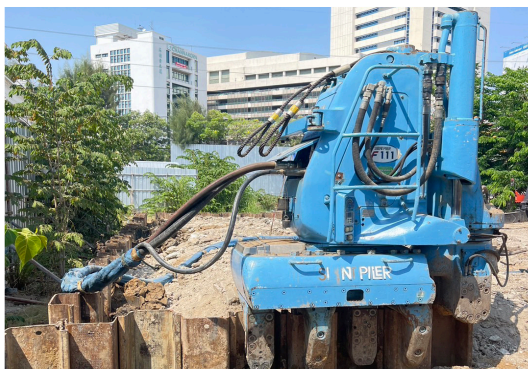
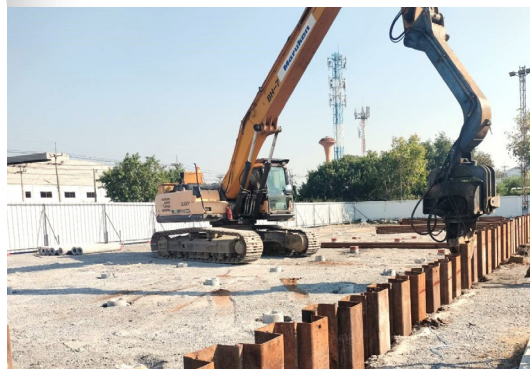
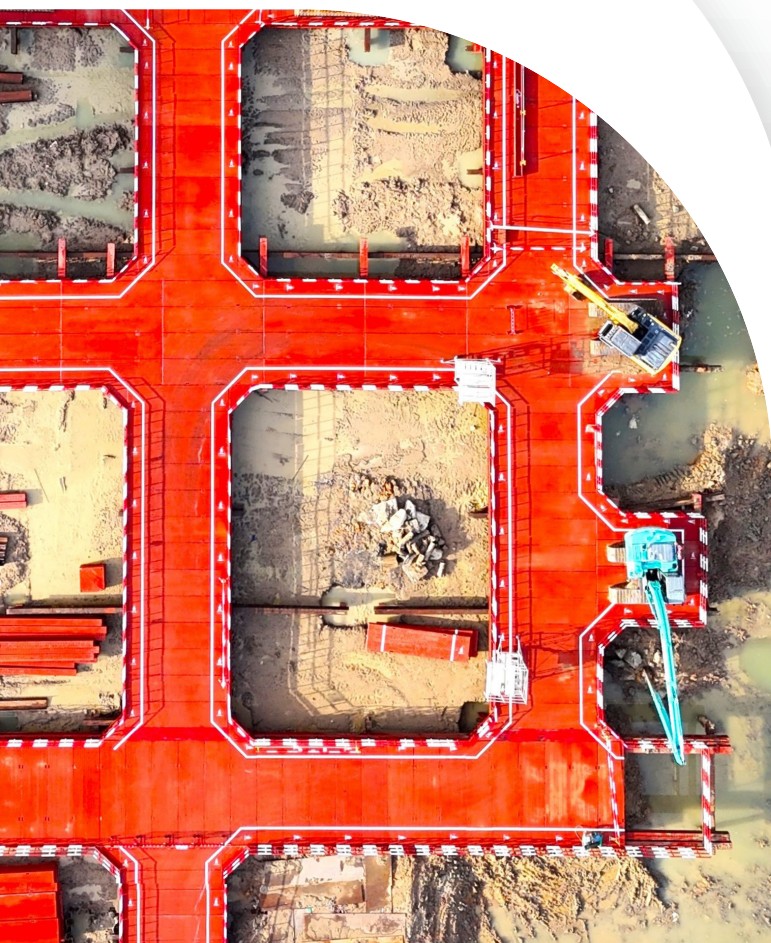


# Maruken

TEMPORARY SOIL PROTECTION SYSTEM



Sheet Pile  
Bracing  
H-Beam  
Platform  
Excavation  
Grouting



# ABOUT

THAI MARUKEN CO.,LTD. established in 1985

With objectives are leasing and selling temporary construction products and constructing of sheet piling system. The company brings together 2 companies with a reputation for excellent service: **Italian-Thai Development Public Company Limited**, a one stop service contractor, with extensive experiences and expertise in all construction activities and **Maruken Lease Company Limited** from Japan, which specialized in the leasing, sale and repair of makeshift structural steel products for construction foundation and piling works.

We are very pleased to present our work. Over the past 40 years, our company has completed more than 3,000 projects. Every project we have undertaken has been executed to the highest standards, whether it engineering, cost efficiency or construction speed. We are therefore proud to present our work to you.



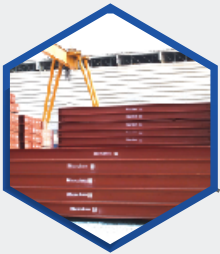


# Trust First, Quality Always

We are proud to be one of the Thailand's in leading sheet piling and bracing specializing in all types of retaining walls, and providing bespoke design and installation services to the civil engineering and construction industries across Thailand and beyond.

## Our Services

are designed to provide quality service that exceeds our customers' expectations. We offer more choice, more convenience, more expertise and greater reliability with years of experience as piling contractors working to international standards.



### Lease & Sale

We offer lease options for Sheet Piles, H-Beams, Steel Supports, Jacks, Steel Decks and Steel Plates. Leasing instead of buying means that you do not have to make any major investments, and we also have a wide range of Sheet Piles and H-Beams available for sale throughout Thailand.



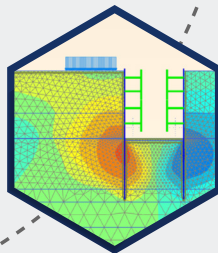
### Materials Center

A place where you can get both the materials and the machinery needed for soil protection and support construction work, such as Sheet Piles, Silent Pilers etc.



### Construction

We offer a complete package from design, materials and manpower through to final installation. With over 4 decades of expertise in steel piling and installation, our goal is to partner with you to complete your projects on time, within budget and to the highest standards, bringing our experience to meet your needs.



### Solution

We have focused on developing 4 parts to help you solve the most problems, including Technical, Tool, Typical and Team which will make your work easier.



### Safety

We will operate under strict standards and safety protocols to ensure efficient operations, with the safety of our work and customers always being our top priority.



# LEASE & SALE



## Sheet Pile

### Lease or Sale

- Sheet Pile FSP-4, 76.1 kg/m.  
Length 6-18 m.



## H-Beam

### Lease or Sale

- H-300x300 94 kg/m.
- H-350x350 137 kg/m.
- H-400x400 172 kg/m.
- H-594x302 175 kg/m.



## Steel Support

### Lease or Sale

- Main Support 350x350
- Main Support 400x400
- Auxiliary Support 350
- Auxiliary Support 400



## Steel Deck Steel Platform

### Lease or Sale

- Deck 1000x2000x212mm.
- Deck 1000x3000x212mm.
- Platform 1500x6000x252 mm.



## Universal Jack

### Lease for construction

- Kirin Jack 150
- Kirin Jack 250
- Universal Jack 350
- Universal Jack 400



## Steel Plate

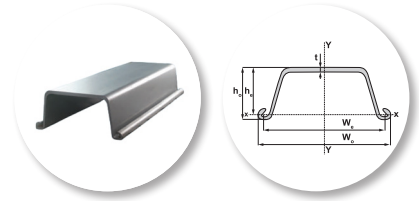
### Lease for construction

- Steel Plate 19-25 mm.  
(1.524x6.096 mm.)



# Sheet Pile

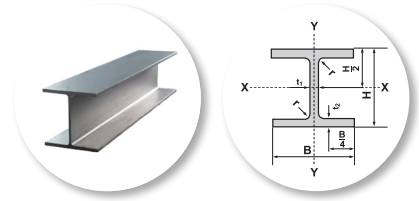
Grade SY295 or SY390 / TIS 1390-1996 / TIS Standard



Section	Dimensions			Sectional	Weight		Moment of Inertia		Section Modulus	
	w	h	t	Area per pile	per pile	per wall width	per pile	per wall width	per pile	per wall width
Type	mm	mm	mm	cm <sup>2</sup>	kg/m	kg/m <sup>2</sup>	cm <sup>4</sup>	cm <sup>4</sup> /m	cm <sup>3</sup>	cm <sup>3</sup> /m
SP-4	400	170	15.5	96.99	76.1	190	4,670	38,600	362	2,270

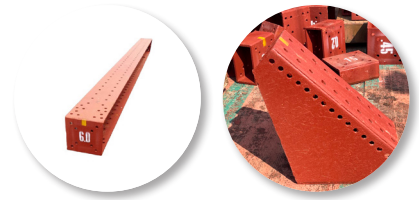
# H-Beam

TIS 1227-1996 / TIS Standard



Nominal	Weight	Section					Sectional	Moment of Inertia		Radius of Gyration		Modulus of Section	
Size		H	B	t <sub>1</sub>	t <sub>2</sub>	r	Area	I <sub>x</sub>	I <sub>y</sub>	i <sub>x</sub>	i <sub>y</sub>	z <sub>x</sub>	z <sub>y</sub>
mm	kg/m	mm	mm	mm	mm	mm	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>
300x300	94.0	300	300	10.0	15	18	119.80	20,400	6,750	13.1	7.51	1360	450
350x350	137.0	350	350	12.0	19	20	173.90	40,300	13,600	15.2	8.84	2,300	776
400x400	172.0	400	400	13.0	21	22	218.70	66,600	22,400	17.5	10.10	3,330	1,120
594x302	175.0	594	302	14.0	23	28	222.40	137,000	10,600	24.9	6.90	4,620	701

# Steel Support Main & Auxiliary



Item	Size	H35Y	H40Y	Item	Size	H35Y	H40Y	Item	Size	H35Y	H40Y
		Weight				Weight				Weight	
Main Materials	meter	150 kg/m	200 kg/m	Distance Piece (DP)	0.60	115	150	JRF	-	100	120
	12.0	1,800	2,400		0.45	90	120	Jack Cover	-	60	120
	9.0	1,350	1,800		0.30	70	95	CP	-	55	-
	7.5	1,125	1,500		0.20	60	75	AB	-	45	-
	6.0	900	1,200		0.15	50	65	Head Pile	-	65	-
	5.4	810	1,080		0.10	40	60	Stiffener Box	-	35	35
	4.5	675	900	Angle Reinforcement Fitting (ARF)	30°	160	210	Gusset plate	-	20	50
	3.6	540	720		45°	110	170	Bracket	450x650	12	-
	3.0	450	600		60°	130	180	Press angle	L550	7	-
	2.1	315	420	CRF	45°	130	190	Long bolt	-	3	3
	1.5	225	300	TP	-	400	-	Mild bolt	M22x70	0.45	-
	0.9	135	180	CPL	550/850	18	45	HT. bolt	M22x75	0.75	-



# Jack



Table of Jack						
Type	KJ-150	KJ-250	UJ-350	UJ-400	UJ-450	DN-40
Bearing Capacity (tf)	150	250	350	400	450	350
Hydraulic Pressure (tf)	-	200	120	250	280	200
Hydraulic Stroke (mm)	200	155	125	150	150	150
Standard Length (mm)	500	755	440	685	685	685
Weight (kg)	110	240	200	354	440	374

## Steel Deck / Platform

Description	Dimensions			Weight (kg)	
	Type (mm)	H (mm)	Area m <sup>2</sup>	Per pcs	Per m <sup>2</sup>
Steel Deck	1000x2000	212	2.0	368	184
	1000x3000	212	3.0	552	184
Platform	1500x6000	252	9.0	2,680	298

## Steel Plate

Description	Dimensions			Weight (kg)	
	Type (mm)	H (mm)	Area m <sup>2</sup>	Per pcs	Per m <sup>2</sup>
Steel Plate	1524x6096	t=19	9.0	1,386	154
	1524x6096	t=22	9.0	1,604	178
	1524x6096	t=25	9.0	1,823	202





# Materials Center

## Machinery

### *Silent Piler*

Construction revolution is the environmentally friendly “Press-in Method” which hydraulically installs piles silently and without vibration using static load, based on the “Reaction Force” principle.



### *Backhoe Vibro*

Uses its high frequency vibration to vibrate the sheet pile or H-beam body with high acceleration, transferring vertical mechanical vibration into sheet pile or H-beam which leads to changes in the surrounding soil structure and decrease soil strength. The soil surrounding the piles become liquefied which decreases frictional resistance between the sides of the sheet pile or H-beam and the soil.



### *Vibro Hammer*

They are ideal for driving and extracting steel sheet piles and steel H-beams, offering excellent operability and highly efficient performance.



### *Crawler Crane 50 ton / 55 ton*

Crawler Cranes serve various purposes. Naturally, each type of crane has its own operating and service requirements. For example, driving or extracting sheet piles or H-beams, installing or removing platforms and installing or removing bracing.



### *Grout Machine*

A machine for mixing and pumping cement-bentonite-water slurry for construction. Cement-bentonite grout is used to fill gaps after sheet pile extraction, helping to reduce the impact of soil consolidation.



### *Mobile Crane 25 ton*

Rough terrain cranes are mounted on an undercarriage designed for pick-and-carry operations and for off-road and “rough terrain” applications. Outriggers are used to level and stabilize the crane during hoisting. For example, moving the materials, installing or removing platforms and installing or removing bracing.



### *Water Jet Cutter*

The method of driving sheet piles into all types of soil conditions by the collaboration of high-pressure water and the vibrating force of vibro hammer. It is possible to drive them quickly and surely into the ground, even in conditions where the normal method is difficult.



# CONSTRUCTION

Our construction services cover all aspects related to the construction of a complete soil protection system. You can trust that our services will help you save valuable time.

## 1

### Sheet Pile

Driving & Extraction



Sheet piles are steel sheets of various shapes and specified lengths that are driven corresponding vertically to protect against water pressure and soil pressure that occurs at the excavation depth. We can perform both driving and extraction using a backhoe vibro or silent piler.

## 2

### Bracing

Installation & Removal



Walers and Struts are structural members designed to resist lateral forces and transfer loads from sheet piles. Walers use H-Beams along the length of the sheet pile to transfer the force, while struts use H-Beams to support longitudinally and transversely, divided into layers corresponding to the excavation depth.

## 3

### Platform

Installation & Removal



Platform is a structure consisting of steel deck placed on beams called cross beams and long beams used for excavation, material transport etc. It can be installed and removed using crawler crane or mobile crane.

## 4

### Pre-Load & Release Load



To increase the rigidity of the sheeting and overall support, prevent displacements of earth retaining walls, and enhance the bearing capacity of the supporting structure against earth pressure, thereby preventing adverse effects which accompany excavation works, such as ground settlement and impacts on nearby buildings.

## 5

### Excavation Work



We can perform excavation work as required, including moving soil within the site and transporting it to designated locations.



## 6

### Cement Bentonite Grout



Cement-bentonite grout is a common and versatile material used to fill boreholes after sheet pile extraction. We use a pressure jet to allow the cement-bentonite flow along the sheet pile groove until it is fully filled. This grouting helps reduce soil consolidation around the area where the sheet pile has been removed.

## 7

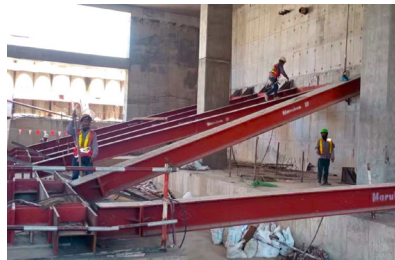
### Extraction Concrete Pile



The service of removing unused piles or piles that obstruct the work, uses a high-pressure water jet to break the skin friction. Once the pile has no skin friction after that, a vibro hammer is then used to extract it.

## 8

### Shoring Support



Our H-beams can be used to support walls when they are too high (Over Bulking), ensuring safe construction.

## 9

### Temporary Support Truss



We use H-Beams that we have and assemble them to construct large roof trusses. This method is much more economical than using scaffolding for assembly and is also safe.

## 10

### Support Building

(For Transfer)



Use H-beams to support buildings or structures that need to be lifted or relocated.

## 11

### Driving Concrete Sheet Pile

(Corrugated)



We can drive corrugated concrete sheet piles using crawler crane with vibro hammer for permanent works.



# SOLUTION

We have focused on developing 4 parts to help you solve the most common problems, including: Technical, Tool, Typical and Team. which will make your work easier.

## TECHNICAL

MAKE WORK EASIER  
AND SAVE COSTS

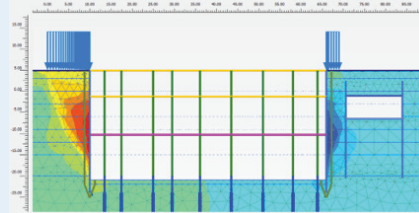


### Bracing System

Use function a bearing bolt, also known as a structural bolt or high-strength bolt, is primarily used to provide structural support and to transfer loads between connected structural elements.

## TOOL

PRECISE ANALYSIS  
BASED ON ENGINEERING

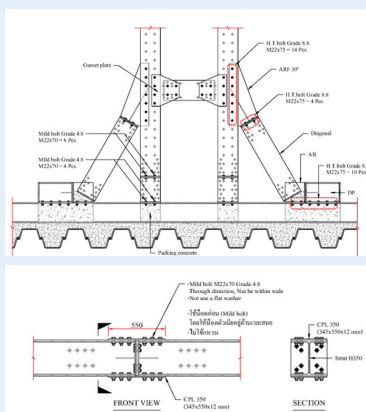


### Analysis

PLAXIS is a specialized software used for geotechnical engineering soil-structure interaction analysis. It's widely used by engineers and researchers to simulate and analyze the behavior of soil and structures under various loading conditions.

## TYPICAL

FOR PROPER INSTALLATION  
AND COMMUNICATION



### Drawing

We use typical details to communicate and control the standards for installing soil protection systems, ensuring for fast and safe installation.

## TEAM

PEOPLE WITH EXCELLENT  
EXPERTISE AND WORKING SKILLS



### Quality

Our company has many personnel who are highly expert and experienced in soil erosion protection systems. We continually develop the skills of our personnel to keep pace with evolving technology. All of this to deliver the highest value and benefit to you.



# SAFETY WORK

LIFE IS RARE WORK WITH CARE



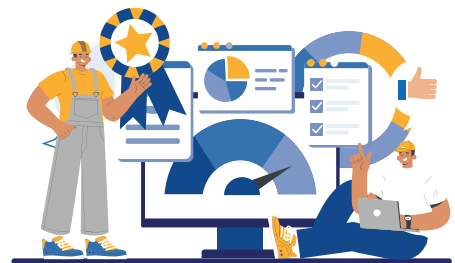
## SAFETY POLICY

“Create a safe and healthy workplace by preventing injuries and illnesses to all parties, and continually improving management, performance, and complying with legal and other requirements to contribute to a good standard of society”



## ENVIRONMENTAL POLICY

“Commitment to Consistency in Developing and Delivering Quality Works to meet our Clients’ satisfaction and also enhancing the standard of society”



## QUALITY POLICY

“Work in harmony with the environment, create an environmentally friendly system through continual improvement and pollution prevention, and complying with legal and other requirements to contribute to a good standard of society”

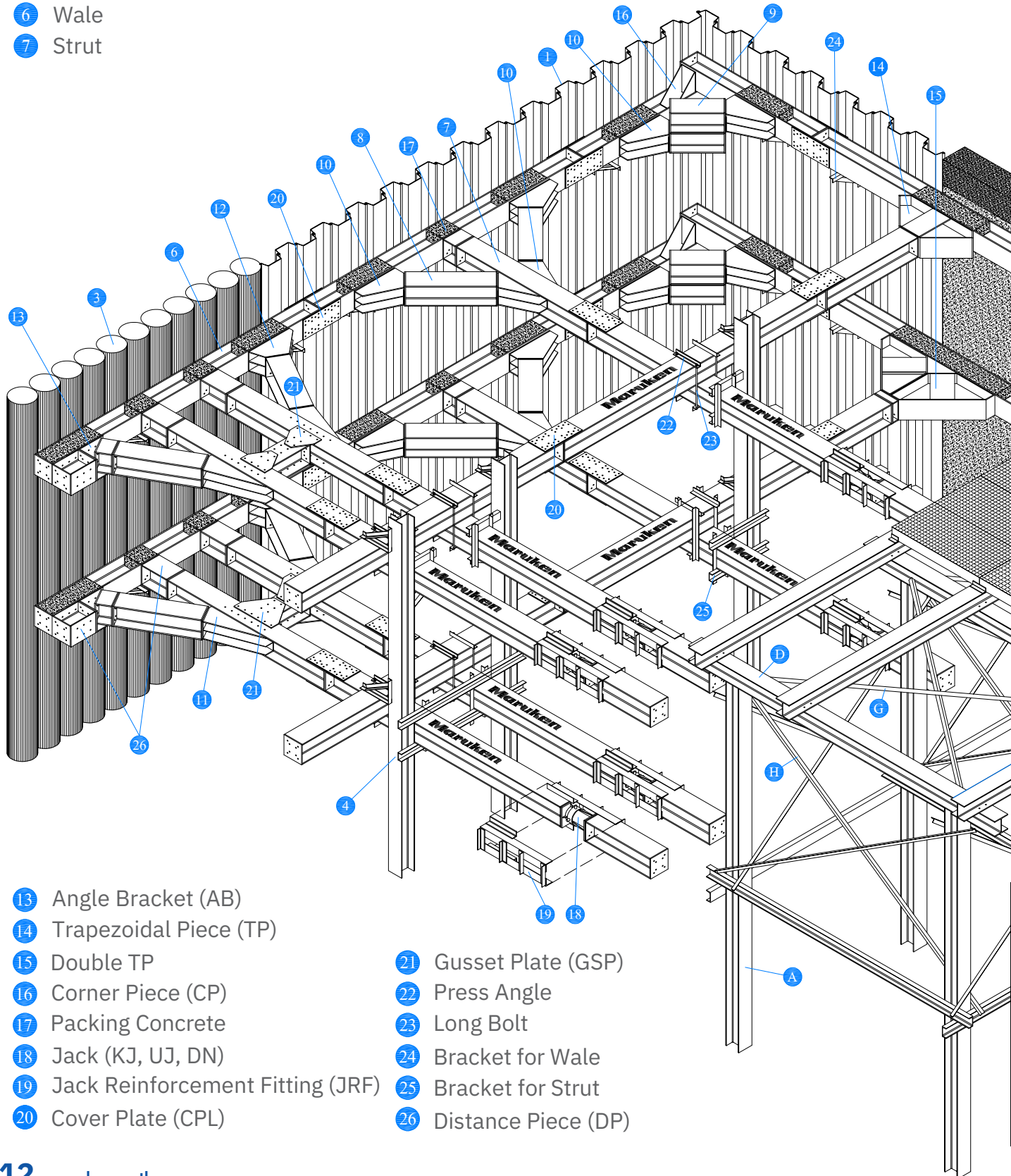




# ASSEMBLY DRAWING

## Soil Protection System

- |                  |   |
|------------------|---|
| 1 Sheet Pile     | 8 Diagonal Strut                        |
| 2 Capping Beam   | 9 Diagonal Conner                       |
| 3 Pile Wall      | 10 Angle Reinforcement Fitting (ARF45°) |
| 4 King Post      | 11 Angle Reinforcement Fitting (ARF30°) |
| 5 Diaphragm Wall | 12 Angle Reinforcement Fitting (ARF60°) |
| 6 Wale           |   |
| 7 Strut          |   |

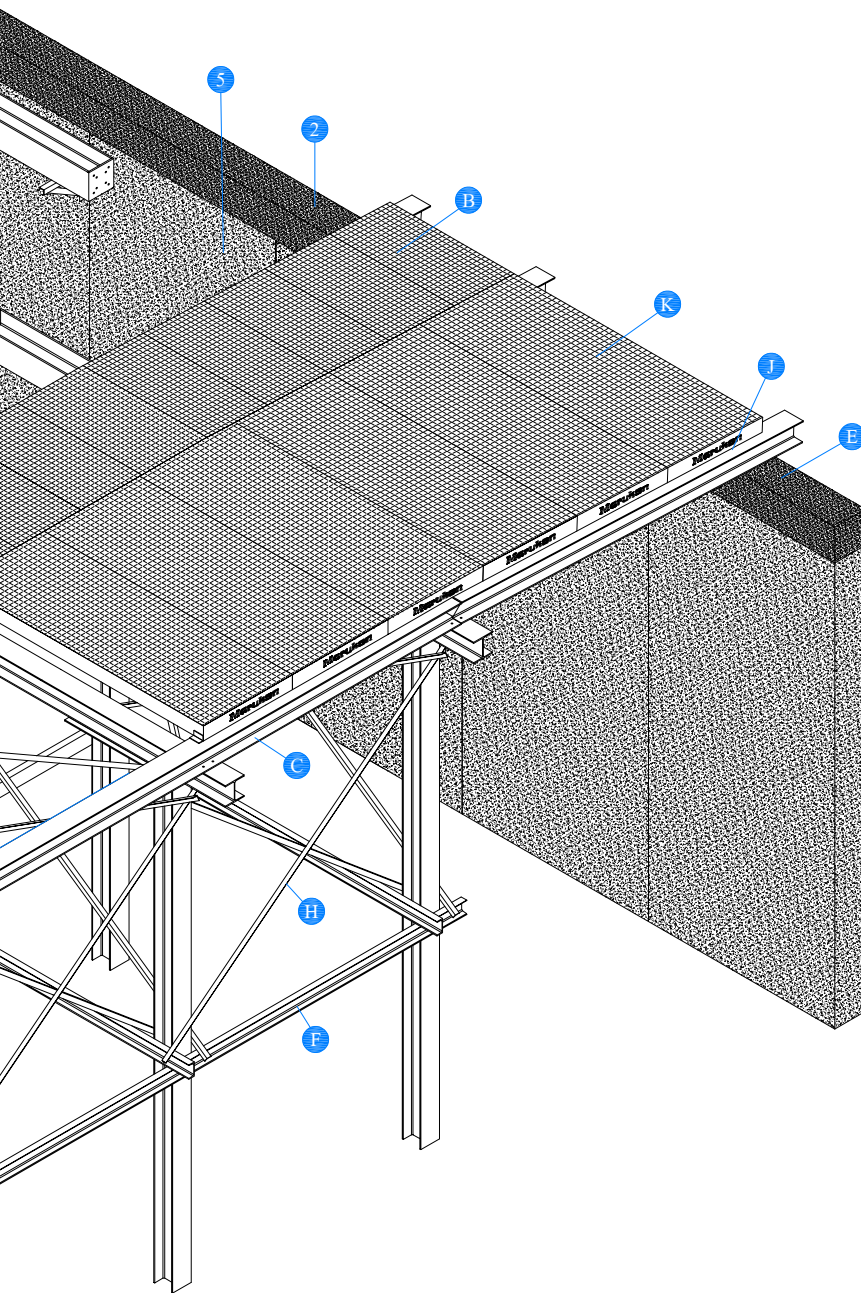


- |                                     |                        |
|-------------------------------------|------------------------|
| 13 Angle Bracket (AB)               | 21 Gusset Plate (GSP)  |
| 14 Trapezoidal Piece (TP)           | 22 Press Angle         |
| 15 Double TP                        | 23 Long Bolt           |
| 16 Corner Piece (CP)                | 24 Bracket for Wale    |
| 17 Packing Concrete                 | 25 Bracket for Strut   |
| 18 Jack (KJ, UJ, DN)                | 26 Distance Piece (DP) |
| 19 Jack Reinforcement Fitting (JRF) |                        |
| 20 Cover Plate (CPL)                |                        |



# KIND OF WORK

- A Stage Post
- B Steel Deck
- C Main Beam
- D Secondary Beam
- E Capping Beam
- F Horizontal Tie (C-150x75)
- G Horizontal Brace (L-75x75)
- H Vertical Brace (L-75x75)
- J Stopper Deck
- K Steel Platform



Building



Underpass



Factory



Airport



Mass Transit



Water Supply



Bridge & Jetty



Flood Protection



Power Plant



# OUR PROJECT



## 01 BUILDING

### Mixed Use

- Bangkok Mall
- Central Embassy
- Central Plaza Rama IX
- Central Pattaya
- Cloud 11
- Cove Hill Charoenkrung
- FYI Center
- Icon Siam
- King Bridge
- King Power
- King Square
- One Bangkok
- Park Silom
- Queen Sirikit National Center
- Samyan Mitrtown
- SET Ratchada
- Siam Paragon
- Singha Complex
- The Forestias
- Terminal 21
- Velaa Sindhorn Village Langsuan

### Office Building

- 140 Wireless
- AIA Ratchada 2
- AIA Sathorn
- Carabao Headquarter
- JKL Tower
- Kronos Sathorn
- Krungsri Ploenchit Tower
- Muangthai Cptial
- O-Nes Tower
- Park Nai Lert
- Park Ventures
- Siam Pathumwan House
- Thai Group Quarter (TGQ)
- WHA Bangna

### Hotel

- AO PO Hotel
- Amari Pattaya
- Brighton Square Pattaya
- Hatai Hotel Bangkok
- Nishitetsu Hotel Croom Bangkok
- Solaria Nishitetsu Hotel Bangkok

### Residence

- Landmark At Kaset
- Nue Mega Bangna
- Oriental Residence Bangkok
- Origin Bangkhunnon
- Origin Phetkasem 56

### Hospital

- Asia's Center of Tropical Disease Hospital
- Bhumisiri Mangkhalanusorn
- Chulabhorn Hospital
- Police Hospital
- Siriraj Piyamaharajkarun Hospital
- Somdech Phra Debaratana Medical Center
- Teeraporn Hospital
- Yanhee Hospital

### Government Building

- Government Complex Zone A & B
- Ministry Of Interior

### Others

- Mahidol Learning Center (Salaya)
- Nan National Museum
- US Embassy







## 02 FACTORY

### Factory

- AAPICO Amata
- ACE Rayong
- AFT Pinthong 2
- AGI-F2
- Ajinomoto Nong Khae
- APL Omega Bangna
- AWA Paper
- Azbil Amata
- Bangkok Coil Center
- Bridgestone Amata
- Calpis-Osotsa
- Caterpillar CRTT
- Citizen Ayutthaya
- Fujibo
- Furukawa
- Griffith Food
- G-TEC
- Goodyear Tire & Rubber
- HATC Utility
- H-One
- Honda EGAS Amata
- Honda Prachinburi
- Honeywell
- IT Forging
- Jatco
- JSP Foam
- Kao Amata
- Kerry Logistics
- Kurabo
- KYB Amata
- Kyokuyo
- Linfox Five Star
- Lintec
- Logisteed
- Lumentum
- Mitsubishi
- NFFT Forging
- Nidec
- Nissan Motor km.19
- NOVA
- NTCSEA
- OTEC
- Prabat
- Pandora
- PTT LNG Map Ta Phut
- Relife Project
- Revima
- Sakura Map Ta Phut
- SEST Factory Pit No.2
- Stanley Wellgrow
- Sumitomo Rubber (Thailand)
- Suzuki
- Taobin
- Thai Arrow
- Thai Metaltech
- Thai Oil Map Ta Phut
- Thai Yokorei
- T.I.D Bangpu
- TMT Samrong
- Tokai Rika
- Tohken 4
- TOTO 2
- Topre Thailand
- Toyo Ink
- Triumph
- Tusco
- UACJ
- Yamato

### DATA Center

- Equinix
- Evolution
- GSA Next01
- Knight Rama 9
- PEA
- Terra
- True IDC

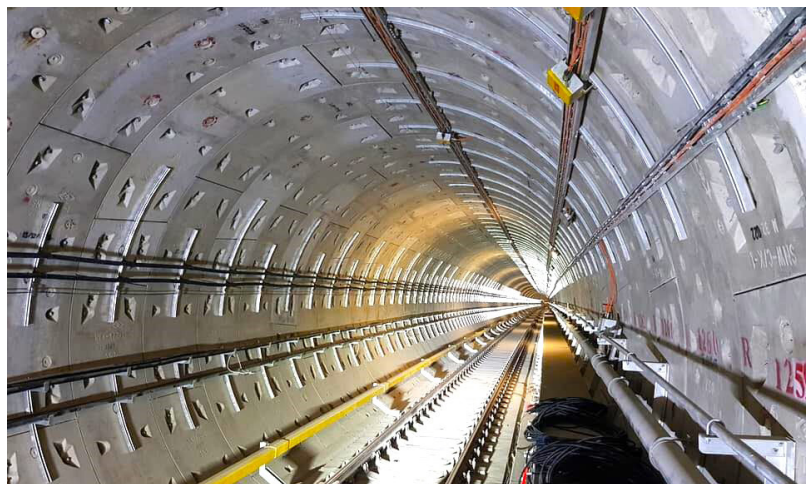






## 03 MASS TRANSIT

- BTS Silom Line
- BTS Sukhumvit Line
- MRT First Blue Line
- MRT Second Blue Line Extension
- MRT Orange Line (East)
- MRT Orange Line (West)
- MRT Purple Line (South)
- SRT Red Line







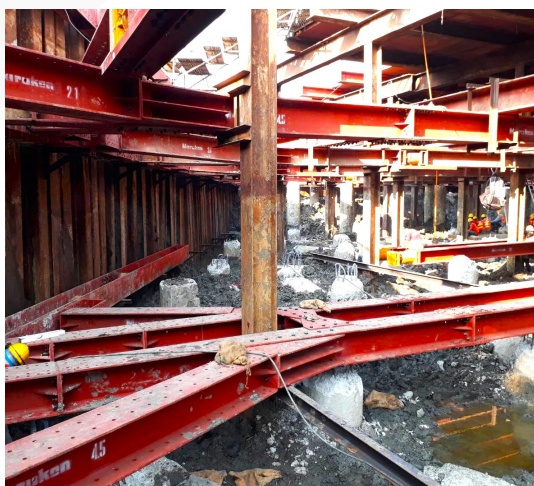
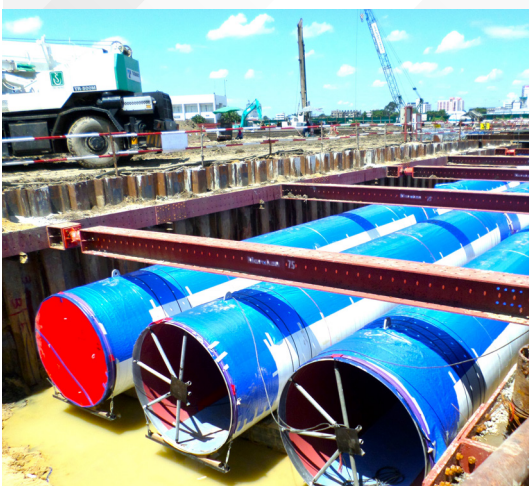
## 04 BRIDGE & JETTY

- Ang Thong Bridge
- Bhumibol Bridge
- Charoensawad Bridge
- Moei River Bridge
- Kamphaeng Phet Bridge
- Khlong Bangbua Bridge
- Kiak Kai Bridge
- Nonthaburi Bridge
- Pakse Bridge (Laos)
- Tiwanon Bridge
- Tha Chin River Bridge
- The 2nd Thai–Laos Friendship Bridge Mukdahan
- The 3rd Thai–Laos Friendship Bridge Nakorn Phanom



## 05 POWER PLANT

- Bang Pakong Power Plant 1&2 (BPP)
- Bang Pakong Replacement 1&2 (BPRP)
- Bangpu Power Plant
- BLCP Power Plant
- Chao Phraya Hydro Dam
- Gheco One
- Naresuan Hydro Dam
- North Bangkok Combine Cycle 1&2 (NBCC)
- South Bangkok Power Plant (SBPP)
- Wang Noi CCCP







## 06 UNDERPASS

- Darasamuth Underpass
- Kaset Underpass
- Phran Nok Underpass
- Ratchada-Tha Phra Underpass
- Ratchayothin Underpass



## 07 AIRPORT

- Suvarnabhumi Airport Terminal 1
- Suvarnabhumi Airport Satellite 1

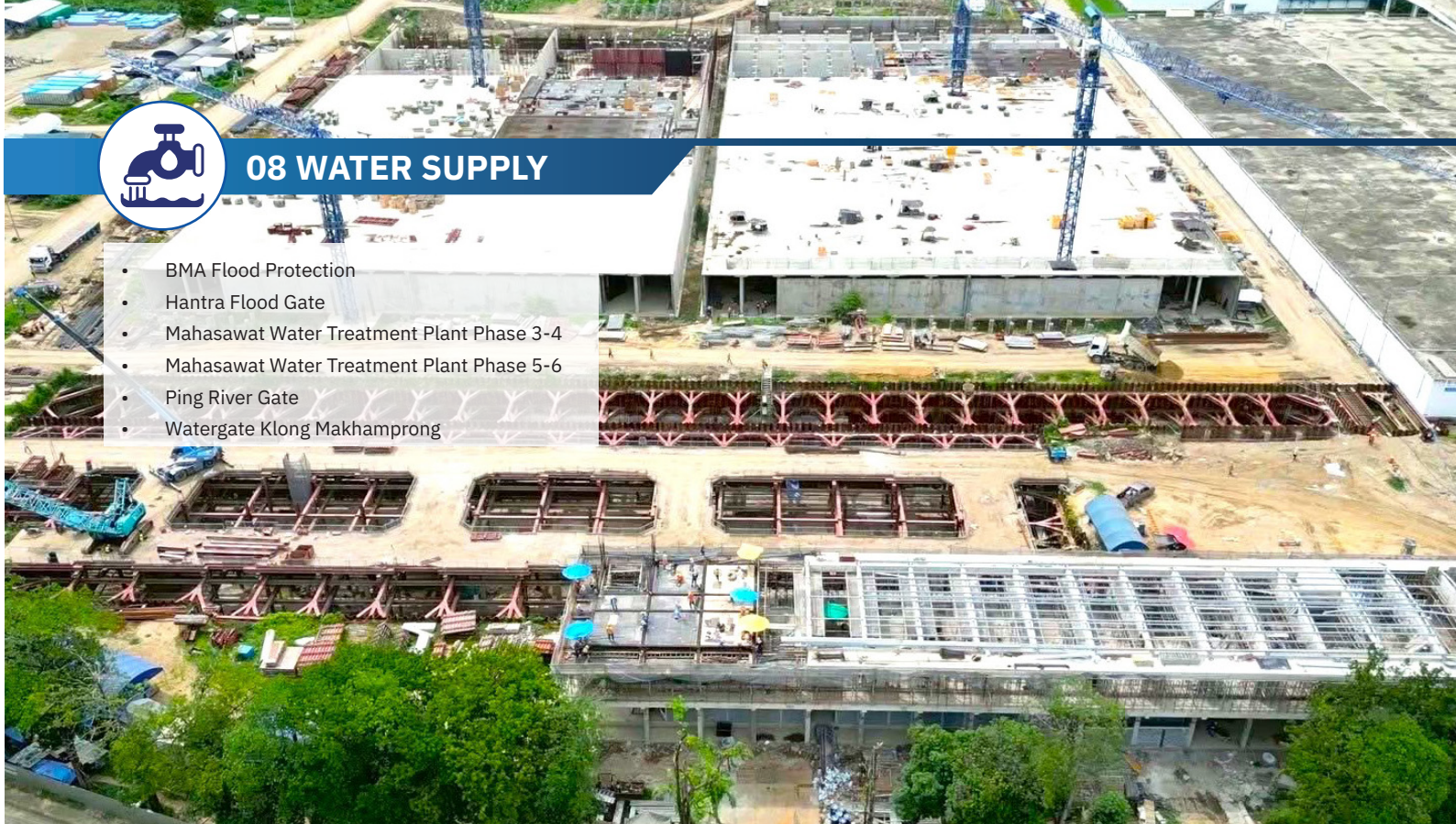






## 08 WATER SUPPLY

- BMA Flood Protection
- Hantra Flood Gate
- Mahasawat Water Treatment Plant Phase 3-4
- Mahasawat Water Treatment Plant Phase 5-6
- Ping River Gate
- Watergate Klong Makhamprong



## 09 FLOOD PROTECTION

- Fujibo Factory
- Indorama Factory
- RIST
- ROHM
- Thai Kurabo Factory










## CONTACT US


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 02-739-4592-4

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Bangchalong, Bangplee,  
Samutprakarn 10540

 02-130-5947-8