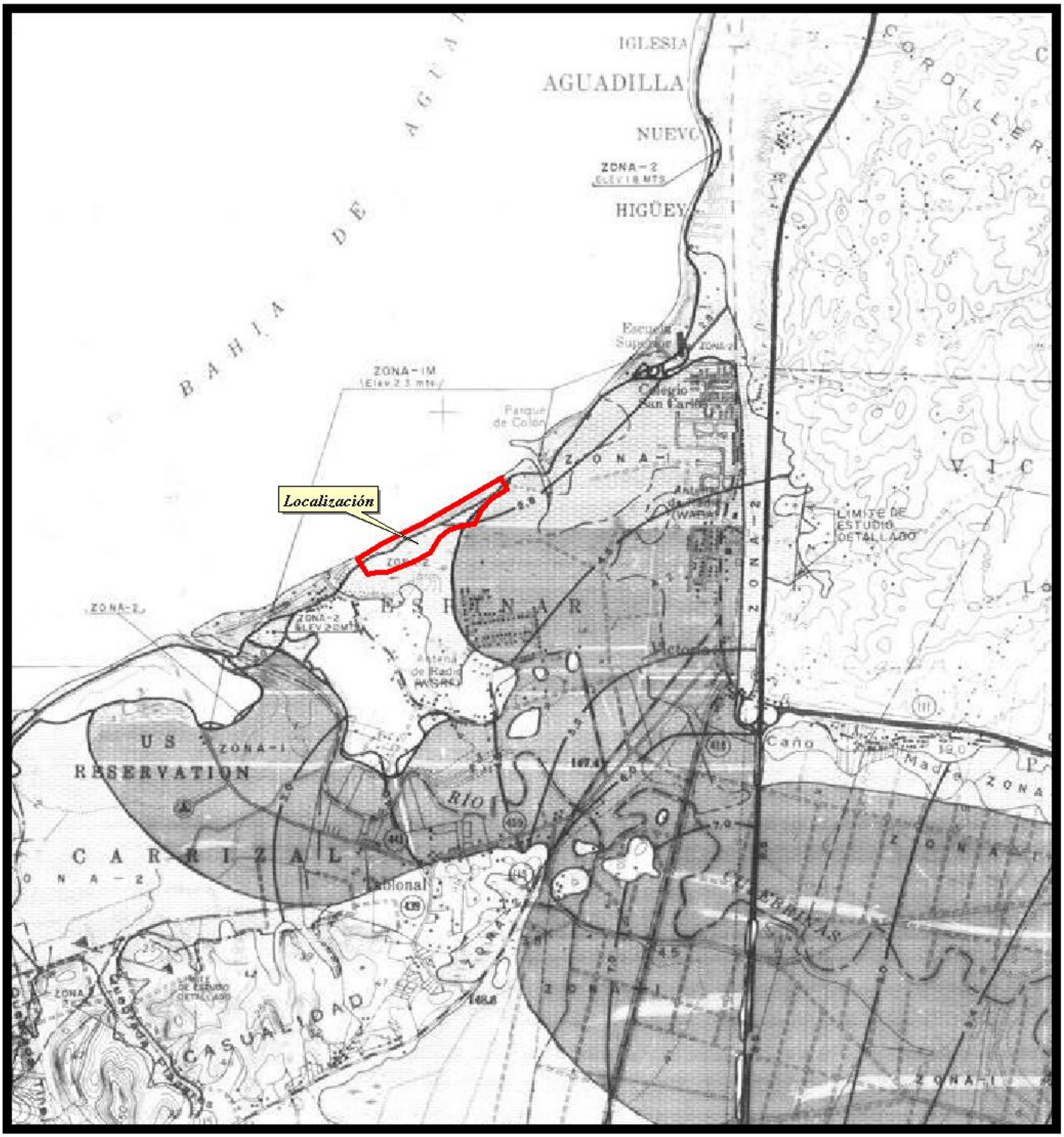

CARTOGRAFIA:
María López

Figura 7. Mapa de Zonas Susceptibles a Inundación

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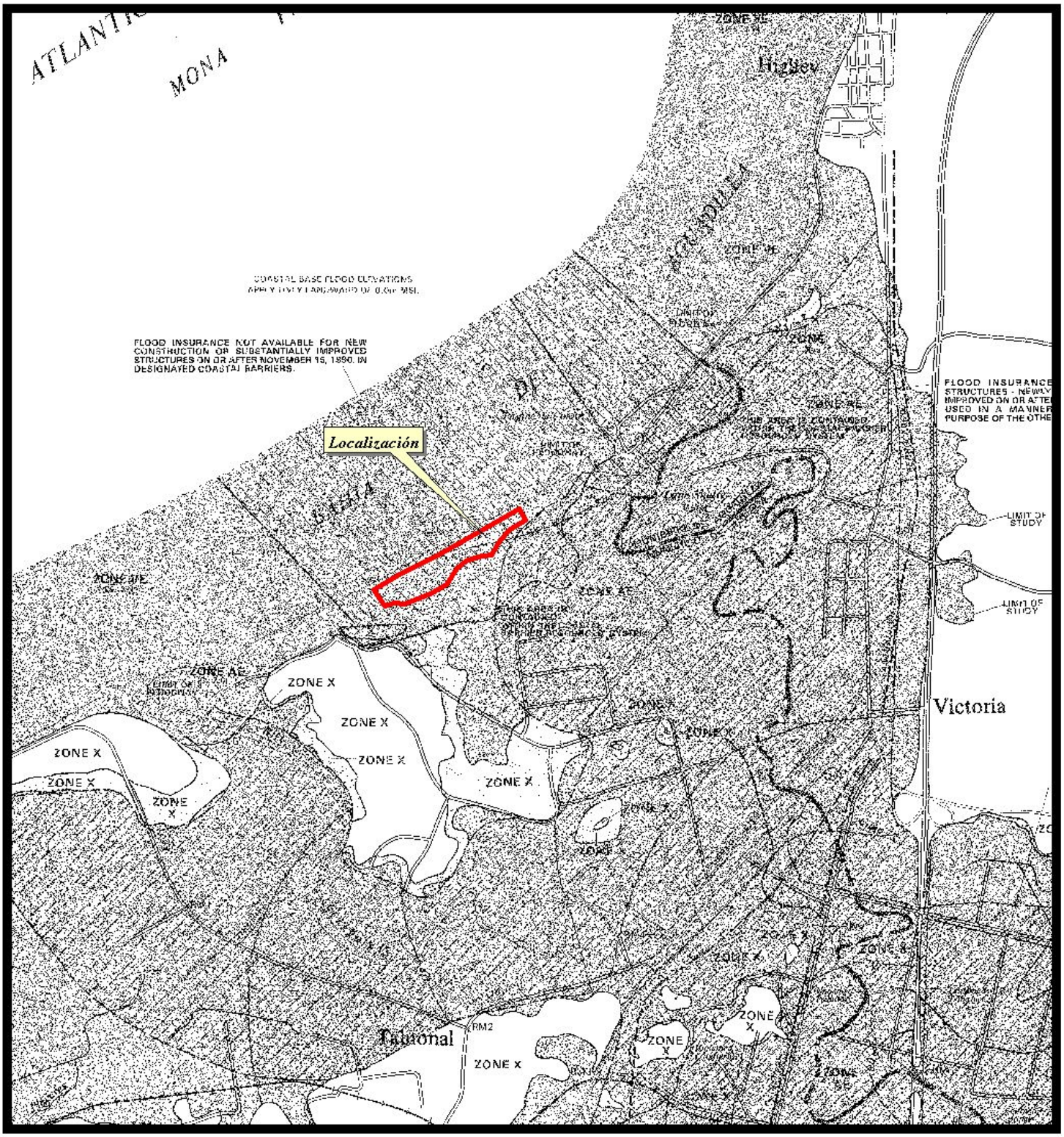
Carr. Estatal PR- 42 Final
Barrio Espinar
Aguada, Puerto Rico

Garcia environmental services

130 Winston Churchill Ave., PMB 228
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com

Fuente: Junta de Planificación. (1999). Mapa de Zonas Susceptibles a Inundaciones. Hoja 1D.



CARTOGRAFIA:
María López

Figura 8. Tasa de Seguros contra Inundaciones

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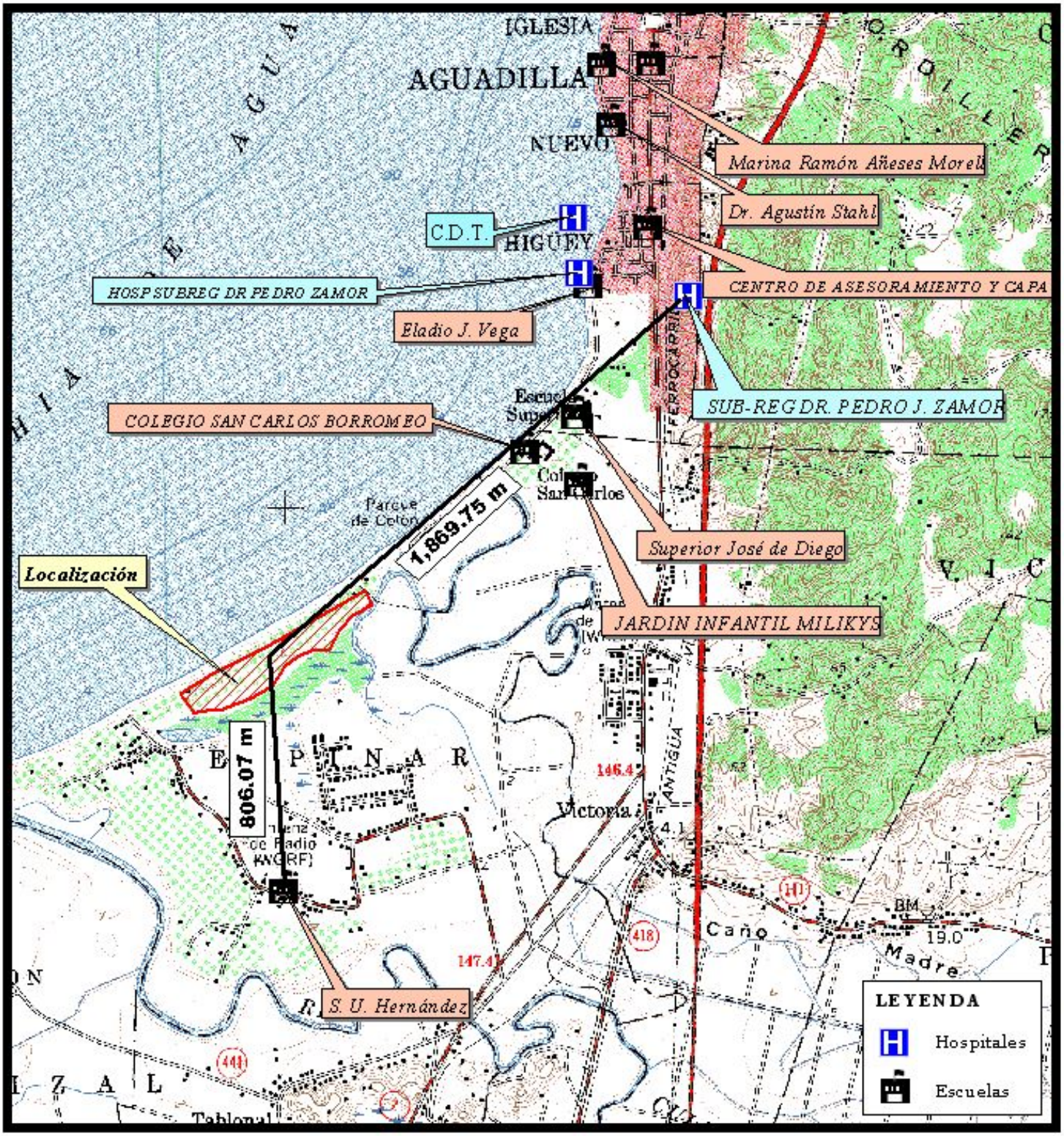
garcia environmental services
130 Winston Churchill Ave., PMB 228
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousegr@yahoo.com

Fuente: FEMA. (1999). FIRM. Community-Panel No. 720000 0009 E.



1:20000

0 0.5 1.0 Millas

0 0.5 1.0 Kilómetros

CARTOGRAFIA:
Maria López

Figura 9. Zonas de Tranquilidad Cercanas al Predio

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Carr. Estatal PR- 42 Final
Barrio Espinar
Aguada, Puerto Rico

Garcia environmental services
230 Winston Churchill Ave., PMB 328
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
jmarcg@yahoo.com

Fuente: USGS. (1960). Mapa topográfico del cuadrángulo de Aguadilla, PR.

VE

Localización

AE

2.8

4.5

5.5

2

3

X

0.2 PCT ANNUAL CHANCE FLOOD HAZARD

AE

Elevación en metros

1:10,000

0 0.1 0.2 0.3 Millas

0 0.1 0.2 0.3 Kilómetros

Fuente: FEMA. (4-19-05). DFIRMS. PANNEL 72000C0145H.

Figura 8A. Mapa de Zonas Susceptibles a Inundaciones de la Agencia para el Manejo de Emergencias (FEMA)

DECLARACION DE IMPACTO AMBIENTAL

Carr. Estatal PR-42 Final
Barrio Espinal
Aguada, Puerto Rico

Garcia environmental services

130 Ave. Winston Churchill, PMB 225
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousergr@yahoo.com

1:15000

0 0.5 1.0 Millas

0 0.5 1.0 Kilómetros

CARTOGRAFIA:
María López

Figura 10. Red Vial

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Aguada, Puerto Rico

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Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com

Fuente: USGS. (1960). Mapa topográfico del cuadrángulo de Aguadilla, PR.

1:20000

0 0.5 1.0 Millas

0 0.5 1.0 Kilómetros

CARTOGRAFIA:
María López

Figura 11. Localización sobre Fotografía Aérea de 2002

DECLARACION DE IMPACTO AMBIENTAL

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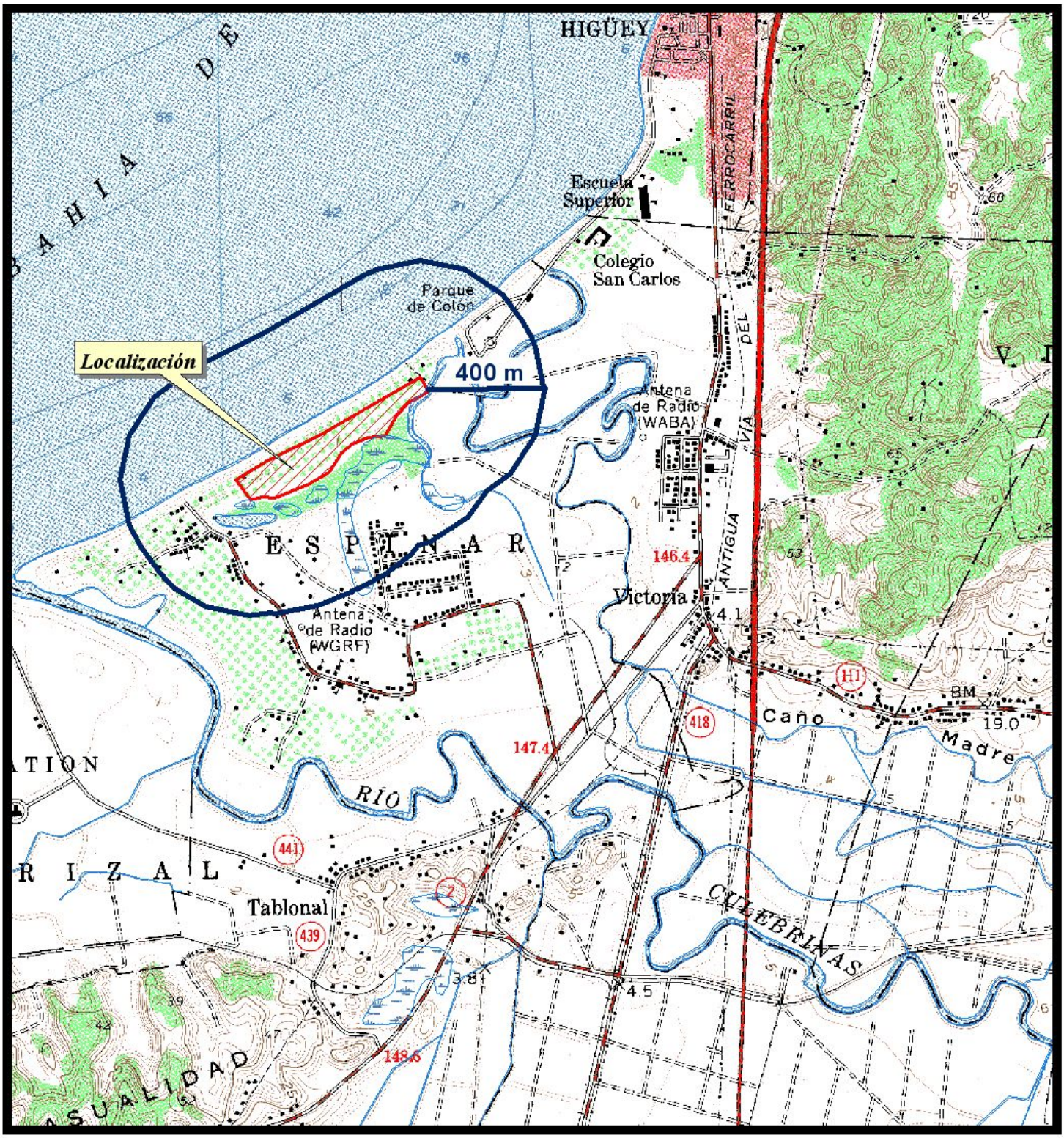
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com



1:20000

0 0.5 1.0 Millas

0 0.5 1.0 Kilómetros

CARTOGRAFIA:
María López

Figura 12. Cuerpos de Agua Superficial en un Radio de 400 Metros

DECLARACION DE IMPACTO AMBIENTAL

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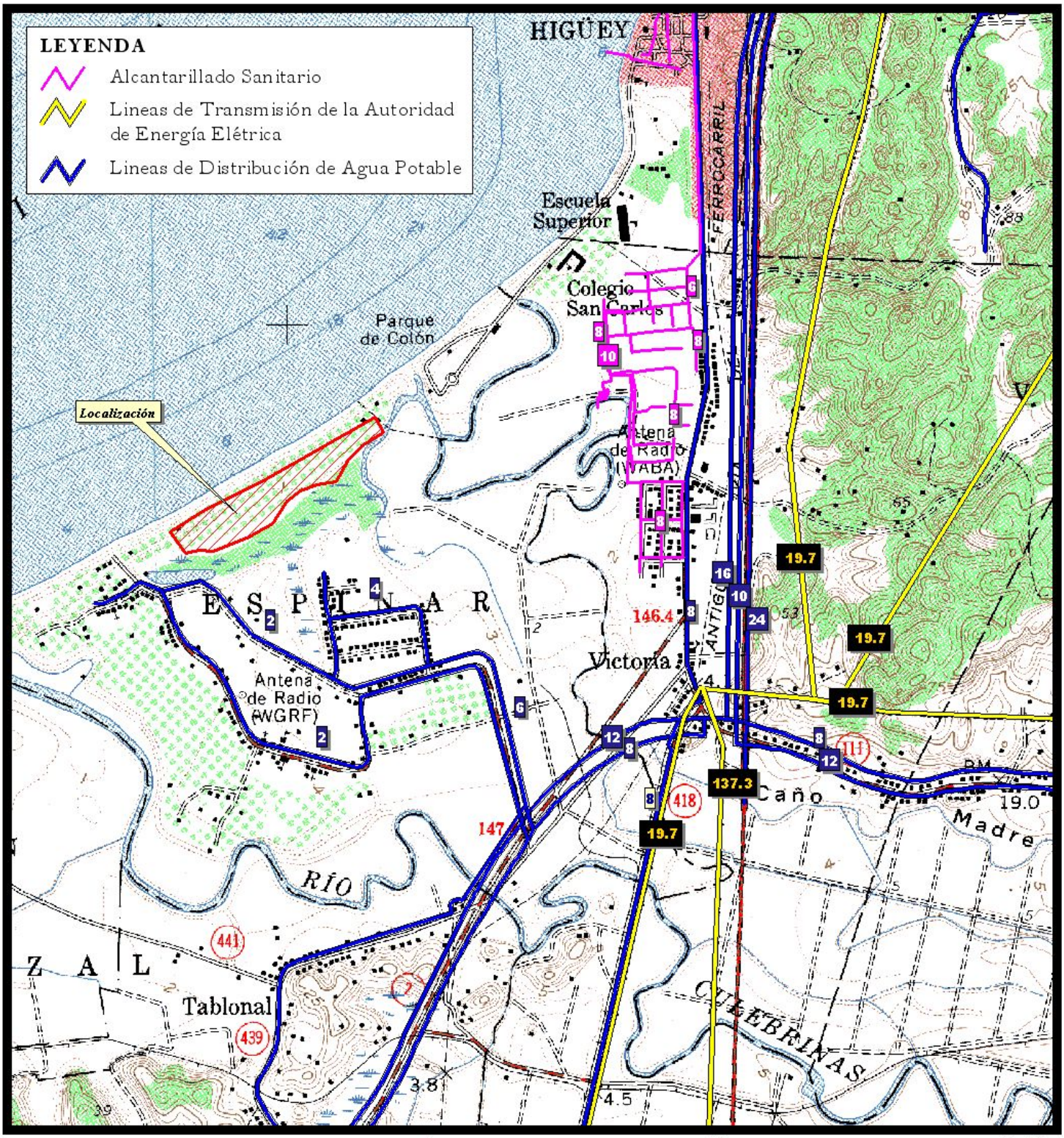
Barrio Espinar
Aguada, Puerto Rico

Garcia environmental services

130 Winston Churchill Ave., PMB 228
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com

Fuente: USGS. (1960). Mapa topográfico del cuadrángulo de Aguadilla, PR.



CARTOGRAFIA:
María López

Figura 13. Infraestructura cercana al Predio

DECLARACION DE IMPACTO AMBIENTAL

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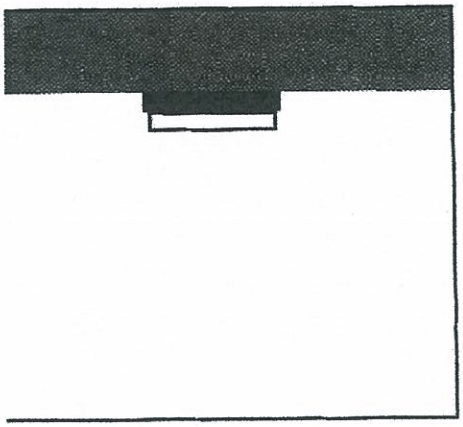
garcia environmental services
130 Winston Churchill Ave., PMB 228
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com

Fuente: USGS. (1960). Mapa topográfico del cuadrángulo de Aguadilla, PR.



CEILING-MOUNTED AREA LIGHTING, FIXTURES WITI REFRACTING GLOBES OR CONVEX LENSES

MOUNTING SUITABILITY:

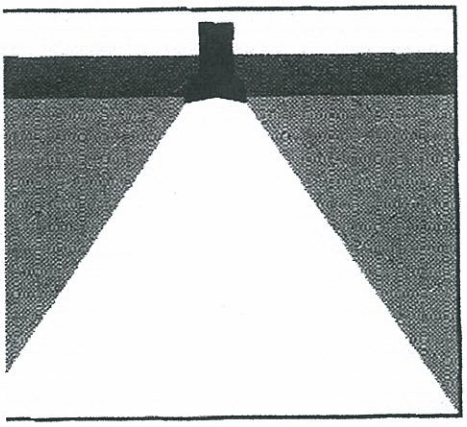
Poor if mounted on the beach sides of buildings or on upper s ries. Good if shielded from the beach by buildings.

DIRECTIONAL SUITABILITY:

Poor.

OVERALL SUITABILITY:

Poor to fair, depending upon mounting location.



CEILING-RECESSED DOWNLIGHTING WITH BAFFLES TO ELIMINATE LATERAL LIGHT

MOUNTING SUITABILITY:

Good to excellent when mounted in lower-story ceilings and s

DIRECTIONAL SUITABILITY:

Excellent.

OVERALL SUITABILITY:

Good to excellent.

CARTOGRAFIA:
María López

Figura 16. Iluminación Apropiada en los Apartamentos

DECLARACION DE IMPACTO AMBIENTAL

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Barrio Espinar
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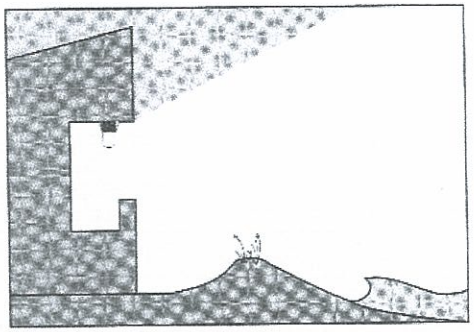
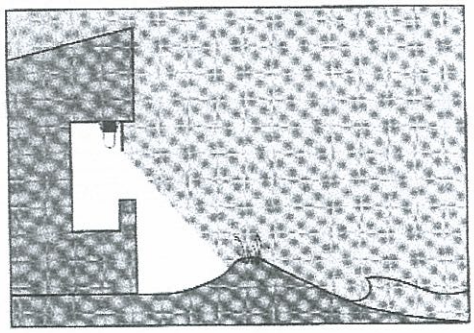
Tel. 787-960-2002 Fax 787-760-0496
yousergr@yahoo.com

Diagrams depicting solutions to two common lighting problems near sea turtle nesting beaches: balcony or porch lighting and parking-lot lighting.



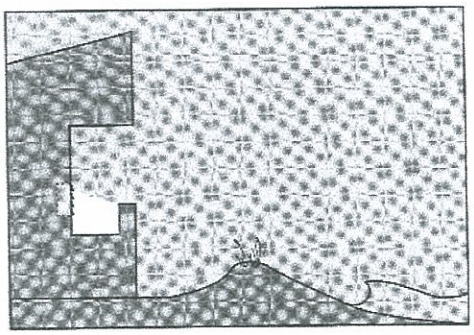
POOR

Poorly directed balcony lighting can cause problems on sea turtle nesting beaches.



BETTER

Completely shielding fixtures with a sheet of metal flashing can reduce stray light reaching the beach.



BEST

Louvered step lighting is one of the best ways to light balconies that are visible from nesting beaches.

CARTOGRAFIA:
María López

Figura 17. Iluminación Apropiada en los Balcones

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Barrio Espinar
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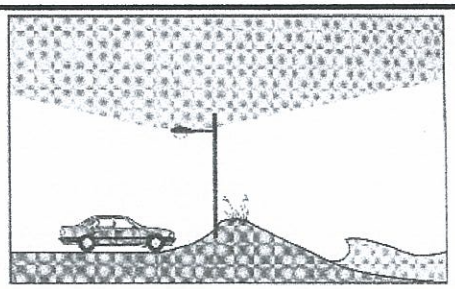
130 Winston Churchill Ave., PMB 223
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousevgr@yahoo.com

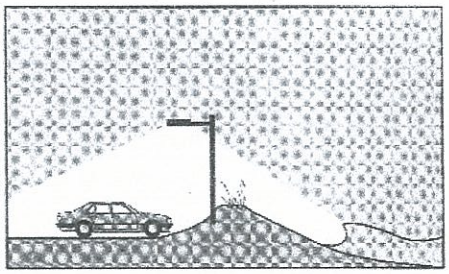
POOR

Poorly directed parking lot lighting can cause problems on sea turtle nesting beaches.



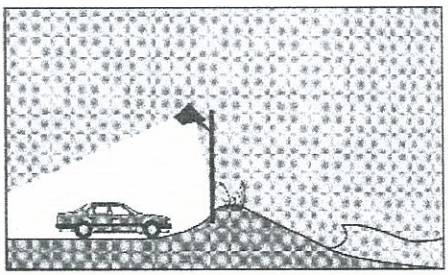
BETTER

Fixtures with 90°cutoff angles can reduce the amount of stray light reaching the beach.



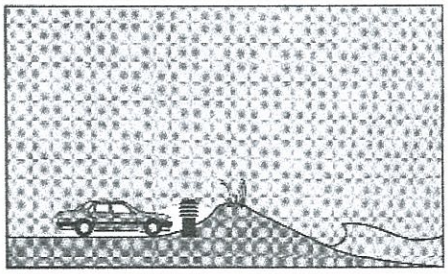
MUCH BETTER

Fully hooded floods can direct light accurately and reduce stray light even more.



BEST

Low-mounted, louvered bollard fixtures are the best way to light parking lots near nesting beaches.



CARTOGRAFIA:
María López

Figura 18. Iluminación Apropiada en los Estacionamientos

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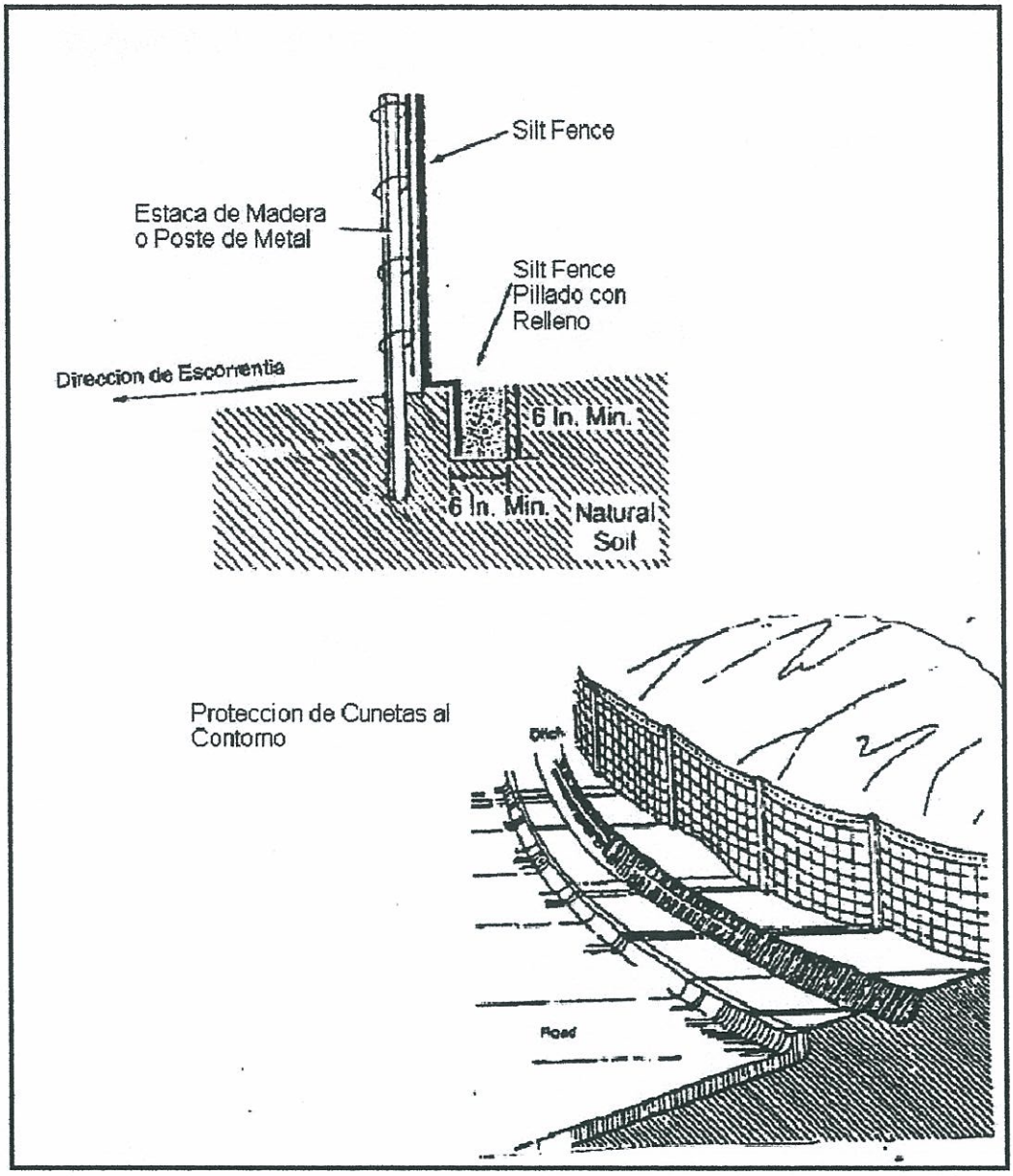
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousey1r@yahoo.com



CARTOGRAFIA:
María López

Figura 19. Instalación Apropiada de Malla de Control de Erosión ("Silt Fence")

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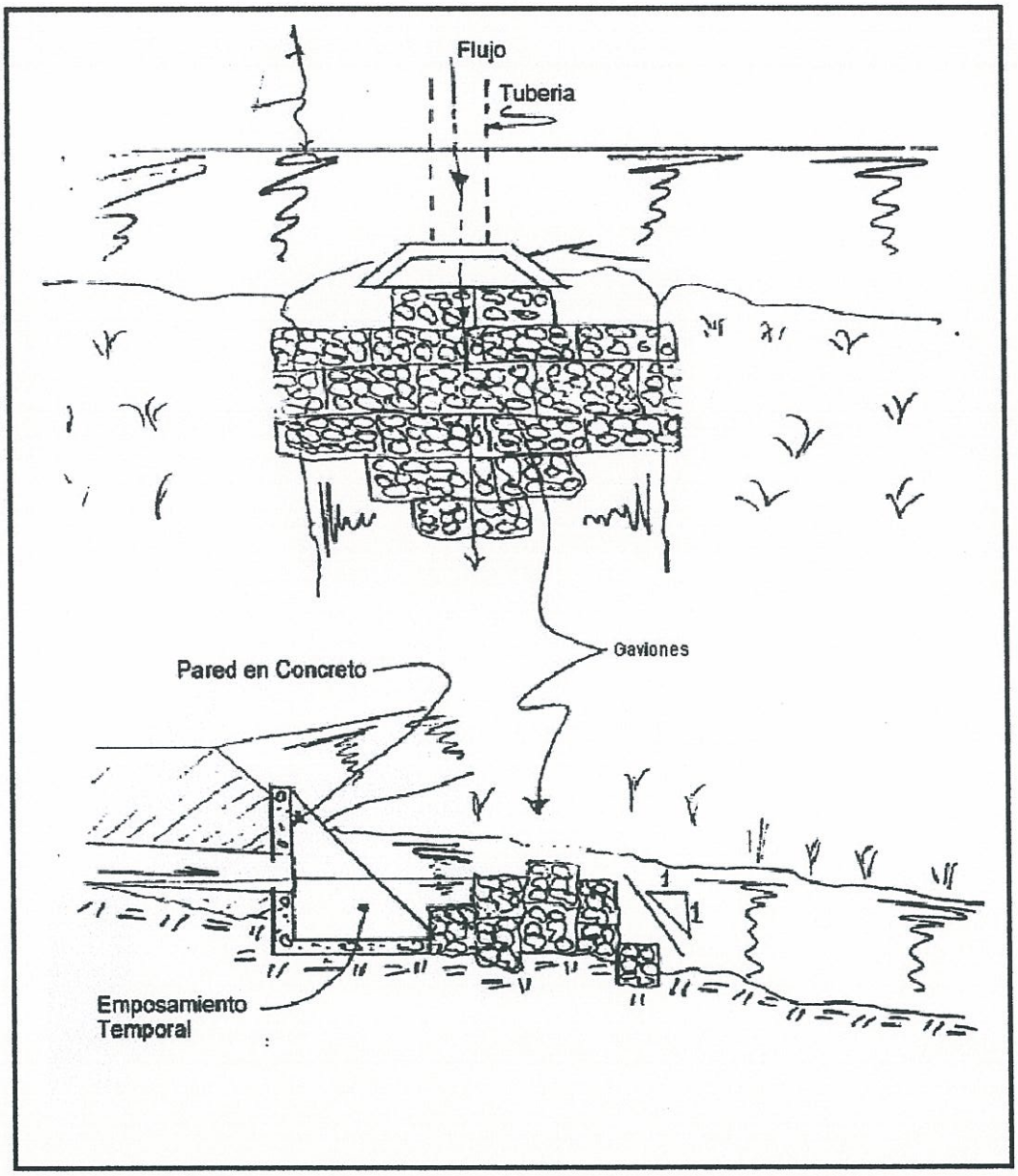
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
yousergr@yahoo.com



CARTOGRAFIA:
María López

Figura 20. Reducción de Velocidad en la Escorrentía

DECLARACION DE IMPACTO AMBIENTAL

Carr. Estatal PR- 42 Final
Barrio Espinar
Aguada, Puerto Rico

Garcia environmental services

150 Winston Churchill Ave., PMB 228
San Juan, Puerto Rico 00926
Tel. 787-960-2002 Fax 787-760-0496
jcusegr@yahoo.com

Apéndice 2. Cartas recibidas de las agencias

50

INSTITUTO
de CULTURA
PUERTORRIQUEÑA

18 de marzo de 2005

"ESTE DOCUMENTO NO CONSTITUYE UN ENDOSO"

Sr. Oscar Soto Nieves
PO Box 5296
Aguadilla, Puerto Rico 00605

Estimado señor Soto:

COSTA MARFIL, BO. ESPINAR, AGUADA

Hemos revisado y evaluado los documentos relacionados con el proyecto de referencia, conforme a las disposiciones de la Sección 10 de la Ley 112 del 20 de julio de 1988, –conocida como la Ley de Arqueología Terrestre de Puerto Rico–, y en virtud de los requerimientos del Reglamento para la Radicación y Evaluación Arqueológica de Proyectos de Construcción y Desarrollo (Departamento de Estado #4643).

Como resultado de este proceso, hemos llegado a la conclusión de que existe la posibilidad de que las actividades de desarrollo que contempla este proyecto pudieran afectar recursos de naturaleza arqueológica.

Por lo antes expuesto, el proponente deberá someter, para nuestra evaluación y determinación, los resultados de una evaluación arqueológica Fase IA-IB, la cual deberá ser preparada por un arqueólogo cualificado para este nivel de investigación por el Consejo para la Protección del Patrimonio Arqueológico Terrestre de Puerto Rico.

Cordialmente,

Marisol Rodríguez Miranda
Directora Interina
Programa de Arqueología y Etnohistoria

PAZ/rmd

United States Department of the Interior

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

June 17, 2002

Ms. Diana E. Pérez Alvarez
Land Use Consultation Subprogram
P.R. Planning Board
P.O. Box 41119
San Juan, P.R. 00940-1119

Re:
Preliminary EIS
Costa Marfil Apts.
Aguada, P.R.

Dear Ms. Pérez:

This is in reply to your request for our comments regarding the above referenced Preliminary Environmental Impact Statement (EIS-P). According to the document, the project consists of the development of 230 apartments in 8 buildings, 9 villas, swimming pools, and other facilities, in a 31.23 "cuerdas" land lot. The project will be located at road PR-442, Espinar Ward, Aguada, P.R. After reviewing the document, we have the following comments.

General comments:

The proposed project site is located within the range of the endangered leatherback sea turtle and the endangered hawksbill sea turtle. The beachfront of the property harbors nesting habitat for both species. Artificial lighting may deter females from coming onto the beach to nest and may cause disorientation or misorientation of both adult female nesting turtles and emerging hatchlings, often resulting in their death. In addition, development projects may result in other adverse impacts to sea turtles and their nesting habitat, such as destruction of coastal vegetation, installation of permanent barriers or structures within their habitat, increased predation by pest species (rats, mongoose, dogs and ants) and root intrusion from landscape plantings.

In order to minimize possible impact to sea turtles and their nesting habitat, we recommend that the applicant design and implement the project following appropriate conservation measures:

1. Avoid the removal of vegetation, fence installation, construction activities and light installation within 50 meters of the high tide line.

2. Designate a buffer zone of an additional 20 meters, in order to minimize indirect impacts from the project.

3. Prepare and implement a comprehensive lighting plan to avoid impacts of artificial lighting on sea turtles. In the plan, all lighting associated with the project shall be identified and described. Those lights that might be seen directly, indirectly or cumulatively from the beach shall be eliminated or relocated so as not to be visible. Those remaining lights shall be modified in order to avoid or minimize the possibility of disorientation. Such modifications may include shielding, lowering of the lights, planting of vegetation barriers, or using an alternate light source such as Low Pressure Sodium Vapor.

4. Once the plan is fully implemented, conduct a lighting inspection in order to identify any remaining problematic light.

5. Propose additional conservation measures to minimize possible adverse impacts related to construction and operation activities on sea turtles and their nesting habitat.

Our Coastal Barriers Resources Unit Maps (see enclosures) show that the project area lies within the PR-75 unit. Coastal barriers serve as a natural storm protective buffers and are generally unsuitable for development because they are vulnerable to hurricane and other storm damage and because natural shoreline recession and the movement of unstable sediment undermine structures. They also provide essential habitat for threatened and endangered species and often provide the conditions necessary to support productive and lucrative fisheries. The applicant should be advised that the Coastal Barrier Resources Act (CBRA) prohibits new Federal financial expenditures and assistance including Federal flood insurance for new structures or substantial improvement for properties located within Coastal Barrier Resources System.

According to our files, on February 20, 2001, the U.S. Army Corps of Engineers issued a Cease and Desist Order to Mr. Oscar Soto Nieves, property owner and applicant for the Costa Marfil Apartments project. The violation consisted of the discharge of fill material which impacted approximately 2.5 acres of mangrove wetlands. The apparent purpose of the fill was to construct a trailer park and subsequently the Costa Marfil Apartments. Forested and herbaceous estuarine wetlands were adversely affected by the unauthorized placement of fill. The impacted area is connected to the Culebrinas River through a series of canals that form part of the Madre Vieja system. Mr. Soto Nieves agreed to restore the impacted wetlands by fill removal to its original grade and vegetation replanting. However, according to our communications with Ms. Myrna López (Project Manager,USCOE), the enforcement case is still open and the restoration works have not been completed. 3059

Although we understand that the project is in its initial phase and the Environmental Impact Statement is preliminary, the information provided should be as specific and reliable as possible for a better evaluation of the project. According to the project description and our conversation with the property owner, the proposed project will be located in upland areas, however, we are

concerned about possible project indirect impacts to the adjacent mangrove areas. To clarify the exact location of the development on the site, the applicant should prepare a project overlay specifying where the proposed buffer zones will be located and its measurements. The final EIS should include impact minimization measures for these areas during project construction and/or operations.

Based on the above, we recommend that a siting permit not be issued until these concerns are addressed. In addition, the applicant should resolve the Corps enforcement case and the transitional wetland restored area should be designated as part of the buffer zone to be established. If you have any questions, please contact Ana Román or Marelisa Rivera at (787)851-7297, extension 22, or at the letterhead address.

Sincerely yours,

James P. Oland
Field Supervisor

amr/mtr
cc:
COE, San Juan
EPA, San Juan
DNER, San Juan
DNER, Aguadilla
EQB, Scientific Assessment Division
ARPE, Aguadilla