



**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Registration Form**

361

1. Name of Property

historic name Puente #6

other names/site number Bridge #6, Pontón La Concepción, La Concepción Bridge

2. Location

street & number SR 798, km. 1.0, Río Cañas Ward not for publication

city or town Caguas vicinity

state Puerto Rico code PR county Caguas code 025 zip code 00626

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Carlos A. Rubio Cancela, Architect
Signature of certifying official/Title

April 14, 2009
Date

Puerto Rico State Historic Preservation Office
State or Federal agency or Tribal government

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of certifying official/Title

Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

- entered in the National Register
 - See continuation sheet.
- determined eligible for the National Register
 - See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register
- other (explain):

Edson H. Beall 5.29.09

[Signature]
Signature of the Keeper Date of Action

5. Classification

Ownership of Property

- private
- public-local
- public-State
- public-Federal

Category of Property

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

Contributing

0
0
1
0
1

Noncontributing

0	buildings
0	sites
0	structures
0	objects
0	Total

Name of related multiple property listing

Historic Bridges of Puerto Rico

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions

Transportation/ road-related _____

Current Functions

Transportation/ road-related _____

7. Description

Architectural Classification

Other/ brick barrel vault _____

Materials

foundation N/A _____
walls N/A _____
roof N/A _____
other Superstructure - masonry, concrete
Substructure - masonry, concrete

Narrative Description

(See Continuation Sheets)

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National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section 7 Page 1

Puente #6
Caguas, Puerto Rico

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NARRATIVE DESCRIPTION

Puente #6 (also known as Pontón La Concepción or La Concepción Bridge) is a two lane vehicular traffic, double span brick arch bridge located at kilometer 1.0 of State Road 798, Municipality of Caguas, between the towns of Guaynabo and Caguas. La Concepción Bridge is made up of "two symmetric barrel vaults and central ornamented pier that have buttress caps that reach the capstones course"¹. The bridge's central pier is supported on a concrete and brick cutwater platform built in the river bed. This bridge crosses approximately 8.18 meters over the Cañas River and rests on two brick abutments. The bridge's length is 18.4 meters and width is 7.93 meters. The bridge's roadway width is 6.70 meters and the deck area has 145.912 square meters. The bridge flooring is bituminous over concrete cast-in.

In 2002, the southern end of the bridge partially collapsed and that made it unsafe for vehicular traffic². The Puerto Rico Road and Transportation Authority undertook, from 2002-2004, a project to restore and reinforce this historic bridge in order to rehabilitate it for vehicular use. The general work of this project consisted of the following: (1) Cleaning and removing all vegetation of the structure; (2) Removal of old grouted riprap and construction of a new grouted riprap; (3) Reconstruction of the cutwater; (4) Reconstruction of the failed parapet; (5) Regrading riverside upstream and downstream; (6) Reconstruction of the cornices portion in both the elevation of the bridge; (7) Removal of loose, unsound or damaged plaster; (8) Tuck point with mortar exposed brick or stone masonry joints; (9) Pressure injection of mortar; (10) Application of first rough mortar then finish mortar to all brick and stone masonry; and (11) Installment of a new lighting system on the bridge.

The main focus of the 2002 project was the bridge's roadway and parapet. Once the roadway's numerous bituminous layers and fill underneath was removed, it was replaced with elastocell lightweight concrete that was poured over the bridge's vault arches. Each

¹ Luis Pumarada O'Neill and María de los Ángeles Castro Arroyo. Puerto Rico's Carretera Central: A Scenic Trip Through History (English translation), 71.

² María A. Cashion Lugo. "Evaluación Arqueológica Fase 1 (A y B) para el Proyecto: Rehabilitación del Puente #6 sobre el Río Cañas, PR 798, Km 1.0, Caguas, PR" report for the Planning area of the Road and Transportation Authority, June 30, 2002, 2.

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Puente #6
Caguas, Puerto Rico

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ellastocell lightweight concrete layers, no thicker than 0.5, once cast were allowed to dry and cure during twenty-four hour prior to pouring of next layer³. Crushed stone gabion baskets were placed in between two ellastocell areas and bridge's abutments. Waterproofing geotextile filter was placed over the upper surface of the elastocell concrete prior to pouring of the normal weight concrete for the bridge's slab for the roadway. A bituminous covering was placed on top of the concrete slab. The bridge's brick parapet was removed and restored with the use of epoxy grouted dowel bar. The parapet and the cornice were restored to its original location and condition.

The original bridge had two turrets, one in each façade, in the cornice of the central pier. However, during the 20th century, the turrets were removed for unknown reasons. However, it is probable that they became a safety hazard for the vehicular traffic. Although these turrets were a distinguishing decorative element for the structure, the bridge retains other elements of its original design. Structurally the bridge continues to function as it was designed with its arches continuing to carry the load of the traffic. Property retains integrity of location, design, workmanship, materials, feeling, association and setting.

A description of the structure follows:

Span number:	2	Construction date:	1856
Span length:	5.0 meters	Superstructure:	brick, concrete
Total span length:	11.51meters	Substructure:	brick, concrete
Bridge's width:	7.93 meters		
Roadway width:	6.70 meters		

³ The ellastocell lightweight was poured approximately 5.2 meters wide and 1.35 meters in depth over the vault arches. Plan "Reinforced Concrete Slab (New), Rehabilitation of the Bridge #6 over Río Cañas, Caguas, Puerto Rico, Highway and Transportation Authority", Bridge Engineering Office, San Juan, Puerto Rico, 2003.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "X" in all the boxes that apply.)

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or a grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(See Continuation Sheets)

Engineering
Transportation

Period of Significance

1856

Significant Dates

1856

Significant Person

N/A

Cultural Affiliation

N/A

Architect/Builder

Unknown.

Narrative Statement of Significance

(See Continuation Sheets)

Puente #6
Caguas, Puerto Rico

9. Major Bibliographical References

Bibliography

(See continuation sheets)

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: Puerto Rico Highway Authority: General Archives of Puerto Rico: University of Puerto Rico, Mayagüez Campus

10. Geographical Data

Acreage of Property Less than one acre

UTM References

(Place additional UTM references on a continuation sheet)

Zone Easting Northing
 1 19 811125 2025361
 2 _____

Zone Easting Northing
 3 _____
 4 _____

___ See continuation sheet.

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title José E. Marull del Río/ State Historian
organization Puerto Rico State Historic Preservation Office date April 7, 2009
street & number PO Box 9066581 telephone 787-721-3737
city or town San Juan state PR zip code 00906-6581

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

name Transportation and Public Works Department
street & number PO Box 41269 telephone (787) 722-2929
city or town San Juan state PR zip code 00940-4262

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**NATIONAL REGISTER OF HISTORIC PLACES
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Puente 6
Caguas, Puerto Rico

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NARRATIVE STATEMENT OF SIGNIFICANCE

Puente #6, built in 1856, is a property of statewide significance under the National Register Criterion C for being a unique representative vault brick bridge technology used by the Spanish Government in the 19th century, and under Criterion A for transportation associated with the San Juan-Caguas Road and the Carretera Central.

Background

Since the founding of the city of Caguas, the municipal assembly of Caguas considered a priority keeping a roadway open to port of San Juan. This was considered essential for the economic development of the city since San Juan was the natural port for its agricultural products. This old military road was maintained through the limited economic resources of the municipal governments of Caguas, Río Piedras and Guaynabo. However, due to rough terrain, limited funds, lack of manpower and of technical knowledge contributed to the constant state of disrepair of this roadway¹.

In 1844 Governor Rafael Arístegui sent Colonel Diego Gálvez, Sub inspector of Engineers, to reconnoiter the area in order to prepare a new master plan for the road between San Juan and Caguas. In October 3, 1844 the Caguas Municipal Assembly agreed to provide men, equipment, lodgings, and transportation to assist Colonel Gálvez and his team. The 1844 road plan implemented the realignment of the road, called among other things, for the construction of bridges to cross the rivers in the area².

The San Juan-Caguas road's construction was supervised initially by Engineer Colonel Tulio O'Neill and later by the Engineer Commander Santiago Cortijo. The bridge over the Cañas River was the sixth bridge to be built for the San Juan-Caguas road. The structure was completed in 1856 at a cost of 506 pesos. The roadway was completed by 1859³.

¹ Oscar L. Bunker. *Historia de Caguas*, 269-275. María de los Ángeles Castro Arroyo. *La Construcción de la Carretera Central en Puerto Rico*, x.

² Oscar L. Bunker, *Historia de Caguas*, 276. "Historic Bridges of Puerto Rico", 5.

³ María de los Ángeles Castro Arroyo. *La Construcción de la Carretera Central en Puerto Rico*, x. Luis F. Pumarada O'Neill, *Los puentes históricos de Puerto Rico*, 44. The date of the bridge's construction is taken from Luis F. Pumarada's publication. However, we should mention that in the records of the December 20, 1854 meeting of the Caguas municipal assembly it indicates that the bridge over the Río Cañas was completed.

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Caguas, Puerto Rico

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In 1859 the Spanish Government developed a General Highway Plan and integrated the San Juan-Caguas road and its bridges into the Island's Road Plan. This road was originally intended to connect San Juan with the southeastern town of Guayama. However, this plan was later revised in the 1870s so that it would connect San Juan with the southern port city of Ponce.

In the 20th century the use of the bridge by cars and trucks presented the Puerto Rico Road and Transportation Authority (PRRTA) unique challenges for preserving this historic resource. The records show that as early as February 28, 1916 a truck owned by E. O. Garrabaut had seriously damaged one of the bridge's parapets. In this case the Department of Interior sought the payment of \$150.00 from Mr. Garrabaut⁴. By 2002, the heavy loads of trucks and cars that passed over the bridge had caused severe deterioration of the asphalt and disintegration of the bridge's roadway⁵. In 2002 PRRTA included this bridge in a \$12.2 million project to rehabilitate bridges in Puerto Rico. The rehabilitation of the bridge over Cañas River was completed in 2004 at a cost of \$1.1 million⁶.

Transportation significance

The bridge over Río Cañas is significant because of its association with original the San Juan-Caguas road developed by the Spanish Government from 1844 to 1859. This is significant at State level as one of the early road project that was developed prior to the 1859 General Highway Plan. Locally the bridge is significant as part of a road that was important to the economic development of Caguas region. As part of the Carretera Central the bridge is important as a transportation landmark for the main highway of the Island during the 19th century.

Engineering significance

The masonry bridges built in Puerto Rico by the Spanish Government are the only example of European arch bridge design and technology under the jurisdiction of the United States. This

⁴ Fondo Obras Públicas, Serie Carreteras y Puentes, Legajo 18, Caja 2124, General Archives of Puerto Rico. It is interesting to note that this bridge at kilometer 28.1 in the Carretera Central is identified as Taforo Bridge in the official documents.

⁵ Bridge Engineering Office, Bridge Maintenance, 2002 Bridge Inspection Report, Highway and Transportation Authority.

⁶ Ivonne Y. Rosario "Salen al rescate de puentes históricos" El Vocero, 19. César Irizarry Resto "Restauran histórico puente en Barrio Río Cañas" La Semana Año 42, Núm. 2142, Jueves, 19 de agosto de 2004, 3. Copies courtesy of Architect Wanda Bogdel, Cultural Heritage Office, Road Authority.

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Puente 6
Caguas, Puerto Rico

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bridge is distinctive because of its design and its span length that is less than 6 meters⁷. Its decoration on the faces of the bridge and pillars mark it as the only one of its type to survive in Puerto Rico. In La Carretera Central: un viaje escénico a la historia de Puerto Rico (Puerto Rico's Carretera Central: a scenic trip through history) states:

Many of Puerto Rico's historic bridges types are unique within the jurisdiction of the United States. The pre-1898 vaulted brick bridges are the only ones under US flag built following Spanish technology. Because all four surviving ones in the Carretera Central are different from each other, each is unique⁸.

For further contextual information regarding bridge building in Puerto Rico, registration requirements, renowned engineers and firms, and property types, see related multiple property listing "Historic Bridges of Puerto Rico".

⁷ Luis F. Pumarada O'Neill. Los Puentes Históricos de Puerto Rico, 13. The Spanish Public Works classified those structures with arches with less than 6 meters as "pontoon" or "alcantarillas" (culvert). However, this structure is not a pontoon as defined by dictionary since it is a permanent construction.

⁸ Luis Pumarada O'Neill y María de los Ángeles Castro Arroyo. La Carretera Central: un viaje escénico a la historia de Puerto Rico 60. This publication is bilingual with Spanish text from pages 1-41 and English text from pages 42-81.

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Puente 6
Caguas, Puerto Rico

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MAJOR BIBLIOGRAPHICAL REFERENCES

- Cashion Lugo, María A. "Evaluación Arqueológica Fase 1 (A y B) para el proyecto: Rehabilitación del Puente sobre el Río Cañas, PR 798, Km 1.0, Caguas, Puerto Rico". Report for the Planning Area, Highway and Transportation Authority, June 30, 2002.
- Castillo, Juan E. "Carretera Central. -Su Historia." Revista de Obras Públicas 7.1 (enero 1930): 21-28.
- DeLony, Eric. "Context for World Heritage Bridges". Joint publication with TICCIH, 1996. (<http://www.icomos.org/studies/bridges.htm>).
- Irrizarry Resto, César. "Restauran histórico puente en Barrio Río Cañas" La Semana, Año 42, Núm. 2142, 19 de agosto de 2004, 3.
- Pumarada O'Neill, Luis. "Fichero de Puentes elegibles considerados para designación como puentes históricos". Final Report for the Office of Environmental Studies, Highway and Transportation Authority. January 5, 1995.
- , Los Puentes Históricos de Puerto Rico. Centro de Investigación y Desarrollo, RUM, Mayagüez, 1991.
- , "Historic Bridges of Puerto Rico, c. 1840-1950". Multiple Property Submission (MPS) prepared for PRSHPO on July 31, 1994. MPS approved by National Park Service on July 19, 1995.
- Rosario, Ivonne Y. "Salen al rescate de puentes históricos", El Vocero, 30 de julio de 2002, página 19.

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**NATIONAL REGISTER OF HISTORIC PLACES
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Puente #6
Caguas, Puerto Rico

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GEOGRAPHICAL DATA

Verbal Boundary Description

The nominated property is a rectangular shaped parcel measuring 18.4 X 19.12 meters, which is centered on the coordinates in section 10 (Zone 19, Easting 811125, Northing 2025361). Included within this rectangular parcel are the bridge's superstructure, substructure, floor systems and wing walls.

Boundary Justification

The nominated structure includes the bridge's superstructure, substructure, floor system, any approach spans and the property on which they rest. These boundaries encompass, but not exceed, all of the property that has been historically associated with this bridge.



UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY Puente No. 6
NAME:

MULTIPLE Historic Bridges of Puerto Rico MPS
NAME:

STATE & COUNTY: PUERTO RICO, Caguas

DATE RECEIVED: 4/17/09 DATE OF PENDING LIST: 5/04/09
DATE OF 16TH DAY: 5/19/09 DATE OF 45TH DAY: 5/31/09
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 09000361

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT RETURN REJECT 5.28.09 DATE

ABSTRACT/SUMMARY COMMENTS:

**Entered in
The National Register
of
Historic Places**

RECOM./CRITERIA _____

REVIEWER _____ DISCIPLINE _____

TELEPHONE _____ DATE _____

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.





Bicentenario El Niágara F. P.

ABC TR



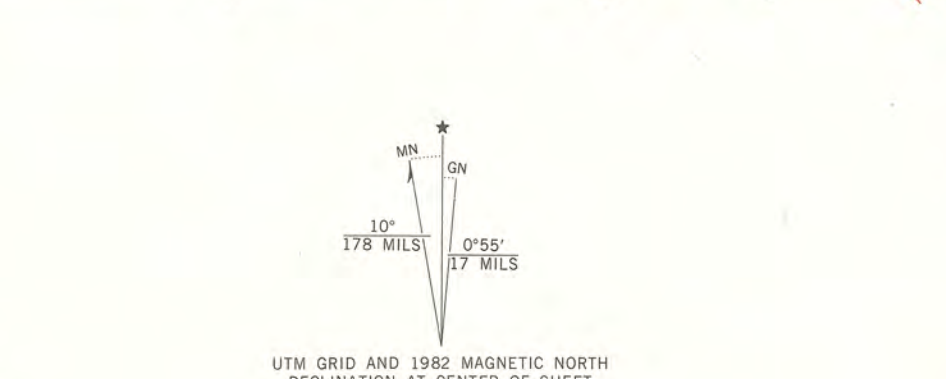








Mapped, edited, and published by the Geological Survey
 Control by USGS and NOS/NOAA
 Topography by photogrammetric methods from aerial photographs taken 1941. Field checked 1943. Revised from aerial photographs taken 1967. Field checked 1969
 Polyconic projection. Puerto Rico Datum, 1940 adjustment 2000-meter grid ticks based on Puerto Rico coordinate system 1000-meter Universal Transverse Mercator grid, zone 19
 Barrio and municipality boundaries by the Puerto Rico Planning Board
 Red tint indicates areas in which only landmark buildings are shown
 Kilometric reference distances shown in red
 Revisions shown in purple and woodland compiled from aerial photographs taken 1977 and other sources. This information not field checked. Map edited 1982
 Purple tint indicates extension of urban areas



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
 FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
 AND DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, SAN JUAN, PUERTO RICO 00910
 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION
 Primary highway, all weather, Light-duty road, all weather, hard surface
 Secondary highway, all weather, improved surface
 Unimproved road, fair or dry weather
 Insular Route

Bridge #6
 Caguas, Puerto Rico
 001196 AGUAS BUENAS, P. R.
 N1815-W6600/7.5
 1969
 PHOTOREVISED 1982
 DMA 1322 I NE-SERIES E835



April 14, 2009

Ms. Janet Snyder Matthews, Ph.D.
National Park Service 2280, 8th floor
National Register of Historic Places
1201 Eye Street, NW
Washington, D. C. 20005

SUBMISSION – PUENTE #6, CAGUAS, PUERTO RICO

Dear Ms. Snyder:

We are pleased to submit the nomination of Puente #6, in the Municipality of Caguas, for inclusion in the National Register of Historic Places.

Should you have any questions on the nomination, please contact Arch. Berenice Sueiro, Deputy SHPO at 787-721-3737.

Sincerely,

Carlos A. Rubio Cancela, Architect
State Historic Preservation Officer

CARC/BRS/JEM/jvr

Enclosures