

THE PRIME MINISTER

**DECISION No. 1336/QĐ-TTg OF
SEPTEMBER 22, 2008, APPROVING THE
WATER DRAINAGE PLANNING FOR
THREE KEY NORTHERN, CENTRAL
AND SOUTHERN ECONOMIC REGIONS
TILL 2020**

THE PRIME MINISTER

*Pursuant to the December 25, 2001 Law on
Organization of the Government;*

*At the proposal of the Ministry of
Construction in Report No.69/TTr-BXD of July
17, 2008, on the approval of the water drainage
planning for three key northern, central and
southern economic regions till 2020,*

DECIDES:

Article 1.- To approve the water drainage
planning for three key northern, central and
southern economic regions till 2020 with the
following major contents:

1. The planning scope

The water drainage planning for urban
centers, cities and provincial towns of localities
in the three key economic regions covers:

- The northern key economic region,

embracing the provinces and cities of Hanoi, Haiphong, Quang Ninh, Hai Duong, Hung Yen, Vinh Phuc and Bac Ninh;

- The central key economic region, covering the provinces and city of Da Nang, Thua Thien - Hue, Quang Nam, Quang Ngai and Binh Dinh;

- The southern key economic region, comprising Ho Chi Minh City and the provinces of Dong Nai, Ba Ria- Vung Tau, Tay Ninh, Binh Duong, Binh Phuoc, Long An and Tien Giang.

2. The planning objects:

Rain water drainage systems and waste water drainage and treatment systems of urban centers, cities and provincial towns of localities in the three key economic regions.

3. The planning objectives:

- To orientate the water drainage planning for urban centers and provincial towns;

- To formulate basic water drainage orientations for every key economic region;

- To identify reasonable solutions to the development of water drainage systems (including main water drainage basins and directions waste water drainage targets, total waste water volume forecast, selection of water drainage systems, locations and sizes of urban waste water treatment zones).

4. The planning viewpoints:

- To comprehensively manage water drainage according to river basin;

- The regional water drainage planning must

be in line with the regional socio-economic development planning and irrigation development planning and other relevant plannings;

- The urban water drainage planning must be synchronous with other infrastructure system plannings;

- The water drainage system planning for each urban center in the region must comply with the regional water drainage development planning;

- For industrial parks and new urban centers, separate rain water and waste water drainage systems must be planned and constructed. For urban centers where water drainage systems are available, separate or semi-separate water drainage systems shall be studied and planned, *depending on specific conditions of each urban center*;

- Urban daily-life, industrial and craft village waste water must be treated up to environmental standards before being discharged into receptacle sources. To encourage the re-use of treated waste water for other purposes;

- To develop highly effective and environment-friendly waste water treatment technologies.

5. The planning contents

a/ Targets

- Urban daily-life waste water: To comply with water supply Standard TCXDVN 33:2006;

- The waste water-diluting coefficient

depends on the self-cleansing capability of water sources, hydrographic regimes and water source use characters;

- Daily-life and industrial waste water quality, after being treated, must be up to Vietnam's current environmental standards.

b/ Northern key economic region water drainage planning

- Rain water drainage planning

- + Drainage basins and directions: There are six main water drainage basins:

- Day river basin, which embraces Hanoi city and the provinces of Ha Nam, Ninh Binh, Nam Dinh and partly Hoa Binh. This basin drains water mainly to Nhue and Day rivers. Particularly for Hanoi city, Set and Kim Nguu river basins drain water to Red river in the flood season through Yen So pump station;

- Cau river basin, North of Duong river, covering the provinces of Bac Ninh and Vinh Phuc, the districts of Gia Lam, Dong Anh and Soc Son of Hanoi, flowing to Cau river;

- Red river left basin in southern Duong river (covering the districts of Thuan Thanh, Luong Tai, Gia Binh of) Bac Ninh province, part of Hai Duong province and Hung Yen province, flowing to Red river;

- Thai Binh river downstream basin in Hai Duong province. Concretely, for Hai Duong city, rain water drains to Sat and Thai Binh rivers;

- Hai Phong city basin draining water to Lach Tray and Cam rivers;

- Ha Long city basin draining water to the sea.

- + Major systems and works:

- Nhue river system: Draining water for Hanoi city and Ha Nam province in 3 directions to Red river, Day river and Chau river. Major works: Yen So pump station draining water to Red river and three big pump stations draining water to Day river (Ngoai Do 2, Que 2 and Lac Trang 2 pump stations);

- Northern Duong river drainage system: Draining water for Bac Ninh and part of Hanoi, Vinh Phuc. Receiving drained water of this system are Cau, Ca Lo, Ngu Huyen Khe, Duong and Red rivers. For newly developed Dong Anh urban center, water will be drained to Red river through Vinh Thanh pump station;

- Bac Hung Hai drainage system. Draining water for Hung Yen and Hai Duong province and part of Bac Ninh province and Hanoi city.

- Waste water drainage planning

- + Waste water volume forecast

The waste water volume of centrally run cities, provincial towns, industrial parks in the region will approximate 2,030,000 m³/day, including:

- Daily-life waste water: Around 1,230,000 m³/day;

- Industrial waste water: Around 800,000 m³/day.

- + Waste water drainage systems

Within the regional study scope, the inter-urban waste water drainage and treatment

planning will only apply to adjacent urban centers such as Hanoi- Ha Dong, Hai Phong - Do Son.

The urban water drainage and waste water treatment systems will be mainly built independently in each urban center in conformity with the regional urban development.

The regional connection of water drainage and waste water treatment systems of urban centers and industrial parks will be managed according to river basins, comprising 6 main ones: Nhue river basin, Cau river basin, Red river left basin, Thai Binh river basin, Lach Tray river basin and Cam river and Quang Ninh sea area.

+ Waste water treatment technologies

Depending on specific conditions of each urban center, modern or simple waste water treatment technologies will be applied in conformity with the requirements of receptacle sources and local natural and socio-economic conditions.

c/ Central key economic region water drainage planning

- Rain water drainage planning

+ Drainage basins and directions:

For urban centers in the central key economic region: Water will be drained to principal rivers, with 6 main river basins:

- For Da Nang city, water will be drained to Han and Cu De rivers;
- For Hue city, water will be drained to

Huong and Bo rivers;

- For Tam Ky city, water will be drained to Tam Ky and Truong Giang rivers;

- For Quang Ngai city, water will be drained to Ve and Tra Khuc rivers;

- For Quy Nhon city, water will be drained to Con and Ha Thanh rivers.

+ Major systems and works

Provincial towns in the central key economic region lie in downstream areas or at river sections affected by sea tide. With the existing foundation elevation, the water drainage in urban centers during the dry season sees no problem. But in the flood season, a number of urban centers become flooded upon the occurrence of floods at 5% or even 10% frequency; hence, multi-purpose headwater facilities will be built for water supply to downstream areas, electricity generation and reduction of floods in river basins, including:

- On the O Lau river system: To build O Lau reservoir of $40 \times 10^6 \text{ m}^3$ capacity;

- On the Huong river system: To build flood - cutting reservoirs of Ta Trach, Binh Dien and Co Bi;

- On the Bu Lu river system: To build Thuy Yen reservoir in Thuy Cam with a $26 \times 10^6 \text{ m}^3$ capacity, supplying water for Chan May - Lang Co economic zone and cutting off floods for Thua Lam river;

- On the Vu Gia - Thu Bon river system: To build reservoirs of Bung river 2, Bung river 4, A Vuong 1, A Vuong 4, Con river 2, Giang river,

Dakmi 1, Dakmi 4, Tranh river 1, Tranh river 2 and Khang river with a total useful capacity of $2,857 \times 10^6 \text{ m}^3$ and an anti-flood capacity of $1,187 \times 10^6 \text{ m}^3$;

- On Tra Khuc river: To build Nuoc Trong reservoir to supply water for Dung Quat economic zone;

- On Con river: To build Dinh Binh reservoir, stage I, with a useful capacity of $200 \times 10^6 \text{ m}^3$ and an anti-flood capacity of $112 \times 10^6 \text{ m}^3$, supplying water for downstream areas and Quy Nhon city.

- Waste water drainage planning
- + Waste water volume forecast

The waste water volume of centrally run cities, provincial towns, industrial parks and economic zones in the region will be 554,000 m^3/day , including:

- Daily-life waste water: Around 384,000 m^3/day ;

- Industrial waste water: Around 170,000 m^3/day .

- + Waste water drainage systems

Due to the characters of the central key economic region with its terrain sloping from West to East, short and highly sloping rivers and streams which frequently cause floods and water logging in downstream areas, and big urban centers located far from each other, the water drainage and waste water treatment systems will mainly be planned independently for each urban center, suitable to regional urban development.

- Waste water treatment technologies

Depending on specific conditions of each urban center, modern or simple waste water treatment technologies will be applied in conformity with requirements of the receptacle sources and socio-economic conditions.

d/ Southern key economic region water drainage planning

- Rain water drainage planning

- + Drainage basins and directions: There are three principal basins:

- For high-terrain areas, including Dong Nai, Binh Duong, Binh Phuoc and Tay Ninh provinces, the irrigation works function mainly to store water for the irrigation of industrial crop areas, to sectionally drain water in the rainy season and to supply water for daily-life activities and industrial parks and to generate hydro-electricity;

- For Ho Chi Minh City area which has not high but fairly flat terrain and is affected by semi-daily tidal wave, its water drainage system will be studied in combination with irrigation works on the basis of natural canals and ditches, which constitute 27 main canal and ditch networks with a total length of over 310 km, breakwater systems and sluice gate and dam systems;

- For the area of Long An and Tien Giang provinces: The water drainage systems will be mainly Tien river (Mekong river system) and Vam Co river-irrigated areas, draining floods for Dong Thap Muoi (Plain of Reeds) and

preventing sea water encroachment, in order to reduce floods.

+ Major systems and works

To concentrate investment on the completion, upgrading or embankment of existing irrigation systems such as Dau Tieng (Tay Ninh), Tri An (Dong Nai), Thac Mo, Loc Giang, Dong Soai, Can Don (Binh Phuoc), Saigon riverside systems in order to raise the efficiency of irrigation and water supply and reduce floods for downstream areas.

To invest in the construction of multi-purpose irrigation works in order to supply water for areas prone to water shortage, prioritizing the water supply for daily-life and industrial activities, including: Phuoc Hoa (Binh Duong- Binh Phuoc); Suoi Ca, Phuoc Thai (Dong Nai); Song Ray, Tam Bo (Ba Ria-Vung Tau); and to reduce floods for downstream areas and improve the environment.

To build systems against flooding, pollution and sea water encroachment while expanding communications and transport for urban centers downstream Sai Gon and Dong Nai rivers.

To consolidate and develop sea dyke systems standing firm before sea tide of 5% frequency, corresponding to typhoons of level 9 or 10. To protect and develop headwater forest canopy, regulate flow currents and reduce flooding for downstream areas.

- Waste water drainage planning

+ Waste water volume forecast

The waste water volume of centrally run

cities, provincial towns and industrial parks in the region will approximate 3,070,000 m³/day, including:

- Daily-life waste water: Around 2,270,000 m³/day;

- Industrial waste water: Around 800,000 m³/day.

+ Waste water drainage systems

Within the scope of study, the water drainage and waste water treatment plannings are studied and formulated for adjacent urban centers.

The inter-urban waste water drainage along national highway 51 (from Long Thanh to Ba Ria - Vung Tau) will be studied.

The urban water drainage and waste water treatment systems will be mainly developed independently for each urban center in conformity with the regional urban development.

+ Waste water treatment technologies

Depending on the specific conditions of each urban center, modern or simple waste water treatment technologies will be applied in conformity with requirements of the receptacle sources and socio-economic conditions.

6. Investment capital projections

Investment capital for the construction of water drainage and waste water treatment systems of cities, provincial towns and economic zones in different periods (exclusive of funding for ground clearance and compensation) is estimated as follows:

Key economic region	Up to 2010		Up to 2020	
	VND billion	Equivalent (USD million)	VND billion	Equivalent (USD million)
Northern	3,360	200	16,800	1,020
Central	1,600	100	16,800	1,020
Southern	3,040	185	22,400	1,360
Total	8,000	485	56,000	3,400

Investment capital sources for the construction of water drainage and waste water treatment systems:

- Central budget capital;
- Local budget capital;
- Foreign aid;
- Long-term loan capital;
- Other lawful capital sources.

Article 2.- Mechanisms and policies

In order to ensure coordinated and efficient investment in the construction and management of water drainage systems up to environmental hygiene standards, the following incentive mechanisms and policies will be applied:

- Exemption from land use levies.
- Funding support for ground clearance and construction of facilities outside the projects' fences;
- The most preferential (value-added, corporate income, etc.) tax rates under current regulations;

- Water drainage establishments are entitled to use all collected water drainage charges for the management, operation and maintenance of water drainage systems and waste water treatment works and incrementally cover investment expenditures.

Article 3.- Organization of implementation

1. The Ministry of Construction

- To manage the planning schemes on water drainage for three key economic regions, already approved by the Prime Minister.

- To guide localities to scrutinize and adjust construction plannings and specialized water drainage plannings in their respective provinces to conform with the regional water drainage planning in accordance with the contents of this planning.

- To assume the prime responsibility for the selection of investors in inter-provincial water drainage projects and to direct the implementation thereof.

2. The Ministry of Planning and Investment:

To balance and arrange budget capital for the approved investment projects on construction of urban water drainage systems.

3. The Ministry of Finance

To coordinate with the Ministry of Planning and Investment in balancing and allocating budget capital for the approved investment projects on construction of urban water drainage systems.

4. The Ministry of Natural Resources and Environment:

To monitor, examine and assess the environmental standards prescribed for constructed urban water drainage systems.

5. The People's Committees of provinces and cities in the key economic regions:

- To review and adjust construction

plannings and specialized water drainage plannings in their respective localities to conform with the key economic region water drainage planning already approved by the Prime Minister.

- To direct the implementation of water drainage projects in their localities under current regulations.

Article 4.- This Decision takes effect 15 days after its signing.

The Construction Minister and concerned ministers, presidents of provincial/municipal People's Committees in the key economic regions and heads of concerned agencies shall implement this Decision.

For the Prime Minister
Deputy Prime Minister
HOANG TRUNG HAI