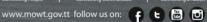
DRAINAGE DIVISION NATIONAL DESILTING

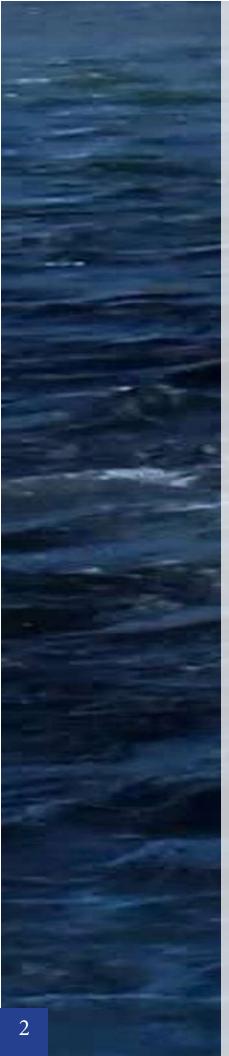
P M R G E CAT CVI

"Let's Work Together to Prevent Flooding Today for a Sustainable Tomorrow"









THE ROLE OF THE

DRAINAGE DIVISION

The Ministry of Works and Transport, through the arm of the Drainage Division holds the responsibility to provide drainage solutions throughout Trinidad. This scope includes developing and maintaining main watercourses and irrigation systems and providing expert advice to control flood erosion, sedimentation, drainage, irrigation and reclamation. Given the dramatic increase in rainfall during recent years, the Drainage Division has developed a more focused approach to its procedures. Such measures have been designed to combat this new reality we face marked by excessive precipitation brought on by the unavoidable effects of climate change and the rise in sea level.



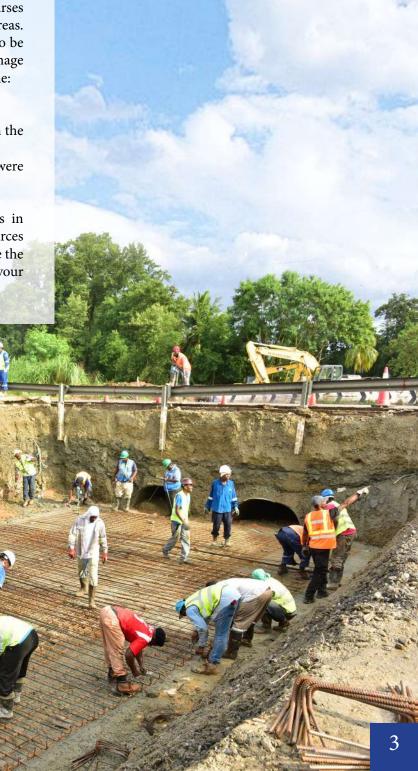


A NATIONAL APPROACH

From as early as January, 2019, the Comprehensive Desilting of Watercourses Programme was launched. Its objective is to execute maintenance works on major watercourses throughout the country to off-set flooding in such prone areas. The undertaking encompasses over 300 critical projects to be carried out in phases across all four districts of the Drainage Division (North, South, East and Central) and includes the:

- Cleaning and desilting of river channels
- Clearing and removal of grass and debris from within the river channels
- Formation/rebuilding of embankments which were previously ended or prone to erosion

The Drainage Division has scheduled multiple projects in Phase 1 across its four districts. The strategy is focus resources on water channels that have the greatest potential to cause the most flooding across Trinidad. Perhaps you've seen us in your neighbourhood.



MAJOR DESILTING AND FLOOD ALLEVIATION PROGRAMME ACROSS TRINIDAD

The Ministry of Works and Transport's (MOWT) Drainage Division has set itself a target of three hundred and sixty nine (369) active desilting projects across Trinidad. This number surpasses the Division's target in 2017 and 2018, as it develops, upgrades, and maintains drainage systems that meet ecological requirements, and mitigates flooding via an integrated flood and drainage management plan.

To treat with drainage and flooding throughout the country, the Ministry of Works and Transport has developed a short, medium and long term strategy. The short term plan includes the National Desilting Programme which is a recurrent maintenance strategy that assists with managing the country's drainage capacity. The programme was implemented in three phases: Phase 1 of the programme was launched in January, 2019 and encompassed a total of one hundred and fourteen (114) projects; all of which have been completed to date. The MOWT is pleased to announce that Phase 2 is also completed and Phase 3 of this programme was fully operationalized in June, 2019 with one hundred and fifty (150) active projects.

Desilting and embankment repairs were also completed for approximately 3 kilometres along the Caroni River from Tumpuna Road near Greenvale going downstream. This enhancement will assist with the flow of water from major watercourses that outfall into the Caroni River such as the Guanapo River; La Horquetta Main Drain; Tumpuna River; Greenvale Tributaries, and the San Raphael River.

In the medium term, the Ministry has continued existing drainage projects and further studies under its Development Programme as follows:

- Major River Clearing Programme
- Infrastructure Rehabilitation and Flood Mitigation
- Comprehensive National Drainage Development Study
- National Programme for the Upgrade of Drainage Channels
- Flood Mitigation Erosion Control Programme
- Upgrade of Pump Stations and Gate Structures

In the long term, the Ministry will review completed drainage studies with a view to developing priority programmes/ projects for implementation. Some of the studies presently being reviewed include:

- Feasibility Studies & Detailed Design for Ortoire River Basin Drainage Study
- Caroni River Basin Study
- South Oropouche River Basin Study
- North Oropouche River Basin Study

CARONI RIVER REHABILITATION WORKS

In 2019, the Ministry of Works and Transport is undertaking several development projects. Of notable mention is the Caroni River Rehabilitation and Improvement Works Project. Historically, the Caroni River and its fenceline communities have always had the propensity for flooding, and will face additional challenges due to the potential for increased rainfall as a result of climate change. As a result, the Ministry of Works and Transport, invested greater efforts and resources to protect communities that are most vulnerable to flooding in the Caroni district, despite financial constraints. The scope of work entails the rehabilitation of existing embankments at intermittent locations from St Helena to El Socorro South.

It also includes the installation of new drainage structures with flap gates at eight sites. These gates would control the flow of water from tributaries into the Caroni River and also prevent backflows. To date, embankment works have been completed on the north bank, both upstream and downstream of the ByPass Road Piarco for a distance of approximately 1500 metres. At Church Street, Kelly Village, 200m of berm and embankment works have also been completed. Works are currently ongoing at Sheldon Trace, St Helena, Caroni Village, Caroni and El Socorro South. In addition, the Ministry of Works and Transport is currently procuring three mobile pumps to further assist with flood alleviation within the area.

PORT OF SPAIN FLOOD ALLEVIATION PROJECT

During the 2018/2019 period, the Ministry completed considerable works on the Port of Spain Flood Alleviation project which seeks to improve drainage and find sustainable solutions to treat with flooding in the capital city.

PHASE 1 of the project included the construction of drainage channels which capture water flow from the bottom of Charlotte Street to Broadway Intersection, then from Broadway intersection to the Cove, south of the Lighthouse where a detention pond was constructed at an elevated level above mean sea level by the PURE Division. The detention pond will be outfitted with flap gates which will control the flow of water based on tide levels. Additionally, the Ministry has procured two pumps which will assist in removing water from the detention pond during times of flood when tide levels are high.

PHASE 2 includes the construction of a secondary drainage system to further alleviate flooding within the Port of Spain area. The Ministry of Works and Transport has completed designs for Phase 2 which includes the construction of 180m of box culvert drains, one detention pond and one flap gate.

HIGH RISK FOR FLOODING

AND WILL RECEIVE TOP PRIORITY DURING THE COURSE OF THE PROGRAMME

NORTH

- Morne Coco Silt Trap.
- Perseverance Silt trap.
- Maraval River- Upstream La Seiva.
- Santa Cruz River-Opp. Fire Station La Pastora.
- St Ann's Silt Trap
- Blue Basin Ravine-Upstream Cizan Trace
- Guanapo River-Downstream readymix road to Manuel Congo
- Oropune river -Downstream Piarco old road (TT post HQ) to outfall
- Arouca River-Upstream and downstream golden grove road
- Arima River-Downstream Eastern Main Road Pinto
- Mausica River-upstream EMR
- San Juan Weir-Johnny King Road
- St. Joseph River-Down Stream CRH to Outfall
- St. Ann's East Dry River-Downstream EMR to H/way
- Oropune river-Downstream CRH to Piarco old road
- Arouca River-Downstream PBR / Bon Air Gardens
- Mausica River-upstream Samaroo Village
- Tacarigua river-upstream Trantrill Road
- Tacarigua river-Downstream CRH
- Cocorite silt traps-waterhole, Cocorite
- La Seiva Ravine & Silt Trap-From Upstream La Seiva Terrace to outfall
- San Juan River-Downstream Concord rd.to Eastern Main Road



- Bagatelle Ravine-Diego Martin Main Road up stream
- Petit ravine and Trib-From Morne Coco road to Ravine road
- Arouca River-Up and Downstream Golden Grove Road
- Blue Basin Ravine-Upstream Cizan Trace
- Malick River-Downstream CR Hway to outfall
- Beetham Interceptor
- Guanapo River-Downstream Readymix Rd
- La Seiva Ravine & `Silt Trap-Downstream Bridge at Upper LaSeiva
- Santa Cruz River-Opp. Fire Station La Pastora (St. Ann's East)
- Diego martin River-upstream Wendy Fitzwilliam
- Caroni River (In the vicinty of Green vale)-South Bank
- Caroni River (In the vicinty of Green vale)-North Bank
- Caroni River
- Downstream Green vale-South Bank
- Caroni River
- Downstream Green vale
- Caroni River, Carapo, South Bank
- La Horquette River-Downstream Western Main Road, Glencoe
- L'anse Mitan Ravine-upstream Western Main road
- Scorpion Ravine-upstream Western Main road Carenage

HIGH RISK FOR FLOODING

AND WILL RECEIVE TOP PRIORITY DURING THE COURSE OF THE PROGRAMME

SOUTH

- Curampo River-U/S & D/S off Temple Moolai Trace, Penal Quinam Road
- Chirripan River-D/S Ramkallia Trace to Oli Mohammed Trace (Naparima)
- Lothian River-D/S of Lothians Br. Road
- Chester River-From 2mm Penal Rock Road to Penal Quinam Road
- Curampo River-D/S off S.S. Erin Road to San Francique Road Bridge
- Bhagmania River-D/S off La Fortune Pluck Road, Woodland.
- Gucharon River-D/S M2 Ring Road to Wellington Road Debe and D/S off Ghandi Village Bridge to Bhagmania River
- Forty Foot Trench-D/S off La Fortune Pluck Road to St Louis River
- Magretoute River-D/S Lp#85 M1 Ring Road
- Seedial Channel-U/S & D/S off Crawford Trace, Penal Rock Road
- Coromata River & Tributaries-D/S off Goodman Trace
- Inverness River-D/S off Inverness Road
- Papourie River-From Cottage Road, Lower Barrackpore
- Coora River-D/S Tulsa Trace to New Cut Channel
- Blackwater Channel & Trib.-D/S off Raju Trace to Calco Gate Tulsa Br. Trace
- Nagessar Channel D/S off Penal Rock Road Hindu School to Coromata River, Goodman Trace

- Erin River & Tributaries D/S off Johnson Road,
 Rancho Quemado to Los Iros Bridge
- Guapo River & Tributaries-D/S off Rose Drain to Richardson Street
- Erin River & Tributaries-D/S off Johnson Road, Rancho Quemado to Los Iros Bridge
- Morne Roche River-D/S off Morne Roche Quarry Road Bridge to Guaracara River
- Oropouche River-U/S off S.S Erin Road Debe to Digity Trace
- Duck Pond River-D/S off La Fortune Pluck Road,
 Woodland to St Johns Gates
- Garth Road River-D/S off Train line to Williamsville River
- Trinidad River-D/S off La Fortune Pluck Road to Trinidad Point Gates
- Old Oropouche River-D/S off Chester Street to Bhagmania River
- Duck Pond River-U/S off La Fortune Pluck Road, Woodland.
- Mc Cullock Drain-D/S off S S Erin Road to Curampo River, San Francique Road
- Chinnibass River-U/S of Lalbeharry Tr. To Ramai Tr.
 Debe
- Trinidad River-D/S off Dumfries Road Bridge to La Fortune Pluck Road
- Rio Negro River-D/S Ackbar Trace Community Centre to St John's Br. Trace, Avocat



- Cap-de-Ville River D/S off S.M.R Cap De Ville
- Parforce River-U/S Gopaul Street, Gasparillo to Parforce Road.
- Cipero River-U/S Gulf View Link Road to Bridge at Cross Crossing Interchange
- Bhagmania River-U/S off La Fortune Pluck Road, Woodland.
- Cipero River-U/S off Solomon Hochoy Highway to Ste Madelene
- Cupie River-D/S off Jhulai Br. Tr to Goodman Tr.
- Tennant Channel-D/S off Doorbassa Trace to Duck Pond River
- Teemul Channel-U/S & D/S of Jokhan Br. Tr. To Duck Pond River
- Mahaut River-D/S off Mon Desir Road to Farm Road
- FairField River-D/S off Inspection Station Fairfield Road to Recreation Ground by HDC development
- Chinese Main Drain-U/S & D/S off S.M.R Chinese Village
- Lengua River-D/S off Bissoon Trace to Oropouche River
- Maiden Drain-D/S off Solmed Drive to Balkissoon Trace, Rousillac
- Rancho Quemado River-D/S of S.S Erin Road Rancho
- Silver Stream River-D/S Tennis Court Mon Desir to S.M.R. Dow Village Bridge
- Boodoosingh Drain-U/S of S.M.R Rousillac to Sobo

Village

- Rose Drain-D/S off Parryland Road to Guapo River
- Dunlop River & tributaries-D/S Of Main Road Point Fortin to River Mouth
- Titu Drain-U/S off Community Centre Harris Village to St Johns Village
- Timit River-D/S off Bridge on Silverstream Road to Mahaut River
- St Louis River-D/S Robinson Trace, Woodland to New Cut Bank, Woodland
- Moolai River & Tributaries-D/S off Fyzabad Guapo Road to Cunapo River
- Carapal River-D/S of S.S. Erin Road to Erin River
 - School Drain-D/S off Webber Trace to Erin River

HIGH RISK FOR FLOODING

AND WILL RECEIVE TOP PRIORITY DURING THE COURSE OF THE PROGRAMME

EAST

- Bamboo River and Tributaries
- Guaico River [Upstream]-Quash Trace, Off Toco Road
- Tributary to Guaico River La Seiva Road
- James Smart River-Eastern Main Road, Sangre Chiquito
- Swaha Main Drain-Cunapo Southern Main Road
- Salazar River-Little Cora Road
- Cuchee River-Biche/Plum Mitan
- Tributary to Main Line River-Rampersad Trace Off
 6mm Plum Mitan Road
- Cemetery River and Tributaries-Radix Village, Mayaro
- Tributary to Mahaut River
- Tributary to Mahaut River-Food Crop Village, Union Village, Mayaro
- Tributary to Mahaut River-Union Village, Mayaro
- Kernaham River-Cascadoux Village Mayaro
- Kernaham River and Tributaries Kernaham Village, Off Manzan/Mayaro Road
- La Savanne River-Newlands Village, Guayaguayare
- Lagoon Doux River-St. Margaret's Village, Mayaro
- Bel Air River-St. Margaret's Village, Naparima Mayaro Road
- Wynappie River [Upstream] San Pedro Road, Poole
- Tributary to Nariva River-Cunapo Road, Cushe
- Wynappie River Guayaguayare Road, Rio Claro
- Tributary to Poole River-Leeking Trace off St John's Road



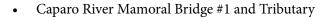
- Tributary to Guarapiche River-4km Torrib Tabauite Road, New Grant
- Mantacool River-0.5km Gaffoor Trace, Tableland
- Tributary to Poole River-Poole Valley Road, off Guayaguayare Road
- Tributary to Poole River-4km Glod Road, Poole
- Wynappie River-0.5km Ayoub Trace, Torrib Tabaquite Road
- Mantacool River-LP#558 George Village, Tableland
- Tributary to Mahaut River-Balata East Road, Bristol Village, Mayaro
- Tributary to Ortoire River-60.5km Mafeking Village Mayaro
- Tributary to Ortoire River-59.5km Bristol Village Mayaro
- Tributary to Mahaut River-58-59km Bristol Village, Mayaro
- Richardson Lagoon-1.5km Radix Village, Mayaro
- Tributary to Ortoire River-2km Inner Mafeking Village, Mayaro
- Sangre Grande River
- Sangre Chiquito River-Warden Road Sangre Chiquito
- Caigual River- Fishing Pond Road
- Black Water River and Tributaries-2 4 mm Toco Road
- Tributary to Killdeer River-4km Le Gendre Road, Ecclesville

HIGH RISK FOR FLOODING

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CENTRAL

- Ghandiah River Ravine Sable to Depot Road
- Couva River- Carli Bay
- Coolie Canal Sumaria Trace
- Feeder Drain South of the Skimming Drain
- Tacarigua River
- La Cuesa River Upstream to Joyce Road
- Trib. to Skimming Caroni Savannah Road
- Warren Main Drain and Trib. From Complex to Guayamare
- Collector Drain betw. Willian St & Sadhu Tr. El Socorro South
- Honda River Bi-Furication Edinburgh 500 to UBH Southbound
- Orange Valley Main Drain, Waterloo
- Skimming Drain and Tributaries, Southern Main Road Caroni
- Genspec Drain Warren Road to Guayamare River
- Collector Drain William St
- Agostini Settlement Main Drain and Trib. SMR to Perseverance Road
- Ibis Gardens Outfall drain, Southern Main Road Caroni
- Guayamare River New Cut U/S UBH south bound to Southern Main Road
- Muller Canal William



- Balata Ravine
- Guayamare River New Cut D/S UBH north bound to Mangrove
- Caparo River from Todd's road junction downstream and Tributary
- Drain # 10 Sadhu East
- Campo Main Drain, Robert Trace Warrenville Cunupia
- Guayamare Compound and Irrigation drains

THE MINISTRY OF WORKS AND TRANSPORT'S DRAINAGE DE-SILTING PROGRAMME 2019

GUAYAMARE NEW CUT CHANNEL











