2020 – 2024

National Water & Wastewater Sector TRANSFORMATION ACHIEVEMENTS

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NATIONAL WATER & WASTEWATER SECTOR TRANSFORMATION ACHIEVEMENTS 2020 - 2024

WATER AND SEWERAGE AUTHORITY OF TRINIDAD AND TOBAGO

FOREWORD

Honourable Marvin Gonzales
MINISTER OF PUBLIC UTILITIES

Early in the tenure of this current administration, the Cabinet appointed a Sub-Committee to examine the critical issue of water and waste water management, the operations of the Water and Sewerage Authority (WASA), and to make recommendations that would lead, ultimately, to the provision of a reliable and safe supply of potable water to the deserving citizens of Trinidad and Tobago. The Report of the Sub-Committee recommended, among other things, the restructuring and transformation of WASA, the implementation of a National Integrated Water Resources Management Policy (NIWRMP), and the execution of a Strategic Action Plan for improving water supply to the population in the short to medium term.

Over the period 2020-2024 WASA, guided by the Ministry of Public Utilities, and with funding provided under the Public Sector Investment Programme and the Inter-American Development Bank, has been attending to these recommendations. The restructuring of WASA is far advanced, with an entirely new management structure in place. The transformation is being quietly implemented, with one of the flagship projects being the commissioning of the Operational Control Centre. The National Integrated Water Resources Management Policy has been approved, and the strategic plan is being executed.

This report on the milestones and success achieved thus far, is by no means meant to be a final document, but rather an indication of the role being played by WASA as the country grapples with the worldwide phenomenon of climate change.

The truth is that Trinidad and Tobago is already experiencing the impacts of a changing climate, particularly changes associated with increase in temperatures, frequency and intensity of heat-waves, frequency and intensity of heavy rainfall and flooding, drought and extreme dry-spell conditions and frequency and severity of bush fires, dustiness and frequency of tropical storm threats.

Already average temperatures have increased at a rate of 0.28oC per decade since record-keeping began in 1946, with the rate of warming increasing to 0.32oC per decade since 1981. Most of this increase occurred since 1988, with 8 of the last 12 years ranking among the 12 warmest on record, even as 2010, followed by 2016 remain the warmest years on record. There appears little to contradict the notion that 2024 will surpass these records.

Indeed, Trinidad and Tobago has experienced some of the most severe dry seasons on record in recent years. In 2020, for example, the levels of main reservoirs fell below the long-term averages as a result of extended periods of high temperatures and depleted rainfall. The climate patterns of 2024 have been similarly severe, with low rainfall contributing to a poor recovery of reservoir levels. Consequently, the sustainable management of the nation's water resources has become more critical than ever, as the Government grapples with its obligation to guarantee a dependable water supply for all citizens.

One of the more obvious and direct effects of the increased temperatures and changing rainfall patterns is the increasing demand for water, for personal consumption, as well as agricultural and industrial use.

Higher temperatures, for example, lead to greater evaporation rates and increased water consumption for rehydration, cooling and irrigation. As the population grows and industrial activities expand, the demand for water continues to rise. This increased demand, coupled with reduced supply due to climate change, creates a significant strain on the water sector, leading to potential conflicts over water resources.

It is against this backdrop that WASA seeks to highlight the significant strides made in the management of one of our country's most essential resources: water. Over the past four (4) years, significant human and economic resources have been invested in upgrading existing infrastructure and developing new water sources, all with the goal of improving our service to Trinidad and Tobago. The transformation has been further supported by projects and initiatives aimed at improving the Authority's management of the wastewater sector, and capacity building for efficient and effective sanitary services.

These initiatives, programmes, and projects are aligned with the transformation objectives and the new vision for WASA as a modern, agile and efficiently operated utility, which effectively provides an adequate, safe and reliable supply of water to all segments of the population.

I wish to extend my sincerest gratitude to the Board of Commissioners, the Management – old and new – and every single employee of WASA who have contributed to ensuring that this ongoing transformation has taken place in an atmosphere of cordiality and mutual respect. It is a testimony to the commitment and resilience of these teams, that all that has been recorded in the following pages, have been accomplished without recourse to third party interventions.

Marvin Gonzales

Marvin Gonzales, MP
Minister of Public Utilities

MESSAGE

Ravindra Nanga, SC

CHAIRMAN OF THE BOARD OF WASA

It gives me great pleasure to be part of this historic publication which delineates the many challenges, achievements and aspirations of the Water and Sewerage Authority (WASA) for the period 2020 – 2024. It traces the Authority's journey from December 2020 with the appointment of the Board of Commissioners to its current state, providing through its pages, a story of resilience, a story of innovation, a story of commitment, and above all, a story of an Authority that is now more agile, more customer-centric, and certainly better able to deliver on its mandate: to provide a reliable and consistent supply of water and wastewater services to the citizens of this blessed Republic.

Throughout this journey, we have been guided by the recommendations contained in the Report of the Cabinet Sub-Committee appointed to review the operations of the Authority, and provided with sterling support by the Minister of Public Utilities, the Honourable Marvin Gonzales, MP. The journey required us to be mindful of the many previous attempts at transforming the Authority, and the scepticism of a population whose only desire was for an improved service. It required us to examine, with radical honesty, the depth and extent of the challenges, and commit ourselves to arriving at solutions that were both sustainable and practical, and simultaneously, respectful of all the stakeholders who would be affected by our decisions.

As you, our valued stakeholders, read through this publication, you will realize that while we are still not yet where we want to be, a tremendous amount of work has already been accomplished throughout the length and breadth of this twin-island Republic. The Authority has been working quietly, but unstintingly, in the background. Indeed, in four (4) years we have completed approximately 200 projects that have brought real change to the quality of life experienced by over 200,000 customers, many of whom received a regular supply of water for the very first time.

Among the many successes is the newly commissioned Operational Control Centre, which will revolutionize the Authority's operations and signals the commencement of a long-awaited smart-water network designed principally to increase service efficiency. Notwithstanding these accomplishments, we remain painfully aware that significant numbers of our citizens continue to be plagued by a less than adequate level of service. I wish to assure those citizens that the Authority has embarked on an unprecedented number of capital projects, all of which, ultimately, will greatly improve the level of service to all our citizens.

To this end, we have assembled a new leadership Team who will take over the reins in December 2024, and who will work diligently in order to continue to improve the quality of service offered to clients. We are in for some exciting times at the Authority, and this publication provides just a glimpse. As we continue on our journey, I wish to assure all our citizens that we at the Authority remain steadfast and committed to providing you with the consistently high and reliable level of service that you deserve.

All of this has been facilitated by the extremely hard-working Commissioners of the Board, who have all gone above and beyond the call of duty, and to whom I pay tribute. Our Executive Team provided exemplary leadership and has been able to awaken the sleeping giant that is the Authority. Hardworking members of Staff throughout the Authority have also joined with us on this transformational journey. Without them, we would not have been able to mark these memorable milestones. We are hugely indebted to the Honourable Minister for his unwavering support and sterling leadership, as well as to the Cabinet and Government of the Republic of Trinidad and Tobago.

To all our stakeholders, I invite you to continue on this transformational journey with us at the Authority. Together, we will surmount any new challenges, and reap the ultimate reward of an Authority of which we can all be immensely proud.

Ravindra Nanga, SC
Chairman of the Board of WASA

Hollis Reservoir, Valencia, Trinidad

ACHIEVEMENTS IN THE WATER SECTOR

National Integrated Water Resources Management

The policy framework for water resources management has been strengthened by the approval and commence implementation of the **National Integrated Water Resources Management Policy 2022**. The Policy is wide ranging in scope and provides a comprehensive approach for addressing the number of factors that affect the quality and availability of our water resources. These include:

- Land Use Planning and Management;
- Water Resources Assessment and Planning;
- Water Abstraction Licensing, Pricing and Cost Recovery;
- Designated Uses;
- Water Supply and Quality;
- Demand Management;
- Rainwater Harvesting;

- Agricultural Water Management;
- Water-Related Emergencies;
- Watershed Management;
- Water-Related Ecology;
- Wetland Management;
- Coastal Zone Management;
- Climate Change;
- Seasonal Variation;
- Wastewater Management;
- National Security;
- Public Participation and Access to Information;
- Infrastructure;
- Gender Equity; and
- Poverty Alleviation.

Strategic Action Plan for Water Sector Improvement

The Ministry of Public Utilities' "***Strategic Action Plan for Improving Water Supply to the Population in the Short to Medium Term"*** identified three (3) priority main goals for the organizational restructuring of WASA and the stabilization of the Water Sector from 2020 - 2024:

Increased Operational & Financial Efficiency

► Through the Transformation of WASA

Improved Water Supply

► Through the Optimization and Digitisation of Network Performance

Increased Reliance on Surface and Groundwater

► Enabling the Expansion of Water Supply

Achievement of these goals is contingent upon the development and execution of a series of capital investment programmes and initiatives, including the following:

Public Sector Investment Programme

The Public Sector Investment Programme (PSIP), is a key developmental programme initiated by the Government of Trinidad and Tobago geared towards achieving desired outcomes throughout the public sector, inclusive of the MPU.

Community Water Improvement Programme

The Community Water Improvement Programme (**CWIP**), an MPU initiative, aims to enhance water supply in underserved areas in Trinidad and Tobago. Revitalized in May 2021, the **CWIP** focuses on improving the distribution network through critical water projects nationwide.

North West Water Supply Improvement Programme

The North West Water Supply Improvement Programme (**NWWSIP**) is an ongoing initiative by the MPU in collaboration with WASA aimed at stabilizing and improving potable water supply to the North West Population of Trinidad. It comprises critical interventions designed to be implemented in Phases to improve level of service and reliability of water supply.

Tobago Water Supply Improvement Programme

The Tobago Water Supply Improvement Programme oversaw the completion of at least seventeen (17) key projects in Tobago. These projects have enhanced water supply to the entire leeward part of the island, reduced the need for water trucking, and boosted the island's commercial sector. These works have benefitted approximately 60,000 persons on the island.

Well Development Programme WDP

The Wells Development Programme aims to maximize the use of groundwater, where feasible, as a means of augmenting water supply through rehabilitation of existing operational wells, drilling and commissioning of new wells, and the re-commissioning of inactive wells.

National Water Sector Transformation Programme NWSTP

This initiative is designed to stabilise WASA's operations, remove the country's reliance on desalinated water, optimise network performance and transform key elements of the water supply sector through three critical components; Network Optimization, Stabilization and Improvement, and Water Sector Transformation.

National Water Stabilization and Improvement Programme NWSIP

The National Water Stabilization and Improvement Programme is geared towards eliminating pipe borne scheduling of supply for one day in every nine days (1-in-9) across Trinidad and Tobago, through the implementation of New Water Sources (Wells and Water Treatment Plants in particular), Refurbishment of Water Treatment Facilities, reduction of Non-Revenue Water through new pipeline installations and replacement, as well as automation and metering.

Transformation and Digitization of WASA DIGITIZE

The Operational Control Centre (**OCC**) at WASA's Head Office is a 2,500-square-foot facility with advanced technology for 24-hour monitoring of SCADA Systems, GIS, and telemetric devices. It automates processes, enhances efficiency, and ensures cybersecurity for WASA's Digital Transformation.

These initiatives, programmes, and projects are all closely aligned to the transformation objectives and the new vision for WASA as a modern, agile and efficiently operated utility, providing an adequate, safe and reliable supply of water to all segments of the population.

From 2020 to 2024, the Authority embarked on over 190 projects through five (5) programmes. As a result, over 400,000 persons have been positively impacted and are experiencing improved service levels and supply reliability. An estimated 65% of the population are now receiving water supply 24 hours a day, seven days a week (24/7).

The number of projects is expected to increase in the near future to offer this relief of 24/7 service to the entire population. These initiatives will be continued with the efforts of WASA's exceptional operations teams, as well as contracted teams, for the execution of small-large scale projects.

The subsequent completion of each venture would provide the basis for universal district metering, offering transparency in the production, distribution and management of water supply throughout Trinidad and Tobago.

Projects in the programmes and initiatives mentioned all fall into one of the following broad categories.

Water Source Development DEVELOPMENT

The rehabilitation of existing or the development of new groundwater, surface water, and saline water sources, and the construction of their associated water treatment plants.

Facility Refurbishment & Upgrade UPGRADE

Renovation works to the Authority's existing production and distribution facilities, including WTPs, Booster Pumping Stations, and Storage Reservoirs.

Storage Capacity Upgrades & Reservoirs CAPACITY

The development of new and upgrade of existing storage water tanks and reservoirs.

Improvements to the Transmission Network NETWORK

Improvements to the Authority's Transmission & Distribution network including the construction of Booster Pumping Stations, and the installation or upgrade of pipelines.

Network Intelligence & Optimization Automation of critical assets within the Authority's production & distribution facilities, the development of District Metered Areas, and the installation of smart meters and loggers across the Transmission network.

The following sections highlight the achievements of each Programme over the period 2020 - 2024.

The People We Do It For


Corosal
Water
Improvement
Project


COROSAL
BOOSTER
STATION

The People We Do It For

1. "Before the project, the pressures were very low. Now that the project is complete, we get a good supply of water [on] Monday, Wednesday, and Friday. Thanks to WASA for this Project!"

   - **Terry Seepersad**
   Beneficiary of the Jitman drive, Five rivers project

2. "The project was greatly needed. The water supply has improved; we are getting water almost every day, and the water pressure is very good."

   - **Marlon Knights**
   Beneficiary of the Hudaa Avenue, Las Lomas project

3. "Before the project, I used to get water once a week. Now that the project is completed, we have plenty water. I get water everyday now."

   - **Anthony Waldrop**
   Beneficiary of the Ramgoolie Trace, Curepe project

PSIP

Public Sector Investment Programme

Public Sector Investment Programme

Programme Overview:

The Public Sector Investment Programme (**PSIP**) is a medium-term investment plan by the Government of Trinidad and Tobago (**GoRTT)**, aimed at converting strategic objectives and goals into tangible projects and programmes for the enhanced standard of living and sustainability of the nation.

The **PSIP** is listed as a critical part of the national budget's non-recurrent funds. The programmes and projects emanating from this investment are meant to assist the twin-island state in taking leaps toward achieving the outcomes delineated in the National Development Strategy (**NDS**) 2016-2030 (Vision 2030) and the Sustainable Development Goals (**SDG**).

Over the past four (4) years, WASA has embarked on numerous projects and programmes through this investment fund, undertaking numerous projects under the following broad categories:

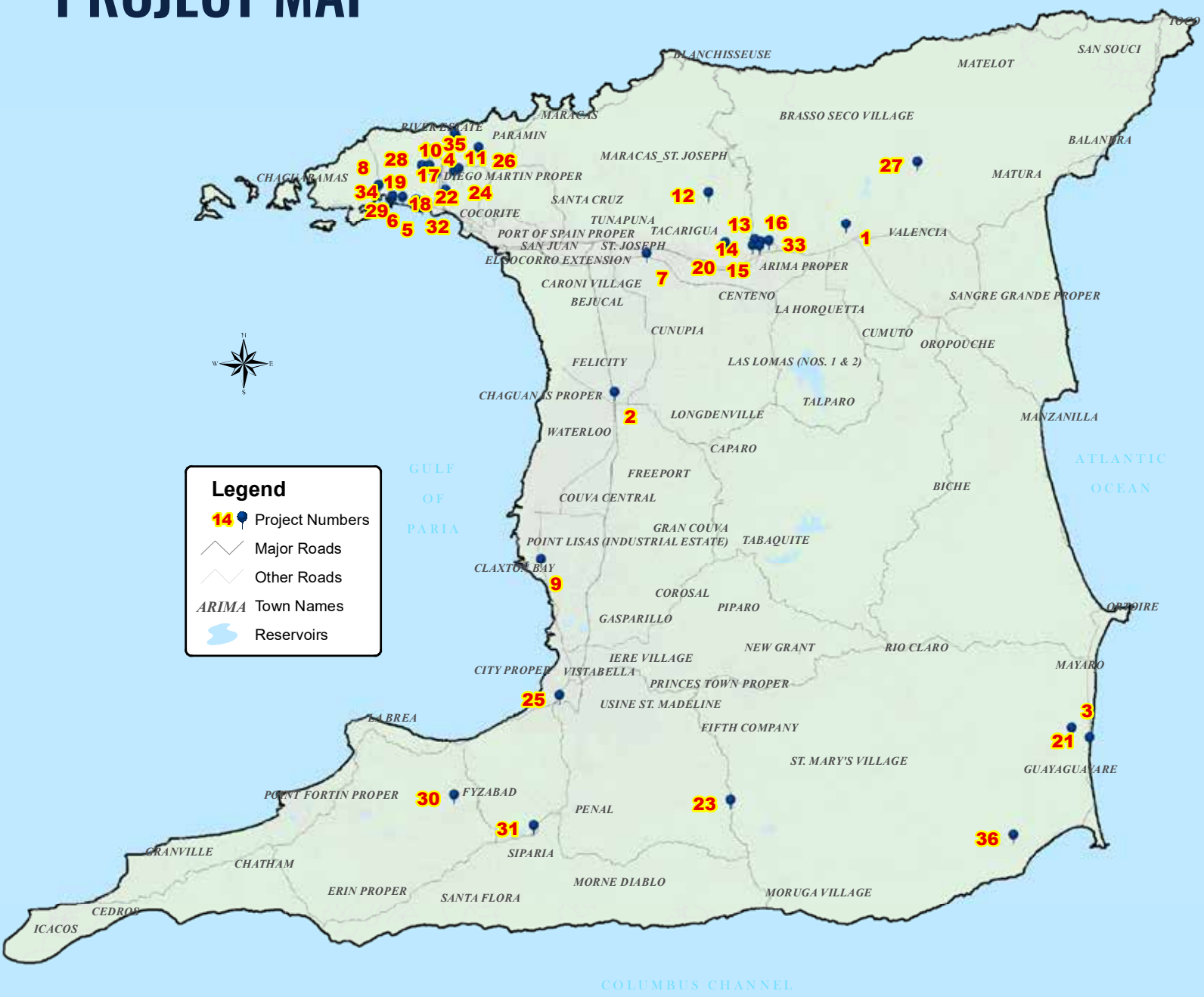
- Installation and replacement of new pipelines,
- Booster refurbishments and new booster installations
- Well rehabilitation and development, and
- Installation and commissioning of storage tanks and reservoirs
- Refurbishment of water and wastewater treatment plants
- Restoration of faulty pump and motor equipment
- Automation and digital transformation

This ongoing plan is being pursued across multiple operational facets within WASA to provide greater flexibility in the execution of projects, thus strengthening water security.

PSIP PROJECT LIST

- Rehabilitation of Aripo P1 Well
- Refurbishment of Lange Park WWTP
- Upgrade of Maloney WTP
- Refurbishment of Rich Plain Booster Station
- Replacement of Tank at Tucker Valley Highlift
- Construction of Sea View Booster Station
- Design & Construction Of Trincity WWTP
- Refurbishment of Tucker Valley Pumping Station
- Construction of Savonetta Booster Pumping Station
- Installation of 1 km of Blue Basin Road Pipeline in Diego Martin
- Installation of 282m of 100mm PVC pipeline on Burnley St from Guerrero to end of street in Lopinot
- Design and Installation of Guanapo Service Reservoir
- Construction of Calvary Hill Booster Station
- Installation of Calvary Hill Booster and Tank Transmission Pipeline
- Installation of 370m of 100mm PVC pipeline on Calvary Branch Rd, Arima
- Construction of Four Roads Reservoir
- Installation of 1500m of 300mm PVC Main from Four Roads WTP to Goodwood Park Crescent in Diego Martin
- Design & Construction of Four Roads Service Reservoir
- Construction of tank at Lillian Heights in Arouca
- Installation of 500m of pipeline and construction of booster along Mercer Road, Diego Martin
- Installation of 3.2 km of 200mm pipeline at Saunders Trace - Transfer of Sisters Road Offtake
- Construction of New Wastewater Pump Station in Mt. Hope
- Installation of 3.2 km of 200mm pipeline from Palm Lane to Kernaham Trace, Talparo
- Construction of FCBS Tank at Paramin Base Station
- Design & Construction of Quare Service Reservoir in Arima
- Refurbishment of School St. Booster Pumping Station, Diego Martin
- Installation of 3.2 km of 200 mm Pipeline from South Oropouche Road to Avocat Junction, Fyzabad
- Installation of 873m of pipeline in SS Erin Rd along Mora Dam Rd Pipeline, Siparia
- Replacement of Tank at Tucker Valley Highlift
- Installation of 300m of 100mm distribution Pipeline from Seaview Booster to main on Seaview Hill, Diego Martin
- Installation of 623m of Pipeline along Quarry Road, Diego Martin
- Installation of 770m of 150mm PVC pipeline along the Guayaguayare Mayaro Rd to the WTP
- Refurbishment of Beetham WWTP
- Refurbishment Works at Caroni WTP
- Refubishment of WWTPs in Couva:
  - Couva North WWTP and
  - Couva South WWTP
- Refurbishment of Edinburgh 500 WWTP
- Refurbishment of El Rancho Lift Station
- Construction of La Fillette Storage Tank
- Construction of Steel Tank Lilian Heights
- Refurbishment & Upgrade Petrotrin Guayaguayare WTP Phase 3
- Installation of 900m of 8” pipeline along Southern Main Road, Cedros
- Upgrade of South Oropouche Booster Pumping Station Phase 3
- Refurbishment & Upgrade of St. Mary’s Booster Station, Moruga
- Refurbishment of St. Julien Booster Station, Princes Town
- Replacement of PBR sewer main in Mausica River, Arima
- Rehabilitation & Upgrade of Lift Stations South West Trinidad:
  - Periwinkle;
  - Retrench;
  - Wellington; and
  - Striker Village.
- Installation of PLC Components for Navet WTP
- Supply & Installation of Water Quality System at Caroni WTP
- Installation of 1535mm of 200mm Pipeline along Siparia Old Rd- Phase 3
- Installation of 1500mm of 200mm Pipeline along South Oropouche Mn Rd- Phase 1
- Drilling of New Well Cap-de-Ville No. 11
- Drilling of New Well Palo Seco No. 10
- Drilling & Equipping Aripo B Packages 1 & 2
- Drilling & Equipping Aripo C Package 3

PSIP
PROJECT MAP




CWIP
COMMUNITY WATER
IMPROVEMENT PROGRAMME







Community Water Improvement Programme

Programme Overview

The Community Water Improvement Programme (**CWIP**) is a short-term programme of works consisting of small capital investment projects aimed at addressing shortfalls in the distribution of pipe borne water to underserved (less than 24/3 levels of service) communities, as well as, providing first-time water supply to unserved communities.

The scope of works for achieving the aforementioned objectives of **CWIP** include:

a. Installation of new pipelines
b. Booster refurbishments
c. New Booster installations
d. Well rehabilitation and development
e. Installation and commissioning of storage tanks and reservoirs

The Programme of Works was performed using a combination of local stakeholders and the highly-skilled internal and contracted labour force. The success of this holistic approach lies not only in the resultant improved access to pipe borne water supply, but more importantly, in the engagement of communities to take a more active role in the management and preservation of their water supply.

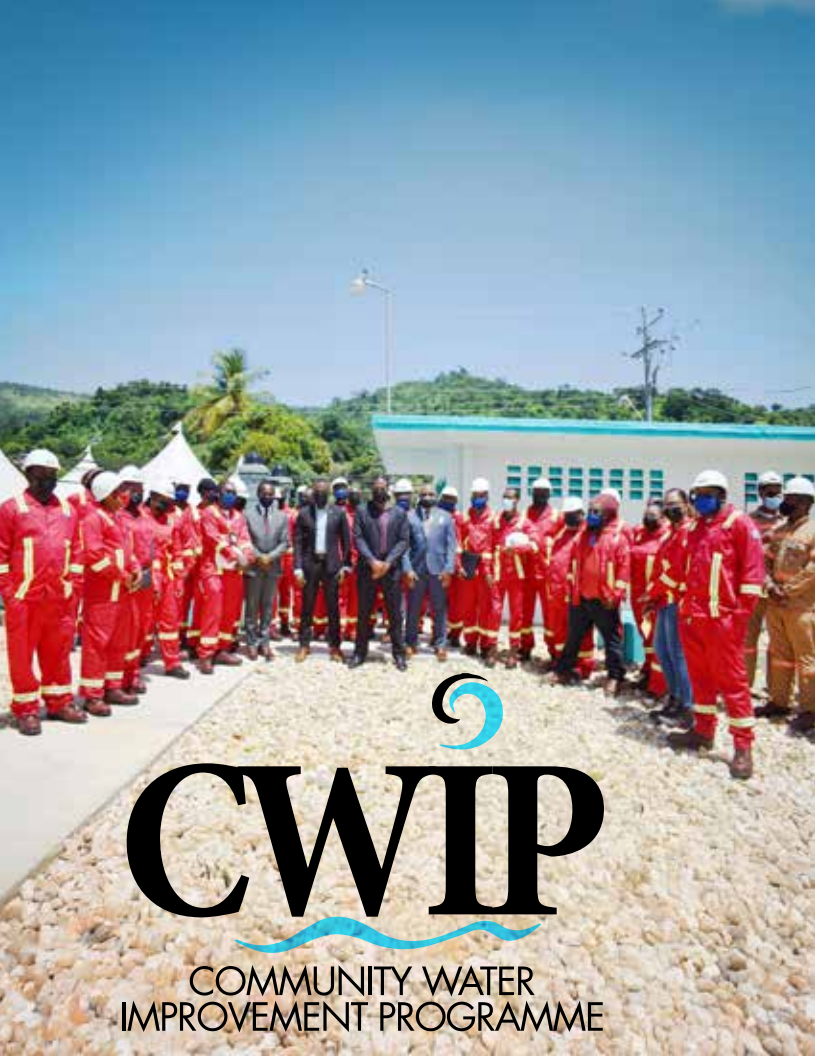
This programme is executed through a phased approach. Since its inception, over 91 projects have been successfully completed.

CWIP SUMMARY

The Community Water Improvement Programme recommenced in 2020 and has been successfully implemented in five (5) phases, with each Phase accomplishing 10 to 27 successfully completed projects.

Programme Phases:

- **Phase 1: 20 Projects**
- **Phase 2: 10 Projects**
- **Phase 3: 21 Projects**
- **Phase 4: 13 Projects**
- **Phase 5: 27 Projects**



Phase 1

- Installation of 240 m of 100 mm (4") main along upper Mendez Drive Extension, Champ Fleurs
- Installation of 1.2 km of 150 mm (6") pipeline along Ramjattan Trace Penal from S.S. Erin Road Upgrade of Pitch Road Booster Station
- Construction of two (2) Booster Stations at Upper Le Platte
- Installation and commissioning of Tamana Booster Station
- Installation and commissioning of Tamana Well #1
- Commissioning of Upper Wharf Trace Booster Station
- Upgrade of Lower Wharf Trace Booster Station
- Installation of 350 m of 4" PVC main to extend the existing distribution mains along Morne Roche Quarry Road, Williamsville
- Installation of 400 m of 100 mm (4") PVC pipeline along Clarke Road, Penal within Petrotrin Bungalow Camp
- Upgrade of existing 220 m of 100 mm (4") PVC water main on Subadar Street, La Fortune, La Romaine
- Installation of 1100 m of 100 mm (4") PVC main along Petit Trou Road and Morne Cabrite Road, Toco

Project List

- Construction of new 750,000 gallon cylindrical metal storage tank at Valsayn Waterworks
- Refurbishment of La Fortune WTP, Point Fortin
- Construction of Brazil Booster Station at Brazil Main Road, San Raphael
- Installation of 600 m of 100 mm PVC pipeline and 120 m of 150 mm PVC pipeline within La Romain EMBD Residential Site and renewal of 732 m of 20 mm water service connections
- Replacement of 180 m of 100 mm PVC Mains and 165 curb vales along Picton Road Development, Phase II, Papourie Road, Diamond Village, San Fernando
- Installation of 568 m of 100 mm (4") PVC pipeline along Leotaud Trace, Talparo
- Construction of Manzanilla Booster Station
- Installation of 2 km of 50 mm PVC pipeline and twelve 25 mm water service connections with curb valves and a 2" washout, Brasso Seco Village, Blanchisseuse.
- Construction of La Pastora Intake #2, the installation of 170 m of 4" pipeline, and the construction of a treatment facility at Lopinot Branch Road

Phase 2

- Installation of 200 m of 100 mm main on Morne Rene Road
- Installation of 240 m of 100mm PVC mains along Thomas Trace, Los Iros
- Construction of a booster station along Golden Grove Road, Arouca
- Installation of 360m of 100mm PVC from LP50 Bocas Avenue to LP 29 Bocas Avenue, Charlieville
- Installation of 366m of 100mm PVC mains at Howell Avenue and White Drive, off Cemetery St, Five Rivers
- Installation of 2 km of 100 mm PVC main and construction of an intake at La Laja Road, Blanchisseuse
- Installation of 500 m of 100 mm PVC main from Jackman Trace to Esmeralda Road, Cunupia
- Construction of the French Fort Booster
- Installation of 600 m of 100 mm PVC mains from Manodath Road Extension to Las Lomas #2
- Construction of the Cut Hill Booster

Phase 3

- Installation of 0.8 km of 100mm PVC pipeline to replace long service connections along Sugar Lane, Sangre Grande
- Installation of 300m of 100mm PVC pipeline along Jubilee Street
- Installation of 1500m of 200mm PVC mains from Ronnie Cato Road along Roopsingh EMBD to Temple St., Brickfield via cross country route.
- Replacement of an undersized 460m of 200mm pipeline with 200mm DI pipeline along Appoo Avenue, Orangefield, Carapichaima
- Installation of 543m of 100mm PVC main at Kanchan Trace, Caratal
- Installation of 750m of 150mm PVC Pipe along Signal Hill Main Road to improve the level of service to the extremities
- Installation of 450m of 100mm PVC main along Church Street, Matura to improve the level of service to the extremities
- Replacement of Long Service Connection by installation of 890m of 100 mm PVC pipeline along Young Street, Canaan
- Construction of Booster Station along Shirvan Road, to improve the levels of service to the southwestern section of Tobago (Shirvan Road to Crown Point)
- Construction of a Tank and Pumping system, installation of 120m of 4" pipeline and the construction of a 20,000 gal tank farm (4-5000gal PVC tanks), First People's Location, Blanchisseuse Main Road
- Construction of two (2) Booster Stations to boost supply from Meyah River to Paramin Level 5 Tank Farm.
- Construction of Booster Station at Maingot Road, off Tunapuna Rd, Tunapuna.
- Installation of 800m of 100mm mild steel mains for system interconnectivity from Meyah River to proposed Tank Farm at Level Paramin.
- Construction of new 750,000 gal cylindrical metal storage tank at Valsayn Waterworks, Valsayn
- Construction of 100,000gal tank farm at Level 5, Paramin.

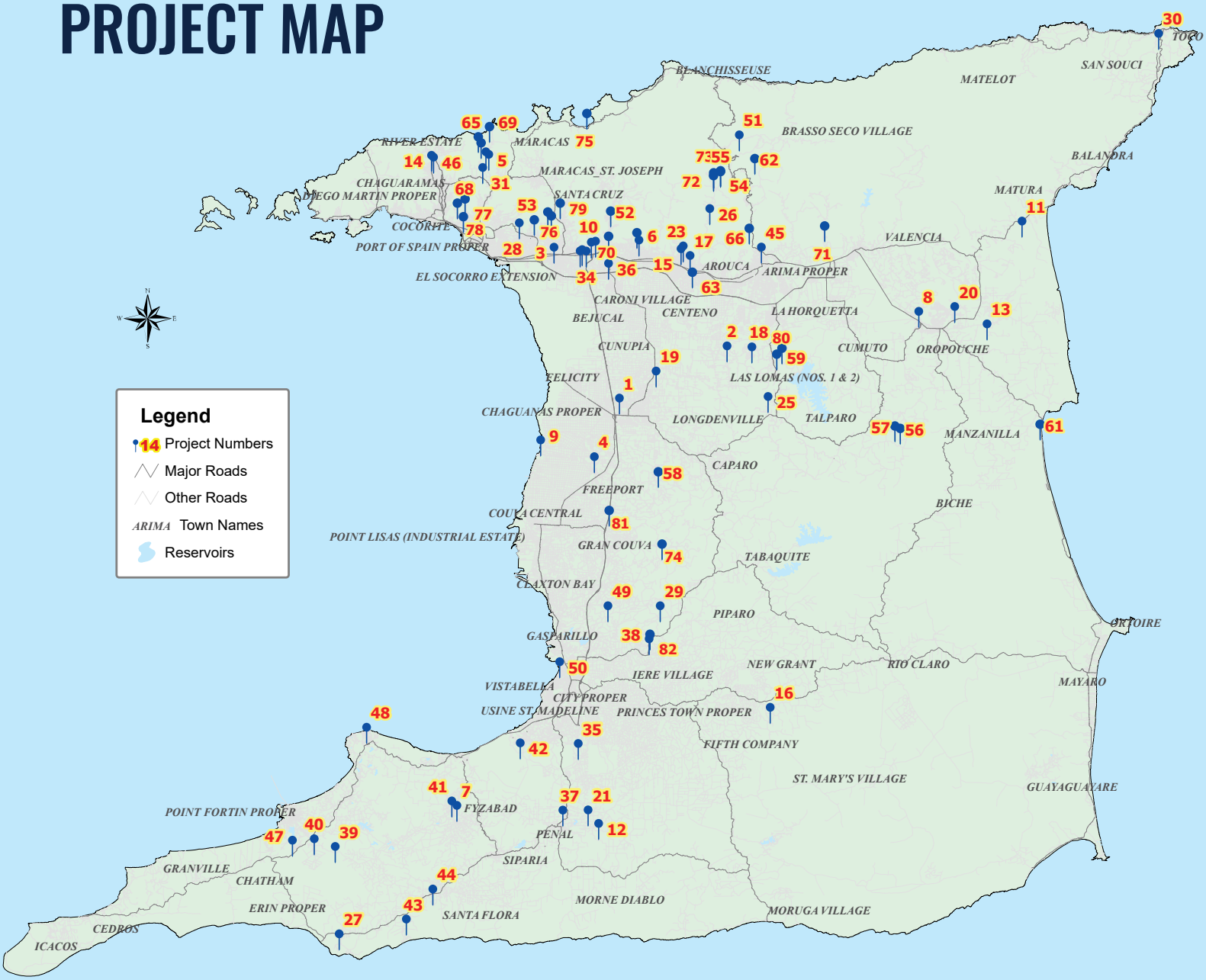
Phase 4

- Construction of Aripo Village Intake
- Construction of an intake Water Treatment Plant and booster station to supply the residents of the Corosal Village along Corosal Road, Gran Couva
- Automation of Lopinot WTP
- Construction of Lopinot Tank Farm (100,000 gallons)
- Construction of Booster Station at Celestine Trace, Maraval
- Construction of Booster Station at Cocorite Terrace, Cocorite
- Construction of Booster Station at Battery Fort George
- Construction of two (2) Booster Stations at James Street, Goodwood
- Construction of Booster Station at Hope Trace Booster
- Installation of 1550 m of 4" pipeline at Lopinot
- Installation of 5 km of 100 mm PVC pipeline along Corosal Road, Gran Couva
- Installation of 280 m of 75 mm PVC pipeline along Stephen Johnson Road, Erin
- Installation of 250 m of 100 mm PVC pipeline along Hindustan, Princes Town

Phase 5

- Rehabilitation of the Tyrico Water Treatment Plant
- Upgrade of the La Hoe Booster Station
- Installation of 1.3km of 150mm Transmission pipeline from the Bagatelle Booster to the La Hoe Booster Station
- Upgrade of the Dundonald Hill Booster station to provide increased efficiency of supply inclusive of SCADA Integration.
- Replacement of pipeline- Mucurapo Road
- Installation of 400m of 100m PVC pipeline along Hillview Drive 100 Steps, Laventille Road
- Installation of 550m of 100m PVC pipeline along Mayfair Gardens, Santa Cruz
- Installation of 1300m of pipeline in St. Albans, Valencia
- Installation of 270m of 100mm pipeline in Bertie Road, Five Rivers
- Replacement of 390m of 100mm PVC pipeline in Manimore Road, Five Rivers
- Installation of 400m of 100mm pipeline along Jitman Trace
- Installation of 273m of 100mm Pipeline along Polo Ground Road.
- Replacement of 300 m of 4 inch Asbestos Main on 1st St. Mt. Lambert
- Replacement of 300 m of 4 inch Asbestos Main on 8th St. Mt. Lambert
- Replacement of 700m of 4inch Asbestos Main with 4 inch PVC on 1st Avenue, Mt. Lambert
- Installation of 100m of 100mm PVC main along Katwaroo Extension Penal
- Installation of 1000m of 150 mm Main along Salazar Trace, Point Fortin
- Installation of 100m of 100mm PVC, along Ramoutar Avenue, Eckles Village.
- Installation of 1100m of 300mm mains from Williamsville Junction to Eccles Village Road along Guaracara, Tabaquite Road
- Installation of 250 metres of 100mm PVC main from LP 103A along Bissoon Street to LP 104/5 Bissoon Street Fyzabad.
- Construction of Pine Hill Booster and Tank farm
- Design and Construction of a booster in Union, Tobago
- Installation of 100mm PVC pipeline in Union, Tobago
- Construction of a 100,000-gal Tank Farm at Wharf Trace, Maracas St. Joseph
- Replacement of 1.6km of 4” distribution pipeline in Jai Development
- Installation of 2200m of 150mm PVC pipeline along Hudaa Drive, Las Lomas #3

CWIP
PROJECT MAP



North West Water Supply Improvement Programme

Programme Overview

The North West Water Supply Improvement Programme (**NWWSIP**) focuses on the improvement of water supply service to customers within the North Western districts in Trinidad.

Customers within this region generally reside at higher elevations necessitating the use of booster pumping stations. The pressures exerted by these facilities for the consistent transmission of an adequate and reliable water supply, ultimately lead to strains on the North West network system. This has resulted in ruptures to several pipelines which, when paired with aging booster infrastructure, lead to forced plant operation downtimes, and the inconvenience of customers.

The NWWSIP's goal ultimate therefore, is the elimination of that customer inconvenience through the upgrade of water treatment plant and booster systems. Additionally, the programme intends to replace faulty pipelines and develop new water sources to counteract the effects of inevitable population increase.

Phase 1 of the Programme comprises forty (40) projects, primarily in the following areas:

1. Facility Refurbishment & Upgrade
2. Water Source Development
3. Improvements to the Transmission Network
4. Network Intelligence and Optimization

Phase 1 is underway and already providing improvements in the reliability of service to residents across North West Trinidad, in communities such as Simeon Road, Petit Valley; Cascade, St. Ann's; La Horquette Valley Road, Glencoe; Picton Road, Laventille; Haig Street, Carenage; and Beau Pres Road, Paramin.

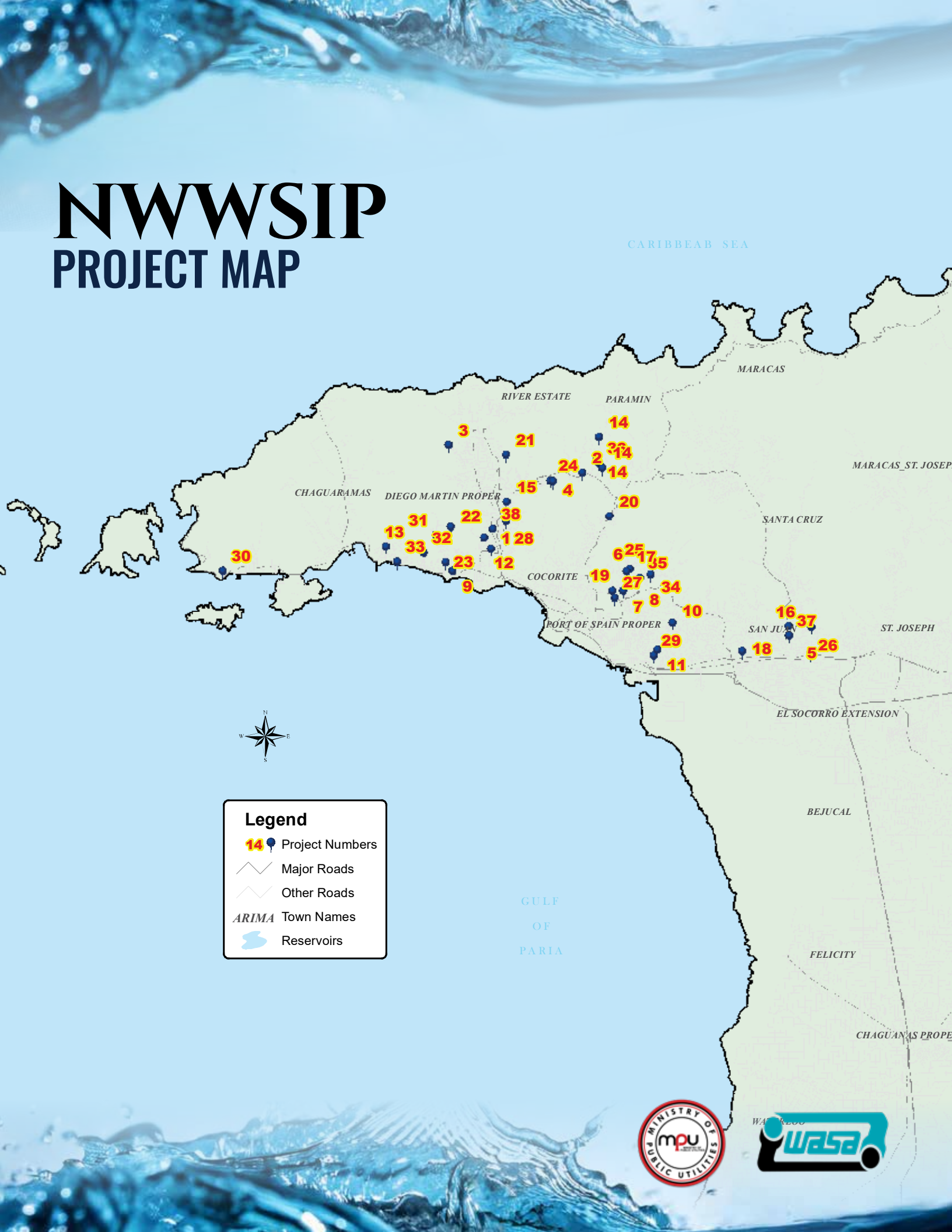
NWWSIP Phase 1 Summary: 40 Projects-93k Beneficiaries

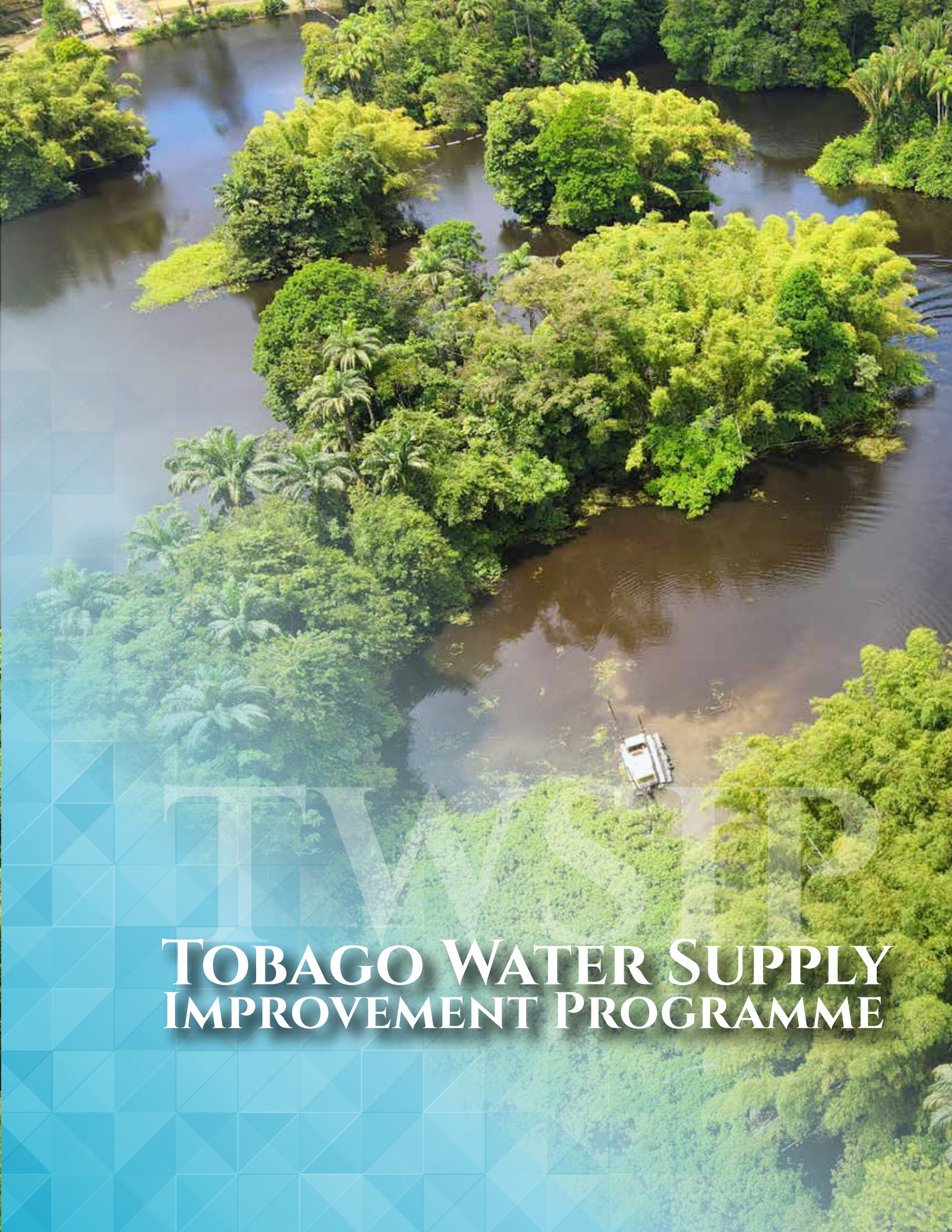
NWWSIP PROJECT LIST (2020-2024)

- Upgrade of Simeon Road Booster Station
- Upgrade on Four Roads Waterworks
- Upgrade Le Platte Booster Station
- Upgrade of Upper Covigne Booster Station
- Construction of a new booster station at Upper Pioneer Drive, Petit Valley
- Construction of a new booster station at Maitagual
- Upgrade of St. Ann's High lift pumps
- Refurbishment and Upgrade of Coblentz "A" and "B" Booster Stations (Minor Civil/ equipment)
- Refurbishment and Upgrade of Foncette Booster Station
- Upgrade of La Horquette Booster (equipment)
- Upgrade of St. Barbs Booster Station
- Upgrade of Pump Trace Booster Station
- Upgrade Picton 2 Booster stations
- Upgrade The Park Booster Station (Civil works, equipment)

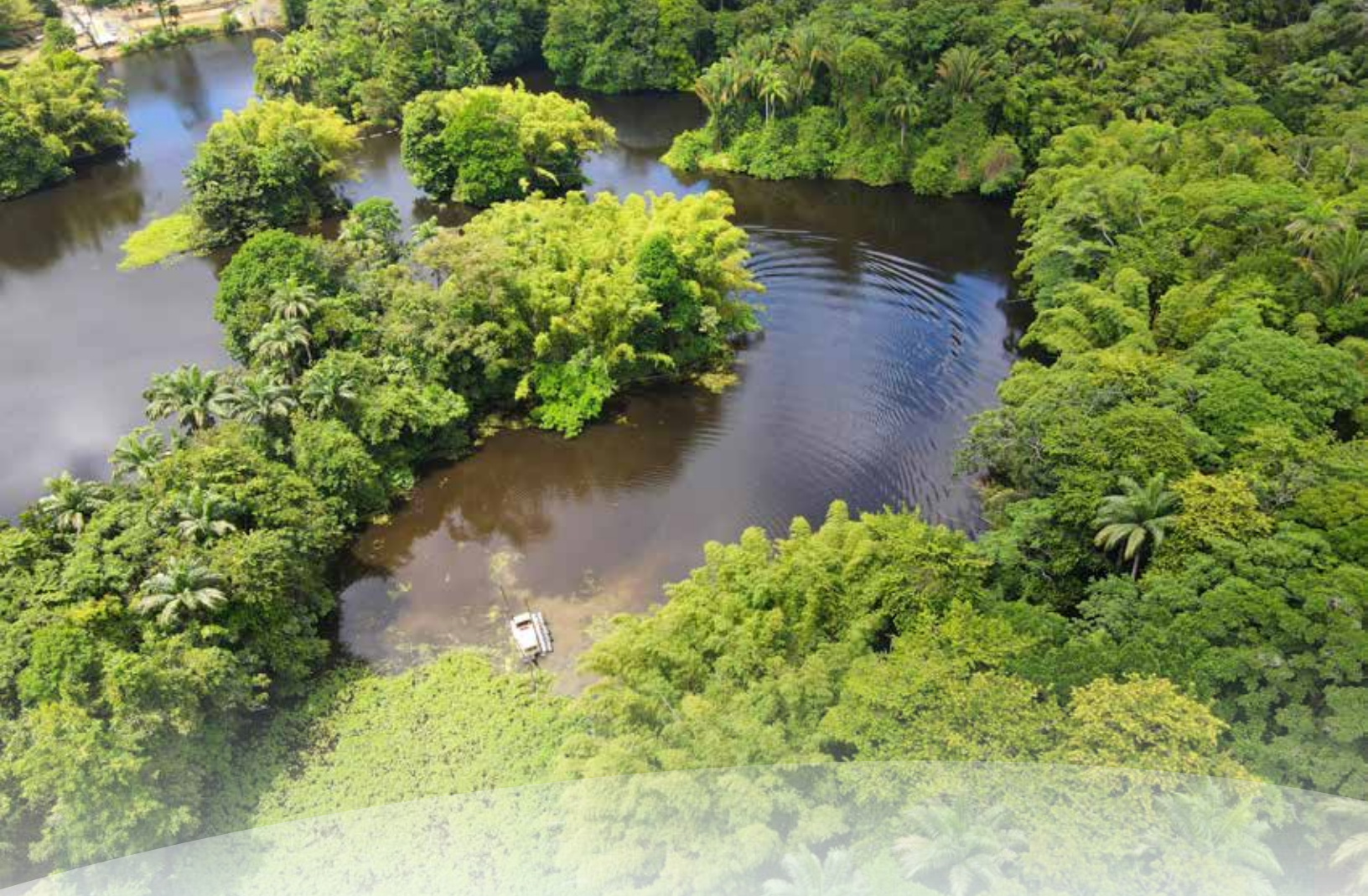
- Upgrade Fantasy Booster Station (Civil works)
- Upgrade La Puerta Booster (equipment)
- Upgrade Westvale Booster (civil work, equipment)
- Upgrade Scorpion Booster (equipment)
- Upgrade L'anse Mitan (equipment)
- Upgrade Paramin Levels 1, 2 & 3 Booster Stations (minor civil, equipment)
- Replacement of 1019m of 100mm Grey PVC pipeline with 100 mm white PVC pipeline in Pioneer Drive, Petit Valley
- Replacement of 1.3 km of 200 mm AC pipeline with 200mm PVC pipe along WMR, Carenage
- Replacement and rerouting of 1.4 km 250 mm steel mains from Foncette Booster to Hololo Tank
- Replacement of 400 m of 150 mm and 100 mm gravity mains with 200 mm steel mains Cross Country from Mount Hololo Road to Ariapita Road
- Installation of 610 m of 150 mm PVC main along Cascade Road, Cascade
- Installation of 1.0 km of 200 mm Express Pipeline from Level 1 to Level 2 Paramin along Beau Pres Road
- Installation of 862m of 150mm PVC main & 93m of 100 mm PVC mains with associated infrastructure along Maloney Street, Petit Valley
- Replacement of 2.2km of 200 mm AC pipeline with 200mm PVC pipeline along Morne Coco Road
- Replacement of 300 m of 100 mm CI main with 300 m of 100 mm PVC main at St. Ann's Gardens
- Installation of 0.2 km of 100 mm steel main along Rosa Hill, Saddle Road, Maraval
- Replacement of 400 m of 100 mm CI pipeline with 100 mm PVC pipeline along Concord Road, San Juan
- Replacement of 580 m of 100 mm CI main WITH 100 mm PVC mains along Second Street, Malick
- Replacement of 200 m of 100 mm PVC main along AverBoukh Avenue, Diego Martin
- Construction of 0.5IMGD well at President's Ground, Cascade
- Refurbishment / upgrade of Maraval WTP; Filter and Chlorinator components.
- Installation of 552 3/4" solid state domestic meters and meter boxes with the appropriate system to facilitate drive-by readings within St. Lucien Road
- Supply and installation of 19 bulk electronic flow meters in six areas and 50 telemetric data loggers within the distribution system - 19 on production facilities and 31 at various points along the pipeline network within the service area of Maraval, St. Ann's, Cascade, Belmont, Paramin, St. Clair, and Woodbrook
- Enable the remote management of several facilities (Tucker Valley, Rivers Estate, Four Roads) that are critical to the Authority's mission of delivering potable water to the customers of Trinidad and Tobago.
- Refurbishment and upgrade to Queen's Park Savannah Well #10

NWWSIP
PROJECT MAP





Tobago Water Supply Improvement Programme



Tobago Water Supply Improvement Programme

TOBAGO WATER SUPPLY IMPROVEMENT PROGRAMME OVERVIEW

Over the past four (4) years, WASA's customers in Tobago have benefitted from a suite of projects across multiple programmes and initiatives, including:

- The Community Water Improvement Programme
- The Public Sector Improvement Programme
- The Well Development Programme.

These projects served to increase water availability through the drilling and equipping of wells, improve storage capacity through the construction of tanks, and improve the network's connectivity and efficiency through the construction of booster stations and installation of new pipelines.

One key initiative was the long overdue desilting of the Hillsborough Dam, the island's sole impounding reservoir. The reservoir was designed to have a storage capacity of 227 Imperial Million Gallons of water, and to produce 1.4 million gallons of water per day through the Hillsborough WTP. However, over time, the capacity of the dam was gradually reduced due to settling of sediments, which affected the production of the plant. Through the desilting initiative, 256,000 cubic meters of silt was removed restoring the reservoir to a storage capacity of 225 Imperial Million Gallons. Approximately 15,000 customers have benefitted from this project.

Tobago Project List

- Design and Construction of Charlotteville WTP
- Installation of 100 m of 50 mm Ductile Iron pipeline at Hibiscus Drive, Moriah
- Installation of 300 m of 100 mm PVC pipeline at #1 Village Street, Bon Accord
- Installation of 570 m of 100 mm PVC pipeline at Lammy Road, Argyle
- Installation of 730 m of 100 mm PVC pipeline at the new ANR Robinson Airport
- Installation of 150 m of 100 mm PVC pipeline at Buck Buck Alley, Canaan Main Road
- Construction of Cut Hill Booster Station
- Construction of French Fort 1 & 2 Booster Stations
- Installation of 200 m of 100 mm PVC pipeline along Road Reserve off French Fort
- Installation of 720 m of 100 mm PVC pipeline along Tom Philip Road, Courland
- Hillsborough Reservoir Desilting Project
- Refurbishment of Signal Hill Tanks
- Installation of 820 m of 4" PVC Mains at Young Street, Canaan
- Installation of 450 m of 4" PVC pipeline along Mason Hall/Les Coteaux Road
- Installation of 400 mm of Ductile Iron pipeline from Signal Hill Traffic Lights to Apex Building
- Construction of Hope Trace Booster Station
- Construction of Highlands Road Booster Station
- Bad Hill Development Programme:
  - Drilling and Outfitting of Three (3) wells
  - Construction of Two (2) Booster Stations
  - Installation of Distribution Pipeline: 500m of 150mm PVC Pipeline along Mills Pass, Plymouth Road
  - Installation of a Transmission Pipeline: 750m of 200mm PVC Pipeline along Mills Pass, Plymouth Road to Bad Hill Tanks, Plymouth Road
- Construction of Pine Hill Booster Station

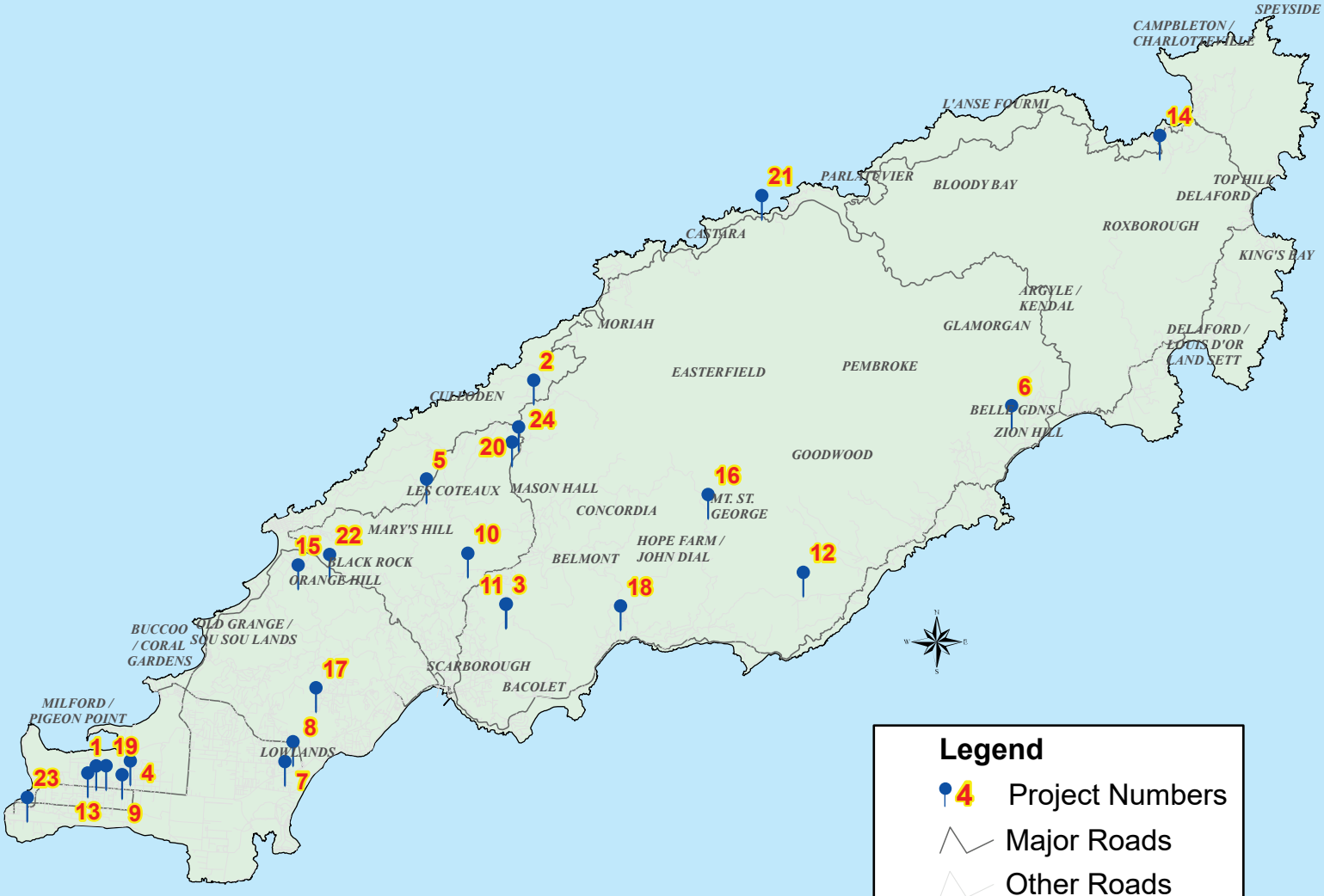
Pine Hill Booster Station

Desilting of Hillsborough Dam

Charlotteville WTP

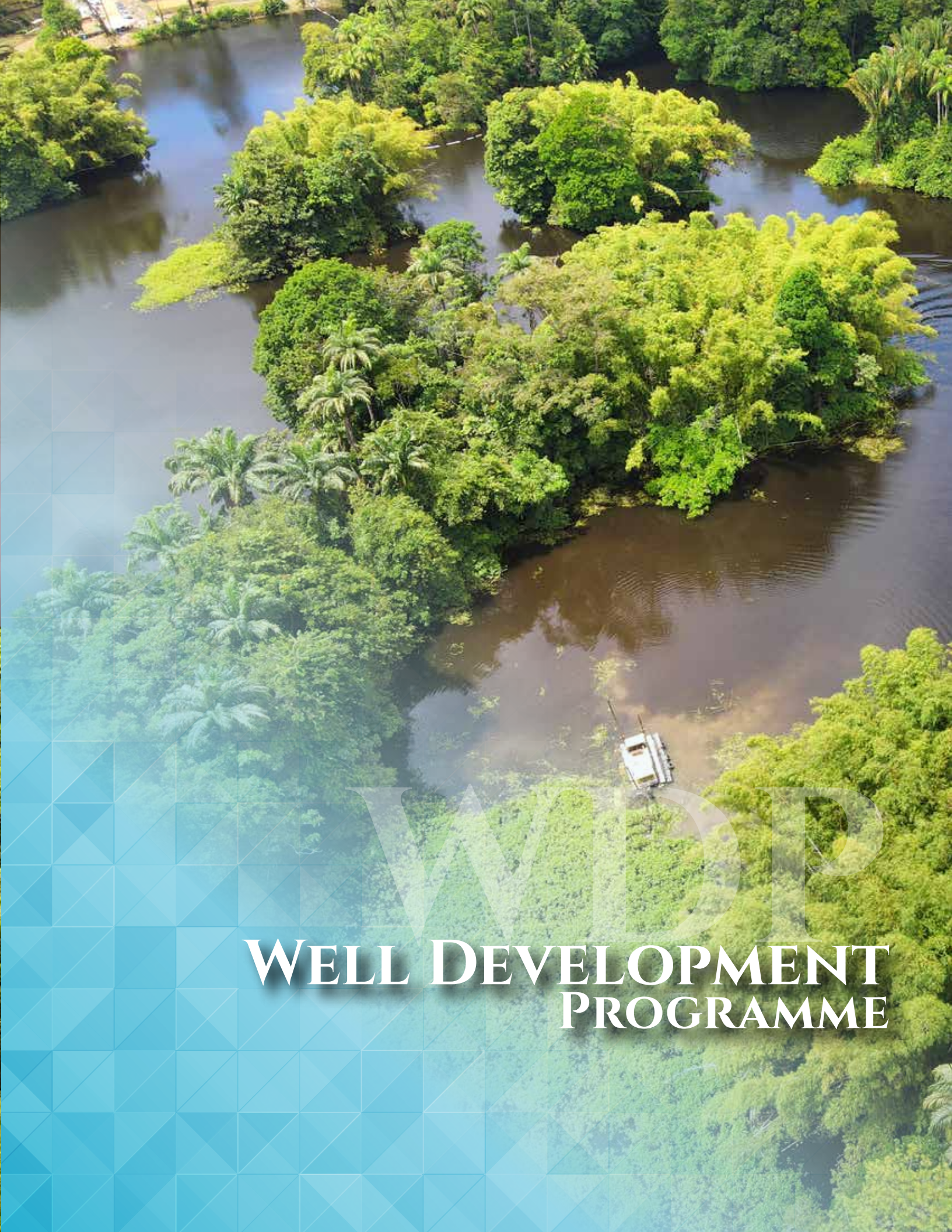
Tobago Projects

TWSIP
PROJECT MAP



Legend

- 4 Project Numbers
- Major Roads
- Other Roads
- HOPE Town Names



WDP
Well Development Programme

WELL DEVELOPMENT PROGRAMME

PROGRAMME OVERVIEW

The Water and Sewerage Authority (WASA) utilizes numerous groundwater sources for the supply of water to its customers across Trinidad and Tobago.

Currently, there are about 255 (231 in Trinidad and 24 in Tobago) wells that supply a total production of approximately 61 IMGD. However, out of the 554 WASA operated wells, 25% are inactive or under-producing, whilst the vast majority have surpassed their useful life cycle, bearing ages of 25 years and above. The state of these wells calls for their rehabilitation, as well as the establishment of new groundwater sources.

The Wells Development Programme was therefore initiated to create projects that would increase the production of groundwater, and in so doing augment the supply from other sources.

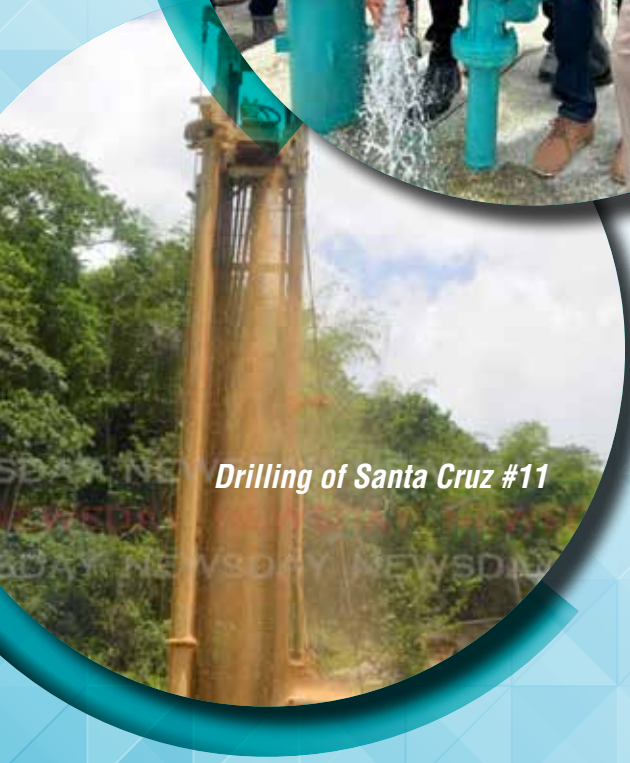
This programme operates in tandem with contractors in the private sector, who assume primary responsibility for the risks associated with well exploration services. This model serves both to assist WASA in determining feasible sources for groundwater, and simultaneously manage its cash flow. Thus far, 18 wells development projects have commenced utilizing this model.

Well Development Programme Project List

- Drilling and equipping of Chatham Well #17
- Drilling and equipping of Granville Wells #10 & #17
- Drilling and equipping of Santa Cruz Wells #10 &#11 and associated pipelines
- Rehabilitation of Ground Well #1
- Drilling and equipping of Tucker Valley Well #15
- Drilling and equipping of Tucker Valley Well #16A and associated raw water pipeline
- Drilling and equipping of Sangre Grande Wells #1 & #2
- Drilling and equipping of Paramin Well #2
- Drilling and equipping of Las Lomas Well #7
- Drilling and equipping of Carlsen Field Well #11
- Rehabilitation of Mayaro Wells
- Drilling and equipping of Arouca Wells #8, #9, & #10,
- Development of Moruga Wells
-
-

Commissioning of
Las Lomas #12 Well

Las Lomas Well #12 site

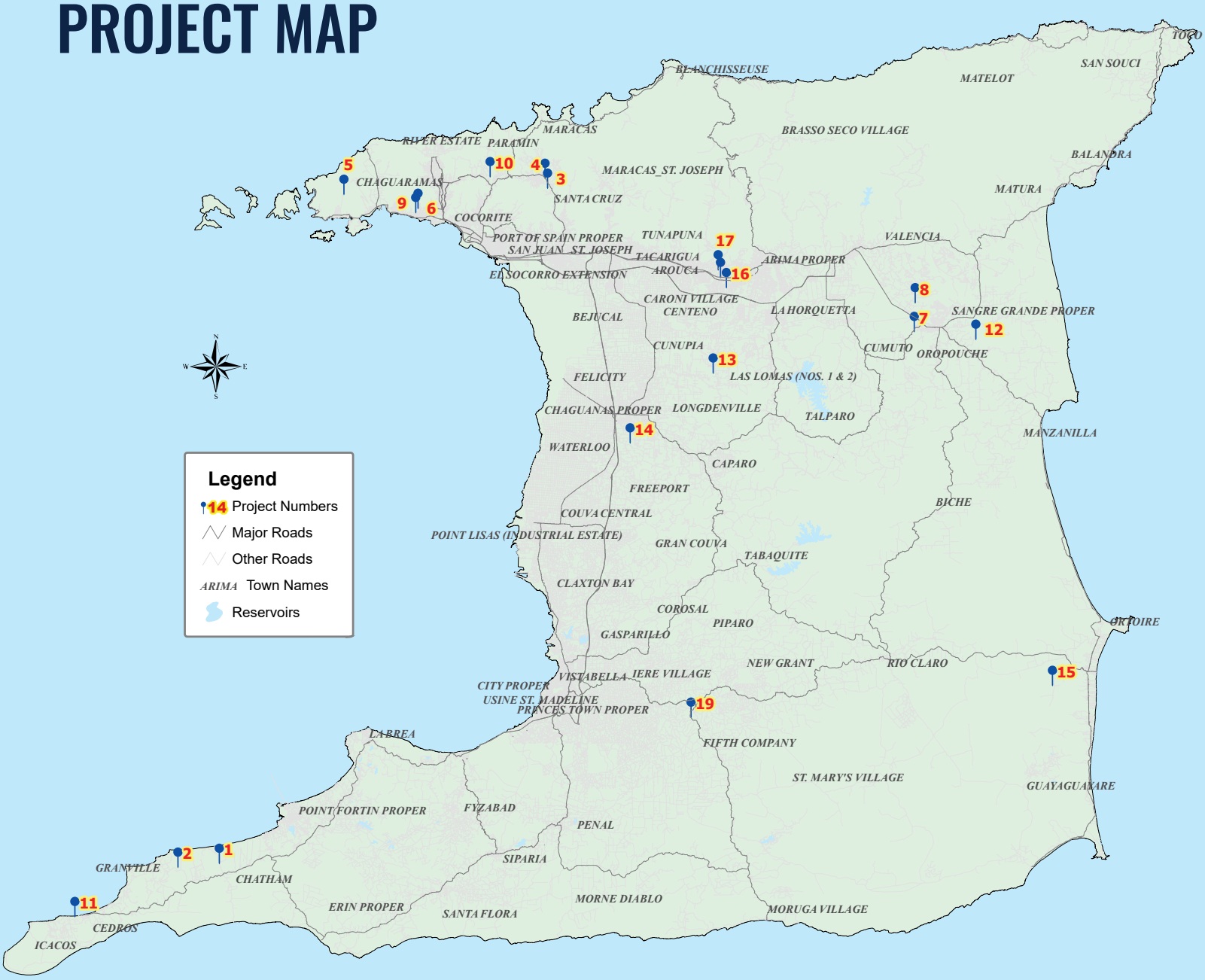


Drilling of Santa Cruz #11

Mayaro Well #20 site

WDP

WDP
PROJECT MAP



Guanapo River, Trinidad

National Water Sector Transformation Programme

National Water Sector Transformation Programme

Programme Overview

The National Water Sector Transformation Programme (**NWSTP**) is geared towards improving the efficiency, quality, sustainability and resilience of potable water supply service in Trinidad and Tobago.

Funded by the Inter-American Development Bank through the Conditional Credit Line for Investment Projects (**CCLIP**) Loan, the loan is administered by the Ministry of Public Utilities, with WASA as the executing agency, and involves joint programme administration by both bodies.

Through this loan, the MPU and WASA aim to achieve the following specific objectives:

- Improve reliability, resilience, efficiency and quality of water and sanitation services in the North-West, North East, Central, South and Tobago zones;
- Develop capacity and provide institutional strengthening to the MPU and WASA to improve governance and sustainable management of water resources; and
- Ensure access to water, sanitation and hygiene for vulnerable populations in T&T.

NWSTP COMPONENTS:

1.

Water Stabilization and Improvement

2.

Support for Water Sector Transformation

3.

Network Optimization

Component Overview:

Component 1:

Component 1 of the **NWSTP** entails a comprehensive programme of works to stabilize water supply services throughout Trinidad and Tobago. The programme aims to ensure access to water, sanitation, and hygiene to unserved and underserved households across the country.

The Component comprises twenty-three (23) projects, including the construction of new water treatment plants, the refurbishment of existing plants, and the development of new water sources, including wells and surface water sources.

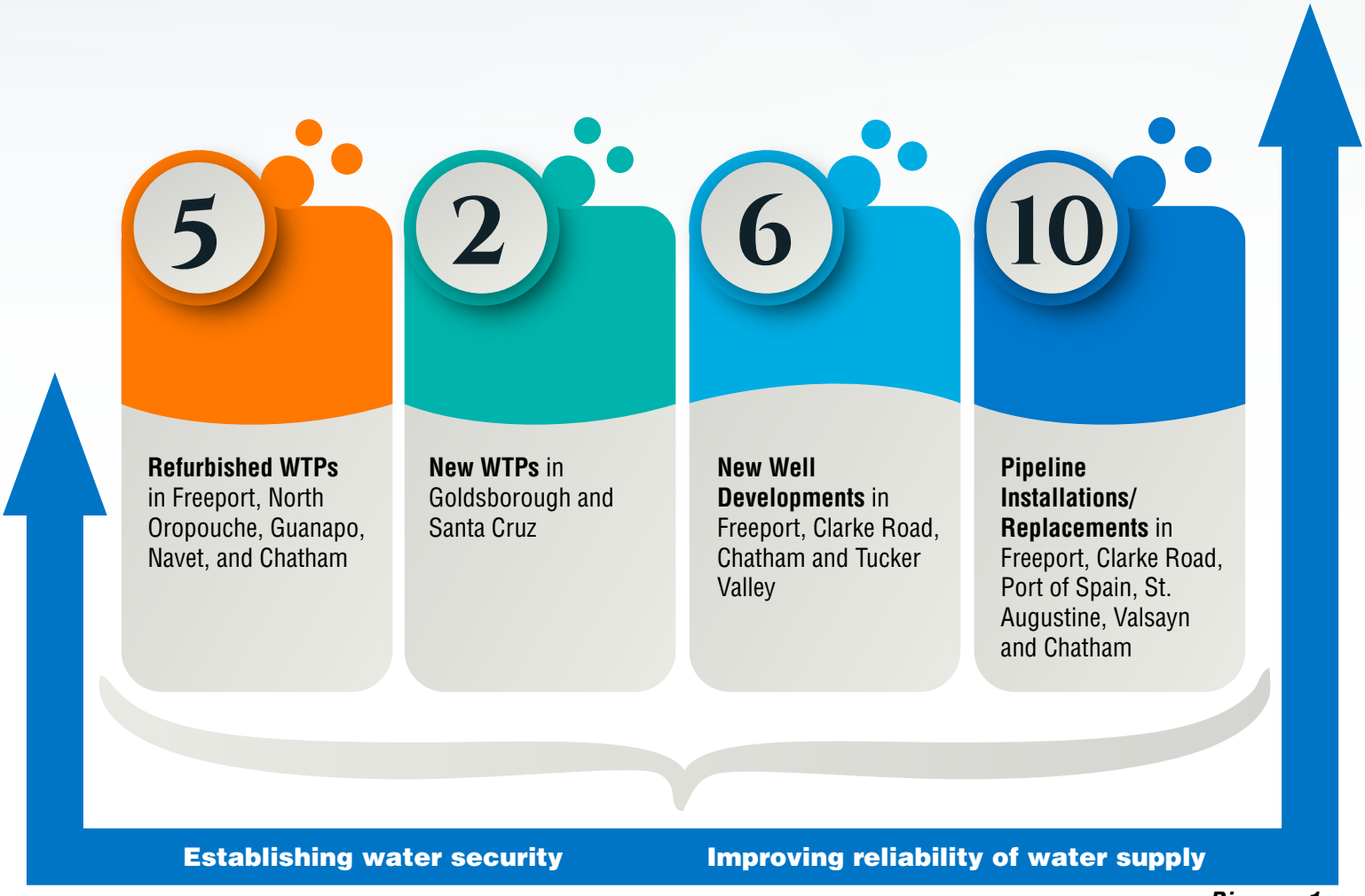


Diagram 1:

Component 2: Support for Water Sector Transformation Plan

WASA has an obligation to deliver a reliable potable water supply to all its customers in Trinidad and Tobago. As the demands for the provision of water services become progressively onerous, the Authority must find a way to execute all deliverables with minimal resources and sustainable practices.

To assist the Authority in this manner, the IDB supported Aqua Rating International Standard for Water and Sanitation Utilities performance evaluation tool will be used to assess the Authority's performance as a water utility company.

The results of the assessment will inform the effort to restructure and transform WASA, including addressing issues such as:

- Gender equality, diversity and inclusion at the company level;
- Resilience to Climate Change, Natural Disasters and Risk Management and promulgation throughout WASA; and
- Improvement of the Ministry's technical oversight capacity for coordination of water sector transformation and stabilization.

Component 3: Network Optimization

Component 3 of the NWSTP seeks to reduce the inefficiencies in WASA's water transmission and distribution networks through a suite of works primarily focused on water loss reduction and network monitoring.

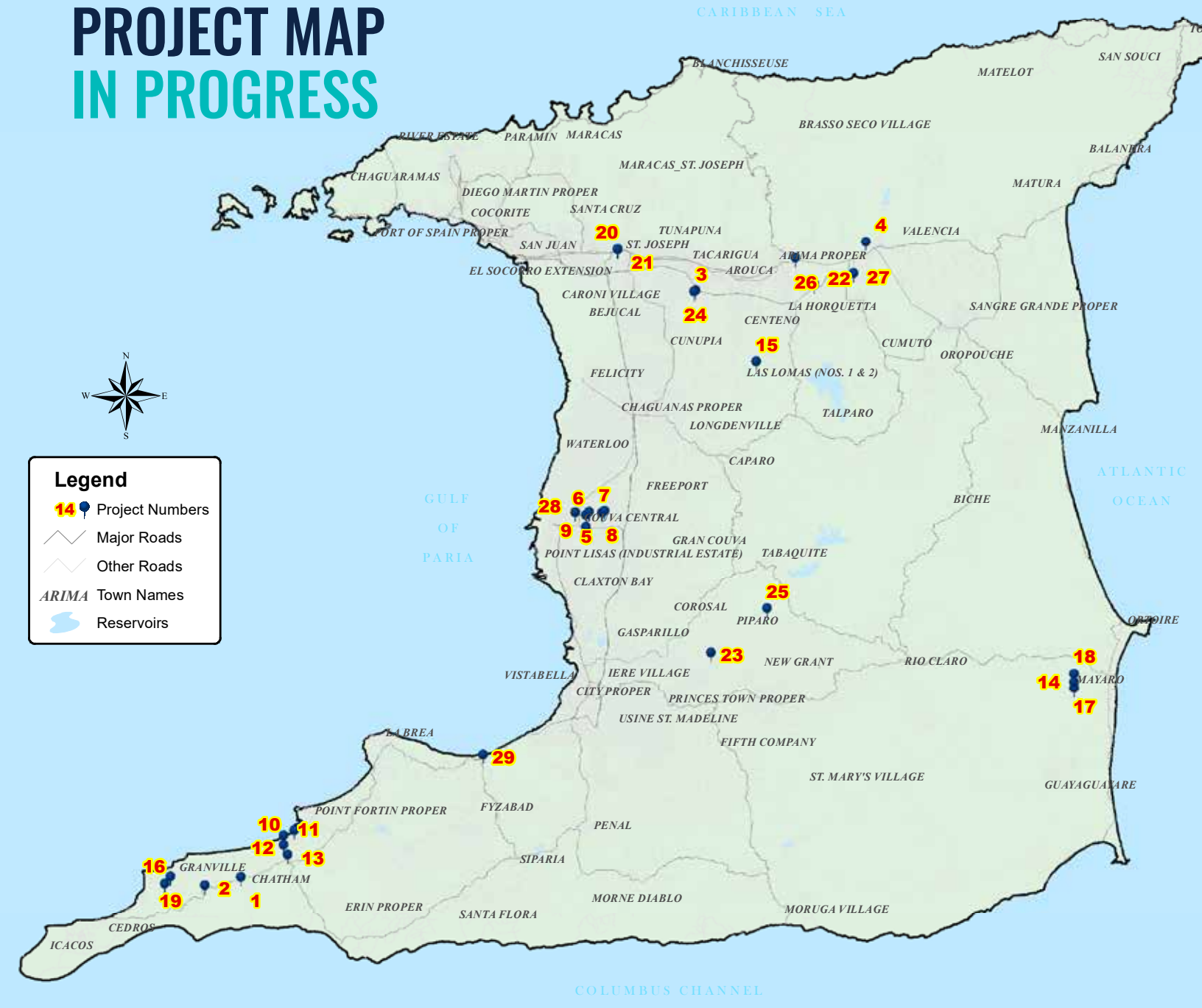
The projects comprise:

- Replacement of aged and fragile transmission and distribution networks to reduce water loss and high leakage in Petit Valley, La Cuesta, Freeport, Wallerfield, and Point Fortin;
- Installation of 256 bulk meters and loggers to monitor production for various water treatment plants, wells, and booster stations throughout T&T, and;
- Implementation of remote monitoring and control through SCADA automation infrastructure for real-time analysis of eleven critical facilities within Trinidad.

Projects under the NWSTP

- Conversion of Chatham Well #7 to a Production Well
- Rehabilitation of Chatham #14 Well
- Drilling & Equipping of Arouca #12 Well
- Installation of pipeline from Aripo P1 Well to Hollis Transmission Main
- Drilling & Equipping of Freeport #19 & #20 Well
- Installation of Freeport Well #19 Transmission Main - Pkg 1
- Installation of Freeport Well #20 Transmission Main - Pkg 2
- Installation of Pipeline from California Well #3 to Freeport Well #20 - Pkg 4
- Installation of Pipeline from Hollywood St to LP 57 along Guapo Cap-De-Ville Rd - Pkg 1
- Installation of Pipeline from LP 57 to LP 81 along Guapo Cap-De-Ville Rd - Pkg 2
- Installation of Pipeline from LP 81 to LP 103 along Guapo Cap-De-Ville Rd - Pkg 3
- Installation of Pipeline from LP 103 to South Central Rd along Guapo Cap-De-Ville Rd - Pkg 4
- Drilling & Equipping of Las Lomas Well #12
- Drilling & Equipping of Granville Well #18 and associated pipeline
- Drilling & Equipping of Mayaro Wells #18, #19, & #20
- Automation & Digitization of OCC
- Automation & Digitization Supply Installation & Configuration of HMI for OCC
- Automation & Digitization of North Oropouche Transmission Pipeline
- Automation & Digitization of Navet Transmission Pipeline
- Procurement & Installation of Bulk Flow Meters & Data Loggers Caroni North Transmission Pipeline
- Procurement & Installation of Bulk Flow Meters & Data Loggers Navet Transmission Pipeline
- Procurement & Installation of Bulk Flow Meters & Data Loggers Hollis Transmission Pipeline
- Procurement & Installation of Bulk Flow Meters North Oropuche Transmission Pipeline
- Upgrade & Refurbishment of South Oropouche Booster Station Phase 2
- Design and Construction of the Goldsborough WTP

NWSTP
PROJECT MAP
IN PROGRESS

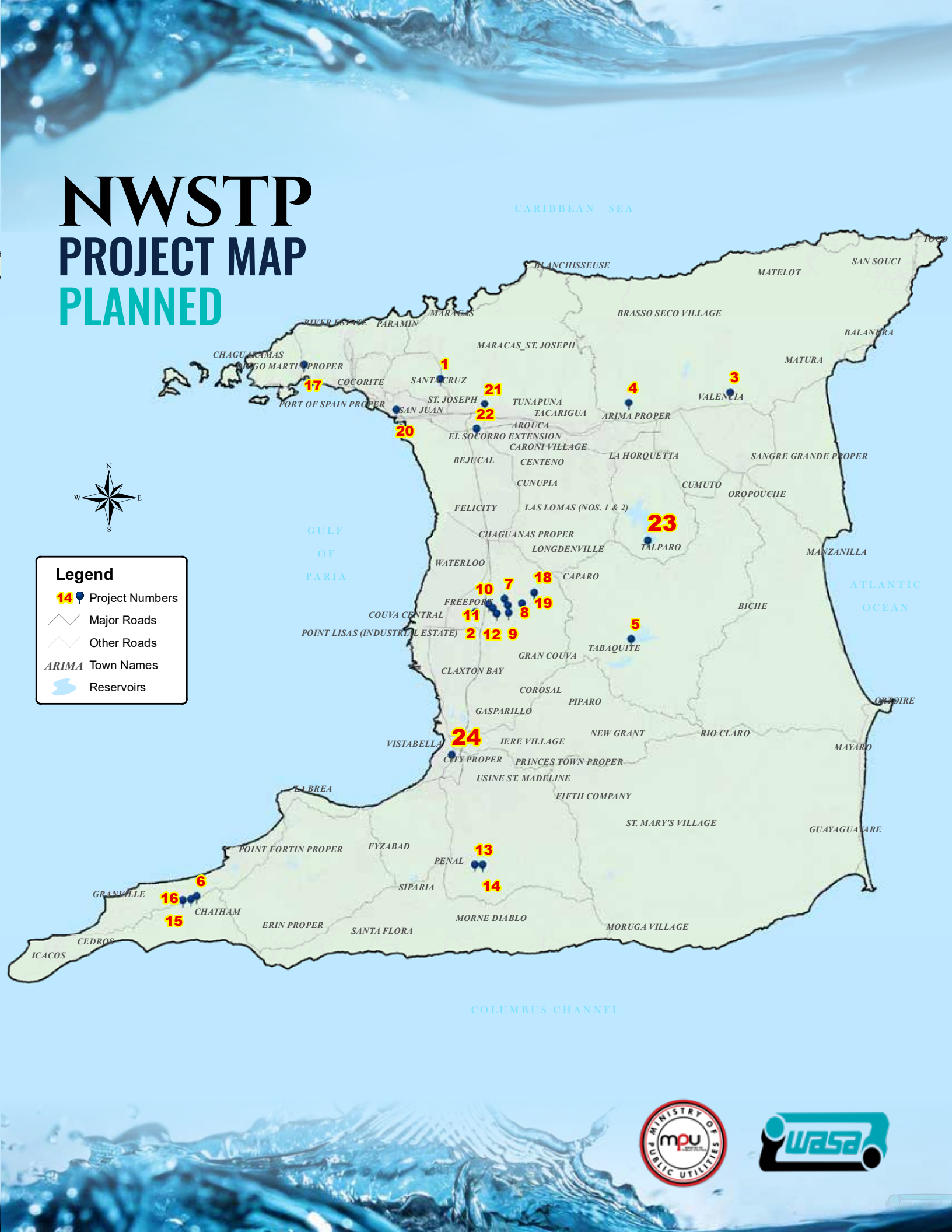


N
W
E
S

Legend

- 14 Project Numbers
- Major Roads
- Other Roads
- *ARIMA* Town Names
- Reservoirs

NWSTP
PROJECT MAP
PLANNED



Ravine Sable Sand Pit, a freshwater reservoir in Longdenville, Trinidad

NATIONAL WATER STABILIZATION AND IMPROVEMENT PROGRAMME

NATIONAL WATER STABILIZATION AND IMPROVEMENT PROGRAMME

Programme Overview

The National Water Stabilization and Improvement Programme (**NWSIP**) aims to improve the efficiency, quality, sustainability, and resilience of potable water supply within underserved and unserved communities across Trinidad and Tobago, in accordance with the MPU's Strategic Action Plan for Water Supply Improvement.

The Programme comprises 17 projects across two (2) primary categories:

Drilling and Equipping of Wells and installation of pipelines in:

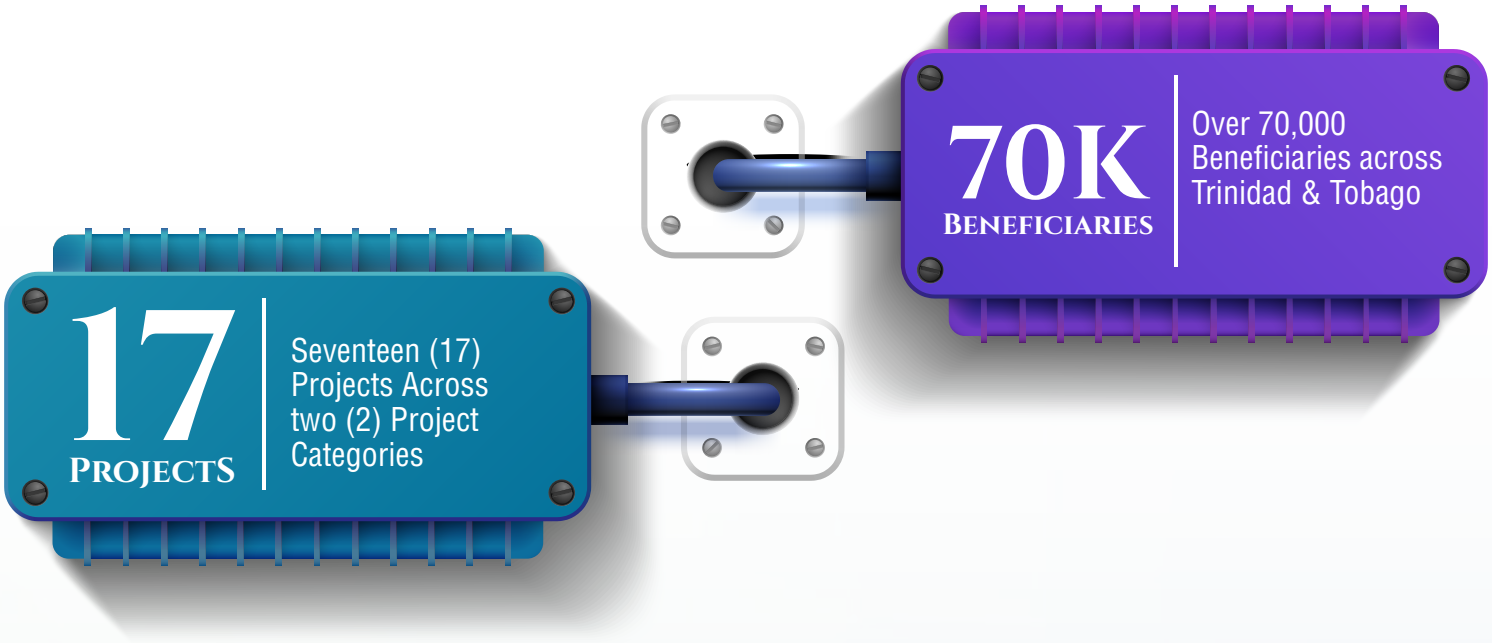
- Palo Seco (5 wells – 0.85 IMGD)
- Carapal (5 wells – 0.85 IMGD)
- Wallerfield (2 wells – 0.98 IMGD)
- Talparo (1 well – 0.3 IMGD)
- Valencia (1 well – 0.16 IMGD)

Construction/Upgrade of Water Treatment Plants:

- Construction of the Moruga Desalination Plant (1.0 IMGD)
- Upgrade of the Carapal Water Treatment Plant (WTP) (1.7 IMGD)
- Retrofitting of Carlsen Field WTP (2.0 IMGD)

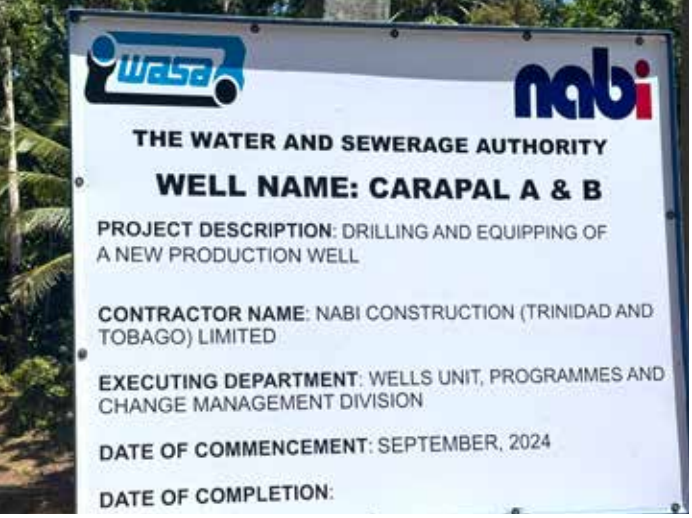
The Programme is currently in the Procurement phase, and is projected to begin execution in 2025. Once successfully implemented, the programme will introduce an additional 6.14 IMGD into the national water supply.

NWSIP COMPONENTS:



Project Overview

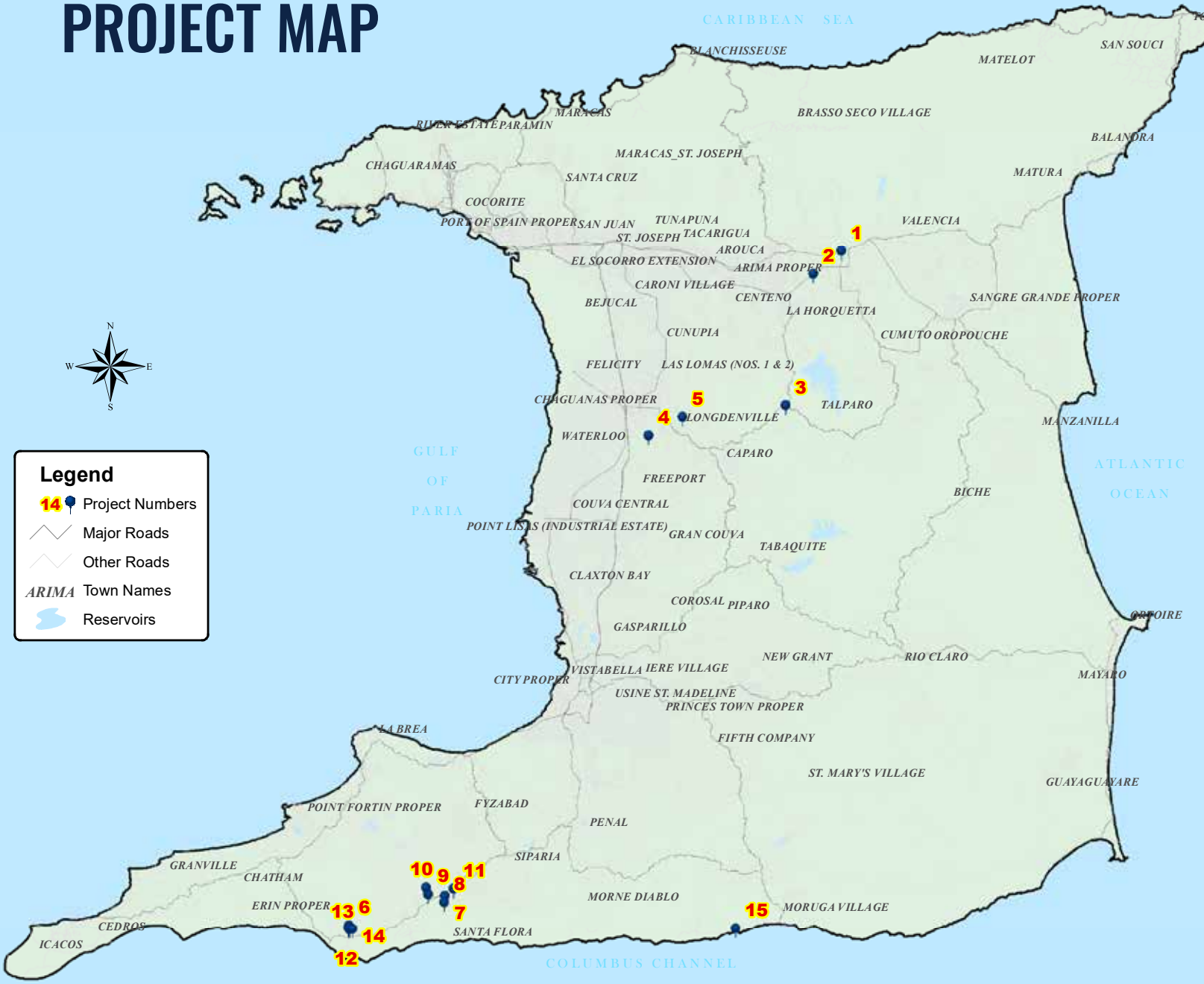
- The design, construction, operation and maintenance, and handover of a 1 IMGD modular seawater reverse osmosis plant and a 100,000-gallon treated water storage tank in La Lune, Moruga
- The design and construction of a 2 IMGD package plant at Carlsen Field WTP, the construction of a new intake at Ravine Sable Sand Pit, Longdenville, and the Construction of a Transfer Station at Caparo River, Longdenville
- The upgrade of Carapal WTP to 2 IMGD to support an additional 1.7 IMGD from ten (10) new wells to address the supply deficit of the Chatham Supply Zone
- The Drilling and Equipping of Fourteen(14) New Wells in South and North Trinidad adding a total of 3.23 IMGD to the Trinidad Supply Network.
  - **Palo Seco A & B**
  - **Carapal A, B, C, D & E**
  - **Los Bajos 1B & 2B**
  - **Waddle Well #1**
  - **Wallerfield #20 & #21**
  - **Valencia #1**
  - **Talparo #2**



Projects under the NWSIP

- Drilling and equipping of Valencia well #1
- Drilling and equipping of new Wallerfield #20 & #21 wells
- Drilling and equipping of one (1) well in Talparo
- Retrofitting of Carlsen Field WTP
- Installation of Ravine Sable Raw Water Transmission Pipeline
- Upgrade of Carapal WTP
- Drilling of Palo Seco Well A and installation of 0.4km interconnecting pipeline
- Drilling of Palo Seco Well B and installation of 1.6km interconnecting pipeline
- Drilling of Los Bajos Well 1A and installation of 0.6km interconnecting pipeline
- Drilling of Los Bajos Well 2B and installation of 0.5km interconnecting pipeline
- Drilling of Waddle Well 1 and installation of 3km interconnecting pipeline
- Drilling of two (2) new Carapal Wells A and B installation of 1.9km interconnecting pipeline
- Drilling of Carapal Wells C and D and installation of 3.1km interconnecting pipeline
- Drilling of Carapal Well E and installation of 2.4km interconnecting pipeline
- Construction of 1 IMGD Modular Desalination plant in Moruga

NWSIP
PROJECT MAP



Legend

- 14 Project Numbers
- Major Roads
- Other Roads
- ARIMA Town Names
- Reservoirs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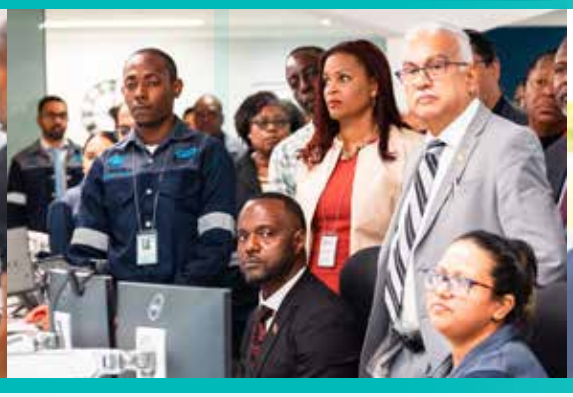
WASA's Operational Control Centre at WASA Head Office, St. Joseph

DIGITIZATION OF WASA



DIGITIZATION OF WASA

The Authority has committed to leveraging advanced technology for the digitisation of WASA and the automation of its operation systems, inclusive of:

- Establishment of a state-of-the-art Operational Control Centre (**OCC**) complete with touch screen video walls and modern data visualization software to allow for 24-hour remote monitoring and control of WASA's facilities from the **OCC**, installation of Geographic Information Systems (GIS) and the generation of Dashboards for all Supply Zones and systems which enhances executive, tactical, strategic and operational oversight,
- Installation of actuated valves and smart pressure reducing valves on the five(5) main transmission lines to regulate pressure and flows, and
- Installation of Supervisory Control and Data Acquisition (SCADA) and telemetric devices on the production, transmission and distribution systems making the Physical layer "intelligent".

WOCS
WASA OPERATIONS CONTROL SYSTEM

OCC Commissioning

WASA's OPERATIONAL CONTROL CENTRE

This new Operational Control Centre represents the most significant stride made thus far in the Authority's efforts to transform WASA into an agile, customer focused, data driven and efficient water and wastewater utility.

The new Operational Control Centre (**OCC**), located at WASA's Head Office in St. Joseph, is a 2,500-square-foot facility commissioned on Wednesday 10th July, 2024 that offers a peek into what the future of water and wastewater management services is intended to be in Trinidad and Tobago.

The **OCC** project was funded from the Public Sector Investment Programme (PSIP) and completed successfully within schedule and budget. This state-of-the-art facility aligns with Trinidad and Tobago's Sustainable Development Goals and the National Development Strategy 2016- 2030, specifically Theme I: Putting People First—Nurturing our Greatest Asset.

This new **OCC** aims to optimize WASA's engineering assets, reduce energy consumption, and enhance customer service and satisfaction through real-time reporting and automated management reports.

The **OCC**'s advanced server room equipped with backup power supply is a vital space enabling a proactive approach through which the Authority can remotely monitor and manage the operations across Trinidad and Tobago's, water and wastewater facilities.


WASA
FAST PAY
Visit the new user-friendly kiosks
at the following Customer Service Centres
to make your WASA bill payments today!
• Head Office, St. Joseph
• Mon Chagrin Street, San Fernando
• Market Street, Chaguanas
• O'Meara Road, Arima
• Kew Place, Port of Spain
• Guapo Road, Point Fortin

WASA's Operational Control Centre at WASA Head Office, St. Joseph

CUSTOMER CARE

Customer Care Advancements

Customer Care Advancements

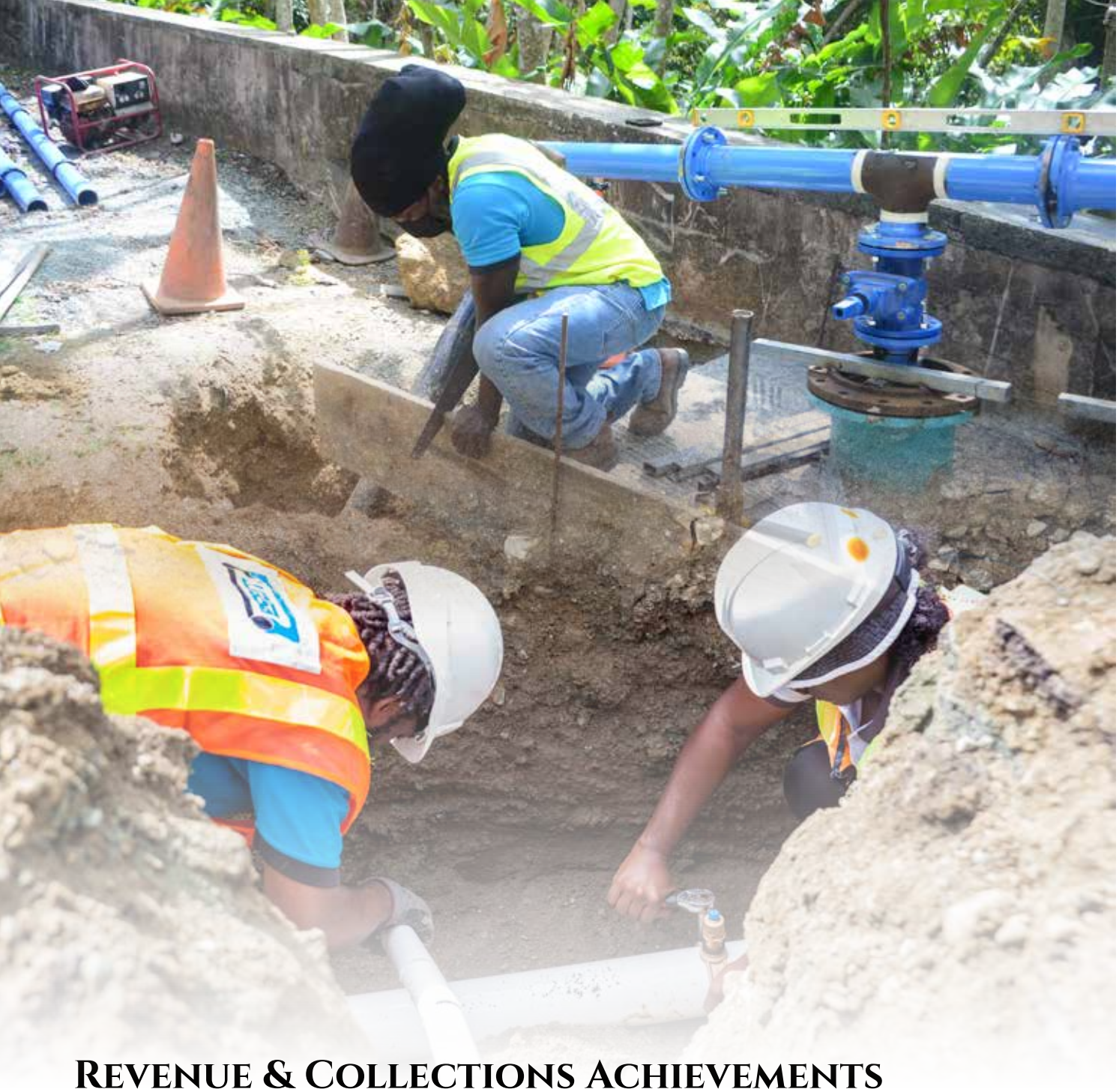
Customer Care Centres, found at several WASA locations across Trinidad and Tobago, act as direct communication links between the Authority and its customers. All water and wastewater related concerns presented by the public, facilitated through online and in-person modes of communication, are documented by Customer Care with the intention of analysing feedback for the dispatching of quick relief to customers. The Authority remains committed to providing quality service to its customers, evident in the many initiatives that have been established to enhance the efficiency of Customer Care services.

Prior to 2020, the stream for communication was primarily narrowed to phone calls, which amplified the backlog in complaints as call centre representatives were limited. The centre was deemed unreliable as a result, which underscored the need for the initiatives outlined below.

1. Acquisition and deployment of seven (7) user-friendly hassle-free touchscreen self-service kiosks in May 2023, all of which are currently in use at Point Fortin, Chaguanas, San Fernando, Port of Spain, St Joseph, Arima and Scarborough, Tobago as a new payment channel.
2. In October 2022 the Authority made typical water and wastewater design details available for sale. This initiative assists customers in meeting the required standards for Water and Wastewater Design Details, and also improve process efficiency and timely granting of Plumbing and Infrastructure Approvals.
3. In November 2022 in keeping with the Government's mandate towards improving 'the ease of doing business', the Authority launched the Plumbing and Infrastructure approval online system for Building Development and Plumbing Applications. The online system provides customers with the benefit of reduced cost and convenience in relation to the submission of an application from anywhere. The Building Development and Plumbing Inspectorate Application and Approval Process is fully "online" such that the Authority no longer accepts paper-based applications.

4. In May 2023 the Authority, in conjunction with the Ministry of Trade and Industry, and Town and Country and Planning Development, launched WASA'S Module on DevelopTT for Building Development and Plumbing Applications. Workshops for the Authority's and DevelopTT's (WASA Module) Plumbing and Infrastructure Approval Online Systems were held in collaboration with Ministry of Trade and Industry and Town and Country Planning and Development in Tobago and Trinidad.
5. To improve the service level performance of the Authority's Customer Contact Centre the following was achieved commencing in May 2024:

    - Average speed of answer by agents of the Contact Centre improved from approximately 20 minutes at the end of May 2024, to 32 seconds at the end of September 2024.
    - Contact Centre service level performance of calls answered for the period June to September 2024 increased from 51% at the end of May 2024, to 95% at the end of September 2024.
    - Longest time in queue by customers improved from approximately 59 minutes at the end of May 2024, to 24 minutes at the end of September 2024.
    - Average hold time by customers improved from approximately 3 minutes at the end of May 2024, to 2 minutes at the end of September 2024.



Revenue & Collections Achievements

There is no gainsaying that the quantum of WASA's aged receivables constitute a significant part of its inability to properly manage its cash flow. Over the last four (4) years though, significant efforts have been made to reduce this figure. WASA has achieved some measure of success in the annual collections of rates and charges due to the introduction of new debt recovery strategies. In FY 2023, for example, increased revenue billings by $36.3 million which was greater than the six (6) year period 2017 to 2022 average actual revenue billings.

- In FY 2022, the Authority increased collections by $72.1Mn or 9.8% more than FY 2021 which was $16.8 million more than budget for the year. Actual collections at this level was last achieved in 2015.
- In FY 2023, total collections achieved was $28 million more than the average collections for the previous six (6) year period 2017 to 2022.
- In FY 2024, total collections achieved was $6.5 million greater than the six (6) year average collections for 2018 to 2023.

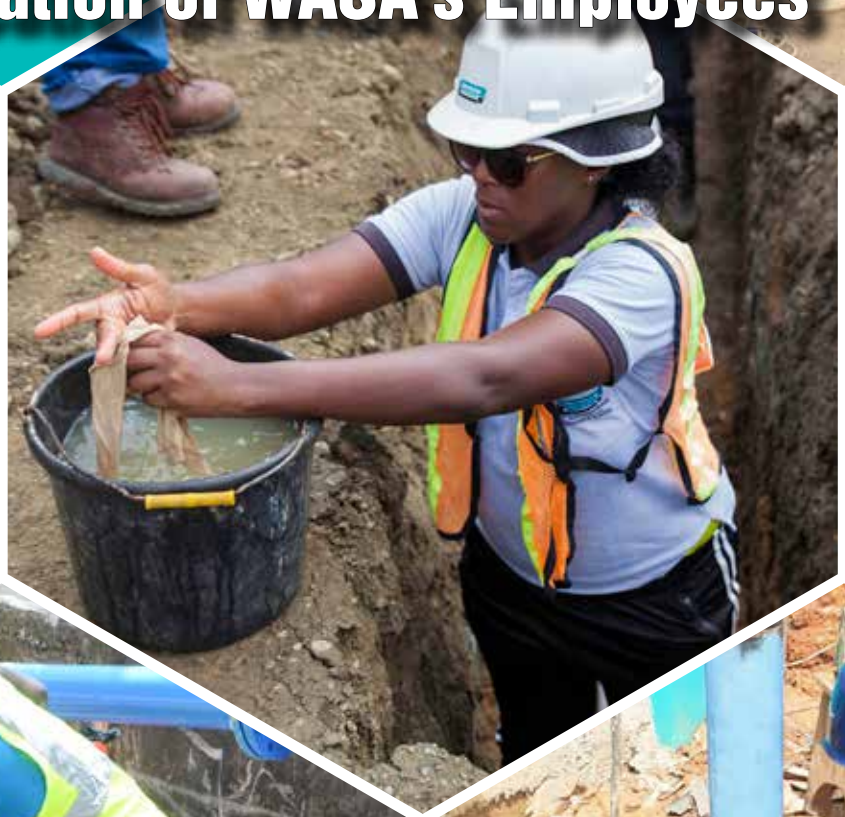
Ongoing Initiatives

1. In FY 2024, the outstanding active aged Building Development and Plumbing Inspectorate applications was reduced to 835 applications from a backlog of 5,728 which accrued over the period 2014-2022. Further, the average processing times for building development applications was reduced by 35 days and plumbing applications by 42 days.
2. In FY 2023, the project for conversion of Class B biosolids to a Class A product for retail as a fertilizer was launched. This is a sustainability initiative expected to result in the creation of a new revenue stream and value chain that supports the local agricultural sector. As at September 30th 2024, conversion of the initial test sample to Grade A compost is approximately 90% complete. Based on the results presented from the bio-chemical analysis, the sample has shown nitrogen levels of 4% which is considered to be very high in nutrients. Consequently, the test trial commenced in September 2024 utilizing a farmer's plot at Orange Grove to gather data on crop yield (i.e. corn) using the product which in its current state is presently at fertilizer level.
3. The Customer Service Improvement Project online survey was launched in April 2024 by the Honourable Minister OF Public Utilities. Outreach campaigns began in June 2024 at the Regional Corporations and popular supermarkets nationwide, and in July 2024 at the Trinidad and Tobago Electricity Commission Customer Service Centre locations. As at September 2024, 13,938 surveys were completed.

Getting IT DONE

Recognizing AND VALUING

the Dedication of WASA's Employees




CAUTION
MEN AT
WORK

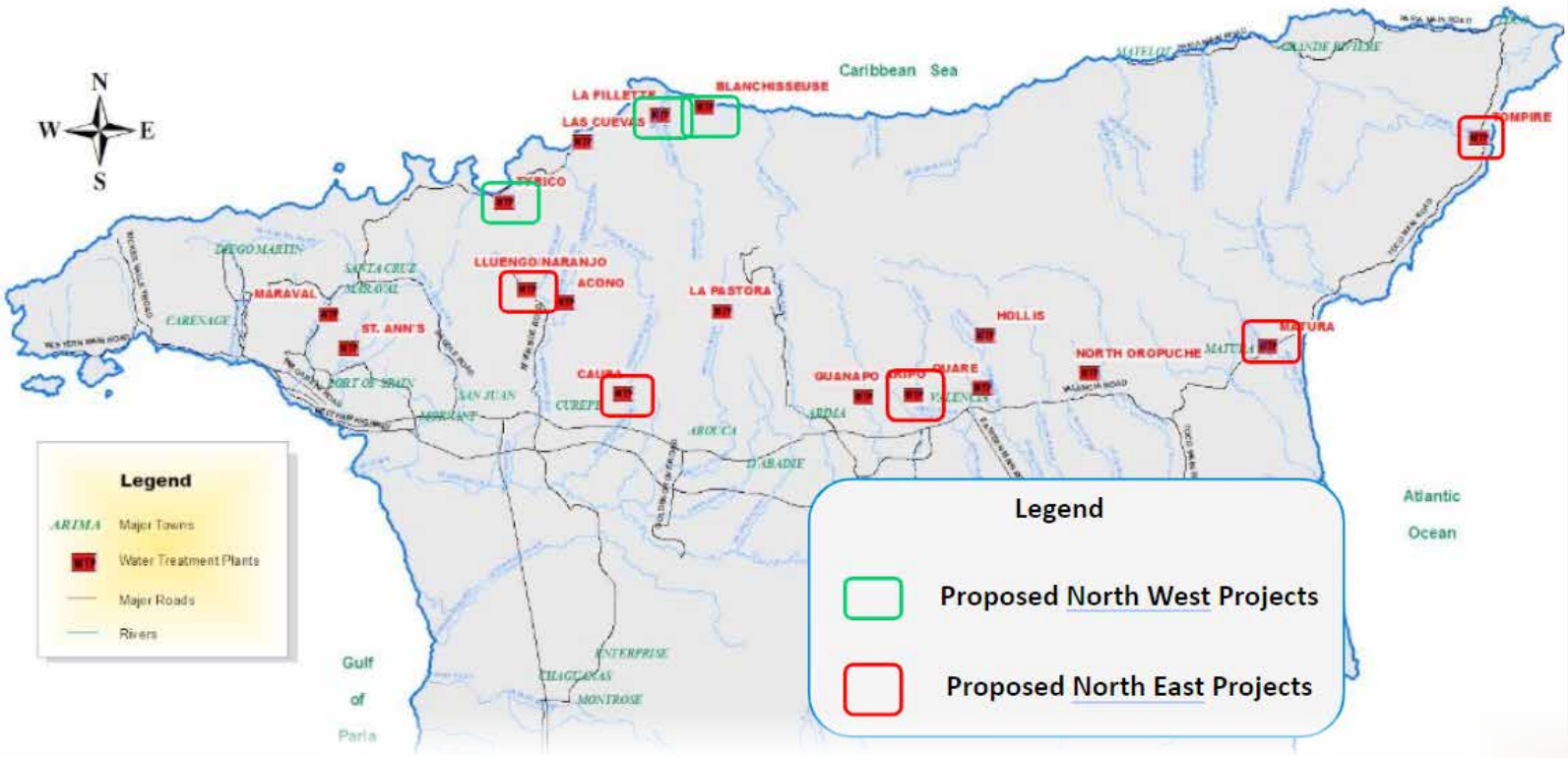
Arena Reservoir, Trinidad

Planned Initiatives

Caura River Intake, Trinidad

Future Initiatives

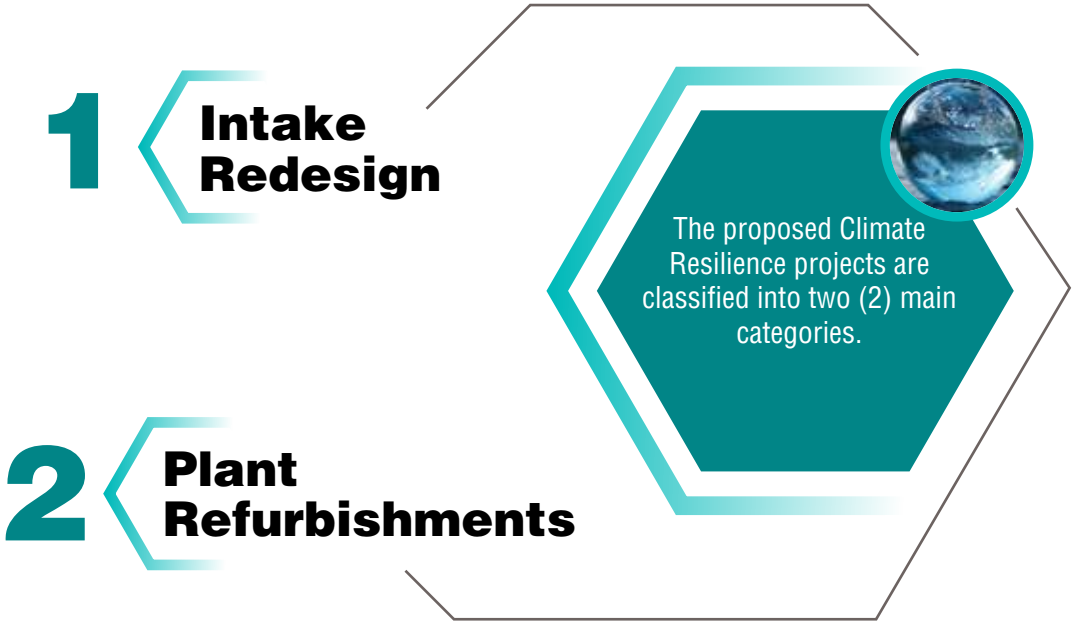
NORTH SURFACE WATER TREATMENT PLANTS



Climate Resilience

Several surface water facilities in Northern Trinidad were originally designed with minimal treatment processes as a result of high quality source water. Throughout the years though, particularly during the rainy season, these facilities became susceptible to fluctuating conditions such as high turbidity, clogged screens and flooding which often resulted in the shutting down of the plant, with the consequential negative impact on WASA's customers.

To combat these issues, the Authority has initiated Climate Resilience projects aimed at improving the treatment capabilities and resilience of these vulnerable facilities in North East and North West Trinidad.



Intake Redesign

It is proposed to redesign three (3) intakes in the North East to ensure functionality under elevated turbidity levels and flooded intake instances.

Aripo Intake

Currently produces approximately **2.5 IMGD** supplying areas such as Wallerfield, Santa Rosa Heights, Smith Lands, Malabar Phase 2, Malabar Main Road, Cocorite Road and certain parts of the Eastern Main Road.

Caura Intake

Currently produces approximately **1.6 IMGD** supplying areas from Crown Street to El Dorado Road and associated streets North of the Eastern Main Road.

Lluengo & Naranjo Intakes

Currently provides approximately **0.6 IMGD** to the Maracas Valley Supply Network.

Plant Refurbishments

Tompire WTP

Currently provides approximately 0.65 IMGD to customers in Rampanalgas, Cumana, Toco, Balandra, and environs

Matura WTP

Currently provides approximately 0.5 IMGD to customers in Matura, Salybia, Pierre Street, Gray Trace, Orosco Bay Road and Mendoza Street

Tyrico WTP

Currently provides approximately 0.13 IMGD to residents in Maracas Fishing Village.

La Fillette WTP

Currently provides approximately 0.4 IMGD to Water Reserve Road, La Fillette Village and parts of Blanchisseuse Village.

Blanchisseuse WTP

Currently provides approximately 0.3 IMGD to the Blanchisseuse Village Supply Network

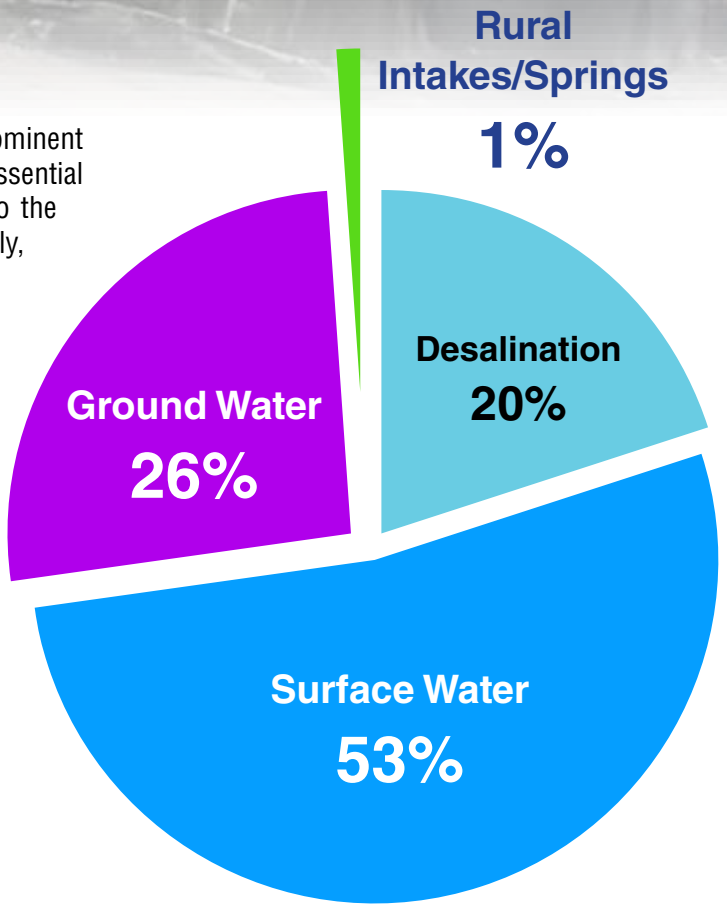
New Source Development

Several facilities across Trinidad and Tobago rely on four (4) prominent reservoirs for obtaining a water supply, which are absolutely essential for the treatment and distribution of water supply service to the country. Persistent fluctuations in weather patterns recently, however, have destabilized the volumes of these reservoirs. Consequently, during periods where low reservoir levels are experienced, the abstraction rates are manually reduced. This leads to a decreased water supply to customers.

To enhance water security in the most affected supply zones, the Authority has initiated New Source Development projects aimed at increasing water availability. These projects will focus on harnessing groundwater and implementing desalination processes, thereby strengthening the consistency of supply across various water networks in the country.

The proposed New Source Development projects are categorised as follows:

1. Well development; and
2. Water Treatment Plant Constructions



Well Development

Investigations by the Water Resources Agency (WRA) concluded that there exist several sub aquifers in South West Trinidad with the potential to augment the supply to the areas of Penal, Barrackpore and Fyzabad.

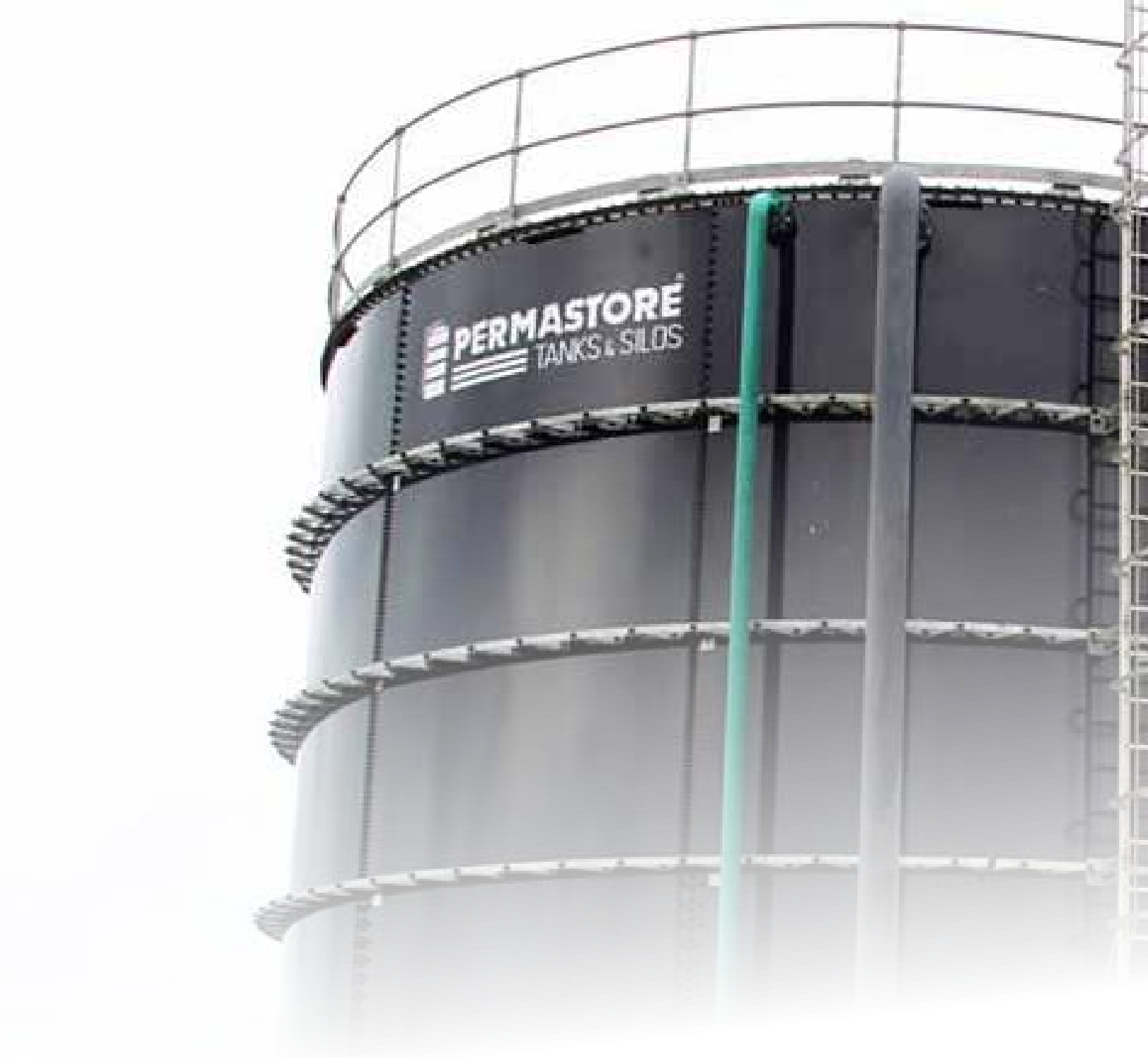
As such, the Authority is in pursuit of drilling and equipping eleven (11) wells to benefit approximately 16,430 persons in South West Trinidad.

3 Penal Wells: #26, #27, #29

2 Clarke Road Wells: #10, #11

2 Fyzabad Wells: #14, #15

4 Barrackpore Wells: #4, #5, #6, #7



Water Treatment Plant Construction

The significantly hot 2024 Dry Season has impacted the majority of fresh-water reservoirs in Trinidad and Tobago, such that even as the country transitioned into its 2024 Wet Season, their capacities remained well below their long-term averages. With the effects of Climate Change worsening over time, the increased frequency of water supply shortages compounded by low reservoir levels are imminent.

The Authority intends therefore, to increase available water supply on the network distribution system through the abstraction and treatment of salt-water. This initiative would entail the construction of several desalination water treatment plants across the country, capable of providing over 5 IMGD of water to several residents within Trinidad and Tobago.

1. Charlotteville Desalination Plant: 0.25 IMD plant to benefit residents in Hermitage, Charlotteville
2. Mayaro Desalination Plant: 5 IMGD plant to directly benefit residents in Mile End, Union, Bristol, Mafeking, Ortoire, Kernaham, & Cascadou, Mayaro

Tank at Malabar Wastewater Treatment Plant, Trinidad

Achievements in the Wastewater Sector

WASTEWATER REHABILITATION/REFURBISHMENT

The Authority has embarked on several wastewater treatment plant refurbishment and/or rehabilitation projects, all aimed at safeguarding the public watercourses from untreated sewage, thereby contributing towards a clean and healthy environment. Four (4) Projects have been completed to date.

1. Refurbishment of Lange Park Wastewater Treatment Plant
2. Rehabilitation of Mt. Hope Lift Station (Including Sewer Construction)
3. Refurbishment and Upgrade of Milford Court Wastewater Lift Station
4. Rehabilitation of the Ultraviolet Contact Tank at the Beetham Wastewater Treatment Plant

WASTEWATER NETWORK EXPANSION

The Wastewater Network Expansion Initiative was conceptualised with the goal to improve the environmental conditions of Trinidad and Tobago, by enhancing and increasing the Authority's wastewater treatment capacity. Through this initiative, the new Trincity Wastewater Treatment Plant (WWTP) and San Fernando Wastewater Treatment Plant (WWTP) were commissioned.

1. Design and Construction of Trincity WWTP

To improve the environmental conditions within North East Trinidad and increase the Authority's capacity to treat wastewater, the Authority undertook the rehabilitation and expansion of the wastewater treatment facility in Trincity. This project was funded by the Inter-American Development Bank (IDB) through a loan specifically designed for the Wastewater Infrastructure Rehabilitation Programme. There have been 17,000 beneficiaries from this programme, including seven (7) communities and five (5) schools.

2. Design & Construction of the San Fernando WWTP

The new San Fernando Waste Water Treatment Plant was built to improve the environmental conditions within South Trinidad and increase the Authority's capacity to treat wastewater through the installation of a new wastewater treatment facility in San Fernando.

The project consists of an integrated and centralized Wastewater Collection System that captures wastewater from the entire catchment area and conveys it to a single Wastewater Treatment facility for treatment benefitting approximately 40,000 residents within San Fernando and Environs.

This project was realized through the input of various key stakeholders in particular, the Inter-American Development Bank (IDB) which provided funding for this project through the Multi-Phase Wastewater Rehabilitation Programme.

Wastewater PROJECT LIST

WASTEWATER PROJECT LIST

- Rehabilitation of Mt. Hope Lift Station
- Design and Construction of Trincity Wastewater Treatment Plant
- Design and Construction of San Fernando Wastewater Treatment Plant
- Refurbishment of Lange Park Wastewater Treatment Plant
- Refurbishment and Upgrade of Milford Court Wastewater Lift Station
- Refurbishment of Couva North & South Wastewater Plants
- Refurbishment of the Edinburgh 500 Wastewater Treatment Plant
- In May 2024 the Maracas Beach Facility Wastewater Treatment Plant, Lift Station and Sewer Infrastructure was successfully adopted by the Authority.

National Rainwater Harvesting Programme

Rainwater harvesting offers a comprehensive strategy for managing water sustainability and building resistance against climate variability, and is integral to our strategy for enhancing water security in community water supplies especially in underserved and unserved communities.

In this regard, under the National Rainwater Harvesting Programme (NRWHP), which is driven by a multi-stakeholder steering committee led by the Ministry of Public Utilities and implemented in partnership with the Water Resources Agency WASA, and Habitat for Humanity Trinidad and Tobago, several projects have been implemented in vulnerable communities across the country.

Launched in 2024, the NRWHP provides cost-effective, low-maintenance solutions for eligible households, community centres, and health facilities, comprising comprehensive rainwater harvesting systems, including tank stands, 1000-gallon water tanks, pumps, guttering, filters, and first flush diverters. To date some thirty-six (36) households across the country has already benefitted under this programme. Several projects are scheduled to be completed in 2025 including, four (4) community centres, twelve (12) schools, and sixty (60) residential systems.

CONCLUSION

Over the last 4 years, the Government has indeed taken significant steps in advancing the transformation of the country's water and wastewater sector. In this regard, we have witnessed an unprecedented investment in the upgrade and development of new water infrastructure to expand access to unserved and under-served communities. This includes the drilling of over 15 new wells and the drilling of over 20 new wells in fiscal year 2025. New Water Treatment Plants and technological upgrades are part of securing Trinidad and Tobago's water security. The Policy Framework has also be strengthened by the approval and commenced implementation of the National Integrated Water Resources Management Policy 2022. This has provided a robust framework for ongoing water sector improvements, ensuring long-term sustainability and climate resilience. By the end of 2025, Trinidad and Tobago will boast of a 24/7 water coverage for over 85% of its citizens with the remaining population enjoying a minimum 24/3 level of service.

These achievements, collectively, demonstrate the power of vision, collaboration, commitment and dedication in transforming the water and wastewater sector. This momentum must be continued! Sustainable management of our water resources must, in the near future, embrace universal metering of all customers, as well as, wastewater re-use to support our agriculture and industrial customers for our country's socio-economic prosperity. Undoubtedly, this will continue to require, inter alia, significant financial resources that must be carefully managed by a team of competent managers to optimize the investments and protect the national interest. The Government has been doing its part. However, the success of these initiatives depends on the active collaboration of all stakeholders, including our citizens, the private sector, and our regional and international development partners. Together, we can achieve this reality that is now within our collective grasp. As we move forward, it is crucial to build on the successes of the past 4 years, continuing to prioritize sustainable practices and resilient infrastructure. This is an absolute imperative, if we are to successfully confront the threats of the climate crisis whilst providing water security to propel our socio-economic stability and growth..


WASA
WATER AND SEWERAGE AUTHORITY
GRANVILLE
WATER TREATMENT PLANT

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