



GOVERNMENT OF
**PUERTO
RICO**



Puerto Rico
Aqueduct and
Sewer Authority

FAAS_t WORKPLAN

Puerto Rico Aqueduct and Sewer Authority (PRASA)

Post-Fixed Cost Estimate Obligation Workplan

FEMA-4339-DR-PR

FEMA Accelerated Award Strategy (FAAS_t)

DISCLOSURE

The Puerto Rico Aqueduct and Sewer Authority (PRASA), as part of this Post-Fixed Cost Estimate Obligation Workplan under the FEMA Disaster Number 4339-DR, includes an infrastructure investment strategy for the selection of projects under the PRASA's sixteen asset categories. The estimated amount assigned to each category and/or project is exclusively for PRASA's budget purposes. The cost estimate included in each category and/or project necessarily does not represent the final cost of the project.



NOMENCLATURE

AMWA	Association of Metropolitan Water Agencies
ASTM	American Society of Testing and Materials
AWIA	America's Water Infrastructure Act of 2018
AWWA	American Water Works Association
AAA	Puerto Rico Aqueduct and Sewer Authority
B	PRASA Building (s)
BBA	2018 Bipartisan Budget Act
CIP	Capital Improvement Program
COR3	Central Office of Recovery, Reconstruction, and Resiliency
CWA	Clean Water Act
CDBG-DR	Community Development Block Grant Disaster Recovery
D	Dam (s)
DOH	Department of Health
D & T -WL	Distribution and Transmission Water Line (s)
EQB	Environmental Quality Board
FAASt	FEMA Accelerated Award Strategy
FEMA	Federal Emergency Management Agency
FY	Fiscal Year (PR Fiscal Year from July to June)
GIS	Geographical Information System
Government	Government of Puerto Rico
Governor	Governor of Puerto Rico
HUD	Department of Housing and Urban Development
ICC	International Building Code
KPIs	Key Performance Indicators
kWh	Kilowatt-Hours
MGD	Million Gallons per Day
NFPA	National Fire Protection Association
NPS	National Primary Standards



NSF	National Standards Foundation
OMB	Puerto Rico Office of Management and Budget
O&M	Operations and Maintenance
OO	Ocean Outfalls
PPTD	Projects Pending to be Determined
PR	Puerto Rico
PRASA	Puerto Rico Aqueduct and Sewer Authority
PRDH	Puerto Rico Department of Health
PREPA	Puerto Rico Electric Power Authority
PRIFA	Puerto Rico Infrastructure Finance Authority
PROMESA	Puerto Rico Oversight, Management, and Economic Stability Act
PSI	Pounds per Square Inch
PWSID	Potable Water System Identification
Regions	Operational Regions
R	Reservoirs
RD	Reservoirs Dredging
RFQ	Request for Qualification
RFP	Request for Proposal
RWI	Raw Water Intake
RWW	Raw Water Well (s)
SDWA	Safe Drinking Water Act
System	Authority's Public Water Supply and Wastewater System
SOP	Standard Operating Procedure
SOW	Scope of Work
STS	Sludge Treatment System
T	PRASA Telemetry System
TSL	Trunk Sewer Line (s)
US	United States of America
USDA	United States Department of Agriculture



USEPA	United States Environmental Protection Agency
WM	Water Meter (s)
WST	Water Storage Tank (s)
WTP	Water Treatment Plant (s)
WPS	Water Pump Station (s)
WWTP	Wastewater Treatment Plant (s)
WWPS	Wastewater Pump Station (s)

SYMBOLS

\$	Dollar
%	Percent
Q	Quarter



TABLE OF CONTENTS

Chapter 1 Executive Summary.....	1-5
1.1 The Investment Strategy Overview	1-6
1.2 Asset Categories and Prioritization Approach.....	1-7
1.3 Plan Overview.....	1-11
1.4 Near-Term Projects Profile (2021-2023).....	1-17
1.5 Mid- Term Projects Profile (2024-2027).....	1-27
1.6 Long-Term Projects Profile (2028 and beyond)	1-30
1.7 Program Management.....	1-32
Chapter 2 Introduction	2-33
Chapter 3 PRASA's Infrastructure Investment Strategy.....	3-35
3.1 Context.....	3-35
3.2 Overview of Investment Strategy	3-36
Chapter 4 PRASA's Prioritized Infrastructure Projects.....	4-38
4.1 Overview.....	4-38
4.2 Asset Category Descriptions.....	4-38
4.3 Project Prioritization Approach	4-48
4.4 Near-Term Category Overview	4-48
4.4.1 Description of Near-Term Priority Projects.....	4-49
4.4.2 Summary of Near-Term Priority Projects.....	4-54
4.4.3 COR3 and FEMA Submissions Timeline.....	4-55
4.4.4 List of Near-Term Priority Projects	4-55



4.5	Mid-Term Category Overview	4-56
4.5.1	Description of Mid-Term Category Overview	4-57
4.5.2	Summary of Mid-Term Priority Projects	4-57
4.5.3	Mid-Term COR3 and FEMA Submission Timeline.....	4-58
4.5.4	List of Mid-Term Priority Projects	4-58
4.6	Long- Term Category Overview.....	4-60
4.6.1	Description of Long-Term Category Overview.....	4-60
4.6.2	Summary of Long-Term Priority Projects	4-61
4.6.3	Long- Term COR3 and FEMA Submission Timeline.....	4-62
4.6.4	List of Long-Term Priority Projects	4-62
Chapter 5 PRASA's Plan Schedule.....		5-64
5.1	Timing Assumptions.....	5-64
5.2	Estimated Project Timing Assumptions.....	5-65
Chapter 6 PRASA's Management Approach		6-66
Chapter 7 Appendix A.....		7-69
7.1	Appendix A: Table A.1- List of PRASA Projects FAASt Near-Term	7-69
7.2	Appendix A: Table A.2- List of PRASA Projects FAASt Mid-Term	7-82
7.3	Appendix A: Table A.3- List of PRASA Projects FAASt Long-Term	7-85
Chapter 8 Appendix B.....		8-86
8.1	Appendix B: FAASt Plan Projects Schedule	8-86



LIST OF FIGURES

Figure 1-1: Projected Cash Flow and Cost-Share Allocation Needs by FY (\$ Million)	1-14
Figure 1-2: Projected Cash Flow by Asset Category by Fiscal Year (\$ Million).....	1-14
Figure 1-3: FEMA SOW Estimated Initial Submittal Timeline (Natural Years)	1-16
Figure 1-4: Total Estimated Cost by Asset Category for Near-Term Projects(\$M).....	1-17
Figure 4-1: COR3 and FEMA Near-Term SOW Project Submissions by Quarter	4-55
Figure 4-2:-COR3 and FEMA Mid-Term SOW Submissions by Quarter (Natural Years)	4-58
Figure 4-3: COR3 and FEMA Long-Term SOW Submissions by Quarter (Natural Years).....	4-62
Figure 6-1: COR3's Federal Grant Lifecycle	6-67
Figure 6-2: PRASA's Management Process to Federal Grant Lifecycle	6-67

LIST OF TABLES

Table 1-1: List of Investment Focus Areas	1-7
Table 1-2: Asset Categories List.....	1-8
Table 1-3: Plan Summary by Asset Categories and Funding Source List.....	1-12
Table 1-4: Number of Projects to Start A & E Design Phase by Asset Category in the Time Horizon (Natural Years and Cumulative Total)	1-15
Table 1-5: Near-Term (2021-2023) Notable Projects.....	1-18
Table 1-6: Mid-Term (2024-2027) Notable Projects.....	1-28
Table 3-1 Foundational Components of FAASt Workplan	3-35
Table 3-2: Investment Focus Areas	3-37
Table 4-1: List of Assets Descriptions.....	4-39
Table 4-2: Provided Project Information	4-49
Table 4-3: Summary of Near-Term Priority Projects (Natural Years and Cumulative Total) ..	4-54
Table 4-4: Project Information to be provided	4-56
Table 4-5: Summary of Mid-Term Priority Projects (Natural Years and Cumulative Total) ...	4-57
Table 4-6: Provided Project Information	4-60
Table 4-7: Summary of Long-Term Priority Projects (Natural Years and Cumulative Total) ..	4-61



Chapter 1 Executive Summary

The 2017 hurricane season caused unparalleled devastation in Puerto Rico. During September of that year, Puerto Rico experienced a Category five (5) and Category four (4) hurricane (Irma and María, respectively). Hurricane María was the most devastating natural disaster to hit the island since Hurricane San Felipe made landfall nine decades ago in 1928. Since that time, the population has expanded, from 1.5 million residents to a current population of 3.4 Million.

Category five (5) Hurricane Irma, one of the strongest recorded storms in the Atlantic, affected Puerto Rico on September 6, 2017. Due to its passing through the northern part of the island, the Puerto Rico Aqueduct and Sewer Authority (PRASA) suffered damages to water treatment facilities and other structures. Over one million customers lost electric power, and over one-third of PRASA's customers lost drinking water service.

Just a few days later, on September 20, Puerto Rico felt the ruthless force of Category four (4) Hurricane Maria, the most massive disaster that the Island has endured, impacting all PRASA's infrastructure severely across the island. The flooding and loss of the electrical power system resulted in a shutdown on most of the island's water supply and wastewater treatment plants and pumping stations. Sewage waters contaminated the streets, rivers, and sea, posing an immediate threat to the environment, public health, and safety. PRASA acted diligently to promptly restore the water and wastewater service using both internal and external resources.

For projects necessary to build back PRASA's System to pre-hurricane conditions and improve resiliency to potential future events, on January 5, 2021, the Federal Emergency Management Agency (FEMA) announced the obligated grant for PRASA for **\$4.2 Billion**. FEMA reserved the obligated funds to repair, improve or replace PRASA's infrastructure as per FEMA's Public Assistance Alternative Procedures, according to Section 428 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act and in compliance with the US Congress 2018 Bipartisan Budget Act (BBA). PRASA requires to provide safe water and wastewater service and supply to the 1.2 million active clients through the following infrastructure:



- Fifty-one (51) Wastewater Treatment Plants (WWTP)
- One hundred and fourteen (114) Water Treatment Plants (WTP)
- PRASA buildings
- Eight (8) Dams
- Around three thousand eight hundred (3,800) ancillary facilities (1,560 Tanks; 1,977 Pump Stations; 249 Water Wells)
- Over 20,000 miles of potable water and wastewater collection pipes

As a requirement associated with this funding obligation, FEMA and the Central Office of Recovery, Reconstruction, and Resiliency (COR3) required PRASA to submit a work plan, called PRASA's FAASSt Workplan, within 90 days of the funding obligation date. This plan would outline PRASA's proposed investments in Puerto Rico's water systems over the next ten years. Also, PRASA is required to update and resubmit this work plan to COR3 and FEMA every 90 days after the initial submission.

This FAASSt Workplan provides an overview of PRASA's infrastructure investment strategy; the context for the selection of projects included in the plan; a prioritized list of these proposed infrastructure projects; the expected benefits, projected costs, key project milestones, the estimated time horizon for each project; and a brief overview of PRASA's approach to managing the execution of this program and the group of projects described herein.

This document addresses COR3 and FEMA's requirement to plan a list of projects for the obligated funds. Projects in this plan will include funding from the FEMA Accelerated Award Strategy (FAASSt) and 404 hazard mitigation programs and HUD Community Development Block Grant Disaster Recovery (CDBG-DR) program.

1.1 The Investment Strategy Overview

Several investment focus areas based on work previously completed by PRASA and developed by PRASA's team and other stakeholders such as FEMA and COR3 guided PRASA's investment strategy for this FAASSt Workplan.



PRASA leveraged the information in each area and performed an additional evaluation to guide the project's selection in this FAASSt Workplan.

PRASA selected these five (5) foci areas to define the intent of the projects in this plan. Table 1-1 summarized the five (5) investment focus areas and a brief description of each one.

Table 1-1: List of Investment Focus Areas

Focus Areas	Brief Description
Public Health & Environmental Protection	Ensure to provide a safe and reliable supply of drinking water and treatment of wastewater, complying with federal environmental regulations to safeguard the population's health and the island's environment while guaranteeing an affordable service for all customers.
Codes and Industry Standards	Rehabilitate, improve, or restore the water system following Codes and Industry Standards, including the applicable PRASA design standards, contained in the <i>Reglamento de Normas de Diseño de la AAA</i> .
Reliability and System Resiliency	Ensure the required investment in necessary technology and infrastructure to restore the system, enhance resiliency, and establish an efficient and safe water system that provides customer reliability.
Hazard Mitigation	Ensure to provide long-term solutions that reduce the PRASA's infrastructure impact of future events and minimize disaster losses and system vulnerability.
Modernization and Maintenance	Modernize and maintain PRASA's infrastructure to optimize its operational efficiency, protect public health, safeguard the environment, and promote continued economic development.

1.2 Asset Categories and Prioritization Approach

To develop this plan, PRASA's team examined more than 1,400 possible projects. Focused on the five (5) investment focus areas mentioned above to set the safe, reliable, and efficient water and wastewater treatment services, PRASA list of projects has been updated as follows:

- Initial FAASSt Workplan submittal list, 136 projects
- Second revision, list updated to 141 projects



- Third revision, list of projects updated to 180.
- Fourth revision, list of projects increased to 196.
- Fifth and Six revisions, projects updated to 197.
- Seventh revision and Eighth revision, list of projects updated to 253.
- Ninth revision, list of projects updated to 265.
- Tenth revision, list of projects updated to 269.
- Eleven revision, list of projects reorganized to 192.

The 192 projects in the plan are still organized into sixteen distinct asset categories, including the projects under 404 and 406 hazard mitigation and HUD Community Development Block Grant Disaster Recovery (CDBG-DR) programs. PRASA based the plan's asset categories on the categorization approach used to reach the FAASt funding obligation. Table 1-2 summarized the asset categories list.

Table 1-2: Asset Categories List

Asset Category	Brief Description
Water Treatment Plants (WTP)	114 WTP Islandwide, including the Raw Water Intakes (RWI). One (1) WTP was closed after Hurricane María.
Wastewater Treatment Plants (WWTP)	51 WWTP Islandwide
Wastewater Pump Stations (WWPS)	799 WWPS Islandwide
Water Pump Stations (WPS)	468 WPS Islandwide
Water Storage Tanks & Water Pump Stations (WST & WPS)	808 WPS Islandwide
Water Storage Tanks (WST)	997 WST Islandwide
Ocean Outfalls (OO)	12 Ocean Outfalls Island wide
Dams (D)	8 Dams Islandwide operated by PRASA
Reservoirs (R)	8 Reservoir Islandwide
Raw Water Wells (RWW)	269 Raw Water Wells Islandwide
Buildings (B)	91 PRASA Buildings Islandwide



Asset Category	Brief Description
Distribution and Transmission Water Lines (D & T -WL)	Estimated amount of 15,148 Miles of Water Lines Islandwide in diameters ranging from 1” to 84” and in a wide variety of materials.
Water Meters (WM)	872,596 each of Water Meters Islandwide part of the Distribution and Transmission Water Lines System.
Trunk Sewer Lines Islandwide (TSL)	Estimated amount of 5,994 Miles of Sewer Pipes Islandwide in diameters ranging from 4” to 90” and a wide variety of materials.
Telemetry (T)	Telemetry System along with PRASA Islandwide facilities: WTP, WWTP, WWPS, WPS, and Wells. Telemetry topic included in individual projects.
Projects Pending to be Determine (PPTD)	PRASA will evaluate other projects covered under the FAASSt funding obligation. PRASA will use this classification to integrate projects to be defined and/or cover contingencies of already approved projects.

PRASA's team identified the projects for inclusion in the FAASSt Workplan, prioritized the projects, and developed the estimated sequencing for FEMA submission, approval, and subsequent execution. Each project in the FAASSt Workplan includes a brief project description and cost estimate. PRASA's team also listed each project into one of the three-time horizons: near-term (i.e., 2021-2023), mid-term (i.e., 2024-2027), and long-term (i.e., 2028 and beyond).

Four (4) major standard milestones were defined and standardized across all projects in the FAASSt Workplan. PRASA's team estimated the timing for each major milestone for each project.

The four (4) standardized major milestones are:



- Project expected to commence 30% architecture and engineering work.
- Project expected submission to COR3 and FEMA for review and approval.
- Project expected to commence construction/implementation.
- Project expected to commence FEMA and COR3 closeout activities.

PRASA assigned projects to a time horizon based on when the project's first major milestone starts. The prioritization methodology used the following criteria:

- Currently out of service or inoperative infrastructure
- Safety, environmental, and water quality standards requirements
- System operation needs and constraints
- Impacts to reliability performance, such as extreme droughts
- Severe storm hazard mitigation



1.3 Plan Overview

PRASA's FAASt Workplan includes approximately **\$4.2 Billion** in investment needed to rehabilitate and improve Puerto Rico's water and wastewater system, most of which qualifies for FEMA funding under its 428 and 404 hazard mitigation programs. FEMA has under evaluation several projects submitted by PRASA under the 404 funds, and currently Phase 1 for the following three (3) projects already received approval. The 404 approved projects until this revision are the following:

- Project # 4339-0046- South Region Water Supply System Improvement (Bauta Tunnel)- Phase 1, Approved Amount \$ 26,416,007.71. Total Estimated Cost of the Project is \$245,406,750.22.
- Project # 4339-0019- Enrique Ortega Water Treatment Plant Raw Water Intake Power Generators Phase 1, Approved Amount \$661,523.70. Total Estimated Cost of the Project is \$ 28,645,725.14.
- Project # 4339-0020- Salinas Water Supply System Project Phase 1, Approved Amount \$2,740,874.20. Total Estimated Cost of the Project is \$ 44,138,250.01.
- Project -Valenciano Distribution System- Total Estimated Cost is \$414,550.525.79.

Also, PRASA will submit proposals for 406 funding with its applicable 428 proposals. FEMA's 406 programs are designed to provide funding to rebuild infrastructure exceeding industry standards to prevent damage from future disaster events, referred to as the "hardening" of assets. In alignment with COR3 and FEMA's process, PRASA will submit proposals for 406 funding with each of its applicable 428 project submittals.

Currently, PRASA already received approval under the 406 funds for the following projects:

- Project # 180626- FAASt Repair of Geosynthetic Membranes in Lago Regulador in Isabela- Approved Amount \$ 6,913,876.71.
- Project # 180814-FAASt Rehabilitation of 42" Trunk Sewer Line from PR-684 to the South Part of Barceloneta WWTP-Approved Amount \$17,102,872.73.



- Project # 1696941 - FAASt Rehabilitation of Enrique Ortega Water Treatment Plant - Approved Amount \$2,330,560.24.
- Project #178297 - FAASt Rehabilitation of Morovis Sur WTP - Approved Amount \$3,885,239.92.
- Project #173455 - FAASt Rehabilitation of Morovis Sur RWI - Approved Amount \$851,478.91.
- Project #553310 - FAASt Rehabilitation of Lares Espino WTP & RWI - Approved Amount \$1,804,996.19.
- Project #701169 - FAASt Replacement of Utuado Urbano WTP RWI at Vivi Reservoir - Approved amount \$55,651.20.

Table 1-3 summarized the plan by asset categories and funding source, deducting the amount of **\$133.7 Million** corresponding to insurances, as described in the approved FAASt Project Number 144184, MAAA200 PRASA Islandwide.

Table 1-3: Plan Summary by Asset Categories and Funding Source List

Asset Category	FEMA 428(\$M)	FEMA 404 (\$M)	FEMA 406(\$M)	Estimated Total Cost
WTP	\$1,916.38	\$3.40	\$15.84	\$1,935.62
WWTP	\$835.19	\$0.00	TBD	\$835.19
WWPS	\$58.00	\$0.00	TBD	\$58.00
WPS	\$37.77	\$0.00	TBD	\$37.77
WST & WPS	\$12.56	\$0.00	TBD	\$12.56
WST	\$26.78	\$0.00	TBD	\$26.78
RWW	\$23.70	\$0.00	TBD	\$23.70
B	\$104.96	\$0.00	TBD	\$104.96
OO	\$207.01	\$0.00	TBD	\$207.01
D	\$7.19	\$0.00	TBD	\$7.19
R	\$140.70	\$26.42	TBD	\$167.12
D&T-WL	\$212.27	\$0.00	TBD	\$212.27
WM	\$212.41	\$0.00	TBD	\$212.41
TSL	\$339.32	\$0.00	\$17.10	\$356.42
T *	\$0.00	\$0.00	TBD	\$0.00
PPTD**	\$35.05	\$0.00	TBD	\$35.05



Asset Category	FEMA 428(\$M)	FEMA 404 (\$M)	FEMA 406(\$M)	Estimated Total Cost
Sub-Total	\$4,169.29***	\$29.82	\$32.94	\$4,232.05
Estimated amount to be submitted through 406 to be deducted from 428 (Natural Year 2024)				\$100.00
Total	\$4,069.29	\$29.82	\$32.94	\$4,132.05****

* Telemetry projects- Telemetry topic included within individual projects

** PPTD- PRASA will use this classification to integrate projects to be defined and/or cover contingencies of already approved projects.

*** Sub-Total Amount- includes projects with 428 FAASt designated amount, amount already approved by FEMA 406 and pending to submit through the SOWs.

****Total Amount- includes current 404 and 406 assigned funds

It is important to note that all cost estimates in this document are “class 5” estimates. A class 5 cost estimate is defined as an estimate with an accuracy range from 50% below to 100% above the actual final project cost and is prepared at an early stage in the project development process. Leading industry practice is to revise estimates to become more accurate as engineering design progresses and project requirements are solidified.

In addition to the funding sources discussed above, PRASA will seek to leverage funds from Community Development Block Grant Disaster Recovery (CDBG-DR) for the 10% cost-share allocation.

Forecast spend projections for each project are scoped to include all project activities from the point at which the project commences initial architectural and engineering work through the completion of project closeout activities. Several projects within the FAASt Workplan extend throughout the entire 10-year period.

Figure 1-1 and Figure 1-2, illustrates the projected cash flow for the next ten years and the cost-share allocation needs by the Fiscal Year (FY), which starts in July of each year and ends in June of the next year.



Figure 1-1: Projected Cash Flow and Cost-Share Allocation Needs by FY (\$ Million)

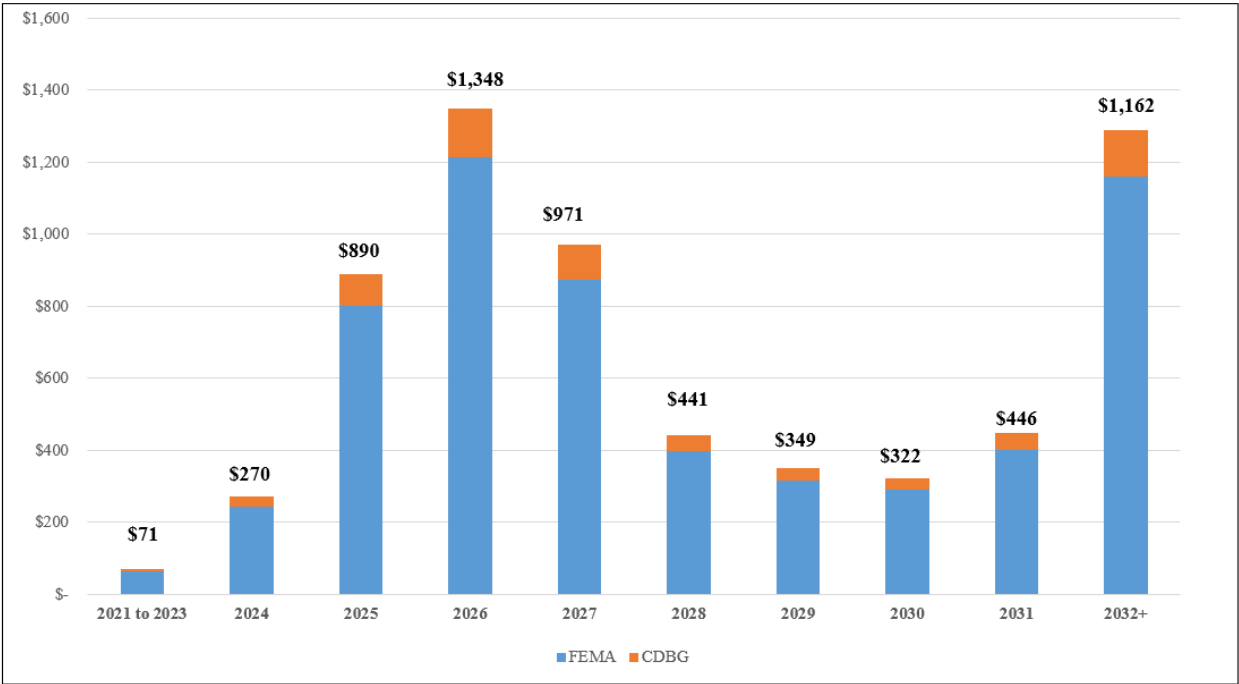
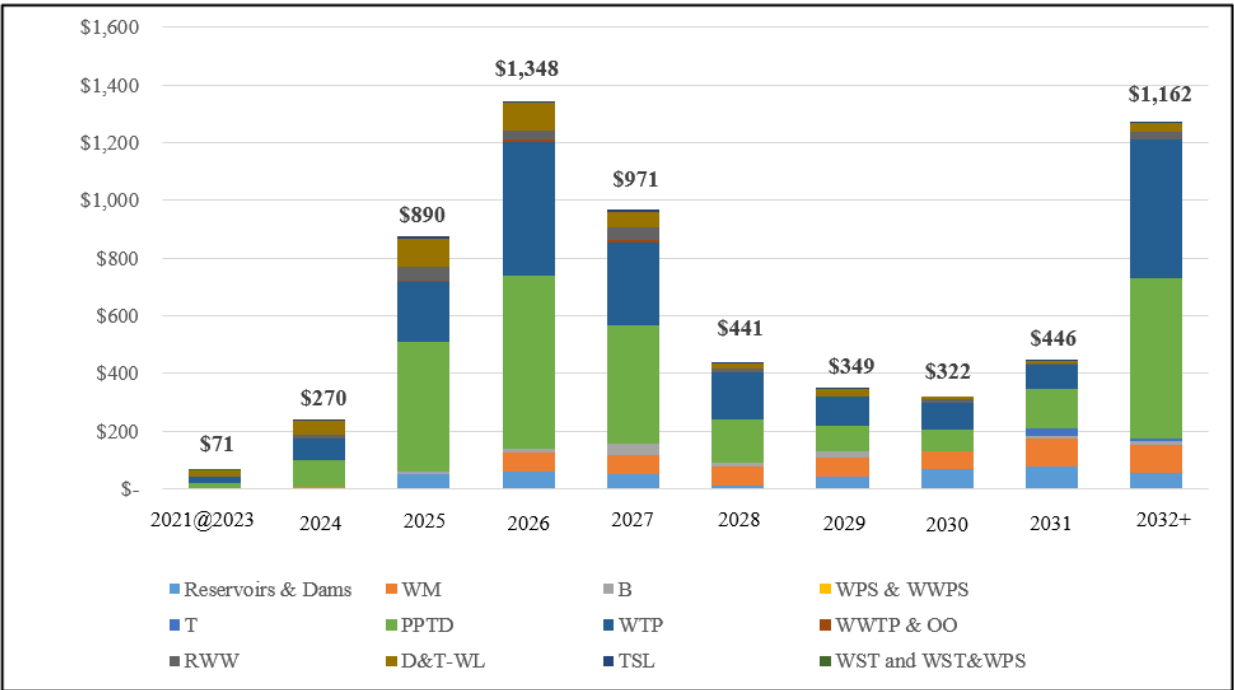


Figure 1-2: Projected Cash Flow by Asset Category by Fiscal Year (\$ Million)



As discussed above, 192 projects were identified in this revision, prioritized, and included in the FAASt Workplan -Eleven Revision -January 2024. **Table 1-4** illustrates the distribution of these projects by asset category and when the projects are planning to begin the architectural and engineering (A & E) design phase on the horizon.

Table 1-4: Number of Projects to Start A & E Design Phase by Asset Category in the Time Horizon (Natural Years and Cumulative Total)

Asset Category	Near- Term (2021-2023) Projects/\$ (M)		Mid – Term (2024-2027) Projects/\$ (M)		Long – Term (2028-2030) Projects/\$ (M)		Total Projects/\$ (M)	
WTP	53	\$1,760.75	20	\$155.63	0	\$0.00	73	\$1,916.38
WWTP	15	\$708.17	8	\$117.63	3	\$9.39	26	\$835.19
WWPS	7	\$55.21	1	\$0.00	1	\$2.79	9	\$58.00
WPS	7	\$37.77	0	\$0.00	1	\$0.00	8	\$37.77
WST & WPS	2	\$12.56	0	\$0.00	0	\$0.00	2	\$12.56
WST	5	\$21.78	0	\$0.00	1	\$5.00	6	\$26.78
RWW	5	\$23.70	0	\$0.00	0	\$0.00	5	\$23.70
B	5	\$82.75	0	\$0.00	2	\$22.21	7	\$104.96
OO	1	\$100.00	0	\$0.00	2	\$107.01	3	\$207.01
D	1	\$7.19	0	\$0.00	0	\$0.00	1	\$7.19
R	4	\$135.70	2	\$0.00	1	\$5.00	7	\$140.70
D&T-WL	27	\$211.43	1	\$0.84	0	\$0.00	28	\$212.27
WM	1	\$4.12	1	\$208.29	0	\$0.00	2	\$212.41
TSL	14	\$339.32	0	\$0.00	0	\$0.00	14	\$339.32
T	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
PPTD	0	\$0.00	0	\$0.00	1	\$35.05	1	\$35.05
TOTAL	147	\$3,500.45	33	\$482.39	12	\$186.45	192*	\$4,169.29**

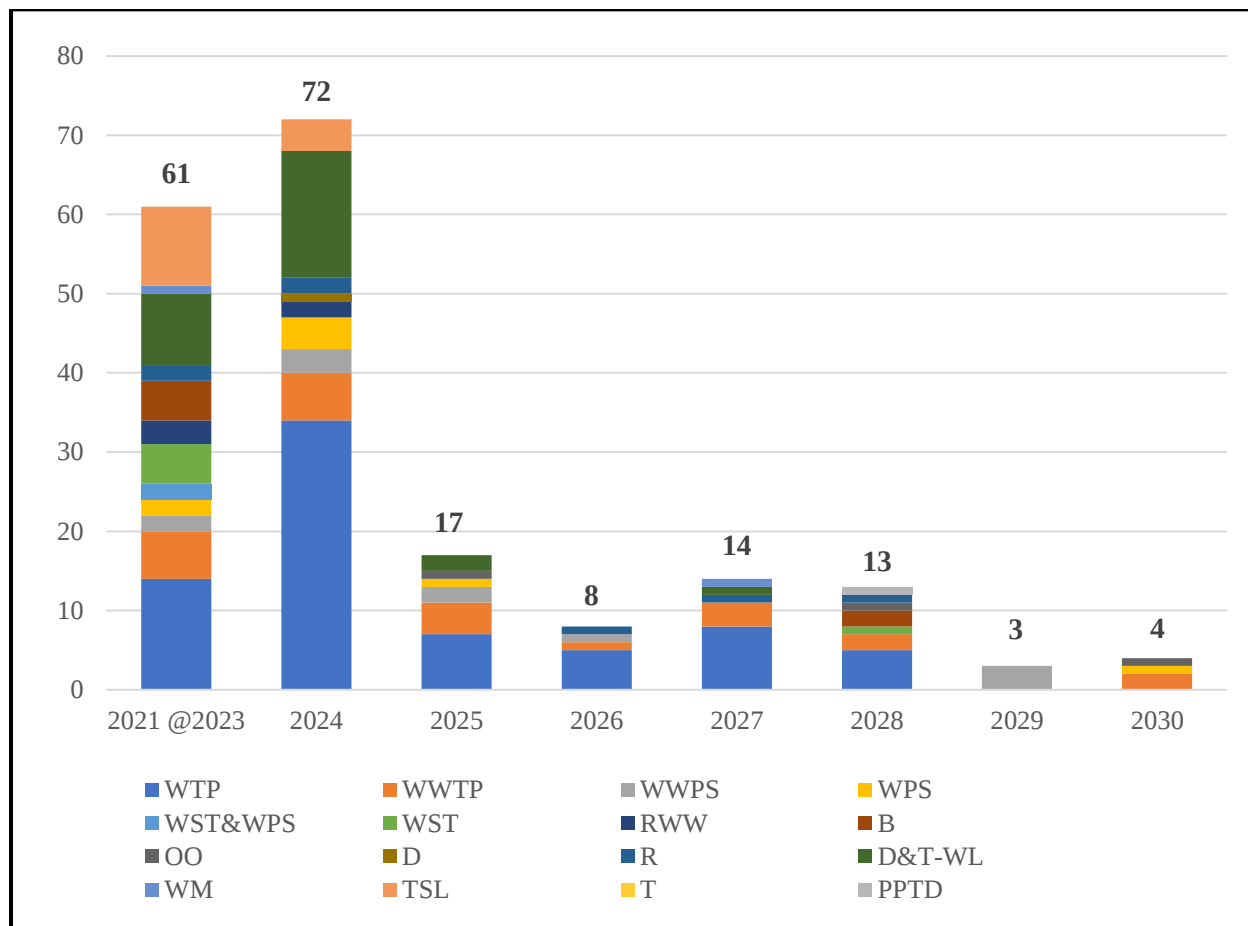
*Total of Projects, includes 404 and 406 projects.

** Total Amount, does not include 404 and 406 assigned and/or requested funds. Also, this total does not include the amount corresponding to Buena Vista Tanks and inactive project CIP.1669002.



Figure 1-3 provides the estimated timeframe for project submission to FEMA for review and approval. The number of projects will likely change over time as PRASA collaborates with FEMA and COR3 to evaluate each project and optimize its project submission and evaluation strategy.

Figure 1-3: FEMA SOW Estimated Initial Submittal Timeline (Natural Years)



The following sections provide additional information about each of the priority categories, near-term, mid-term, and long term.



1.4 Near-Term Projects Profile (2021-2023)

There are 147 projects in the near-term priority category. These projects have already begun 30% architectural and engineering (A & E) design in 2021, 2022, and 2023 (natural years).

The cumulative investment on the projects started within the near term is **\$3.5 Billion**. Figure 1-4 illustrates the breakdown of cumulative investment by asset category for projects that begun during this period.

Figure 1-4: Total Estimated Cost by Asset Category for Near-Term Projects(\$M)

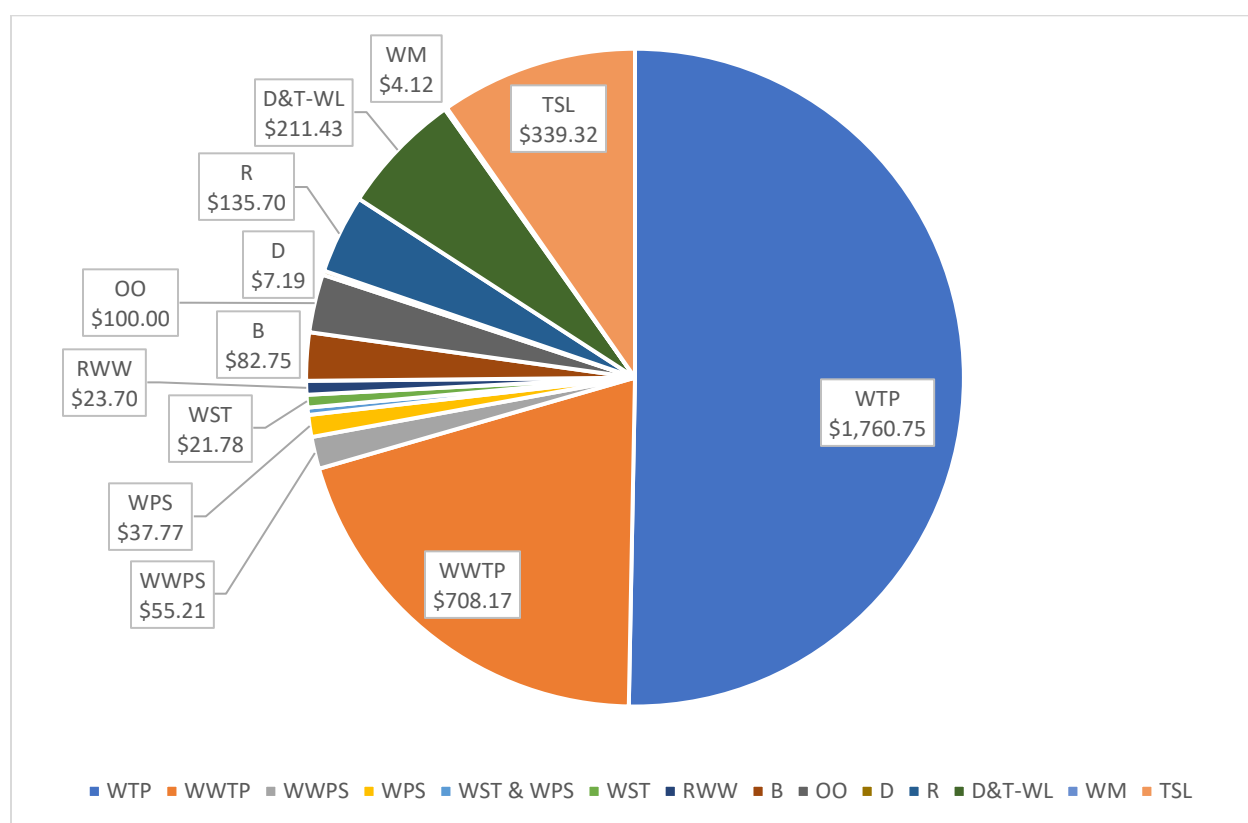


Table 1-5 provides a representative sample of notable projects slated to start during this period.

A high proportion of the FAASt Workplan projects have been sequenced in the near-term time horizon for several reasons:

- It is PRASA's objective to deliver results as quickly as possible.



- Some projects already have completed preliminary engineering and are ready to proceed into the 30% design phase.
- Some projects have a complex design, and the availability of designers with the necessary expertise is limited in Puerto Rico and these must be started in the near-term and completed within the later years of the plan.
- In many cases, environmental remediation, rights-of-way, permits, and approvals must be carried out before the actual project begins.

Table 1-5: Near-Term (2021-2023) Notable Projects

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
WST	CIP.1009001	Rehabilitation of Tanks Phase 1- Metro Region	2021-Q4	2022-Q1	\$4.66
R	CIP.1009002	Carraizo Reservoir Sediment Control (Proposed 406)	2022-Q3	2024-Q2	\$23.96
WPS	CIP.1009103	Rehabilitation of Water Pump Stations Tanks Phase 1- Metro Region	2023-Q1	2025-Q1	\$3.39
RWW	CIP.1009106	Rehabilitation of Raw Water Well Phase 1- Metro Region	2022-Q1	2024-Q1	\$2.00
WTP	CIP.1016095	Rehabilitation of Guaynabo WTP	2021-Q4	2024-Q4	\$105.52
R	CIP.1019000	Carraizo Reservoir Dredging	2021-Q1	2021-Q2	\$109.89
D&T-WL	CIP.1019001	Rehabilitation of D&T-WL Bo. Sonadora, Renacer Sector and Mansiones, Municipality of Guaynabo	2023-Q2	2023-Q4	\$2.09
D&T-WL	Several Metro Region	Replacement of Water Pipelines at Metro Region Phase 1 (CIP.1019002-Camino Los Bigios, San Juan; CIP-1019003-Ponce De Leon Avenue, Municipality of Guaynabo; CIP-1115069- La Pra Sector and Los Fonsecas, Bayamón; CIP-1115070-Doña Concha Community, Bayamón; CIP-1115071-Los Fonseca Sector, Bayamon; CIP-1159001-Urb. Loiza Valley, Canóvanas; CIP-1169002-Urb. Villa Fontana, Carolina; CIP-1665120-Urb. Country Club, San Juan; CIP-1669001-Hollywood Hills, San Juan)	2023-Q2	2024-Q1	\$12.54



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.1019004	Replacement of WL Pipe, El Gato Sector at PR-834, Municipality of Guaynabo	2023-Q2	2024-Q1	\$0.94
WTP	CIP.1076003	Super Aqueduct Microgrid (Proposed 406)	2023-Q3	2024-Q1	\$97.47
WTP	CIP.1116008	Rehabilitation of Guaynabo Santa Rosa WI (FAAST-25)	2022-Q2	2024-Q1	\$61.14
WTP	CIP.1156004	Rehabilitation of Cubuy WTP and RWI, Municipality of Canóvanas	2023-Q1	2025-Q1	\$10.26
WPS	CIP.1159000	Design and Build of Rehabilitation of Water Pump Station at La Central, Municipality of Canóvanas	2023-Q2	2024-Q2	\$1.55
WWTP	CIP.1165044	Rehabilitation of Carolina WWTP FEMA (FAAST-25)	2021-Q3	2022-Q3	\$82.05
TSL	CIP.1169001	Rehabilitation of Los Angeles and Loiza Pueblo Trunk Sewers (FAAST)	2021-Q3	2021-Q3	\$9.43
B	CIP.1660002	Rehabilitation of PRASA Main Building (Sede) Inspection Only	2021-Q4	2021-Q4	\$0.48
WWPS	CIP.1665900	Rehabilitation of Martín Peña WWPS (Tokio), Municipality of San Juan	2023-Q2	2025-Q1	\$7.24
D&T-WL	CIP.1669001	Improvements to Water Distribution System, Hollywood Hills, Municipality of San Juan	2023-Q3	2024-Q4	\$2.38
WTP	CIP.1709000	Enrique Ortega WTP- Raw Water Intake Power Generator (FEMA-404)	2021-Q2	2022-Q4	\$32.86
WTP	CIP.1726043	Rehabilitation of Sergio Cuevas WTP	2022-Q2	2024-Q2	\$126.66
WST	CIP.2009001	Rehabilitation of Tanks Phase 1- North Region	2022-Q1	2022-Q4	\$5.41
WPS	CIP.2009103	Rehabilitation of Water Pump Stations Tanks Phase 1- North Region	2022-Q2	2023-Q3	\$6.86
WWPS	CIP.2009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- North Region	2022-Q2	2024-Q2	\$7.05
RWW	CIP.2009106	Rehabilitation of Raw Water Well Phase 1- North Region	2022-Q3	2023-Q2	\$9.15
WTP	CIP.2017005	Rehabilitation of Culebrinas WTP	2021-Q1	2021-Q1	\$82.55
WWPS	CIP.2039000	Rehabilitation of Guerrero 2 WWPS, Municipality of Aguadilla	2022-Q1	2022-Q1	\$5.54



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.2071000	Improvements to Arecibo Water Distribution System (Proposed 406)	2023-Q1	2025-Q2	\$111.50
D&T-WL	CIP.2071001	Improvements to La Pica, El Peje, and Sabana Hoyos Water Distribution System, Municipality of Vega Alta	2023-Q2	2024-Q1	\$2.63
WTP	CIP.2076042	Rehabilitation of Esperanza Arecibo WTP and RWI	2021-Q3	2022-Q1	\$20.66
WST & WPS	CIP.2079004	Improvements to Cerro Marquez WPS & 2.0 MG Tank, Municipality of Arecibo	2022-Q4	2023-Q2	\$4.21
TSL	CIP.2095052	Rehabilitation of 42 IN Trunk Sewer Line from PR-684 to the South part of Barceloneta WWTP	2021-Q3	2022-Q1	\$31.54
WTP	CIP.2096007	Rehabilitation of Enrique Ortega WTP	2021-Q1	2021-Q1	\$159.22
TSL	CIP.2149001	Rehabilitation of Camuy Trunk Sewer Lines (FAAST)	2022-Q1	2021-Q3	\$76.07
WTP	CIP.2206107	Rehabilitation of Ciales Fronton WTP and RWI	2021-Q4	2022-Q2	\$27.60
WTP	CIP.2246106	Rehabilitation of Corozal Negros RWI	2022-Q3	2024-Q1	\$7.95
WTP	CIP.2246116	Rehabilitation of Corozal Negros WTP	2023-Q1	2024-Q4	\$32.02
D&T-WL	CIP.2265016	D&B Installation of 12 in Water Pipeline PR-691, Dorado, PR (FAAST)	2023-Q4	2024-Q1	\$6.10
WPS	CIP.2265017	Rehabilitation of Water Pump Station San Juan Cement, Dorado PR (FAAST)	2023-Q4	2024-Q1	\$3.94
WWTP	CIP.2265030	Rehabilitation of Dorado WWTP, Dorado, PR (FAAST)	2023-Q4	2024-Q2	\$4.13
D&T-WL	Several North Region	Replacement of Water Pipelines at North Region Phase 1(CIP-226900-Dorado/Vega Alta (Dorado Twist);CIP-2389000-Cuesta del Cementerio Sector, Jayuya; CIP-2389001- Tetuan III , Jayuya; CIP-2419001-Rio Lajas Dorado Water Distribution System; CIP-2526009-Los Pedrozas Sector, Morovis)	2023-Q2	2024-Q1	\$7.40
D&T-WL	CIP.2269001	Replacement of 4 IN Pipeline in Villa 2000 Community in Dorado	2022-Q4	2023-Q2	\$1.98



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
WPS	CIP.2329004	Design and Build of Rehabilitation of Water Pump Station at Ciales Pozas	2022-Q3	2023-Q1	\$5.26
WTP	CIP.2346015	Rehabilitation of Hatillo-Camuy WTP	2022-Q1	2022-Q2	\$52.25
D&T-WL	CIP.2346016	Replacement of 4" and 6" WL, Bayaney Ward, Municipality of Hatillo	2023-Q2	2024-Q1	\$1.46
D&T-WL	CIP.2349003	Design and Build 16" WL, PR-119, Hatillo-Camuy	2022-Q4	2023-Q3	\$6.54
TSL	CIP.2375002	Trunk Sewer Lines (TSL) Isabela - Aguada (FAAST)	2021-Q4	2022-Q3	\$42.41
TSL	CIP.2375003	Rehabilitation of Isabela TSL (Including Aguadilla WWPS Avenue and Fomento)	2022-Q1	2024-Q1	\$17.68
WTP	CIP.2386047	Rehabilitation of Jayuya Urbano WTP and RWI	2022-Q4	2024-Q2	\$35.93
WTP	CIP.2386049	Elimination of Jayuya Canalizo WTP and RWI	2022-Q4	2024-Q4	\$29.53
WTP	CIP.2386057	Rehabilitation of Jayuya WTP and RWI	2022-Q4	2024-Q2	\$9.11
WTP	CIP.2426099	Rehabilitation of Lares Indiera Alta WTP and RWI	2022-Q3	2024-Q3	\$14.77
WTP	CIP.2426100	Rehabilitation of Lares Nueva Espino WTP and RWI	2021-Q3	2022-Q1	\$28.82
D&T-WL	CIP.2475022	Installation of Water Line at Río Utuado Bridge, Municipality of Utuado	2021-Q4	2022-Q1	\$0.87
WTP	CIP.2479001	Rehabilitation of Morovis Sur RWI	2021-Q1	2021-Q1	\$3.69
WTP	CIP.2526006	Rehabilitation of Morovis Sur WTP	2021-Q4	2022-Q3	\$44.15
WTP	CIP.2526007	Rehabilitation of Morovis Urbano WTP	2022-Q4	2023-Q4	\$10.58
D&T-WL	CIP.2526008	Improvements to the Water Distribution System in Morovis (FAAST)	2022-Q3	2024-Q1	\$33.71
D&T-WL	CIP.2549000	Rehabilitation of Transmission and Distribution System at Naranjito (FAAST)	2022-Q3	2024-Q2	\$42.35
WTP	CIP.2596004	Rehabilitation of Quebradillas WTP and RWI	2022-Q2	2024-Q2	\$44.57
D&T-WL	CIP.2709001	Design and Construction of 6" WL, El Tocon Sector, Quebrada Cruz Ward, Municipality of Toa Alta	2022-Q4	2023-Q1	\$1.82



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.2709002	Design and Construction of 4" WL, Villa Esperanza Community, Municipality of Toa Alta	2022-Q4	2024-Q1	\$3.70
TSL	CIP.2709010	Improvements to the Teefrans TSL, Municipality of Arecibo	2022-Q1	2023-Q3	\$8.87
WTP	CIP.2736005	Rehabilitation of Utuado Mameyes Limon (Arriba) WTP and RWI	2022-Q3	2024-Q4	\$10.47
WTP	CIP.2736006	Rehabilitation of Utuado Mameyes WTP and RWI	2022-Q3	2025-Q2	\$9.43
WTP	CIP.2739001	Rehabilitation of Lago Viví RWI	2021-Q3	2023-Q2	\$5.59
TSL	CIP.2755055	Rehabilitation of Vega Baja Trunk Sewer Lines (TSL)	2021-Q3	2021-Q4	\$9.59
WTP	CIP.2916002	Rehabilitation of Arecibo Superacueductos WTP	2022-Q2	2024-Q2	\$125.39
WST	CIP.3009001	Rehabilitation of Tanks Phase 1-East Region	2021-Q4	2022-Q1	\$3.90
WPS	CIP.3009103	Rehabilitation of Water Pump Stations Tanks Phase 1- East Region	2022-Q3	2024-Q1	\$9.48
WWPS	CIP.3009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- East Region	2023-Q2	2024-Q3	\$8.06
RWW	CIP.3009106	Rehabilitation of Raw Water Wells Phase 1- Este Region	2022-Q2	2022-Q4	\$2.62
D&T-WL	Several East Region	Replacement of Water Pipelines at East Region Phase 1 (CIP-3046007-Sumideros Ward, Aguas Buenas; CIP-3236015-Urb. Mirador, Caguas; CIP-3185018-Replacement of 4", Maton Arriba Ward, Calle Jorge Rochi, Cayey; CIP-3185019- PR-1 Km. 61, Maton C1Arriba Ward, Cayey; CIP-3279002-Damajagua Ward, Fajardo; CIP-3279003- PR-978,Ceiba;CIP-3279004-PR-976, Volatín Ward, Fajardo)	2023-Q2	2024-Q1	\$12.05
WTP	CIP.3106105	Rehabilitation of Barranquitas La Boca WTP and RWI	2023-Q2	2025-Q1	\$18.31
WTP	CIP.3106106	Rehabilitation of Barranquitas Barrancas WTP and RWI	2022-Q3	2024-Q2	\$29.64
B	CIP.3130001	PRASA Central Laboratory in Caguas (FAAST)	2021-Q1	2021-Q1	\$39.73
WWTP	CIP.3135079	Rehabilitation of Blowers in Caguas WWTP (FAAST)	2021-Q1	2021-Q4	\$5.93



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
WTP	CIP.3136012	Rehabilitation of Caguas Norte WTP	2022-Q3	2024-Q3	\$80.36
B	CIP.3139000	Equipment for New PRASA Central Laboratory in Caguas (FAAST)	2021-Q1	2022-Q1	\$8.00
WWTP	CIP.3139001	Rehabilitation of Caguas WWTP (FAAST-25)	2022-Q1	2025-Q1	\$141.39
TSL	CIP.3139002	Rehabilitation of Caguas Trunk Sewer Lines (FAAST)	2021-Q3	2021-Q4	\$34.33
D&T-WL	CIP.3139004	Extension to Water System Aguas Buenas Mulas Tizas (FAAST) #NRW #JG	2023-Q2	2023-Q4	\$3.42
WTP	CIP.3156093	Rehabilitation of Río Grande El Yunque WTP	2022-Q1	2023-Q4	\$60.54
WTP	CIP.3156094	Replacement of RWI at Mameyes River for the Yunque WTP	2022-Q3	2024-Q2	\$20.95
WTP	CIP.3186003	Rehabilitation of Cayey El Farallon WTP	2022-Q3	2024-Q1	\$34.68
B	CIP.3188001	Rehabilitation of Cayey Operations Office, Cayey PR	2023-Q2	2023-Q4	\$1.65
WWTP	CIP.3236247	Rehabilitation of Comerío WWTP (FAAST)	2022-Q2	2029-Q1	\$36.80
WTP	CIP.3239005	Rehabilitation of Comerío WTP (FAAST)	2023-Q4	2025-Q1	\$10.22
WWTP	CIP.3279001	Rehabilitation of Switchgear Fajardo WWTP (FAAST) #NRW #JG	2023-Q3	2024-Q1	\$2.80
WWTP	CIP.3305001	Improvements to Guayama WWTP (FAAST)	2021-Q1	2021-Q1	\$95.10
WWTP	CIP.3365083	Rehabilitation of Humacao Waste Water Treatment Plant (WWTP) Sludge Treatment System (STS)	2021-Q2	2021-Q3	\$11.98
WTP	CIP.3366005	Rehabilitation of Humacao WTP	2021-Q3	2028-Q2	\$58.72
WTP	CIP.3405005	Valenciano WTP Expansion (404)	2023-Q3	2025-Q4	\$75.29
D&T-WL	CIP.3405006	Valenciano Water Distribution System (404)	2023-Q3	2025-Q3	\$187.66
WTP	CIP.3405007	Valenciano Dam and RWI (404)	2023-Q3	2024-Q3	\$154.60
WWPS	CIP.3445009	Design and Build La Sabana Las Piedras WWPS	2021-Q2	2021-Q2	\$1.11
WTP	CIP.3536006	Rehabilitation Naguabo Río Blanco WTP	2022-Q1	2024-Q2	\$29.99
WWTP	CIP.3765002	Rehabilitation Vieques WWTP (FAAST)	2022-Q1	2023-Q4	\$43.77
WWTP	CIP.3785018	Rehabilitation of Yabucoa WWTP (FAAST)	2023-Q3	2025-Q4	\$13.83



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
R	CIP.4009000	Bauta Tunnel (FEMA 404/CDBG-MIT)	2023-Q4	2024-Q2	\$245.41
WST	CIP.4009001	Rehabilitation of Tanks Phase 1- South Region	2021-Q1	2022-Q1	\$5.08
WST & WPS	CIP.4009103	Rehabilitation of Water Pump Stations Tanks Phase 1- South Region	2022-Q3	2023-Q2	\$8.35
WWPS	CIP.4009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- South Region	2023-Q1	2024-Q3	\$7.98
RWW	CIP.4009106	Rehabilitation of Raw Water Well Phase 1- South Region	2022-Q1	2023-Q2	\$5.08
TSL	CIP.4089000	Rehabilitation of Arroyo-Guayama Trunk Sewer Lines (FAAST)	2021-Q1	2021-Q4	\$21.01
D&T-WL	Several South Region	Replacement of Water Pipelines at South Region Phase 1 (CIP-4089001- Buena Vista Sector, Arroyo; CIP-4229003- PR-155 Sector Farallones, Coamo ; CIP-4229004- PR-150 Santa Catalina and San Ildefonso, Coamo; CIP-4319001- Indios Ward, Guayanilla; CIP-4399000- Collores Sector PR 512, Juana Diaz; CIP-4779001- RLimón Sector, Villalba; CIP-4779004- Chichón Sector, Villalba)	2023-Q2	2024-Q1	\$13.98
TSL	CIP.4299000	Rehabilitation of Barriada Esperanza Guánica Trunk Sewer System	2022-Q4	2024-Q2	\$7.46
WTP	CIP.4316007	Rehabilitation of Jaguas Pasto Guayanilla WTP	2021-Q4	2024-Q2	\$16.71
WWTP	CIP.4495001	Rehabilitation or Elimination of Maunabo WWTP (FAAST-25)	2021-Q4	2024-Q1	\$0.00
WTP	CIP.4556009	Rehabilitation of Sanamuertos Orocovis WTP	2022-Q4	2024-Q3	\$10.29
D&T-WL	CIP.4559002	Replacement of WL El Gato Ward, Orocovis, PR (FAAST)	2022-Q4	2023-Q1	\$2.78
WTP	CIP.4576002	Rehabilitation of Peñuelas WTP	2023-Q3	2024-Q4	\$19.09
WTP	CIP.4576004	Rehabilitation of Malpaso Peñuelas WTP	2022-Q3	2024-Q3	\$10.91
TSL	CIP.4589003	Rehabilitation of Ponce Trunk Sewer System (FAAST)	2021-Q2	2021-Q4	\$16.93
D&T-WL	CIP.4589006	Rehabilitation of WL La Yuca Sector, Ponce, PR (FAAST)	2022-Q4	2023-Q1	\$2.48



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.4589007	Rehabilitation of WL Sabanetas Sector, Ponce, PR (FAAST).	2023-Q2	2023-Q4	\$6.71
WTP	CIP.4646004	Raw Water Wells Closure/ Salinas WTP (FEMA-404)	2022-Q1	2024-Q4	\$47.78
TSL	CIP.4649000	Replacement of TSL Santos Amadeo, Baldorioty & Miguel Casco Urban, Salinas (FAAST)	2023-Q1	2024-Q2	\$11.77
WWTP	CIP.4695042	Rehabilitation of Santa Isabel WWTP (FAAST)	2022-Q1	2024-Q2	\$80.26
WTP	CIP.4776077	Rehabilitation of Villalba Apeadero WTP	2022-Q1	2024-Q2	\$8.62
WTP	CIP.4776078	Rehabilitation of Jagueyes Villalba WTP	2022-Q1	2023-Q4	\$15.71
WTP	CIP.4796004	Rehabilitation of Yauco Río Prieto WTP	2023-Q2	2024-Q3	\$26.84
WST	CIP.5009001	Rehabilitation of Tanks Phase 1- West Region	2022-Q1	2022-Q4	\$2.73
WPS	CIP.5009103	Rehabilitation of Water Pump Stations Tanks Phase 1- West Region	2023-Q1	2024-Q3	\$7.30
WWPS	CIP.5009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- West Region	2023-Q1	2025-Q1	\$18.23
RWW	CIP.5009106	Rehabilitation of Raw Water Well Phase 1- West Region	2022-Q3	2024-Q2	\$4.85
WWTP	CIP.5035001	Rehabilitation of Aguada WWTP (FAAST-25)	2022-Q2	2029-Q3	\$52.24
WTP	CIP.5036006	Rehabilitation Aguadilla Montaña WTP	2023-Q2	2024-Q4	\$75.02
D&T-WL	Several West Region	Replacement of Water Pipelines at West Region Phase 1 (CIP-5069000- Parcelas Aqlas Aquilino, Añasco; CIP- 5379000-Chevín Sector, Isabela; CIP-5509000- París Ward, Mayaguez ;CIP- 5579003- PR-412, Corea Sector, Rincón;CIP-5609002- Camino Blanco Black Eagle, Rincón ;CIP-5609004- PR-412, Rincón; CIP-5639000- Azucena and Parcela Lluveras, Sabana Grand;CIP- 5685006- Villa Rita , San Sebastián)	2023-Q2	2024-Q1	\$24.87
D&T-WL	CIP.5129001	Design & Build Installation of 4" WL Betances Community, Llanos Tuna Ward, Cabo Rojo (FAAST) #NRW #JG	2023-Q2	2024-Q1	\$0.97



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
R	CIP.5376001	Repair of Geosynthetic Membranes in Lago Regulador in Isabela	2021-Q2	2021-Q2	\$25.82
WTP	CIP.5379002	Guajataca Floating RWI	2022-Q1	2022-Q3	\$8.17
WWTP	CIP.5415031	Rehabilitation of Lajas WWTP (FAAST)	2022-Q2	2024-Q4	\$14.54
WTP	CIP.5486006	Rehabilitation of Monte del Estado Maricao WTP	2022-Q3	2024-Q2	\$11.63
WTP	CIP.5486007	Rehabilitation of Maricao WTP	2023-Q2	2024-Q4	\$16.67
WTP	CIP.5489001	Rehabilitation of Maricao Monte del Estado RWI	2022-Q3	2024-Q1	\$6.03
WWTP	CIP.5505028	Rehabilitation of Mayaguez WWTP (FAAST-25)	2021-Q2	2023-Q4	\$123.34
WTP	CIP.5506044	Rehabilitation of Miradero Mayagüez RWI	2022-Q1	2024-Q2	\$45.84
WTP	CIP.5506046	Rehabilitation of Ponce de Leon Mayaguez WTP	2023-Q1	2024-Q3	\$40.91
WTP	CIP.5506047	Rehabilitation of Miradero Mayaguez WTP	2022-Q3	2024-Q4	\$47.03
TSL	CIP.5509001	Rehabilitation of Hormigueros and Mayaguez Trunk Sewer Lines (FAAST)	2022-Q1	2021-Q4	\$33.10
OO	CIP.5509105	Rehabilitation of Mayaguez Ocean Outfall	2023-Q1	2025-Q2	\$100.00
D&T-WL	CIP.5609001	Installation of 12" WL PR-115, Rincón (FAAST)	2023-Q3	2024-Q1	\$8.96
TSL	CIP.5685000	Replacement of Trunk Sewer Lines (TSL) in San Sebastián (FAAST)	2022-Q4	2024-Q3	\$19.15
B	CIP.6005000	Stand-By Power Generators	2023-Q2	2023-Q2	\$32.90
WM	CIP.6009002	Water Meters Pilot Project (FAAST)	2021-Q3	2021-Q4	\$4.12
D&T-WL	CIP.7349002	Hatillo -Nuevo Sistema de Dis. Bo. Campo Alegre, Sectores 10 #NRW #JG (FAAST)	2022-Q3	2024-Q2	\$8.73
D	CIP.7776071	Rehabilitation of Toa Vaca Dam	2021-Q2	2024-Q2	\$7.19



1.5 Mid- Term Projects Profile (2024-2027)

The mid-term priority category comprises 33 projects that should begin 30% A & E design in 2024, 2025, 2026, and 2027 (natural years). The cumulative investment on the projects expected to begin A & E within this time horizon is **\$482 Million**. Figure 1-5 illustrates the breakdown of cumulative investment by asset category for projects commencing during this period.

Figure 1-5: Total Estimated Cost by Asset Category for Mid-Term Projects(\$M)

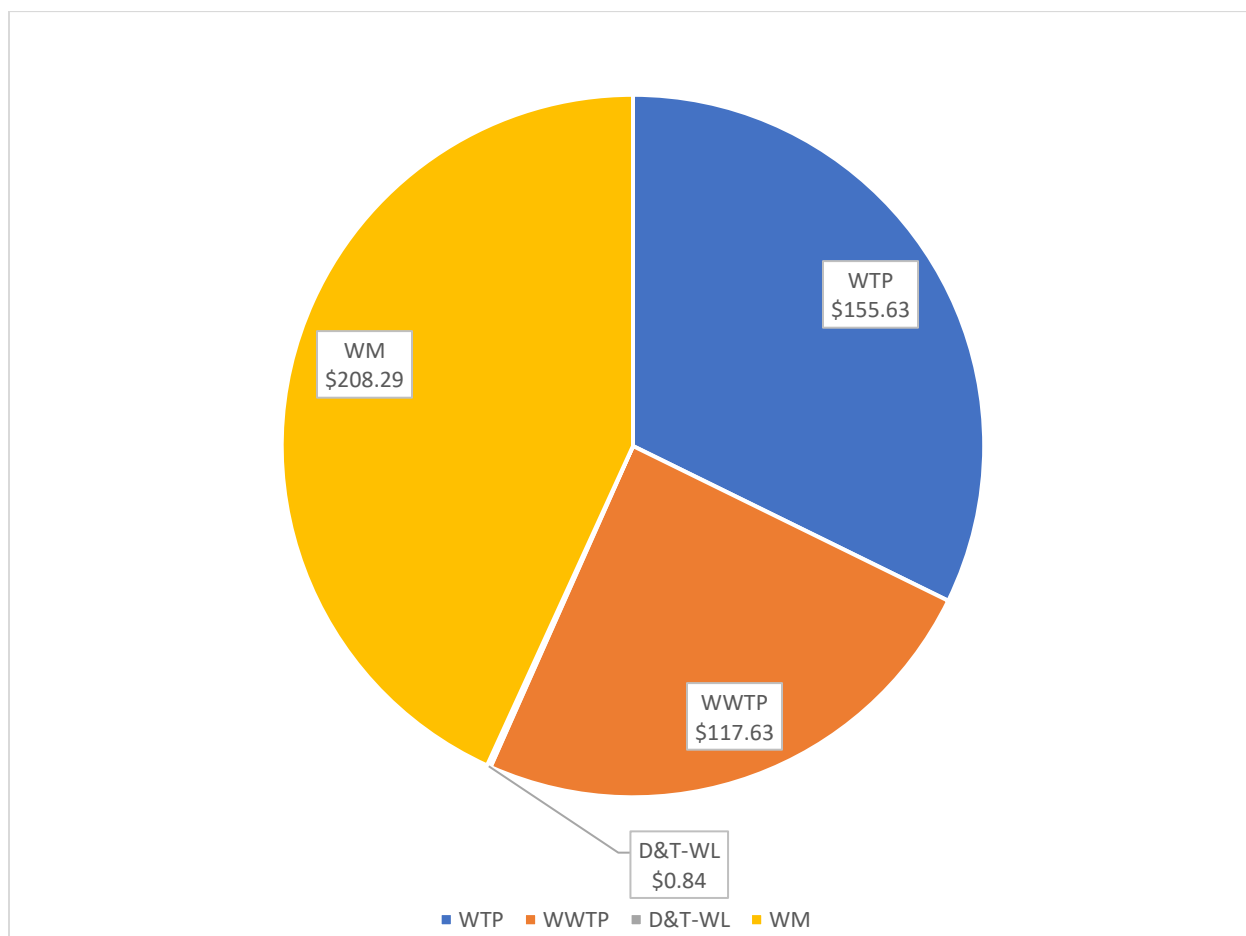


Table 1-6 provides a representative sample of notable projects slated to commence during this period.



Table 1-6: Mid-Term (2024-2027) Notable Projects

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
R	CIP.1001001	Metropolitan Multi- Reservoir System (FEMA) (406)	2024-Q1	2026-Q4	\$2.00
WTP	CIP.1156005	Rehabilitation of Canóvanas Nueva WTP and RWI	2027-Q1	2027-Q3	\$13.00
WTP	CIP.2206106	Rehabilitation of Jaguas Pesas Ciales WTP and RWI	2027-Q1	2027-Q4	\$6.70
WTP	CIP.2386048	Elimination of Jayuya La Pica WTP and RWI	2026-Q4	2027-Q4	\$6.67
WWTP	CIP.2475021	Rehabilitation of Barceloneta WWTP (FAAST-25)	2024-Q1	2026-Q4	\$29.85
WWTP	CIP.2545006	Rehabilitation of Naranjito WWTP	2027-Q2	2028-Q1	\$10.25
WTP	CIP.2736007	Rehabilitation of Santa Isabel Utuado WTP and RWI	2024-Q1	2025-Q3	\$10.69
WTP	CIP.3046005	Rehabilitation of Aguas Buenas WTP	2027-Q4	2028-Q3	\$7.34
WWTP	CIP.3056002	Rehabilitation of Aibonito WWTP (FAAST)	2026-Q4	2027-Q3	\$12.00
WWTP	CIP.3105032	Rehabilitation of Barranquitas WWTP (FAAST)	2027-Q1	2028-Q1	\$9.42
WTP	CIP.3106104	Rehabilitation of Barranquitas WTP and RWI	2025-Q1	2026-Q1	\$7.34
WTP	CIP.3136013	Rehabilitation of Caguas Sur WTP	2025-Q4	2026-Q4	\$9.42
WWTP	CIP.3185033	Rehabilitation of Cayey WWTP (FAAST-25)	2026-Q1	2027-Q2	\$21.95
WTP	CIP.3186002	Rehabilitation of Cayey Urbana WTP	2025-Q1	2026-Q2	\$11.28
WTP	CIP.3186004	Rehabilitation of Cayey Culebras Alto WTP	2026-Q4	2027-Q3	\$6.68
WWPS	CIP.3365085	Elimination of WWPS Buxo, Humacao PR (Proposed 406)	2025-Q2	2026-Q1	\$1.04
WWTP	CIP.3366001	Rehabilitation of Humacao WWTP	2024-Q4	2024-Q4	\$25.20
WTP	CIP.3466005	Rehabilitation of Luquillo-Sabana WTP	2027-Q1	2027-Q4	\$11.28
WTP	CIP.3536007	Rehabilitation Naguabo El Duque WTP	2026-Q4	2028-Q1	\$6.66
WTP	CIP.4016008	Rehabilitation of Adjuntas Olimpia WTP	2025-Q4	2026-Q4	\$8.74
WTP	CIP.4016012	Rehabilitation of Adjuntas Guilarte WTP	2024-Q1	2025-Q3	\$6.73
WTP	CIP.4586084	Rehabilitation Ponce Guaraguo WTP	2026-Q1	2026-Q4	\$9.37
R	CIP.5066000	Casey Reservoir (Proposed 406)	2024-Q1	2027-Q1	\$2.00



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.5067002	Improvements to Water System Community Del Hoyo de los Feos, Añasco (FAAST)	2027-Q1	2027-Q4	\$0.84
WWTP	CIP.5089000	Rehabilitation of Las Marías WWTP (FAAST-25)	2024-Q2	2025-Q2	\$3.95
WTP	CIP.5376006	Rehabilitation of Isabela Urbana WTP and RWI	2027-Q2	2028-Q1	\$7.75
WTP	CIP.5485005	Rehabilitation of Orama Maricao RWI (Proposed 406)	2024-Q1	2024-Q4	\$7.45
WTP	CIP.5636006	Rehabilitation of Sabana Grande WTP and RWI	2027-Q1	2027-Q4	\$6.17
WTP	CIP.5656001	Rehabilitation of Caín Alto San Germán WTP and RWI	2027-Q3	2028-Q4	\$6.18
WTP	CIP.5686045	Rehabilitation of San Sebastian WTP and RWI	2026-Q1	2027-Q1	\$8.64
WTP	CIP.6009016	Rehabilitation to PRASA WTP Islandwide LS Project (FAAST)	2027-Q1	2027-Q2	\$5.00
WWTP	CIP.6009017	Rehabilitation to PRASA WWTP Islandwide LS Project (FAST)	2027-Q1	2027-Q2	\$5.00
WM	CIP.6009102	Water Meters Islandwide LS Project (FAAST)	2027-Q1	2027-Q3	\$208.29



1.6 Long-Term Projects Profile (2028 and beyond)

The long-term priority category comprises 12 projects that are expected to begin 30% A & E design in years 2028 and beyond.

The cumulative investment on the projects expected to begin A & E within this time horizon is **\$186 Million**.

Figure 1-6 illustrates the breakdown of cumulative investment by asset category for projects commencing during this period.

Figure 1-6: Total Estimated Cost by Asset Category for Long-Term Projects(\$M)

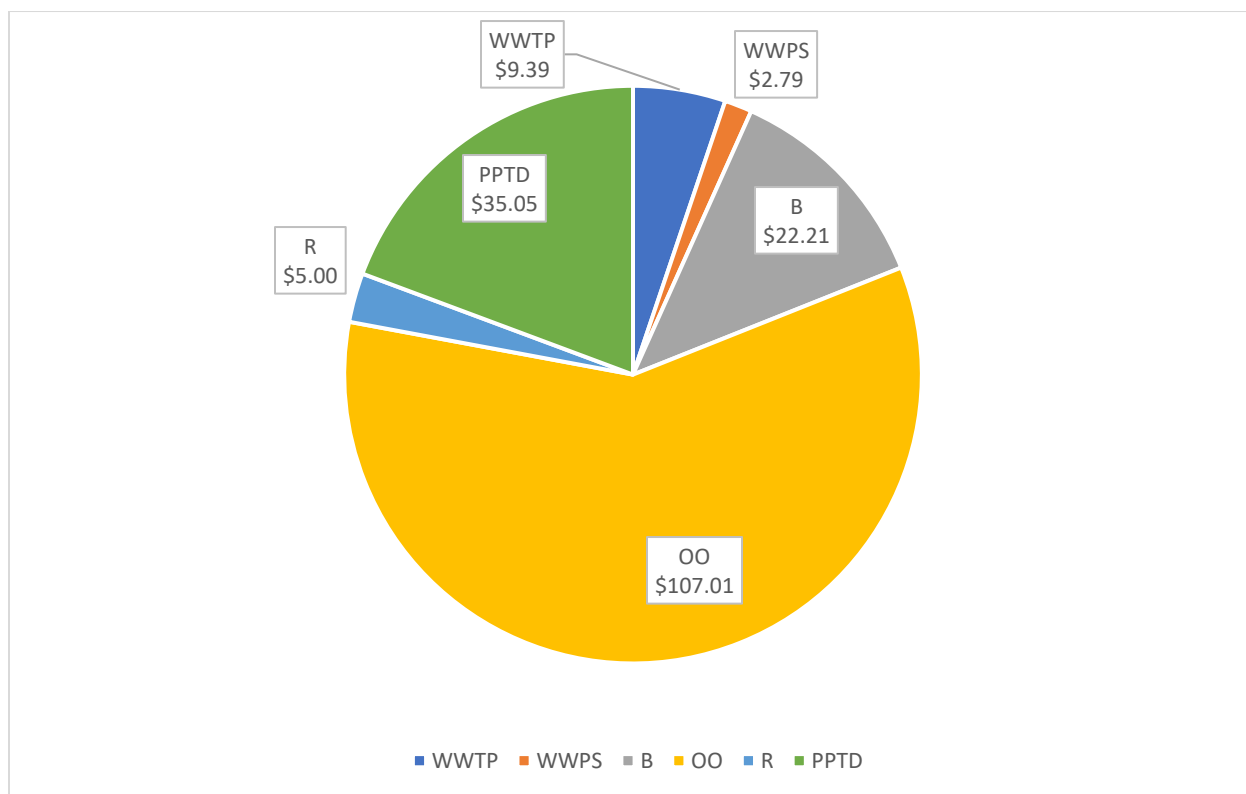


Table 1-7 provides a representative sample of notable projects slated to commence during this period.



Table 1 7: Long-Term (2028 and beyond) Notable Projects

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Total Cost Estimate
WWPS	CIP.1009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- Metro Region	2028-Q2	2029-Q4	\$2.79
WPS	CIP.1669002	Rehabilitation of WPS of Puerto Nuevo and WL of 48", Municipality of San Juan (Inactive)	2030-Q1	2031-Q2	\$53.98
B	CIP.1669003	Rehabilitation of PRASA Main Building (Sede)	2028-Q2	2028-Q3	\$2.21
WWTP	CIP.2075073	Rehabilitation of Islote WWTP, Arecibo (Proposed 406)	2029-Q1	2032-Q1	\$118.61
OO	CIP.2149105	Rehabilitation of Camuy Ocean Outfall (Inactive)	2032-Q2	2033-Q1	\$0.01
WWTP	CIP.2269002	Elimination of Several WWTP North Region (FAASt 406)	2028-Q2	2025-Q1	\$1,001.07
WWTP	CIP.2745019	Rehabilitation of Vega Alta WWTP	2032-Q1	2032-Q1	\$9.39
WST	CIP.6009001	Water Storage Tanks Islandwide (FAASt)	2028-Q1	2028-Q4	\$5.00
OO	CIP.6009005	Rehabilitation to PRASA Ocean Outfalls Islandwide LS Project (FAST)	2028-Q1	2028-Q4	\$107.00
B	CIP.6009007	Rehabilitation to PRASA Buildings Islandwide LS Project	2028-Q1	2028-Q4	\$20.00
PPTD	CIP.6009008	Projects Pending to Defined LS Project (FAASt)	2028-Q1	2028-Q4	\$35.05
R	CIP.6009010	Reservoir Dredging Islandwide LS Project	2028-Q1	2028-Q4	\$5.00



1.7 Program Management

PRASA has implemented project management standards and controls in accord with leading practices. In 2020 PRASA issued an RFQ/RFP to secure engineering firms to serve as the Project Management Consortiums for efficient and timely execution of the CIP, including the projects under this plan. Currently, PRASA has onboarded all the Consortiums.

PRASA's Infrastructure Office, with the assistance of the Consortiums, will implement leading practices following these components: solid centralized governance of the group of projects; a standard, rigorous process from project initiation to closeout for all projects in the plan; a centralized system to provide a single source of truth for all projects (with particular focus on scope, schedule, and budget); and standardized project controls across PRASA.



Chapter 2 Introduction

The purpose of this document is to describe further the PRASA investment plan for the next ten years using the **\$4.2 Billion** funding obligated by FEMA under the Stafford Act, Section 428 Public Assistance (428) program, and BBA. The plan starts in 2021 and is projected to end in 2030.

This plan is being submitted to COR3 and FEMA to satisfy the requirement to present a plan within 90 days of the single fixed-cost grant obligation. This plan is considered a “living document.” It requires updates and resubmissions to COR3 and FEMA every 90 days after the initial submission. Consequently, we have discussed with FEMA and COR3 during plan development to gain the best possible understanding of their requirements for this plan and to meet those requirements.

PRASA's FAASSt Workplan is not subject to approval by COR3 or FEMA, nor does it secure the release of any obligated 428 funds. Instead, the plan serves as a working document to provide context for and support collaboration among PRASA, COR3, and FEMA in the process of developing and submitting individual projects for review, approval, and funds disbursement. Submission of this plan is an essential first step, followed by PRASA submitting individual project funding requests and beginning 30% design for 2021 projects. Now that the initial version of this plan has been completed and submitted, PRASA will begin requesting funding as soon as practicable.

This plan will include project funding from the FEMA 428 and 404 mitigation programs and HUD Community Development Block Grant Disaster Recovery (CDBG-DR) program.

This document will provide the requirements under their 428 work plan to COR3 and FEMA, such as:

- An overview of PRASA's infrastructure investment strategy to provide context for the selection of projects in the plan.
- A prioritized list of the infrastructure projects that contain the plan with brief descriptions and class 5 cost estimates.



- A section that shows the estimated timing of crucial project milestones by quarter for 2021-2023 and by year for 2024-2030.
- An overview of PRASA's instrumental management of the infrastructure controls.

The projects identified in this plan and their associated schedule provide a framework for sketching the work and an expected sequence for its execution. However, ten years is a long-term planning horizon, and adjustments to this FAASSt Workplan are expected as long as justified with results from studies, natural events, implementation or scheduling restrictions, or other influences.

This plan is based on the most current information available to PRASA and will be updated quarterly. With this submittal, PRASA intends to execute a set of defined, effective, multi-faceted projects to improve water and wastewater infrastructure in Puerto Rico.



Chapter 3 PRASA’s Infrastructure Investment Strategy

3.1 Context

The 2017 hurricane season caused unparalleled devastation in Puerto Rico. As a result, PRASA suffered damages to water treatment facilities and other structures across the Island. After facing the damages of the 2017 events, PRASA needs to continue working to permanently repair their infrastructure with the ongoing challenges of droughts, hurricanes, earthquakes, and the current COVID-19 pandemic. PRASA has one of the most complex systems when is compared to other U.S. jurisdictions. PRASA serves more than one million customers, which is an added challenge to any decisions regarding infrastructure design and development to provide or deliver resilient and less vulnerable water and wastewater system for Puerto Rico.

Indeed, resiliency for water projects comes with the challenge of how to measure their performance. Resiliency is a topic discussed for quite some time in the water industry, but there is no official consensus measuring resiliency. Meanwhile, PRASA is committed to continuing with the recovery efforts and ensuring that future infrastructure developments consider resiliency for the significant challenges that the Island faces.

After the events of 2017, several steps set the path to transforming Puerto Rico’s water system. Some of these steps include the development of PRASA’s Strategic Plan 2020-2025 and PRASA’s Certified Fiscal Plan(s).

These steps provide the foundation for this plan. Table 3-1 illustrates the six (6) foundational components of PRASA’s FAASt Workplan.

Table 3-1 Foundational Components of FAASt Workplan

Components	Description
PRASA’s Vision and Mission	Since its creation in 1945, PRASA is committed to providing excellence in all aspects of the operations, including drinking water production and distribution, wastewater collection and treatment, as well as system maintenance and customer satisfaction. The



Components	Description
	goal of providing quality and reliable services has not diminished over time and will continue for years to come. As stated on its mission statement, PRASA has the mindset “to provide high-quality, safe, reliable, and affordable water and wastewater services to the people of Puerto Rico, protecting their health and the environment.”
America Water Infrastructure Act of 2018	Establishes parameters to improve drinking water and water quality, infrastructure investments, enhance public health and quality of life, increase jobs, and bolster the economy, including assessing the PRASA's system vulnerability to several threats, including climate change and natural disasters.
Codes and Industry Standards	Rehabilitate, improve, and restore the water system following Codes and Industry Standards, including the applicable PRASA design standards, contained in the <i>Reglamento de Normas de Diseño de la AAA</i> .
PRASA's Strategic Plan 2021-2025	Provides a roadmap to meet expected water demand over a planning horizon through the future development with specific plans to improve the reliability of the water & water waste system, beginning with the core values responsible for supporting the mission and vision as well as shaping the organization's culture.
PRASA Certified Fiscal Plan(s)	Lays out the path for operational and financial sustainability of PRASA in order to enable the transformation of Puerto Rico's water and wastewater system.
FEMA's Damages Assessment Reports	Provides a description of the damages, related causes, location, and dimensions of the equipment and facilities damaged during the 2017 hurricanes and other catastrophic events.

3.2 Overview of Investment Strategy

PRASA leveraged the foundational components outlined in Table 3.1 and performed additional analysis to guide the project's selection in this FAASt Workplan.

To align and guide our work, we designated five (5) investment focus areas that summarize the intent of what our projects will collectively achieve. The investment focus areas are as follows in Table 3-2.



Table 3-2: Investment Focus Areas

Focus Area	Description
Public Health & Environmental Protection	Ensure to provide a high-quality water service while promoting water conservation and protecting the environment and health of Puerto Rico, following: • Safe Drinking Water Act (SDWA) • Environmental Protection Agency (USEPA) requirements • Puerto Rico Department of Health (PRDH) • Clean Water Act (CWA)
Codes and Industry Standards	Ensure compliance with applicable laws and regulations and alignment with consensus-based codes and standards. Examples include: • American Water Works Association (AWWA) • National Fire Protection Association (NFPA) • American Society of Testing and Materials (ASTM) • National Standards Foundation (NSF) • International Code Council (ICC) • <i>Reglamento de Normas de Diseño de la AAA</i>
Reliability and System Resiliency	Ensure the required investment in necessary technology and infrastructure to restore the system, enhance resiliency, and establish an efficient and safe water system that provides reliability for customers.
Hazard Mitigation	Ensure to provide long-term solutions that reduce the PRASA's infrastructure impact of future events and minimize disaster losses and the water system vulnerability.
Modernization and Maintenance	Modernize and maintain PRASA's infrastructure to optimize its operational efficiency, protect public health, safeguard the environment and promote continued economic development.



Chapter 4 PRASA's Prioritized Infrastructure Projects

4.1 Overview

This section of PRASA's FAASt Workplan categorizes each project in the plan as to priority. The three priority categories are near-term (2021-23 start), mid-term (2024-27 start), and long-term (2028 or later start).

We established several criteria and considerations to assign projects to categories. Project start, for this prioritization, was defined as when 30% of design work should begin. A & E work is PRASA's first standard milestone for projects in its infrastructure plan.

In this section, each priority category has a description of the type of infrastructure projects contained within it, a summary overview of the number and estimated costs of projects in the priority category broken down by asset type, and an overview of the estimated timing for submission of projects to COR3 and FEMA. Following these overviews are a series of tables containing the name, brief description, estimated COR3 and FEMA submission timing, and class 5 cost estimate for each project in the priority category.

Under direction from COR3 and FEMA, PRASA will update this plan every 90 days after the initial submission and will update project details and prioritization based on coordination with COR3 and FEMA, its internal findings, and feedback from other stakeholders.

4.2 Asset Category Descriptions

Table 4-1 outlines each asset category contained in this plan and characterizes the types of projects found within each category:



Table 4-1: List of Assets Descriptions

Asset Category	Description
WTP	114 WTP, with capacity ranges from 0.14 to 100 million gallons per day (MGD) with a median and average treatment capacity of 1.2 and 5.1 MGD. After Hurricane María one (1) WTP was closed. The WTP are classified by the type of treatment, with 1% using direct filtration, 92% dual filtration, and 7% membranes. These WTP and the RWI suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged process components and equipment are necessary for these WTP's operation so the treated water may be distributed as potable water. Damaged process equipment includes (but is not limited to) pumps, screens, clarifiers, package plants, media filters, membrane systems, chlorination systems, UV disinfection, sludge thickeners, sludge filters, and sludge drying beds. Additionally, support (ancillary) items required to operate the WTP were damaged, including (but not limited to) instrumentation, telemetry, process control (SCADA), power (and backup power), piping, channels, valves, buildings, covers, roofs. Sitewide items that are part of the WTP but not associated with the process components or necessary to treat the water also suffered widespread damages. Damaged non-process items include (but are not limited to) fencing, lighting (interior and exterior), paint, HVAC system, furnishings, materials, various non-process equipment (e.g., for landscaping and housekeeping), and buildings not used for the protection of process equipment.
WWTP	51 facilities, with capacity ranges from 0.09 to 144 million gallons per day (MGD) with a median and average treatment capacity of 1.3 and 10.6 MGD. They are classified by the degree of treatment (primary, secondary, or tertiary) and the specific type of biological treatment used. For all 51 WWTP, 12% carry out only primary treatment, 70.5% carry out secondary treatment, and



Asset Category	Description
	17.5% tertiary treatment. For the 51 WWTP, 12% do not carry out biological treatment (primary treatment only), 59% use activated sludge, 14% use trickling filters, and 14% use biological nutrient removal. One WWTP uses rotating biological discs for biological treatment. These WWTPs suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged process components and equipment are necessary for these WWTPs, so the treated wastewater may be discharged to surface waters. Damaged process equipment includes (but is not limited to) pumps, influent structures, screens, grit removal, primary clarifiers, activated sludge systems, oxidation ditches, package plants, trickling filters, secondary clarifiers, coarse media filters, chlorination/dichlorination systems, UV disinfection, sludge thickeners, anaerobic and aerobic digesters, sludge filters, and sludge drying beds. Additionally, support (ancillary) items required to operate the WWTP were damaged, including (but not limited to) instrumentation, telemetry, process control (SCADA), power (and backup power), piping, channels, valves, buildings, covers, and roofs. Sitewide items that are part of the WWTP but not associated with the process components or necessary to treat the wastewater also suffered widespread damages. Damaged non-process items include (but are not limited to) fencing, lighting, paint, HVAC system, furnishings, materials, various non-process equipment (e.g., for landscaping and housekeeping), and buildings not used for the protection of process equipment.
WWPS	799 WWPS, also called wastewater lift stations, are used to deliver wastewater collected in the trunk sewers from a lower to a higher elevation through a force main. The force main allows the wastewater to flow by gravity



Asset Category	Description
	to the WWTP or another WWPS. The wastewater is usually stored in and pumped from an underground storage pit called a wet well. These WWPS suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for the operation of these WWPS that deliver wastewater to the WWTP. Damaged process equipment includes (but is not limited to) pumps, instrumentation, telemetry, process control, power (and backup power), piping, valves, buildings, covers, and roofs. Items that are part of the WWPSs but not associated with the process components or necessary to deliver the wastewater also suffered widespread damages include (but are not limited to) fencing, lighting, paint, HVAC system, various non-process equipment (e.g., for landscaping and housekeeping), and buildings not used specifically for the protection of process equipment.
WPS	468 WPS, used to deliver water to WST, WTP, and the drinking water distribution system. WPS is required when there is insufficient pressure to deliver the water by gravity alone. WPS can deliver raw untreated water to a WTP or treated potable water to the distribution system, including WST. These WPS suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for the operation of these WPS used to deliver water. Damaged equipment includes (but is not limited to) pumps, motors, valves, piping, instrumentation, telemetry, process control, and power. Items that are part of the WPS facilities but not directly associated with the process components or necessary to deliver



Asset Category	Description
	the water also suffered widespread damages including, (but not limited to) fencing, lighting, paint, HVAC system, various non-process equipment (e.g., for landscaping and housekeeping), and parts of the building not used specifically for the protection of process equipment.
WST & WPS	808 WST & WPS, used when both the water storage tank and the water pumping station are located together in a single site. These contain pumps and motors, valves, piping (both buried and above ground), instrumentation, telemetry, controls, power, and a protective building or enclosure. The water storage tank also requires a check valve to keeps water from flowing back into the treatment plant and overflow piping to protect the storage tank from being overfilled. These WST & WPS suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for the operation of the WST & WPS that store and deliver treated potable water. Damaged equipment includes (but is not limited to) pumps, motors, valves, check-valves, piping, instrumentation, telemetry, process control, power, tank roofing membrane, roof tank access hatches, roof access ladders, and safety cages. Items that are part of the WST & WPS facilities but not directly associated with the process components or necessary to store and deliver the water also suffered widespread damages including, (but not limited to) fencing, lighting (interior and exterior), paint, HVAC system, various non-process equipment (e.g., for landscaping and housekeeping), and buildings or parts of the building not used for the protection of process equipment.
WST	997 WST is used to store treated potable water to use on-demand. The storage also provides extra capacity in case of a failure of the water treatment plant. The WST is usually elevated above the drinking water distribution



Asset Category	Description
	system to provide sufficient pressure for distribution. The WST also requires a check valve to keep water from flowing back into the source and overflow piping to protect the WST from being overfilled. These WST suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for the operation of these WSTs used to store raw water. Damaged equipment includes (but is not limited to) check-valves, piping, instrumentation, telemetry, process control, power (and backup power), tank roofing membrane, roof tank access hatches, roof access ladders, and safety cages. Items that are part of the WST facilities but not directly associated with the process components or necessary to deliver the water also suffered widespread damages including, (but not limited to) fencing, lighting, paint, HVAC system, various non-process equipment (e.g., for landscaping and housekeeping), and buildings not used specifically for the protection of process equipment.
Ocean Outfalls (OO)	PRASA owns and operates twelve (12) Ocean Outfall Diffuser Systems. The up-stream treatment plants discharge treated effluent through a piping system terminating in a high-rate diffuser (herein system). The systems typically extend from ¼ mile to ¾ miles offshore and terminate with rate diffusers. The piping system is buried and has a rock protection layer. The diffusers vary from a straight line to a branched configuration (Tor V) with risers and ported outlets that are exposed. Ported outlets disperse the effluent at an average depth between 75 to 150 feet below low water sea level. Wave action and underwater currents developed from Hurricane-force winds (María) caused erosion and displacement of the facility (s).



Asset Category	Description
Dams (D)	PRASA operates and maintains eight (8) major Dams throughout Puerto Rico. La Plata in the North Region, Carraízo and Las Curías in the Metro Region, Toa Vaca in the South Region, Cidra, Rio Blanco and Fajardo in the East Region and <i>Lago Regulador de Isabela</i> in the West Region. La Plata and Carraízo are concrete dams with gated controlled spillways. Cidra is a concrete dam with an ungated overflow-type spillway. Toa Vaca is an earth/rock embankment dam with a gated controlled spillway. Las Curías, Rio Blanco and Fajardo are earth/rock embankment dams with ungated overflow-type spillway. For these facilities, the water source is a tributary. In the case of La Plata, Carraízo, Las Curías, Toa Vaca, and Cidra, rivers flow directly into the reservoirs. In the case of Rio Blanco and Fajardo there is an Intake Structure at the rivers that collects and supplies raw water to the reservoirs through a pipe. The primary purpose of all these reservoirs, formed by dams, is storing, and collecting raw water for its supply to Water Treatment Plants (except for Las Curías). Some of the damages on the Island Wide Dams were as follow: damages on Actuators, Antennas, Dam Alarms, Cameras, Controls, Doors, A/C Units, Electrical Components, Fencing, Floodgate Components, Floors, Geotextile for Embankment, Intake Components (Slide Gates), Lighting, Motors, Machine Elements, Pavement, Pumps, Reservoir Air Injection System, Riprap Armoring for Embankment, Roofs, Slope Failure (Erosion/Scouring), Valves, Walls, and Windows.
Reservoirs (R)	PRASA has eight main reservoirs across Puerto Rico and multiple other surface water storage facilities (lakes and basins). The reservoirs are created by impounding (capturing) surface water runoff with concrete or embankment dams. The current purpose of these facilities is to store water for its raw water supply to water treatment plants, providing potable water to the public. Due to the disaster event, heavy sedimentation impacted these four reservoirs: Toa



Asset Category	Description
	Vaca, Cidra, Carraízo, and La Plata. Additionally, one (1) surface water storage facility (lake), <i>Lago Regulador de Isabela</i> has some scour damages due to María Hurricane. As part of PRASA's FAASt Workplan, the target is to remove sediments deposited in the assets and repair the facility lake -<i>Lago Regulador de Isabela</i>.
Buildings (B)	PRASA manages 91 building facilities grouped by the function: Commercial, Operational, Laboratory, Administrative, Warehouse, and Maintenance. The facilities suffered widespread damages caused by wind-driven rain, wind-driven debris, flooding, flood transported debris, the impact from fallen trees, ground erosion, and other hurricane-related impacts. Damages include roof cover breakage, delamination, and in some instances, total loss of roofing systems which allowed continuous water infiltration. Hurricane conditions also caused the forceful removal of windows and doors, which further contributed to water infiltration and caused violent internal wind pressure, resulting in further structural damage. Water infiltration, structural failure, and invasive wind caused secondary damage to interior building components, such as lighting, furnishings, finish materials, equipment, heating, ventilation, air conditioning (HVAC) systems, electrical systems, fire alarm systems, suspended ceiling systems, and floor coverings. Sustained power loss, caused by island-wide electrical utilities' total failure, resulted in a lack of humidity control inside the buildings, which allowed mold to grow in gypsum board walls, ductwork, throughout building insulation, and other components. High winds, wind-driven rain, and windblown debris damaged paint, exterior wall fixtures, antennas, and other exterior elements. The extreme conditions also damaged exterior site components such as lighting poles, fences, gates, and the groundwork.



Asset Category	Description
Raw Water Wells (RWW)	PRASA owns 269 Raw Water Wells, used to extract groundwater by submersible pumps that deliver the raw water to the surface through a pipe casing. The concrete sealing, which surrounds the metal pipe, and a concrete wellhead at the surface protect the well. The extracted raw water may require treatment before being used as drinking (potable) water. The completion of treatment requires either using on-site disinfection or at a WTP. The raw or disinfected water can be delivered to a Water Storage Tank (WST) or delivered directly to a WTP. If the WTP is at a higher elevation, a Water Pumping Station (WPS) will deliver the raw water to the WTP. These Wells suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for these Wells' operations that deliver raw water to the WTP or WST. Damaged process equipment includes (but is not limited to) pumps, instrumentation, chlorinators, telemetry, process control, power (and backup power), piping, valves, buildings, covers, and roofs. Items that are part of the Well facilities but not directly associated with the process components or necessary to deliver the water also suffered widespread damages including, (but not limited to) fencing, lighting, paint, HVAC system, various non-process equipment (e.g., for landscaping and housekeeping), and buildings not used specifically for the protection of process equipment.
Transmission and Distribution Water Lines (T&D-WL)	It consists of an estimated 15,148 miles of potable water lines and water distribution lines in diameters ranging from 1" to 84" and in a wide variety of materials. The water transmission lines are pipes, valves, air relief valves, and meters that deliver the raw, untreated water to the WTP. The Water Distribution Lines are a series of pipes, valves, air relief valves, fire hydrants,



Asset Category	Description
	and water meters that deliver the treated potable water from the WTP to the consumers. These water lines suffered widespread damages caused by erosion, flooding, flood transported debris, wind-driven rain, wind-driven debris, falling and uprooted trees, sediment accumulation, power interruption, and other damages caused by the hurricane.
Water Meters (WM)	872,596 each of the WM are part of the Potable Water Lines Distribution. A water meter or hydrometer is a device that allows for counting the volume of water passing through it. It is often used in water supply conductions of residential and industrial installations to make charges to users. These Water Meters suffered widespread damages to the strainers (filters), metering pistons, and non-return (backflow prevention) valves. The hurricane caused blockage and accumulation of debris and sediment by interruption of service, significant fluctuations in pressure, water hammer, backflow, and other damages. The damaged components and equipment are necessary for these Water Meters to accurately measure the flow of and allow passage of potable water delivered to the consumer.
Trunk Sewer Lines (TSL)	TSL's consist of an estimated 5,994 miles of sewer pipes in diameters ranging from 4'to 90" and in a wide variety of materials. The sewer system collects sewage and wastewater from households, commercial businesses, and industries and delivers the wastewater to a wastewater treatment plant (WWTP) through a series of pipes. Maintenance holes connect this series of pipes. These concrete sewer pipes suffered widespread damages caused by flooding, wind, flood transported debris, wind-driven rain, wind-driven debris, falling trees, sediment accumulation, power interruption, and other damages caused by the hurricane. The damaged components and equipment are necessary for the sewer system's operation that delivers wastewater to the WWTP. Damaged equipment includes (but is not limited to) pipes (gravity



Asset Category	Description
	and pressure), maintenance holes, risers, covers, siphons, pipe supports, and eroded topsoil and roadways.
Telemetry (T)	Telemetry System along with PRASA facilities, WTP, WWTP, WWPS, WPS, WST, WST & WPS, and RWW Islandwide. The telemetry system, usually done by wireless communication, can also be done through other means such as telephone, computer networks, fiber optic link, among others. Ranging from motorsport, aviation, astrology, agriculture, the oil industry, medicine, and even biology, telemetry has various utilities. Telemetry aims to allow the mediation of physical or chemical magnitudes, know the state of processes and systems, and remotely control the operation, correct errors, and send the information collected towards an information system for use and benefit. Telemetry helped identify widespread damages caused by hurricanes along the island.
Projects Pending to determine (PPTD)	PRASA is evaluating other projects covered under the FEMA 428-funding obligation to mitigate risks along with several facilities on the system. PRASA will evaluate other projects covered under the FAASt funding obligation. PRASA will use this classification to integrate projects to be defined and/or cover contingencies of already approved projects.

4.3 Project Prioritization Approach

After identifying projects, PRASA prioritized them in groups based on safety, impact to the community, the relative complexity of the work, and regulatory requirements.

4.4 Near-Term Category Overview

The near-term priority category is composed of projects that have either already begun design (A &E) or are expected to do so in 2021-2023.



PRASA intends to pursue a significant proportion of its projects in the near-term for several reasons:

1. It is PRASA's objective to deliver results as quickly as possible.
2. Some projects already have preliminary engineering and are ready to proceed into the 30% design phase.
3. Some projects are substantial in scope and must be initiated in the near-term years.

In the following section, we provide this information on near-term priority projects; Table 4-2 explains this information.

Table 4-2: Provided Project Information

Section	Plan Information Provided
1. Description of projects	An overview of the projects in the priority category and the approach used to designate them, organized by asset type
2. Summary of projects	Number of projects by asset category and start year, along with total dollars by asset category
3. COR3 and FEMA submission timeline	Estimated timeline for SOW submittal to indicate the number of projects for each year and asset category
4. List of projects	Project name, a brief description, estimated submittal timing, estimated cost, and CIP # for each project included in the plan

4.4.1 Description of Near-Term Priority Projects

Near-term projects mainly consist of the rehabilitation of damages to PRASA assets incurred during the 2017 hurricanes. It includes all projects in the application submitted under the FEMA 428 program. PRASA's target is to rehabilitate and improve all these assets following industry standards without regard to pre-disaster conditions and restore components not



damaged by the disaster when necessary to restore the facility function. The projects included in the near-term priority are as follow:

WTP & WWTP

Near-term WTP & WWTP projects mainly consist of the rehabilitation of damages incurred during the 2017 hurricanes at numerous facilities. Due to these facilities' size and complexity, each facility will constitute one (1) project for this plan.

PRASA's WTP consist of 113 assets located Islandwide, including the RWI (after Hurricane Maria, one (1) WTP was closed). PRASA reported that each of the 114 WTP suffered some form of disaster damage, classified as follows: minor (6% of all 114 WTP), moderate (59%), or severe (35%). As part of this plan, PRASA includes **seventy-three (73)** WTP to be rehabilitated. As part of the near-term period, PRASA started A&E for 53 WTP projects.

PRASA WWTP consists of 51 assets along the island. PRASA reported that each one of the facilities suffered some disaster damage: minor (23%), moderate (53%), or severe (24%). As part of this plan, PRASA includes **26 WWTP** to be rehabilitated. As part of the near-term period, PRASA started A&E for 15 WWTP projects.

WWPS, WPS, WST&WPS, WST and RWW

PRASA's WWPS consists of 799 facilities throughout the island. Part of this plan is considering that at least 40% of the facilities suffered moderate or severe damages, which results in at least 320 WWPS needing rehabilitation and improvement. As part of this workplan revision, PRASA has identified **nine (9) projects** in this category. As part of the near-term period, PRASA started A&E for 7 WWPS projects.

PRASA's WPS consists of 468 facilities. Part of this plan considers that at least 20% of the facilities suffered moderate or severe damages, which will result in at least 94 WPS needing rehabilitation and improvement. As part of this workplan revision, PRASA has identified **eight (8) projects** in this category. As part of the near-term period, PRASA started A&E for 8 WPS projects.



PRASA's WST consists of 997 storage tanks located Islandwide. Part of this plan considers that at least 30% of the facilities suffered moderate or severe damages that will result in at least 300 WST needing rehabilitation or improvement. As part of this workplan revision, PRASA has identified **six (6) projects** in this category. As part of the near-term period, PRASA started A&E for 5 WST projects.

PRASA's WST & WPS consists of 808 assets located throughout the island. Part of this plan considers that at least 20% of the facilities suffered moderate or severe damages, which will result in at least 162 WST & WPS needing rehabilitation or improvement. In this revision, PRASA has identified **two (2) projects** in this category. As part of this revision, PRASA started two (2) projects under this category as part of the near-term period.

PRASA's RWV consists of 269 Wells located throughout PRASA's five regionals. As part of this workplan revision, PRASA has identified **five (5) projects** in this category. As part of this revision, PRASA started five (5) projects under this category as part of the near-term period.

Ocean Outfalls (OO)

PRASA's Ocean Outfalls consists of 12 assets, and part of this plan PRASA's target is to rehabilitate and improve all these assets following industry standards without regard to pre-disaster conditions and to restore components not damaged by the disaster, when necessary to restore the facility function. Currently, PRASA has **identified three (3)** projects in this category. One (1) of the projects in this category is named Rehabilitation to PRASA OO Islandwide LS Project (FAAST), which may be divided in the future into several projects. Due to the size and complexity of these facilities, each facility may constitute one project. PRASA started A&E for one (1) project in this category as part of the near-term period.

Dams(D)

PRASA operates and maintains eight (8) major Dams throughout Puerto Rico. Part of this plan is to rehabilitate and improve all these assets following industry standards without



regard to pre-disaster condition, to restore components not damaged by the disaster, and when necessary to restore the facility function. Preliminary, PRASA has identified **one (1) project** under this asset, and the A&E of this project started as part of the near-term period.

Reservoirs (R)

PRASA has eight (8) main reservoirs throughout Puerto Rico. As part of this plan, PRASA's target is to remove sediments deposited in the assets to extend the useful life of the facilities following industry standards without regard to pre-disaster conditions. Currently, PRASA has **seven (7) projects** under this asset. As part of the near-term period, PRASA started four (4) projects, including Carraízo Reservoir Dredging and Bauta Tunnel (Proposed with CDBG-DR Funds).

Buildings (B)

PRASA manages a total of 91 building facilities throughout five (5) regional sectors on the island. Building facilities are grouped by the function of the building: Commercial, Operational, Laboratory, Administrative, Warehouse, and Maintenance. PRASA has claimed 41 building facilities, while 56 sites are not included in the asset group of the damage inventory. PRASA leases eight (8) of the 41 claimed building facilities, and of such leased facilities, PRASA will only claim building contents. Preliminary, PRASA has identified **seven (7) projects** under this asset. PRASA started five (5) projects under this category as part of the near-term period.

Distribution and Transmission Water Lines (D&T-WL)

PRASA has Distribution and Transmission water lines along all the island. PRASA intends to rehabilitate and improve these assets damaged by the hurricanes following industry standards. Also, to rehabilitate or improve components not damaged, when necessary, to restore the facility function. Currently, PRASA has identified **fifty-nine (59) projects** under this asset, however those 59 projects were consolidated in 28 projects and from those 28 projects, 27 started A&E under the near-term period.



Water Meters (WM)

PRASA has Distribution and Transmission water lines along all the island, and as part of this system are included the WM. PRASA's target is rehabilitation and improvement of all these assets following industry standards without regard to pre-disaster conditions, to restore components not damaged by the disaster, and when necessary to restore the facility function. Preliminary, PRASA has identified under this category two (2) projects, one for a pilot project and the other for the replacement of the PRASA WM Islandwide . PRASA is planning to start the pilot project during the near-term period, and the remaining one during the mid-term period.

Trunk Sewer Lines (TSL)

PRASA has sewer lines along all the island. PRASA intends to rehabilitate and improve these assets damaged by the hurricanes following industry standards. Also, to rehabilitate or improve components not damaged, and when necessary, to restore the facility function. Currently, PRASA has identified **fourteen (14) projects** under this category. As part of the near-term period, PRASA plans to started the 14 projects under this category.

Telemetry (T)

Telemetry System is along with PRASA facilities, WTP, WWTP, WWPS, WPS, WST, WST & WPS, and RWW Islandwide. PRASA intends to rehabilitate and improve these assets. Preliminary, PRASA has identified one (1) lump sum project under this asset, however since PRASA is including telemetry features in almost of all the facilities (WTP, WWTP, WST, ect.) to be rehabilitated, the project under this name was eliminated.

Projects Pending to be Defined (PPTD)

PRASA is evaluating other projects covered under the FEMA 428-funding obligation to mitigate risks along with several facilities on the system. PRASA will evaluate other projects



covered under the FAASSt funding obligation. PRASA will use this classification to integrate projects to be defined and/or cover contingencies of already approved projects.

4.4.2 Summary of Near-Term Priority Projects

The following table (Table 4-3) summarizes the near-term projects that PRASA initiated (A & E Phase) and the estimated cost by asset category:

Table 4-3: Summary of Near-Term Priority Projects (Natural Years and Cumulative Total)

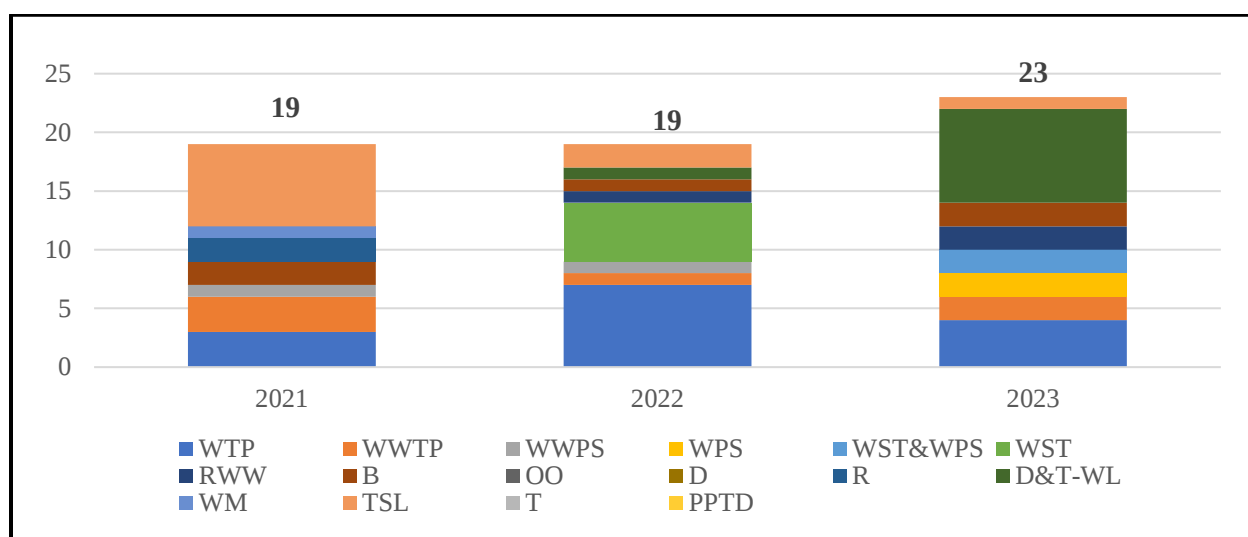
Asset Category	A & E Start 2021	A & E Start 2022	A & E Start 2023	Total Projects	Total Cost Estimates (Million)
WTP	12	29	12	53	\$1,760.75
WWTP	6	6	3	15	\$708.17
WWPS	1	2	4	7	\$55.21
WPS	0	3	4	7	\$37.77
WST & WPS	0	2	0	2	\$12.56
WST	3	2	0	5	\$21.78
RWW	0	5	0	5	\$23.70
B	3	0	2	5	\$82.75
OO	0	0	1	1	\$100.00
D	1	0	0	1	\$7.19
R	2	1	1	4	\$135.70
D&T-WL	1	9	17	27	\$211.43
WM	1	0	0	1	\$4.12
TSL	7	6	1	14	\$339.32
T	0	0	0	0	\$0.00
PPTD	0	0	0	0	\$0.00
Total	37	65	45	147	\$3,500.45



4.4.3 COR3 and FEMA Submissions Timeline

The following chart figure shows the timeline for the individual projects submitted to COR3 and FEMA for review and approval during the near-term period. The quantity does not include the SOW revisions, and/or adjustment according to Bid Process and/or Change Orders.

**Figure 4-1: COR3 and FEMA Near-Term SOW Project Submissions by Quarter
(Natural Years)**



4.4.4 List of Near-Term Priority Projects

Table A-1 of Appendix A includes the complete list of projects in the near-term priority category. In addition, the Appendix identifies projects by asset category, brief description, estimated timing for submission to COR3 and FEMA for review and approval, a class 5 cost estimate, and PRASA's Construction Improvement Program number.

It is important to note that the cost estimate provided does not include potential hazard mitigation funding that may be available through FEMA's 406 Hazard Mitigation Program.



PRASA intends to submit applications for 406 funding with its 428 projects, where applicable. These additional funds will be critical to reinforcing the new infrastructure to protect against damage from future disaster events.

All projects in the tables below are funded through FEMA's 428 programs unless otherwise noted. Also, HUD's CDBG-DR funds will support some of the infrastructure projects contained in this plan, but the allocation of the HUD funds are yet to be tied to specific projects, which will occur in a future update of this plan.

4.5 Mid-Term Category Overview

The mid-term priority category is composed of projects that have either already begun design (A & E) or are expected to do so in 2024-2027.

In the sections that follow, we provide this information on near-term priority projects. Table 4-4 enumerates this information.

Table 4-4: Project Information to be provided

Section	Plan Information Provided
1. Description of projects	An overview of the projects in the priority category and the approach used to designate them, organized by asset type
2. Summary of projects	Number of projects by asset category and start year, along with total dollars by asset category
3. COR3 and FEMA submission timeline	Estimated timeline for SOW submittal to indicate the number of projects for each year and asset category
4. List of projects	Project name, a brief description, estimated submittal timing, estimated cost, and CIP # for each project included in the plan



4.5.1 Description of Mid-Term Category Overview

Mid-term projects mainly consist of the rehabilitation of damages to PRASA assets incurred during the 2017 hurricanes. The application submitted under the FEMA 428 program, includes all projects. PRASA's target is to rehabilitate and improve all these assets following industry standards without regard to pre-disaster conditions, to restore components not damaged by the disaster, and when necessary to restore the facility function. The projects included in the mid-term priority are as described in Table 4-5 below.

4.5.2 Summary of Mid-Term Priority Projects

The following table (Table 4-5) summarizes the mid-term project volume and the cost estimate by asset category:

Table 4-5: Summary of Mid-Term Priority Projects (Natural Years and Cumulative Total)

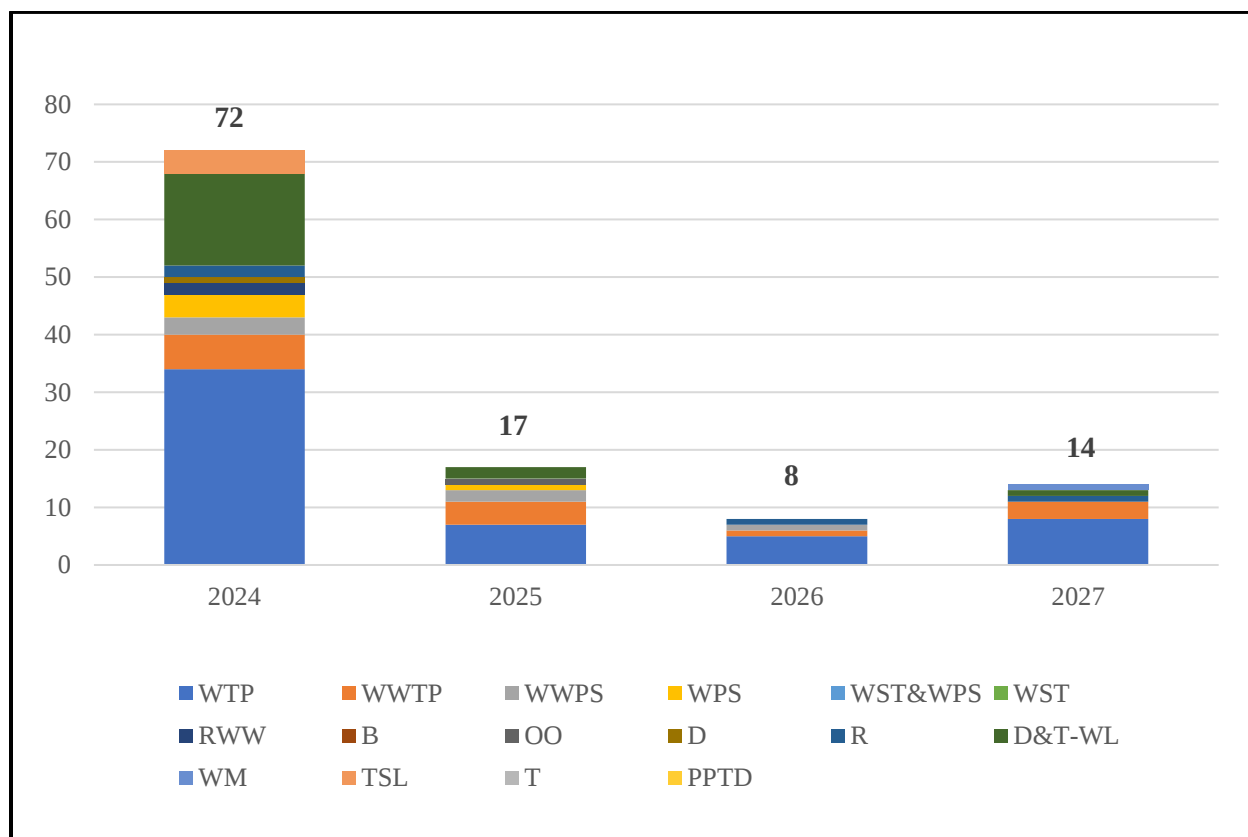
Asset Category	A & E Start 2024	A & E Start 2025	A & E Start 2026	A & E Start 2027	Total Projects	Total Cost Estimates (Million)
WTP	3	4	5	8	20	\$155.63
WWTP	3	0	2	3	8	\$117.63
WWPS	0	1	0	0	1	\$0.00
WPS	0	0	0	0	0	\$0.00
WST & WPS	0	0	0	0	0	\$0.00
WST	0	0	0	0	0	\$0.00
RWW	0	0	0	0	0	\$0.00
B	0	0	0	0	0	\$0.00
OO	0	0	0	0	0	\$0.00
D	0	0	0	0	0	\$0.00
R	2	0	0	0	2	\$0.00
D&T-WL	0	0	0	1	1	\$0.84
WM	0	0	0	1	1	\$208.29
TSL	0	0	0	0	0	\$0.00
T	0	0	0	0	0	\$0.00
PPTD	0	0	0	0	0	\$0.00
Total	8	5	7	13	33	\$482.39



4.5.3 Mid-Term COR3 and FEMA Submission Timeline

The following bar chart (Figure 4-2) shows the estimated timeline for submittal of individual projects to COR3 and FEMA for review and approval:

Figure 4-2:-COR3 and FEMA Mid-Term SOW Submissions by Quarter (Natural Years)



4.5.4 List of Mid-Term Priority Projects

Table A-2 of Appendix A of this document includes the complete list of projects in the mid-term priority category. In addition, the Appendix identifies projects by asset category, brief description, estimated timing for submission to COR3 and FEMA for review and



approval, a class 5 cost estimate, and PRASA's Construction Improvement Program number.

It is important to note that the cost estimate provided does not include potential hazard mitigation funding that may be available through FEMA's 406 Hazard Mitigation Program. PRASA intends to submit applications for 406 funding with each of its 428 projects, where applicable. These additional funds will be critical to reinforcing the new infrastructure to protect against damage from future disaster events.

All projects in the tables below are funded through FEMA's 428 programs unless otherwise noted. Also, HUD's CDBG-DR funds will support some of the infrastructure projects in this plan. However, the allocation of the HUD funds has not yet been tied to specific projects, resulting in a future update of this plan.



4.6 Long- Term Category Overview

The long-term priority category comprises projects that have already begun design (A & E) or will begin in 2028-2030+.

In the sections that follow, we provide this information on near-term priority projects. Table 4-6 enumerates the information presented.

Table 4-6: Provided Project Information

Section	Plan Information Provided
1. Description of projects	An overview of the projects in the priority category and the approach used to designate them, organized by asset type.
2. Summary of projects	Number of projects by asset category and start year, along with total dollars by asset category.
3. COR3 and FEMA submission timeline	Estimated timeline for submittal to indicate the number of projects for each year and asset category.
4. List of projects	Project name, a brief description, estimated submittal timing, estimated cost, and IRP reference section for each project included in the plan.

4.6.1 Description of Long-Term Category Overview

Long-term projects mainly consist of the rehabilitation of damages to PRASA assets incurred during the 2017 hurricanes. All projects are in the application submitted under the FEMA 428 program. PRASA's target is to rehabilitate and improve all these assets following industry standards without regard to pre-disaster conditions and restore components not damaged by the disaster when necessary to restore the facility function. The projects included in the long-term priority are as described in Table 4-7 below.



4.6.2 Summary of Long-Term Priority Projects

The following table (Table 4-7) summarizes the volume of the long-term projects planned to be initiated (A & E Phase) and the estimated cost per asset category:

Table 4-7: Summary of Long-Term Priority Projects (Natural Years and Cumulative Total)

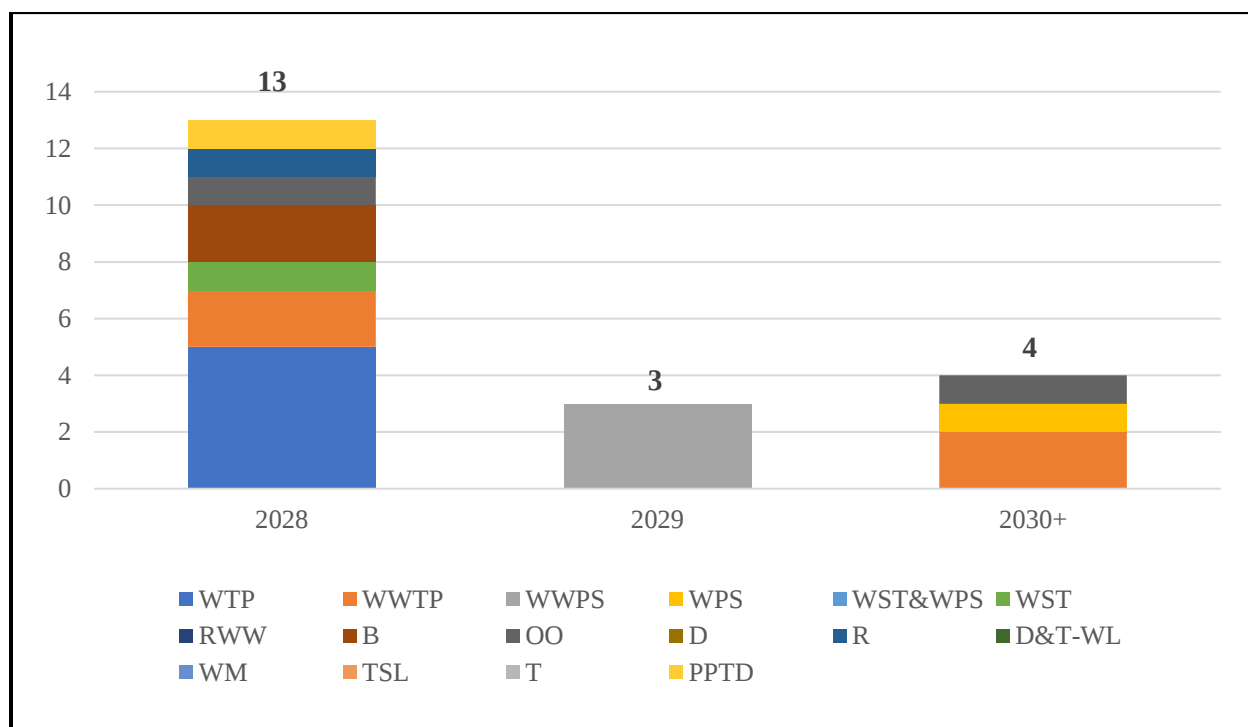
Asset Category	A & E Start 2028	A & E Start 2029	A & E Start 2030+	Total Projects	Total Cost Estimates (Million)
WTP	0	0	0	0	\$0.00
WWTP	1	1	1	3	\$9.39
WWPS	1	0	0	1	\$2.79
WPS	0	0	1	1	\$0.00
WST & WPS	0	0	0	0	\$0.00
WST	1	0	0	1	\$5.00
RWW		0	0	0	\$0.00
B	2	0	0	2	\$22.21
OO	1	0	1	2	\$107.01
D	0	0	0	0	\$0.00
R	1	0	0	1	\$5.00
D&T-WL	0	0	0	0	\$0.00
WM	0	0	0	0	\$0.00
TSL	0	0	0	0	\$0.00
T	0	0	0	0	\$0.00
PPTD	1	0	0	1	\$35.05
Total	8	1	3	12	\$186.45



4.6.3 Long- Term COR3 and FEMA Submission Timeline

The following bar chart (Figure 4-3) shows the estimated timeline for submittal of individual projects to COR3 and FEMA for review and approval:

Figure 4-3: COR3 and FEMA Long-Term SOW Submissions by Quarter (Natural Years)



4.6.4 List of Long-Term Priority Projects

Table A-3 of Appendix A of this document included the complete list of projects in the long-term priority category. PRASA identifies projects by asset category, brief description, estimated timing for submission to COR3 and FEMA for review and approval, a class 5 cost estimate, and PRASA's Construction Improvement Program number.



It is important to note that the cost estimate provided does not include potential hazard mitigation funding that may be available through FEMA's 406 Hazard Mitigation Program. PRASA intends to submit applications for 406 funding with each of its 428 projects, where applicable. These additional funds will be critical to reinforcing the new infrastructure to protect against damage from future disaster events.

All projects in the tables below are funded through FEMA's 428 programs unless otherwise noted. Also, HUD's CDBG-DR funds will support some of the infrastructure projects in this plan. However, the allocation of the HUD funds has not tied to specific projects, resulting in a future update of this plan.



Chapter 5 PRASA's Plan Schedule

5.1 Timing Assumptions

The estimation of project time regarding the identification and prioritization of projects relies on the best information available to PRASA at the time of plan development, primarily that project formulation, based on the FEMA Five Phase National Workflow, will occur expeditiously.

Recognizing that PRASA does not yet have all the necessary details to develop detailed plans for its infrastructure projects and have precision on timing, COR3 and FEMA have identified this plan as a “living document,” one that requires an update and resubmission every 90 days after initial submittal.

The estimated timing of projects in PRASA's FAASSt Workplan will be impacted by many different factors including, but not limited to, regulatory requirements and stakeholder input, improved clarity on project requirements and approach, project review and permitting processes, the availability of both labor and material resources to execute on project design and construction tasks, and potential future disaster events impacting the island. It is expected that PRASA's FAASSt Workplan, including estimated project timing, will require revision as part of these regular plan updates.

It is expected that increased clarity on project requirements and approach provided from current and future engineering studies and the completion of 30% design work will result in updates to project approach and milestone timing estimates. Also, collecting as built/record drawings, asset management planning, and document control requirements will impact the design work and the project approach.

Another set of milestone timing assumptions and potential drivers of milestone timing changes are around approval and permitting processes. These include uncertainty about the amount of time required from project submission to completion of review and receipt of approval from



COR3 and FEMA. Specifically, the timing for environmental and remediation permits for each project will depend on the type of project, location, and potential impacts on environmental/social receptors, including air, water, wetlands, natural resources, and cultural and historical resources.

Lastly, milestone timing estimates assume the required labor and materials needed to support the infrastructure plan will be available; however, shortages of either, even temporarily, may cause delays and necessitate adjustments to project milestone timing estimates.

5.2 Estimated Project Timing Assumptions

Each project has four major standardized milestones regarding timing:

- Begin 30% Architecture and Engineering Design (A & E)
- Submit Project to COR3 and FEMA for Review
- Begin Construction/Implementation
- Begin COR3 and FEMA Project Closeout

Appendix B shows the schedule, year by year, the work plan for major milestone initiation for the projects in the near-term, mid, and long-term periods.



Chapter 6 PRASA's Management Approach

The work needed to complete projects from their planning phase to completion requires both PRASA's internal personnel and external resources. To support PRASA in managing this plan and achieve a cost-effective way to carry out this plan, PRASA has onboard a Project Management Consortium (C). The Consortiums responsibility will be the efficient and timely execution of the CIP. All the projects included in this plan were added to PRASA's CIP.

PRASA, in coordination with the Consortiums, must establish metrics by project and monitor compliance and execution through a CIP tracking tool. Typically, the construction phase includes the highest potential for deviations in cost and time. To maintain control of these, PRASA keeps monthly track of two industry standard KPIs:

- Cost Performance Index (CPI): Measures the cost efficiency of resources committed to the project, evaluating whether the project will be completed on budget.
- Schedule Performance Index (SPI): Measures the relationship between the executed work versus the planned work, assessing whether the project will be completed on time.

The established metrics will allow for high-level monitoring of the project's execution.

PRASA Infrastructure Office, with the assistance of the Consortiums, will manage the FEMA funded projects under a governance structure that includes:

- Strong governance and oversight, by senior executives, of all projects
- Project justification is rigorous, documented, data-driven, standardized, and includes assessing costs, benefits, and alternative courses of action.
- Project authorization is grounded in a well-defined process with clear roles and responsibilities.
- Centralized approvals and oversight so that projects work together as a cohesive group of projects.



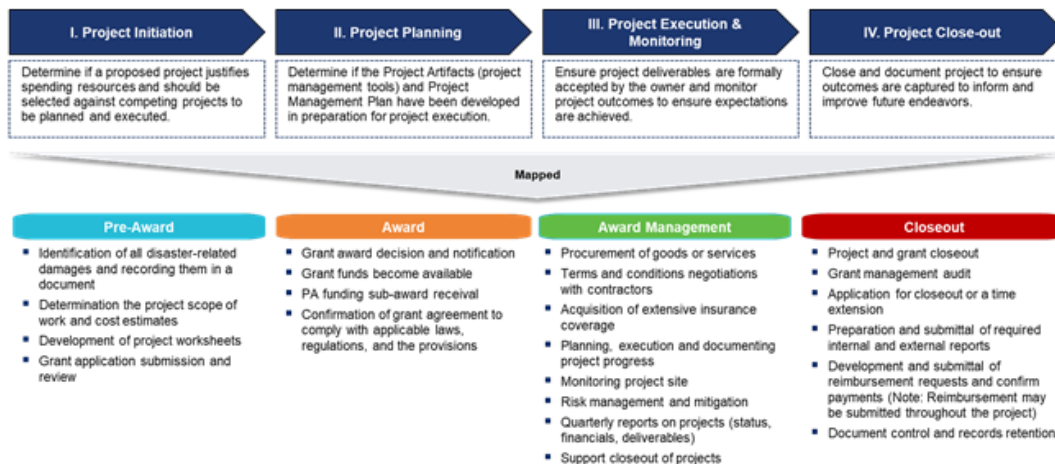
As defined by COR3, the federal grant lifecycle process (See Figure 6-1) is an end-to-end framework outlining the progression of phases and key requirements that PRASA must complete, obtain, manage, and close of Public Assistance funding sub-awards and projects.

Figure 6-1: COR3's Federal Grant Lifecycle



PRASA ensures a rigorous project management process that governs all projects with clear accountabilities, consistent standards based on leading practices for managing and governing all PRASA projects. The management process has four phases for a project (See Figure 6-2), each of which has defined deliverables and documentation required to enter the next phase. To ensure compliance with local and federal guidelines and regulations, PRASA has incorporated the key requirements and associated controls to manage FEMA funds within the project management process.

Figure 6-2: PRASA's Management Process to Federal Grant Lifecycle



PRASA has a Management Information System with functional architecture that provides various project management features to enable management to maintain visibility around projects in each stage of the project lifecycle from project initiation to project closeout.

PRASA has incorporated the following controls to ensure FEMA fund management guidelines are met:

- A set of quality management controls based on PRASA's quality management system.
- Plus, effective project management controls and execution procedures, including risk management, based on leading practices.
- The FEMA grant and fund management control process to ensure compliance.
- The preparation of dashboards, project reports, and monthly operating sequences.



Chapter 7 Appendix A

7.1 Appendix A: Table A.1- List of PRASA Projects FAASt Near-Term

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WST	CIP.1009001	Rehabilitation of Tanks Phase 1- Metro Region	2021-Q4	2022-Q1	2022-Q3	2025-Q1	\$4,659,406.44
R	CIP.1009002	Carraizo Reservoir Sediment Control (Proposed 406)	2022-Q3	2024-Q2	2025-Q3	2026-Q1	\$23,958,325.20
WPS	CIP.1009103	Rehabilitation of Water Pump Stations Tanks Phase 1- Metro Region	2023-Q1	2025-Q1	2026-Q1	2027-Q3	\$3,386,389.75
RWW	CIP.1009106	Rehabilitation of Raw Water Well Phase 1- Metro Region	2022-Q1	2024-Q1	2024-Q4	2026-Q2	\$1,997,452.88
WTP	CIP.1016095	Rehabilitation of Guaynabo WTP	2021-Q4	2024-Q4	2025-Q3	2028-Q1	\$105,517,618.08
R	CIP.1019000	Carraizo Reservoir Dredging	2021-Q1	2021-Q2	2023-Q1	2026-Q1	\$109,887,889.43
D&T-WL	CIP.1019001	Rehabilitation of D&T-WL Bo. Sonadora, Renacer Sector and Mansiones, Municipality of Guaynabo	2023-Q2	2023-Q4	2024-Q2	2025-Q2	\$2,089,835.00



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
D&T-WL	Several Metro Region	Replacement of Water Pipelines at Metro Region Phase 1 (CIP.1019002-Camino Los Bigios, San Juan; CIP-1019003-Ponce De Leon Avenue, Municipality of Guaynabo;CIP-1115069- La Pra Sector and Los Fonsecas, Bayamón; CIP-1115070- Doña Concha Community, Bayamón: CIP-1115071-Los Fonseca Sector, Bayamon;CIP-1159001-Urb. Loiza Valley, Canóvanas; CIP-1169002-Urb. Villa Fontana, Carolina; CIP-1665120-Urb. Country Club, San Juan; CIP-1669001-Hollywood Hills, San Juan)	2023-Q2	2024-Q1	2024-Q3	2025-Q3	\$12,541,588.60
D&T-WL	CIP.1019004	Replacement of WL Pipe, El Gato Sector at PR-834, Municipality of Guaynabo	2023-Q2	2024-Q1	2024-Q4	2025-Q2	\$935,668.06
WTP	CIP.1076003	Super Aqueduct Microgrid (Proposed 406)	2023-Q3	2024-Q1	2025-Q4	2026-Q2	\$97,468,259.36
WTP	CIP.1116008	Rehabilitation of Guaynabo Santa Rosa WI (FAAST-25)	2022-Q2	2024-Q1	2024-Q4	2026-Q2	\$61,137,857.12
WTP	CIP.1156004	Rehabilitation of Cubuy WTP and RWI, Municipality of Canóvanas	2023-Q1	2025-Q1	2025-Q3	2027-Q4	\$10,258,886.18
WPS	CIP.1159000	Design and Build of Rehabilitation of Water Pump Station at La Central, Municipality of Canóvanas	2023-Q2	2024-Q2	2024-Q4	2025-Q2	\$1,545,330.10
WWTP	CIP.1165044	Rehabilitation of Carolina WWTP FEMA (FAAST-25)	2021-Q3	2022-Q3	2024-Q4	2027-Q1	\$82,051,836.15



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
TSL	CIP.1169001	Rehabilitation of Los Angeles and Loiza Pueblo Trunk Sewers (FAAST)	2021-Q3	2021-Q3	2022-Q2	2024-Q2	\$9,426,590.16
B	CIP.1660002	Rehabilitation of PRASA Main Building (Sede) Inspection Only	2021-Q4	2021-Q4	2022-Q2	2023-Q3	\$476,637.53
WWPS	CIP.1665900	Rehabilitation of Martín Peña WWPS (Tokio), Municipality of San Juan	2023-Q2	2025-Q1	2025-Q3	2026-Q3	\$7,237,024.91
D&T-WL	CIP.1669001	Improvements to Water Distribution System, Hollywood Hills, Municipality of San Juan	2023-Q3	2024-Q4	2025-Q3	2026-Q3	\$2,382,924.93
WTP	CIP.1709000	Enrique Ortega WTP- Raw Water Intake Power Generator (FEMA-404)	2021-Q2	2022-Q4	2024-Q4	2025-Q4	32,862,083.55
WTP	CIP.1726043	Rehabilitation of Sergio Cuevas WTP	2022-Q2	2024-Q2	2025-Q1	2027-Q2	\$126,657,324.88
WST	CIP.2009001	Rehabilitation of Tanks Phase 1- North Region	2022-Q1	2022-Q4	2023-Q1	2025-Q3	\$5,410,858.46
WPS	CIP.2009103	Rehabilitation of Water Pump Stations Tanks Phase 1- North Region	2022-Q2	2023-Q3	2024-Q3	2026-Q3	\$6,864,055.00
WWPS	CIP.2009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- North Region	2022-Q2	2024-Q2	2024-Q4	2026-Q4	\$7,053,577.11
RWW	CIP.2009106	Rehabilitation of Raw Water Well Phase 1- North Region	2022-Q3	2023-Q2	2023-Q4	2026-Q1	\$9,151,115.02
WTP	CIP.2017005	Rehabilitation of Culebrinas WTP	2021-Q1	2021-Q1	2023-Q1	2026-Q4	\$82,548,566.23
WWPS	CIP.2039000	Rehabilitation of Guerrero 2 WWPS, Municipality of Aguadilla	2022-Q1	2022-Q1	2023-Q2	2024-Q4	\$5,538,308.25
D&T-WL	CIP.2071000	Improvements to Arecibo Water Distribution System (Proposed 406)	2023-Q1	2025-Q2	2025-Q4	2025-Q3	\$111,496,712.73



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
D&T-WL	CIP.2071001	Improvements to La Pica, El Peje, and Sabana Hoyos Water Distribution System, Municipality of Vega Alta	2023-Q2	2024-Q1	2024-Q3	2024-Q4	\$2,625,745.00
WTP	CIP.2076042	Rehabilitation of Esperanza Arecibo WTP and RWI	2021-Q3	2022-Q1	2026-Q3	2028-Q1	\$20,658,554.18
WST & WPS	CIP.2079004	Improvements to Cerro Marquez WPS & 2.0 MG Tank, Municipality of Arecibo	2022-Q4	2023-Q2	2024-Q1	2025-Q2	\$4,209,953.46
TSL	CIP.2095052	Rehabilitation of 42 IN Trunk Sewer Line from PR-684 to the South part of Barceloneta WWTP	2021-Q3	2022-Q1	2023-Q1	2025-Q2	\$31,544,496.29
WTP	CIP.2096007	Rehabilitation of Enrique Ortega WTP	2021-Q1	2021-Q1	2024-Q1	2028-Q2	\$159,217,249.91
TSL	CIP.2149001	Rehabilitation of Camuy Trunk Sewer Lines (FAAST)	2022-Q1	2021-Q3	2023-Q4	2027-Q3	\$76,066,890.65
WTP	CIP.2206107	Rehabilitation of Ciales Fronton WTP and RWI	2021-Q4	2022-Q2	2024-Q2	2026-Q2	\$27,602,622.20
WTP	CIP.2246106	Rehabilitation of Corozal Negros RWI	2022-Q3	2024-Q1	2024-Q2	2026-Q1	\$7,952,864.08
WTP	CIP.2246116	Rehabilitation of Corozal Negros WTP	2023-Q1	2024-Q4	2025-Q2	2027-Q4	\$32,017,302.00
D&T-WL	CIP.2265016	D&B Installation of 12 in Water Pipeline PR-691, Dorado, PR (FAAST)	2023-Q4	2024-Q1	2024-Q2	2027-Q1	\$6,097,833.33
WPS	CIP.2265017	Rehabilitation of Water Pump Station San Juan Cement, Dorado PR (FAAST)	2023-Q4	2024-Q1	2024-Q2	2027-Q1	\$3,935,233.33
WWTP	CIP.2265030	Rehabilitation of Dorado WWTP, Dorado, PR (FAAST)	2023-Q4	2024-Q2	2024-Q4	2026-Q1	\$4,131,833.33



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
D&T-WL	Several North Region	Replacement of Water Pipelines at North Region Phase 1(CIP-226900-Dorado/Vega Alta (Dorado Twist);CIP-2389000-Cuesta del Cementerio Sector, Jayuya; CIP-2389001- Tetuan III , Jayuya; CIP-2419001-Rio Lajas Dorado Water Distribution System; CIP-2526009-Los Pedrozas Sector, Morovis)	2023-Q2	2024-Q1	2024-Q4	2025-Q2	\$7,396,179.15
D&T-WL	CIP.2269001	Replacement of 4 IN Pipeline in Villa 2000 Community in Dorado	2022-Q4	2023-Q2	2023-Q4	2024-Q4	\$1,978,519.35
WPS	CIP.2329004	Design and Build of Rehabilitation of Water Pump Station at Ciales Pozas	2022-Q3	2023-Q1	2023-Q3	2025-Q2	\$5,259,920.00
WTP	CIP.2346015	Rehabilitation of Hatillo-Camuy WTP	2022-Q1	2022-Q2	2024-Q3	2026-Q3	\$52,251,017.30
D&T-WL	CIP.2346016	Replacement of 4" and 6" WL, Bayaney Ward, Municipality of Hatillo	2023-Q2	2024-Q1	2024-Q4	2025-Q1	\$1,460,964.03
D&T-WL	CIP.2349003	Design and Build 16" WL, PR-119, Hatillo-Camuy	2022-Q4	2023-Q3	2024-Q1	2025-Q2	\$6,539,801.29
TSL	CIP.2375002	Trunk Sewer Lines (TSL) Isabela - Aguada (FAAST)	2021-Q4	2022-Q3	2023-Q2	2027-Q3	\$42,405,621.28
TSL	CIP.2375003	Rehabilitation of Isabela TSL (Including Aguadilla WWPS Avenue and Fomento)	2022-Q1	2024-Q1	2024-Q3	2026-Q1	\$17,680,911.80
WTP	CIP.2386047	Rehabilitation of Jayuya Urbano WTP and RWI	2022-Q4	2024-Q2	2025-Q1	2027-Q2	\$35,926,814.82
WTP	CIP.2386049	Elimination of Jayuya Canalizo WTP and RWI	2022-Q4	2024-Q4	2025-Q2	2031-Q1	\$29,529,400.47
WTP	CIP.2386057	Rehabilitation of Jayuya WTP and RWI	2022-Q4	2024-Q2	2025-Q1	2027-Q2	\$9,108,662.81



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WTP	CIP.2426099	Rehabilitation of Lares Indiera Alta WTP and RWI	2022-Q3	2024-Q3	2024-Q3	2026-Q2	\$14,773,270.74
WTP	CIP.2426100	Rehabilitation of Lares Nueva Espino WTP and RWI	2021-Q3	2022-Q1	2024-Q1	2025-Q2	\$28,817,395.01
D&T-WL	CIP.2475022	Installation of Water Line at Río Utuado Bridge, Municipality of Utuado	2021-Q4	2022-Q1	2022-Q4	2024-Q1	\$873,871.81
WTP	CIP.2479001	Rehabilitation of Morovis Sur RWI	2021-Q1	2021-Q1	2021-Q4	2023-Q3	\$3,693,016.64
WTP	CIP.2526006	Rehabilitation of Morovis Sur WTP	2021-Q4	2022-Q3	2024-Q1	2025-Q4	\$44,153,672.02
WTP	CIP.2526007	Rehabilitation of Morovis Urbano WTP	2022-Q4	2023-Q4	2024-Q2	2026-Q2	\$10,579,228.37
D&T-WL	CIP.2526008	Improvements to the Water Distribution System in Morovis (FAAST)	2022-Q3	2024-Q1	2024-Q4	2026-Q4	\$33,711,387.69
D&T-WL	CIP.2549000	Rehabilitation of Transmission and Distribution System at Naranjito (FAAST)	2022-Q3	2024-Q2	2025-Q1	2026-Q3	\$42,346,139.15
WTP	CIP.2596004	Rehabilitation of Quebradillas WTP and RWI	2022-Q2	2024-Q2	2025-Q1	2026-Q3	\$44,571,394.50
D&T-WL	CIP.2709001	Design and Construction of 6" WL, El Tocon Sector, Quebrada Cruz Ward, Municipality of Toa Alta	2022-Q4	2023-Q1	2023-Q3	2024-Q3	\$1,819,337.13
D&T-WL	CIP.2709002	Design and Construction of 4" WL, Villa Esperanza Community, Municipality of Toa Alta	2022-Q4	2024-Q1	2024-Q3	2025-Q3	\$3,699,818.18
TSL	CIP.2709010	Improvements to the Teefrans TSL, Municipality of Arecibo	2022-Q1	2023-Q3	2024-Q2	2027-Q1	\$8,869,107.55
WTP	CIP.2736005	Rehabilitation of Utuado Mameyes Limon (Arriba) WTP and RWI	2022-Q3	2024-Q4	2025-Q2	2027-Q1	\$10,466,802.00



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WTP	CIP.2736006	Rehabilitation of Utuado Mameyes WTP and RWI	2022-Q3	2025-Q2	2026-Q1	2027-Q3	\$9,429,992.00
WTP	CIP.2739001	Rehabilitation of Lago Viví RWI	2021-Q3	2023-Q2	2024-Q3	2026-Q1	\$5,593,920.19
TSL	CIP.2755055	Rehabilitation of Vega Baja Trunk Sewer Lines (TSL)	2021-Q3	2021-Q4	2023-Q2	2025-Q2	\$9,589,050.49
WTP	CIP.2916002	Rehabilitation of Arecibo Superacueductos WTP	2022-Q2	2024-Q2	2024-Q4	2027-Q3	\$125,388,945.36
WST	CIP.3009001	Rehabilitation of Tanks Phase 1-East Region	2021-Q4	2022-Q1	2023-Q2	2024-Q3	\$3,895,475.88
WPS	CIP.3009103	Rehabilitation of Water Pump Stations Tanks Phase 1- East Region	2022-Q3	2024-Q1	2024-Q1	2026-Q1	\$9,477,605.39
WWPS	CIP.3009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- East Region	2023-Q2	2024-Q3	2025-Q2	2027-Q2	\$8,064,675.00
RWW	CIP.3009106	Rehabilitation of Raw Water Wells Phase 1- Este Region	2022-Q2	2022-Q4	2023-Q3	2024-Q4	\$2,618,132.63
D&T-WL	Several East Region	Replacement of Water Pipelines at East Region Phase 1 (CIP-3046007- Sumideros Ward, Aguas Buenas; CIP-3236015-Urb. Mirador, Caguas; CIP-3185018-Replacement of 4", Maton Arriba Ward, Calle Jorge Rochi, Cayey; CIP-3185019- PR-1 Km. 61, Maton C1Arriba Ward, Cayey; CIP-3279002-Damajagua Ward, Fajardo; CIP-3279003- PR-978,Ceiba;CIP-3279004-PR-976, Volatín Ward, Fajardo)	2023-Q2	2024-Q1	2024-Q2	2025-Q2	\$12,051,347.44
WTP	CIP.3106105	Rehabilitation of Barranquitas La Boca WTP and RWI	2023-Q2	2025-Q1	2025-Q3	2026-Q4	\$18,314,051.00



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WTP	CIP.3106106	Rehabilitation of Barranquitas Barrancas WTP and RWI	2022-Q3	2024-Q2	2024-Q4	2026-Q2	\$29,643,590.80
B	CIP.3130001	PRASA Central Laboratory in Caguas (FAAST)	2021-Q1	2021-Q1	2020-Q4	2023-Q4	\$39,727,238.56
WWTP	CIP.3135079	Rehabilitation of Blowers in Caguas WWTP (FAAST)	2021-Q1	2021-Q4	2019-Q4	2022-Q4	\$5,933,487.32
WTP	CIP.3136012	Rehabilitation of Caguas Norte WTP	2022-Q3	2024-Q3	2025-Q1	2026-Q2	\$80,358,775.16
B	CIP.3139000	Equipment for New PRASA Central Laboratory in Caguas (FAAST)	2021-Q1	2022-Q1	2023-Q4	2024-Q3	\$8,000,000.00
WWTP	CIP.3139001	Rehabilitation of Caguas WWTP (FAAST-25)	2022-Q1	2025-Q1	2025-Q3	2027-Q3	\$141,393,274.73
TSL	CIP.3139002	Rehabilitation of Caguas Trunk Sewer Lines (FAAST)	2021-Q3	2021-Q4	2023-Q2	2026-Q1	\$34,329,537.10
D&T-WL	CIP.3139004	Extension to Water System Aguas Buenas Mulas Tizas (FAAST) #NRW #JG	2023-Q2	2023-Q4	2024-Q1	2024-Q3	\$3,415,021.67
WTP	CIP.3156093	Rehabilitation of Río Grande El Yunque WTP	2022-Q1	2023-Q4	2024-Q2	2026-Q3	\$60,544,948.43
WTP	CIP.3156094	Replacement of RWI at Mameyes River for the Yunque WTP	2022-Q3	2024-Q2	2024-Q4	2026-Q2	\$20,950,925.53
WTP	CIP.3186003	Rehabilitation of Cayey El Farallon WTP	2022-Q3	2024-Q1	2024-Q3	2025-Q3	\$34,676,665.02
B	CIP.3188001	Rehabilitation of Cayey Operations Office, Cayey PR	2023-Q2	2023-Q4	2024-Q3	2025-Q4	\$1,648,564.80
WWTP	CIP.3236247	Rehabilitation of Comerío WWTP (FAAST)	2022-Q2	2029-Q1	2029-Q3	2031-Q2	\$36,802,035.35
WTP	CIP.3239005	Rehabilitation of Comerío WTP (FAAST)	2023-Q4	2025-Q1	2025-Q4	2027-Q2	\$10,217,328.21



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WWTP	CIP.3279001	Rehabilitation of Switchgear Fajardo WWTP (FAAST) #NRW #JG	2023-Q3	2024-Q1	2025-Q2	2025-Q4	\$2,797,980.58
WWTP	CIP.3305001	Improvements to Guayama WWTP (FAAST)	2021-Q1	2021-Q1	2022-Q3	2026-Q2	\$95,096,178.86
WWTP	CIP.3365083	Rehabilitation of Humacao Waste Water Treatment Plant (WWTP) Sludge Treatment System (STS)	2021-Q2	2021-Q3	2022-Q2	2024-Q3	\$11,975,034.35
WTP	CIP.3366005	Rehabilitation of Humacao WTP	2021-Q3	2028-Q2	2028-Q4	2030-Q3	\$58,720,125.29
WTP	CIP.3405005	Valenciano WTP Expansion (404)	2023-Q3	2025-Q4	2026-Q2	2029-Q3	\$75,292,675.58
D&T-WL	CIP.3405006	Valenciano Water Distribution System (404)	2023-Q3	2025-Q3	2026-Q2	2029-Q2	\$187,656,787.30
WTP	CIP.3405007	Valenciano Dam and RWI (404)	2023-Q3	2024-Q3	2025-Q2	2028-Q3	\$154,601,062.91
WWPS	CIP.3445009	Design and Build La Sabana Las Piedras WWPS	2021-Q2	2021-Q2	2020-Q4	2023-Q1	\$1,106,415.39
WTP	CIP.3536006	Rehabilitation Naguabo Río Blanco WTP	2022-Q1	2024-Q2	2025-Q1	2026-Q3	\$29,985,080.00
WWTP	CIP.3765002	Rehabilitation Vieques WWTP (FAAST)	2022-Q1	2023-Q4	2024-Q1	2026-Q1	\$43,774,455.28
WWTP	CIP.3785018	Rehabilitation of Yabucoa WWTP (FAAST)	2023-Q3	2025-Q4	2026-Q3	2027-Q2	\$13,834,616.00
R	CIP.4009000	Bauta Tunnel (FEMA 404/CDBG-MIT)	2023-Q4	2024-Q2	2026-Q4	2029-Q4	\$245,406,750.22
WST	CIP.4009001	Rehabilitation of Tanks Phase 1-South Region	2021-Q1	2022-Q1	2022-Q3	2024-Q2	\$5,080,573.75
WST & WPS	CIP.4009103	Rehabilitation of Water Pump Stations Tanks Phase 1- South Region	2022-Q3	2023-Q2	2024-Q1	2026-Q1	\$8,350,266.32
WWPS	CIP.4009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- South Region	2023-Q1	2024-Q3	2025-Q1	2027-Q2	\$7,977,571.97



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
RWW	CIP.4009106	Rehabilitation of Raw Water Well Phase 1- South Region	2022-Q1	2023-Q2	2023-Q4	2025-Q4	\$5,083,391.30
TSL	CIP.4089000	Rehabilitation of Arroyo-Guayama Trunk Sewer Lines (FAAST)	2021-Q1	2021-Q4	2022-Q3	2025-Q1	\$21,008,801.89
D&T-WL	Several South Region	Replacement of Water Pipelines at South Region Phase 1 (CIP-4089001- Buena Vista Sector, Arroyo; CIP-4229003- PR-155 Sector Farallones, Coamo ; CIP-4229004- PR-150 Santa Catalina and San Ildefonso, Coamo; CIP-4319001- Indios Ward, Guayanilla; CIP-4399000- Collores Sector PR 512, Juana Diaz; CIP-4779001-RLimón Sector, Villalba; CIP-4779004- Chichón Sector, Villalba)	2023-Q2	2024-Q1	2024-Q4	2025-Q3	\$13,975,535.58
TSL	CIP.4299000	Rehabilitation of Barriada Esperanza Guánica Trunk Sewer System	2022-Q4	2024-Q2	2025-Q1	2026-Q1	\$7,455,937.29
WTP	CIP.4316007	Rehabilitation of Jaguas Pasto Guayanilla WTP	2021-Q4	2024-Q2	2024-Q3	2025-Q4	\$16,713,739.80
WWTP	CIP.4495001	Rehabilitation or Elimination of Maunabo WWTP (FAAST-25)	2021-Q4	2024-Q1	2024-Q3	2026-Q1	\$0.00
WTP	CIP.4556009	Rehabilitation of Sanamuertos Orocovis WTP	2022-Q4	2024-Q3	2025-Q1	2026-Q4	\$10,289,892.83
D&T-WL	CIP.4559002	Replacement of WL El Gato Ward, Orocovis, PR (FAAST)	2022-Q4	2023-Q1	2023-Q4	2025-Q1	\$2,782,735.39
WTP	CIP.4576002	Rehabilitation of Peñuelas WTP	2023-Q3	2024-Q4	2025-Q2	2027-Q2	\$19,094,553.86
WTP	CIP.4576004	Rehabilitation of Malpaso Peñuelas WTP	2022-Q3	2024-Q3	2025-Q1	2026-Q2	\$10,913,346.81



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
TSL	CIP.4589003	Rehabilitation of Ponce Trunk Sewer System (FAAST)	2021-Q2	2021-Q4	2022-Q3	2025-Q3	\$16,927,420.40
D&T-WL	CIP.4589006	Rehabilitation of WL La Yuca Sector, Ponce, PR (FAAST)	2022-Q4	2023-Q1	2023-Q3	2024-Q2	\$2,479,829.50
D&T-WL	CIP.4589007	Rehabilitation of WL Sabanetas Sector, Ponce, PR (FAAST).	2023-Q2	2023-Q4	2024-Q2	2025-Q4	\$6,706,802.38
WTP	CIP.4646004	Raw Water Wells Closure/ Salinas WTP (FEMA-404)	2022-Q1	2024-Q4	2025-Q1	2027-Q3	\$47,775,854.85
TSL	CIP.4649000	Replacement of TSL Santos Amadeo, Baldorioty & Miguel Casco Urban, Salinas (FAAST)	2023-Q1	2024-Q2	2025-Q1	2025-Q4	\$11,768,727.62
WWTP	CIP.4695042	Rehabilitation of Santa Isabel WWTP (FAAST)	2022-Q1	2024-Q2	2024-Q4	2026-Q3	\$80,260,054.08
WTP	CIP.4776077	Rehabilitation of Villalba Apeadero WTP	2022-Q1	2024-Q2	2025-Q1	2026-Q3	\$8,618,146.46
WTP	CIP.4776078	Rehabilitation of Jagueyes Villalba WTP	2022-Q1	2023-Q4	2024-Q2	2026-Q2	\$15,710,199.49
WTP	CIP.4796004	Rehabilitation of Yauco Río Prieto WTP	2023-Q2	2024-Q3	2025-Q1	2027-Q2	\$26,839,249.30
WST	CIP.5009001	Rehabilitation of Tanks Phase 1-West Region	2022-Q1	2022-Q4	2023-Q1	2025-Q2	\$2,729,525.64
WPS	CIP.5009103	Rehabilitation of Water Pump Stations Tanks Phase 1- West Region	2023-Q1	2024-Q3	2025-Q2	2027-Q3	\$7,300,409.31
WWPS	CIP.5009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- West Region	2023-Q1	2025-Q1	2025-Q3	2027-Q3	\$18,228,691.00
RWW	CIP.5009106	Rehabilitation of Raw Water Well Phase 1- West Region	2022-Q3	2024-Q2	2025-Q1	2027-Q3	\$4,854,163.86



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WWTP	CIP.5035001	Rehabilitation of Aguada WWTP (FAAST-25)	2022-Q2	2029-Q3	2030-Q1	2032-Q4	\$52,239,532.18
WTP	CIP.5036006	Rehabilitation Aguadilla Montaña WTP	2023-Q2	2024-Q4	2025-Q4	2027-Q3	\$75,021,494.91
D&T-WL	Several West Region	Replacement of Water Pipelines at West Region Phase 1 (CIP-5069000- Parcelas Aqlas Aquilino, Añasco; CIP-5379000-Chevín Sector, Isabela; CIP-5509000- París Ward, Mayaguez ;CIP-5579003- PR-412, Corea Sector, Rincón;CIP-5609002- Camino Blanco Black Eagle, Rincón ;CIP-5609004- PR-412, Rincón; CIP-5639000- Azucena and Parcela Lluveras, Sabana Grand;CIP-5685006- Villa Rita , San Sebastián)	2023-Q2	2024-Q1	2024-Q2	2025-Q3	\$24,868,149.99
D&T-WL	CIP.5129001	Design & Build Installation of 4" WL Betances Community, Llanos Tuna Ward, Cabo Rojo (FAAST) #NRW #JG	2023-Q2	2024-Q1	2024-Q4	2025-Q3	\$971,058.78
R	CIP.5376001	Repair of Geosynthetic Membranes in Lago Regulador in Isabela	2021-Q2	2021-Q2	2024-Q1	2025-Q2	\$25,815,791.77
WTP	CIP.5379002	Guajataca Floating RWI	2022-Q1	2022-Q3	2023-Q3	2025-Q3	\$8,169,899.13
WWTP	CIP.5415031	Rehabilitation of Lajas WWTP (FAAST)	2022-Q2	2024-Q4	2025-Q2	2026-Q2	\$14,542,978.00
WTP	CIP.5486006	Rehabilitation of Monte del Estado Maricao WTP	2022-Q3	2024-Q2	2024-Q4	2026-Q3	\$11,630,631.88
WTP	CIP.5486007	Rehabilitation of Maricao WTP	2023-Q2	2024-Q4	2025-Q3	2027-Q3	\$16,669,408.34
WTP	CIP.5489001	Rehabilitation of Maricao Monte del Estado RWI	2022-Q3	2024-Q1	2024-Q4	2026-Q2	\$6,032,224.00



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WWTP	CIP.5505028	Rehabilitation of Mayaguez WWTP (FAAST-25)	2021-Q2	2023-Q4	2024-Q3	2026-Q4	\$123,338,429.17
WTP	CIP.5506044	Rehabilitation of Miradero Mayagüez RWI	2022-Q1	2024-Q2	2025-Q1	2027-Q2	\$45,839,511.63
WTP	CIP.5506046	Rehabilitation of Ponce de Leon Mayaguez WTP	2023-Q1	2024-Q3	2025-Q2	2026-Q4	\$40,913,200.00
WTP	CIP.5506047	Rehabilitation of Miradero Mayaguez WTP	2022-Q3	2024-Q4	2025-Q3	2027-Q1	\$47,026,282.61
TSL	CIP.5509001	Rehabilitation of Hormigueros and Mayaguez Trunk Sewer Lines (FAAST)	2022-Q1	2021-Q4	2023-Q4	2026-Q6	\$33,099,121.98
OO	CIP.5509105	Rehabilitation of Mayaguez Ocean Outfall	2023-Q1	2025-Q2	2026-Q1	2028-Q2	\$100,000,000.00
D&T-WL	CIP.5609001	Installation of 12" WL PR-115, Rincón (FAAST)	2023-Q3	2024-Q1	2024-Q3	2026-Q1	\$8,955,192.02
TSL	CIP.5685000	Replacement of Trunk Sewer Lines (TSL) in San Sebastián (FAAST)	2022-Q4	2024-Q3	2025-Q2	2027-Q2	\$19,150,624.94
B	CIP.6005000	Stand-By Power Generators	2023-Q2	2023-Q2	2024-Q1	2025-Q2	\$32,895,600.00
WM	CIP.6009002	Water Meters Pilot Project (FAAST)	2021-Q3	2021-Q4	2024-Q1	2028-Q2	\$4,116,665.68
D&T-WL	CIP.7349002	Hatillo -Nuevo Sistema de Dis. Bo. Campo Alegre, Sectores 10 #NRW #JG (FAAST)	2022-Q3	2024-Q2	2024-Q3	2028-Q2	\$8,727,871.36
D	CIP.7776071	Rehabilitation of Toa Vaca Dam	2021-Q2	2024-Q2	2024-Q2	2025-Q4	\$7,191,396.07



7.2 Appendix A: Table A.2- List of PRASA Projects FAASt Mid-Term

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
R	CIP.1001001	Metropolitan Multi- Reservoir System (FEMA) (406)	2024-Q1	2026-Q4	2027-Q4	2032-Q4	\$2,000,000.00
WTP	CIP.1156005	Rehabilitation of Canóvanas Nueva WTP and RWI	2027-Q1	2027-Q3	2028-Q2	2031-Q1	\$12,996,377.84
WTP	CIP.2206106	Rehabilitation of Jaguas Pesas Ciales WTP and RWI	2027-Q1	2027-Q4	2028-Q3	2030-Q1	\$6,699,428.42
WTP	CIP.2386048	Elimination of Jayuya La Pica WTP and RWI	2026-Q4	2027-Q4	2028-Q2	2029-Q4	\$6,665,220.42
WWTP	CIP.2475021	Rehabilitation of Barceloneta WWTP (FAAST-25)	2024-Q1	2026-Q4	2027-Q2	2030-Q3	\$29,852,077.71
WWTP	CIP.2545006	Rehabilitation of Naranjito WWTP	2027-Q2	2028-Q1	2028-Q3	2030-Q4	\$10,253,475.60
WTP	CIP.2736007	Rehabilitation of Santa Isabel Utuado WTP and RWI	2024-Q1	2025-Q3	2026-Q1	2027-Q3	\$10,690,837.00
WTP	CIP.3046005	Rehabilitation of Aguas Buenas WTP	2027-Q4	2028-Q3	2029-Q1	2030-Q4	\$7,342,617.25
WWTP	CIP.3056002	Rehabilitation of Aibonito WWTP (FAAST)	2026-Q4	2027-Q3	2028-Q2	2029-Q4	\$11,997,298.02
WWTP	CIP.3105032	Rehabilitation of Barranquitas WWTP (FAAST)	2027-Q1	2028-Q1	2028-Q3	2030-Q1	\$9,419,677.05
WTP	CIP.3106104	Rehabilitation of Barranquitas WTP and RWI	2025-Q1	2026-Q1	2026-Q3	2028-Q1	\$7,341,753.25
WTP	CIP.3136013	Rehabilitation of Caguas Sur WTP	2025-Q4	2026-Q4	2027-Q2	2028-Q4	\$9,419,354.05
WWTP	CIP.3185033	Rehabilitation of Cayey WWTP (FAAST-25)	2026-Q1	2027-Q2	2027-Q4	2030-Q1	\$21,954,319.00
WTP	CIP.3186002	Rehabilitation of Cayey Urbana WTP	2025-Q1	2026-Q2	2026-Q3	2028-Q2	\$11,278,552.53



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WTP	CIP.3186004	Rehabilitation of Cayey Culebras Alto WTP	2026-Q4	2027-Q3	2028-Q1	2029-Q4	\$6,678,213.75
WWPS	CIP.3365085	Elimination of WWPS Buxo, Humacao PR (Proposed 406)	2025-Q2	2026-Q1	2026-Q3	2027-Q2	\$1,035,173.66
WWTP	CIP.3366001	Rehabilitation of Humacao WWTP	2024-Q4	2024-Q4	2025-Q3	2027-Q4	\$25,200,000.00
WTP	CIP.3466005	Rehabilitation of Luquillo-Sabana WTP	2027-Q1	2027-Q4	2028-Q2	2030-Q1	\$11,278,141.53
WTP	CIP.3536007	Rehabilitation Naguabo El Duque WTP	2026-Q4	2028-Q1	2028-Q3	2030-Q2	\$6,664,080.42
WTP	CIP.4016008	Rehabilitation of Adjuntas Olimpia WTP	2025-Q4	2026-Q4	2027-Q2	2029-Q1	\$8,741,236.56
WTP	CIP.4016012	Rehabilitation of Adjuntas Guilarte WTP	2024-Q1	2025-Q3	2026-Q1	2027-Q4	\$6,731,802.00
WTP	CIP.4586084	Rehabilitation Ponce Guaraguo WTP	2026-Q1	2026-Q4	2027-Q2	2029-Q1	\$9,372,237.05
R	CIP.5066000	Casey Reservoir (Proposed 406)	2024-Q1	2027-Q1	2027-Q4	2032-Q4	\$2,000,000.00
D&T-WL	CIP.5067002	Improvements to Water System Community Del Hoyo de los Feos, Añasco (FAAST)	2027-Q1	2027-Q4	2028-Q2	2029-Q3	\$838,032.39
WWTP	CIP.5089000	Rehabilitation of Las Marías WWTP (FAAST-25)	2024-Q2	2025-Q2	2026-Q1	2028-Q1	\$3,950,918.80
WTP	CIP.5376006	Rehabilitation of Isabela Urbana WTP and RWI	2027-Q2	2028-Q1	2028-Q3	2030-Q4	\$7,746,473.00
WTP	CIP.5485005	Rehabilitation of Orama Maricao RWI (Proposed 406)	2024-Q1	2024-Q4	2025-Q2	2027-Q3	\$7,453,158.25
WTP	CIP.5636006	Rehabilitation of Sabana Grande WTP and RWI	2027-Q1	2027-Q4	2028-Q3	2030-Q1	\$6,168,314.33
WTP	CIP.5656001	Rehabilitation of Caín Alto San Germán WTP and RWI	2027-Q3	2028-Q4	2029-Q2	2031-Q1	\$6,176,866.33
WTP	CIP.5686045	Rehabilitation of San Sebastian WTP and RWI	2026-Q1	2027-Q1	2027-Q3	2029-Q2	\$8,641,105.37



Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WTP	CIP.6009016	Rehabilitation to PRASA WTP Islandwide LS Project (FAAST)	2027-Q1	2027-Q2	2028-Q3	2035-Q3	\$5,000,000.00
WWTP	CIP.6009017	Rehabilitation to PRASA WWTP Islandwide LS Project (FAST)	2027-Q1	2027-Q2	2028-Q3	2035-Q3	\$5,000,000.00
WM	CIP.6009102	Water Meters Islandwide LS Project (FAAST)	2027-Q1	2027-Q3	2028-Q3	2032-Q2	\$208,292,397.83



7.3 Appendix A: Table A.3- List of PRASA Projects FAASt Long-Term

Asset Category	Project #	Description	A&E Start Quarter	SOW Submittal Quarter	Construction Start Quarter	SOW Close Out Submittal Quarter	Total Cost Estimate
WWPS	CIP.1009104	Rehabilitation of Wastewater Pump Stations Tanks Phase 1- Metro Region	2028-Q2	2029-Q4	2030-Q2	2032-Q3	\$2,788,961.58
WPS	CIP.1669002	Rehabilitation of WPS of Puerto Nuevo and WL of 48", Municipality of San Juan (Inactive)	2030-Q1	2031-Q2	2032-Q1	2034-Q2	\$53,976,143.37
B	CIP.1669003	Rehabilitation of PRASA Main Building (Sede)	2028-Q2	2028-Q3	2029-Q1	2030-Q1	\$2,214,714.27
WWTP	CIP.2075073	Rehabilitation of Islote WWTP, Arecibo (Proposed 406)	2029-Q1	2032-Q1	2033-Q3	2034-Q2	\$118,605,083.38
OO	CIP.2149105	Rehabilitation of Camuy Ocean Outfall (Inactive)	2032-Q2	2033-Q1	2033-Q4	2036-Q1	\$5,000.00
WWTP	CIP.2269002	Elimination of Several WWTP North Region (FAASt 406)	2028-Q2	2025-Q1	2030-Q4	2028-Q4	\$1,001,074,441.92
WWTP	CIP.2745019	Rehabilitation of Vega Alta WWTP	2032-Q1	2032-Q1	2033-Q2	2035-Q1	\$9,394,757.05
WST	CIP.6009001	Water Storage Tanks Islandwide (FAASt)	2028-Q1	2028-Q4	2029-Q3	2035-Q3	\$5,000,000.00
OO	CIP.6009005	Rehabilitation to PRASA Ocean Outfalls Islandwide LS Project (FAST)	2028-Q1	2028-Q4	2029-Q3	2035-Q3	\$107,000,000.00
B	CIP.6009007	Rehabilitation to PRASA Buildings Islandwide LS Project	2028-Q1	2028-Q4	2029-Q3	2035-Q3	\$20,000,000.00
PPTD	CIP.6009008	Projects Pending to Defined LS Project (FAASt)	2028-Q1	2028-Q4	2029-Q3	2035-Q3	\$35,047,862.40
R	CIP.6009010	Reservoir Dredging Islandwide LS Project	2028-Q1	2028-Q4	2029-Q3	2035-Q3	\$5,000,000.00



Chapter 8 Appendix B

8.1 Appendix B: FAASt Plan Projects Schedule



Id		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	Trimestres																								
									1er trimestre jul	2º trimestre may	3er trimestre mar	4º trimestre ene	1er trimestre nov	2º trimestre sep	3er trimestre jul	4º trimestre may	1er trimestre mar	2º trimestre ene	3er trimestre nov	4º trimestre sep	1er trimestre jul	2º trimestre may	3er trimestre mar	4º trimestre ene	1er trimestre nov	2º trimestre sep	3er trimestre jul	4º trimestre may					
1			PRASA FAASt Rev.11		4741 días	vie 11/17/17	dom 1/20/36	\$6,331,953,290.28																									
2			CIP.1001001	Metropolitan Multi- Reservoir System (FEMA) (406)	2340 días	mar 1/2/24	dom 12/19/32	\$2,000,000.00																									
3			CIP.1009001	Rehabilitation of Tanks Phase 1- Metro Region	942 días	mié 9/1/21	jue 4/10/25	\$4,659,406.44																									
4			CIP.1009002	Carraizo Reservoir Sediment Control	1152 días	vie 9/30/22	sáb 2/27/27	\$23,958,325.20																									
5			CIP.1009103	Rehabilitation of Water Pump Stations Tanks Phase 1-	1340 días	mar 3/7/23	lun 4/24/28	\$3,386,389.75																									
6			CIP.1009104	Rehabilitation of Wastewater Pump Stations Tanks Pha	1106 días	lun 5/1/28	dom 7/25/32	\$2,788,961.58																									
7			CIP.1009106	Rehabilitation of Raw Water Well Phase 1- Metro Regi	1277 días	mar 2/1/22	mié 12/23/26	\$1,997,452.88																									
8			CIP.1016095	Rehabilitation of Guaynabo WTP	1736 días	vie 10/1/21	vie 5/26/28	\$105,517,618.08																									
9			CIP.1019000	Carraizo Reservoir Dredging	1306 días	jue 2/4/21	jue 2/5/26	\$109,887,889.43																									
10			CIP.1019001	Rehabilitation of D & T-WL Bo. Sonadora, Renacer Se	431 días	lun 5/1/23	lun 12/23/24	\$2,089,835.00																									
11			Several Metro Region	Replacement of Water Pipelines at Metro Region Phase 1 (CIP.1019002-Camino Los Bigios, San Juan; CIP-1019003-Ponce De Leon Avenue, Municipality of Guaynabo;CIP-1115069- La Pra Sector and Los FONSECAS, Bayamón; CIP-1115070-Doña Concha Community, Bayamón: C	629 días	lun 5/1/23	jue 9/25/25	\$12,541,588.60																									
12			CIP.1019004	Replacement of WL Pipe, El Gato Sector at PR-834, M	650 días	lun 5/1/23	vie 10/24/25	\$935,668.06																									
13			CIP.1076003	Super Aqueduct Microgrid (FAAST-HM)	913 días	lun 7/3/23	mié 12/30/26	\$97,468,259.36																									
14			CIP.1116008	Rehabilitation of Guaynabo Santa Rosa WI (FAAST-25	1071 días	lun 4/4/22	dom 5/10/26	\$61,137,857.12																									
15			CIP.1156004	Rehabilitation of Cubuy WTP and RWI, Municipality o	1236 días	mié 3/1/23	mié 11/24/27	\$10,258,886.18																									
16			CIP.1156005	Rehabilitation of Canóvanas Nueva WTP and RWI	1052 días	dom 1/10/27	sáb 1/18/31	\$12,996,377.84																									
Proyecto: PRASA_FAASt_v11_ESC Fecha: mar 1/2/24			Tarea		Resumen del proyecto		Hito inactivo		Informe de resumen manual		Fecha límite																						
			División		Tareas externas		Resumen inactivo		Resumen manual		Progreso																						
			Hito		Hito externo		Tarea manual		Sólo el comienzo																								
			Resumen		Tarea inactiva		Sólo duración		Sólo fin																								
Página 1																																	

Id		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	1er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre
									jul	may	mar	ene	nov	sep	jul	may	mar	ene	nov	sep	jul
17			CIP.1159000	Design and Build of Rehabilitation of Water Pump Stat	650 días	lun 5/1/23	vie 10/24/25	\$1,545,330.10													
18			CIP.1165044	Rehabilitation of Carolina WWTP FEMA (FAAST-25)	1405 días	jue 7/1/21	mié 11/18/26	\$82,051,836.15													
19			CIP.1169001	Rehabilitation of Los Angeles and Loiza Pueblo Trunk	743 días	jue 7/1/21	sáb 5/4/24	\$9,426,590.16													
20			CIP.1660002	Rehabilitation of PRASA Main Building (Sede) Inspect	686 días	lun 2/1/21	lun 9/18/23	\$476,637.53													
21			CIP.1665900	Rehabilitation of Martín Peña WWPS (Tokio), Municipi	897 días	mar 2/28/23	mié 8/5/26	\$7,237,024.91													
22			CIP.1669001	Improvements to Water Distribution System, Hollywoo	1029 días	jue 2/16/23	mar 1/26/27	\$2,382,924.93													
23			CIP.1669002	Rehabilitation of WPS of Puerto Nuevo and WL of 48 "	1110 días	mar 1/1/30	sáb 4/1/34	\$53,976,143.37													
24			CIP.1669003	Rehabilitation of PRASA Main Building (Sede)	441 días	lun 5/1/28	sáb 1/5/30	\$2,214,714.27													
25			CIP.1709000	Enrique Ortega WTP- Raw Water Intake Power Genera	1238 días	lun 5/24/21	mié 2/18/26	\$32,862,083.55													
26			CIP.1726043	Rehabilitation of Sergio Cuevas WTP	1316 días	lun 4/11/22	lun 4/26/27	\$126,657,324.88													
27			CIP.2009001	Rehabilitation of Tanks Phase 1- North Region	912 días	lun 1/3/22	mar 7/1/25	\$5,410,858.46													
28			CIP.2009103	Rehabilitation of Water Pump Stations Tanks Phase 1-	1166 días	mar 6/7/22	mar 11/24/26	\$6,864,055.00													
29			CIP.2009104	Rehabilitation of Wastewater Pump Stations Tanks Pha	1214 días	mié 6/1/22	dom 1/24/27	\$7,053,577.11													
30			CIP.2009106	Rehabilitation of Raw Water Well Phase 1- North Regi	922 días	vie 7/1/22	sáb 1/10/26	\$9,151,115.02													
31			CIP.2017005	Rehabilitation of Culebrinas WTP	1616 días	dom 11/1/20	vie 1/8/27	\$82,548,566.23													
32			CIP.2039000	Rehabilitation of Guerrero 2 WWPS, Municipality of A	725 días	mar 2/1/22	lun 11/11/24	\$5,538,308.25													
33			CIP.2071000	Improvements to Arecibo Water Distribution System	1375 días	mar 5/16/23	lun 8/21/28	\$111,496,712.73													
34			CIP.2071001	Improvements to La Pica, El Peje, and Sabana Hoyos W	503 días	jue 6/1/23	lun 5/5/25	\$2,625,745.00													
35			CIP.2075073	Rehabilitation of Islote WWTP, Arecibo (FAAST)	3339 días	vie 7/29/22	mié 5/16/35	\$118,605,083.38													
36			CIP.2076042	Rehabilitation of Esperanza Arecibo WTP and RWI	1708 días	mié 9/1/21	vie 3/17/28	\$20,658,554.18													
37			CIP.2079004	Improvements to Cerro Marquez WPS & 2.0 MG Tank	959 días	mié 9/1/21	lun 5/5/25	\$4,209,953.46													

Proyecto: PRASA_FAASt_v11_ESC
Fecha: mar 1/2/24

Tarea

División

Hito

Resumen

Resumen del proyecto

Tareas externas

Hito externo

Tarea inactiva

Hito inactivo

Resumen inactivo

Tarea manual

Sólo duración

Informe de resumen manual

Resumen manual

Sólo el comienzo

Sólo fin

Fecha límite

Progreso

Página 2

[illegible]

Id		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	Trimestres																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
									1er trimestre jul	2º trimestre may	1er trimestre mar	2º trimestre ene	3er trimestre nov	4º trimestre sep	1er trimestre jul	2º trimestre may	3er trimestre mar	4º trimestre ene	1er trimestre nov	2º trimestre sep	3er trimestre jul	4º trimestre may	1er trimestre mar	2º trimestre ene	3er trimestre nov	4º trimestre sep	1er trimestre jul	2º trimestre may	3er trimestre mar	4º trimestre ene																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
59			CIP.2386048	Elimination of Jayuya La Pica WTP and RWI	794 días	mié 12/16/26	sáb 12/29/29	\$6,665,220.42																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Id		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	1er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre
									jul	may	mar	ene	nov	sep	jul	may	mar	ene	nov	sep	jul
80			CIP.2745019	Rehabilitation of Vega Alta WWTP	794 días	lun 2/2/32	jue 2/15/35	\$9,394,757.05													
81			CIP.2755055	Rehabilitation of Vega Baja Trunk Sewer Lines (TSL)	953 días	mié 9/1/21	vie 4/25/25	\$9,589,050.49													
82			CIP.2916002	Rehabilitation of Arecibo Superacueductos WTP	1345 días	mié 6/1/22	mar 7/27/27	\$125,388,945.36													
83			CIP.3009001	Rehabilitation of Tanks Phase 1-East Region	725 días	lun 11/1/21	vie 8/9/24	\$3,895,475.88													
84			CIP.3009103	Rehabilitation of Water Pump Stations Tanks Phase 1-	1017 días	vie 7/1/22	dom 5/24/26	\$9,477,605.39													
85			CIP.3009104	Rehabilitation of Wastewater Pump Stations Tanks Pha	1104 días	mié 4/26/23	lun 7/19/27	\$8,064,675.00													
86			CIP.3009106	Rehabilitation of Raw Water Wells Phase 1- Este Regio	636 días	dom 5/1/22	vie 10/4/24	\$2,618,132.63													
87			CIP.3046005	Rehabilitation of Aguas Buenas WTP	794 días	lun 10/18/27	jue 10/31/30	\$7,342,617.25													
88			Several East Region	Replacement of Water Pipelines at East Region Phase 1	542 días	vie 4/28/23	dom 5/25/25	\$12,051,347.44													
89			CIP.3056002	Rehabilitation of Aibonito WWTP (FAAST)	793 días	sáb 11/21/26	mar 12/4/29	\$11,997,298.02													
90			CIP.3105032	Rehabilitation of Barranquitas WWTP (FAAST)	794 días	mar 3/16/27	vie 3/29/30	\$9,419,677.05													
91			CIP.3106104	Rehabilitation of Barranquitas WTP and RWI	794 días	mar 3/11/25	vie 3/24/28	\$7,341,753.25													
92			CIP.3106105	Rehabilitation of Barranquitas La Boca WTP and RWI	1054 días	jue 5/4/23	mar 5/18/27	\$18,314,051.00													
93			CIP.3106106	Rehabilitation of Barranquitas Barrancas WTP and RW	1035 días	mié 8/31/22	mar 8/18/26	\$29,643,590.80													
94			CIP.3130001	PRASA Central Laboratory in Caguas (FAAST)	1726 días	vie 11/17/17	vie 6/28/24	\$39,727,238.56													
95			CIP.3135079	Rehabilitation of Blowers in Caguas WWTP (FAAST)	849 días	mar 10/1/19	vie 12/30/22	\$5,933,487.32													
96			CIP.3136012	Rehabilitation of Caguas Norte WTP	1101 días	mar 8/30/22	mar 11/17/26	\$80,358,775.16													
97			CIP.3136013	Rehabilitation of Caguas Sur WTP	793 días	jue 11/27/25	dom 12/10/28	\$9,419,354.05													
98			CIP.3139000	Equipment for New PRASA Central Laboratory in Cag			lun 7/1/24	\$8,000,000.00													
99			CIP.3139001	Rehabilitation of Caguas WWTP (FAAST-25)	1529 días	sáb 1/1/22	mié 11/10/27	\$141,393,274.73													
100			CIP.3139002	Rehabilitation of Caguas Trunk Sewer Lines (FAAST)	1227 días	jue 7/1/21	vie 3/13/26	\$34,329,537.10													

Proyecto: PRASA_FAASt_v11_ESC
Fecha: mar 1/2/24

Tarea

División

Hito

Resumen

Resumen del proyecto

Tareas externas

Hito externo

Tarea inactiva

Hito inactivo

Resumen inactivo

Tarea manual

Sólo duración

Informe de resumen manual

Resumen manual

Sólo el comienzo

Sólo fin

Fecha límite

Progreso

Página 5

[illegible]

[illegible]

ID		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	Trimestre jul	2º trimestre may	1er trimestre mar	4º trimestre ene	3er trimestre nov	2º trimestre sep	1er trimestre jul	4º trimestre may	3er trimestre mar	2º trimestre ene	1er trimestre nov	4º trimestre sept	3er trimestre jul
143			CIP.4589003	Rehabilitation of Ponce Trunk Sewer System (FAAST)	1053 días	jue 4/1/21	lun 4/14/25	\$16,927,420.40													
144			CIP.4589006	Rehabilitation of WL La Yuca Sector, Ponce, PR (FAA	514 días	mar 11/1/22	vie 10/18/24	\$2,479,829.50													
145			CIP.4589007	Rehabilitation of WL Sabanetas Sector, Ponce, PR (FA	563 días	jue 6/1/23	sáb 7/26/25	\$6,706,802.38													
146			CIP.4646004	Raw Water Wells Closure/ Salinas WTP (FEMA-404)	1485 días	mar 2/15/22	sáb 10/23/27	\$47,775,854.85													
147			CIP.4649000	Replacement of TSL Santos Amadeo, Baldorioty & Mi	1334 días	vie 1/27/23	mié 3/8/28	\$11,768,727.62													
148			CIP.4695042	Rehabilitation of Santa Isabel WWTP (FAAST)	1104 días	mié 6/1/22	dom 8/23/26	\$80,260,054.08													
149			CIP.4776077	Rehabilitation of Villalba Apeadero WTP	1018 días	jue 12/8/22	lun 11/2/26	\$8,618,146.46													
150			CIP.4776078	Rehabilitation of Jagüeyes Villalba WTP	912 días	mar 3/1/22	mié 8/27/25	\$15,710,199.49													
151			CIP.4796004	Rehabilitation of Yauco Río Prieto WTP	1019 días	vie 6/30/23	mié 5/26/27	\$26,839,249.30													
152			CIP.5009001	Rehabilitation of Tanks Phase 1-West Region	862 días	sáb 1/1/22	dom 4/20/25	\$2,729,525.64													
153			CIP.5009103	Rehabilitation of Water Pump Stations Tanks Phase 1-	1161 días	lun 1/16/23	sáb 6/26/27	\$7,300,409.31													
154			CIP.5009104	Rehabilitation of Wastewater Pump Stations Tanks Pha	1237 días	mar 1/31/23	mié 10/27/27	\$18,228,691.00													
155			CIP.5009106	Rehabilitation of Raw Water Well Phase 1- West Regio	1179 días	vie 9/30/22	mié 4/7/27	\$4,854,163.86													
156			CIP.5035001	Rehabilitation of Aguada WWTP (FAAST-25)	2766 días	vie 4/1/22	vie 11/5/32	\$52,239,532.18													
157			CIP.5036006	Rehabilitation Aguadilla Montaña WTP	1216 días	vie 4/28/23	vie 12/24/27	\$75,021,494.91													
158			CIP.5066000	Casey Reservoir (406)	2308 días	mié 1/31/24	vie 12/3/32	\$2,000,000.00													
159			CIP.5067002	Improvements to Water System Community Del Hoyo c	630 días	lun 3/1/27	vie 7/27/29	\$838,032.39													
160			Several West Region	Replacement of Water Pipelines at West Region Phase	1128 días	lun 5/1/23	mié 8/25/27	\$24,868,149.99													
161			CIP.5089000	Rehabilitation of Las Marías WWTP (FAAST-25)	1012 días	mar 4/30/24	mié 3/15/28	\$3,950,918.80													
162			CIP.5129001	Design & Build Installation of 4 " WL Betances Comm	650 días	lun 5/1/23	vie 10/24/25	\$971,058.78													
163			CIP.5376001	Repair of Geosynthetic Membranes in Lago Regulador	963 días	mié 9/1/21	vie 5/9/25	\$25,815,791.77													
Proyecto: PRASA_FAASt_v11_ESC Fecha: mar 1/2/24			Tarea	Resumen del proyecto	Hito inactivo	Informe de resumen manual	Fecha límite														
			División	Tareas externas	Resumen inactivo	Resumen manual	Progreso														
			Hito	Hito externo	Tarea manual	Sólo el comienzo															
			Resumen	Tarea inactiva	Sólo duración	Sólo fin															
Página 8																					

[illegible]

Id		Modo de tarea	Nombre de tarea	Descripción	Duración	Comienzo	Fin	Costo	1er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre	2º trimestre	1er trimestre	4º trimestre	3er trimestre
									jul	may	mar	ene	nov	sep	jul	may	mar	ene	nov	sep	jul
185			CIP.6009005	Rehabilitation to PRASA Ocean Outfalls Islandwide LS	559 días	jue 5/4/28	mar 6/25/30	\$107,000,000.00													
186			CIP.6009007	Rehabilitation to PRASA Buildings Islandwide LS Proj	559 días	vie 5/5/28	mié 6/26/30	\$20,000,000.00													
187			CIP.6009008	Projects Pending to Defined LS Project (FAAST)	560 días	sáb 5/6/28	jue 6/27/30	\$35,047,862.40													
188			CIP.6009010	Reservoir Dredging Islandwide LS Project	561 días	dom 5/7/28	vie 6/28/30	\$5,000,000.00													
189			CIP.6009016	Rehabilitation to PRASA WTP Islandwide LS Project (	561 días	lun 5/8/28	sáb 6/29/30	\$5,000,000.00													
190			CIP.6009017	Rehabilitation to PRASA WWTP Islandwide LS Projec	560 días	mar 5/9/28	dom 6/30/30	\$5,000,000.00													
191			CIP.6009102	Water Meters Islandwide LS Project (FAAST)	559 días	mié 5/10/28	lun 7/1/30	\$208,292,397.83													
192			CIP.7349002	Hatillo -Nuevo Sistema de Dis. Bo. Campo Alegre, Sec	948 días	jue 9/1/22	dom 4/19/26	\$8,727,871.36													
193			CIP.7776071	Rehabilitation of Toa Vaca Dam	1363 días	jue 4/15/21	sáb 7/4/26	\$7,191,396.07													

Proyecto: PRASA_FAASt_v11_ESC
Fecha: mar 1/2/24

Tarea

División

Hito

Resumen

Resumen del proyecto

Tareas externas

Hito externo

Tarea inactiva

Hito inactivo

Resumen inactivo

Tarea manual

Sólo duración

Informe de resumen manual

Resumen manual

Sólo el comienzo

Sólo fin

Fecha límite

Progreso

Página 10