



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FL 32207-8175

REPLY TO
ATTENTION OF

Planning and Policy Division
Environmental Branch

17 September 2019

Sixto A. Machado Rios
Director, Geology and Hydrogeology Office
Puerto Rico Planning Board
P.O. Box 41119, Minillas Station
San Juan, Puerto Rico 00940

Dear Mr. Rios:

This letter acknowledges the U.S. Army Corps of Engineers, Jacksonville District, (Corps) receipt of your July 16, 2019 and July 30, 2019 letters regarding the Coastal Zone Management Act coordination for the Draft Environmental Assessment for the Rio Culebrinas, Puerto Rico Study in the southwest portion of Aguadilla and the community of Espinar in Aguada and Aguadilla, Puerto Rico. In that letter, the Puerto Rico Planning Board (PRPB) staff provided recommendations for the project based on the agency's Federal Consistency Determination (FCD) evaluation and comments received during PRPB's FCD evaluation public comment period. The Corps has reviewed the PRPB recommendations and public comments and has prepared the enclosed responses in support of the PRPB's FCD evaluation.

The Corps appreciates the input provided by the PRPB on this project. Any questions regarding this project should be directed to Ms. Kristen Donofrio at the letterhead address or by telephone at 904-232-2918.

Sincerely,

A handwritten signature in cursive script that reads "Angela E. Dunn".

Angela E. Dunn
Chief, Environmental Branch

Enclosure

Table 1. Summary of Corps’ responses to comments received during the Puerto Rico Planning Board’s (PRPB) Coastal Zone Management Act (CZMA) agency and public review and comment period of the draft Environmental Assessment (EA) for the Rio Culebrinas, Puerto Rico Study in the southwest portion of Aguadilla and the community of Espinar in Aguada and Aguadilla, Puerto Rico.

Comment Number	Commenter	Summary of Comment	Corps’ Response
1	Aguadilla Municipal Government Carlos Méndez Martínez Mayor	The Autonomous Municipality of Aguadilla endorses and support the flood control project proposed by the U.S. Army Corps of Engineers (Corps). We have more than 20 years working this project with the U.S. Army Corps of Engineers, since we understand the need that exists in this area to prevent floods. The flooding of Culebrinas River during Hurricane Maria, caused the loss of three (3) lives and affected Garcia and Victoria Urbanizations with 300 families, the Aponte Residential Building with 109 families and the communities of Espinar and Tablonal sectors in Aguada with 1281 families. The headquarters of the state police command was inoperative during the floods, and this is an important area for meeting of key personnel and response and during emergencies, so it is very important to prevent flooding.	Thank you for your support of this project.
2	Ciudadanos Aguadeños Pro Conservación del Ambiente Jorge R. Sepulveda Torres President	The project as presented is based in studies of 17 years ago that do not take into consideration the more recent changes that occurred in the coast, coastal erosion, coastal flooding and the recently catastrophic event of Hurricane Maria. These studies have already expired and has not been actualized. The proposed project does not take into account the new FEMA Advisory Maps.	<p>The project’s design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events.</p> <p>The Corps intends to conduct an updated H&H model, using the latest available data (which would include any updated FEMA Advisory Maps), during the project’s Preconstruction Engineering and Design (PED) phase to refine project design. In order to meet current Federal, state, and local laws, regulations, and policy, as well as Corps standards and guidelines, the Recommended Plan will be reviewed and refined during the PED phase.</p>
3	Ciudadanos Aguadeños Pro Conservación del Ambiente Jorge R. Sepulveda Torres President	The Corps indicated in their evaluation that the project will affect 13.35 acres of degraded wetlands and that only 11.69 will be mitigated. This evaluation is deficient and ambiguous. The project area is located within the Espinar Estuary and Madre Vieja River. These wetlands are part of a system of channels with many ramifications that ends into an estuary with a mangrove system. The Madre Vieja River is a habitat for many species that are in hazard of	On May 21, 2019, the Corps, the Puerto Rico Department of Natural and Environmental Resources (DNER), Puerto Rico Planning Board (PRPB), and the mayors of Aguadilla and Aguada discussed the possible impacts of the project to the proposed Espinar Swamp Reserve. The project’s 2019 environmental assessment (EA) considers concerns regarding the effects to the existing wetlands and the proposed reserve. The Corps intends to complete

Comment Number	Commenter	Summary of Comment	Corps' Response
		<p>extension. It is habitat of migratory and endemic birds and there is a significant amount of flora in hazard of extinction. The adjacent beaches contain sea turtle nesting habitat. The coastal zone of the project area was declared by the Federal Government as a coastal barrier. Contrary to what the Corps alleges, this is a project with a high environmental impact and does not take into account the impact of this important natural resources and the coastal zone. The DNER designated the Caño Madre Vieja wetlands and its wetlands as a Natural Reservoir.</p> <p>This wrongly named "Flood Control Project" have the purpose to protect two (2) communities in Aguadilla and it affects and worsen the flooding conditions in two communities in Aguada. This agency said that do not promotes construction of flood control projects that increases the flooding level in other communities. Flood control projects cannot be discriminatory. It would not make sense to carry out flood control works to protect some and harm others.</p> <p>To conclude, the Corps has not presented updated studies nor has it expressed the true environmental impacts that could be caused to the lands and surrounding communities or to natural resources. It is not acceptable that the Federal agency ask to evaluate the proposed project using studies that date more than 17 years ago without taking into account the changes that have occurred in the area during all these years. The Puerto Rico Planning Board must require the Corps to update these studies, submit the hydrological studies that have not been provided and make an updated Federal Environmental Impact Statement that evaluate the true environmental impacts to the natural resources. The Corps must include updated studies that evaluate the impact to the coastal zone and how the storm surge in an event similar to the hurricane Maria would adversely affect the coast. We are in the best disposition to collaborate in this process. Thank you for the opportunity to collaborate and participate.</p>	<p>mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 Detailed Project Report (DPR). A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. In addition, the Corps will evaluate potential changes to the engineering design during the project's PED phase in order to minimize impacts to the proposed reserve area. The Corps will continue to coordinate with DNER (Department of Natural and Environmental Resources).</p> <p>Pursuant to NEPA, the Corps has completed agency review of this project. The Corps intends to complete mitigation for unavoidable impacts to wetlands and has determined that an EIS is not required. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p> <p>The Corps intends to conduct an updated hydrologic and hydraulic (H&H) study, using the latest available data, during the project's PED phase to refine project design. In order to meet current Federal, state, and local laws, regulations, and policy, as well as Corps standards and guidelines, the Recommended Plan will be reviewed and refined during the PED phase. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to the National Environmental Policy Act (NEPA), the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p> <p>The original H&H model shows an increase of less than a</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>foot in the flooding stage for the Tablonal Community. Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p>
4	Department of Natural and Environmental Resources (DNER) Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The DNER send a letter dated June 19, 2019 requesting additional time to conclude the evaluation of the documents and provide their comments and recommendations. The Puerto Rico Planning Board granted ten (10) labor days, until July 24, 2019 to submit comments.	The Corps supported the time extension request as granted by the PRPB to DNER.
5	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	It is important that as soon as wetlands impacts are determined by detailed studies, the Corps develop and submit a Compensatory Wetland Mitigation Plan (WMP) at the DNER for evaluation and endorsement. This plan must demonstrate that the impact on wetlands be adequately compensated in both proportion and function. It is recommended that the WMP be executed concurrently with the project construction phase in order to achieve the highest ecological benefits.	The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. The Corps will continue to coordinate with DNER.
6	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	An updated Hydro-Hydraulic Study (HHS) should be carried out for the proposed flood control works.	The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design.
7	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	It should be discussed how the project will comply with the provisions of Law 241-1999 and Regulation No. 6765 of February 11, 2004 (Regulations for the Conservation and Management of Wildlife, Exotic Species and Hunting in Puerto Rico). For these purposes, the DNER must	The project complies with NEPA and its associated Acts and Executive Orders, including the Endangered Species Act. A 404(b)(1) Guidelines Evaluation was conducted (provided in the final EA as Appendix C) and the Corps intends to complete mitigation for unavoidable impacts to

Comment Number	Commenter	Summary of Comment	Corps' Response
		receive from the Corps an application for Certification of Habitat Categorization, by which the habitats to be impacted are categorized and proposed mitigation measures are presented. This application must be evaluated by the DNER through an independent formal procedure, in accordance with the provisions of Law 241-1999 and Regulations Number 6765 and 6766.	wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. The Corps will continue to coordinate with DNER and will obtain all required permits and authorizations prior to the start of construction.
8	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	Even if the project area does not provide the optimum habitat conditions for Puerto Rico's boa, it is important that the protection of this species of conservation interest be taken into account, including the implementation of a protocol for its management during the construction phase of the project.	The Corps has determined that implementation of the 2015 Recommended Plan may affect, but will not adversely affect the Puerto Rican boa (<i>Epicrates inornatus</i>). The Corps will include the standard construction measures, as provided by U.S. Fish and Wildlife Service (USFWS) to protect the Puerto Rican boa to the maximum extent practicable. The project was coordinated with USFWS during the public review of this NEPA document. USFWS concurred with the Corps' MANLAA determination in a letter dated March 7, 2019.
9	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The environmental document should establish an action protocol for the proper management of fish, crustaceans, mollusks and other forms of aquatic life, both marine and fresh water, which inhabit the project area under natural conditions. The Corps construction proposals must include habitat protection controls or measures and the corresponding mitigation must be performed.	The Corps requires contractors to submit an Environmental Protection Plan (EPP) describing how the contractor will comply with laws, regulations, and permits concerning environmental protection, pollution control, and abatement that are applicable to the contractor's proposed operations and the requirements imposed by those laws, regulations and permits. The EPP includes descriptions of the protective measures for species that require specific attention, methods for protection of features (e.g. vegetation, animals, water) to be preserved within authorized work areas, and procedures to be implemented that will provide the required environmental protection to comply with applicable laws and regulations.
10	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	USFWS 1999 report mentions that the beach between Caño Madre Vieja and the Espinar Community could maintain valuable habitat conditions for the sea turtle nesting, particularly the leatherback sea turtle (<i>Dermochelys coriacea</i>) and the hawksbill sea turtle (<i>Eretmochelys imbricata</i>).	The project occurs inland and will not affect these marine species.
11	DNER, Joanna C. Cepeda Díaz	There is a higher incidence of leatherback and Hawksbill sea turtle nesting on the sandy beaches, from Añasco Public beach to the Caño Boquilla river mouth in	The project occurs inland and will not affect these marine species.

Comment Number	Commenter	Summary of Comment	Corps' Response
	Auxiliary Secretary of Permits, Endorsements and Specialized Services	Mayaguez. However, we understand that this should not exclude the possibility that both sea can be sighted in the project area under appropriate environmental conditions.	
12	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	Before accepting any compensatory mitigation measure, the Corps must submit to DNER, the revised environmental document and a Mitigation Plan that identifies the place where the mitigation will be carried and any tree planting, according to the corresponding elevation. It is important that the revised environmental document consider the mitigation alternatives taking into account the designation of the Espinar Swamp and Caño Madre Vieja as a Natural Reserve and these alternatives must be discussed with the DNER.	On May 21, 2019, the Corps, DNER, PRPB, and the mayors of Aguadilla and Aguada discussed the possible impacts of the project to the proposed Espinar Swamp Reserve. The project's EA considers concerns regarding the effects to the existing wetlands and the proposed reserve. The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. In addition, the Corps will evaluate potential changes to the engineering design during the project's PED phase in order to minimize impacts to the proposed reserve area. The Corps will continue to coordinate with DNER.
13	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	Sections of the project will impact the Maritime-Terrestrial Zone. This must be discussed in the environmental document.	Discussion on the Maritime-Terrestrial Zone was added to section 3 and section 4 of the final EA.
14	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	Once the study stage of the project is completed and the design plans are available, the Corps must submit it to the DNER, in order to evaluate and comment on the technical aspects of the project.	Plans and specifications will be coordinated for review with the non-Federal sponsor (NFS), DNER, and Puerto Rico agencies (e.g. Puerto Rico Highways and Transportation Authority (PRHTA), Puerto Rico Aqueducts and Sewer Authority (PRASA), and Puerto Rico Department of Agriculture (PRDA) during the project's PED phase.
15	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The 2019 Draft EA, is not taking into account the "Recommended Base Flood Level Maps", prepared by the Federal Emergency Management Agency (FEMA) and adopted by the PR Planning Board in April 13, 2018 after the passage of Hurricane Marina in September 20, 2017. The effects of catastrophic atmospheric events, such the Hurricane Maria, recent changes in the coast, coastal erosion and coastal flooding so that these aspects should be considered in the revised environmental	The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design.

Comment Number	Commenter	Summary of Comment	Corps' Response
		document, which is subsequently submitted for evaluation.	
16	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The DNER considers that this theoretical framework of compensatory mitigation for the project can be complemented by carrying out a study to document how the construction of the levees and the cutting of Madre Vieja channel would alter the hydrology of the ESCMVNR estuary. The effect and consequence of the construction of the levees with respect to the runoff and phreatic aquifer, that ordinarily feeds this estuary, must be evaluated considering its subsequent effect on the prevailing interstitial salinity. In addition, we consider it is important to recognize the effects of changes in the velocity of water caused by the construction of the cutoff channel in the swamps and in the dynamics of the deposition of sand in the river mouth zone and benthic zone.	<p>The objective of the project is to provide flood protection while maintaining existing flow conditions. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. Modeling would also determine whether there is an additional mitigation need to maintain the existing environmental conditions. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p> <p>Additionally, the Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase.</p>
17	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The project, as proposed, would be affecting the hydrological continuity of Caño Madre Vieja and the associated wetlands. Works to hydrologically reconnect the area and wetlands must be detailed with data on impacts to terrestrial and aquatic flora and fauna, in addition to documenting how their ecological functionality will be achieved.	The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase.
18	DNER, Joanna C. Cepeda Díaz Auxiliary Secretary of Permits, Endorsements and Specialized Services	The document does not make reference to the Tablonal community, located southwest of the project area. According to ABFE Panel 0145J and Panel 0145J of the FIRM, the Tablonal Community is located within the Culebrinas River. Therefore, it is inferred that residents in that sector could be adversely affected by a potential	The Tablonal community was identified as a potential project area in the 2004 Detailed Project Report/ Environmental Assessment. Preliminary Plan 1 proposed construction of a levee adjacent to the Tablonal community, however, this measure would require relocation of hundreds of structures in the area, resulting in a benefit to cost ratio of less than one for this portion of

Comment Number	Commenter	Summary of Comment	Corps' Response
		increase in flood levels, resulting from the proposed project.	<p>the project. For this reason, measures for the Tablonal community could not be carried forward.</p> <p>The original H&H model shows an increase of less than a foot in the flooding stage for the Tablonal Community. Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p>
19	PR Aqueducts and Sewer Authority (PRASA) Gabriel G. Morales Rodríguez Auxiliary Director of Design and Auctions	After evaluating the project plans, we have preliminarily identified several pipes that may be affected during the construction of the project, which are detailed in the following figures: (see the figures included in the letter submitted by this agency). As part of an interagency effort to make the proposed island wide flood control projects viable, we have maintained several meetings and communications with the Corps to define possible impact areas and incorporate the PRASA recommendations during the design phase. Therefore, we don't have any objection to the proposed project. PRASA is in the best disposition to continue in direct communication with the Corps during the planning, design and construction phases in order to avoid any possible damage to their infrastructure and minimize any environmental impact.	The Corps will continue to coordinate with PRASA. Thank you for your comments.
20	Puerto Rico Department of Agriculture (PRDA) Nancy I Sánchez Villanueva, MBA Office of Initiatives for the Preservation of Lands	The PRDA send an e-mail communication on July 2, 2019, requesting additional time to conclude the required evaluation and provide their comments and recommendations. The Puerto Rico Planning Board granted them ten (10) labor days, until July 24, 2019 to submit comments.	The Corps supported the time extension request as granted by the PRPB to PRDA.

Comment Number	Commenter	Summary of Comment	Corps' Response
21	PRDA Nancy I Sánchez Villanueva, MBA Office of Initiatives for the Preservation of Lands	We are concerned about soil compaction caused by machinery during the construction phase. This affects the soil structure and implies that it will be necessary to employ agronomic practices to restore and recondition the lands adjacent to the levees. In order to minimize this impact we recommend to plan and establish a route for machinery that minimizes the extension of impacted lands.	The Corps will coordinate with the PRDA to ensure appropriate Best Management Practices are included in the project to minimize effects to agricultural lands.
22	Puerto Rico Highway and Transportation Authority (PRHTA) Eng. Jaime A. Lafuente González Director, Design Area	At this time it is too early to determine the degree of impact to highways 115, 442 and 418 due to the fact that the project is in its planning and environmental compliance stage. However, the draft environmental document indicates that ramps will be built to maintain access to said roads. All geometric and structural design of proposed roads, must comply with the geometric and structural design manuals of the AASHTO, the PR Highway and Transportation Authority (PRHTA) and the Federal Highway Administration (FHA). The designs must be submitted to the PRHTA before any final endorsement.	The Corps will coordinate with the PRHTA prior to finalization of design.
23	Puerto Rico Planning Board (PRPB) Sixto A. Machado Rios Director, Geology and Hydrology Office	There is a consensus that the documents and information provided by the Corps are based on scientific information and environmental conditions from 1999 to 2002 and does not consider effects of climate change, sea level rise and socio-economic changes that have occurred in the project area. Updated hydrological studies were not provided to evidence the effectiveness of the flood control project as proposed. The community also express doubt and concern about if the most recent information on the floods caused by Hurricane Maria and the Advisory Maps (in force since April 2018) is being taken into consideration.	<p>The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. New H&H modeling will include using updated rainfall depths from more recent storm events, sensitivity analyses for risk and uncertainty in the setting of appropriate levee crest heights, Federal level of risk assessment review to assure meeting of current levee safety regulations, and cover current climate change sea level rise guidance requirements.</p> <p>The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>The benefits have not been recomputed by directly taking into account changed socioeconomic conditions since 2002. However, site visit notes and coordination with the NFS indicate that the vast majority of properties in the original structure inventory (on which the 2002 economic benefits are based), are still in the study area and are still occupied. Economic justification has been verified using a "Level 1" type economic analysis, in which updated cost estimate is deflated to the price level of previously estimated benefits.</p> <p>In accordance with the 2018 Bipartisan Budget Act, the project was reviewed for environmental acceptability, engineering feasibility, and economic justification in an expedited manner. Therefore, a Level 1 Economic Update is appropriate for this study. Also, in addition to National Economic Development (NED) benefits (i.e., flood damage reduction), there are two other economic accounts that can be used to measure project benefits: Regional Economic Development (RED), and Other Social Effects (OSE). RED benefits include locally important effects, such as reduced unemployment and as well as increased business and tax revenue. OSE benefits include factors important to human well-being, including: health and safety, social vulnerability and resilience, social connectedness, and economic vitality. By preventing or reducing additional flood damage in future storms, it is likely that this project generates significant RED and OSE benefits in those accounts as well.</p> <p>Finally, it is true that the population of Puerto Rico has decreased in recent years, due to lingering effects of the Economic revision and Hurricane Maria. If an effort was made to directly account for damage to properties or decreasing occupancy rates, it is likely that the project benefits would decrease. However, over the course of the project's 50 year life, it is reasonable to assume that the population will stabilize and eventually grow. Therefore it is possible that the direct damage reduction benefits will actually increase over time. Using the previously estimated benefits represents a conservative, defensible</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>approach.</p> <p>The Corps intends to conduct additional public meetings to present and discuss the project's status and design as well as provide the opportunity for public participation. These meetings will be held during the project's PED phase.</p>
24	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	Representatives of Tablonal and Espinar communities expressed concern that the project will worsen the flooding hazard conditions, especially in the Tablonal community. They claim not being taken into consideration within this project.	<p>The Tablonal community was identified as a potential project area in the 2004 Detailed Project Report/ Environmental Assessment. Preliminary Plan 1 proposed construction of a levee adjacent to the Tablonal community, however, this measure would require relocation of hundreds of structures in the area, resulting in a benefit to cost ratio of less than one for this portion of the project. For this reason, measures for the Tablonal community could not be carried forward.</p> <p>The original H&H model shows an increase of less than a foot in the flooding stage for the Tablonal Community. Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p>
25	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	According to comments provided by the USDA Forest Service, the construction of detention ponds may be an effective and less impacting alternative. Has the Corps evaluated this alternative?	The Rio Culebrinas project includes a large floodplain area that is valuable from an environmental perspective with one or more cultural resource sites (in addition to some agricultural use). Therefore, the use of large retention and or detention ponds of appropriate size would not likely be considered as an acceptable feature(s) by the local communities. Also, the use of retention and or detention ponds incur maintenance costs that exceed that of a levee system when inflows typically

Comment Number	Commenter	Summary of Comment	Corps' Response
			carry significant volumes of sediment and debris that require removal periodically to maintain effectiveness.
26	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	It is important to maintain coordination with the Department of Natural and Environmental Resources (DNER) to incorporate the adequate analysis and management measures to avoid and minimize impacts in this ecosystem and enhance it. The environmental document must include the required information and analysis to address possible impacts in the Espinar Swamp.	On May 21, 2019, the Corps, DNER, PRPB, and the mayors of Aguadilla and Aguada discussed the possible impacts of the project to the proposed Espinar Swamp Reserve. The project's EA considers concerns regarding the effects to the existing wetlands and the proposed reserve under section 3 and 4 of the final EA. The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. In addition, the Corps will evaluate potential changes to the engineering design during the project's PED phase in order to minimize impacts to the proposed reserve area. The Corps will continue to coordinate with DNER.
27	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	May the Corps consider mitigation alternatives or Engineering with Nature (EWN) alternatives that have both functions and benefits to compensate for the impacted wetlands and to minimize or mitigate the flooding hazard conditions of communities that will not be protected by the proposed flood control structures?	A range of alternatives were considered during the project's planning, including nature-based alternatives. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.
28	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	According to section 6.01(a) of the "Special Flood Hazard Areas Regulation" (Planning Regulation Number 13), no permit will be issued to locate new encroachments such as fillings unless it is shown by means of a hydrologic-hydraulic study performed with standard engineering practice, that the proposed encroachment (the levees) will not increase floodway elevations during the base flood discharge event. If the proposed development proposes fill deposit and implies an amendment to the Floodway limit, all map amendment procedures set in Section 4.04 must be complied with, including FEMA's procedure. The Regulation Number 13 also establishes that the hydrologic-hydraulic study to be performed must be based in current regulatory study.	Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages. The Corps will obtain all required permits and authorizations prior to the start of construction.

Comment Number	Commenter	Summary of Comment	Corps' Response
29	PRPB Sixto A. Machado Rios Director, Geology and Hydrology Office	It was mentioned within the provided Environmental Assessment documents that only around 85% of the target population may be protected by the proposed flood control structures. Which communities or areas will be within the 15% that not be protected?	<p>Residual damages are associated with events worse than the 100-year event. There is not a specific answer regarding which properties in particular could be exposed, but it is reasonable to conclude that events greater than the 100-year event would result in damages even in the with-project condition.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone. The Recommended Plan includes those areas with a positive Benefit to Cost ratio.</p>
30	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	1-This is a project of significant impact and represents a danger to public safety, life and properties of the residents and of all who travel on the surrounding roads number 115, 442, 439, 441, 4441 and 418, among other surrounding branches. This project require an updated Declaration of Impact Statement considering the disasters that occurred with Hurricane Maria and the other storm marine surges.	The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. The updated hydrologic and hydraulic modeling will undergo a formal Federal Levee Safety Risk Assessment to ensure that the project design meets all current levee safety guidelines and minimizes risks to the public to a maximum probability of 0.01% (1 in 10,000 years equivalency), but is typically assigned an even lower probability of occurrence due to size of the community (0.001% to 0.0001% as an example).
31	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	2-The area where the two (2) will be built are highly sensitive lands due to the nature of flooding, including the Tablonal Community, whose residents has not been taken into consideration in this flood control project.	<p>The Tablonal community was identified as a potential project area in the 2004 Detailed Project Report/ Environmental Assessment. Preliminary Plan 1 proposed construction of a levee adjacent to the Tablonal community, however, this measure would require relocation of hundreds of structures in the area, resulting in a benefit to cost ratio of less than one for this portion of the project. For this reason, measures for the Tablonal community could not be carried forward.</p> <p>The original H&H model shows an increase of less than a foot in the flooding stage for the Tablonal Community.</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p>
32	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	3-The studies provided for the construction of these levees were performed in 2002, are obsolete, and have not taken as a basis the floods caused by Hurricane Maria which were catastrophic and exceeded 8 feet in height, including the storm surges.	The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design.
33	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	4-The Corps has designed this project to protect only the Espinar Community of Aguada and Victoria of Aguadilla. The proposed levees will adversely affect the Tablonal Community in Aguada which has not been considered for this project.	<p>The Tablonal community was identified as a potential project area in the 2004 Detailed Project Report/ Environmental Assessment.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone. The Recommended Plan includes those areas with a positive Benefit to Cost ratio.</p>
34	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	5-In a conversation we had with Mr. Jorge Tous, who worked for the Corps, San Juan Office, he told us that the Flood Control Project would be done using the old studies and that only it was the cover of the document will be changed to serve as an updated study. This surprised us because the catastrophic events of Hurricane Maria were not taken into consideration. He also told us the following: - There is a rush to construct the project because the	The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct

Comment Number	Commenter	Summary of Comment	Corps' Response
		<p>federal funds approved for it would expire if not used in less than five (5) years.</p> <ul style="list-style-type: none"> - If neighboring communities, such as Tablonal, are affected, it was not his problem and that it was the community's business to resolve it, since Tablonal had to be relocated due to its proximity to the Culebrinas River. It is Problem (responsibility) of the Mayor to expropriate. - He also expressed that it would be our fault if this project was not carried out and that he would make sure to let the communities know. This was a discriminatory and threatening expression for the communities that we represent, which are affected by a real and worrisome problem. 	<p>an updated H&H model, using the latest available data, during the project's PED phase to refine project design.</p> <p>The original H&H model shows an increase of less than a foot in the flooding stage for the Tablonal Community. Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p>
35	<p>Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres</p>	<p>6-In a communication that we send to Mr. Jim Suggs of the Corps, expressing the concerns of Tablonal Community, he answered that a project that affects other communities would not be built (See the Corps letter dated September 29, 2015). How is it possible that the opposite is being done with this project? This is the same project that was designed by the proponent of DISCOVERY BAY RESORT AND MARINA, which was denied by the PR Planning Board through the Site Consultation Number 2002-26-0119-JPU. The applicants were the municipalities of Aguadilla and Aguada and Cordeco Land Services, owners of the land where the levees would be built and also are owners of the sandboxes and quarries in the western area.</p>	<p>Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p> <p>This project is a federal flood protection project and is not associated with any development project, including Discovery Bay Resort and Marina.</p>
36	<p>Representatives of Tablonal and Espinar Communities</p>	<p>7- We do not know if the Environmental Impact Statement and the HH (Hydrology and Hydraulic Study) were updated according to the floods caused by Hurricane MARIA taking into account the storm surges. If not, we request that it must be updated.</p>	<p>The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
	Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres		<p>flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events.</p> <p>The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. In order to meet current Federal, state, and local laws, regulations, and policy, as well as Corps standards and guidelines, the Recommended Plan will be reviewed and refined during the PED phase. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to the NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p>
37	Representatives of Tablonal and Espinar Communities Mrs. Ramonita Mendez and Mrs. Ada N. Ortiz Torres	Therefore, the Espinar and Tablonal communities request that the construction of the proposed levees, designed by the Corps, must be analyzed with high sense of responsibility. We understand that the construction of the proposed levees do not correct the flooding, especially the flooding that was received during Hurricane Maria and the ones caused by the storm sea surge. The proposed levees will hinder the free flow of the waters and negatively impact wetland areas that serve as protection and natural flood control. Floods should be allowed to run naturally, without any obstacles. Adequate maintenance of the drains and the irrigation channels that make up the flood zone of the Caño Madre Vieja will help to control flooding. A FLOOD CONTROL STUDY, SHOULD NOT HAPPEN TO INCREASE FLOODING TO OTHER COMMUNITIES. (Emphasis supplied). Hoping that these comments and concerns are taken into consideration.	<p>The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events.</p> <p>Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. The updated hydrologic and hydraulic modeling will undergo a formal Federal Levee Safety Risk Assessment to ensure that the project design meets all current levee safety guidelines and minimizes risks to the public to a maximum probability of 0.01% (1 in 10,000 years equivalency), but is typically assigned an even lower probability of occurrence due to size of the community (0.001% to 0.0001% as an example).</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
38	Sea Grant Dr. Ana J. Navarro Rodríguez Research Associate and Healthy Coastal Ecosystem Specialist	<p>This project requires a Federal Environmental Impact Statement (EIS) to comply with the Federal Consistency Certification with the PR Coastal Zone Management Program because:</p> <p>a. The project represents a threat to the public safety of Espinar and Tablonal Communities in the Municipality of Aguada, Puerto Rico,</p> <p>b. The project is located in a Nature Reserve, designated by the Governor of Puerto Rico in the year 2016 (OE-2016-040), with the purpose to preserve and protect the high ecological value of the lands for the joyful of the present and future generations.</p> <p>c. The project is highly controversial, mainly for the Tablonal and Espinar low income, highly flooded and environmental justice communities.</p> <p>d. The project will impact an Environmental Justice Community because “the population percentages exceed 50 percent, indicating that the study area does contain a high concentration of minority and low-income population”. These EJ communities are very concern about the negative impact of this project in their properties and the risks for their lives.</p> <p>e. The project will impact a unique coastal geographic region in the northwest Puerto Rico, an area protected by many environmental organizations of the Island.</p> <p>f. The project adopted the 2002 environmental information provided previously by local and federal agencies and did not included recent studies and information. (See their letter dated June 20, 2019 for specific recommendations about new information that must be included).</p>	<p>Pursuant to NEPA, the Corps has completed agency review of this project. The Corps intends to complete mitigation for unavoidable impacts to wetlands and has determined that an Environmental Impact Statement (EIS) is not required. The mitigation plan for this project will be developed and made available for review during the PED phase.</p> <p>The original H&H model shows an increase of less than a foot in the flooding stage for the Tablonal Community. Corps Federal projects focus on reducing flood risk and will offset for any impacts that increase flood stages resulting from the Federal action. The Corps will evaluate proposed features during PED modeling efforts to identify if there is an increase in flood stages. Specifically for this project, the placement of a cut off channel at a strategic location within the project area may be used to offset any increase in flooding stages.</p> <p>Protective measures to the Tablonal community do not meet the Benefit to Cost ratio requirements to be carried forward, therefore the Corps has recommended that the local sponsor or municipality of Aguada seek an alternate source of funding for the relocation of the residents living within the flood zone.</p> <p>The Corps determined that the study area which comprises the Rio Culebrinas project constitutes an environmental justice (EJ) community and conducted an EJ analysis, which is provided as Appendix B. In summary, this project will not cause any disproportionate and long-term adverse effects to minority or low income populations. The project is expected to result in reduced flooding to the EJ communities, which would be a long-term benefit.</p> <p>The Corps determined that the study area which comprises the Rio Culebrinas project constitutes an environmental justice (EJ) community and conducted an EJ analysis, which is provided as Appendix B.</p> <p>The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>phase to refine project design. The updated hydrologic and hydraulic modeling will undergo a formal Federal Levee Safety Risk Assessment to ensure that the project design meets all current levee safety guidelines and minimizes risks to the public to a maximum probability of 0.01% (1 in 10,000 years equivalency), but is typically assigned an even lower probability of occurrence due to size of the community (0.001% to 0.0001% as an example).</p> <p>On May 21, 2019, the Corps, DNER, PRPB, and the mayors of Aguadilla and Aguada discussed the possible impacts of the project to the proposed Espinar Swamp Reserve. The project's EA considers concerns regarding the effects to the existing wetlands and the proposed reserve. The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. In addition, the Corps will evaluate potential changes to the engineering design during the project's PED phase in order to minimize impacts to the proposed reserve area.</p> <p>In addition, the Corps' intends to conduct additional public meetings during the PED phase to continue to present and discuss the project's status and design as well as provide the opportunity for public participation.</p>
39	Sea Grant Dr. Ana J. Navarro Rodríguez Research Associate and Healthy Coastal Ecosystem Specialist	Wetlands located at the Caño Madre Vieja are healthy and there are not-known pollution sources impacting this coastal and riverine ecosystems. Depositing filling material in the Caño Madre Vieja wetlands and mangroves will destroy and disappear this important tropical ecosystem, affecting surrounding Aguada communities (Tablonal and Espinar) from floods, tsunamis and storm surges. The water quality standards for the six parameters mentioned in the project will be	A 404(b)(1) Guidelines Evaluation was conducted (provided in the final EA as Appendix C) and the Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner

Comment Number	Commenter	Summary of Comment	Corps' Response
		altered when the Caño Madre Vieja will be filled with soil, sediments and other filling materials.	agencies and finalized during the project's PED phase to address mitigation and water quality concerns. The Corps will continue to coordinate with DNER and will obtain all required permits and authorizations prior to the start of construction.
40	Sea Grant Dr. Ana J. Navarro Rodríguez Research Associate and Healthy Coastal Ecosystem Specialist	The project did not include information or communications from the PR Department of Agriculture (DA), and only includes an old communication from NRCS (year 2002) about federal compliance. Local compliance with the DA is very important, since prime and unique farmland soils will be impacted.	The PRDA is coordinated with through the public and agency review process. The final EA has been updated to reflect recent coordination with the Natural Resources Conservation Service (NRCS). In addition to the draft EA's public and agency review process, the Puerto Rico Planning Board also conducted a separate public and agency review for the project under the Coastal Zone Management Program. PRDA provided comments through this review process.
41	Sea Grant Dr. Ana J. Navarro Rodríguez Research Associate and Healthy Coastal Ecosystem Specialist	The studies for this project are based on scientific information and environmental conditions from 1999-2002, more than 20 years ago. The new reality in our island is the extreme weather and climate change events that are affecting our coastal and natural environments. We recommended an updated of the scientific and environmental information throughout an Environmental Impact Statement that includes community participation, especially the "environmental justice communities" that will be impacted with the proposed project. The Caño Madre Vieja will be severely impacted with the Hurricane Maria (2017) and the storm surges of 2018. The area continues to be exposed to these extreme weather events, and any proposed project will have to include the new environmental conditions (see photos, page 5-7).	<p>The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. Pursuant to NEPA, the Corps has completed agency review of this project. The Corps intends to complete mitigation for unavoidable impacts to wetlands and has determined that an EIS is not required. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p> <p>The Corps intends to conduct additional public meetings to present and discuss the project's status and design as well as provide the opportunity for public participation. These meetings will be held during the project's PED phase.</p> <p>The benefits have not been recomputed by directly taking into account changed socioeconomic conditions since 2002. However, site visit notes and coordination with the</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			<p>NFS indicate that the vast majority of properties in the original structure inventory (on which the 2002 economic benefits are based), are still in the study area and are still occupied. Economic justification has been verified using a "Level 1" type economic analysis, in which updated cost estimate is deflated to the price level of previously estimated benefits. In accordance with the 2018 Bipartisan Budget Act; the project was reviewed for environmental acceptability, engineering feasibility, and economic justification in an expedited manner. Therefore, a Level 1 Economic Update is appropriate for this study.</p> <p>In recent decades, the Corps has taken a more holistic view of civil works project planning and implementation. In fact, in order to avoid the perception that is possible for the agency always reduce damage control flooding, the Corps now generally uses the term "flood risk management" rather than "flood control". And flood risk management can imply any number of different things, including non-structural measures such as buyout/relocation or environmentally friendly measures such as living shorelines. However, it is not true that channels and levees represent an "obsolete" approach to flood risk management. Levees and channels are a critical part of flood risk management projects all over the country (including some very large scale projects in New Orleans, Sacramento, and Florida as well as elsewhere in Puerto Rico.) Other project features that could have environmental or economic benefits, such as retention lagoons, could be considered in future studies. Though other measures should be part of a long-term strategy for managing flood risk, structural measures such as levees and channels in civil works projects will continue to be an important part of the Federal government's approach to flood risk management.</p>
42	State Historic Preservation Office (SHPO) Carlos A. Rubio Cancela State Historic Preservation Officer	We have previously reviewed this undertaking and a programmatic agreement (PA) is being executed between the U.S. Army Corps of Engineers and our Office, pursuant to Sections 106 and 110 of the National Historic Preservation Act (NHPA). The execution of this PA and the implementation of its terms will evidence that the Corps has fulfilled its responsibilities under the NHPA.	Noted. Thank you for your comment.

Comment Number	Commenter	Summary of Comment	Corps' Response
43	Surfrider Rincon Steve Tamar Vice President	<p>Our specific concerns include, but are not limited to, the following points:</p> <ul style="list-style-type: none"> -As it was shown during the passage of Hurricane Maria in year 2017, the Culebrinas River overcame the flood stage and caused extensive flood conditions in the interior and above the proposed project site. Our concern is that the presence of the proposed levee system would divert future floods on both sides of the project site to residential and commercial inhabited areas, as well as increase in the volume and speed of these floods. Therefore, due to its current design, the project could not perform erosion control and containment functions during extreme weather events and flood conditions to protect local communities. -As was shown after Hurricane Maria, the flooded areas that drained most rapidly and showed the least erosion damage were characterized by natural drainage patterns and intact wetland vegetation. As it was currently designed, this proposal would eliminate or significantly reduce these natural protections. -The issue of agricultural resilience and food security are an increasingly important priority for Puerto Rico. The loss or significant degradation of the main agricultural lands caused by the proposed levee system should be avoided. - Even under normal rain conditions, the channeling / loss of wetland vegetation caused by the proposed levee system would inevitably decrease the water quality (due to increased transport of sediments, etc.) and increase the discharge speed. This will be detrimental and affecting local marine ecosystems and the recreational use of the beaches by both residents and tourists. -When the project was designed for the first time, a large part of the affected was designated as the Pantano Espinar and Caño Madre Vieja Natural Reserve so, significant changes must be made to protect the wildlife and vegetation that this designation pretend to protect. -Furthermore, the project design does not reflect regulatory, legislative and physical changes that has occurred in this area, including current definitions of the Maritime Zone, the new FEMA flood map, coastal erosion, changes in land use patterns and housing that have occurred since 2002. Current realities should be considered in the design parameters of the project. 	<p>The project's design is based upon the 100-year flood event, and a storm surge of four meters. The recommended design provides reduced risk protection from flooding larger than previous events like Maria, Georges, and Eloisa. Hurricane Maria was a 30-year flood event; Hurricane Georges and tropical storm Eloisa were 10-year storm events. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. The updated hydrologic and hydraulic modeling will undergo a formal Federal Levee Safety Risk Assessment to ensure that the project design meets all current levee safety guidelines and minimizes risks to the public to a maximum probability of 0.01% (1 in 10,000 years equivalency), but is typically assigned an even lower probability of occurrence due to size of the community (0.001% to 0.0001% as an example).</p> <p>On May 21, 2019, the Corps, DNER, PRPB, and the mayors of Aguadilla and Aguada discussed the possible impacts of the project to the proposed Espinar Swamp Reserve. The project's EA considers concerns regarding the effects to the existing wetlands and the proposed reserve. The Corps intends to complete mitigation for unavoidable impacts to wetlands. A conceptual mitigation plan was proposed with the 2015 DPR. A proposed mitigation plan is included in the final EA; however, the final location, size, and configuration of the wetland mitigation areas as well as the cut off channel are subject to change based on additional investigations; therefore, the detailed wetland mitigation plan will be released for review by partner agencies and finalized during the project's PED phase. In addition, the Corps will evaluate potential changes to the engineering design during the project's PED phase in order to minimize impacts to the proposed reserve area. The project, as it is currently described and designed, is environmentally acceptable; however, if during PED changes to the project result in effects that have not been previously evaluated, then pursuant to NEPA, the Corps will prepare a separate NEPA document to address the changes and evaluate the associated effects.</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
		For these reasons, we request that a Declaration of Impact Statement and public hearings on this proposal.	<p>The PRDA is coordinated with through the public and agency review process. The final EA has been updated to reflect recent coordination with the NRCS. In addition to the draft EA's public and agency review process, the Puerto Rico Planning Board also conducted a separate public and agency review for the project under the Coastal Zone Management Program. PRDA provided comments through this review process. The Corps will continue to coordinate with PRDA.</p> <p>The Corps intends to conduct additional public meetings to present and discuss the project's status and design as well as provide the opportunity for public participation. These meetings will be held during the project's PED phase.</p>
44	Surfrider Rincon Steve Tamar Vice President	After reviewing the documents provided by the Puerto Rico Planning Board in relation to the construction of the proposed levees, our chapter determined that we have significant doubts and unresolved questions regarding the impact of this proposal in the affected area, where several of our members also reside. In summary, we request and require that the PRPB order the creation of an Environmental Impact Statement for this proposal, to reflect significant physical changes in this area, and the inclusion of scientific evidence and the most recent research in the design, since the proposal was formulated for the first time in 2002-2004. In addition, we request and require a series of new public hearings to be held regarding this proposal, to allow affected local communities to provide evidence of physical and socioeconomic changes during these subsequent years, as well as changes in local priorities related to the strategies of economic development and environmental resilience requirements that have become increasingly obvious to residents.	<p>Pursuant to NEPA, the Corps has completed agency review of this project. The Corps intends to complete mitigation for unavoidable impacts to wetlands and has determined that an EIS is not required. The Corps intends to conduct an updated H&H model, using the latest available data, during the project's PED phase to refine project design. The updated hydrologic and hydraulic modeling will undergo a formal Federal Levee Safety Risk Assessment to ensure that the project design meets all current levee safety guidelines and minimizes risks to the public to a maximum probability of 0.01% (1 in 10,000 years equivalency), but is typically assigned an even lower probability of occurrence due to size of the community (0.001% to 0.0001% as an example).</p> <p>The Corps intends to conduct additional public meetings to present and discuss the project's status and design as well as provide the opportunity for public participation. These meetings will be held during the project's PED phase.</p>
45	US Forest Service Ariel Lugo Director	We find no evidence in the Public Notice or the public record to indicate that any of the channelization projects have been revised to account for the socioecological changes that have taken place since the projects were first designed decades ago. We recommend that these project plans be revised to account for sea level rise since the project was designed and throughout the project's effective life. Failure to account for sea level rise means	The benefits have not been recomputed by directly taking into account changed socioeconomic conditions since 2002. However, site visit notes and coordination with the NFS indicate that the vast majority of properties in the original structure inventory (on which the 2002 economic benefits are based), are still in the study area and are still occupied. Economic justification has been verified using a "Level 1" type economic analysis, in which updated cost

Comment Number	Commenter	Summary of Comment	Corps' Response
		<p>that the project is likely to be obsolete and not function as anticipated. Perceived benefits will turn into costs. Moreover, the concept of the Culebrinas project, use of channels and levies, represents an obsolete approach to flood control and ignores new alternative designs that are less impactful to the lands and waters within the project area. The enclosed presentation by Ferdinand Quinones Marquez (USGS retired) suggests the use of retention lagoons that avoid flooding without the use of levies or canals and reduces the effects on wetlands and agricultural lands. The rush to spend federal dollars should be coupled with new project designs that are adaptable to emerging new conditions of higher sea levels and resilient to extreme events that are expected for the near future. Such designs will serve Puerto Rico for a longer time period and help conserve valuable land and water resources.</p>	<p>estimate is deflated to the price level of previously estimated benefits.</p> <p>In accordance with the 2018 Bipartisan Budget Act; the project was reviewed for environmental acceptability, engineering feasibility, and economic justification in an expedited manner. Therefore, a Level 1 Economic Update is appropriate for this study. Also, in addition to NED benefits (i.e., flood damage reduction), there are two other economic accounts that can be used to measure project benefits: RED, and OSE. RED benefits include locally important effects, such as reduced unemployment and as well as increased business and tax revenue. OSE benefits include factors important to human well-being, including: health and safety, social vulnerability and resilience, social connectedness, and economic vitality. By preventing or reducing additional flood damage in future storms, it is likely that this project generates significant RED and OSE benefits in those accounts as well.</p> <p>Finally, it is true that the population of Puerto Rico has decreased in recent years, due to lingering effects of the Economic revision and Hurricane Maria. If an effort was made to directly account for damage to properties or decreasing occupancy rates, it likely that the project benefits would decrease. However, over the course of the project's 50 year life, it is reasonable to assume that the population will stabilize and eventually grow. Therefore it is possible that the direct damage reduction benefits will actually increase over time. Using the previously estimated benefits represents a conservative, defensible approach.</p> <p>Many projects are able to utilize retention and or detention ponds to attenuate peak flood stages (water levels). However, the Rio Culebrinas project includes a large floodplain area that is valuable from an environmental perspective with one or more cultural resource sites (in addition to some agricultural use). Therefore, the use of large retention and or detention ponds of appropriate size would not likely be considered as an acceptable feature(s) by the local communities.</p>

Comment Number	Commenter	Summary of Comment	Corps' Response
			Also, the use of retention and or detention ponds incur maintenance costs that exceed that of a levee system when inflows typically carry significant volumes of sediment and debris that require removal periodically to maintain effectiveness.