuales

El Proyecto está rodeado de áreas agrícolas y comerciales hacia el oeste y el norte, una terminal petrolera y una refinería hacia el norte y el este, y un área residencial hacia el sur.

Se realizó un estudio para analizar el impacto visual general del proyecto propuesto (Kimley Horn 2023). El estudio descubrió que los residentes de la comunidad El Negro ubicada al sur del sitio del Proyecto podrían ser los residentes de la región que tendrían la visión más directa del Proyecto propuesto. Aunque la mayoría de estos residentes tendrían una visión de la granja solar, la carga visual más grande seguiría siendo la del sitio de refinación de petróleo existente, que proyecta un área de efecto visual (AVE) más grande que cualquier otra estructura o proyecto existente hecho por el hombre en la región. Los 40 tanques de petróleo, que varían en tamaño desde radios de 15 a 75 pies y aproximadamente 30 pies de altura, son actualmente visibles desde todos los puntos de visión afectados del Proyecto (desde carreteras y residencias). Además, el Proyecto ha sido diseñado con un amortiguador de 10 metros desde las carreteras públicas hasta los paneles solares, lo que proporciona suficiente distancia para reducir el impacto visual de la granja solar.

El estudio concluyó que no es necesaria mitigación ni mejoras visuales para el proyecto propuesto, ya que sería mínimamente invasivo visualmente cuando se contrasta con el sitio de refinación de petróleo existente, mucho más grande y más prominente.

Debido a la incorporación de los amortiguadores de 10 metros de las carreteras públicas y debido a la presencia de autopistas estatales con alto tránsito y de una refinería de petróleo más visualmente significativa, los impactos en los recursos estéticos y visuales como resultado de la ubicación del Proyecto no serían significativos.

3.7 Recursos Biológicos

3.7.1 Vegetación y Vida Silvestre

El sitio del proyecto está rodeado de autopistas estatales, una terminal petrolera y tanques de almacenamiento, tierras agrícolas y un vecindario residencial al sur. Históricamente, el sitio del Proyecto se utilizaba para actividades agrícolas. Aunque no se ha producido actividad agrícola formal en el sitio del Proyecto durante al menos los últimos 20 años, desde entonces el ganado y los caballos han pastado libremente en el sitio, comiendo los pastos existentes y limpiando la mayoría de las plantas que crecen debajo del dosel arbóreo. Por lo tanto, actualmente el sitio está compuesto principalmente por pastizales

y pastos pesados. Las áreas vegetativas más densas (arbustos y áreas de árboles) suman aproximadamente 15 acres de las áreas de alteración del Proyecto.

Se llevó a cabo un estudio de flora y fauna en toda la propiedad arrendada de 247 acres y se presentó al DRNA en 2012 como parte del proceso de DEA del Proyecto (Ruiz Lebrón, 2012). La vegetación identificada en el estudio incluyó árboles, palmas, arbustos, vides y pastos que están asociados con entornos tropicales y son típicos de áreas alteradas por actividades agrícolas. Entre los ejemplos de especies de pasto se incluyen pasto común de las Bermudas (*Cynodon dactylon*) y bambú común (*Bambusa vulgaris*), entre las especies de arbustos se incluyen Verbena (*Stachytarpheta jamaicensis*) y flor de chaff (*Achyranthes indica*), y entre las especies de árboles se incluyen Capulín (*Muntingia calabura*) y Palo blanco (*Casearia guianensis*), entre muchos otros. Todas las especies animales observadas fueron comunes y se distribuyen ampliamente en Puerto Rico. Entre los ejemplos de especies de aves se incluyen la garza blanca (*Ardea alba*) y el carpintero puertorriqueño (*Melanerpes portoricensis*), entre las especies de anfibios se incluyen el coquí común (*Eleutherodactylus coqui*) y la rana toro (*Rana catesbeiana*), entre las especies de reptiles se incluyen el gecko (*Sphaerodactylus sp.*) y la iguana verde (*Iguana iguana*), entre las especies de mamíferos se incluyen el meloncillo chico (*Herpestes auropunctatus*) y la rata (*Rattus sp.*), y entre las especies de peces se incluyen la tilapia (*Tilapia sp.*) y el guppy (*Poecilia sp.*), entre muchos otros. No se observaron especies amenazadas o en peligro de extinción en la propiedad o en las cercanías (consulte la siguiente sección para obtener información adicional sobre especies amenazadas y en peligro de extinción).

En febrero de 2024, se realizó una inspección de campo de flora y fauna de la propiedad, que confirmó que las condiciones ambientales en el sitio del Proyecto no habían cambiado desde el estudio de 2012. Se llegó a la conclusión de que la propiedad continúa compuesta principalmente por pastizales y pastos pesados y que todas las especies observadas (vida silvestre, asociaciones vegetales y aves) se encuentran comúnmente en el bosque costero húmedo oriental en Puerto Rico y no se enumeran como amenazadas o en peligro de extinción (Vélez Arocho 2024).

Durante la construcción, los posibles impactos directos en la vida silvestre podrían incluir lesiones o la muerte causadas por el contacto con el equipo de construcción y alteraciones causadas por el ruido del equipo. Sin embargo, esto sería a corto plazo y concluiría con las actividades de construcción. Durante las operaciones, se espera que el ruido y la actividad vehicular en todo el sitio del Proyecto sean mínimos.

El despeje del sitio eliminaría aproximadamente 15 acres de la vegetación más densa; esta actividad podría desplazar la vida silvestre a hábitats cercanos. Sin embargo, el Solicitante ha preparado un inventario de árboles y un plan de mitigación de árboles, que son necesarios para que el Proyecto reciba un permiso de corte de árboles (parte del permiso de PUI que se obtendrá de OGPé). Durante la construcción, se eliminarán 1,544 árboles; para mitigarlo, el solicitante plantará 4,670 árboles, todas especies nativas recomendadas para el área de Yabucoa. Los árboles se plantarán durante un período de seis meses a partir del inicio de la construcción, en un área de 5.5 acres entre las Zonas 6 y 7 (consulte la Imagen 1). La plantación de especies de árboles nativos dentro de las tierras y cuencas existentes protegería los recursos hídricos y proporcionaría un hábitat alternativo para la vida silvestre que puede ser desplazada de las áreas de la propiedad que serán alteradas por el Proyecto.

Debido al plan de mitigación de árboles, y debido a los usos históricos y actuales del sitio del Proyecto para actividades agrícolas y de pastoreo que dan como resultado un bajo potencial para el uso de vida silvestre, los impactos en la vegetación y la vida silvestre en general como resultado del Proyecto no serían significativos.

3.7.2 Especies Amenazadas o en Peligro de Extinción

Para identificar la posible existencia de especies vulnerables, amenazadas o en peligro de extinción en el Sitio del Proyecto, se consultaron las siguientes fuentes de información del Gobierno de Puerto Rico y los Estados Unidos:

- el Mapa del Índice de Sensibilidad Ambiental para PR-54, publicado por la Administración Nacional Oceánica Atmosférica (NOAA) (NOAA 2000)
- Regulación para gobernar especies vulnerables y en peligro de extinción en la Mancomunidad de Puerto Rico, publicada por el DRNA (DRNA 2016)
- Áreas críticas de vida silvestre de Puerto Rico Puerto Rico (DRNA 2005)
- La herramienta IPaC del Servicio de Pesca y Vida Silvestre de EE. UU. (USFWS 2024)

El Mapa del Índice de Sensibilidad Ambiental PR-54 identificó una población de pato gargantilla (*Anas bahamensis*), que se clasifica en Puerto Rico como una especie vulnerable, ubicada aproximadamente a 1,600 metros al noroeste del sitio del Proyecto. Esta especie no se observó en el sitio del Proyecto durante el estudio de flora y fauna de 2012 ni en la inspección de campo de 2024 realizada por Diatom Environmental Services (Diatom). Sin embargo, dada la importancia de la especie, la información sobre esta se difundirá al personal durante la fase de construcción para informarles sobre la necesidad de protegerla.

La herramienta IPaC de USFWS enumeró las siguientes especies amenazadas o en peligro de extinción a nivel federal como posiblemente afectadas por las actividades en el sitio del Proyecto: el manatí antillano (*Trichechus manatus*) y la boa de Puerto Rico (*Chilabothrus inornatus*). Debido a los resultados de la base de datos de IPaC, la inspección de campo de Diatom en 2024 incluyó un muestreo de reptiles para buscar la presencia de la boa de Puerto Rico. No se identificaron individuos de esta especie ni hábitats adecuados para dicha especie en el sitio del Proyecto.

El DOE tomó una determinación de Sin efecto para el manatí antillano porque no hay cuerpos de agua en el sitio del Proyecto capaces de albergar manatíes ni proyectar efectos indirectos que pudieran afectar a las especies. El DOE también determinó que cumplir con los términos y condiciones de la Evaluación Biológica Programática (PBO) para la boa de Puerto Rico es lo mejor para la conservación de especies. En virtud de la PBO, el DOE debe tomar la determinación de que el proyecto puede afectar, con probabilidad de afectar negativamente (MLAA) a la boa de Puerto Rico. El PBO contiene una declaración de toma incidental (ITS) para esta especie para agencias federales que consultan en virtud del PBO. El 20 de marzo de 2024, el DOE inició una consulta con el USFWS en virtud de la Sección 7 de la Ley de Especies en Peligro de Extinción solicitando la conformidad con la determinación de MLAA del DOE. El 3 de mayo de 2024, el USFWS estuvo de acuerdo con los hallazgos del DOE y el uso del PBO para conservar la boa de Puerto Rico. Durante la construcción, el Solicitante tomaría las medidas no discrecionales razonables y prudentes, seguiría los términos y condiciones, los requisitos de monitoreo e informes y las medidas de conservación incluidas en el PBO.

Dadas las condiciones alteradas del sitio del Proyecto, y debido a la consulta con el USFWS (con concurrencias asociadas) y los requisitos para cumplir con los requisitos en el PBO para la boa de Puerto Rico, los impactos en las especies amenazadas y en peligro de extinción como resultado del Proyecto no serían significativos.

3.8 Socioeconomía y Justicia Ambiental

3.8.1 Socioeconomía

El sitio del Proyecto está ubicado en el municipio de Yabucoa, Puerto Rico, aproximadamente a 2.0 millas al este de la ciudad de Yabucoa. El sitio está rodeado de campos agrícolas al norte, una terminal petrolera y tanques de almacenamiento de petróleo al norte y al este, Playa Lucía al este y la comunidad residencial El Negro al sur y al oeste. El hospital más cercano está ubicado aproximadamente a 2.0 millas al oeste del sitio del Proyecto, y la escuela más cercana está aproximadamente a 0.3 millas al sur.

Según la Encuesta de la Comunidad Estadounidense de 2022, el municipio de Yabucoa tiene una población de 30,313 que es un 99.8 por ciento hispana o latina. La mediana de edad es de 46 años. El ingreso familiar medio es de \$19,972, que es menor que la mediana de \$24,002 para Puerto Rico en su conjunto. La tasa de pobreza para el municipio se estima en el 49.7 por ciento, y la tasa de desempleo para la población de 16 años o más se estima en el 11.1 por ciento. Aproximadamente el 74.8 por ciento de la población de 25 años o más es graduado de la escuela secundaria o tiene un nivel más alto de logro educativo (Oficina del Censo de EE. UU. 2022).

Durante la construcción del Proyecto, que se espera que dure aproximadamente 15 meses (sin incluir la puesta en servicio), la cantidad de trabajadores en el sitio por día oscilará entre 30 y hasta 120. La cantidad total de trabajos temporales generados durante la construcción sería de aproximadamente 120. En función de los trabajadores que serán necesarios para la construcción y la disponibilidad de un grupo de mano de obra local, se esperan impactos socioeconómicos beneficiosos a partir del aumento de las oportunidades de empleo y capacitación. La construcción del Proyecto será completada por Lord Renewable Energy Systems (Lord RES), que se compromete a reclutar mano de obra de construcción para el Proyecto dentro del municipio de Yabucoa y los municipios adyacentes. Lord RES tiene una división interna de capacitación y educación que le permitirá contratar trabajadores locales, y prepararlos con las habilidades técnicas necesarias para la construcción. Aumentar las habilidades técnicas de los trabajadores locales los preparará mejor para futuras oportunidades de empleo, incluida la posibilidad de trabajar en otros proyectos de construcción de energía renovable que se espera que tengan lugar a corto plazo en todo Puerto Rico a medida que la isla avanza hacia su objetivo de lograr una generación de energía 100 por ciento renovable para el año 2050.

Dado el tamaño relativamente pequeño de Puerto Rico, se espera que muchos trabajadores de la construcción no locales se trasladen hacia y desde el sitio desde sus hogares; por lo tanto, no se esperan impactos adversos significativos en la demanda de vivienda, escolaridad o servicios residenciales.

Además de reforzar la economía local a través del empleo, se esperan impactos socioeconómicos beneficiosos a partir del aumento de la generación de ingresos fiscales y el gasto en la economía local por la afluencia de trabajadores de la construcción.

Para la operación del Proyecto, se espera que se necesiten dos empleados de tiempo completo para manejar las operaciones y actividades de mantenimiento de la instalación. El Solicitante se compromete a contratar para estos dos roles a personas locales y, si es posible, de entre aquellos trabajadores que serán empleados para la construcción de la instalación, ya que habrán adquirido valiosas habilidades técnicas y experiencia aplicables a los roles.

Se espera que el Proyecto genere beneficios socioeconómicos al proporcionar una fuente de energía renovable a la red de transmisión de PREPA que contribuiría al desarrollo de un servicio eléctrico más estable y asequible, al generar trabajos de construcción, al reforzar la economía local durante la construcción y al generar dos trabajos de tiempo completo para la operación de la planta. Por lo tanto, no

se esperan impactos socioeconómicos adversos significativos de la construcción y operación del Proyecto.

3.8.2 Justicia Ambiental

La revisión de la LPO de los problemas de EJ se centra en el Decreto Ejecutivo 12898, “Acciones federales para abordar la justicia ambiental en poblaciones minoritarias y poblaciones de bajos ingresos”, el índice de riesgo de cáncer y riesgo respiratorio de la Evaluación de Tóxicos del Aire a Escala Nacional (NATA) según se define en la herramienta de detección de EJ de la EPA, y en cualquier centro de población específico del sitio (p. ej., escuelas, guarderías) cerca del sitio del Proyecto.

La Orden Ejecutiva 12898 ordena a las agencias federales abordar las condiciones ambientales y de salud humana en las comunidades minoritarias y de bajos ingresos. La evaluación de la EJ depende de determinar si los impactos altos y adversos del Proyecto afectarían de manera desproporcionada a las poblaciones minoritarias o de bajos ingresos en la comunidad afectada.

De acuerdo con las pautas de EJ de la EPA, las poblaciones minoritarias deben identificarse cuando 1) la población minoritaria del área afectada excede el 50 por ciento o 2) el porcentaje de población minoritaria del área afectada es significativamente mayor que el porcentaje de población minoritaria en la población general u otra unidad apropiada de análisis geográfico.

El informe EJScreen de la EPA para el área donde se ubicará el Proyecto cubre el grupo de bloques del censo 721519513001, un área de 7.3 millas cuadradas con una población de 1,139. Los indicadores seleccionados del informe se incluyen en la Tabla 5.

Tabla 5: Indicadores seleccionados del informe EJScreen de la EPA para el bloque del censo del proyecto

	Valor	Promedio de Puerto Rico	Percentil en Puerto Rico	Promedio de EE. UU.	Percentil en EE. UU.
Contaminación y fuentes					
Riesgo de cáncer de NATA* (riesgo de por vida por millón)	10	20	0	25	1
Índice de riesgo respiratorio de NATA*	0.1	0.19	0	0.31	1
Indicadores socioeconómicos					
Población de personas de color	100 %	96 %	31	39 %	98
Población de bajos ingresos	65 %	70 %	31	31 %	91
Tasa de desempleo	14 %	15 %	55	6 %	90

Notas: Variables seleccionadas – Grupo de bloques 721519513001, Puerto Rico. Población aproximada: 1,139. Consultado el 24 de marzo de 2024.

** Puede encontrar más información sobre la NATA en: <https://www.epa.gov/national-air-toxics-assessment>*

El grupo de bloques de censo donde se encuentra el Proyecto tiene una población que es 100 por ciento de personas de color y 65 por ciento de bajos ingresos. Según los datos de la Encuesta de la Comunidad Estadounidense para todo el municipio de Yabucoa en 2022, la población de 30,313 es del 99.8 por ciento hispana o latina y el 49.7 por ciento está por debajo de la línea de pobreza. Por lo tanto, según las pautas de la Agencia de Protección Ambiental (EPA) de EE. UU. para la Justicia Ambiental (EJ), la comunidad que rodea el sitio del Proyecto es tanto una población minoritaria como una comunidad de bajos ingresos.

Para el Índice de riesgo de cáncer y el Índice de riesgo respiratorio de la NATA (riesgo de por vida por millón), el Proyecto se encuentra en un área que se encuentra en el 1.^{er} percentil en EE. UU., lo que significa que esta población se encuentra entre el riesgo de exposición más bajo en EE. UU. a tóxicos del aire.

Sin embargo, la mayoría de las emisiones relacionadas con el Proyecto serían temporales, ocurrirían durante la construcción y estarían dentro de los niveles de los criterios de contaminantes y contaminantes del aire peligrosos permitidos por el permiso de construcción del Solicitante. Una vez en funcionamiento, se espera que el Proyecto genere aproximadamente 73,875 megavatios-hora de energía eléctrica limpia por año. Según la calculadora de equivalencias de gases de efecto invernadero de la EPA, esto equivale a eliminar aproximadamente 51,608 toneladas métricas por año de emisiones de dióxido de carbono (CO₂).

Se prevé que el Proyecto tenga un impacto positivo general en la comunidad del municipio de Yabucoa debido al desplazamiento de las emisiones de gases de efecto invernadero de la instalación y a las oportunidades de empleo creadas. Dado que el Proyecto es una instalación de generación de energía limpia, no se prevén impactos ambientales desproporcionados ni adversos en esta comunidad minoritaria y de bajos ingresos; por lo tanto, los impactos de EJ no serían significativos.

3.9 Suelos y Tierras de Cultivo de Primera

La propiedad arrendada para el Proyecto se utilizó históricamente para fines agrícolas, pero no se ha utilizado para la producción agrícola formal durante al menos los últimos veinte años. El Solicitante ha arrendado la propiedad de la Administración de Terrenos de Puerto Rico desde 2012, pero no la ha desarrollado ni utilizado durante este tiempo. Partes del sitio han sido utilizadas libremente por terceros para actividades agrícolas informales, incluido el pastoreo de ganado y de caballos, y para cultivar césped.

Según la información obtenida del Servicio de Conservación de Recursos Naturales (NRCS) del Departamento de Agricultura de EE. UU. (USDA), hay ocho asociaciones de suelos dentro de las áreas de influencia del Proyecto, que se muestran en la Tabla 6.

Tabla 6: Clasificación del suelo y de las tierras de cultivo de las áreas de influencia del proyecto

Símbolo de unidad de mapa	Uso actual	Acres	Porcentaje del total de acres	Clasificación de tierras de cultivo
Cr	Serie Coloso, arcilla limosa, pendientes del 0 al 2 por ciento, ocasionalmente inundadas	39.2	32.1%	Tierras de cultivo de primera calidad si se drenan
Vw	Vivi loam	36.4	29.8%	Tierras de cultivo de primera calidad si se irrigan
Me	Arcilla Maunabo	17.3	14.2%	Tierra de cultivo de importancia estatal
PeC2	Arcilla Parcelas, pendientes de 5 a 12 por ciento, erosionada	14.6	12.0%	Tierra de cultivo de importancia estatal
Ta	Suelos Talante	14.1	11.6%	Tierra de cultivo de importancia estatal
TeE	Teja, marga arenosa pedregosa, pendientes del 12 al 40 por ciento	0.2	0.1%	No es una tierra de cultivo de primera calidad
Ul	Tierra urbana	0.1	0.1%	No es una tierra de cultivo de primera calidad

Símbolo de unidad de mapa	Uso actual	Acres	Porcentaje del total de acres	Clasificación de tierras de cultivo
PdF	Pandura-Complejo de tierras muy montañosas, pendientes del 40 al 60 por ciento	0.1	0.1%	No es una tierra de cultivo de primera calidad
TOTAL		122.0	100%	

Tierra de cultivo de primera calidad, según lo define el USDA, es tierra con los parámetros ideales para la producción de alimentos, pienso, forraje, fibra y cultivos de semillas oleaginosas. Aproximadamente el 62.0 por ciento de las áreas de alteración del Proyecto son clasificadas por el NRCS como tierras de cultivo de primera si se drenan o irrigan, el 37.7 por ciento son tierras de cultivo de importancia estatal y el 0.3 por ciento no son tierras de cultivo de primera. El desarrollo del Proyecto daría como resultado la conversión permanente de aproximadamente 115 acres de un estado de disponibilidad para la agricultura. Debido a que el Proyecto daría lugar a la conversión de posibles tierras de cultivo, el DOE consultó con el NRCS para realizar una calificación de impacto de conversión de tierras de cultivo en cumplimiento con la Ley de Política de Protección de Tierras Agrícolas (FPPA). La calificación se basa en un componente de evaluación de la tierra, que identifica el valor relativo de las tierras de cultivo que se convertirán en una escala de 0 a 100, y un componente de evaluación del sitio, que evalúa otros factores que contribuyen a la importancia agrícola del sitio en una escala de 0 a 160. Para los sitios que reciben un puntaje de 160 o más, se deben considerar acciones alternativas para reducir los impactos en las tierras de cultivo. El Proyecto recibió una calificación de evaluación de la tierra de 71 y una calificación de evaluación del sitio de 73, para un puntaje total de 144 (consulte el Appendix A). Los formularios AD1006 completados de conformidad con la FPPA utilizaron una estimación de 182 acres de conversión directa como estimación conservadora, que incluye áreas fuera de los límites reales de alteración dentro de los límites de la propiedad.

El Proyecto daría como resultado el desarrollo en áreas que contienen suelos que han sido clasificados como tierras de cultivo de primera; sin embargo, el municipio de Yabucoa tiene amplias tierras de cultivo no utilizadas, incluida la tierra que rodea el sitio del Proyecto y la Reserva Agrícola del Valle de Yabucoa especialmente protegida al noroeste del Sitio del Proyecto. Dada la pequeña reducción en la disponibilidad total de tierras de cultivo en el municipio de Yabucoa (1.4 %), la puntuación de la evaluación de la FPPA para la tierra del Proyecto y los amplios recursos adicionales de tierras de cultivo dentro del municipio de Yabucoa, los impactos del Proyecto en los suelos y las tierras de cultivo de primera no serían significativos.

3.10 Uso de la Tierra

La Junta de Planificación de Puerto Rico es el organismo regulador facultado por ley para tomar determinaciones sobre el uso de la tierra en Puerto Rico. El Proyecto ha estado en desarrollo desde 2012, y hasta 2015, la propiedad arrendada para el Proyecto no tenía una designación de zonificación. Sin embargo, como proyecto de mejora pública que se desarrollará en un sitio propiedad de una agencia gubernamental de Puerto Rico, el proyecto requirió una Consulta de Ubicación (CUB) con PRPB. El solicitante presentó la CUB en 2014 (caso n.º 2014-75-0121-JGU-T). El proceso de evaluación del PRPB implicó consultas con el municipio de Yabucoa y con otras agencias, incluidas la Autoridad de Transporte y Carreteras de Puerto Rico, el Departamento de Agricultura de Puerto Rico (PRAD) y el DRNA, todos los cuales avalaron el Proyecto. No requirió una audiencia pública, pero el PRPB tuvo en cuenta las inquietudes de los grupos comunitarios sobre el posible desarrollo en el sitio de los humedales de la propiedad. El Solicitante aclaró que el Proyecto había sido diseñado para no afectar directamente los humedales. Teniendo en cuenta esto y los diversos endosos de las otras agencias, el PRPB emitió una

resolución que aprueba la CUB para la subdivisión, el arrendamiento y el emplazamiento del Proyecto el 14 de julio de 2024.

La CUB sigue siendo válida en virtud de las leyes de Puerto Rico desde su aprobación, y el Solicitante continuó sus esfuerzos de obtención de permisos para las etapas de desarrollo posteriores y obtuvo una Notificación de requisitos para la aprobación de un Permiso de desarrollo (permiso de la PCU); (caso n.º 2015-074181-PCU-116387) el 24 de mayo de 2016, y la OGPe la reactivó en octubre de 2023 dado que no hubo cambios sustanciales en el Proyecto (caso n.º 2015-074181-PRR-013726). La CUB también es válida de conformidad con la Ley 142-2012, y las resoluciones interpretativas de la PRPB con respecto a dicha ley que resolvieron discrepancias generales en las interpretaciones en cuanto a la validez de ciertas consultas de uso de la tierra aprobadas entre 2012 y 2019, incluida la CUB.

El proyecto linda con la Reserva Natural La Lucía al este. En el documento de planificación para esta reserva, la Junta de Planificación (JP) excluyó específicamente el proyecto solar YFN Yabucoa LLC de los límites de la reserva, porque la CUB fue aprobada antes del establecimiento de la reserva (JP 2016). Además, el Proyecto se encuentra dentro del Límite de la Zona Costera Inland (CZIB) y, por lo tanto, se encuentra dentro del ámbito del Programa de Gestión de Zonas Costeras de Puerto Rico (PRCZMP). El CZIB incluye áreas a 1000 metros de la costa (aproximadamente el 24 por ciento de las áreas de influencia del Proyecto). El PRCZMP exige que todos los proyectos financiados con fondos federales dentro de la Zona Costera sean evaluados a través del proceso de determinación de consistencia costera y se emita una certificación de consistencia. El proyecto se presentó a la agencia de evaluación del programa, PRPB, el 20 de marzo de 2024. La PRPB emitió un certificado federal de coherencia el 18 de junio de 2024 (caso n.º CZ-2024-0315-135; consulte el Appendix A).

En función de la conformidad del Proyecto con los requisitos de la resolución del PRPB que aprueba la CUB del Proyecto, y debido a que el Proyecto sería coherente con el PRCZMP, los impactos en el uso de la tierra no serían significativos.

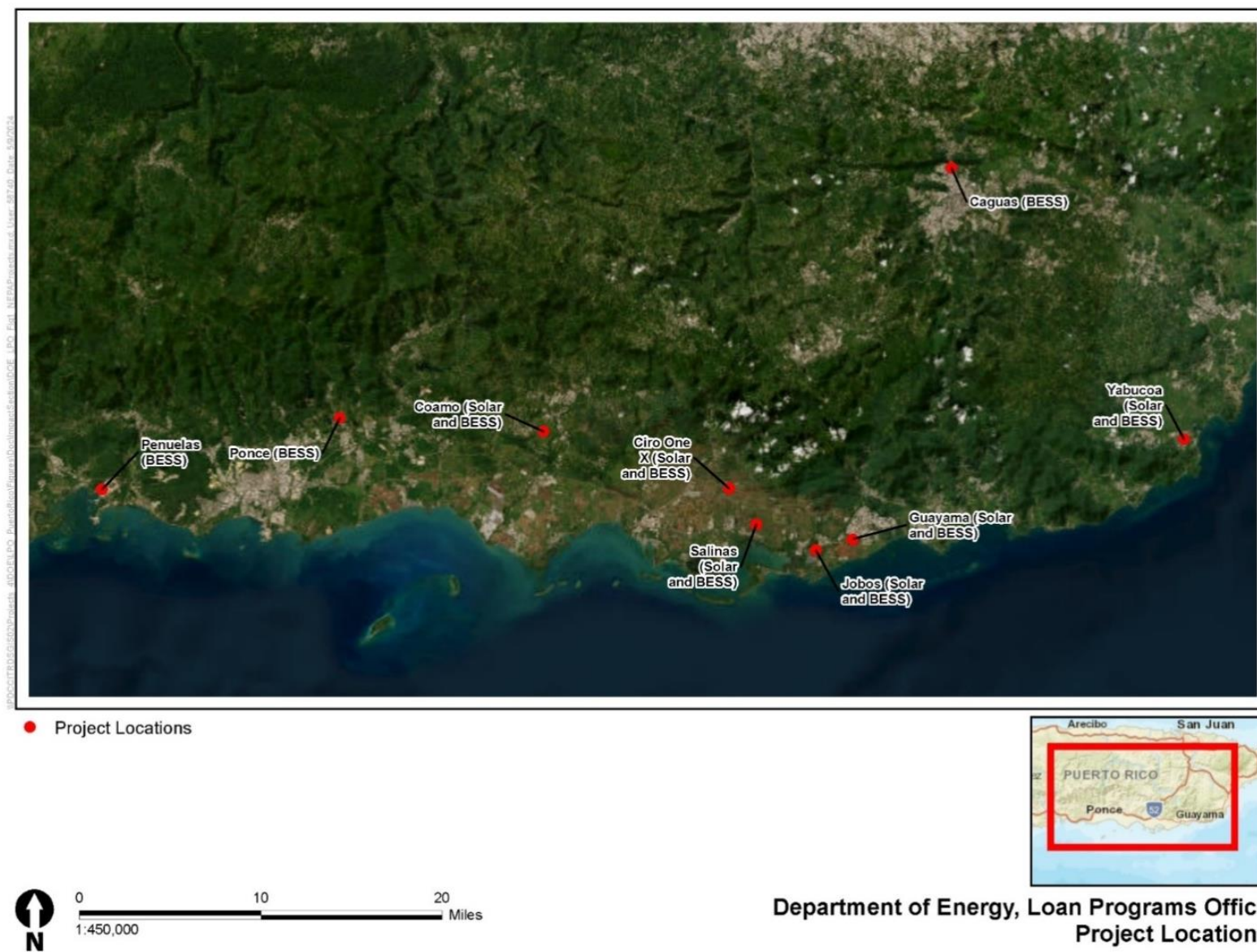
3.11 Impactos Acumulativos

Los impactos acumulativos son posibles efectos en el medioambiente que surjan del impacto incremental de un proyecto cuando se agregan a las acciones pasadas, presentes y futuras razonablemente previsibles emprendidas por agencias o personas locales y/o federales. Los proyectos considerados en esta sección se identificaron mediante una revisión de la base de datos de permisos incluida en la herramienta de mapa interactivo de Puerto Rico alojada por el PRPB y el estudio PR100 (DOE y FEMA 2024). El Proyecto se encuentra en un área inmediata que no tiene proyectos actuales o futuros planificados. El Solicitante está planificando una futura adición de BESS al Proyecto que se construiría dentro del mismo sitio del Proyecto (en la Zona 3).

Entre otros proyectos del DOE en Puerto Rico (se muestran en la Imagen 6), incluidos aquellos que se someten a una revisión activa de la NEPA por parte de la LPO, se incluyen:

- Dos desarrollos de AES Corporation: Una instalación solar fotovoltaica de 80 MW y un BESS de 110 MW en 318 acres (327.84 cuerdas) de propiedad de Puerto Rican Industrial Development Company en PR-7707 y PR-3 (Barrio Jobos, Guayama, Puerto Rico 00784) y una instalación solar fotovoltaica de 120 MW y un BESS de 175 MW entre las autopistas PR-53 (hacia el norte), PR-3 (hacia el sur), PR-713 (hacia el este) y PR-706 (hacia el oeste) en los municipios de Salinas y Guayama.
- Una instalación solar fotovoltaica de 100 MW y un BESS de 55 MW en 322 acres en el municipio de Coamo, delimitada por PR-14 al norte y el río Coamo al sudeste. También incluye un BESS de 100 MW en Penuelas, un BESS de 25 MW en Ponce y un BESS de 25 MW en Caguas, todo desarrollado por Convergent Ashford Development, LLC.

Imagen 6: Otros proyectos del DOE en Puerto Rico



- Una instalación solar fotovoltaica de 65 MW y un BESS de 25 MW en 177 acres en Lapa Ward de Salinas y una solar fotovoltaica de 65 MW y un BESS de 25 MW en 132 acres en Machete Ward de Guayama, que será desarrollado por Ciro Energy Group (sin incluir las instalaciones existentes de Ciro One).
- Programa Acceso de Solar: el programa abrió el 22 de febrero de 2024, y apoya la instalación de almacenamiento de energía solar y de baterías en techos residenciales en 30,000 hogares en todo Puerto Rico por cero costos iniciales (DOE n.d.).
- Proyecto Hestia: garantía de préstamo de cartera de la LPO a Sunnova Corporation para construir energía solar residencial en techos con un enfoque en Puerto Rico.

Los sitios en azoteas residenciales del Programa Acceso de Solar y Project Hestia están ubicados en todo Puerto Rico. Consulte la Imagen 6 para conocer la ubicación aproximada de los otros proyectos de almacenamiento solar y de baterías a escala de servicios públicos bajo revisión de NEPA del DOE.

La LPO revisó los otros proyectos solares identificados en la región, los proyectos sujetos a la revisión activa de la NEPA por parte de la LPO y el Programa Acceso de Solar del DOE para determinar los recursos que pueden estar sujetos a un impacto acumulativo. En función de esta revisión, se evaluaron los siguientes recursos para determinar los impactos acumulativos:

- Socioeconomía y justicia ambiental
- Uso de la tierra
- Suelos y tierras de cultivo de primera
- Gases de efecto invernadero y cambio climático
- Recursos estéticos y visuales

La Ley n.º 17 del 11 de abril de 2019 (Ley 17) estableció un objetivo para Puerto Rico de producir el 100 por ciento de su energía a partir de fuentes renovables para el año 2050. El estudio PR100 respaldó la evaluación técnica de este objetivo, que incluyó una recomendación de incluir energía solar a escala de servicios públicos en la cartera de energía de Puerto Rico para satisfacer las necesidades energéticas de la isla. PR100 descubrió que la generación de energía 100 por ciento renovable para 2050 es alcanzable e identificó medidas de estabilización de la red, energías renovables a escala de servicios públicos y la implementación de recursos de energía distribuida como formas de lograr ese objetivo.

3.11.1 Socioeconomía y Justicia Ambiental

La construcción y operación del Proyecto Infinigen Yabucoa se realizaría cerca de comunidades consideradas como minorías, con desventajas socioeconómicas y con carga ambiental debido a su proximidad a otras instalaciones industriales locales. El Proyecto no intensificaría el nivel de emisión de los contaminantes del aire según los criterios del Estándar Nacional de Calidad del Aire Ambiental durante la construcción y la operación. Además, la operación de proyectos de energía alternativa, incluida la energía solar fotovoltaica, tiene el objetivo de disminuir la dependencia de la isla de los combustibles fósiles y reducir la generación de emisiones de GEI, al tiempo que proporciona beneficios socioeconómicos al contribuir a un sistema de distribución eléctrica más confiable. Una red eléctrica más confiable también es propicia para mejorar las oportunidades comerciales y de inversión en el Estado Libre Asociado. Los proyectos que se someten a una revisión activa de la NEPA por parte de la LPO crearían miles de trabajos temporales en total durante la fase de construcción, lo que suma un total de cientos de trabajadores en el sitio por día por proyecto, además de trabajos indirectos e inducidos en

servicios de apoyo y la economía. La cantidad total de trabajos de construcción temporales directos para Infinigen Yabucoa es de 120.

La producción de energía de fuentes renovables en virtud del Programa de reinversión de infraestructura energética de la LPO reemplazaría la generación de energía de combustibles fósiles existente. Los proyectos no representarían una carga adicional, desproporcionada o excesiva sobre las comunidades en el área. Por el contrario, el desarrollo de fuentes de energía renovable daría como resultado beneficios ambientales y para la salud humana al reemplazar las fuentes de energía de combustibles fósiles y reducir las emisiones de contaminantes y GEI. El desplazamiento de estas fuentes de contaminación a través del cambio a la energía renovable cumple con el objetivo central de la EJ para reducir la contaminación ambiental en las fuentes. Además, contribuye a reducir los efectos del cambio climático, que afectan de manera desproporcionada a las comunidades desfavorecidas. En conclusión, se espera que los proyectos proporcionen beneficios locales para la EJ.

El Proyecto, cuando se considera junto con los proyectos identificados en Puerto Rico, no tendría el potencial de provocar impactos acumulativos significativos en otros recursos debido a las medidas de protección ambiental implementadas durante la construcción y su contribución a la estabilización y descarbonización de la red eléctrica de Puerto Rico.

3.11.2 Uso de la Tierra

Cualquier proyecto propuesto de energía solar y almacenamiento de más de 1 MW, incluido el proyecto analizado en esta EA y los otros proyectos analizados para los impactos acumulativos, debe completar el proceso de la CUB. El proceso de la CUB requiere la consulta con todas las agencias ambientales y de infraestructura, así como con el público y la notificación a las comunidades vecinas. El solicitante completó el proceso de la CUB el 14 de julio de 2015. Durante el proceso de la CUB del Proyecto, este recibió una carta de no objeción del PRAD, con la condición de permitir que la persona que ha estado utilizando libremente la tierra cultivara césped para continuar con su negocio. El Solicitante se compromete a permitir que esta persona continúe con su actividad de cultivo de césped en la propiedad arrendada.

La empresa solar Infinigen Yabucoa construiría su proyecto fotovoltaico solar de 32.1 MW en 122 acres, visible desde las carreteras circundantes. El proyecto Yabucoa estaría adyacente a las instalaciones petroquímicas existentes y, por lo tanto, sería coherente con los usos industriales existentes en el área. El proyecto AES instalaría paneles fotovoltaicos y un BESS de 190 MW en 959 acres. Convergent Energy construiría una matriz solar fotovoltaica de 100 MW en 322 acres en el municipio de Coamo, en un sitio que ahora es tierra agrícola activa y tierra agrícola vacía, junto con 8.5 acres para tres sitios separados de BESS. Los dos BESS solares de 65 MW y de 25 MW propuestos por Ciro Group representan otros 309 acres de usos de tierra convertidos en generación de electricidad. El Programa Acceso de Solar y el Proyecto Hestia se aplican solo a edificios residenciales existentes y no cambiarían los usos de la tierra.

Para los proyectos actuales de la LPO del Tramo 1 de la PREPA que se someten a una revisión activa de la NEPA en Puerto Rico, un total de 1,723 acres cambiarían de sus usos anteriores de la tierra a producción de energía solar y almacenamiento. Todos los proyectos requieren aprobaciones a través de la CUB antes de la construcción. Debido a que las decisiones de uso de la tierra, incluido el desarrollo de proyectos de almacenamiento y PV solares superiores a 1 MW, deben ser explícitamente aprobadas por agencias y municipios dentro de Puerto Rico, y la acción federal de la posible garantía de préstamo requiere permisos y aprobaciones, en este caso, incluido el proceso de la CUB, no habría efectos acumulativos negativos significativos en el uso de la tierra.

3.11.3 Recursos Estéticos y Visuales

Se propone que el Proyecto se ubique adyacente a una instalación de almacenamiento petroquímico existente y a una terminal marina industrial activa, junto con una subestación de la PREPA existente. Al sur, limita con áreas residenciales y al este con tierras desocupadas y Playa Lucía. La construcción del Proyecto Infinigen Yabucoa daría como resultado un impacto visual que duraría el ciclo de vida del Proyecto, estimado en aproximadamente 25 años. El cambio en el paisaje en esta área tuvo en cuenta los usos aprobados de la tierra para el sitio y es coherente con estos, y con la ubicación conjunta de otra infraestructura energética en el área. El Proyecto Yabucoa no sería visible desde ninguna de las otras instalaciones solares fotovoltaicas en Puerto Rico que se someten a una revisión activa de la NEPA por parte de la LPO. El Proyecto Yabucoa se encuentra aproximadamente a 19 millas al este del proyecto más cercano (Proyecto Solar Guayama de Ciro Group) y, por lo tanto, se encuentra en una visual diferente. Debido a que el desarrollo solar adicional en el Proyecto es coherente con los usos aprobados de la zonificación y la tierra, y la prominencia de la terminal petrolera adyacente vista desde las áreas circundantes, los impactos acumulativos en la estética y los recursos visuales no serían significativos.

3.11.4 Suelos y Tierras de Cultivo de Primera

La coordinación con el NRCS indica que hay aproximadamente 181 acres de suelos de tierras de cultivo principales o únicos en el sitio (Apéndice A [formulario AD 1006]). El proyecto está ubicado en un área con solo usos informales de cría de ganado y césped y no desplazaría ninguna operación de producción de alimentos. El Proyecto Yabucoa daría como resultado que el 1.4 por ciento de la superficie total de tierras de cultivo de primera o únicas y tierras de cultivo de importancia estatal en el municipio de Yabucoa se convirtiera en usos de energía renovable. Actualmente, la LPO está preparando activamente documentos de NEPA para los proyectos de almacenamiento y PV solar de AES Corporation, Convergent Energy y Ciro Group, además de los proyectos Infinigen Yabucoa, que pueden dar lugar a la conversión de suelos de tierras de cultivo. Los proyectos en revisión activa de la NEPA representan una conversión de aproximadamente 1,722 acres de tierras de cultivo y tierras de cultivo principales o únicas de suelos de importancia estatal, o el 0.3 por ciento de la superficie total de tierras de cultivo y tierras de cultivo principales o únicas de suelos de importancia estatal en Puerto Rico. El área de conversión del suelo de tierras de cultivo por municipalidad de los proyectos en revisión activa de NEPA se muestra en la Tabla 7. La LPO señala que el Programa Acceso de Solar y el Proyecto Hestia afectan solo los edificios existentes y no las tierras de cultivo de primera.

Tabla 7: Conversión de suelos agrícolas de proyectos de la LPO del DOE por municipalidad

Municipalidad	Acres de conversión	Porcentaje del total de acres de tierras de cultivo por municipio
Caguas	6	0.05 %
Coamo	541	4.42 %
Guayama	726	5.84 %
Ponce	12	0.08 %
Salinas	245	0.95 %
Santa Isabel	12	0.08 %
Yabucoa	181	1.40 %

Nota: Incluye suelos clasificados como tierras de cultivo de primera y tierras de cultivo de importancia estatal según los datos de Web Soil Survey de NRCS (NRCS 2022). Los acres de conversión se basan en el diseño actual de

proyectos en la revisión de la NEPA de la LPO del DOE (Jobos, Salinas, Convergent Energy, Ciro Energy, Infinigen Yabucoa) a mayo de 2024 y están sujetos a cambios.

Para recibir financiamiento de la LPO, todos los proyectos deben adquirir permisos locales y contar con permiso para construir y operar sus proyectos. Este proceso implica el permiso de las autoridades reguladoras de Puerto Rico de conformidad con todas las leyes y reglamentaciones locales, incluidas aquellas relacionadas con los cambios en el uso de la tierra. Estos proyectos no representarían un desplazamiento de la productividad agrícola potencial de la tierra porque el uso de energía renovable podría combinarse con el pastoreo de ganado y otras actividades agrícolas; por lo tanto, los usos agrícolas y fotovoltaicos de la tierra no serían mutuamente excluyentes. Debido al cumplimiento de los proyectos de todas las leyes y regulaciones locales con respecto al uso de tierras de cultivo y al bajo porcentaje (menos del 0.03 por ciento) del área de tierra de cultivo de primera o únicas como parte del total en Puerto Rico, el proyecto no tendría impactos acumulativos significativos en suelos y tierras de cultivo de primera.

3.11.5 Emisiones de Gases de Efecto Invernadero y Cambio Climático

El propósito de la instalación solar fotovoltaica es proporcionar energía alternativa que refuerce el sistema de distribución de la PREPA mientras disminuye la necesidad de quemar combustibles fósiles y generar GEI.

La LPO evalúa la elegibilidad técnica de cada solicitud de garantía de préstamo, que incluye un análisis de las emisiones de GEI asociadas con un proyecto. El proyecto solar de Yabucoa evitaría 76 kilotoneladas de CO₂ anualmente. Para los proyectos de AES, la LPO determinó que los proyectos darían lugar a reducciones de emisiones de GEI al desplazar la energía generada en los recursos existentes de generación de combustibles fósiles en aproximadamente 372 kilotoneladas de dióxido de carbono (CO₂) anualmente. La energía convergente evitaría 360 kilotoneladas de emisiones de CO₂, con 63 MW adicionales de energía reemplazados de la generación de combustibles fósiles por sus componentes de almacenamiento de energía. El proyecto de Ciro Group evitaría 433 kilotoneladas de CO₂ anualmente. En conjunto, estos proyectos evitarían 1,241 kilotoneladas de CO₂ anualmente mientras producen electricidad que de otro modo se generaría por recursos de combustibles fósiles y contribuirían al objetivo de Puerto Rico de producir el 100 por ciento de su energía con energía renovable para el año 2050. En general, los posibles beneficios asociados con la reducción de las emisiones de CO₂ respaldarían una reducción en las concentraciones de GEI y los impactos asociados al cambio climático (p. ej., aumentos en la temperatura atmosférica, cambios en la precipitación, aumentos en la frecuencia e intensidad de eventos climáticos extremos y aumento de los niveles del mar). Además, para proteger los proyectos de los efectos del cambio climático (p. ej., clima grave), los sistemas solares fotovoltaicos están diseñados para soportar velocidades del viento de hasta 158 mph, que es una categoría 5 en la escala Saffir-Simpson.

4. CONCLUSIÓN

En función de esta EA, el DOE ha determinado que proporcionar una garantía de préstamo federal al YFN Yabucoa Solar, LLC para la construcción de una instalación de energía solar fotovoltaica de 32.1 MW y un BESS de hasta 75 MW en el municipio de Yabucoa, Puerto Rico en aproximadamente 122 acres, no tendrá un efecto significativo en el medioambiente humano. Por lo tanto, no se requiere la preparación de una declaración de impacto ambiental y el DOE emite esta Conclusión de Impacto No Significativo.

Esta Conclusión de Impacto No Significativo no debe interpretarse como una decisión final sobre la emisión de una garantía de préstamo.

_____ Todd Stribley Oficial de Cumplimiento de la NEPA Oficina de Programas de Préstamos del DOE	_____ Fecha
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5. LISTA DE AGENCIAS CONTACTADAS

Servicio de Pesca y Vida Silvestre de EE. UU.

Servicio de Conservación de Recursos Naturales del USDA

Agencia de Protección Ambiental de EE. UU.

Oficina del Gobernador de Puerto Rico

Oficina de Preservación Histórica del Estado de Puerto Rico

Departamento de Recursos Naturales y Ambientales (DRNA) de Puerto Rico

Autoridad de Energía Eléctrica de Puerto Rico (PREPA)

Oficina de Asociaciones Públicas y Privadas de Puerto Rico (P3)

Oficina de Administración de Permisos de Puerto Rico (OGPe)

Junta de Planificación de Puerto Rico (PRPB)

6. LISTA DE PREPARADORES

6.1 DOE

David A. Oster, maestría en Ciencias Ambientales, 8 años de experiencia

6.2 Contratista con el DOE

Randall Coleman, Planificación Urbana y Regional de MURP, 15 años de experiencia

David Johnson, B.S., Biología, 23 años de experiencia

6.3 Solicitante

Karen Ramirez, BA en Economía, 10 años de experiencia

María Cecilia Santos, BS Ingeniería Mecánica and J.D., 15 años de experiencia

Phil Badgwell, 30 años de experiencia

Raymond Rivero, MEng. Ingeniería Mecánica, 28 años de experiencia

6.4 Consultor Ambiental del Solicitante

Javier Vélez Arocho, M.Sc., Micología, 34 años de experiencia

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APPENDIX A CORRESPONDENCIA DE LA AGENCIA

Table A-1. Summary of Agency Coordination

Organization	Contact Date(s)	Summary of Contact
Puerto Rico Office of the Governor	12/18/2023 12/19/2023 03/15/2024 01/23/2024 02/02/2024 03/14/2024 07/22/2024	Request to identify PR agencies to involve in the NEPA process Distribution List Input Received Notice of Intent to Prepare an Environmental Assessment Request for PR agency contact information Interagency Meeting – Virtual Interagency Meeting – In Person Notice of Availability of Draft Environmental Assessment
Puerto Rico Departamento de Recursos Naturales y Ambientales	03/15/2024 02/02/2024 03/14/2024 07/22/2024	Notice of Intent to Prepare an Environmental Assessment Interagency Meeting – Virtual Interagency Meeting – In Person Notice of Availability of Draft Environmental Assessment
EPA Region 2, Environmental Review Section	03/18/2024 07/22/2024	Notice of Intent to Prepare an Environmental Assessment Notice of Availability of Draft Environmental Assessment
Puerto Rico Electric Power Authority (PREPA)	03/15/2024 07/22/2024	Notice of Intent to Prepare an Environmental Assessment Notice of Availability of Draft Environmental Assessment
Public-Private Partnerships Authority (P3)	03/15/2024 07/22/2024	Notice of Intent to Prepare an Environmental Assessment Notice of Availability of Draft Environmental Assessment
U.S. Fish and Wildlife Service, Caribbean Ecological Services Field Office	03/15/2024 03/20/2024 05/03/2024 06/20/2024 07/22/2024	Notice of Intent to Prepare an Environmental Assessment Submission of Biological Assessment USFWS Concurrence Received Updated species list obtained Notice of Availability of Draft Environmental Assessment
USDA Natural Resource Conservation Service	12/15/2023 02/13/2024 02/27/2024 03/15/2024 03/18/2024 04/11/2024 07/22/2024	Coordination Meeting Initial FPPA AD1006 Submission AD1006 Comments Received Notice of Intent to Prepare Environmental Assessment In-Person Coordination Meeting Final AD1006 Sent Notice of Availability of Draft Environmental Assessment

Organization	Contact Date(s)	Summary of Contact
Unidad de Zona Costanera, Oficina de Geología e Hidrogeología, Junta de Planificación	02/02/2024	Federal Consistency Review Process Meeting
	02/05/2024	Federal Consistency Review Instructions Received
	03/24/2024	Consistency Review Submitted
	06/20/2024	Federal Consistency Certificate Received
	07/22/2024	Notice of Availability of Draft Environmental Assessment
Puerto Rico State Historic Preservation Office	08/17/2023	Initial request for information
	09/15/2023	Virtual Coordination Meeting
	03/13/2024	Section 106 Consultation Request Sent
	03/18/2024	In-Person Coordination Meeting
	03/20/2024	Concurrence Received from PRSHPO
	07/22/2024	Notice of Availability of Draft Environmental Assessment

Table A-2. Response to Public Comments on YFN Yabucoa, LLC Draft Environmental Assessment

Comment No.	Public Comments on YFN Yabucoa, LLC Draft Environmental Assessment		
	Commenter	Comment Summary	Response
1	Comité Yabucoño Pro-Calidad de Vida, Inc.	Opposition to project due to presence of tsunami zone	The Project is designed in accordance with all requirements and regulations. The Project drawings were all stamped by Professional Engineers registered in Puerto Rico, and the facility was designed to the codes and standards of 2018 Puerto Rico Building Code. The design included considerations for the potential of tsunami flooding in this specific location. The solar modules, electrical inverters, battery equipment, operations building, and all high voltage electrical equipment are located at elevations higher than the flood zone. Floodplains and flood resiliency measures are discussed in Section 3.3.3 of the EA.
2	Comité Yabucoño Pro-Calidad de Vida, Inc.	Opposition to project – agricultural land	Applicable land use changes have been addressed through Puerto Rico's permitting and site consultation process (Land Consultation 2014-75-0121-JGUT). The effects of land use changes, including impacts to land designated as prime or unique farmland by NRCS, are addressed in Sections 3.9, 3.10, and 3.11 of the EA.
3	Comité Yabucoño Pro-Calidad de Vida, Inc.	Opposition to project – effects on La Lucia Natural Reserve	Details and maps of the Reserva La Lucía can be found in the Plan Sectorial de la Reserva Natural de Puerto Rico Humedal de la Playa Lucía . The delimitation of the natural reserve references Land Consultation 2014-75-0121-JGUT (the "Land Consultation") under which the YFN Yabucoa Solar project was approved, as well as the Wetlands Survey on which the Land Consultation is partially based. The development of the facility is contemplated in the plan that delimits the reserve. The delineation of the natural reserve occurred after the approval of the Land Consultation, and the rights granted under the Land Consultation were not modified or constrained. The facility was designed in accordance with the Land Consultation and the Wetlands Survey, avoiding any direct impacts on wetlands and providing required setbacks, and is therefore consistent with the purpose of the natural reserve. A statement has been added to Section 3.10 clarifying the project is not included in the La Lucia Reserve, as noted in the JP's plan for that area.
4	Comité Yabucoño Pro-Calidad de Vida, Inc.	Project should be located on brownfield or using rooftop solar	DOE is investing in rooftop solar as noted in the EA. Programa Access de Solar, which makes rooftop solar and storage available to low-income residents of Puerto Rico, and Project Hestia residential rooftop programs are available in Puerto Rico.

Comment No.	Public Comments on YFN Yabucoa, LLC Draft Environmental Assessment		
	Commenter	Comment Summary	Response
			The Yabucoa Solar site was specifically selected over a decade ago mainly for its proximity to an existing PREPA 115kv substation. The Yabucoa Solar interconnection transmission line will be approximately 285 linear feet long, needing only to cross PR-901 to reach PREPA's Juan Martin substation. This proximity eliminates the need for extensive transmission infrastructure, which in turn minimizes both the environmental impact and the costs associated with the project. It also enables a more efficient and reliable integration into the grid, adding to the project's resiliency. The documentation submitted by the Applicant for the original Environmental Recommendation process conducted in 2014 mentions other factors that were influential during the site selection, including (i) economic benefits to the owner of the land and the Municipality of Yabucoa, (ii) prevention of permanent urban sprawl, and (iii) its lack of suitability for large scale agricultural activities. The Environmental Assessments carried out in 2014 and 2024 demonstrate that the proposed project will not have significant environmental impact on the land, further supporting that the site is adequate for the proposed development.
5	Comité Yabucoño Pro-Calidad de Vida, Inc.	Inifigen is not concerned with safety and energy efficiency	Energy Efficiency: The Applicant's mission is to provide reliable clean energy sources. Safety: Section 1.4 of the EA provides that the project would be constructed in accordance with all applicable health and safety standards. The Applicant has provided the following additional safety details: During project construction, comprehensive safety procedures will be implemented to ensure the safety and well-being of all personnel. As required under the Engineering, Procurement and Construction Agreement, RES (the contractor) and any subcontractors will develop and submit a detailed Site Safety Plan for Inifigen's approval, which will include a Job Hazard Analysis for all activities with a medium to high-risk level. RES will comply with all relevant safety regulations, including those set by federal, state, and local authorities. Specific safety measures that will be implemented include: • Safety Monitoring and Reporting: RES will establish a process to monitor and report safety performance, including first aid incidents, near misses, and safety violations. Regular safety inspections will be conducted, and any hazards identified will be promptly addressed. • Safety Orientation and Training: All personnel, including subcontractors, will undergo a mandatory site-specific safety orientation

Comment No.	Public Comments on YFN Yabucoa, LLC Draft Environmental Assessment		
	Commenter	Comment Summary	Response
			covering safe work practices, emergency procedures, and relevant safety requirements. Additionally, RES will ensure that all workers have completed OSHA safety training and are familiar with the use of personal protective equipment (PPE). • Pre-Job Safety Briefings: Daily safety briefings will be held before the start of each shift to review potential hazards, safe work procedures, and the required PPE. Follow-up briefings will be conducted as necessary, particularly in response to changes in work scope or incidents. • Accident and Incident Reporting: All accidents, incidents, and near-misses will be reported immediately, with corrective actions implemented to prevent reoccurrence. The contractor will maintain thorough documentation of all safety-related incidents and corrective measures. • Safety Inspections and Equipment Maintenance: RES will conduct daily inspections of the work area and all equipment to ensure a safe working environment. Special attention will be given to scaffolding, cranes, forklifts, and other machinery to ensure they are in proper working order and compliant with safety standards. • Emergency Preparedness: An emergency response plan will be developed and regularly updated, covering scenarios such as fire, chemical spills, or severe weather. Emergency drills will be conducted to ensure that all workers are familiar with procedures and know how to respond swiftly to protect themselves and others. During operations, Infinigen Renewables will establish a comprehensive Health and Safety Manual that outlines the specific safety procedures to be followed at each plant to ensure the well-being of all personnel and anyone entering the plant. The procedures and practices covered in the manual include: employee training requirements, electrical safety practices that meet OSHA standards, defensive driving, personal fall protection systems, hazard communication, hearing conservation, and personal protective equipment, among other topics.

Comment No.	Public Comments on YFN Yabucoa, LLC Draft Environmental Assessment		
	Commenter	Comment Summary	Response
6	Comité Yabucoeño Pro-Calidad de Vida, Inc.	Project is located in an area with heavy industry and environmental justice concerns	Socio-economic and environmental justice impacts are discussed in Section 3.8 of the EA, noting that the intent of the facility is to displace greenhouse gas and air pollutant emissions from fossil-fuel power generation, and thus reduce the burdens of air pollution on local communities.
7	Local Partido Independentista Puertorriqueno Yabucoa	DOE should prioritize distributed renewable energy generation and use of brownfields for solar sites	See responses to Comments 2 and 4.
8	Local Partido Independentista Puertorriqueno Yabucoa	The project is not compatible with this ecological restoration because it will directly affect the reefs, marine life and the different ecosystems that exist in the Lucia wetland.	The project avoids direct impact to wetlands and incorporates buffer zones as required by PR DRNA (See Section 3.3). The Applicant will implement a Stormwater Pollution Prevention Plan and Erosion and Sediment Control Plan (See Section 3.3) to minimize erosion and sedimentation. Also see response to Comment No. 3 regarding how the project is not located on the reserve.



Department of Energy

Washington, DC 20585

March 15, 2024

Omar A. Vega-Albino
Senior Advisor to Energy Affairs
Office of the Governor
PO Box 9020082
San Juan, PR 00902-0082

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Vega-Albino,

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DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPAAct, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a

switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

The DOE NEPA regulations provide for the notification of host states and territories of NEPA determinations and for the opportunity for host states and territories to review EAs prior to DOE approval. This process is intended to improve coordination and to facilitate early and open communication.

If you or your staff would like to receive further information concerning this Project or DOE's NEPA process, please contact me at 240-457-7973 or email at LPO_Environmental@hq.doe.gov.

Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales

Dave Kleusner, U.S. Environmental Protection Agency

Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales

Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales

Jorge L. Cotto-Perez, Puerto Rico Electric Power Authority

Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority

Lourdes Mena, U.S. Fish and Wildlife Service

Manual Matos, Natural Resource Conservation Service

Carlos Rubio-Canela, State Historic Preservation Office

Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

Figure 1: Infinigen Yabucoa Site Map



- Yabucoa Site Boundary
- Municipality Boundaries

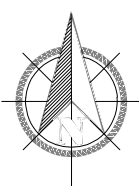
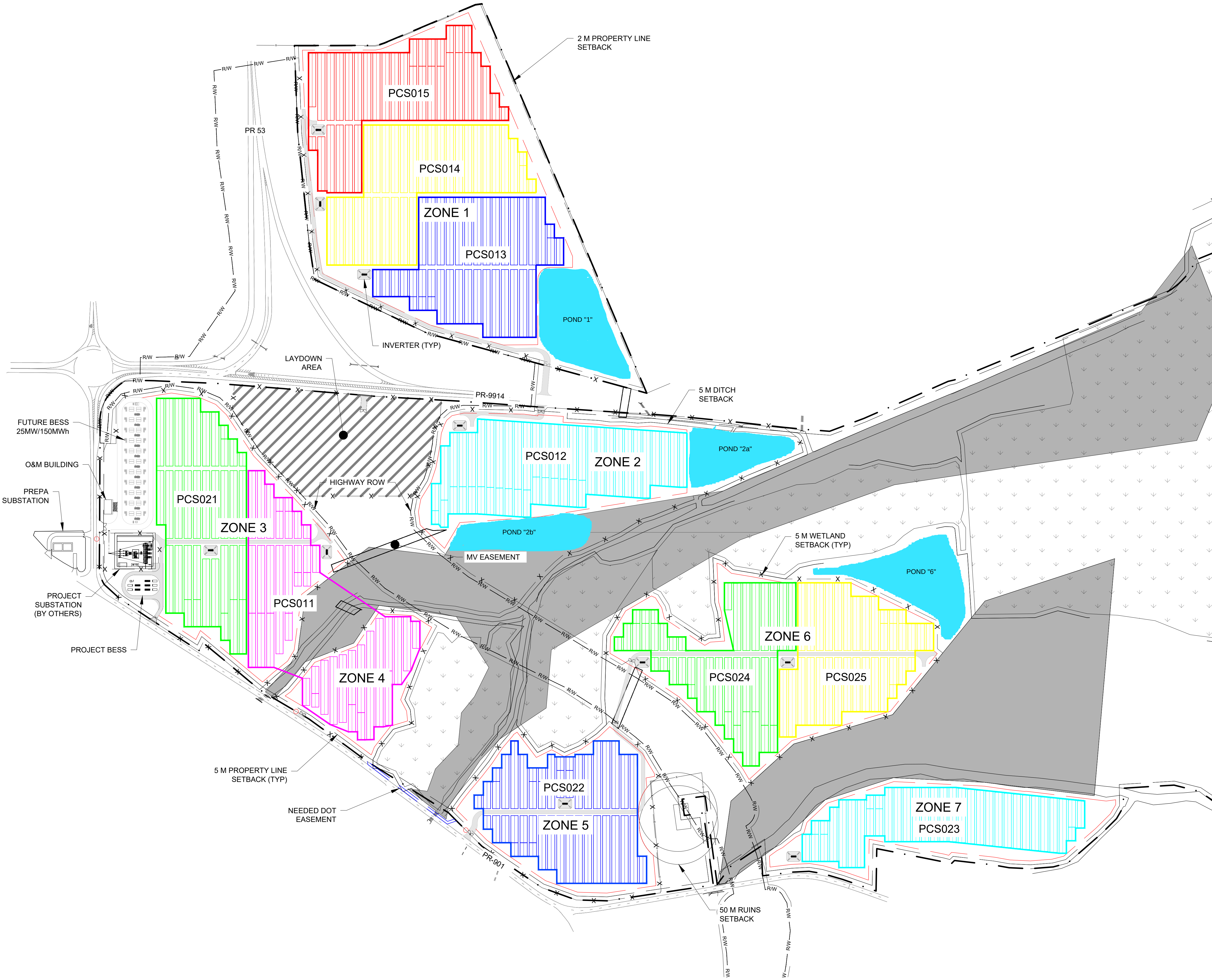


0 0.25 0.5
1:25,000 Miles



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



OVERALL SITE PLAN



SCALE: 1"=200'

LEGEND

- PROPERTY BOUNDARY
- BUILDABLE AREA
- FLOODWAY
- WETLAND

PROJECT SUMMARY	
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AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,982
DC/AC RATIO @ POI:	1.37
INVERTER LOADING RATIO	1.05
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	80,700
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,690
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024

PROJECT NAME:
**YABUCOA
PV SOLAR POWER
GENERATION FACILITY**

PROJECT ADDRESS:
**BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR**

SEAL:

PRELIMINARY

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:
OVERALL SITE PLAN

SHEET #: E-1000	REV #: C
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PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09 PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Anaís Rodríguez Vega
Secretary
Departamento de Recursos Naturales y Ambientales
San José Industrial Park
1375 Ave Pince de León
San Juan, PR 00926

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Ms. Rodriguez Vega,

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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Figure 2: Preliminary Project Layout

CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales

Dave Kleusner, U.S. Environmental Protection Agency

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Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales

Jorge L. Cotto-Perez, Puerto Rico Electric Power Authority

Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority

Lourdes Mena, U.S. Fish and Wildlife Service

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Carlos Rubio-Canela, State Historic Preservation Office

Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

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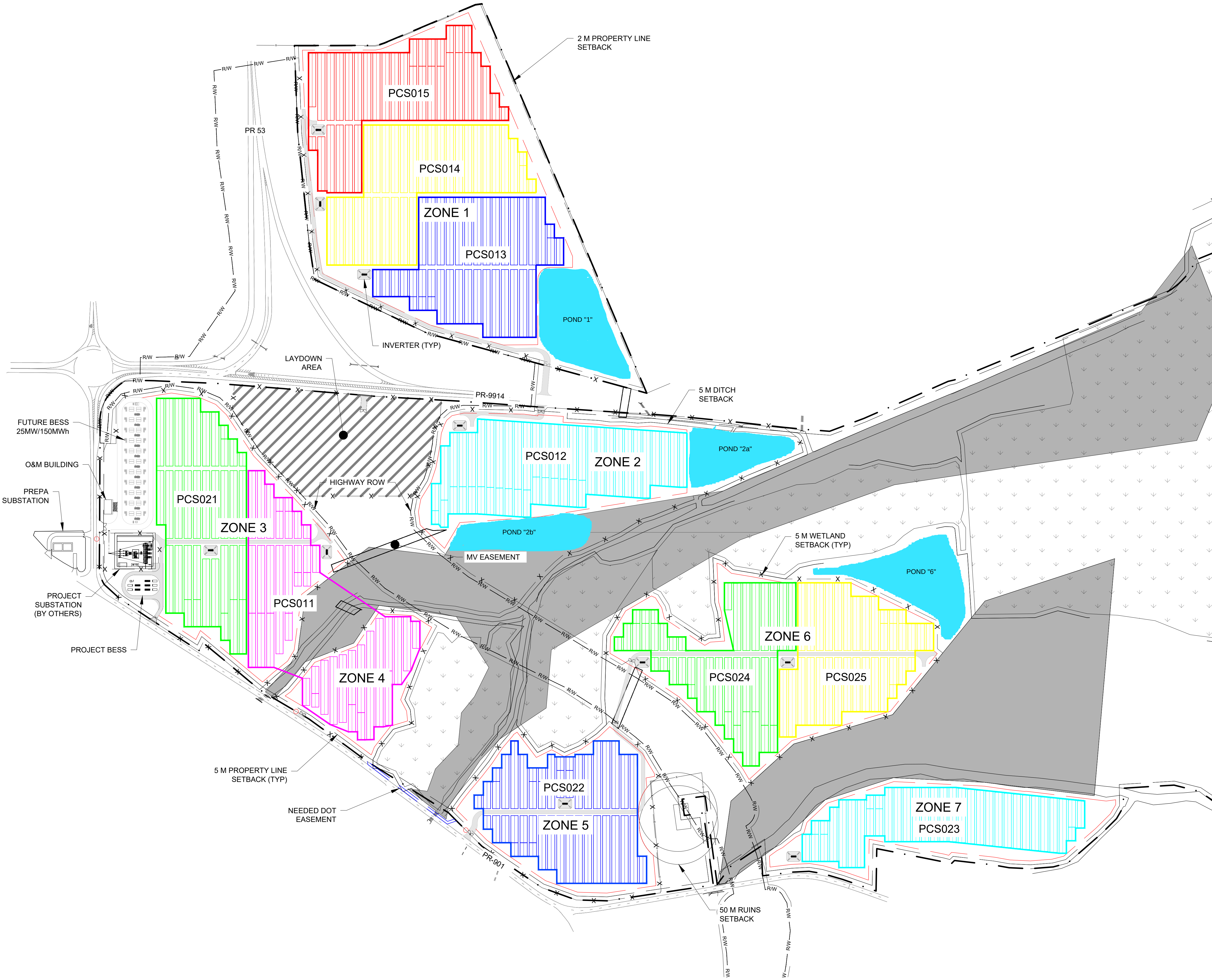


-  Yabucoa Site Boundary
 Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

PROPERTY BOUNDARY

BUILDABLE AREA

FLOODWAY

WETLAND

PROJECT SUMMARY	
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AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,982
DC/AC RATIO @ POI:	1.37
INVERTER LOADING RATIO	1.05
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	80,700
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,690
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	



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225 E Germann Road
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REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
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PROJECT NAME:
YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:
BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL:

PRELIMINARY

DATE:
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PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:
OVERALL SITE PLAN

SHEET #:
E-1000

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C

PRELIMINARY - NOT FOR CONSTRUCTION

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Department of Energy

Washington, DC 20585

March 15, 2024

Milagros M. Navon Rivera
Oficiales de Informacion
Departamento de Recursos Naturales y Ambientales
San José Industrial Park
1375 Ave Ponce de León
San Juan, PR 00926

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Ms. Navon Rivera,

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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Figure 2: Preliminary Project Layout

CC:

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Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales

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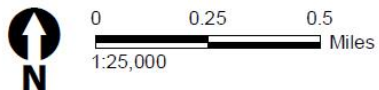
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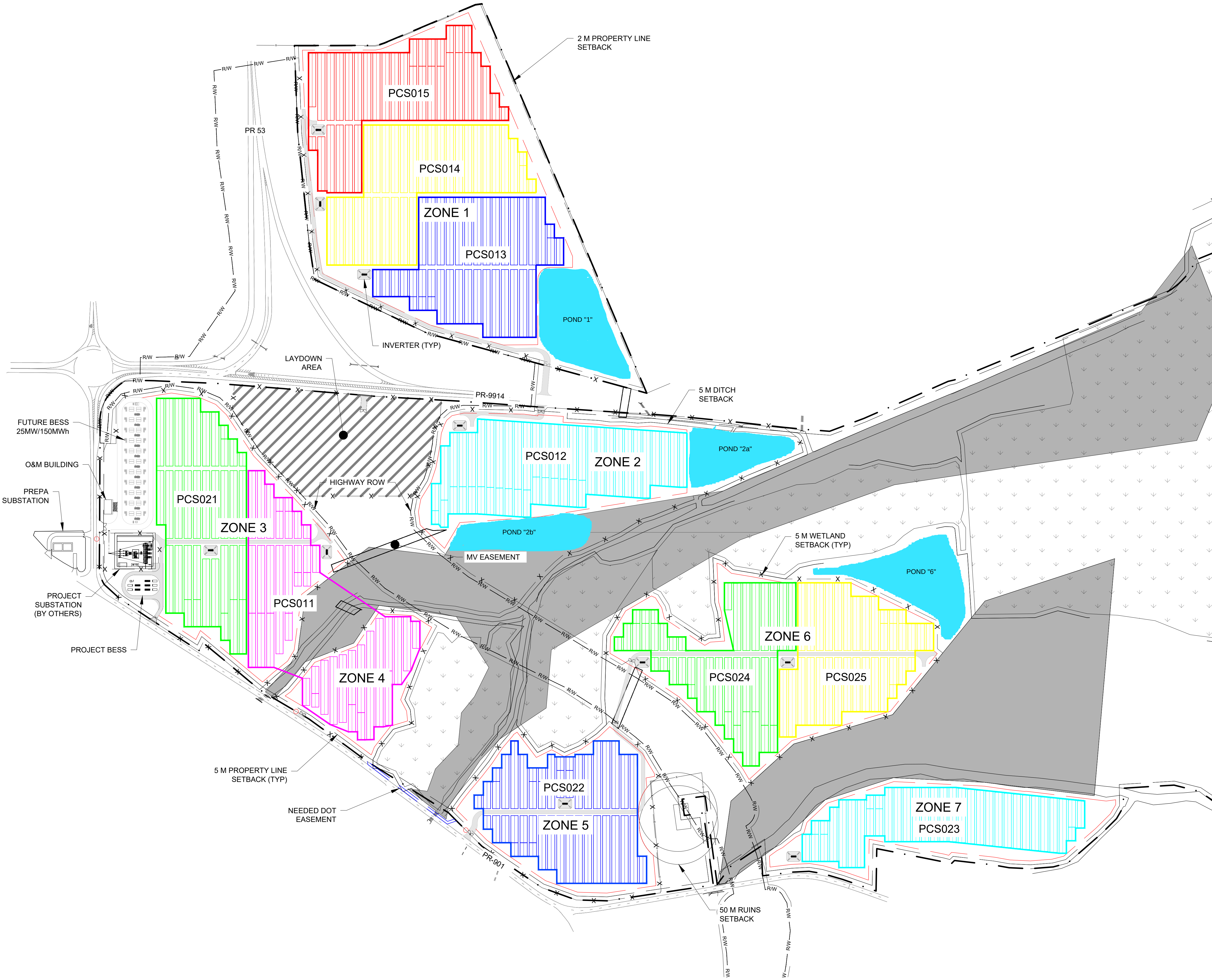


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

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LEGEND

PROPERTY BOUNDARY

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NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL: PRELIMINARY

DATE: 02/07/2024

PROJECT #: 230144.12

DRAWN BY: LP

CHECKED BY: TG

SHEET NAME:

OVERALL SITE PLAN

SHEET #: E-1000

REV #: C

PRELIMINARY - NOT FOR CONSTRUCTION



OVERALL SITE PLAN

200' 100' 0 200' 400' 600'

SCALE: 1"=200'

LOCATION: S:_09 PROJECTS\230144.12 - ARCLIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN PLOT BY: Luke Peterson PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Lcdo. Samuel Acosta Camacho
Oficiales de Información
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San José Industrial Park
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SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Acosta Camacho,

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If you or your staff would like to receive further information concerning this Project or DOE's NEPA process, please contact me at 240-457-7973 or email at LPO_Environmental@hq.doe.gov.

Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales

Dave Kleusner, U.S. Environmental Protection Agency

Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales

Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales

Jorge L. Cotto-Perez, Puerto Rico Electric Power Authority

Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority

Lourdes Mena, U.S. Fish and Wildlife Service

Manual Matos, Natural Resource Conservation Service

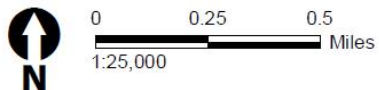
Carlos Rubio-Canela, State Historic Preservation Office

Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

Figure 1: Infinigen Yabucoa Site Map

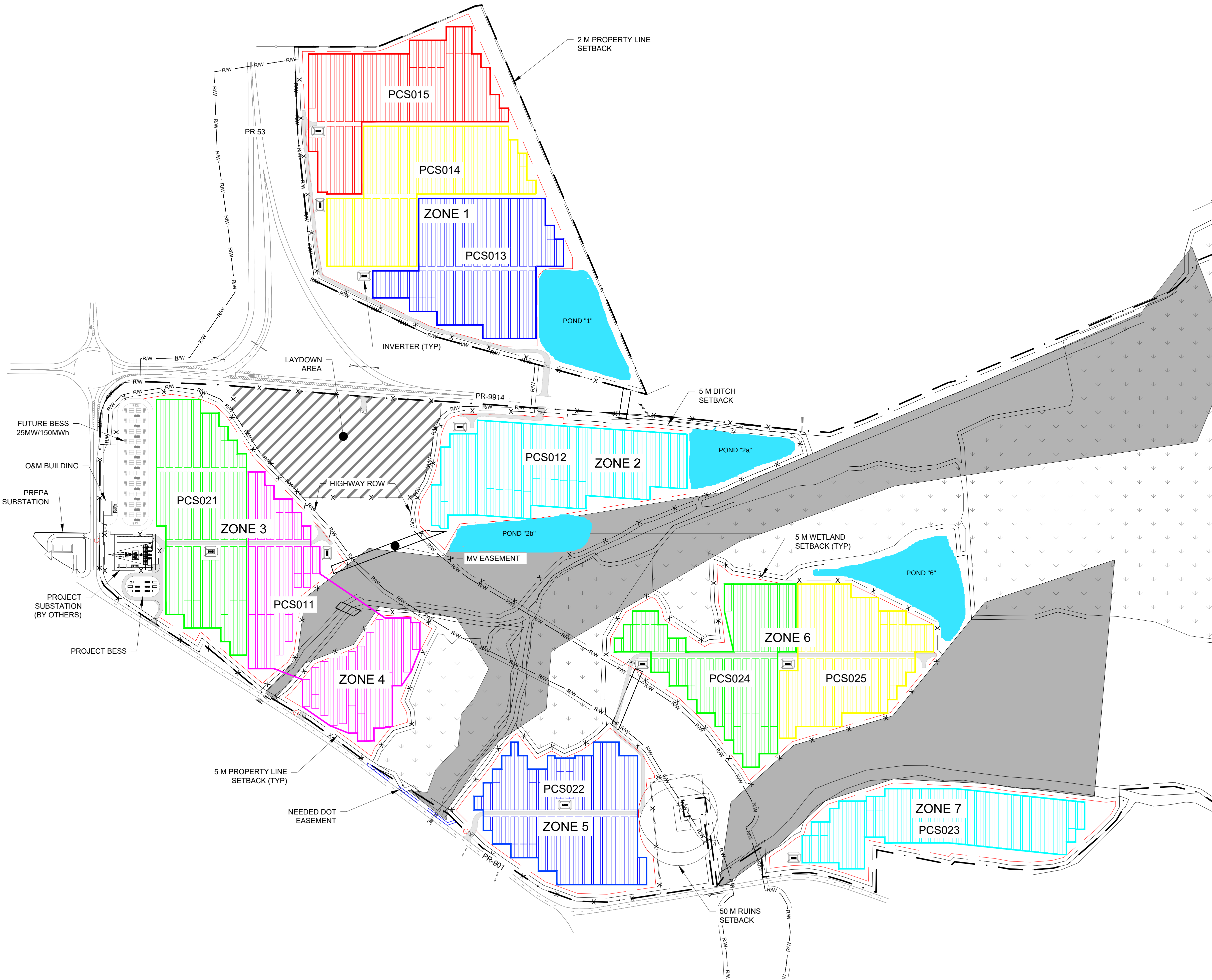


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND	
	PROPERTY BOUNDARY
	BUILDABLE AREA
	FLOODWAY
	WETLAND

PROJECT SUMMARY	
AC CAPACITY @ POI (kW):	32,100
AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,982
DC/AC RATIO @ POI:	1.37
INVERTER LOADING RATIO	1.05
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	80,700
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,690
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid FastGrid, LLC 225 E Germann Road Suite 310 Gilbert, AZ 85297		
REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024
PROJECT NAME: YABUCOA PV SOLAR POWER GENERATION FACILITY		
PROJECT ADDRESS: BO. JUAN MARTIN Y CAMINO NUEVO, CARR PR-53 INT PR-901, YABUCOA, PR		
SEAL:	DATE: 02/07/2024	
PRELIMINARY	PROJECT #: 230144.12	
	DRAWN BY: LP	
	CHECKED BY: TG	
SHEET NAME: OVERALL SITE PLAN		
SHEET #: E-1000	REV #: C	

PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09 PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Carlos R. Fajardo Verdejo
Oficiales de Información
Departamento de Recursos Naturales y Ambientales
San José Industrial Park
San Juan, PR 00926

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Fajardo Verdejo,

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DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPAAct, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory

Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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Dave Kleusner, U.S. Environmental Protection Agency

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Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

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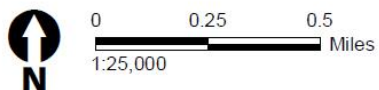
Carlos Rubio-Canela, State Historic Preservation Office

Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

Figure 1: Infinigen Yabucoa Site Map

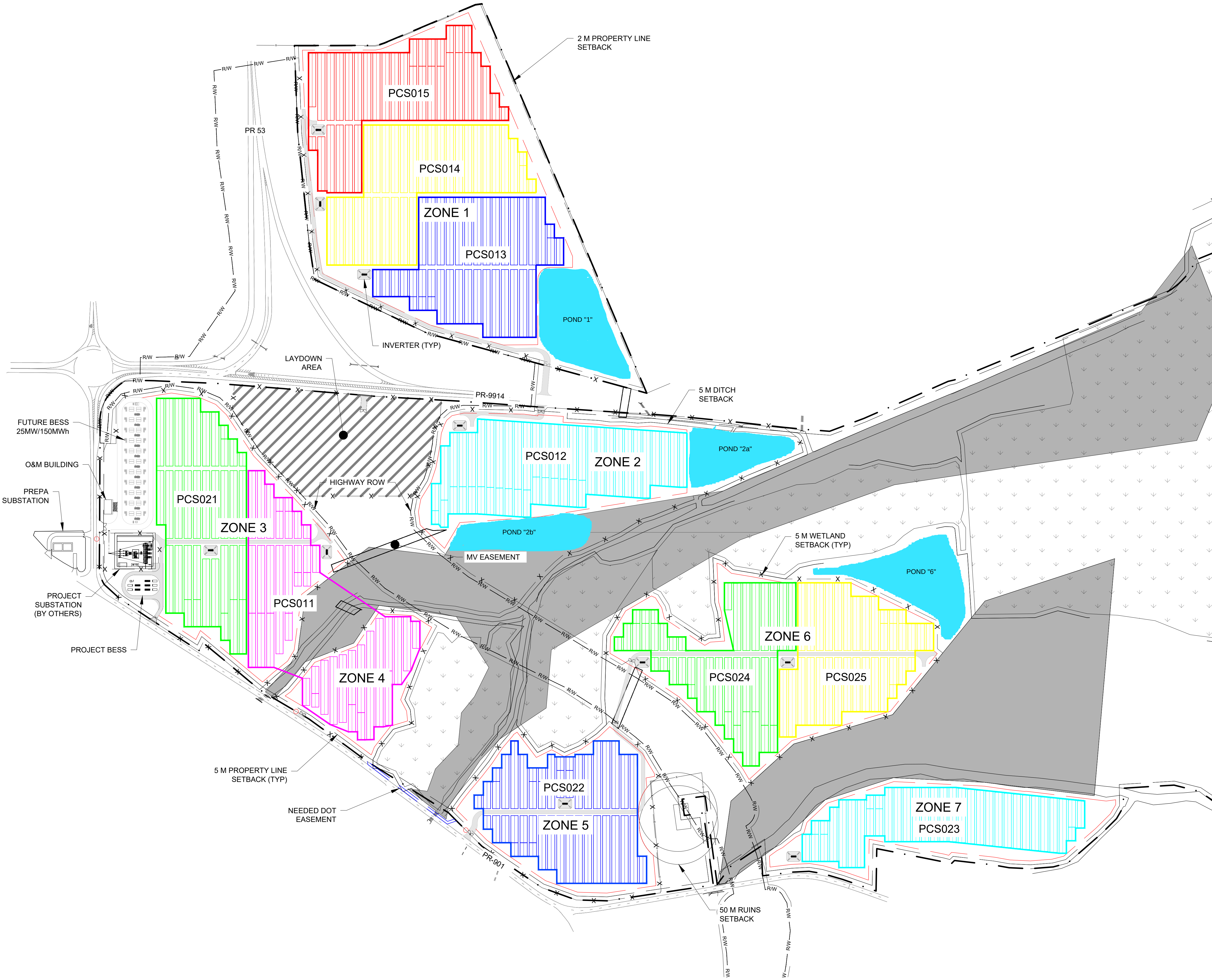


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



OVERALL SITE PLAN



SCALE: 1"=200'

LEGEND

- PROPERTY BOUNDARY
- BUILDABLE AREA
- FLOODWAY
- WETLAND

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MODULE WATTAGE (W)	545
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MODULES PER STRING:	30
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RACKING MANUFACTURER:	GAMECHANGE
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PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024

PROJECT NAME:
**YABUCOA
PV SOLAR POWER
GENERATION FACILITY**

PROJECT ADDRESS:
**BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR**

PRELIMINARY

SEAL:

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:
OVERALL SITE PLAN

SHEET #:	REV #:
E-1000	C

PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09 PROJECTS\230144.12 - ARCLIGHT - YABUCOA EOR\02 ENGINEERING\DWG-1000 OVERALL SITE PLAN PLOT BY: Luke Peterson SAVED BY: Luke Peterson PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 18, 2024

Dave Kluesner
Acting Director
EPA Region 2, Environmental Review Section
290 Broadway, 25th Floor
New York, NY 10007-1866

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Kluesner,

Title XVII of the Energy Policy Act of 2005 (EPAAct) established a federal loan guarantee program for certain projects and authorizes the Secretary of Energy to make loan guarantees available for those projects. Under Title XVII, the Department of Energy (DOE) Loan Programs Office (LPO) may provide loan guarantees for projects that support energy infrastructure reinvestment (EIR) in the United States and U.S. territories.

DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPAAct, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

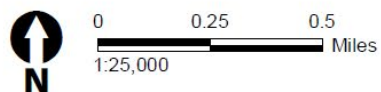
CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales
Dave Kleusner, U.S. Environmental Protection Agency
Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales
Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales
Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales
Jorge L. Cotto-Perez, Puerto Rico Electric Power Authority
Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority
Lourdes Mena, U.S. Fish and Wildlife Service
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Carlos Rubio-Canela, State Historic Preservation Office
Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

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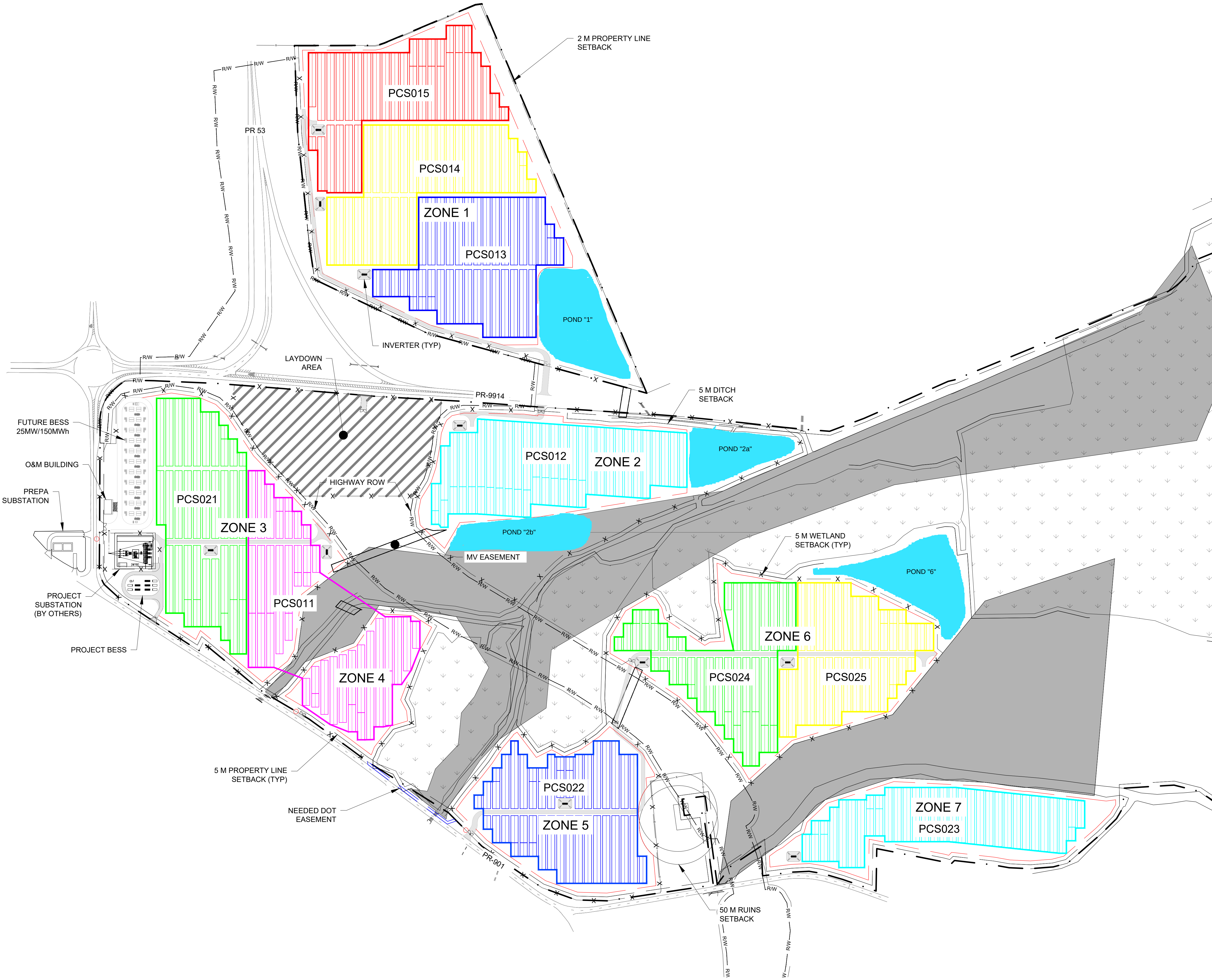


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

PROPERTY BOUNDARY

BUILDABLE AREA

FLOODWAY

WETLAND

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PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024

PROJECT NAME:
YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:
BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL:

PRELIMINARY

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:
OVERALL SITE PLAN

SHEET #:
E-1000

REV #:
C

PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09_PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Jorge L. Cotto-Perez
Puerto Rico Electric Power Authority

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Cotto-Perez,

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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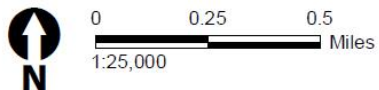
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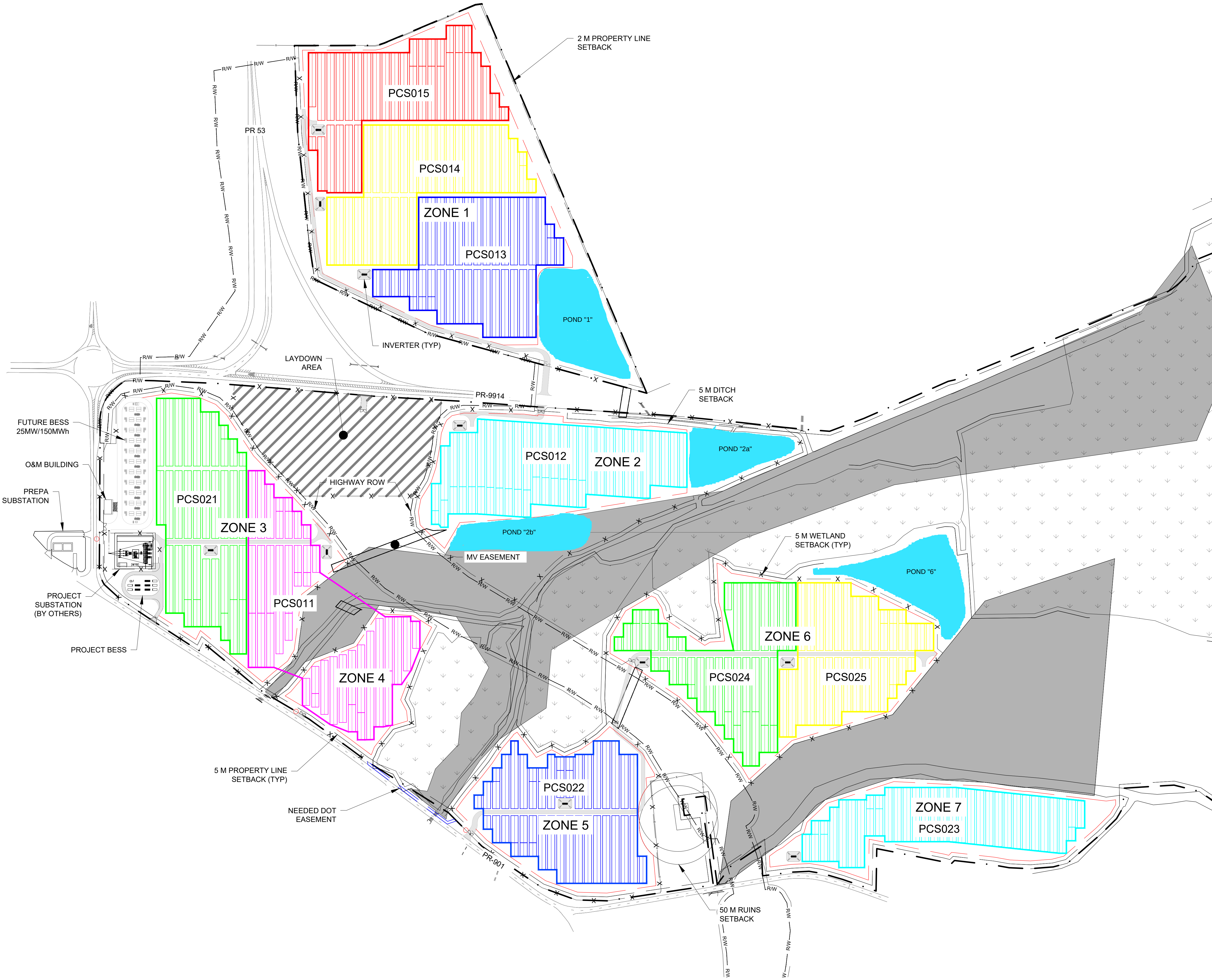


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

PROPERTY BOUNDARY

BUILDABLE AREA

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PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Sheila A. Torres-Sterling
Public-Private Partnerships Authority (P3)

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales

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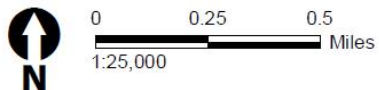
Carlos Rubio-Canela, State Historic Preservation Office

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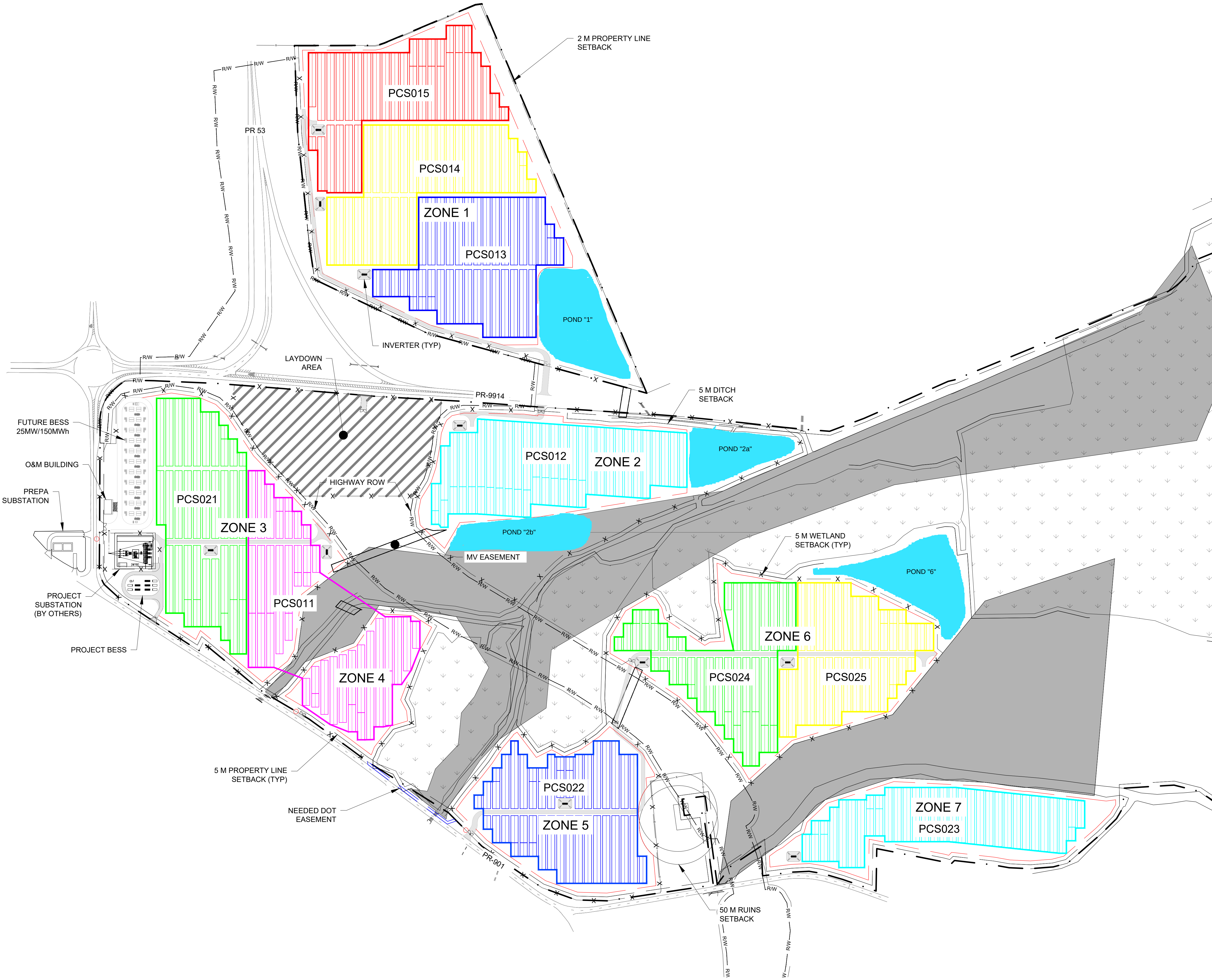


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Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

PROPERTY BOUNDARY

BUILDABLE AREA

FLOODWAY

WETLAND

PROJECT SUMMARY	
AC CAPACITY @ POI (kW):	32,100
AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,982
DC/AC RATIO @ POI:	1.37
INVERTER LOADING RATIO	1.05
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	80,700
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,690
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024

PROJECT NAME:

YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:

BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL: PRELIMINARY

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:

OVERALL SITE PLAN

SHEET #:
E-1000

REV #:
C

PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09_PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Ernesto Rivera
Public-Private Partnerships Authority (P3)

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Rivera,

Title XVII of the Energy Policy Act of 2005 (EPAcT) established a federal loan guarantee program for certain projects and authorizes the Secretary of Energy to make loan guarantees available for those projects. Under Title XVII, the Department of Energy (DOE) Loan Programs Office (LPO) may provide loan guarantees for projects that support energy infrastructure reinvestment (EIR) in the United States and U.S. territories.

DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPAcT, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission

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The DOE NEPA regulations provide for the notification of host states and territories of NEPA determinations and for the opportunity for host states and territories to review EAs prior to DOE approval. This process is intended to improve coordination and to facilitate early and open communication.

If you or your staff would like to receive further information concerning this Project or DOE's NEPA process, please contact me at 240-457-7973 or email at LPO_Environmental@hq.doe.gov.

Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

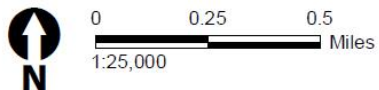
CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales
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Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales
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Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority
Lourdes Mena, U.S. Fish and Wildlife Service
Manual Matos, Natural Resource Conservation Service
Carlos Rubio-Canela, State Historic Preservation Office
Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

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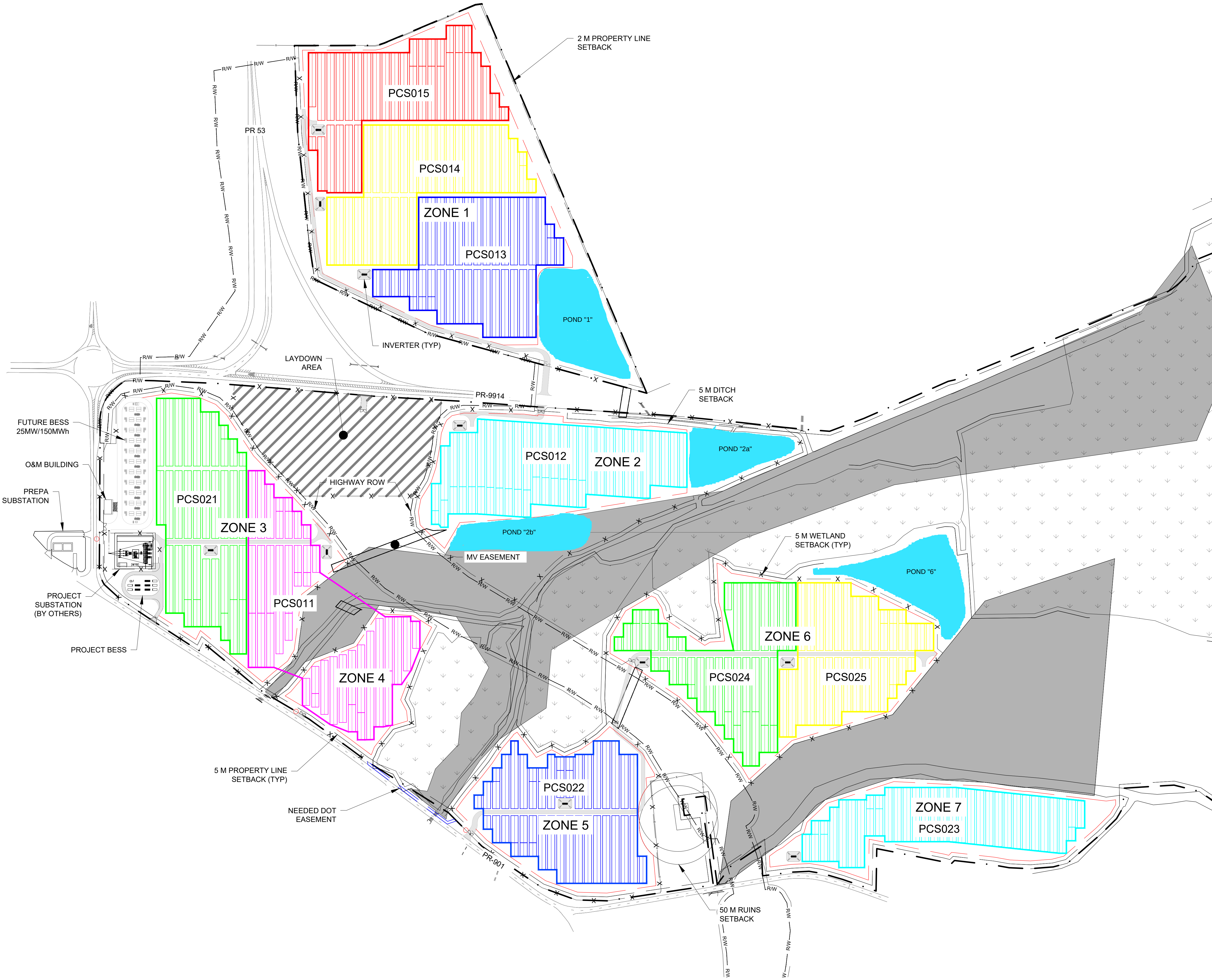


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

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SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Carlos Rubio-Cancela
State Historic Preservation Officer
Office of the Governor
State Historic Preservation Office
PO Box 9023935
San Juan, PR 00902-3935

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Rubio-Cancela,

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DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales

Dave Kleusner, U.S. Environmental Protection Agency

Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales

Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales

Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales

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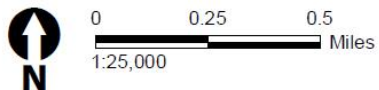
Carlos Rubio-Canela, State Historic Preservation Office

Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

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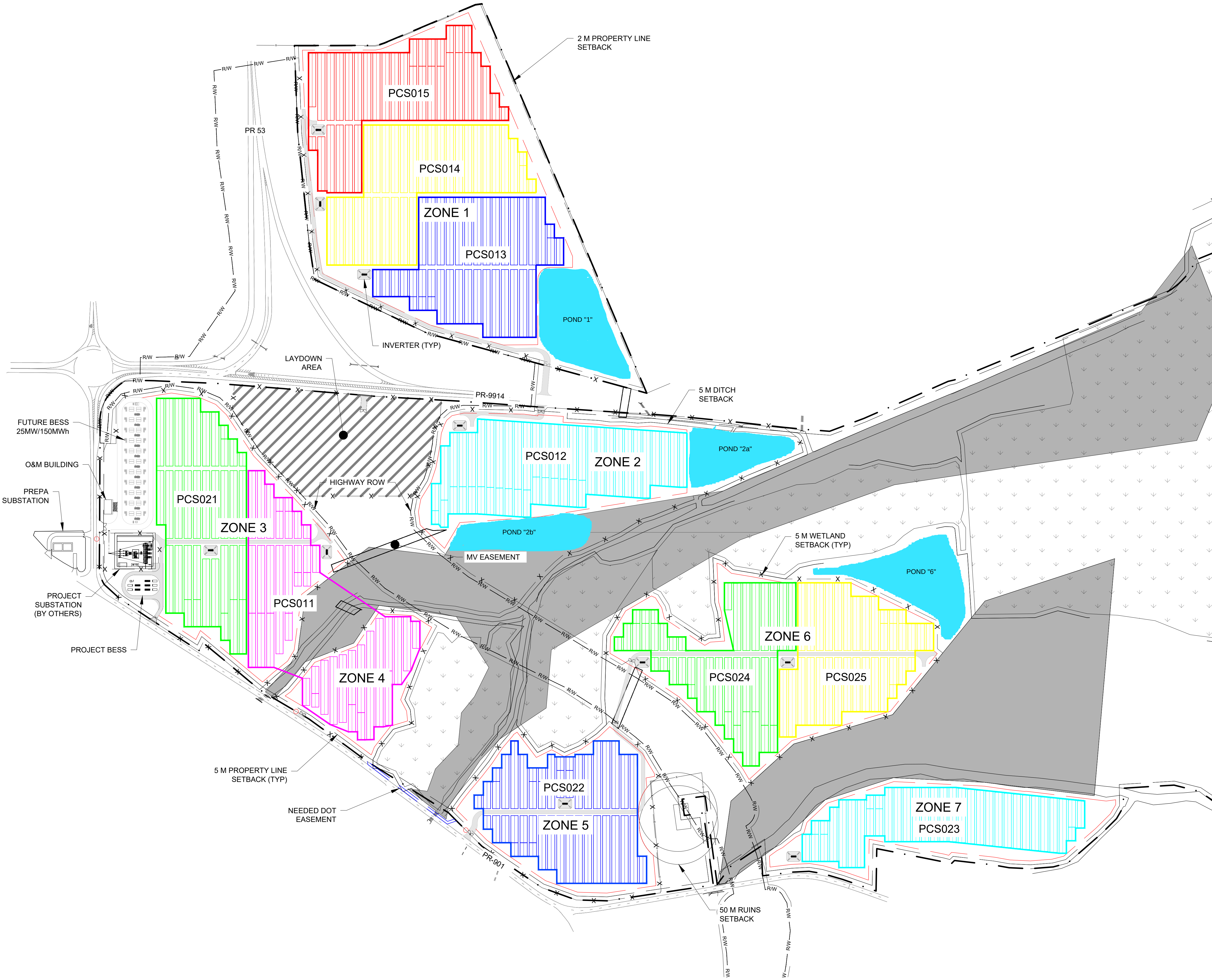


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

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BUILDABLE AREA

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PROJECT NAME:
YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:
BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL:

PRELIMINARY

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:
OVERALL SITE PLAN

SHEET #:
E-1000

REV #:
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PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09 PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 15, 2024

Lourdes Mena
Acting Field Supervisor
U.S. Fish and Wildlife Service
Caribbean Ecological Services Field Office
Office Park I, Suite 303
State Road #2, KM 156.5
Mayaguez, PR 00680

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Ms. Mena,

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The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPA, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

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Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

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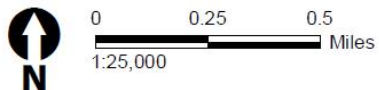
Carlos Rubio-Canela, State Historic Preservation Office

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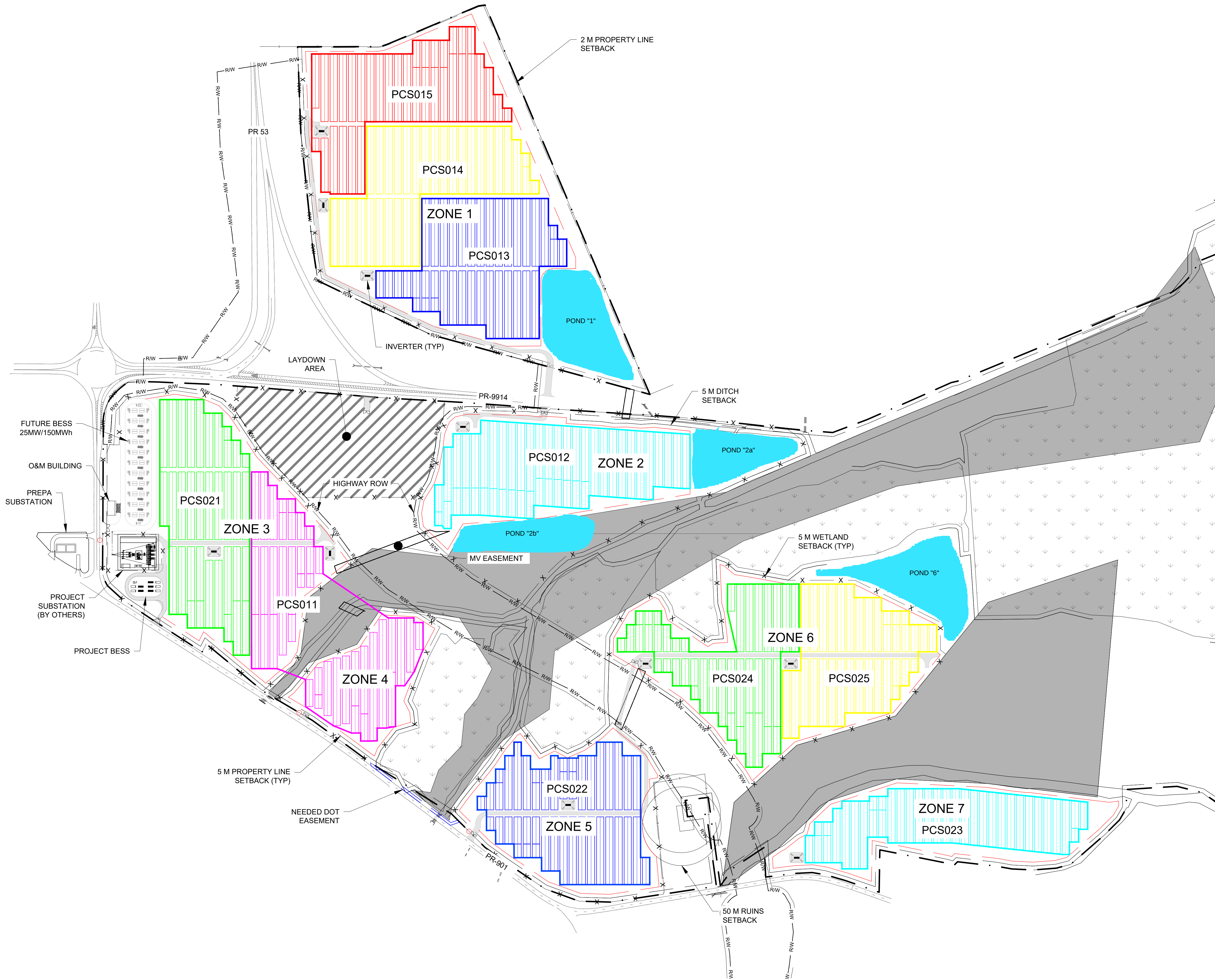


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

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Department of Energy

Washington, DC 20585

March 15, 2024

Manual Matos-Rodriguez
State Soil Scientist for the Caribbean Region
Natural Resource Conservation Service
654 Munoz Rivera Ave., Suite 604
San Juan, PR 00918

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the Construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Mr. Matos-Rodriguez,

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Environmental Protection Specialist
Loan Programs Office

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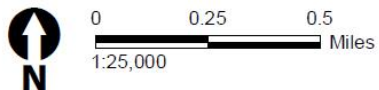
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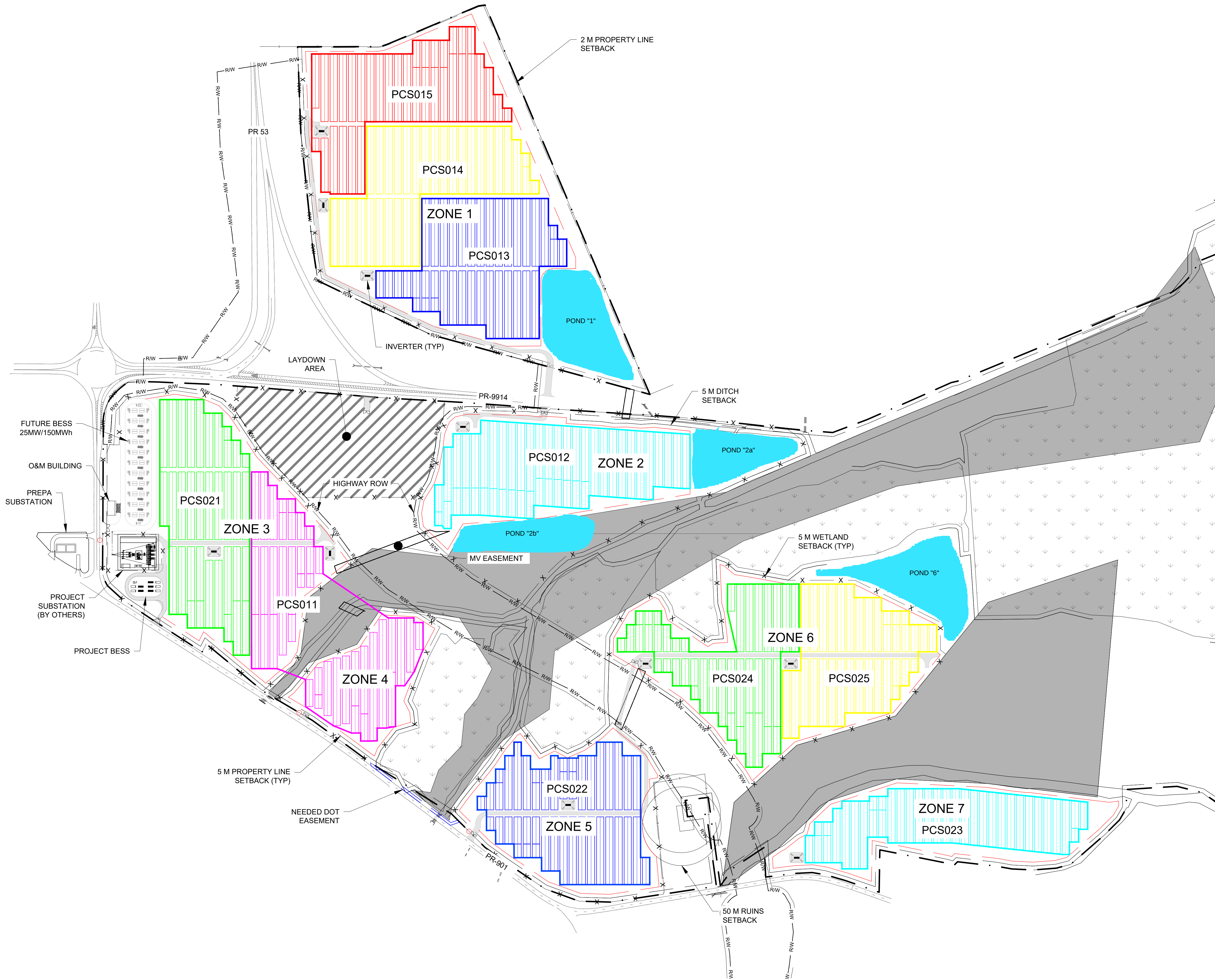


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Department of Energy, Loan Programs Office
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Department of Energy

Washington, DC 20585

March 18, 2024

Ivelisse Espinosa
Secretaría Auxiliar
Secretaría Auxiliar de Permisos, Endosos y Servicios
Departamento de Recursos Naturales y Ambientales

SUBJECT: The U.S. Department of Energy's (DOE's) Intent to Prepare an Environmental Assessment (EA) for a Proposed Federal Loan Guarantee to YFN Yabucoa Solar LLC for the construction of a 32.1 megawatt (MW) Photovoltaic (PV) Energy Facility.

Dear Ms. Espinosa,

Title XVII of the Energy Policy Act of 2005 (EPAAct) established a federal loan guarantee program for certain projects and authorizes the Secretary of Energy to make loan guarantees available for those projects. Under Title XVII, the Department of Energy (DOE) Loan Programs Office (LPO) may provide loan guarantees for projects that support energy infrastructure reinvestment (EIR) in the United States and U.S. territories.

DOE is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar LLC (the Applicant), to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico (See Figure 1). The PV installations will provide electricity to the distribution network of the Puerto Rico Electric Power Authority (PREPA). The decision to prepare an EA for the Project was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021).

The purpose and need for DOE's proposed action, the issuance of a Federal loan guarantee, is to implement DOE's authority under Title 17 of the EPAAct, which is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs)(42 U.S.C. 16517(a)(2)).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a

switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

The DOE NEPA regulations provide for the notification of host states and territories of NEPA determinations and for the opportunity for host states and territories to review EAs prior to DOE approval. This process is intended to improve coordination and to facilitate early and open communication.

If you or your staff would like to receive further information concerning this Project or DOE's NEPA process, please contact me at 240-457-7973 or email at LPO_Environmental@hq.doe.gov.

Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Figures and Attachments:

Figure 1: Site Map

Figure 2: Preliminary Project Layout

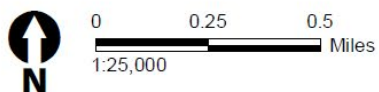
CC:

Hon. Rafeal Maldonado, Departamento de Recursos Naturales y Ambientales
Dave Kleusner, U.S. Environmental Protection Agency
Lcdo. Samuel Acosta Camacho, Departamento de Recursos Naturales y Ambientales
Carlos R. Fajardo Verdejo, Departamento de Recursos Naturales y Ambientales
Milagros M. Navon Rivera, Departamento de Recursos Naturales y Ambientales
Jorge L. Cotto-Perez, Puerto Rico Electric Power Authority
Ernesto-Rivera, Puerto Rico Public Private Partnerships Authority
Lourdes Mena, U.S. Fish and Wildlife Service
Manual Matos, Natural Resource Conservation Service
Carlos Rubio-Canela, State Historic Preservation Office
Ivelisse Espinosa, Departamento de Recursos Naturales y Ambientales

Figure 1: Infinigen Yabucoa Site Map

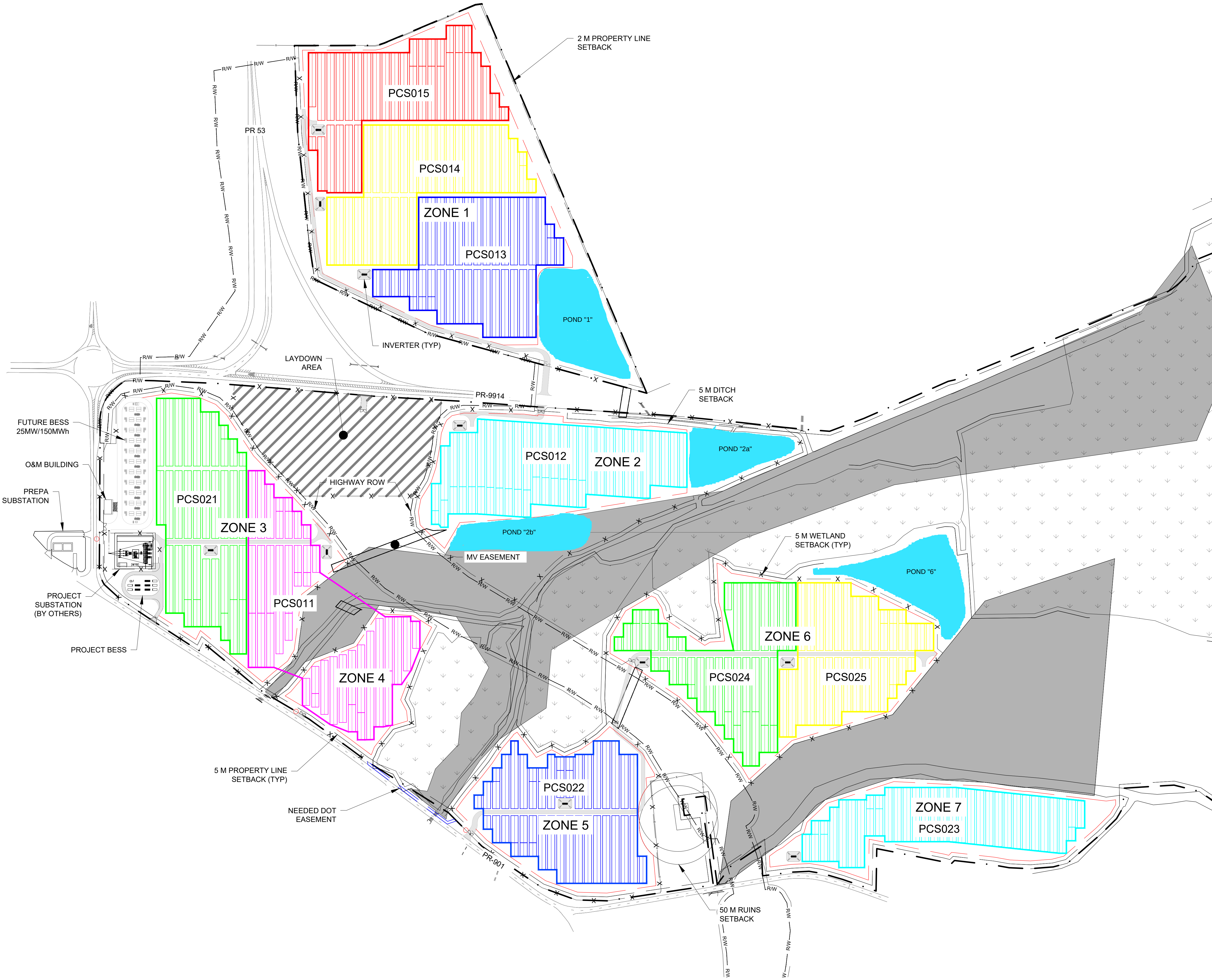


- Yabucoa Site Boundary
- Municipality Boundaries



Department of Energy, Loan Programs Office
Project Yabucoa Site - Project Location

Figure 2: Preliminary Project Layout



LEGEND

PROPERTY BOUNDARY

BUILDABLE AREA

FLOODWAY

WETLAND

PROJECT SUMMARY	
AC CAPACITY @ POI (kW):	32,100
AC CAPACITY INV NAMEPLATE (kVA):	42,000
DC CAPACITY @ STC (kW):	43,982
DC/AC RATIO @ POI:	1.37
INVERTER LOADING RATIO	1.05
INVERTER MODEL #:	PE FS4200M
INVERTER (kW AC) @ 40° C:	4,200
INVERTER TOTAL QUANTITY:	10
MODULE MODEL:	CS6W-545MB-AG
MODULE WATTAGE (W)	545
MODULE TOTAL QUANTITY:	80,700
MODULES PER STRING:	30
NUMBER OF STRINGS:	2,690
RACKING MANUFACTURER:	GAMECHANGE
TILT ANGLE (deg)	5
ROW SPACING (ft/m):	38.21/11.65
GROUND COVER RATIO:	79.1%
PLANT CONTROLLER LIMIT TO 32.1MW	



FastGrid

FastGrid, LLC
225 E Germann Road
Suite 310
Gilbert, AZ 85297

REV	DESCRIPTION	DATE
A	30% DESIGN	11/22/2023
B	60% DESIGN	12/21/2023
C	90% DESIGN	01/29/2024

PROJECT NAME:

YABUCOA
PV SOLAR POWER
GENERATION FACILITY

PROJECT ADDRESS:

BO. JUAN MARTIN Y CAMINO
NUEVO, CARR PR-53 INT
PR-901, YABUCOA, PR

SEAL: PRELIMINARY

DATE:
02/07/2024

PROJECT #:
230144.12

DRAWN BY:
LP

CHECKED BY:
TG

SHEET NAME:

OVERALL SITE PLAN

SHEET #:
E-1000

REV #:
C

PRELIMINARY - NOT FOR CONSTRUCTION

LOCATION: S:_09_PROJECTS\230144.12 - ARC\LIGHT - YABUCOA EOR\02 ENGINEERING\DWG\1000 OVERALL SITE PLAN
PLOT BY: Luke Peterson
SAVED BY: luke.peterson
PLOT DATE: Wednesday, February 07, 2024



Department of Energy

Washington, DC 20585

March 20, 2024

Robert Tawes
Acting Field Supervisor
Caribbean Ecological Services Field Office
U.S. Fish and Wildlife Service
P.O. Box 491 Boqueron, P.R. 00622

SUBJECT: Formal Consultation Under Section 7 of the Endangered Species Act for the YFN Yabucoa Solar, LLC Photovoltaic Solar and Battery Energy Storage Project in Yabucoa Municipality

Dear Mr. Tawes,

Title XVII of the Energy Policy Act of 2005 (EPAcT) established a federal loan guarantee program for certain projects that support energy infrastructure reinvestment and authorizes the Secretary of Energy to make loan guarantees available for those projects. YFN Yabucoa Solar, LLC (The Applicant), has applied for a loan guarantee pursuant to the U.S. Department of Energy's (DOE) Title XVII Energy Infrastructure Reinvestment Program. DOE is evaluating whether to provide a federal loan guarantee to the Applicant to support a 32.1 megawatt (MW) solar photovoltaic and battery energy storage system (BESS) (Project) facility on a 247-acre parcel leased from the Puerto Rico Land Administration in the Yabucoa Municipality (Figure 1).

The proposed Project will be constructed on approximately 104 acres within the 247-acre property (Figure 2). As documented in the attached Flora and Fauna Survey, the land cover within the Project site consists of unimproved pasture with shrub overgrowth, and a review of historical aerial imagery indicates that the property was cleared prior to 2002. The Information for Planning and Consultation (IPaC) screening flagged the federally endangered Puerto Rican Boa (*Chilabothrus inornatus*) and the threatened West Indian manatee (*Trichechus manatus*) as potential listed species occurrences in the general area (see IPaC report attached). There are no water bodies on the Project site capable of supporting manatees nor project indirect effects that would impact the species, therefore DOE makes a No Effect determination for the manatee.

In accordance with the Endangered Species Act of 1973, DOE is requesting formal consultation with your office regarding the effects on the federally endangered Puerto Rican Boa (*Chilabothrus inornatus*) for the Yabucoa project. Although the probability of Puerto Rican Boa occurrence on the site is minimal due to the property location within an urban area bounded by roads, and the pre-2002 site clearing, we have determined that adhering to the terms and conditions of the Programmatic Biological Assessment (PBO) for the Puerto Rican Boa is in the best interest of species conservation. Consultation under the PBO requires DOE to make a determination that the proposed action may affect, likely to adversely affect (MLAA) the Puerto Rican Boa. Adherence to the terms and conditions of the PBO provides for a take exemption related to this action.

DOE requests your concurrence with our MLAA determination and commitment to compliance with the terms and conditions of the PBO to support the conservation of the Puerto Rican Boa. If you or your staff have additional questions or comments, please contact me in the DOE Loan Programs Office at 240-457-7973, or email at LPO_Environmental@hq.doe.gov.

Respectfully,

David Oster
Environmental Protection Specialist
Loan Programs Office

Attachments:

Figure 1: Project Location

Figure 2: Site Plan

IPaC Resource List

Flora and Fauna Survey for Listed Species at the Yabucoa Solar YFN Site in the Autonomous Municipality of Yabucoa, Puerto Rico



United States Department of the Interior

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



In Reply Refer To:
FWS/R4/CESFO/72151-029

Submitted Via Electronic Mail: LPO_Environmental@hq.doe.gov

Mr. David Oster
Department of Energy
Environmental Protection Specialist
Loan Programs Office
Washington DC 20585

Re: YFN Yabucoa Solar, LLC Photovoltaic Solar and
Battery Energy Storage Project, Yabucoa, Puerto Rico

Dear Mr. Oster:

Thank you for your letter of March 20, 2024, requesting initiation of formal consultation under section 7 of the Endangered Species Act (ESA) for the above referenced project. Our comments are provided under the ESA (87 Stat. 884, as amended; 16 United States Code 1531 et seq.), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

The U.S. Department of Energy-Loan Programs Office (DOE-LPO) is evaluating whether to provide a federal loan guarantee to YFN Yabucoa Solar, LLC (Applicant) to support the development of a 32.1 megawatt (MW) solar photovoltaic and battery energy storage system. The project will be established on approximately 104 acres within a 247-acre parcel leased from the Puerto Rico Land Administration in the municipality of Yabucoa.

According to the information provided, based on the U.S. Fish and Wildlife Service's (Service) Information for Planning and Consultation (IPaC) system, the proposed project lies within the range of the endangered Puerto Rican boa (*Epicrates inornatus*, now known as *Chilabothrus inornatus*) and the threatened West Indian manatee (*Trichechus manatus*).

Based on the project description and the Flora and Fauna Survey, the land cover within the project site consists of unimproved pasture with shrub overgrowth, and a review of historical aerial imagery indicates that the property was cleared prior to 2002. Thus, DOE-LPO made a no effect (NE) determination for the Antillean manatee. Furthermore, DOE-LPO determined that the proposed project may affect and is likely to adversely affect (MLAA) the Puerto Rican boa. Therefore, DOE-LPO will request the implementation of the terms and conditions included in amended Programmatic Biological Opinion (PBO) developed for the PR boa.

We acknowledge receipt of DOE-LPO NE determination for the Antillean manatee. Currently, we do not have information to refute that determination. Because DOE-LPO made a NE determination, DOE-LPO is not required to conduct formal or informal section 7 consultation with the Service for these species, and the Service is not required to concur with DOE-LPO NE determination.

We have reviewed the information provided by DOE-LPO and concur with their MLAA determination for the Puerto Rican boa with the implementation of the terms and conditions included in Sections 6.4 and 6.5 of the amended PBO.

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 project. If you have any questions or require additional information, please contact José Cruz Burgos, Threatened and Endangered Species Program Coordinator, via email at jose_cruz-burgos@fws.gov or caribbean_es@fws.gov, or by phone at (786) 244-0081.

Sincerely yours,

Robert Tawes
Acting Field Supervisor

mgv

Enclosure: Programmatic Biological Opinion for the Puerto Rican boa and the Virgin Islands tree boa

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Yabucoa County, Puerto Rico



Local office

Caribbean Ecological Services Field Office

☎ (939) 320-3135

📠 (787) 851-7440

✉ CARIBBEAN_ES@FWS.GOV

MAILING ADDRESS

Post Office Box 491

Boqueron, PR 00622-0491

PHYSICAL ADDRESS

Office Park I

State Road #2 Km 156.5, Suite 303}

Mayaguez, PR 00680

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
West Indian Manatee <i>Trichechus manatus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4469	Threatened Marine mammal

Reptiles

NAME	STATUS
Puerto Rican Boa <i>Chilabothrus inornatus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6628	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, *please reach out to the local Fish and Wildlife Service office.*

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The [data](#) in this location indicates there are no migratory [birds of conservation concern](#) expected to occur in this area.

There may be migratory birds in your project area, but we don't have any survey data available to provide further direction. For additional information, please refer to the links above for recommendations to minimize impacts to migratory birds or contact your local FWS office.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Marine mammals

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries³ [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the [Marine Mammals](#) page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

1. The [Endangered Species Act](#) (ESA) of 1973.
2. The [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following marine mammals under the responsibility of the U.S. Fish and Wildlife Service are potentially affected by activities in this location:

NAME

West Indian Manatee *Trichechus manatus*
<https://ecos.fws.gov/ecp/species/4469>

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

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

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)[PEM1Cx](#)

RIVERINE

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



Natural
Resources
Conservation
Service

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February 21, 2024

David A. Oster
Environmental Protection Specialist
Loan Programs Office - LPO
U.S. Department of Energy
1000 Independence Ave SW
Washington, D.C. 20585

SUBJECT: NRCS Farmland Impact Rating Evaluation for the DOE Solar Project, at Yabucoa, Puerto Rico.

Dear David A. Oster

This letter is in response to your request for evaluation of the above-mentioned project. The Project is located in the Juan Martin neighborhood of Yabucoa, Puerto Rico, at the intersection of state highways PR-901 and PR-9914.

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The USDA Natural Resources Conservation Service (NRCS) is responsible for evaluating the site and conducting a Farmland Conversion Impact Rating.

Based on the information provided by the sponsor agency, the project consists of the following components:

- Photovoltaic (PV) energy facility with a capacity of 32.1 megawatts (MW) peak to provide renewable energy to the distribution network of the Puerto Rico Electric Power Authority (PREPA).
- The Project will be connected to the Puerto Rico Aqueduct and Sewer Authority (PRASA) and will not store water on site.
- Approximately 79,000 PV modules, 10 inverters, a battery energy storage system, a substation, and a less than 1-mile interconnection line to the nearest PREPA substation (Juan Martín TC).
- Battery storage system and all equipment necessary for the proper operation of the storage system (14.45 MW/5.76MWh storage capacity).

- Internal access roads necessary for the operation and maintenance of the system.
- Control room and administrative office (1,000 square-foot).

NRCS uses a land evaluation and site assessment (LESA) system to establish a farmland conversion impact rating score on the proposed site of Federally funded and assisted projects. This score is used as an indicator for the project sponsor, in this case EPA (federal funds provider), to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. The assessment is completed on form AD-1006, Farmland Conversion Impact Rating. The sponsoring agency completes the site assessment portion of the AD-1006, which assesses non-soil related criteria such as the potential for impact on the local agricultural economy if the land is converted to non-farm use, and compatibility with existing agricultural use. The FPPA does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

According to the Web Soil Survey (WSS), the project area corresponds to the Humacao Area, Puerto Rico Eastern Part (PR689). 53.2 acres (29.2 percent) of the evaluated area is mapped as Cr – Coloso silty clay, 0 to 2 percent slopes, occasionally flooded; 48 acres (26.3 percent), Vw – Vivi loam; 40.5 acres (22.2 percent), Ta- Talante soils; 21.6 acres (11.9 percent), Me- Maunabo Clay; 17.7 acres (9.7 percent), PeC2- Parcelas clay, 5 to 12 percent slopes, eroded; 0.8 acres (0.4 percent), UI- Urban land; 0.5 (0.3 percent), TeE – Teja gravelly sandy loam, 12 to 40 percent slopes; 0.2 acres (0.1 percent), PdF- Pandura-Very stony land complex, 40 to 60 percent slopes. Total for area of interest (AOI) is 182.5 acres.

A WSS soil interpretation report was generated for farmland classification to evaluate map units subject to the Farmland Protection Policy Act (FPPA). Based on the report, 181.0 acres (99 percent) of the project footprint area of 182.50 acres (map units- Cr, Me, PeC2, Ta, Vw), are classified as prime farmland or farmland of statewide importance, and 1.50 acres (Map unit PdF, TeE, UI), are classified as Not prime farmland. Please refer to the enclosed Farm Conversion Impact Rating AD-1006 for the site evaluation. Parts II, IV and V have been completed by NRCS. Part VII needs to be completed by the sponsor agency. Once completed, please submit a copy for our records. If the selection of an alternative site is made, please submit for further evaluation.

Other environmental considerations are the presence of hydric soil inclusions. Soil map units within the area of interest have soil components that meet hydric criteria. Hydric soils formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Another consideration is the potential of flooding. Based on WSS, 89 percent of the area can experience frequent and occasional flooding events. "Occasional" flooding means the chance of flooding is 5 to 50 percent in any year, and "Frequent" means that flooding is likely to occur more than 50 percent in any year under normal weather conditions. Regarding susceptibility to erosion, the AOI is classified as Not highly erodible land (HEL). However, during the construction phase, proper erosion and sediment control measures should be incorporated into your construction plan to ensure minimal environmental degradation. Please refer to the enclosed WSS soil resource report for other consideration interpretations.

This data set is not designed for use as a primary regulatory tool in permitting or siting decisions but may be used as a reference source and for planning purposes. This is public information and may be interpreted by organizations, units of government or others based on need; however, these entities are responsible for the appropriate use and application of these

data. Digital and tabular data files are updated yearly, and users are responsible for obtaining the latest version of the data.

Should you need additional information, do not hesitate to contact me at (787) 452-6097 or manuel.matos@usda.gov.

Sincerely,

Manuel Matos
State Soil Scientist

Enclosures

pc: Luis Cruz Arroyo, State Conservationist

Attachment 1: NRCS-AD-1006 – Farmland Conversion Impact Rating

Attachment 2: Submitted Custom Soil Resource Report for the Project Area

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)					Date Of Land Evaluation Request				
Name of Project					Federal Agency Involved				
Proposed Land Use					County and State				
PART II (To be completed by NRCS)					Date Request Received By NRCS		Person Completing Form:		
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	Average Farm Size	
Major Crop(s)		Farmable Land In Govt. Jurisdiction Acres: %			Amount of Farmland As Defined in FPPA Acres: %				
Name of Land Evaluation System Used		Name of State or Local Site Assessment System			Date Land Evaluation Returned by NRCS				
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									
B. Total Acres To Be Converted Indirectly									
C. Total Acres In Site									
PART IV (To be completed by NRCS) Land Evaluation Information									
A. Total Acres Prime And Unique Farmland									
B. Total Acres Statewide Important or Local Important Farmland									
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted									
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value									
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)									
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)				
2. Perimeter In Non-urban Use					(10)				
3. Percent Of Site Being Farmed					(20)				
4. Protection Provided By State and Local Government					(20)				
5. Distance From Urban Built-up Area					(15)				
6. Distance To Urban Support Services					(15)				
7. Size Of Present Farm Unit Compared To Average					(10)				
8. Creation Of Non-farmable Farmland					(10)				
9. Availability Of Farm Support Services					(5)				
10. On-Farm Investments					(20)				
11. Effects Of Conversion On Farm Support Services					(10)				
12. Compatibility With Existing Agricultural Use					(10)				
TOTAL SITE ASSESSMENT POINTS					160				
PART VII (To be completed by Federal Agency)									
Relative Value Of Farmland (From Part V)					100				
Total Site Assessment (From Part VI above or local site assessment)					160				
TOTAL POINTS (Total of above 2 lines)					260				
Site Selected:		Date Of Selection			Was A Local Site Assessment Used? YES ☐ NO ☐				
Reason For Selection:									
Name of Federal agency representative completing this form:								Date:	

(See Instructions on reverse side)

Form AD-1006 (03-02)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.



United States
Department of
Agriculture

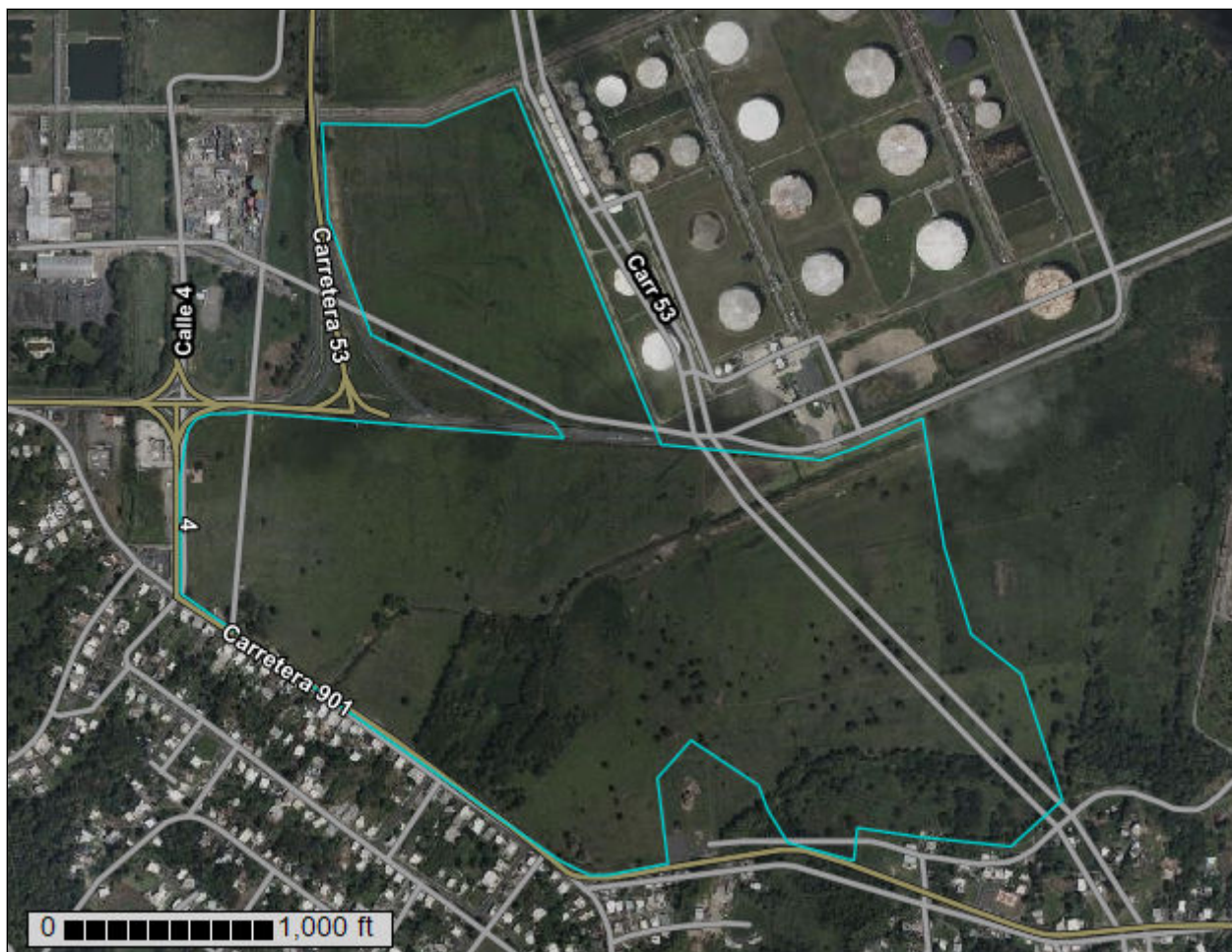
NRCS

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

DOE Photovoltaic Facility Project
at Yabucoa



February 27, 2024

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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alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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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

Custom Soil Resource Report

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



Custom Soil Resource Report

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 15, Sep 13, 2023

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
Cr	Coloso silty clay, 0 to 2 percent slopes, occasionally flooded	53.2	29.2%
Me	Maunabo clay	21.6	11.9%
PdF	Pandura-Very stony land complex, 40 to 60 percent slopes	0.2	0.1%
PeC2	Parcelas clay, 5 to 12 percent slopes, eroded	17.7	9.7%
Ta	Talante soils	40.5	22.2%
TeE	Teja gravelly sandy loam, 12 to 40 percent slopes	0.5	0.3%
UI	Urban land	0.8	0.4%
Vw	Vivi loam	48.0	26.3%
Totals for Area of Interest		182.5	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

Cr—Coloso silty clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2wyl4
Elevation: 10 to 160 feet
Mean annual precipitation: 43 to 79 inches
Mean annual air temperature: 64 to 89 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Coloso, occasionally flooded, and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Coloso, Occasionally Flooded

Setting

Landform: Flood plains on river valleys
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Stratified silty and clayey alluvium derived from volcanic and sedimentary rock

Typical profile

Ap - 0 to 7 inches: silty clay
Bw - 7 to 18 inches: silty clay loam
Bg - 18 to 27 inches: silty clay loam
Cg1 - 27 to 35 inches: silty clay loam
Cg2 - 35 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 0 to 11 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Bajura, frequently flooded

Percent of map unit: 10 percent
Landform: Flood plains on river valleys

Custom Soil Resource Report

Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Toa, occasionally flooded

Percent of map unit: 10 percent
Landform: Flood plains on river valleys
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Unnamed (G272XZ000PR)
Hydric soil rating: No

Dique, frequently flooded

Percent of map unit: 5 percent
Landform: Flood plains on river valleys
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Me—Maunabo clay

Map Unit Setting

National map unit symbol: bz5n
Elevation: 0 to 50 feet
Mean annual precipitation: 43 to 90 inches
Mean annual air temperature: 65 to 89 degrees F
Frost-free period: 365 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Maunabo and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maunabo

Setting

Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine textured sediments

Typical profile

H1 - 0 to 10 inches: clay
H2 - 10 to 39 inches: clay
H3 - 39 to 48 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Bajura

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

PdF—Pandura-Very stony land complex, 40 to 60 percent slopes

Map Unit Setting

National map unit symbol: bz5y
Elevation: 600 to 3,000 feet
Mean annual precipitation: 36 to 85 inches
Mean annual air temperature: 45 to 81 degrees F
Frost-free period: 150 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pandura and similar soils: 70 percent
Very stony land: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pandura

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave, convex

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Across-slope shape: Convex, linear
Parent material: Weathered materials

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 19 inches: sandy loam
H3 - 19 to 35 inches: weathered bedrock

Properties and qualities

Slope: 40 to 60 percent
Depth to restrictive feature: 12 to 20 inches to paralithic bedrock
Drainage class: 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
Available water supply, 0 to 60 inches: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Very Stony Land

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave, convex
Across-slope shape: Convex, linear

Typical profile

H1 - 0 to 60 inches: fragmental material

Properties and qualities

Slope: 40 to 60 percent
Depth to restrictive feature: 40 inches to lithic bedrock
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 in/hr)
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

PeC2—Parcelas clay, 5 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: bz5z

Elevation: 200 to 600 feet

Mean annual precipitation: 80 to 90 inches

Mean annual air temperature: 75 to 79 degrees F

Frost-free period: 365 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Parcelas and similar soils: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Parcelas

Setting

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Base slope, side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear

Parent material: Fine textured sediments

Typical profile

H1 - 0 to 7 inches: clay

H2 - 7 to 31 inches: clay

H3 - 31 to 60 inches: clay

Properties and qualities

Slope: 5 to 12 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 (0.01 to 0.14 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Ta—Talante soils

Map Unit Setting

National map unit symbol: bz6h

Elevation: 0 to 200 feet

Mean annual precipitation: 75 to 90 inches

Mean annual air temperature: 75 to 81 degrees F

Frost-free period: 365 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Talante and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Talante

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Medium to coarse textured sediments

Typical profile

H1 - 0 to 4 inches: clay loam

H2 - 4 to 10 inches: sandy clay loam

H3 - 10 to 18 inches: loam

H4 - 18 to 40 inches: loamy sand

H5 - 40 to 58 inches: coarse sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly 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: About 18 to 42 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Fortuna

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

TeE—Teja gravelly sandy loam, 12 to 40 percent slopes

Map Unit Setting

National map unit symbol: bz6j
Elevation: 50 to 300 feet
Mean annual precipitation: 80 to 90 inches
Mean annual air temperature: 77 to 81 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Teja

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave, convex, linear
Across-slope shape: Convex, linear
Parent material: Gravelly residuum

Typical profile

H1 - 0 to 6 inches: gravelly sandy loam
H2 - 6 to 14 inches: gravelly sandy loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 12 to 40 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 0.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Hydric soil rating: No

UI—Urban land

Map Unit Setting

National map unit symbol: 2yg1h

Frost-free period: 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Vw—Vivi loam

Map Unit Setting

National map unit symbol: bz72

Elevation: 0 to 50 feet

Mean annual precipitation: 43 to 90 inches

Mean annual air temperature: 65 to 89 degrees F

Frost-free period: 365 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Vivi and similar soils: 98 percent

Minor components: 2 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vivi

Setting

Landform: Flood plains

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

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Parent material: Coarse to medium textured stratified sediments

Typical profile

H1 - 0 to 14 inches: loam
H2 - 14 to 20 inches: very fine sandy loam
H3 - 20 to 30 inches: loam
H4 - 30 to 36 inches: sand
H5 - 36 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(1.42 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Bajura

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

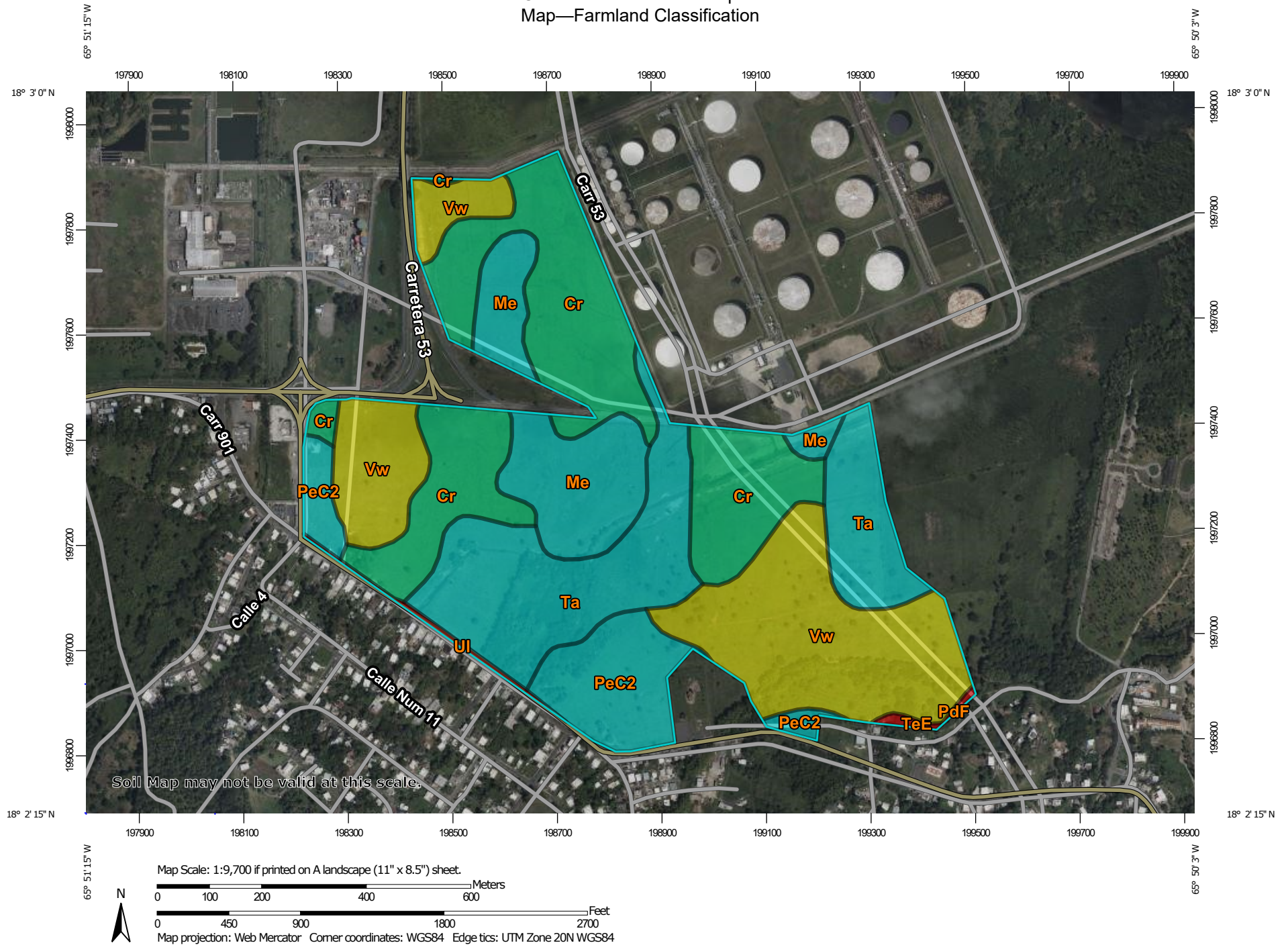
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification

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.

Custom Soil Resource Report Map—Farmland Classification



Custom Soil Resource Report

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

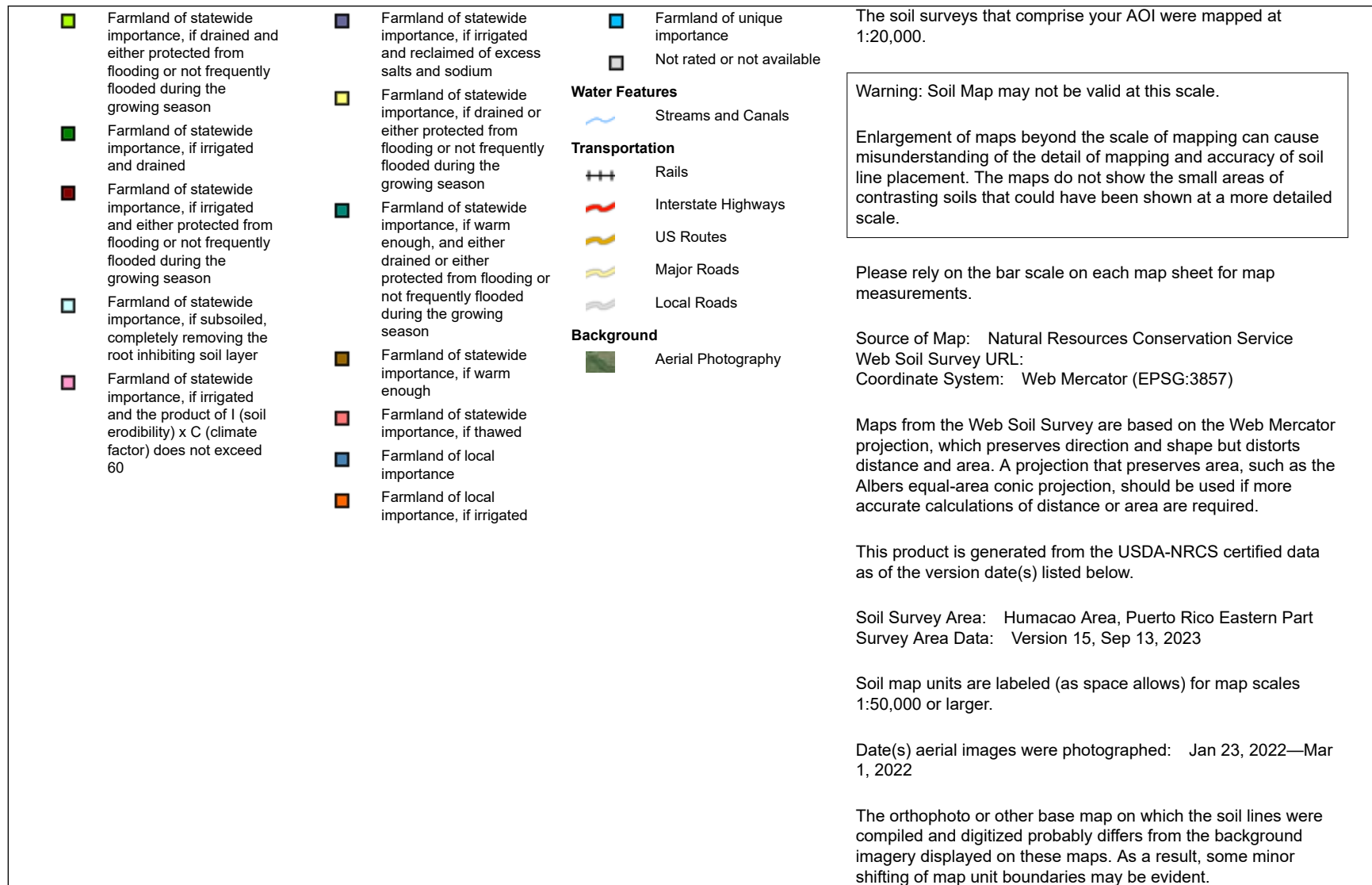
Soil Rating Lines

-  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

Custom Soil Resource Report

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

Custom Soil Resource Report



Table—Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cr	Coloso silty clay, 0 to 2 percent slopes, occasionally flooded	Prime farmland if drained	53.2	29.2%
Me	Maunabo clay	Farmland of statewide importance	21.6	11.9%
PdF	Pandura-Very stony land complex, 40 to 60 percent slopes	Not prime farmland	0.2	0.1%
PeC2	Parcelas clay, 5 to 12 percent slopes, eroded	Farmland of statewide importance	17.7	9.7%
Ta	Talante soils	Farmland of statewide importance	40.5	22.2%
TeE	Teja gravelly sandy loam, 12 to 40 percent slopes	Not prime farmland	0.5	0.3%
UI	Urban land	Not prime farmland	0.8	0.4%
Vw	Vivi loam	Prime farmland if irrigated	48.0	26.3%
Totals for Area of Interest			182.5	100.0%

Rating Options—Farmland Classification

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

Custom Soil Resource Report

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Custom Soil Resource Report Map—Hydric Rating by Map Unit



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (33 to 65%)
 Hydric (1 to 32%)
 Not Hydric (0%)
 Not rated or not available

Soil Rating Lines

 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (33 to 65%)
 Hydric (1 to 32%)
 Not Hydric (0%)
 Not rated or not available

Soil Rating Points

 Hydric (100%)
 Hydric (66 to 99%)
 Hydric (33 to 65%)
 Hydric (1 to 32%)
 Not Hydric (0%)
 Not rated or not available

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 15, Sep 13, 2023

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.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cr	Coloso silty clay, 0 to 2 percent slopes, occasionally flooded	10	53.2	29.2%
Me	Maunabo clay	10	21.6	11.9%
PdF	Pandura-Very stony land complex, 40 to 60 percent slopes	0	0.2	0.1%
PeC2	Parcelas clay, 5 to 12 percent slopes, eroded	0	17.7	9.7%
Ta	Talante soils	10	40.5	22.2%
TeE	Teja gravelly sandy loam, 12 to 40 percent slopes	0	0.5	0.3%
UI	Urban land	0	0.8	0.4%
Vw	Vivi loam	2	48.0	26.3%
Totals for Area of Interest			182.5	100.0%

Rating Options—Hydric Rating by Map Unit*Aggregation Method: Percent Present**Component Percent Cutoff: None Specified**Tie-break Rule: Lower*

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Water Features

Water Features include ponding frequency, flooding frequency, and depth to water table.

Flooding Frequency Class

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent.

"None" means that flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.

"Very rare" means that flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1 percent in any year.

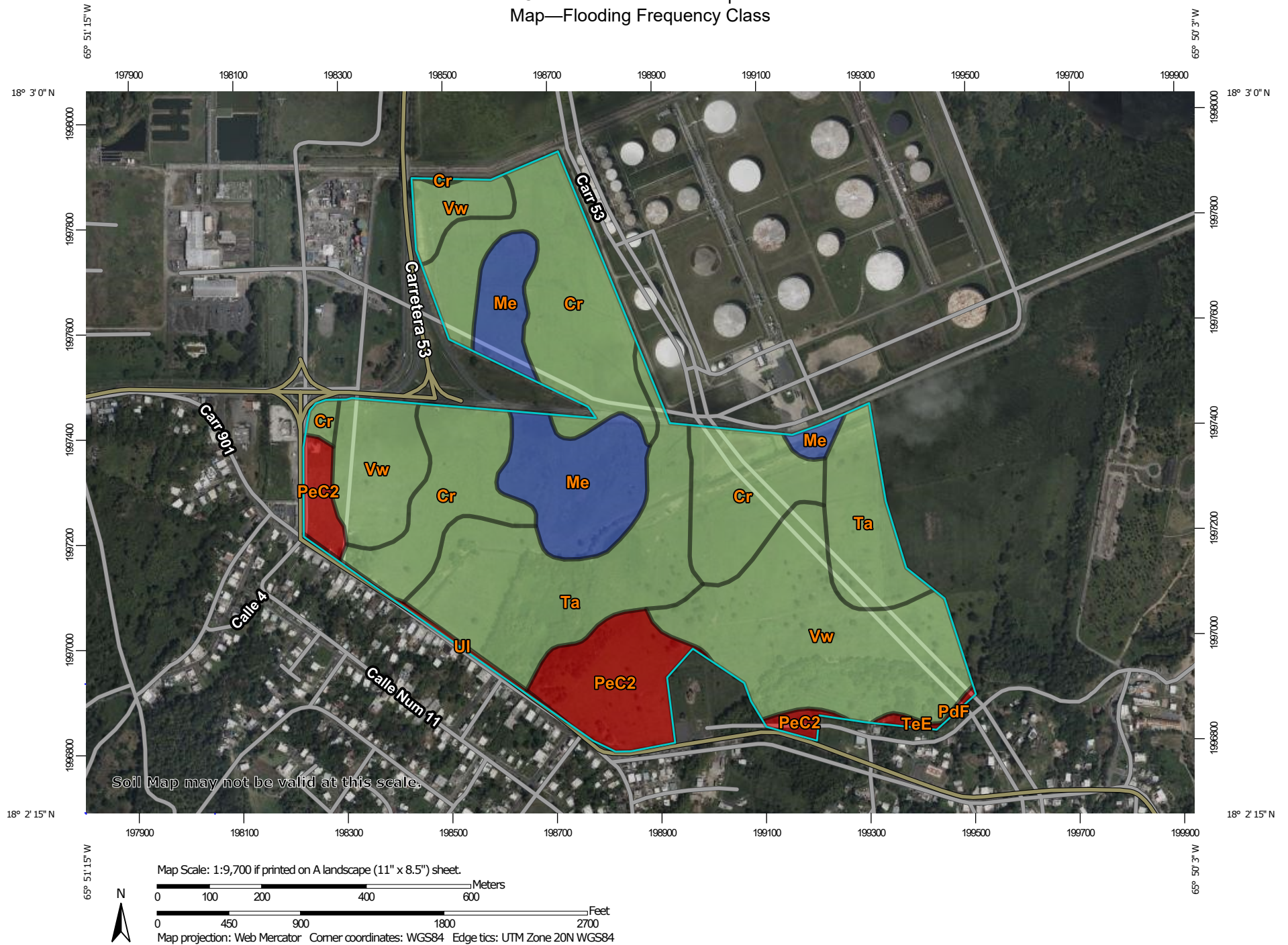
"Rare" means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5 percent in any year.

"Occasional" means that flooding occurs infrequently under normal weather conditions. The chance of flooding is 5 to 50 percent in any year.

"Frequent" means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year.

"Very frequent" means that flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50 percent in all months of any year.

Custom Soil Resource Report Map—Flooding Frequency Class



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 None
 Very Rare
 Rare
 Occasional
 Common
 Frequent
 Very Frequent
 Not rated or not available

Soil Rating Lines

 None
 Very Rare
 Rare
 Occasional
 Common
 Frequent
 Very Frequent
 Not rated or not available

Soil Rating Points

 None
 Very Rare
 Rare
 Occasional

 Common
 Frequent
 Very Frequent
 Not rated or not available

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 15, Sep 13, 2023

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.

Table—Flooding Frequency Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Cr	Coloso silty clay, 0 to 2 percent slopes, occasionally flooded	Occasional	53.2	29.2%
Me	Maunabo clay	Frequent	21.6	11.9%
PdF	Pandura-Very stony land complex, 40 to 60 percent slopes	None	0.2	0.1%
PeC2	Parcelas clay, 5 to 12 percent slopes, eroded	None	17.7	9.7%
Ta	Talante soils	Occasional	40.5	22.2%
TeE	Teja gravelly sandy loam, 12 to 40 percent slopes	None	0.5	0.3%
UI	Urban land	None	0.8	0.4%
Vw	Vivi loam	Occasional	48.0	26.3%
Totals for Area of Interest			182.5	100.0%

Rating Options—Flooding Frequency Class*Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: More Frequent**Beginning Month: January**Ending Month: December*

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Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request February 13, 2024				
Name of Project Yabucoa Solar		Federal Agency Involved U.S. Department of Energy				
Proposed Land Use Solar Photovoltaic Power Generation		County and State Yabucoa, Puerto Rico				
PART II (To be completed by NRCS)		Date Request Received By NRCS 2/13/2024		Person Completing Form: Jacqueline Vega-NRCS		
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 1669	Average Farm Size 88	
Major Crop(s) Plantains	Farmable Land In Govt. Jurisdiction Acres: 126825% 27	Amount of Farmland As Defined in FPPA Acres: 12682% 27				
Name of Land Evaluation System Used LESA - Humacao (SSA-PR689)	Name of State or Local Site Assessment System N/A	Date Land Evaluation Returned by NRCS 2/21/2024				
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		182				
B. Total Acres To Be Converted Indirectly						
C. Total Acres In Site		182				
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		53.20				
B. Total Acres Statewide Important or Local Important Farmland		127.80				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.1427				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		17.04				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		71				
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)	15				
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)	20				
5. Distance From Urban Built-up Area	(15)	10				
6. Distance To Urban Support Services	(15)	0				
7. Size Of Present Farm Unit Compared To Average	(10)	10				
8. Creation Of Non-farmable Farmland	(10)	10				
9. Availability Of Farm Support Services	(5)	3				
10. On-Farm Investments	(20)	0				
11. Effects Of Conversion On Farm Support Services	(10)	0				
12. Compatibility With Existing Agricultural Use	(10)	0				
TOTAL SITE ASSESSMENT POINTS		160	73	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	71	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	73	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	144	0	0	0
Site Selected: Yabucoa	Date Of Selection April 11, 2024	Was A Local Site Assessment Used? YES ☐ NO ☒				
Reason For Selection: The Yabucoa site is being evaluated as the preferred alternative for the 32.1MW PV Installation as part of DOE's evaluation of the Yabucoa Solar Project loan application through the National Environmental Policy Act review process.						
Name of Federal agency representative completing this form: David A. Oster					Date: July 9, 2024	

Commonwealth of Puerto Rico
Office of the Governor
Puerto Rico Planning Board
Physical Planning Area
Land Use Planning Bureau

Application for Certification of Consistency with the
Puerto Rico Coastal Management Program

General Instructions:

- A. Attach a 1:20,000 scale, U.S. Geological Survey topographic quadrangular base map of the site.
- B. Attach a reasonably scaled plan or schematic design of the proposed object, indicating the following:
 - 1. Peripheral areas
 - 2. Bodies of water, tidal limit and natural systems.
- C. You may attach any further information you consider necessary for proper evaluation of the proposal.
- D. If any information requested in the questionnaire does not apply in your case, indicate by writing "N/A"(not applicable).
- E. Submit a minimum of seven (7) copies of this application.

DO NOT WRITE IN THIS BOX			
Type of application:	_____	Application Number:	_____
Date received:	_____	Date of Certification:	_____
Evaluation result:	☐ Objection	☐ Acceptance	☐ Negotiation
Technician:	_____	Supervisor:	_____
Comments:			

- 1. Name of Federal Agency: US Department of Energy
 - 2. Federal Program Catalog Number: _____
 - 3. Type of Action:
 - ☐ Federal Activity
 - ☐ License or permit
 - ☒ Federal Assistance
 - 4. Name of Applicant: YFN Yabucoa Solar LLC
 - 5. Postal Address: PO Box 363991, San Juan, PR 00936-3991
Telephone: (787) 765-1499 Fax: _____
 - 6. Project name: Yabucoa Solar
 - 7. Physical Description of Project Location (area, facilities such as vehicular access, drainage, storm and sanitary sewer placement, etc.): The project will be built on the western portions of an approximately 247-acre leased property located at the intersections of state highways PR-53, PR-901, and PR-9914 in the Juan Martín neighborhood in the Municipality of Yabucoa.
- Lambert Coordinates: X = 262120.3082 Y = 224103.7381

8. Type of construction or other work proposed:

☐ drainage

☐ channeling

☐ landfill

☐ sand extraction

☐ pier

☐ bridge

☐ residential

☐ tourist

others (specify and explain) Renewable Energy - Solar Farm

Description of proposed work: The project area will be comprised of seven fenced areas containing PV fields, inverters, a Battery Energy Storage System (BESS), a substation and main power transformer, a 1,200-square-foot operations and management building, a graveled area for parking, and an area for a potential BESS expansion that will be left as a grassy field.

9. Natural, artificial, historic or cultural systems likely to be affected by the project

Place an X opposite any of the systems indicated below that are in the project area or its surroundings, which are likely to be affected by that activity. Indicate the distance from the project to any outside system that would likely be affected.

System	Within Project	Outside Project	Distance (meters)	Local name of affected system
beach, dunes		x	300	Playa Lucía, Yabucoa
marshes	x			Unnamed wetlands
coral, reefs		x	1,400	Unnamed
river, estuary		x	1,588	Guayanés River
bird sanctuary		x	16,459	Refugio Vida Silvestre Humacao
pond, lake, lagoon		x	16,459	Refugio Vida Silvestre Humacao
agricultural unit		x	2,855	Puerto Rico Land Authority
forest, wood				
cliff, breakwater				
cultural or tourist area	x			Hacienda Lucía
other (explain)	x			Unnamed floodway

Describe the likely impact of the project on the identified system (s).

Positive

☒

Negative

☐

Explain:

The project will use the existing land contours, and the land will retain many of its important features and conditions that would allow the return to agricultural lands after the project's life ends. The leased property contains jurisdictional wetland areas, a cultural site called Hacienda Lucía, and a floodway, all of which the project completely avoids. The project design includes 5-meter wetland setbacks so as to not affect or impact the wetlands and a 50-meter avoidance buffer and site perimeter fencing so as to not affect the Hacienda Lucía site. The project will also be constructed using the Best Management Practices in the industry, including erosion control plan, stormwater Pollution prevention plan and an aggressive tree mitigation plan that will include the planting of more than 3,200 trees within the existing lands and watershed to protect water resources and to provide habitat for native and endemic species. In addition, the project will eliminate the generation of roughly 51,576 metric tons per year of carbon dioxide (CO2) emissions based on the U.S. Environmental Protection Agency’s Greenhouse Gas Equivalencies Calculator.

10. Indicate permits, approvals and endorsements of the proposal by Federal and Puerto Rican government agencies. Evidence of such support should be attached to the proposal.

	Yes	No	Pending	Application Number
a. Planning Board	☒	☐	☐	<u>2014-75-0121-JGU-T</u>
b. Regulation and Permits Administration	☒	☐	☐	<u>2015-074181-PRR-013726</u>
c. Environmental Quality Board	☒	☐	☐	<u>2013-165337-REA-11921</u> <u>2014-165347-DEA-23220</u>
d. Department of Natural Resources	☒	☐	☐	<u>2013-165337-REA-11921</u> <u>2014-165347-DEA-23220</u>
e. State Historic Preservation Office	☐	☐	☒	<u>SHPO-CF-03-13-24-05</u>
f. U.S. Army Corps of Engineers	☐	☒	☐	
g. U.S. Coast Guard		☒	☐	
h. Other (s) (specify)	☒	☐	☐	
Endorsements:				
Municipio de Yabucoa				
Departamento de Agricultura				
Autoridad de Carreteras y Transportación				
Instituto de Cultura Puertorriqueña				

CERTIFICATION

I CERTIFY THAT Yabucoa Solar is consistent with the Puerto Rico Coastal Zone Management Program, and that to the best of my knowledge the above information is true.

<u>Leslie Hufstetler</u>	
Name (legible)	Signature
<u>President of YFN Yabucoa Solar LLC</u>	<u>Mar 20, 2024</u>
Position	Date

**GOVERNMENT OF PUERTO RICO
PUERTO RICO PLANNING BOARD**

May 15, 2024

**Federal Consistency Certification with the
Puerto Rico Coastal Zone Management Program
Federal Assistance from the Department of Energy
YFN Yabucoa Solar LLC
Road PR-53, Int. PR-906, of Juan Martin Ward
CZ-2024-0315-135**

RESOLUTION

**TO NOTIFY PARTIES ABOUT THE ISSUANCE OF A FEDERAL CONSISTENCY
CERTIFICATE ACCORDING TO THE COASTAL ZONE MANAGEMENT ACT
FEDERAL CONSISTENCY REGULATIONS, 15 CFR Part 930**

Leslie Hufstetler, in representation of YFN Yabucoa Solar LLC submitted the application at reference to obtain a federal financing loan from the U.S. Department of Energy (DOE) for the development and construction of photovoltaic solar system with capacity estimated in 28.82 MW. The project involves the installation of 90,072 photovoltaic solar panels with 32 inverters, a Battery Energy Storage System (BESS), a substation and main power transformer, a 1,200 square foot operations and management building, a graveled area for parking and an area for a potential BESS expansion that will be left as a grassy field.

The project will be developed in a property of 238.78 acres and will occupy an area of 101.71 acres (47.77 %). It is located at road PR-53, Int. PR-906, of Juan Martin Ward in Yabucoa, Puerto Rico.

As part of the completed evaluation, the Puerto Rico Planning Board made the following findings:

- On October 15, 2014 letter, the PR Permit Management Office (OGPE) submitted the Environmental Compliance Determination number 2014-165347-DEA-23220 for this project.
- The Department of Natural and Environmental Resources (DNER), in its letter of September 2, 2014, expressed that according to the project plans submitted in DNER on august 25, 2014, the project will not impact the wetlands and jurisdictional waters present within the property and will maintain a minimum buffer zone of 5 meters from these areas. Taking this into account the DNER expressed no objection to the proposed project. Notwithstanding it must comply with conditions established by this agency for the protection of wetlands and natural resources within the project area.
- The Puerto Rico Planning Board (PRPB) approved the site consultation number 2014-75-0121- JGU-T for this project on June 23, 2015.
- On January 28, 2015 letter, the PR Department of Agriculture expressed no objection to the proposed project on the condition that the agricultural activity of grass planting continue without being impacted.
- On May 27, 2016 letter, the Archaeology and Ethnohistory Program of the Puerto Rican Culture Institute (PRCI) expressed that in base to the presented investigatlo11 the project will not have adverse impacts in archaeological resources.
- On May 31, 2016 letter, the Built Historical Heritage Program of the PRCI submitted a favorable recommendation for the project with the condition that the photovoltaic panels must be installed at a minimum distance of 50 meters from the ruins of Hacienda Lucia.

According to Resolution JPI-41-02-2024, the Puerto Rico Planning Board (PRPB) established that site consultation approved under the Joint Regulations 2010, 2019 and 2020 will remain in effect for a period of two (2) years, from the enactment of the Joint Regulation 2023, until June 15, 2025.

Considering the above-mentioned findings, the Puerto Rico Planning Board (PRPB) in its meeting held on May 15, 2024, **determined that the federal assistance in form of a loan from the Department of Energy for the Yabucoa Project is consistent with the PR Coastal Zone Management Program. The project must comply with any applicable laws, regulations and endorsements.**

This certification does not exempt the project from complying with other required federal or state permits and endorsements.

The following parties shall be notified: Leslie Hufstetler, Yabucoa Solar LLC; Gina M. Carrillo, PMG & Associates; David Oster, Department of Energy and Magaly Massanet Rodriguez, Office of the Puerto Rico Coastal Zone Management and Climate Change.



Julio Lassús Ruiz, LLM, MP, PPL
President

Certify: That this Resolution is copy of the agreement adopted by Puerto Rico Planning Board (PRPB) in its meeting held on May 15, 2024. I issue and notify a copy of this resolution to the parties under my signature and the official stamp of the Puerto Rico Planning Board.

In San Juan, Puerto Rico, today **JUN 18 2024**



Edgardo Vázquez Rivera
Secretary



Department of Energy

Washington, DC 20585

March 13, 2024

Miguel Bonini
Senior Historic Property Specialist
State Historic Preservation Office
Office of the Governor
P.O. Box 9023935
San Juan, P.R. 00902-3935

SUBJECT: U.S. Department of Energy, Yabucoa Solar Project, Section 106 Consultation

Dear Mr. Bonini,

Title XVII of the Energy Policy Act of 2005 (EPAct) established a federal loan guarantee program for certain projects and authorizes the Secretary of Energy to make loan guarantees available for those projects. Under Title XVII, the Department of Energy (DOE) Loan Programs Office (LPO) may provide loan guarantees for projects that support clean energy deployment and energy infrastructure reinvestment in the United States and U.S. territories. YFN Yabucoa Solar, LLC (Applicant) is proposing to construct the Yabucoa Solar Project (Project), a 32.1-megawatt (MW) photovoltaic (PV) energy facility in the municipality of Yabucoa, Puerto Rico. DOE has determined that the Project will be replacing “energy infrastructure” (as defined in Section 1706 of Title XVII) that has ceased operations in Puerto Rico, and is therefore eligible to apply for a loan guarantee from LPO under Title XVII.

The purpose of this letter is to consult with the Puerto Rico State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (54 United States Code [U.S.C.] 306108), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, “Protection of Historic Properties,” and to present DOE’s Finding of No Historic Properties Affected (Finding) for this undertaking, pursuant to 36 CFR § 800.4(d)(1). The Puerto Rico SHPO Section 106 Project Delivery Control Form is included as Attachment 1.

Description of the Project and Location

The Project will be constructed on approximately 104 acres of a 247-acre property leased from the Puerto Rico Land Administration and located at intersection of State Roads PR-53, PR-901, and PR-9914 in the Juan Martín neighborhood in Yabucoa, Puerto Rico 00767 (Cadastral Number 377-000-003-09). The Project will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA’s existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard, located 147 feet west of the project site across PR-901. The Project will involve the construction of a 32.1 MW PV solar energy generation facility consisting of solar panels, inverters, a Batter Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line to PREPA’s switchyard. Attendant structures will include an Operation and Maintenance (O&M) building, a small parking and storage area, access and maintenance roads, water retention ponds, and a temporary

laydown area. The Project area is depicted in Attachment 2 (Topographic Location Map), Attachment 3 (Site Plan), and Attachment 4 (Schematic Design).

The Project consists of the following components:

- PV facility with a capacity of 32.1 MW nominal power utilizing solar panel modules with ground-mounted module support structures to be installed between 4 and 10 feet in height.
- Inverters, BESS, switchyard, transformer, SCADA system, and electrical distribution system.
- A 147-foot aerial transmission line built across PR-901 to connect the Project's switchyard to PREPA's existing Juan Martín switchyard.
- A 1,200-square-foot O&M building and 600-square-foot parking and storage area.
- 2.3 acres of 14-foot-wide all-weather gravel access and maintenance roads enabling access to the inverters, and 0.09 acre of 48-foot x 14-foot-wide asphalt access entrances off PR-901 and PR-9914.

Description of the Undertaking and Area of Potential Effects

DOE's undertaking is the proposed federal loan guarantee to the Applicant to construct the Project, which includes the installation of a 32.1 MW solar PV system on 104 acres of land in the municipality of Yabucoa. As described above, the Project also includes an electrical substation, an approximately 60-foot interconnection line, and other equipment and facilities necessary for construction, as well as operation and maintenance of the site.

As defined in the Section 106 regulations (36 CFR § 800.16(d)), the area of potential effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The dimensions of the APE are influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. The APE for this undertaking is defined as the Project limits of disturbance (LOD) within the Project area shown in Attachments 2, 3, and 4.

Description of the Steps Taken to Identify Historic Properties

The Applicant completed studies compliant with the provisions of Law 112 and Article 6 of Regulation 8932. The archaeological Phase 1A and Phase 1B studies (Attachments 5 and 6) of the Project area were conducted in 2013, and a supplemental Phase 1A study conducted in 2024 included an updated records search and pedestrian survey of the Project area, as well as an aerial drone survey and LiDAR imaging study (Attachment 7). This work followed the guidelines for archaeological investigations of the SHPO and the Regulation for Filing and Archaeological Evaluation of Construction and Development Projects of the Council for the Protection of Terrestrial Archaeological Heritage of Puerto Rico, assigned to the Institute of Puerto Rican Culture (ICP).

The 2013 and 2024 Phase 1 studies identified one historic property known as Hacienda Lucía, which includes the above-ground structural remnants and below-ground material remains of a 19th-century sugar plantation. This resource was previously investigated for an unrelated undertaking in 2004 and was recommended eligible for inclusion on the National Register of Historic Places (NRHP) under criterion D at that time. The 2013 and 2024 Phase 1 studies for the current Project recommended avoidance of Hacienda Lucía by constructing a perimeter fence around the Project area in order to preserve the historic property. The Applicant has since incorporated a 50-meter avoidance buffer around Hacienda Lucía into their site plan (see Attachments 3 and 4). The avoidance measures will

ensure that this potential historic property remains outside of the APE for the current undertaking, and that the Project will not affect this potential historic property.

The results of the systematic subsurface archaeological survey of the Project area provided in the 2013 Phase 1-B study were negative, and no additional cultural resources over 45 years in age were identified within the Project area (see Attachment 6). The supplemental Phase 1-A study conducted in 2024 identified 16 cultural surface features in addition to Hacienda Lucía (see Attachment 7). These 16 cultural surface features are mostly related to agricultural functions and include seven culverts, two repurposed segments of railroad tracks used as fence posts, a concrete fence post, a water pipe bridge, a concrete storage building, a concrete slab foundation, a cattle pen, an area with former sugar refining cauldrons, and one surface scatter of historic construction material. None of these resources are recommended as eligible for listing on the NRHP and are therefore not considered historic properties as defined in 36 CFR 800.16(l).

In a letter dated October 17, 2013, the ICP Archeology and Ethnohistory Program agreed that the project would have no impacts on archeological resources but recommended further study on Hacienda Lucinda. The applicant completed further study of this resource in an explanatory memorandum to ICP and on May 27, 2016, and the project was authorized by ICP. The ICP correspondence is provided in Attachment 8.

The Basis for the Determination of No Historic Properties Affected

This Finding is based on a review of existing and available information conducted by DOE LPO, including the background information and historic property identification results of the 2013 Phase 1-A and Phase 1-B studies of the Project area as well as the 2024 Phase 1-A study of the Project area, the Applicant's consideration and incorporation of the recommended avoidance measures, consultation with SHPO and ICP, and conclusions drawn from this information.

The undertaking includes the proposed federal loan guarantee to YFN Yabucoa Solar, LLC for construction of a 32.1-MW solar PV energy facility (Project). The identification effort resulted in the identification of one historic property, Hacienda Lucía, which was previously evaluated in 2004 and recommended eligible for inclusion on the NRHP under criterion D. The incorporation of avoidance measures into the Project design, including a 50-meter avoidance buffer and site perimeter fencing, will ensure that the proposed undertaking will not affect this historic property. Therefore, no historic properties will be affected for the undertaking of providing a federal loan guarantee to the Applicant for construction of the Project, consistent with 36 CFR § 800.4(d)(1).

Requesting your Concurrence and Next Steps

As part of the Section 106 process, we respectfully request your concurrence that the undertaking would not affect any historic properties. We look forward to consulting with your office throughout the Section 106 process. If you have any questions or would like to discuss this project further, please contact me in the DOE Loan Programs Office at 240-457-7973, or email LPO_Environmental@hq.doe.gov.

Respectfully,

David A. Oster
NEPA Document Manager
Loan Programs Office

Attachments:

Attachment 1: Section 106 Delivery Control Form
Attachment 2: Topographic Location Map
Attachment 3: Site Plan
Attachment 4: Site Schematic Design
Attachment 5: 2013 Phase 1A Archaeological Report
Attachment 6: 2013 Phase 1B Archaeological Report
Attachment 7: 2024 Phase 1A Archaeological Report
Attachment 8: ICP Authorization Letters



GOVERNMENT OF PUERTO RICO

STATE HISTORIC PRESERVATION OFFICE

Executive Director | Carlos A. Rubio Cancela | carubio@prshpo.pr.gov

Wednesday, March 20, 2024

Karen Ramirez

53 Palmeras St, Suite 701, El Caribe Office Building, San Juan, PR, 00901

SHPO-CF-03-13-24-05 Yabucoa Solar

Dear Ms. Ramirez,

Our Office has reviewed the above referenced project in accordance with 54 U.S.C. 306108 (commonly known as Section 106 of the National Historic Preservation Act) and 36 CFR Part 800: Protection of Historic Properties.

We have examined the archaeological survey reports prepared for the project site and concur that, although a historic property is present (Hacienda Lucía), the applicant has designed the project to avoid this National Register of Historic Places eligible property. Therefore, our records support the finding of no historic properties affected emitted for this undertaking.

Please note that should you discover other historic properties at any point during project implementation, you should notify the SHPO immediately. 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



Cuartel de Ballajá (Tercer Piso), Calle Norzagaray, Esq. Beneficencia, Viejo San Juan, PR 00901 | PO Box 9023935, San Juan, PR 00902-3935



Department of Energy

Washington, DC 20585

May 31, 2024

Lcdo. Samuel Acosta Camacho
Oficiales de Informacion
Departamento de Recursos Naturales y Ambientales
San José Industrial Park
1375 Ave Ponce de León
San Juan, PR 00926

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Lcdo. Samuel Acosta Camacho,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to Clean Flexible Energy LLC (the Applicant) to support two proposed solar photovoltaic (PV) installations in the municipalities of Salinas and Guayama, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPAAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Applicant is proposing to construct the project at two sites. The "Jobos" site is located on property owned by the Puerto Rican Industrial Development Company (PRIDCO) on PR-7707 and PR-3, Barrio Jobos, Guayama, Puerto Rico 00784. Jobos includes an 80 MW PV electricity generation facility covering 318 acres, an offsite electrical substation, an onsite 110 MW battery energy storage system (BESS), an offsite 1,000 meter transmission line of 115 kilovolts connecting to the substation, onsite internal access roads for the site, and an onsite control room with administrative office.

The second location is the “Salinas” site. Salinas is located on private properties between Aguirre and Jobos neighborhoods of the municipalities of Salinas and Guayama, respectively. The Project will be located between highways PR-53 (to the north), PR-3 (to the south), PR-713 (to the east), and PR-706 (to the west). Salinas consists of a 120 MW PV facility on 641 acres, onsite 175 MW BESS, an offsite electrical substation, an offsite 4,717 meter 115 kilovolt transmission line connecting to the substation, onsite internal access roads for the site, and an onsite control room with administrative office.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2256-draft-environmental-assessment-and-fonsi-clean-flexible-energy-llc-jobos-and-salinas>

If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **June 30, 2024 (comments must be received by this date)**.

Email:

Please include “Project Marahu EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Arielle M. Benjamin

Environmental Engineer, Environmental Reviews and Strategic Programs

Environmental Justice, Community Engagement and Environmental Reviews Division

U.S. Environmental Protection Agency, Region 2

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Ms. Benjamin,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPCA, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:
<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at
LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Jorge L. Cotto-Perez
Puerto Rico Electric Power Authority (PREPA)

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Cotto-Perez,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPCA, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Ivelisse Espinosa
Secretaría Auxiliar
Secretaría Auxiliar de Permisos, Endosos y Servicios Especializados
Departamento de Recursos Naturales y Ambientales

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Ms. Espinosa,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPA Act, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:
<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at
LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Manual Matos-Rodriguez
State Soil Scientist for the Caribbean Region
Natural Resource Conservation Service
654 Munoz Rivera Ave, Suite 604
San Juan, PR 00918

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Matos-Rodriguez,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Rose A. Ortiz Diaz
Unidad de Zona Costanera
Oficina de Geologia e Hidrogeologia, Junta de Planificacion

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Ms. Ortiz-Diaz,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPAAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:
<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at
LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Anaís Rodríguez Vega
Secretary
Departamento de Recursos Naturales y Ambientales
San José Industrial Park
1375 Ave Ponce de León
San Juan, PR 00926

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Ms. Rodriguez-Vega,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EPAAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

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If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Carlos Rubio-Cancela
State Historic Preservation Officer
Office of the Governor
State Historic Preservation Office
PO Box 9023935
San Juan, PR 00902-3935

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Rubio-Cancela,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

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The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

David Sotomayor, PhD
Professor of Soil Science
University of Puerto Rico, Mayaguez
PO Box 518
Salinas, PR 00751

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Sotomayor,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

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The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

If you have trouble accessing the link or need a copy, please contact LPO at LPO_Environmental@hq.doe.gov.

Please review and provide any comments you may have by **August 21, 2024 (comments must be received by this date)**.

Email:

Please include “Yabucoa EA” in the subject line

LPO_Environmental@hq.doe.gov

If you would like to submit comments by mail, please call 240-457-7973 for more information.

Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Robert Tawes
Acting Field Supervisor
U.S. Fish and Wildlife Service
Caribbean Ecological Services Field Office
Office Park I, Suite 303
State Road #2, Km 156.5
Mayaguez, PR 00680

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Tawes,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

The Project activities will involve the construction of a 32.1 MW solar energy facility, consisting of solar panels, inverters, a Battery Energy Storage System (BESS), a switchyard and main power transformer, an electrical distribution system, a Supervisory Control and Data Acquisition (SCADA) system, and an interconnection transmission line. The site is located at the intersection of state highways PR-53 and PR-901 in the Juan Martin neighborhood of Yabucoa and will interconnect with the Puerto Rico Electric Power Authority (PREPA) transmission grid at PREPA's existing Yabucoa Juan Martin 115-kilovolt (kV) switchyard located 147 feet to the west of the Project site across

PR-901.

As an interested party and in accordance with DOE NEPA regulations, the EA with the draft Finding of No Significant Impact (FONSI) is included in the following link:

<https://www.energy.gov/lpo/ea-2262-draft-environmental-assessment-and-fonsi-yfn-yabucoa-llc-yabucoa-puerto-rico>

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Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Sheila A. Torres-Sterling
Public-Private Partnerships Authority (P3)

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Ms. Torres-Sterling,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

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Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office



Department of Energy

Washington, DC 20585

July 22, 2024

Omar A. Vega-Albino
Senior Advisor for Energy Affairs
Office of the Governor

SUBJECT: U.S. Department of Energy, Notice of Availability of Draft Environmental Assessment

Dear Mr. Vega-Albino,

The U.S. Department of Energy (DOE), Loan Program Office (LPO) prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA) to consider the environmental impacts of its decision whether or not to provide a Federal loan guarantee to YFN Yabucoa Solar, LLC (the Applicant) to support one proposed solar photovoltaic (PV) installation in the municipality of Yabucoa, Puerto Rico. The PV installations will provide electricity to the distribution network of the Puerto Rican Electric Power Authority (PREPA). The decision to prepare an EA was made in accordance with the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021).

The purpose and need for DOE's proposed action, the issuance of a federal loan guarantee, is to implement DOE's authority under Title XVII of the EAct, which was reauthorized, amended, and revised by the Inflation Reduction Act of 2022 to create the Energy Infrastructure Reinvestment Program (EIR Program) (Section 1706). The purpose of the EIR Program is to finance projects and facilities in the U.S. that retool, repower, repurpose, or replace energy infrastructure that has ceased operations or enable operating energy infrastructure to avoid, reduce, utilize, or sequester air pollutants or anthropogenic emissions of greenhouse gases (GHGs) (42 U.S.C. 16517[a][2]).

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Sincerely,

David Oster
Environmental Protection Specialist
Loan Programs Office

APPENDIX B PERMISOS Y APROBACIONES

ARTÍCULO	AGENCIA	NÚMERO DE REFERENCIA	FECHA DE FINALIZACIÓN/ESPERADA
MEDIOAMBIENTAL			
Recomendación de cumplimiento ambiental (REA)	OGPe	2013-165347-REA-11921	Completado el 8/23/2013
Aprobación de PRDRNA	DRNA	Caso: O-NE-EEA03-SJ-00064-06062013 Ref.: 2013-165347-REA-11921	Endoso recibido el 9/2/2014 y Certificación de Hábitat y medidas de mitigación aceptadas el 2/16/2016
Aprobación del ICP	Programa de Arqueología y Etnohistoria y Programa para la Herencia Construida del ICP	Ref.: N.º 2015-074181-PCU-116387	Cartas de aprobación recibidas el 5/27/2016 y el 5/31/2016
Aprobación del PRAD	PRAD	Ref.: 2013-165347-REA-11921	No se recibió carta de objeción el 1/28/2015
DEA	OGPe	Caso: 2014-165347-DEA-23220 Ref.: 2013-165347-REA-11921 Ref.: O-NE-EEA03-SJ-00064-06062013 Caso de recertificación: 2015-074181-PCD-300038	Completado el 10/15/2014 Recertificado el 05/29/2024
CONSULTA DE UBICACIÓN (CUB)			
Endoso de PRACT	Autoridad de Autopistas y Transporte de Puerto Rico (PRACT)	C#14-00013440 Ref.: 2014-75-0121-JGU-T	Endoso recibido el 5/28/2015
Endoso del municipio de Yabucoa	Municipio de Yabucoa	n/c	Endosos recibidos el 10/10/2014 y el 11/21/2014
Aprobación de la CUB	PRPB	2014-75-0121-JGU-T	Aprobado el 6/23/2015
PERMISOS DE CONSTRUCCIÓN			
Permiso de desarrollo (PCU)	OGPe	2015-074181-PCU-116387 2015-074181-PRR-013726	Aprobado el 5/24/2016 Reactivado el 10/26/2023
Permiso incidental único (PUI)	OGPe	n/c	Se espera que se presente a fines de junio de 2024
Permiso de entrada	PRDTOP	n/c	Enviado en junio de 2024
Servidumbres para cruces de cable	PRDTOP	n/c	Enviado en junio de 2024
Permisos de perforación para cruces de cables	USACE	n/c	Enviado en junio de 2024

ARTÍCULO	AGENCIA	NÚMERO DE REFERENCIA	FECHA DE FINALIZACIÓN/ESPERADA
Certificaciones de instalación de equipos	OGPe	n/c	Previsto para septiembre de 2025
REQUISITOS FEDERALES			
Sección 106 Consulta de la Ley Nacional de Preservación Histórica	SHPO	SHPO-CF-03-13-24-05	Completado el 3/20/2024
Sección 7 Consulta sobre la Ley de Especies en Peligro de Extinción	USFWS	FWS/R4/CESFO/72151-029	Completado el 5/3/2024
Certificación de Consistencia Federal con el Programa de Administración Costera de Puerto Rico	PRPB	CZ-2024-0315-135	Completado el 6/18/2024