



SEMARANG

Urban Flood Management

Based on nature solution

BAPPEDA KOTA SEMARANG



Outline

01

Semarang
Overview

02

factors that
cause flood

03

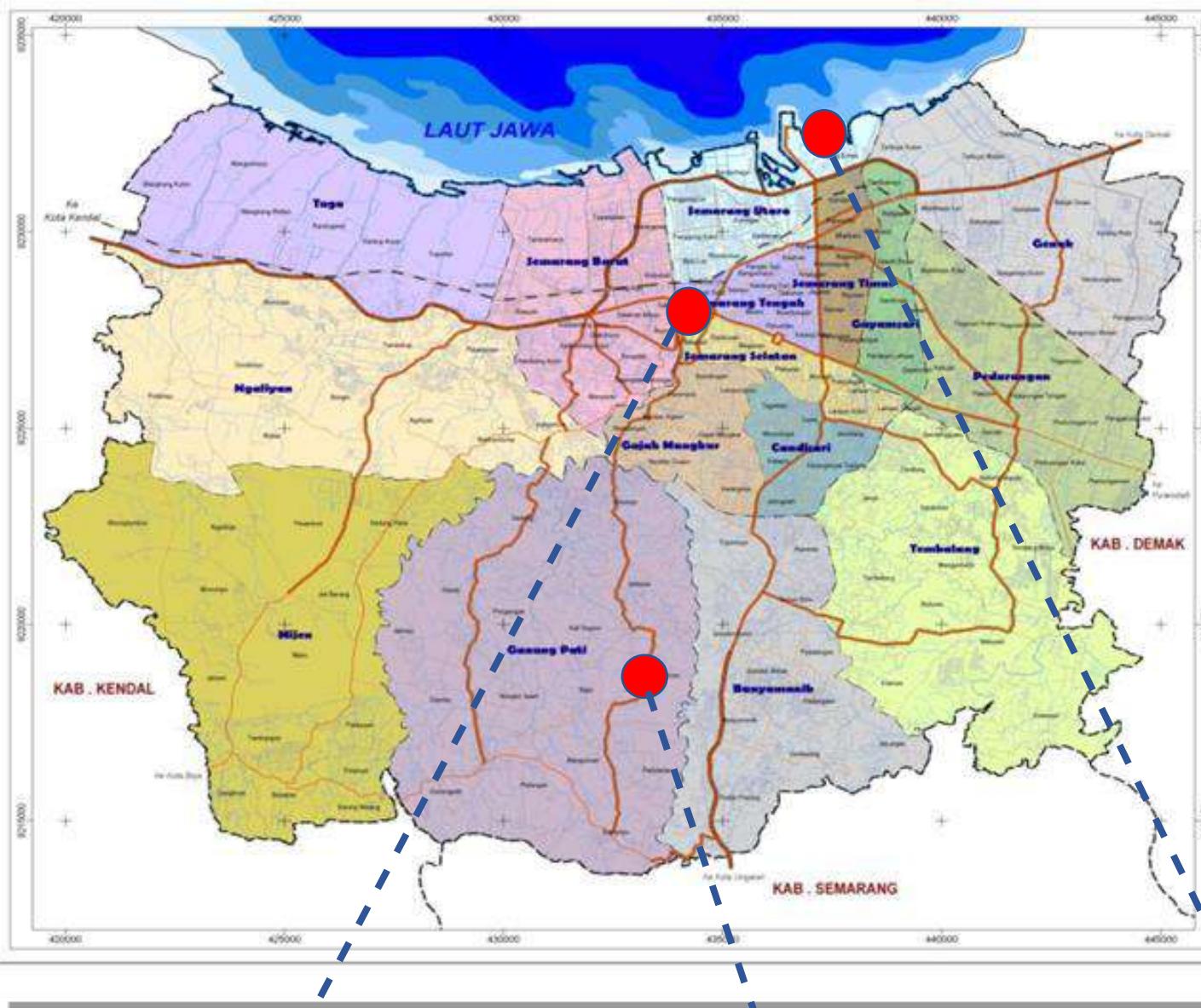
Flood
management
concept

04

flood
management
by
infrastructure

05

flood
management
based on
nature



Topography

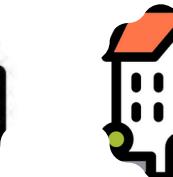


OVERVIEW:

- Capital City of Central Java
- Area of Semarang Municipality 373,70 km²
- 16 district
- 177 sub district
- 1,8 million population.

Semarang Overview

Economy



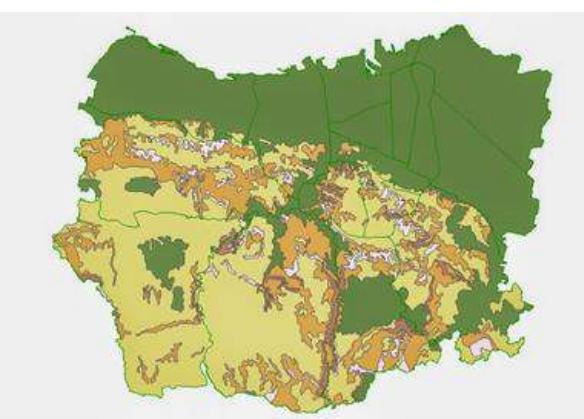
- economic growth in 2020 -1,61%, (covid- 19)
- economic growth in 2021 5,16%,

Culture



- Diversity Ethnic: Chinese, javanese, and many more

SEMARANG IS UNIQUE



Topography

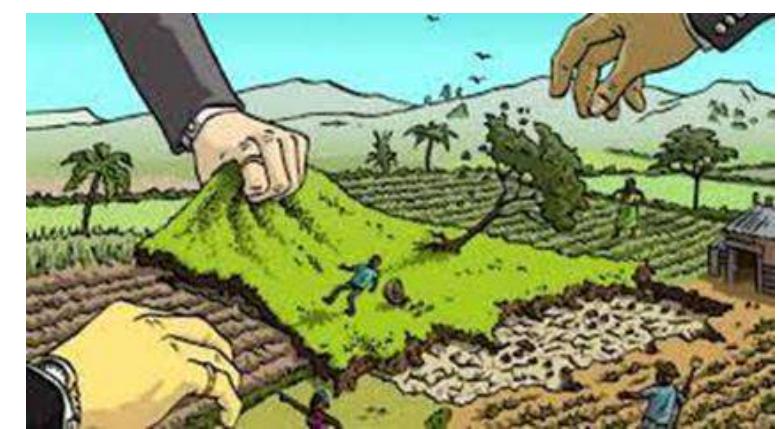


land
subsidence

factors that
cause flood in
semarang city



sea level
rise



land use
change

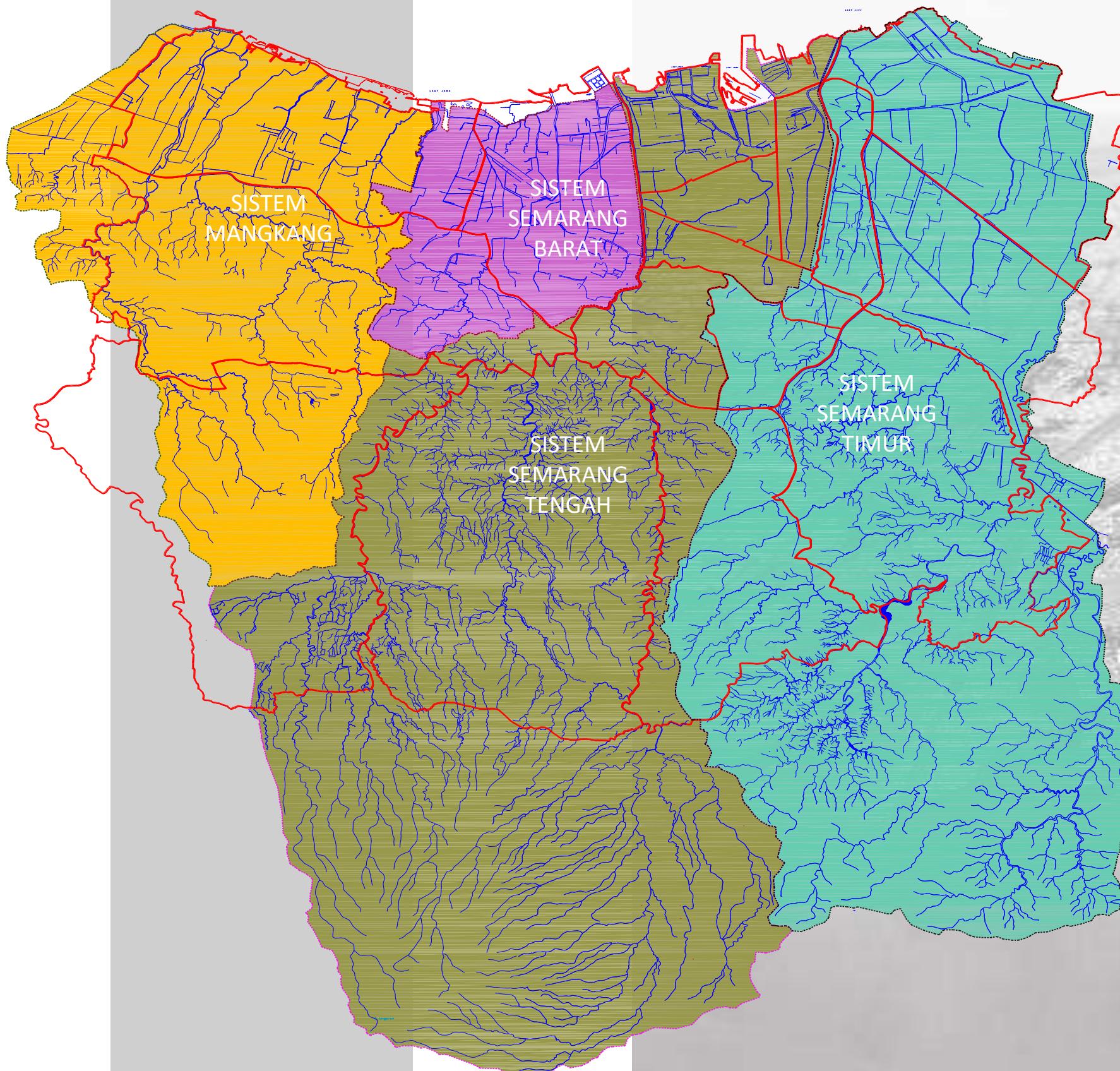


Waste

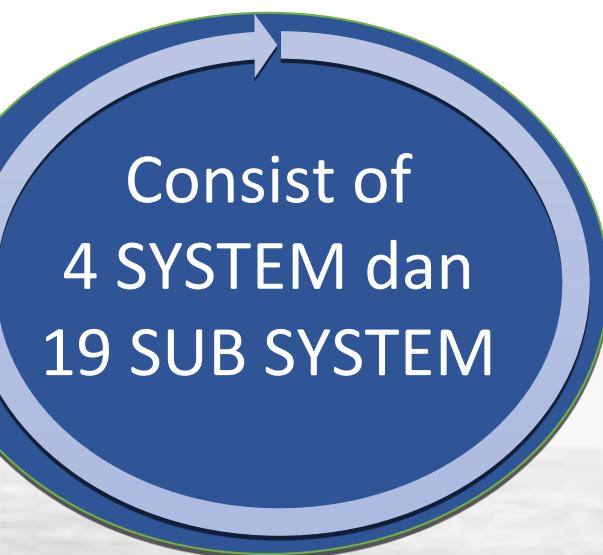


Global
Warming

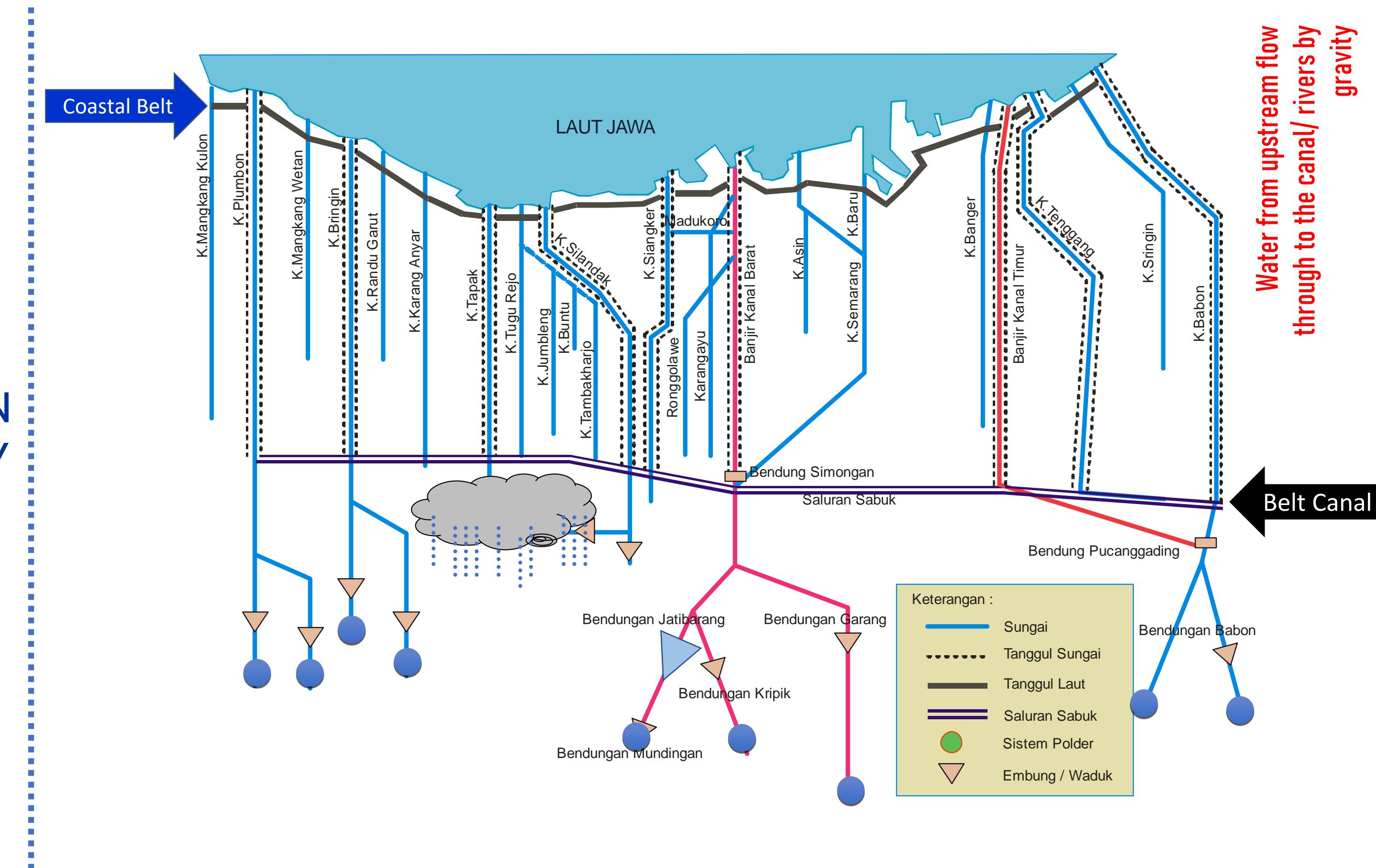
FLOOD MANAGEMENT CONCEPT IN SEMARANG CITY



- 1. Drainage System Mangkang**
 1. Sub System Kali Mangkang
 2. Sub c Kali Bringin
- 2. Drainage System of West Semarang**
 3. Sub System Kali Tugurejo
 4. Sub System Kali Silandak
 5. Sub System Kali Siangker
 6. Sub System A. Yani Airport
- 3. Drainage System of Central Semarang**
 7. Sub System West Canal Flood
 8. Sub System Kali Bulu
 9. Sub System Kali Asin
 10. Sub System Kali Semarang
 11. Sub System Kali Baru
 12. Sub System Kali Bandarharjo
 13. Sub System Kali Simpang Lima
 14. Sub System Kali Banger
- 4. Drainage System of East Semarang**
 15. Sub System East Canal Flood
 16. Sub System Kali Tenggang
 17. Sub System Kali Sringin
 18. Sub System Kali Babon
 19. Sub System Kali Pedurunga



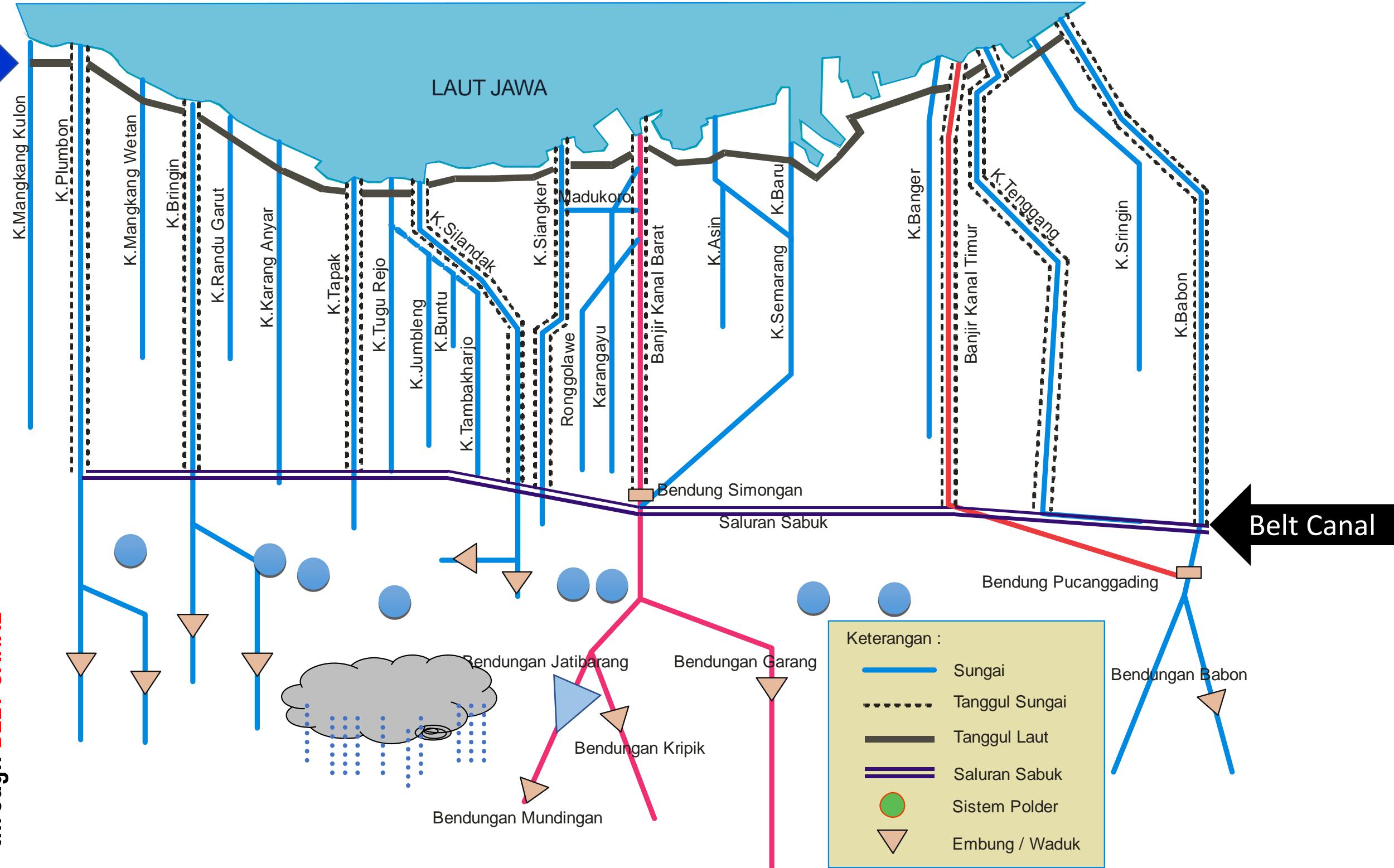
FLOOD MANAGEMENT CONCEPT IN SEMARANG CITY



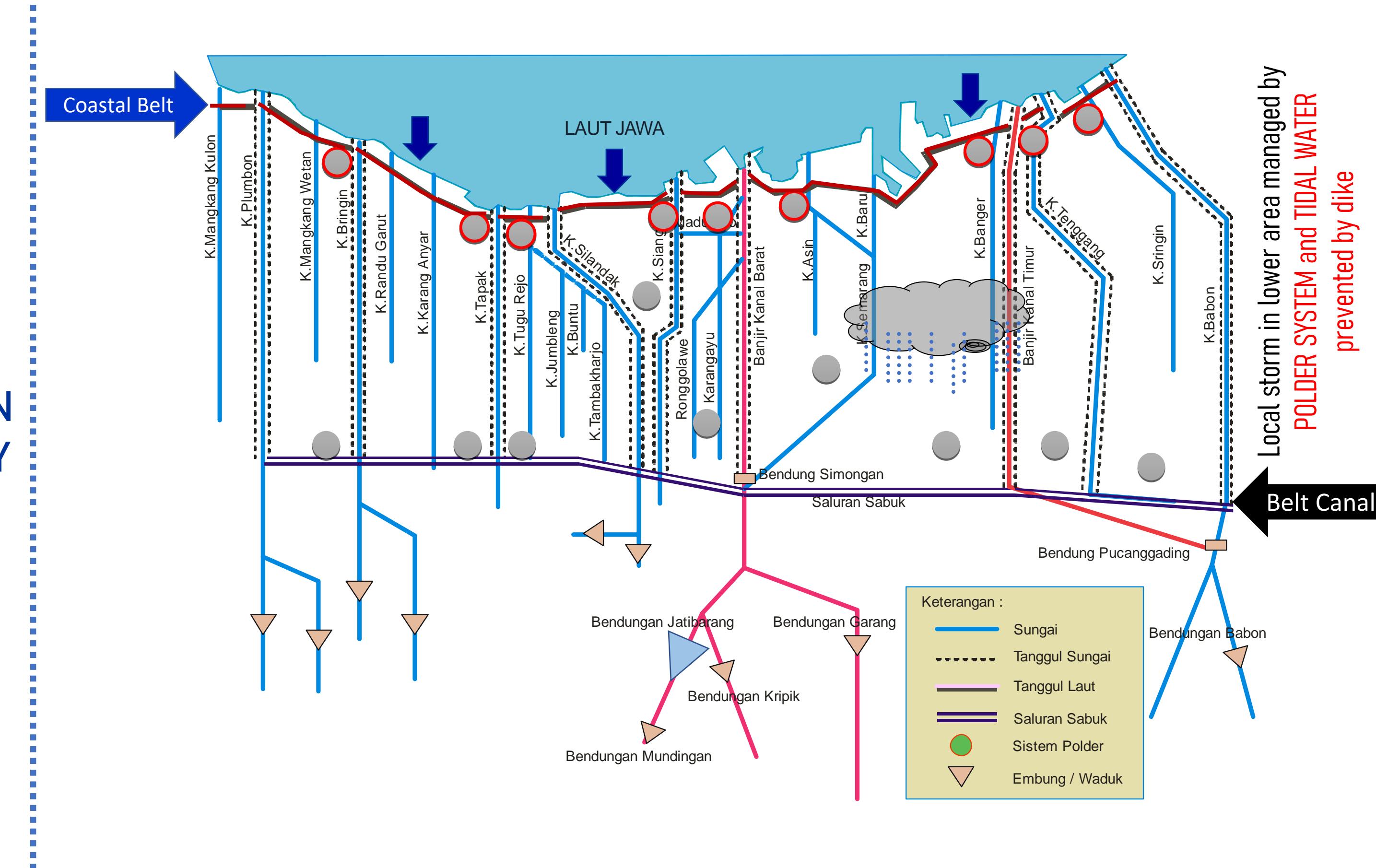
FLOOD MANAGEMENT CONCEPT IN SEMARANG CITY

Runoff from upstream
discharged into floodway
through BELT CANAL

Coastal Belt



FLOOD MANAGEMENT CONCEPT IN SEMARANG CITY



flood management by infrastructure



Pumping
System



River
Normalization



Reduce Water Run-Off

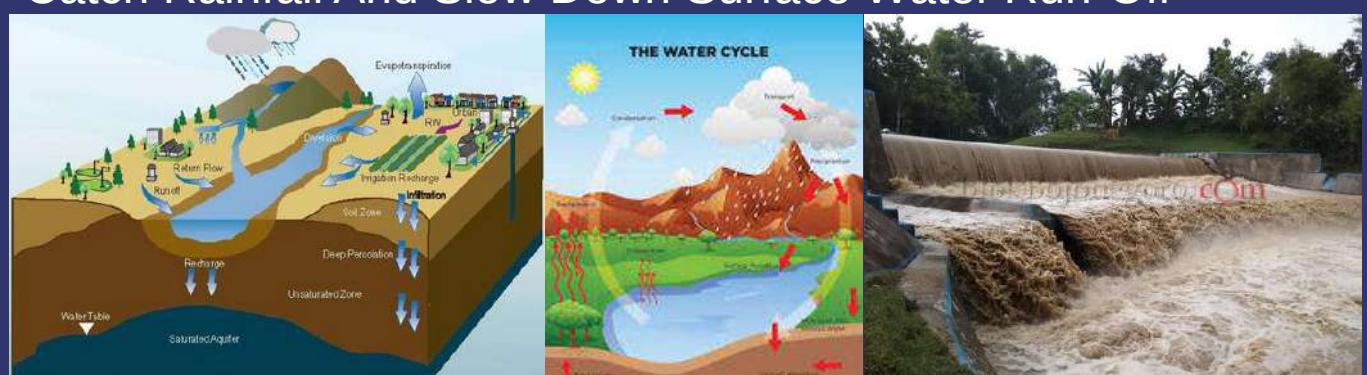
flood management based on nature



Mangrove Forest
Reforestation



Plant Trees And Hedges To Increase Water Absorption,
Catch Rainfall And Slow Down Surface Water Run-Off

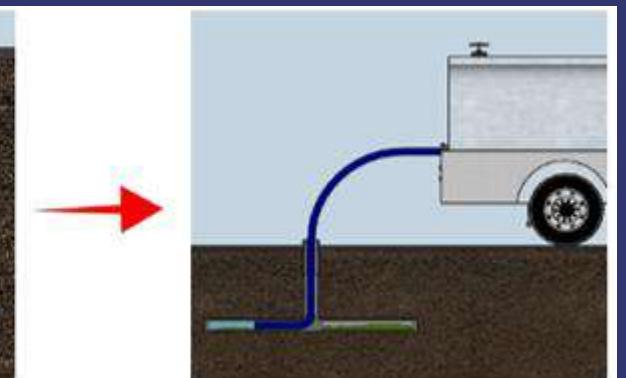


Divert High Water Flows And Create Areas To Store
Water

flood management based on nature



Rain water harvesting



Horizontal infiltration pipe

Breakwater

Water as Leverage

Integrated Urban Water Management Program

Conservation Area & Building
Coverage Limitation in Spatial Plan



Marine Village Tambaklorok



Integrated Toll Road–Sea Dyke
Semarang - Demak



SPONGY
MOUNTAIN TERRACE

5
RECHANNELING
THE CITY

Semarang River Revitalization



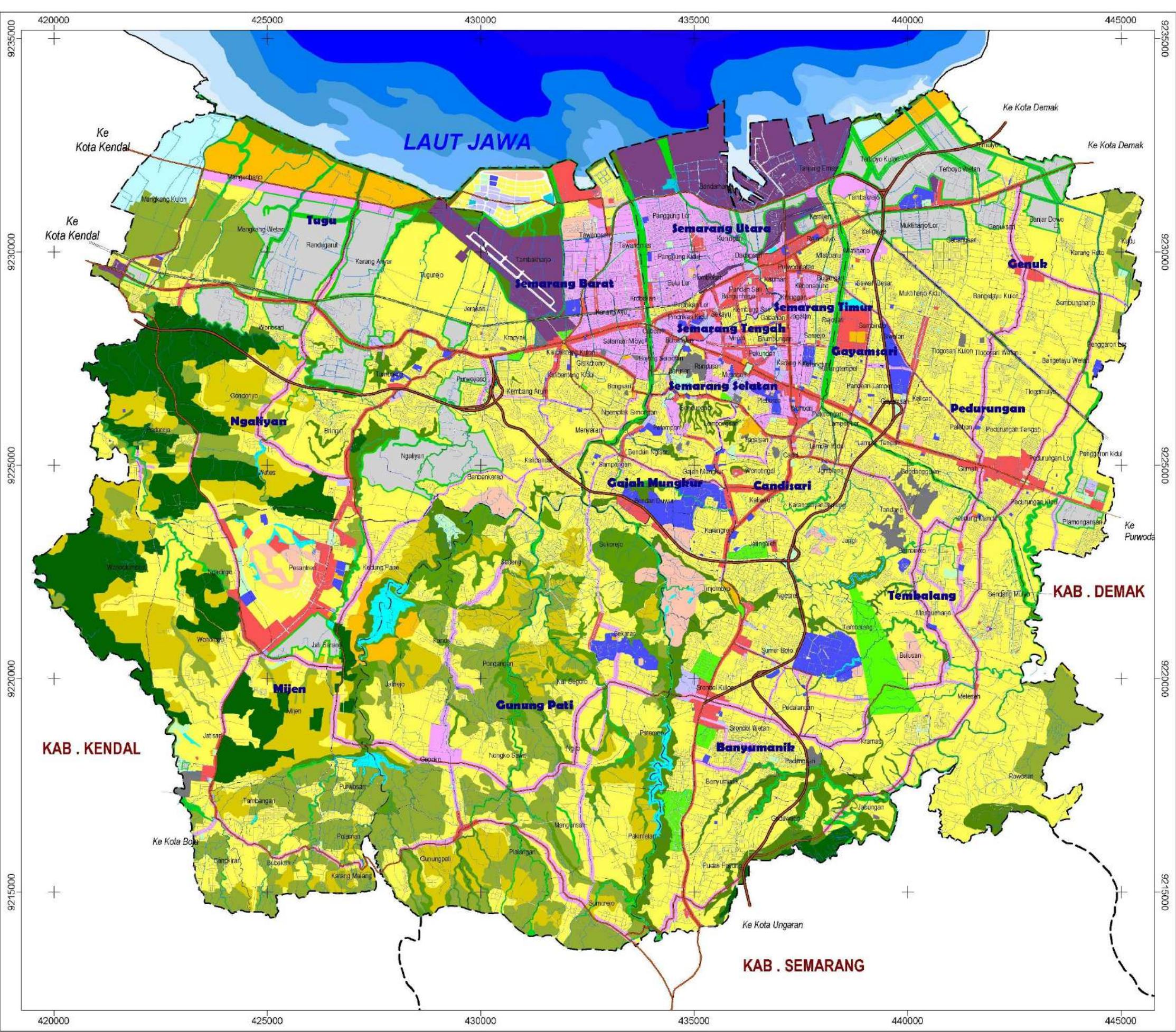
Integrated Toll Road–Sea Dyke Semarang - Kendal



SPATIAL PLAN OF SEMARANG

2011 - 2031

POLICIES :



- Protected Area (regional)
- Protected Area (local)
- 10% Green Open Space (Private)
- 20% Green Open Space (Public)
- Housing Development :
 - Zero Delta Q
 - Providing retention pond & infiltration wells
- Special Regulation for District Gunungpati, Mijen & Ngaliyan :
 - Maximum Building Coverage 40%
 - Minimum House Lots @120 m²

Thank for
your
attention

Bappeda Kota Semarang

SEMARANG
SEMAKINHEBAT!