

WASTE WATER CHALLENGES FOR GUANABARA BAY RECOVERY



PROGRAMA DE SANEAMENTO AMBIENTAL DA BAÍA DA GUANABARA



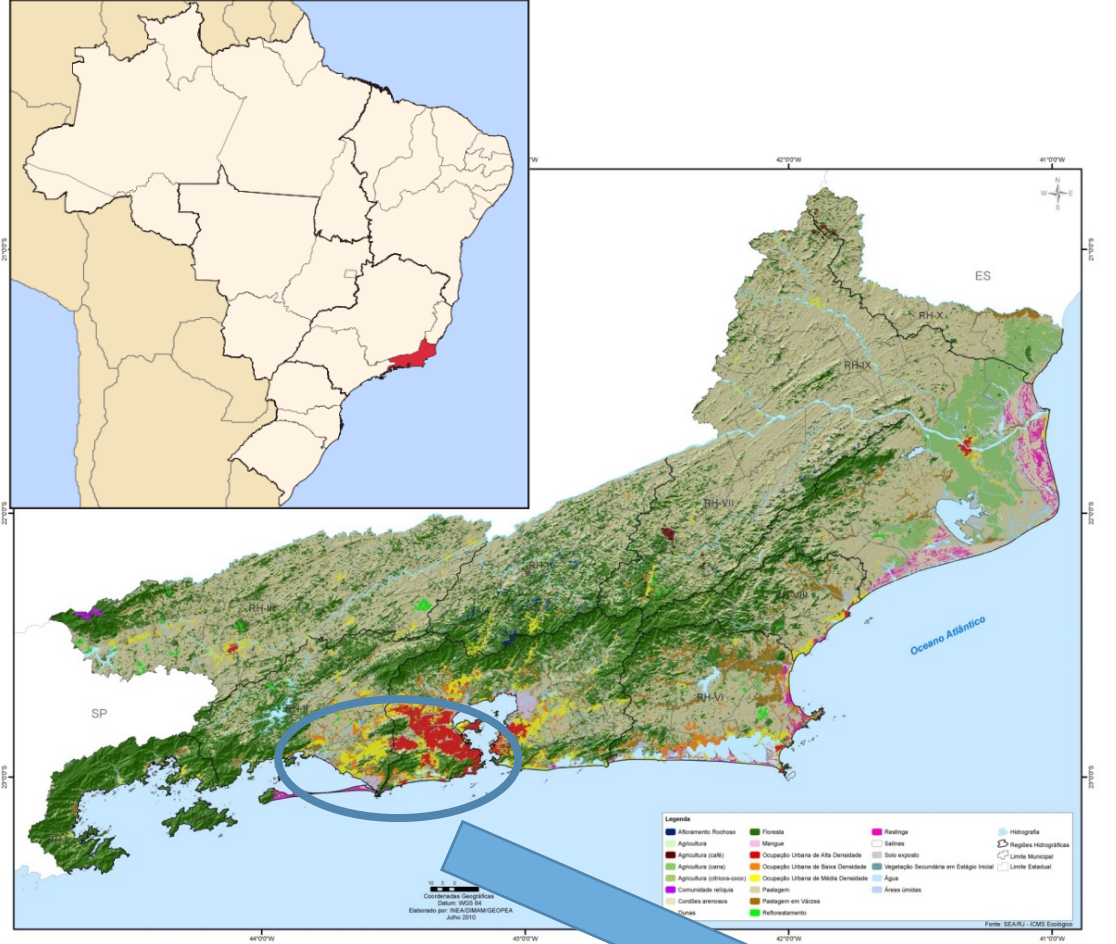
Rio de Janeiro, 28/07/2014

SUMMARY – Wastewater challenges

- RIO DE JANEIRO GENERAL VIEW
- SANITATION/SEWAGE QUESTIONS
 - GUANABARA BAY - STRUCTURAL GAPS
 - RECENT EFFORTS AND RESULTS
 - PSAM PROGRAM (THE FIRST STEP)
 - MUNICIPALITIES PARTICIPATION ON PLANS



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAÍA DA GUANABARA



Rio de Janeiro State

Main activities:

- Services
- Petroleum (off shore)
- Steel Industry
- Petrochemical

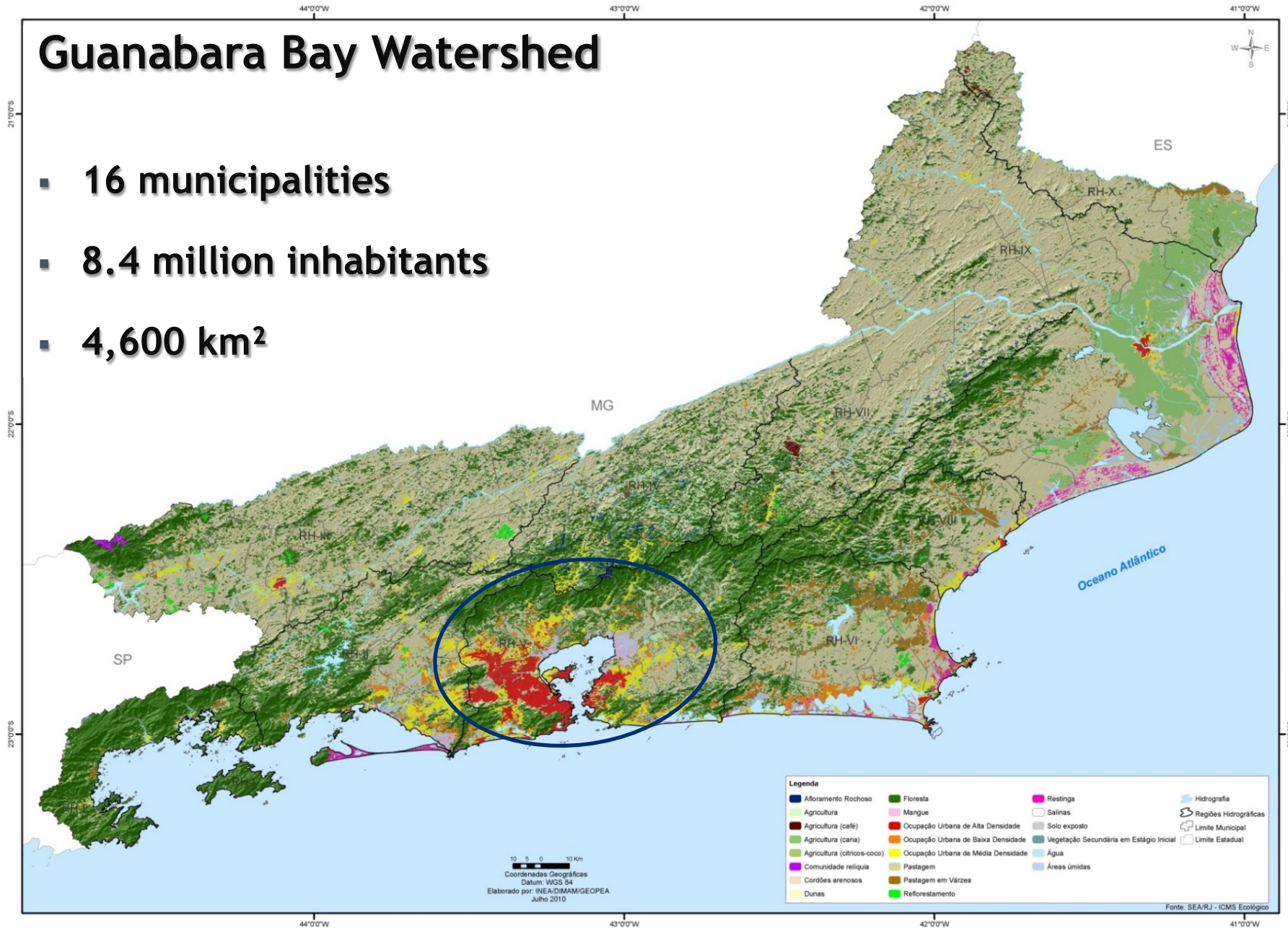


MA DE SANEAMENTO DA BAÍA DA GUANABARA



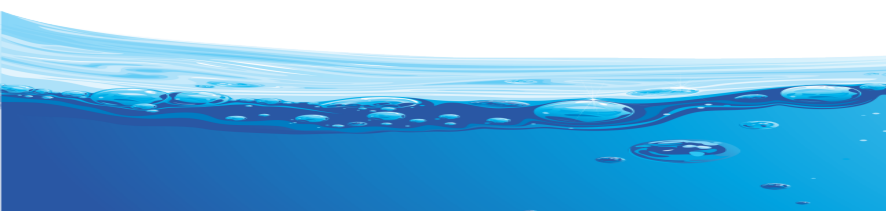
Guanabara Bay Watershed

- 16 municipalities
- 8.4 million inhabitants
- 4,600 km²



The Guanabara Bay, a geographical landmark of great natural beauty and environmental wealth, is the heart of Rio de Janeiro.

The bay, with two billion m³ of water, covers an area of 384 km², where 55 rivers contribute with an average annual flow of 350 m³/s.



Guanabara Bay Surrounding

There are serious urban infra-structure problems and social/cultural shortages.

The irregular occupation housing along the watershed, with a deficient sewage collection and treatment, and also a deficient solid waste collection, causes the inappropriate water quality in several areas of the bay.



The first major program toward reversing the lack of sanitation in the metropolitan region of Rio de Janeiro was launched by the State Government, twenty years ago, in the wake of Rio de Janeiro Eco92 Conference.

It was the PDBG (Guanabara Bay Depollution Program), funded by IADB and JBIC.

Unfortunately, part of the works were not concluded and the actions didn't have continuity to a long-term program and the financial institutions ceased their participation in the beginning of last decade.



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAÍA DA GUANABARA



Unfortunately, part of the works of PDBG were not concluded and the actions didn't have continuity to a long-term program.

The financial institutions ceased their participation in the beginning of last decade. Officially, the PDBG ended in 2006.

Since 2007, the new State Government supported CEDAE (the water and wastewater state company) to conclude the works unconcluded.



PROGRAMA DE SANEAMENTO
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CEDAE EFFORTS

WASTEWATER TREATMENT PLANT ALEGRIA *Launched in January / 2009*

*Launched in
January / 2009*



Actual Situation:

Primary Treatment Installed:
432,000 M3 / day

**Secondary Treatment
Installed:**
216,000 M3 / day

Average Flow:
190,000 M3 / day



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAIÁ DA GUANABARA



CEDAE EFFORTS

FINISHED THE TRUNKS ALEGRIA, TIJUCA, SÃO CRISTÓVÃO E AV. BRASIL

*Launched in
June / 2009*

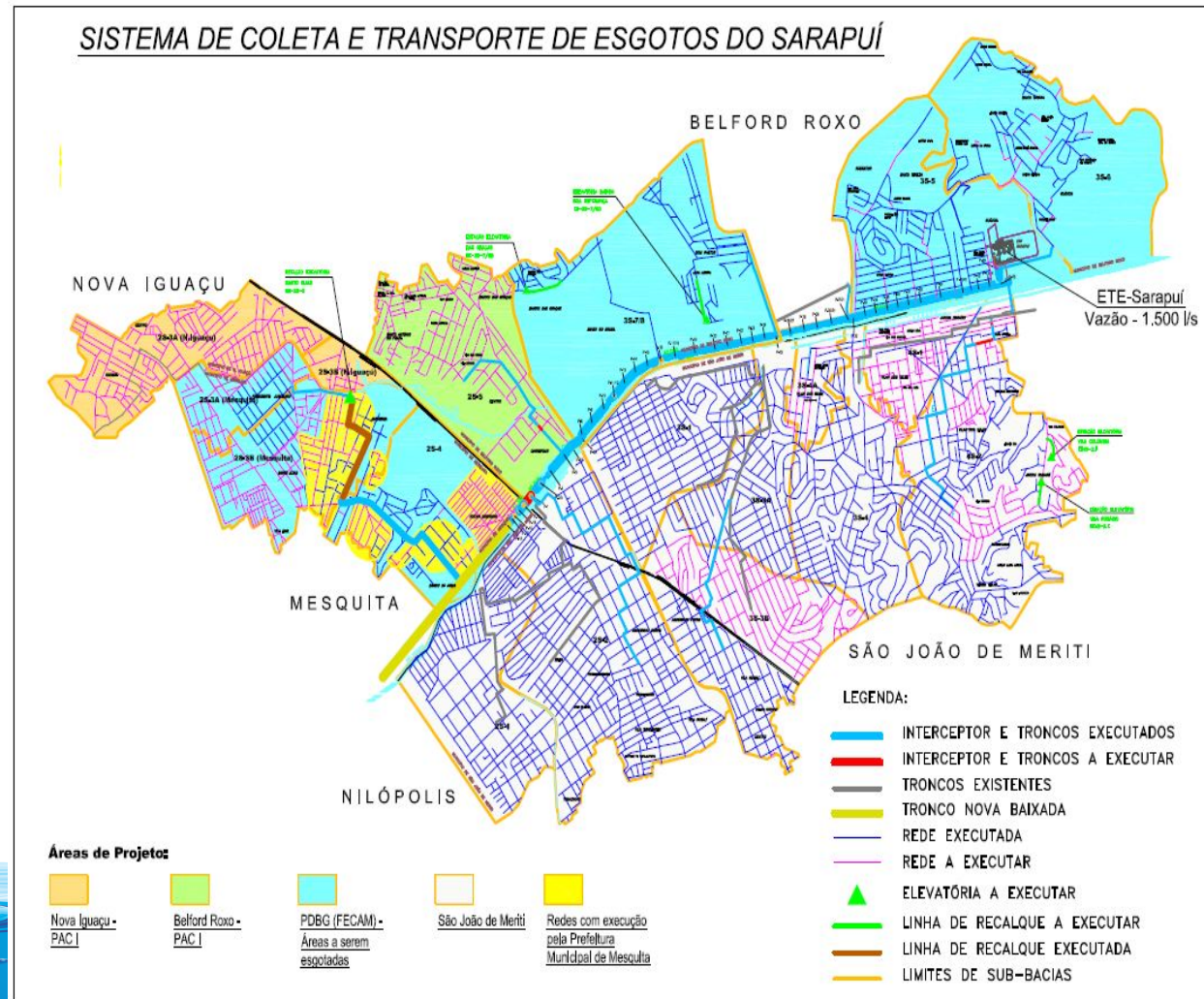


**PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAIÁ DA GUANABARA**

CEDAE EFFORTS

Complementation the sewage pipe collect network of Sarapuí Treatment Plant

IN PROGRESS

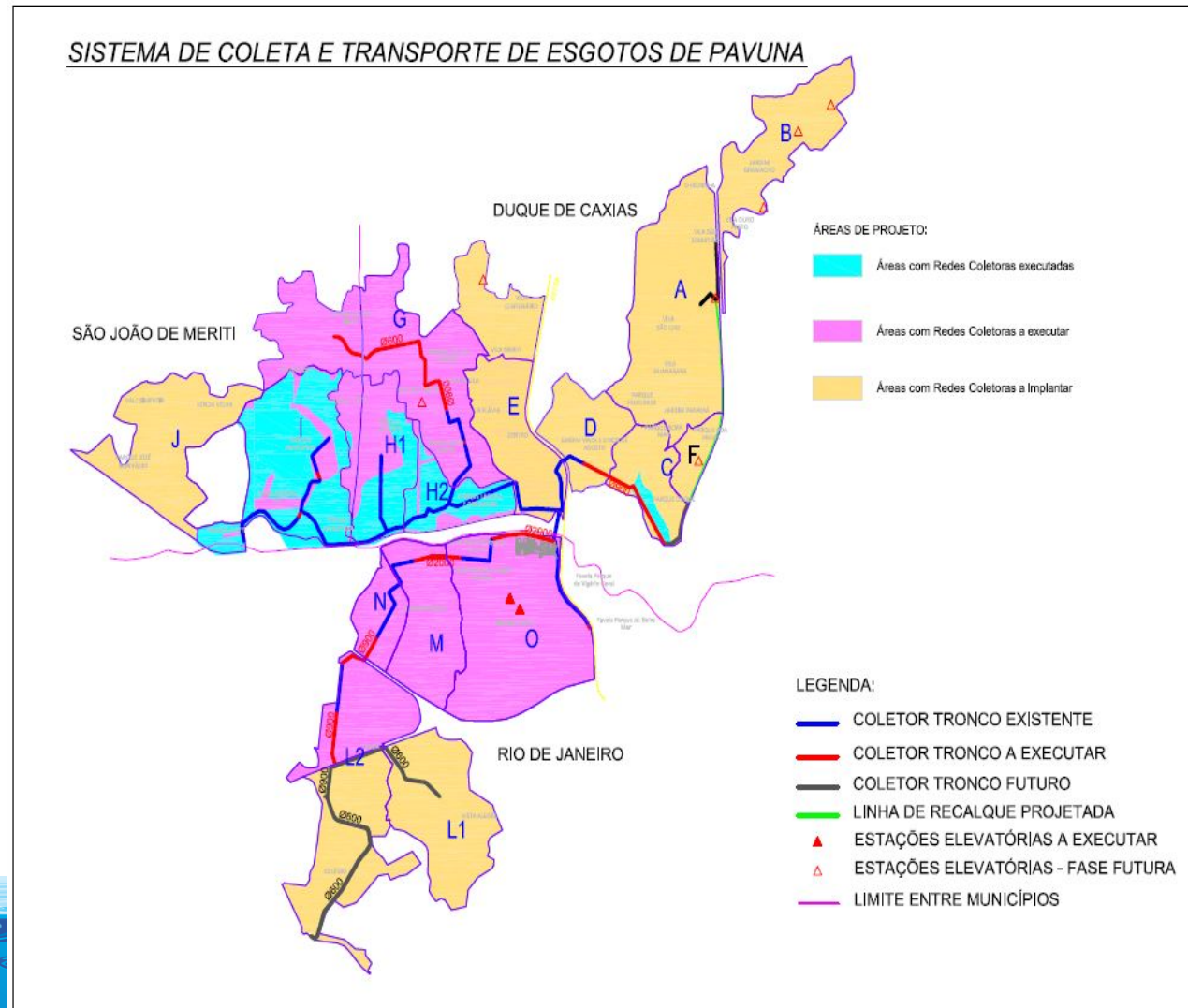


PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAIÁ DA GUANABARA

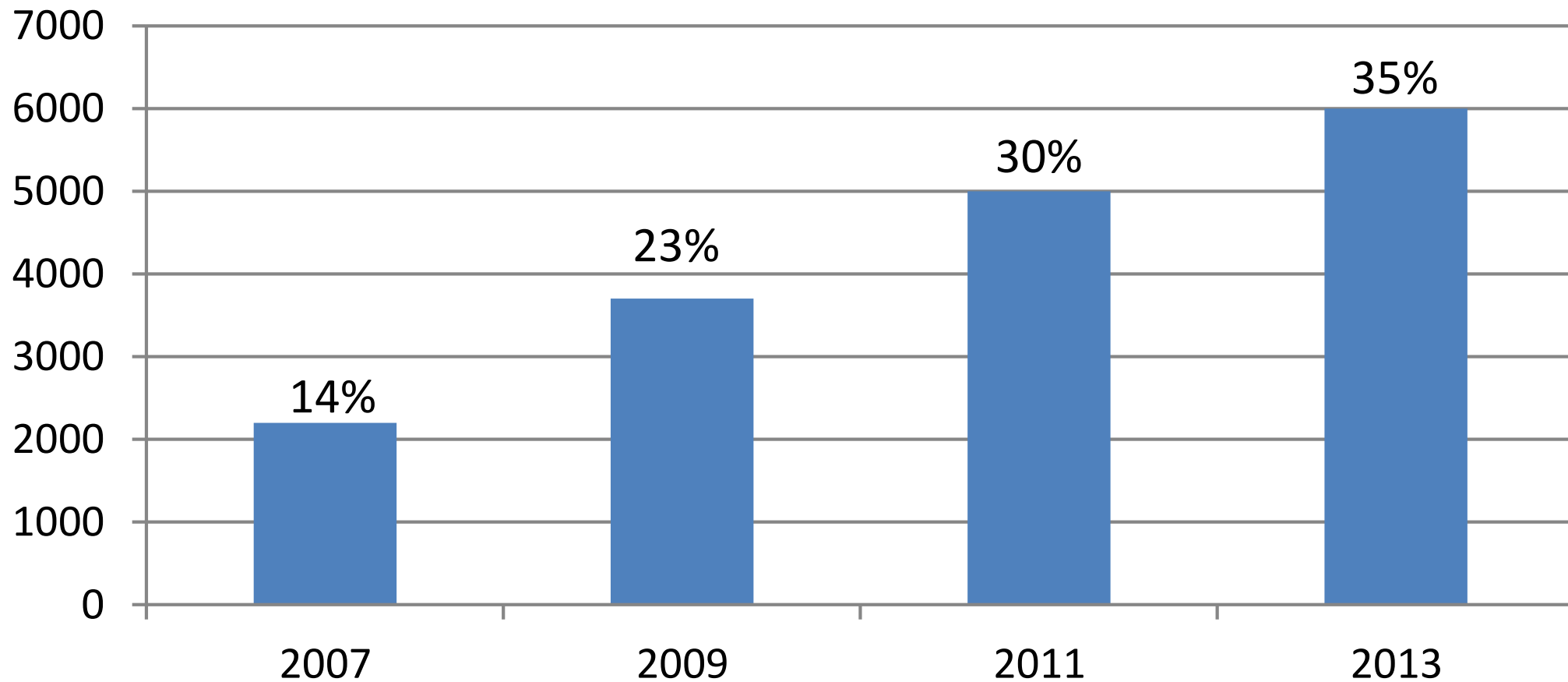
CEDAE EFFORTS

Complementation the sewage pipe collect network of Pavuna Treatment Plant

IN PROGRESS



Treatment Sewage (liters/sec) Guanabara Bay Watershed Area



In 2008, a commitment with the International Olympic Committee for holding the 2016 Olympic Games, established new requirements to reduce the organic load discharged by collecting and properly treating the wastewater in order to achieve the environmental recovery of Guanabara Bay.



PROGRAMA DE SANEAMENTO
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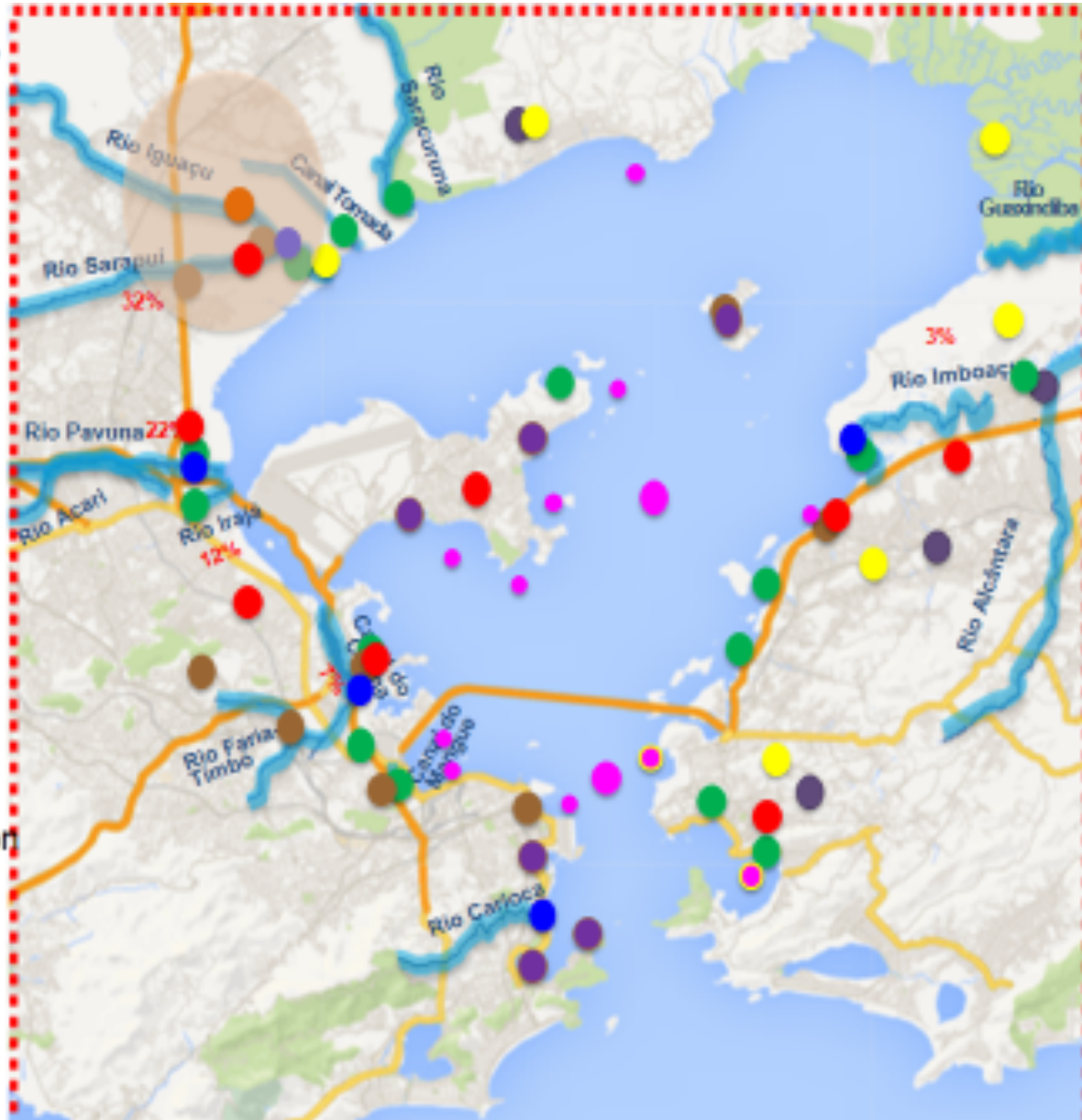


*There are a lot of sanitation projects in course
(flood control, sewage collection and treatment, landfills)*

Guanabara Bay

Summary of actions to clean up the bay

- Garbage dump closure
- Landfills
- Ecobarriers
- Ecoboats
- River Treatment Unit
- Flood control
- Sewage Treatment Station
- Collect Sewage System
- Beaches Pollution Prevention



NEW WORKS IN COURSE BY CEDAE (sources from Federal Government Loan)

TO AMPLIFY THE SECONDARY TREATMENT IN ALEGRIA PLANT

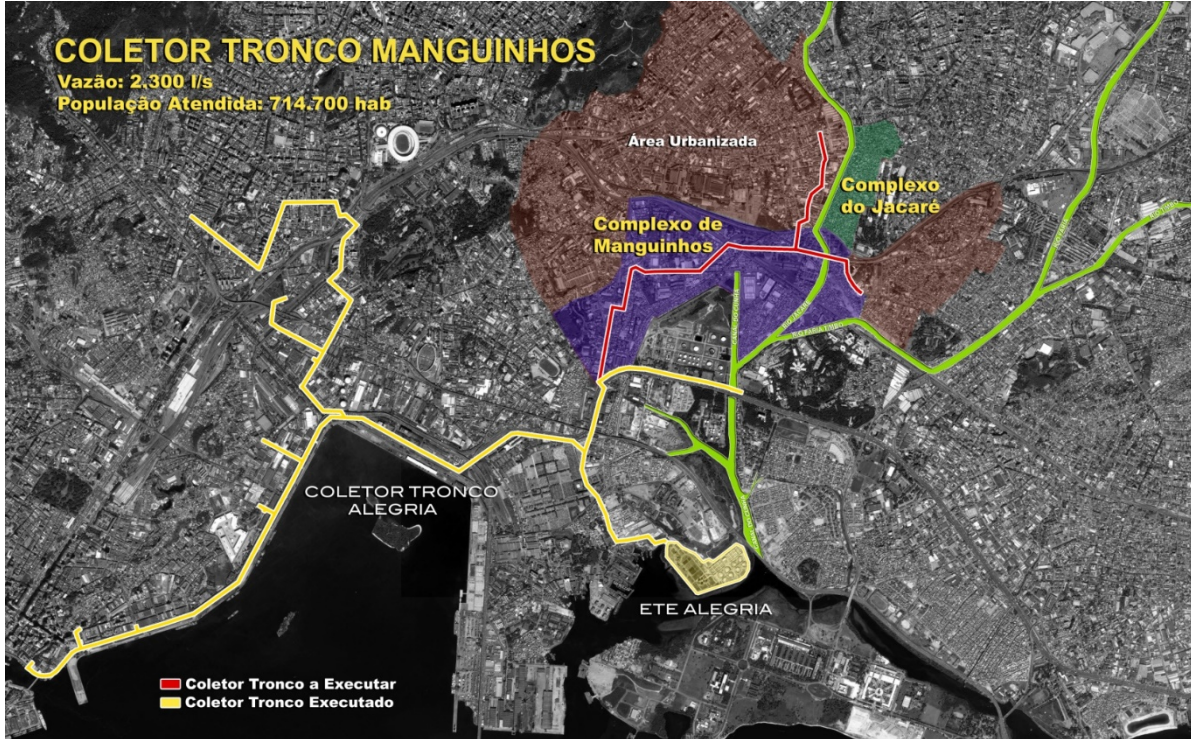
CONTRACTING



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAIÁ DA GUANABARA

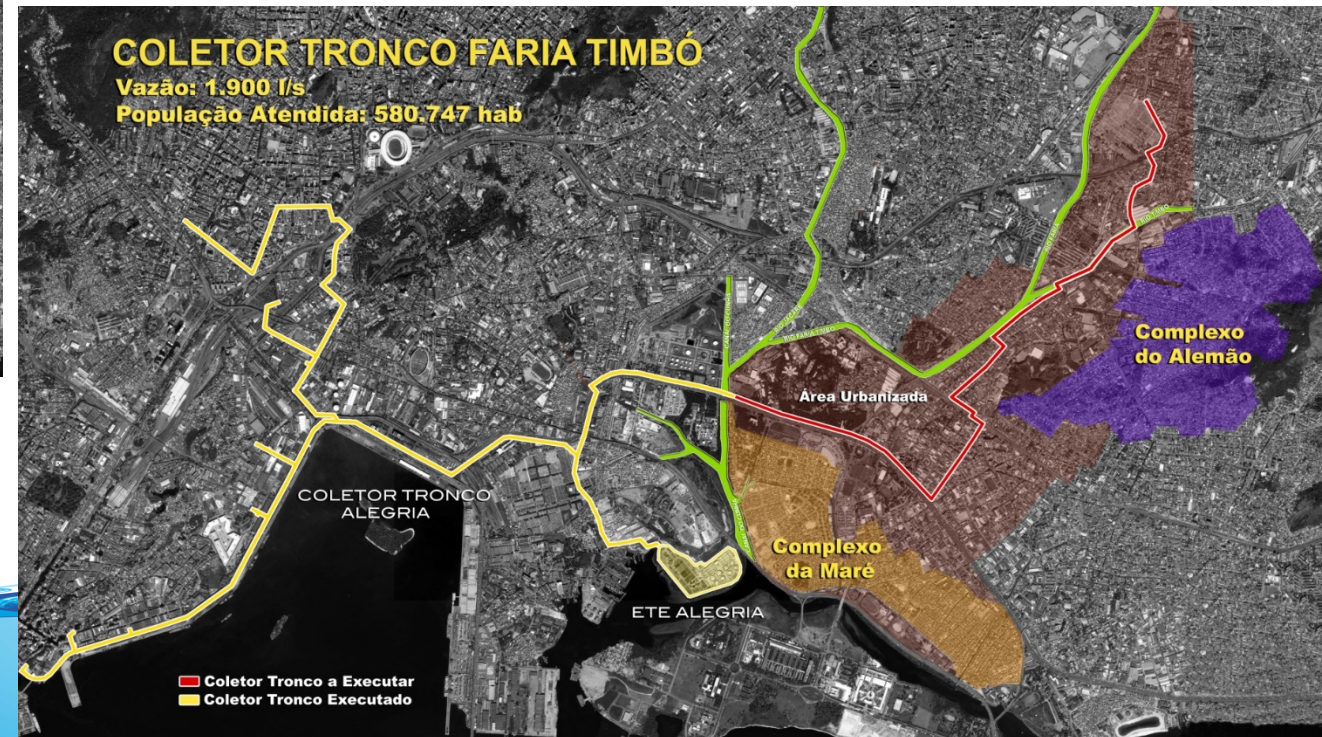


NEW WORKS IN COURSE BY CEDAE (sources from Federal Government Loan) TO EXPAND THE SISTEM OF TRUNKS AROUND ALEGRIA PLANT



CONTRACTING

CONTRACTING



The new program

"Environmental Sanitation Program of Municipalities Surrounding Guanabara Bay" – PSAM,

financed by IADB, has focused the partnerships with the fifteen municipalities that comprise the watershed, supporting them with the development of the Municipal Sanitation Plans.



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAÍA DA GUANABARA



Environmental Sanitation Program of Municipalities Surrounding Guanabara Bay (PSAM)

GENERAL AIM : Environmental Degradation Reversal of Guanabara Bay

-Component 1:

TO BUILT SEWAGE COLLECT AND WASTEWATER TREATMENT PLANT;

-Component 2:

TO SUPORT THE PUBLIC INSTITUTIONS RELATED WITH SANITATION (INEA, CEDAE and
AGENERSA);

-Component 3:

TO SUPORT THE MUNICIPALITIES WITH PROMOTION OF SANITATION PUBLIC POLICIES

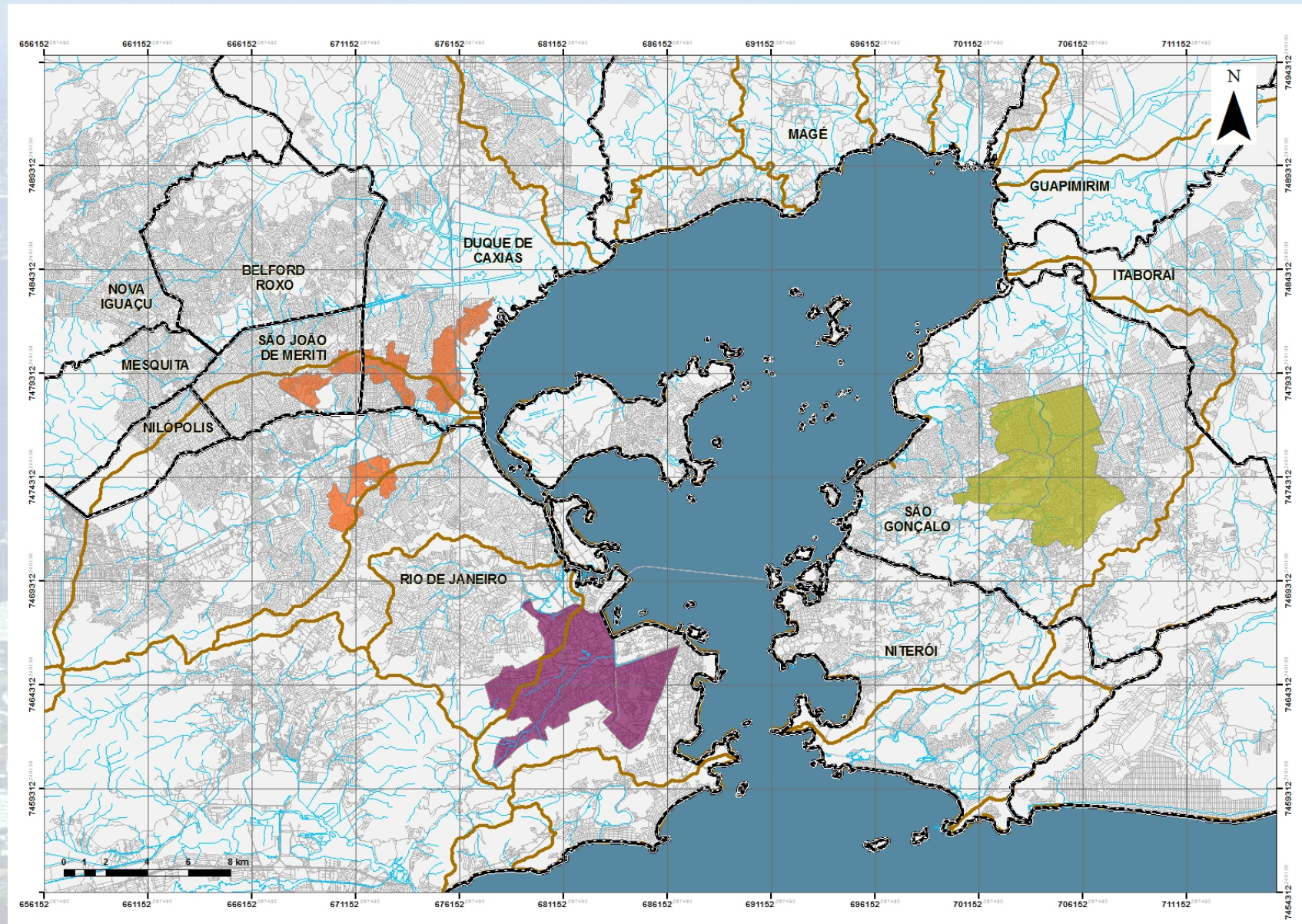
Environmental Sanitation Program of Municipalities Surrounding Guanabara Bay (PSAM)

INVESTMENTS

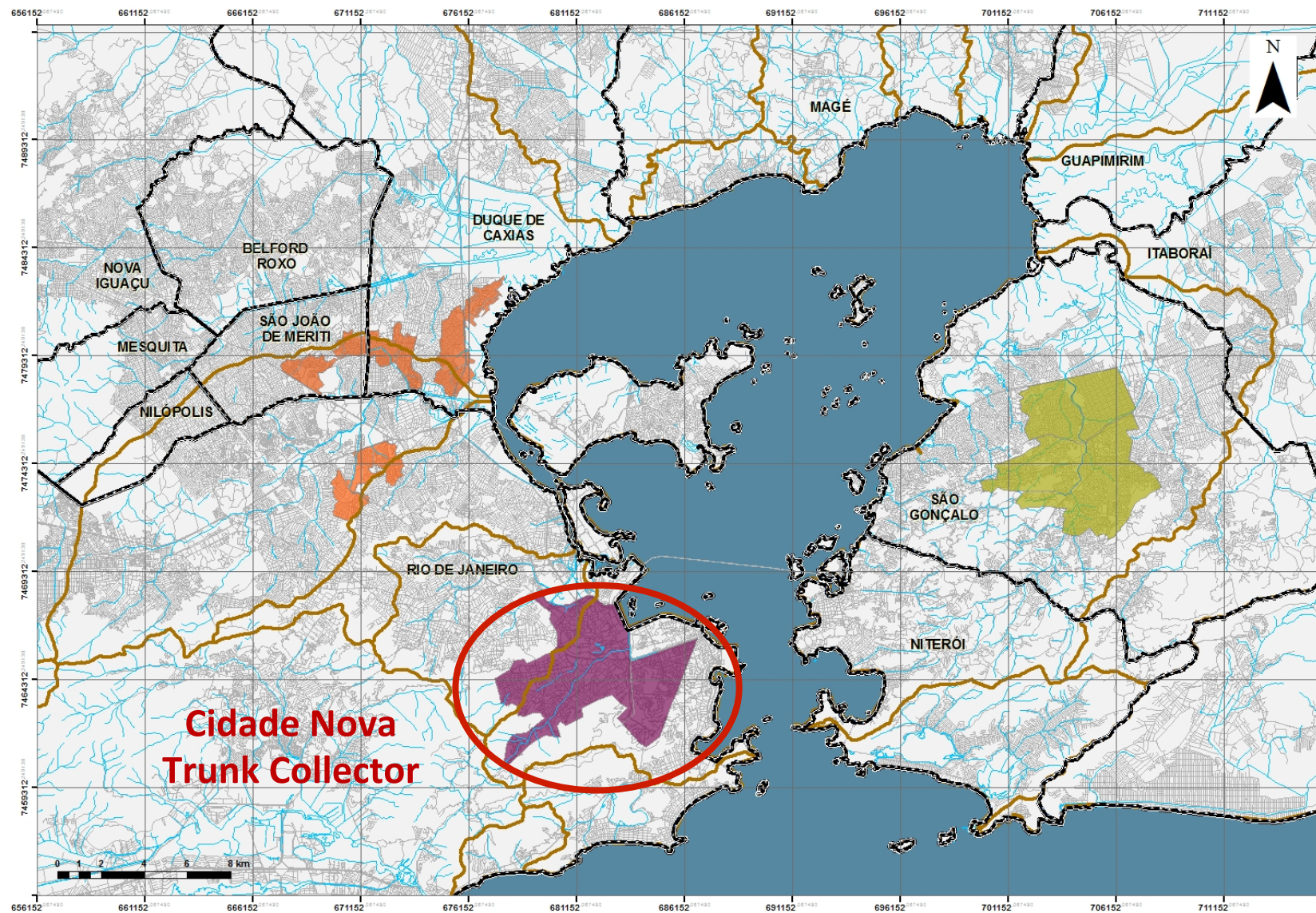
RESOURCES	US\$ MILLION
B I D	452.00
State Counterpart	188.00
Total Amount	640.00

Environmental Sanitation Program of Municipalities Surrounding Guanabara Bay (PSAM)

COMPONENT 1 – INFRASTRUCTURE PROJECTS



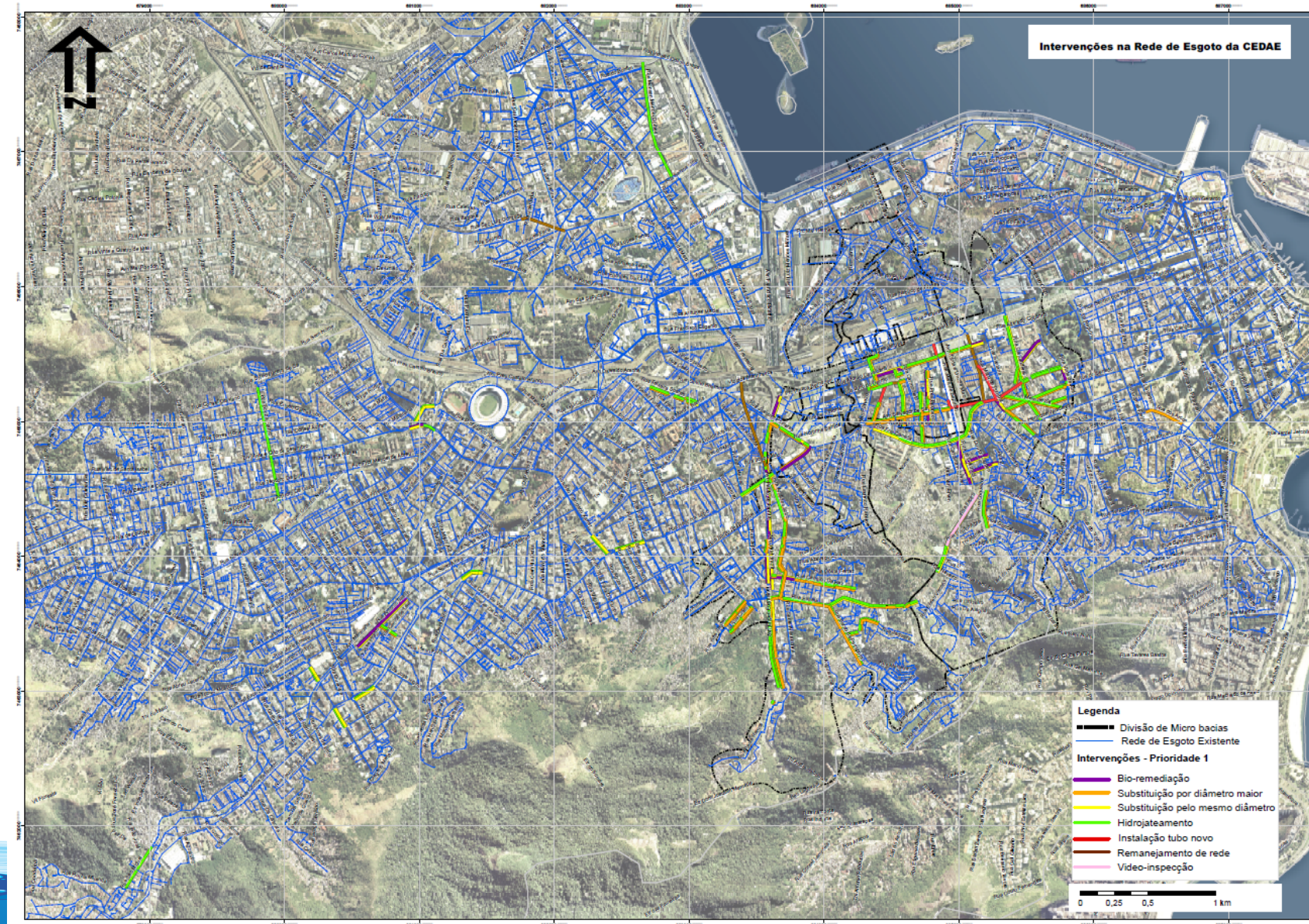
PSAM – COMPONENT 1 – INFRASTRUCTURE PROJECTS

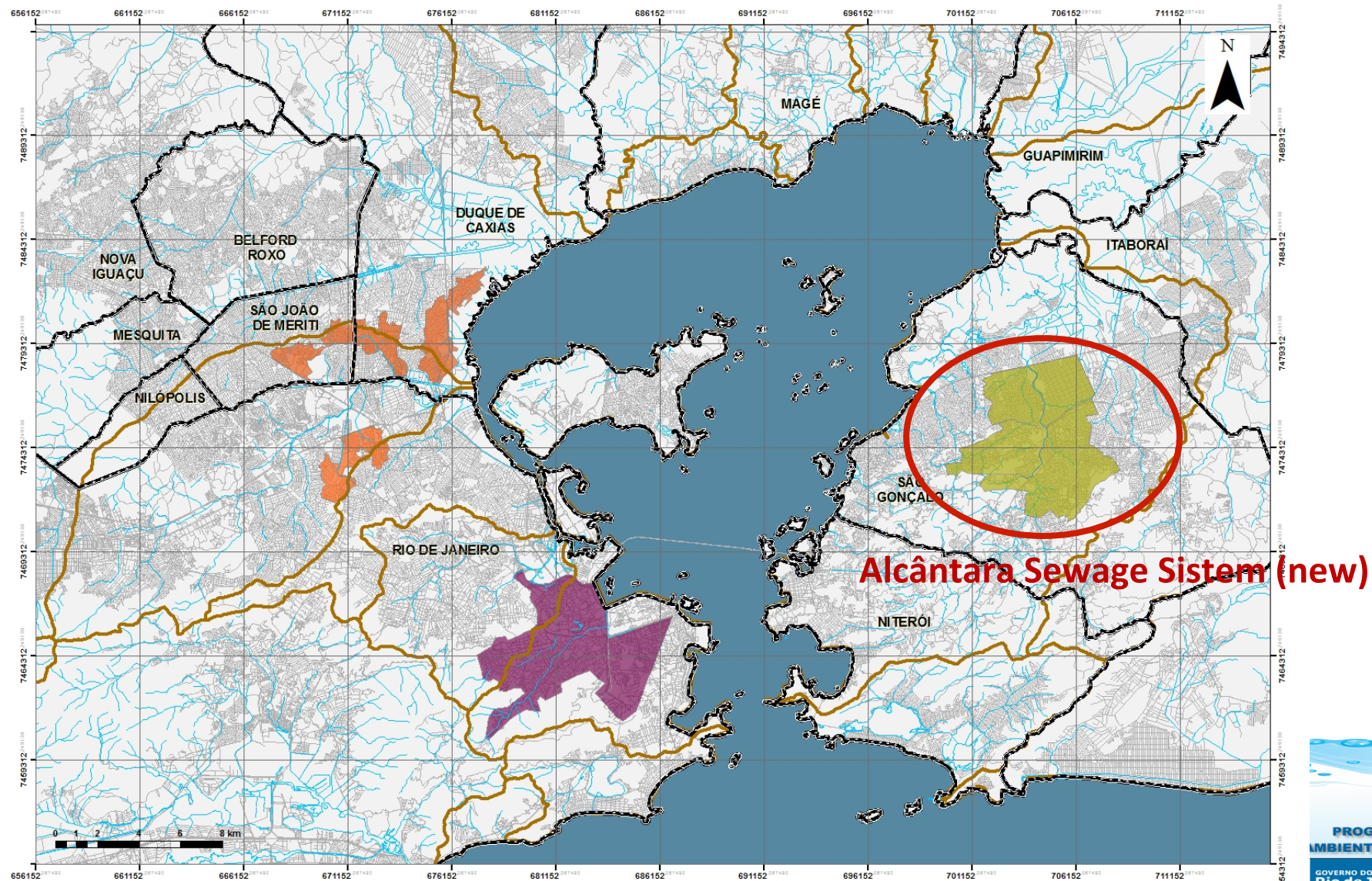


PSAM - Trunk Collector Cidade Nova Design



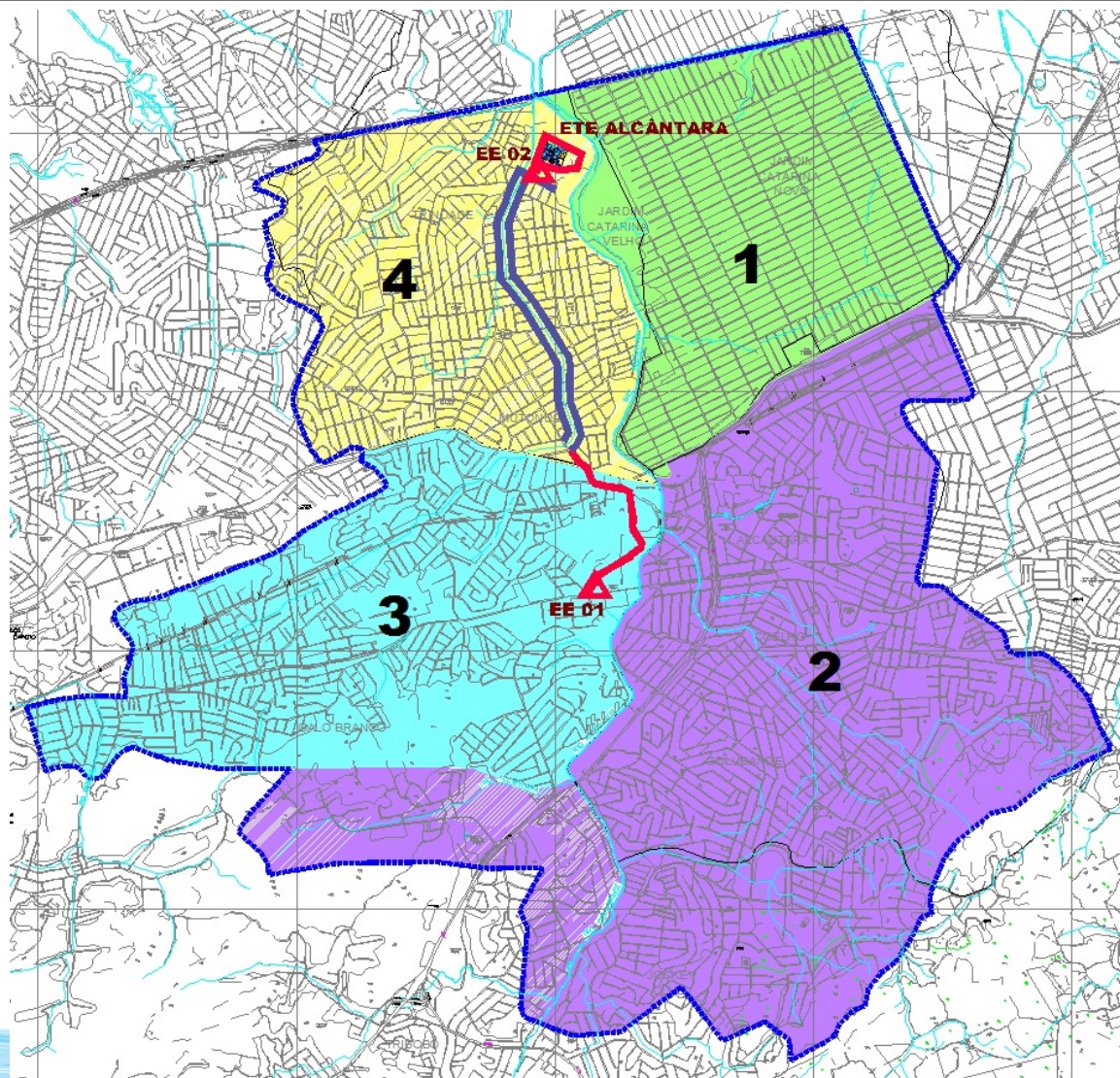
Pipe Collected Restoration of the Mangue Chanel (Cidade Nova Trunk) and the Tijuca/S. Critóvão Trunk.





Alcântara Sistem (São Gonçalo City)

WORK CONTRACTED BY PSAM AT JUN24 2014



Area 4:

IT WILL BUILD:

- WASTEWATER TREATMENT PLANT
- 100 Km of PIPE COLLECT NETWORK
- TRUNK COLLECT

Area 2:

IT WILL BUILD A SEWAGE PUMP STATION TO CONNECT WITH THE EXISTENT PIPE COLLECT NETWORK

Area 1:

IT WILL BUILD A SEWAGE PUMP STATION TO CONNECT WITH THE EXISTENT PIPE COLLECT NETWORK

TOTAL POPULATION (1+3+4): 230,000 hab

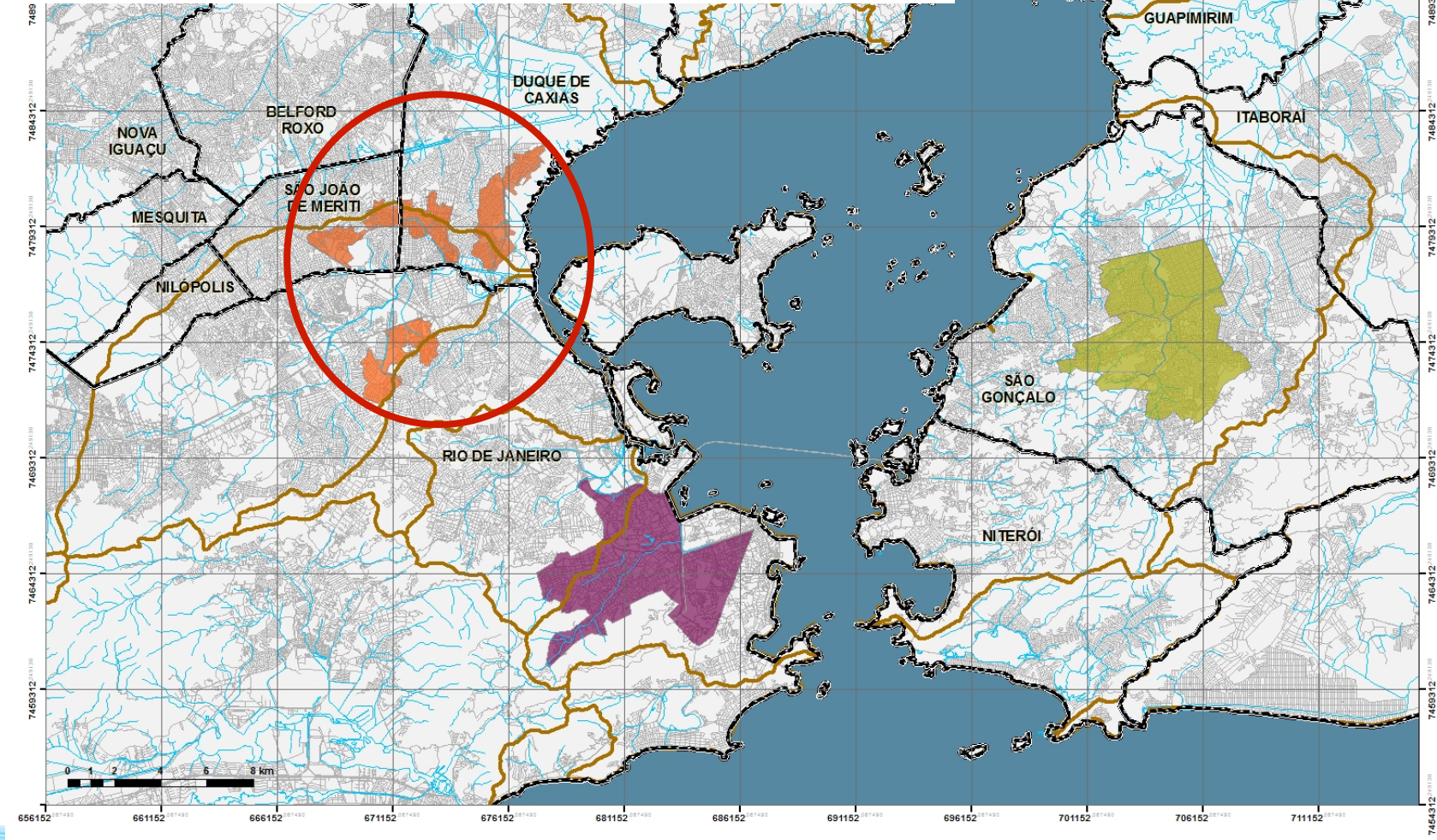
Area 2:

PIPE COLLECT NETWORK TO BE CONNECTED TO THE SISTEM IN FUTURE (CURRENTLY IN DESIGN)



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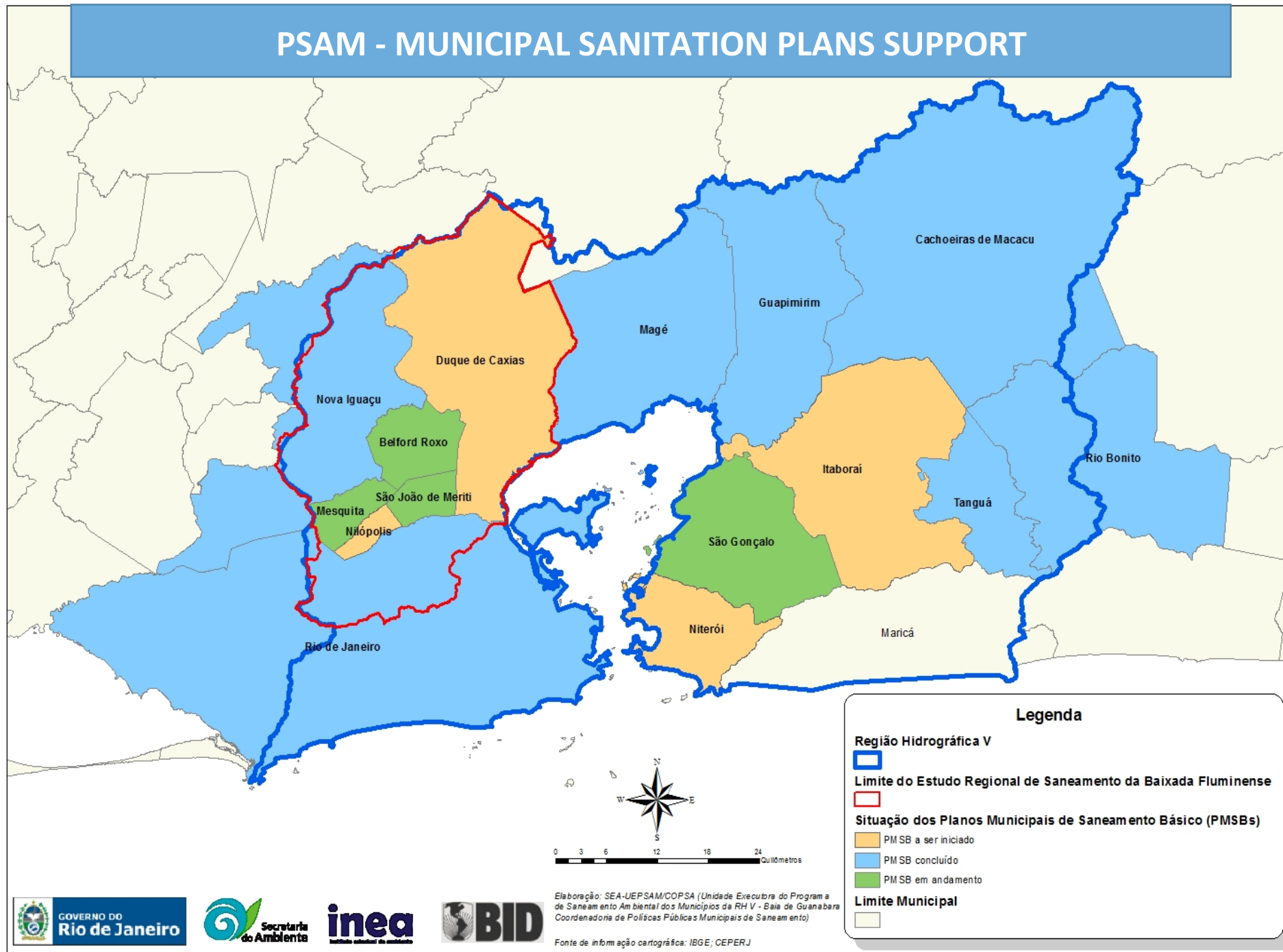
Sewage Pipe Collect Network Complementation for the Pavuna Wastewater Treatment Plant System



CURRENTLY:

DESIGNING
300 Km of
PIPE COLLECT
NETWORK

PSAM - MUNICIPAL SANITATION PLANS SUPPORT



2013 – Participation on the Municipal Sanitation Plans



Nova Iguaçu



Legenda

Região Hidrográfica V

Limite do Estudo Regional de Saneamento da Baixada Fluminense

Limite do Município

Situação dos Planos Municipais de Saneamento Básico (PMSBs)

- PM SB a ser iniciado
- PM SB concluído
- PM SB em andamento

Limite Municipal

-

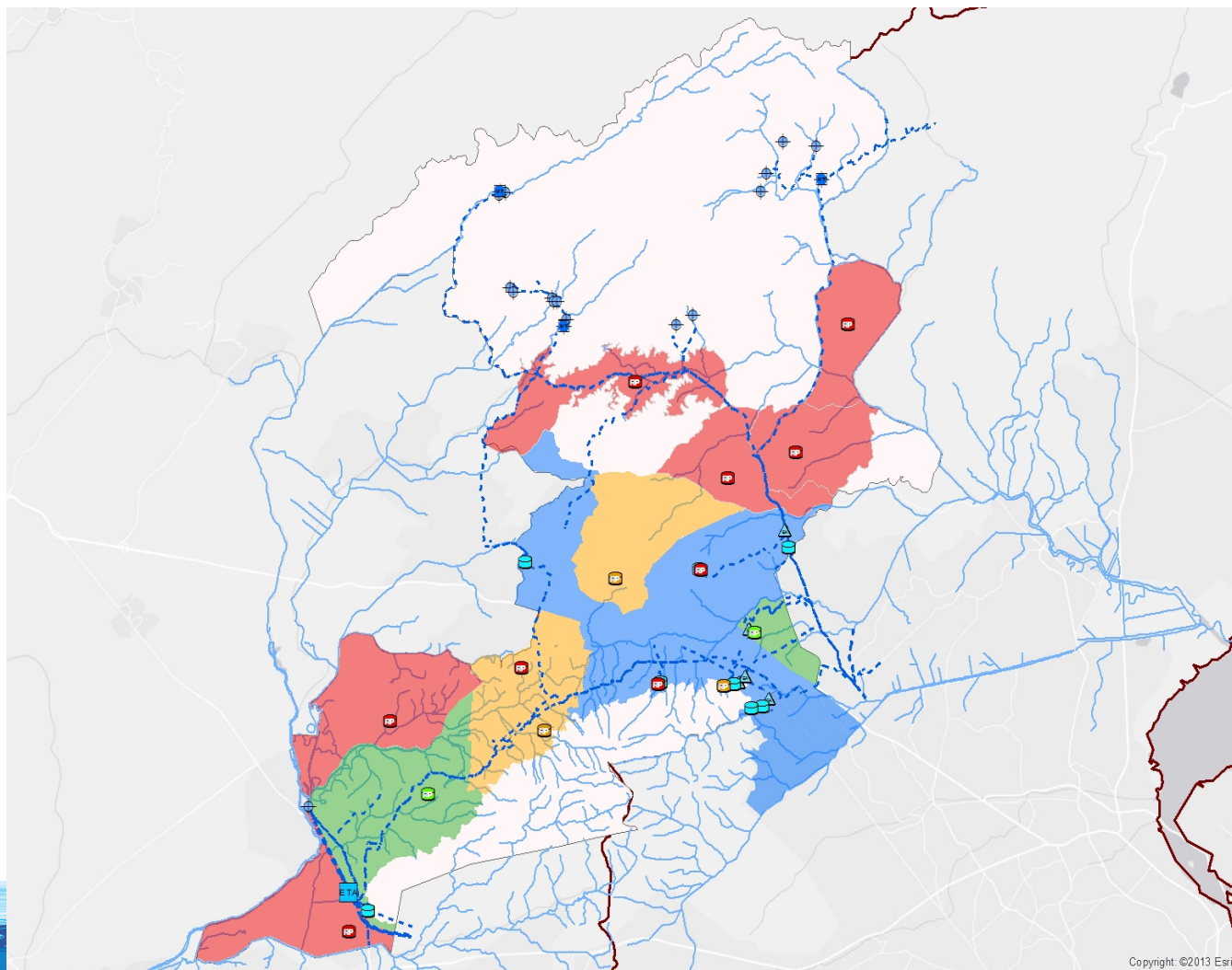


Elaboração: SEA-UEPSAM/COPSA (Unidade Executora do Programa de Saneamento Ambiental dos Municípios da RH V - Baía de Guanabara - Coordenadoria de Políticas Públicas Municipais de Saneamento)

Fonte de informação cartográfica: IBGE; CEPERJ



SISTEMA DE ABASTECIMENTO DE ÁGUA



Legenda

Captações

- Existente
- Proposta - Curto Prazo
- Proposta - Médio Prazo
- Proposta - Longo Prazo

ETAs

- Existente
- Proposta - Curto Prazo
- Proposta - Médio Prazo

UTs

- Proposta - Médio Prazo
- Proposta - Longo Prazo

Reservatórios

- Existente
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- Proposta - Longo Prazo

Adutoras

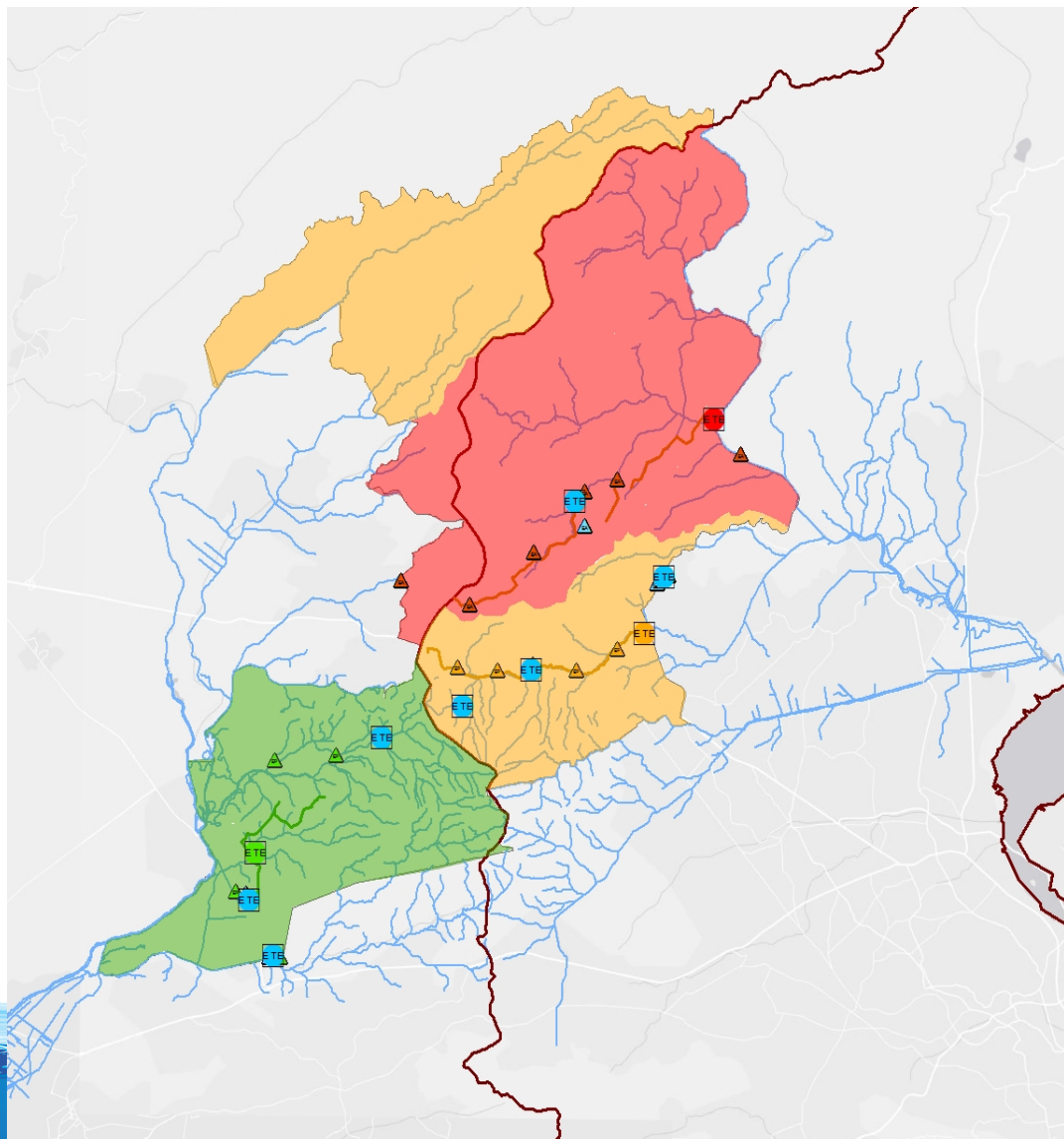
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Área de Influência das Captações

- Existente
- Proposta - Curto Prazo
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SISTEMA DE ESGOTAMENTO SANITÁRIO





Legenda




ETEs

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-  Proposta - Médio Prazo
-  Proposta - Longo Prazo
-  Existente -fossa

Estações Elevatórias

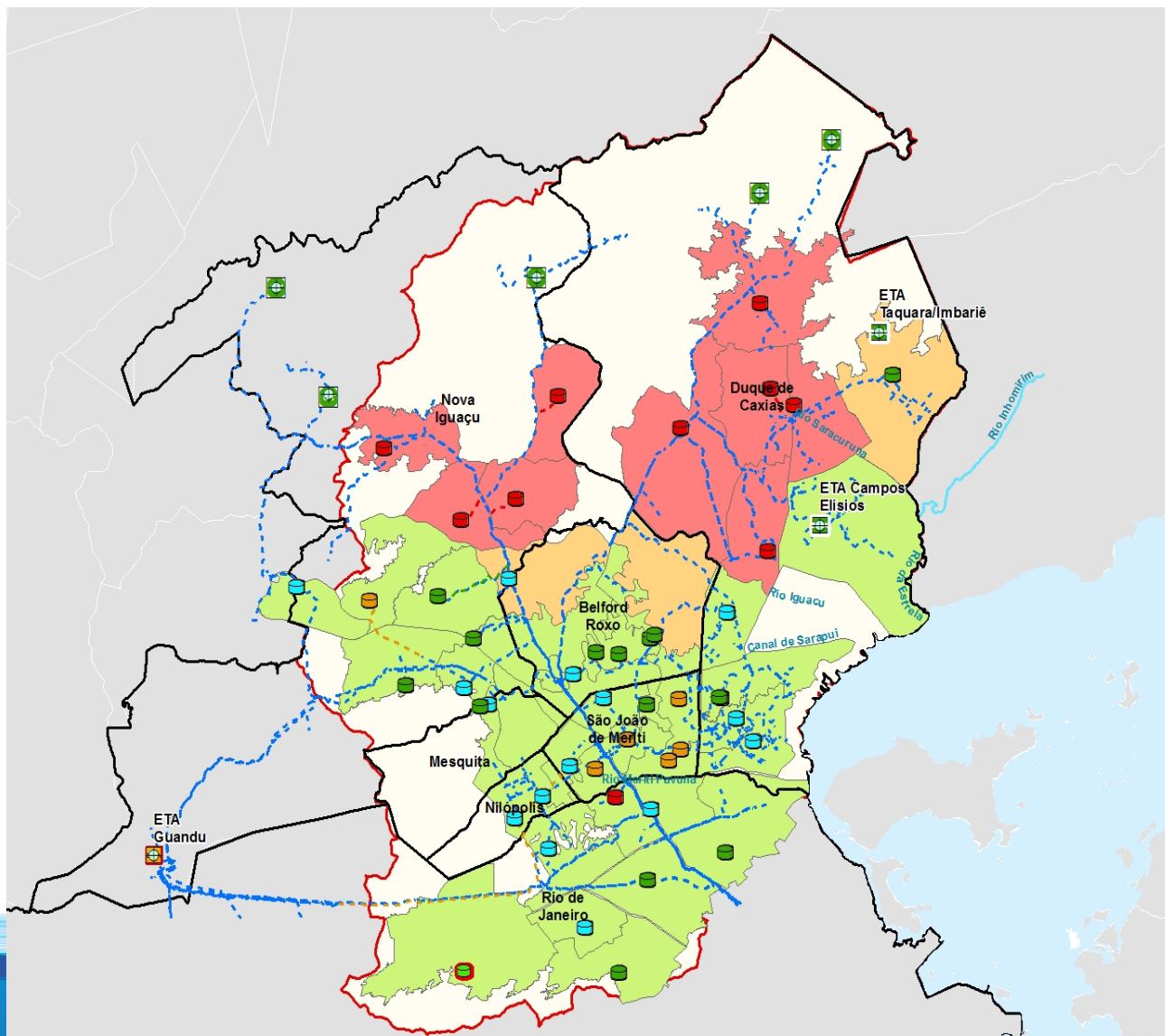
-  Proposta - Curto Prazo
-  Proposta - Médio Prazo

Bacias de Esgotamento Sanitário

-  Proposta - Curto Prazo
-  Proposta - Médio Prazo
-  Proposta - Longo Prazo



SISTEMA DE ABASTECIMENTO DE ÁGUA



Legenda

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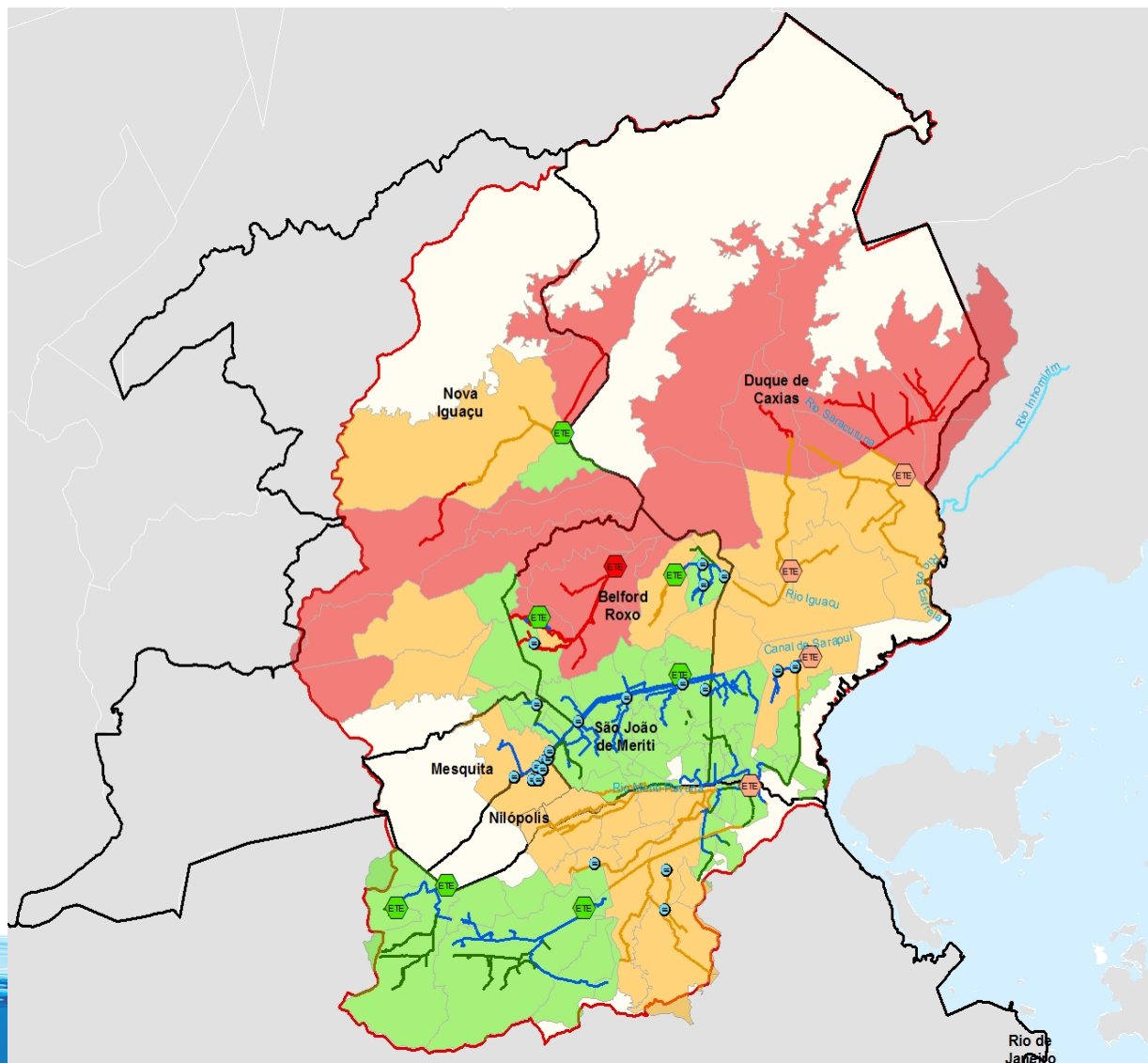
Adutoras

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- Proposta - Longo Prazo

Área de Influência das Captações





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- Proposta - Curto Prazo
- Proposta - Médio Prazo
- Proposta - Longo Prazo

SISTEMA DE ESGOTAMENTO SANITÁRIO





Legenda




ETEs

-  Proposta - Curto Prazo
-  Proposta - Médio Prazo
-  Proposta - Longo Prazo
-  Existente - fossa

Estações Elevatórias

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-  Proposta - Médio Prazo

Bacias de Esgotamento Sanitário

-  Proposta - Curto Prazo
-  Proposta - Médio Prazo
-  Proposta - Longo Prazo

Network Social Communication – Technical Information

<http://psam.maps.arcgis.com>

<http://pmsbguanabara.wordpress.com>

PÁGINA INICIAL GALERIA MAPA GRUPOS

ENTRAR

PROGRAMA DE SANEAMENTO AMBIENTAL DOS MUNICÍPIOS NO ENTORNO DA BAÍA DE GUANABARA

PSAM

GOVERNO DO Rio de Janeiro

Secretaria do Ambiente

Comitê de Bacia da Baía de Guanabara

Programa de Saneamento Ambiental da Baía de Guanabara

Guapimirim - Sistema de Esgotamento

Magé - Sistema de Abastecimento

Magé - Sistema de Esgotamento

Políticas Públicas Municipais de Saneamento

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*To carry out the sewage works to achieve universal sanitation in the watershed of GB,
it is necessary to get more resources than the current PSAM budget
and in this aim, the State Government is detailing the projects to seek financial and fiscal resolution.*



PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAÍA DA GUANABARA



The environmental restoration challenge is beyond this huge sewage and solid waste program, connected with urban infrastructure works.

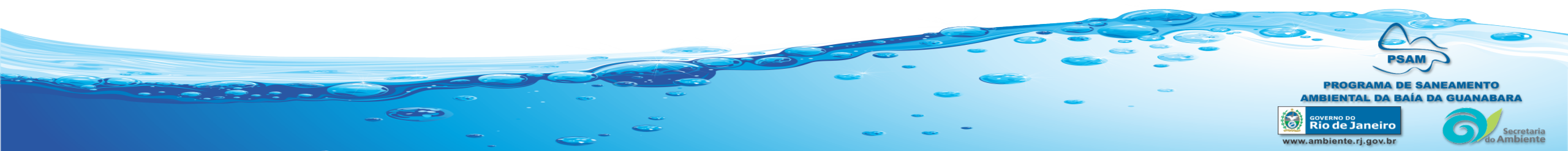
The surrounding GB has been impacted by development projects in different activities such as petrochemical, refinery, petroleum offshore bases, shipyards and the expansion of the harbor.

We shall mitigate those intensive uses of the bay and prevent the potential risks.



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AMBIENTAL DA BAIÁ DA GUANABARA





**PROGRAMA DE SANEAMENTO
AMBIENTAL DA BAÍA DA GUANABARA**

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do Ambiente**