

New Modernization Project for Advanced Treatment Process of Seonam Sewage TP(T/K Project)

2017. 09

General Information

Project Name

New Modernization Project for Advanced Treatment Process of Seonam

Demand Organizations

Public Works Division of Seoul Metropolitan Infrastructure Headquarters

Builders

Daelim Industrial Co., Ltd etc. 5 Companies

Construction Supervision

Dohwa Eng., Yooshin Eng. Corporation

Period

2009. 11. 09 ~ 2020. 03

Construction Cost

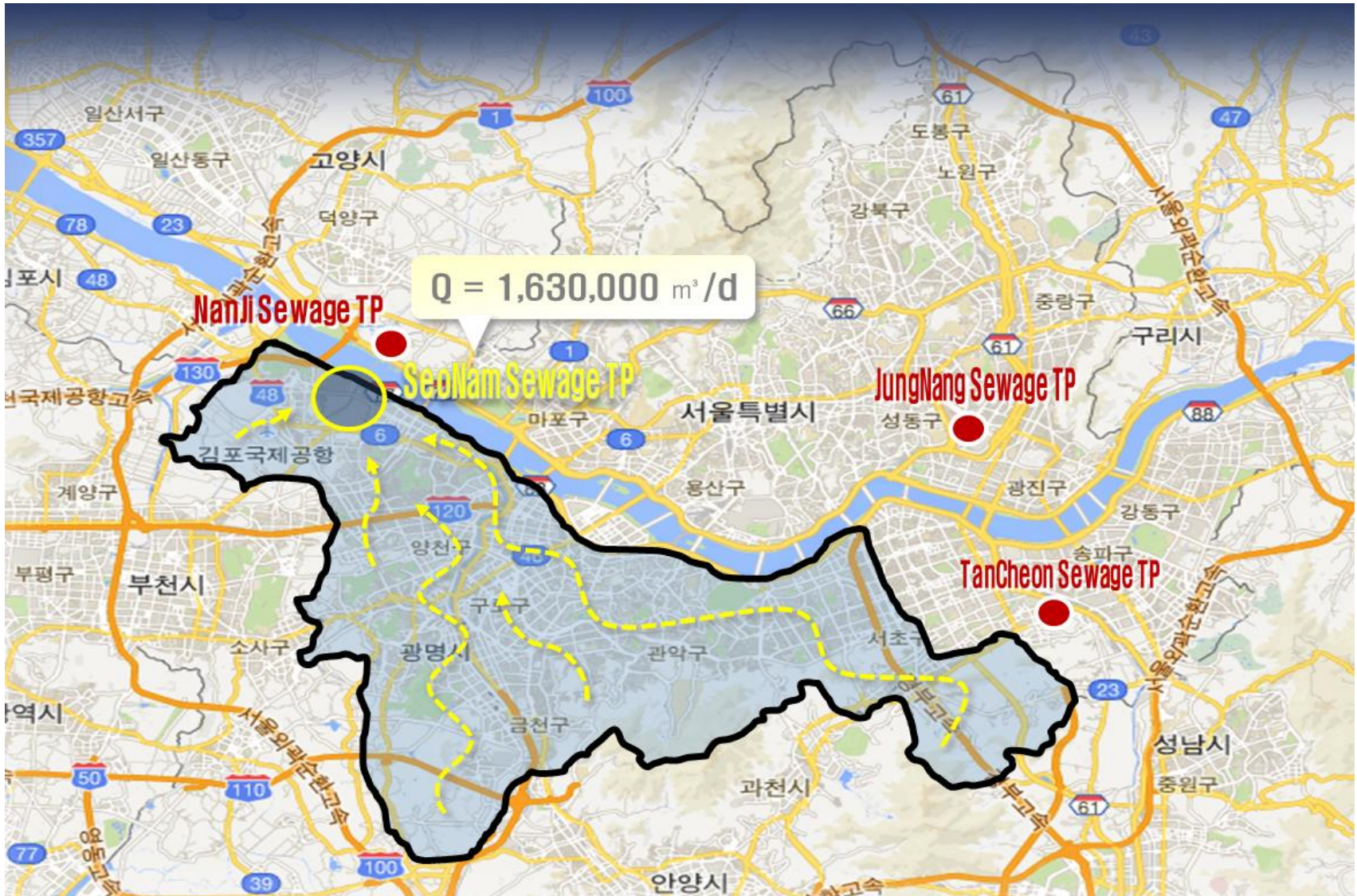
330 million Dollars

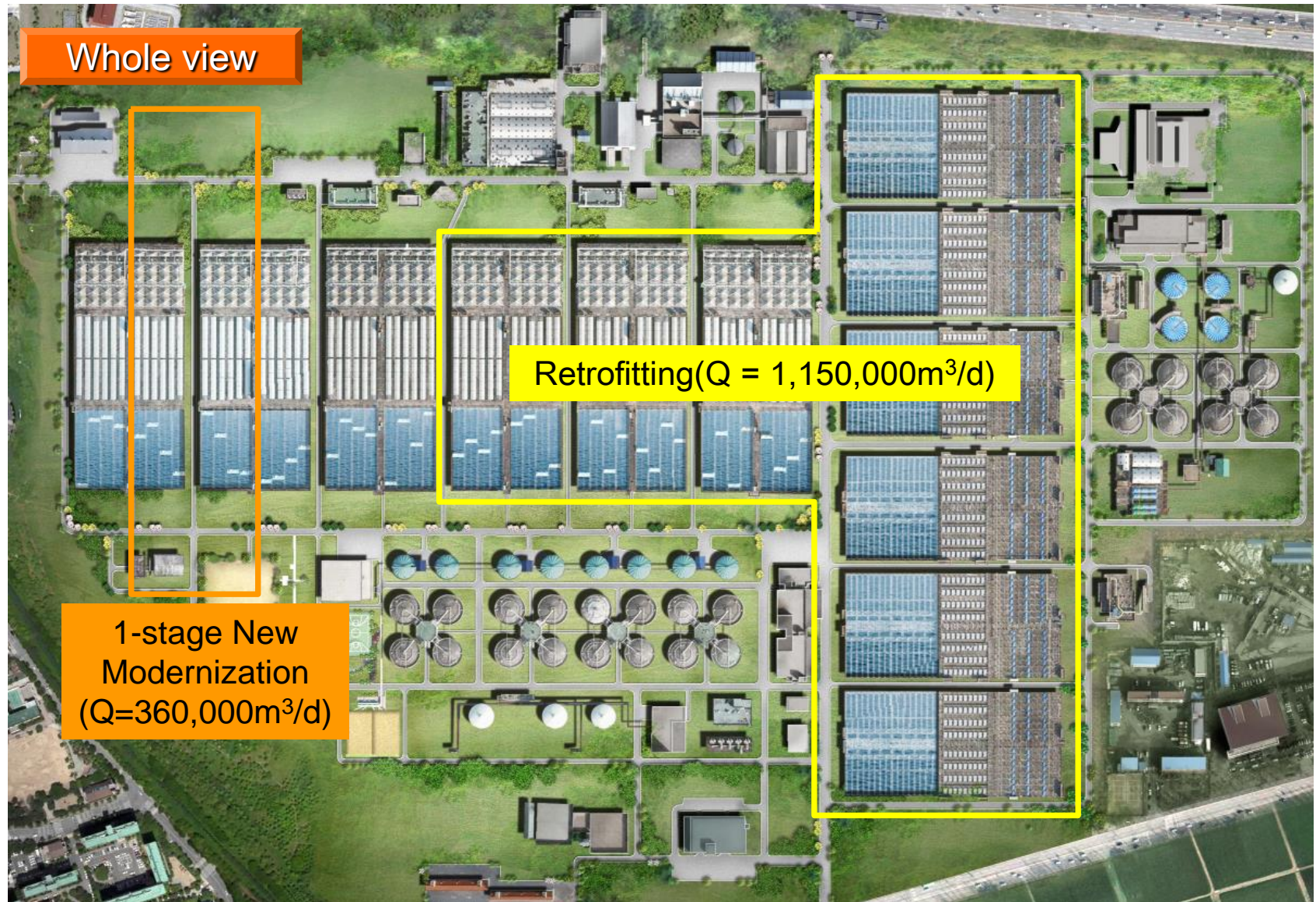
Total Project Cost

(Unit : million Dollars)

Items		Total Project Cost
Total		330
Const. Cost	Retrofitting	57
	New Modernization	261
Supervision Cost		11
etc.		0.2

SEOUL Sewage Treatment Plant Site



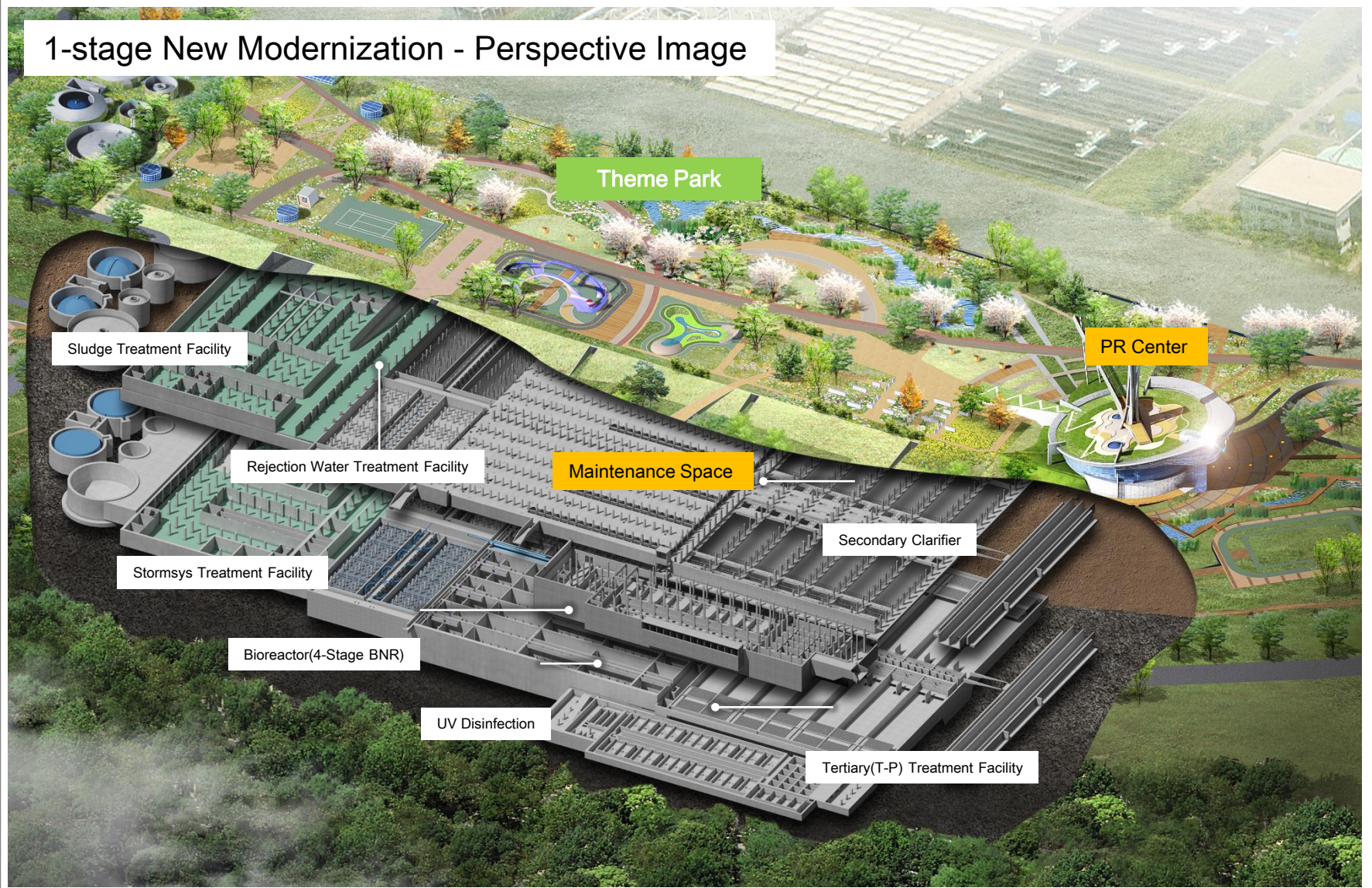


Master Plan



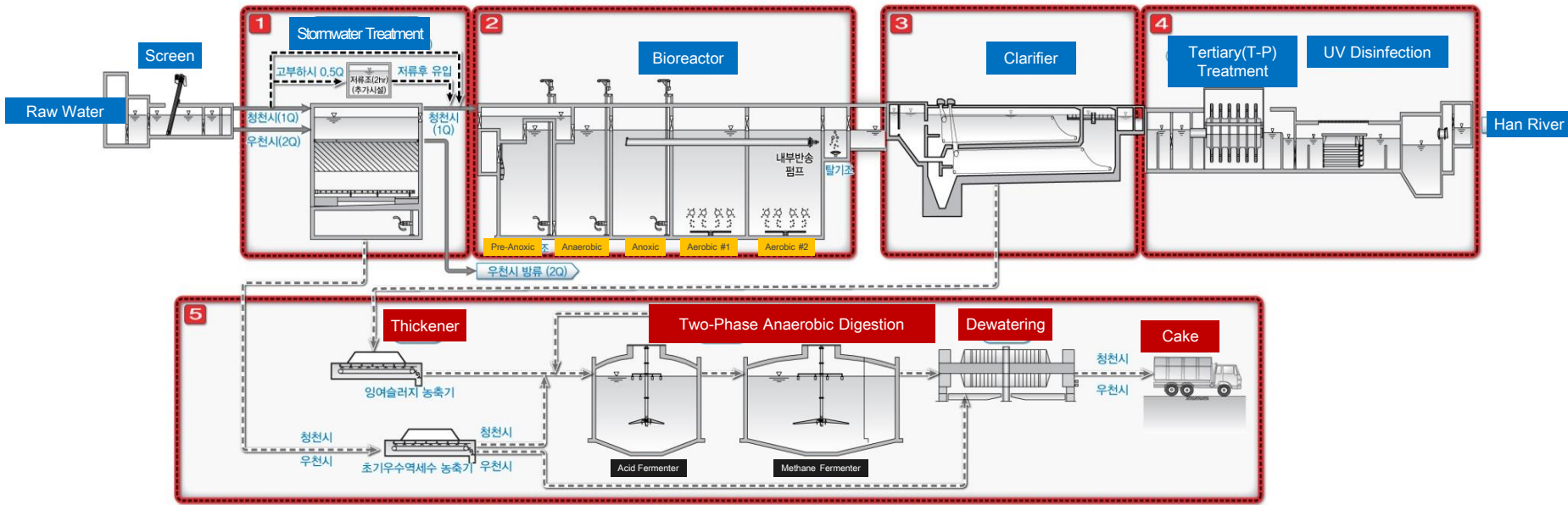
Total Construction Cost 1,300 million Dollars

1-stage New Modernization - Perspective Image



Process

Process



Water Quality Criteria

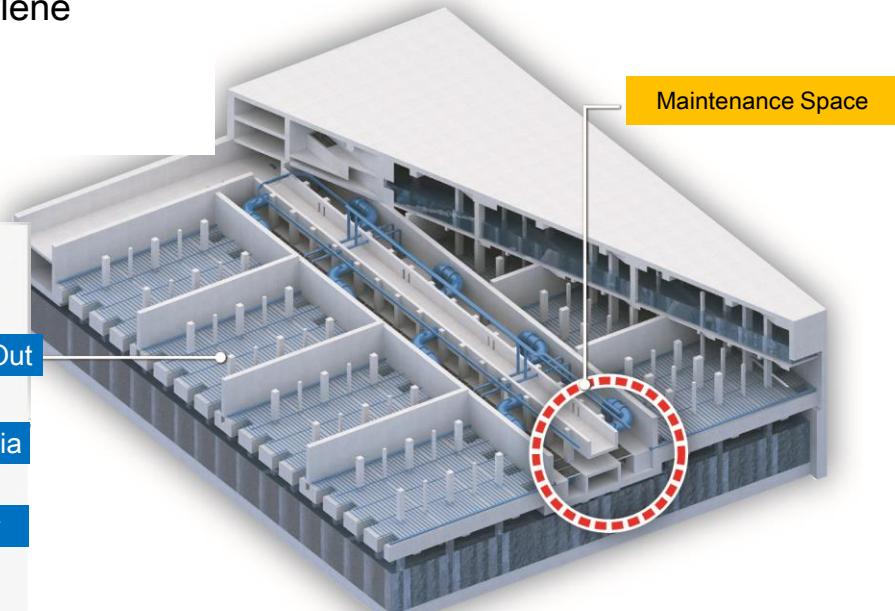
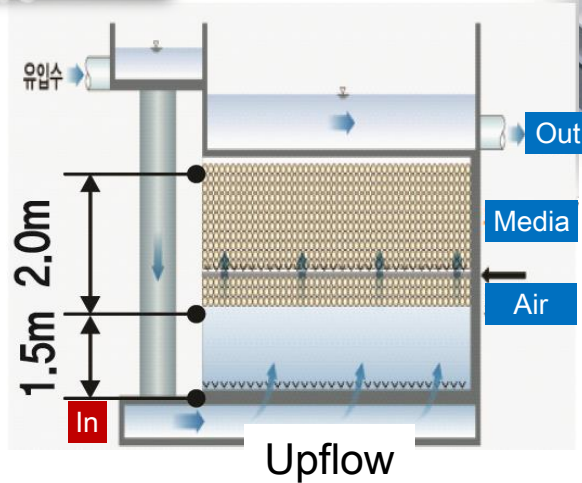
Parameters		BOD (mg/L)	COD (mg/L)	SS (mg/L)	T-N (mg/L)	T-P (mg/L)	Coliform (No./mL)
Raw Water		174	94	133	37	4.2	460,000
Standards		10	40	10	20	0.5	1,000
Guarantees	TMS	10	40	40	20	0.5	1,000
	Avg. (1month)	4.8	35	4.8	14.5	0.45	1,000

1 Stormwater Treatment Facility

Rapid Flocculation-Filtration($Q=720,000\text{m}^3/\text{d}$)



- Media : Polypropylene
→ Size 5~8mm



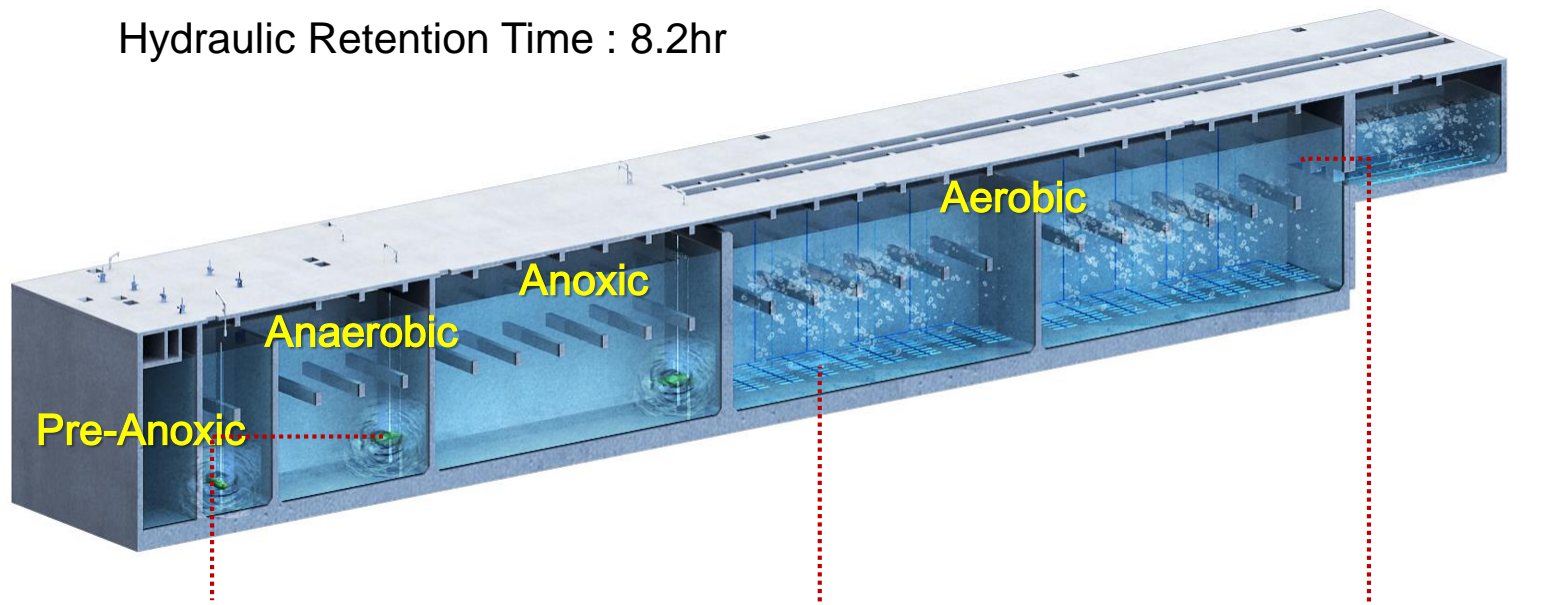
Parameters	BOD (mg/L)	SS (mg/L)
Raw Water	150	200
Standards	40	40
Guarantees	40	40

2

Bioreactor

4-stage Biological Nutrients Removal System(Q=360,000m³/d)

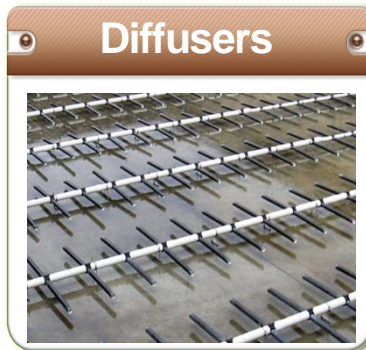
Hydraulic Retention Time : 8.2hr



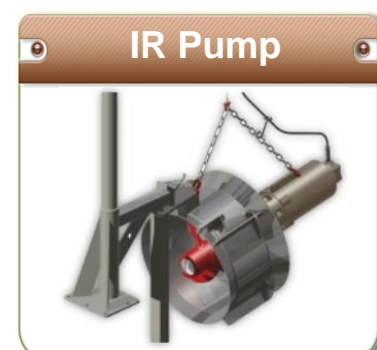
Mixer



Diffusers



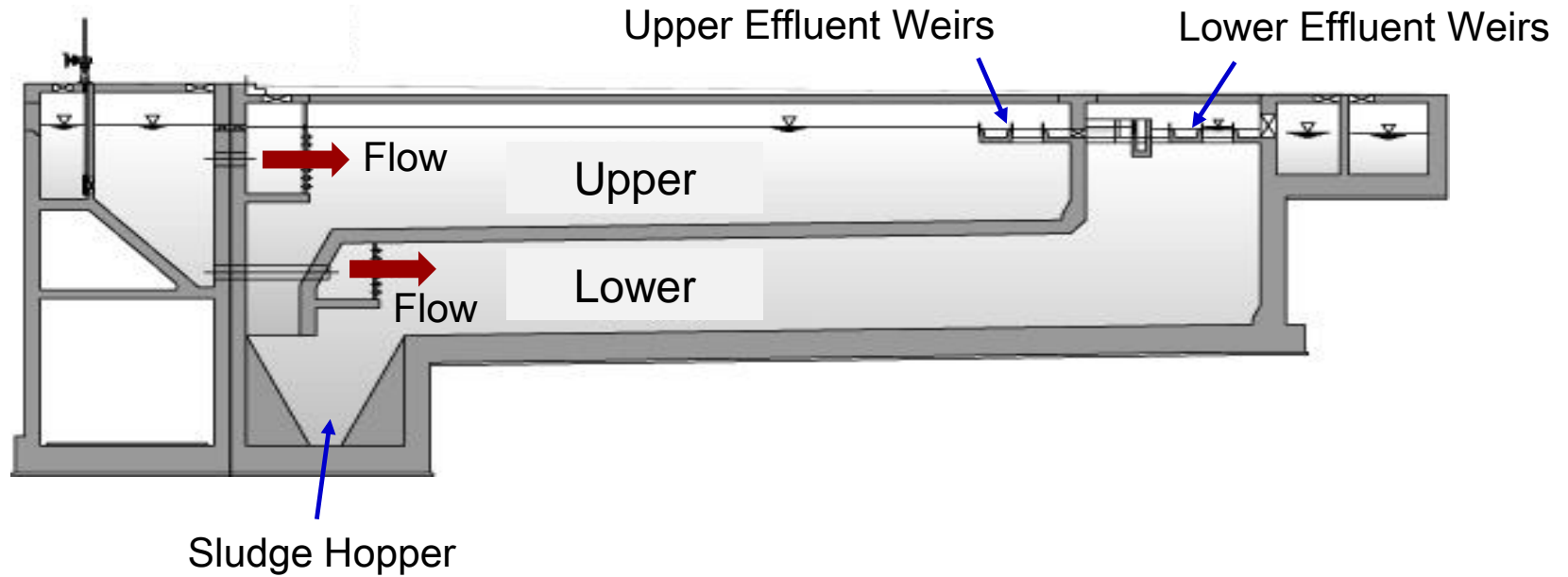
IR Pump



3

Secondary Clarifier

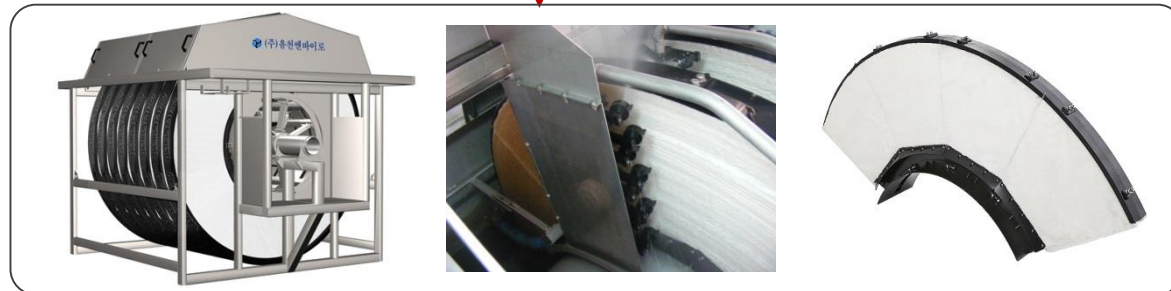
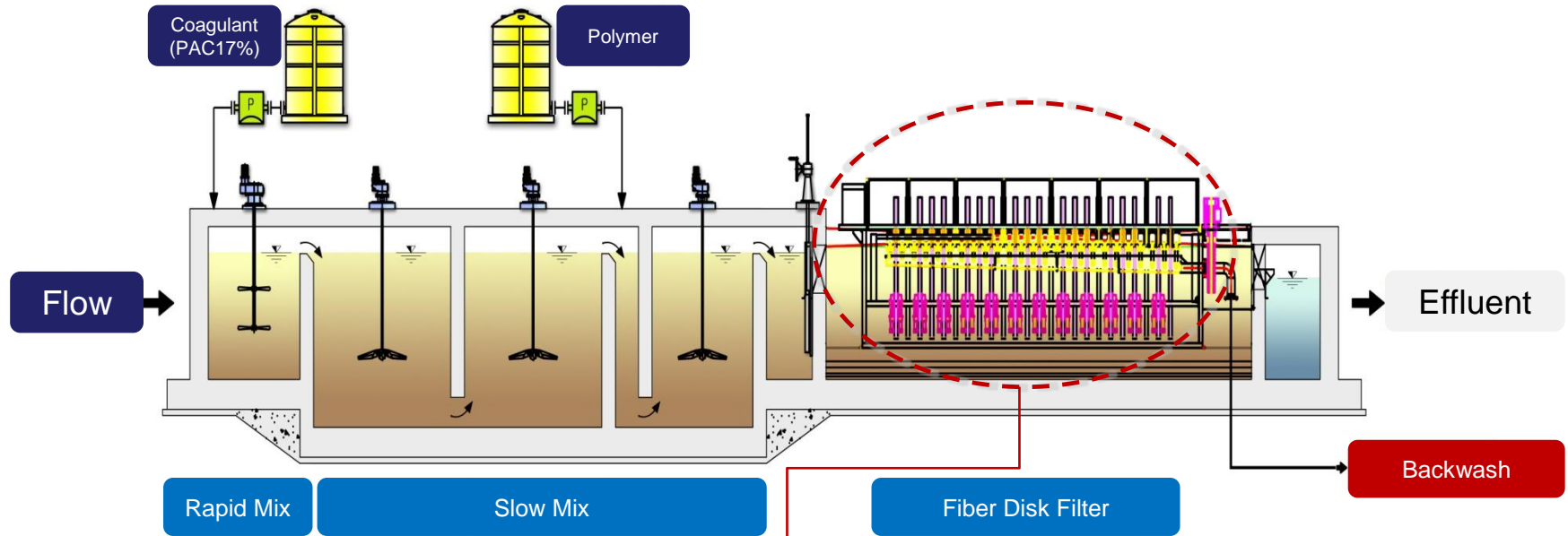
Stacked Secondary Clarifier



Q(m ³ /d)	Dimensions	Surface Loading (m ³ /m ² ·d)	Solids Loading (kg/m ² ·d)	HRT (hr)
360,000	Upper W11.5xL48xH3.3x14EA Lower W11.5xL53.5xH3.7x14EA	23	109	3.7

4

Tertiary T-P Treatment Facility

Fiber Disk Filter(Q=360,000m³/d)

5

Sludge Treatment Facility

Thickener

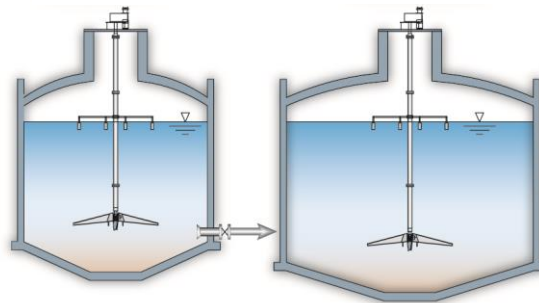


- Rotary Drum Thickener, 100m³/hr x 8EA

Two-phase AD

Acid Fermenter

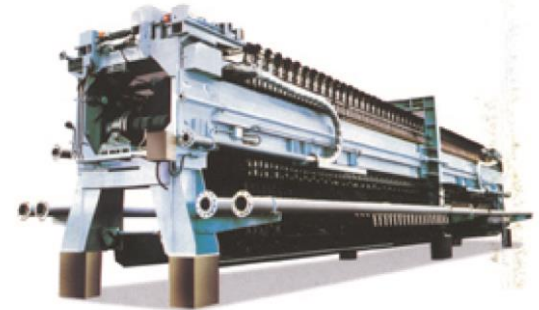
Methane Fermenter



VS Removal 58%

- Acid Fermenter : HRT 1.5day, 35°C
- Methane Fermenter : HRT 20.5day, 35°C

Filter Press Dewatering



Water content 60%

- Filter Press, 30m³/hr x 4EA
- Cake : 103m³/d





Thank You For Attention