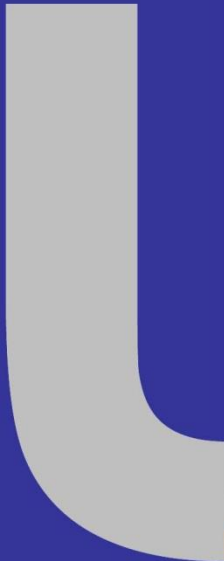


U



## Utility Design Consultants Co., Ltd.

Was established since 1996, form a group of expert engineers including University professor with doctorate degree from UC. Berkley, USA.

With more than 20 years of experience, our experienced multidisciplinary team work has offered the excellent services of diversifying need for our clients

We are poised to compete in the new millennium of globalization of trade and technology, to serve the diversifying needs with high quality and effective cost.

Nowadays, our service has expanded into various fields as follows.

- ☐ Civil Engineering
- ☐ Structural Engineering
- ☐ Railway Engineering
- ☐ Bridge Structure Engineering
- ☐ Tunnel and Underground Engineering
- ☐ Highway Engineering
- ☐ Survey Engineering
- ☐ Geotechnical Engineering
- ☐ Marine/Port Engineering

Our motto "MAKE YOUR MISSION POSSIBLE" is our commitment to serve best service and fulfill our clients needs.





# **TRANSPORTATION AND LOGISTIC**







**Project Name :**

**The Project Management and Construction Supervision  
Consultant1 (PMSC1)  
MRT Orange Line (East-Section) Project Thailand Cultural  
Centre-Min Buri (Suwinthawong)**

**Owner :**

**The Mass Rapid Transit Authority of Thailand (MRTA)**

**Project Cost :**

**74,000 MB**

**Period of Service :**

**7 to 2022**

**Project Description :**

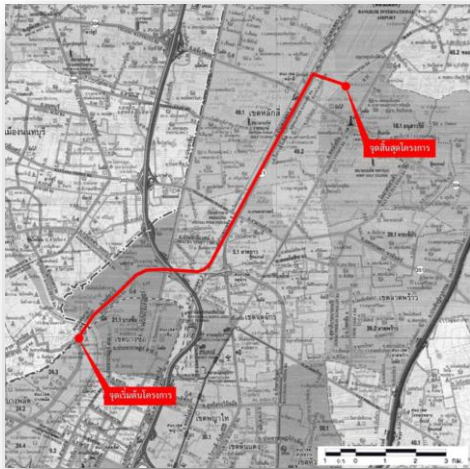
**The Orange Line Project : Eastern Section comprises 22.57 km heavy rail transit structures and system including 13.77 km. underground tunnel and 8.80 elevated structures, 10 underground stations and 7 elevated station.**

**Scope of Works :**

**Construction supervision as PMSC1. Responsible for project management and supervision of the E1, E4 and E5 contracts. UDC roles emphasize on supervision of document control systems, survey, geotechnical, underground structures, civil works, QS/Cost Engineer and residence engineer.**







**Project Name :** Detailed Design and preparation of tender documents for Prem Prachakon – Chao Phraya River drainage tunnel project.

**Owner :** Department of Drainage and Sewerage

**Period of Service :** 2017 to 2018

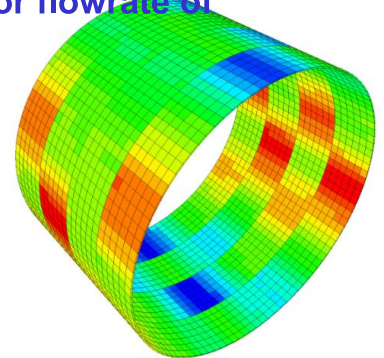
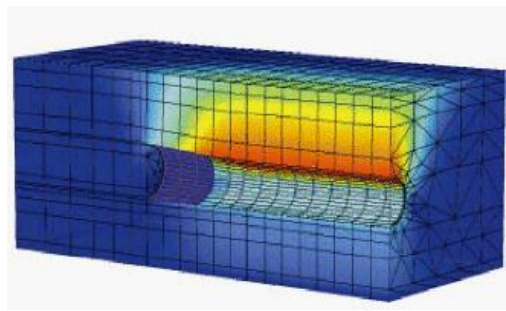
**Project Cost :** 9,300 MB

**Location :** Bangkok, Thailand

**Project Description :** The project comprises of design and construction of 13.5 km tunnel (ID5.7m.), Pumping station for flowrate of 60 m<sup>3</sup>/s and drainage stations.

#### Scope of Works

- Study, review and recommend the drainage system
- Reviewed Feasibility Study
- Detailed design of tunnel, pumping station and drainage stations
- Prepare tender documents and cost estimation
- Prepare Public Relations and Public Participations





**Project Name :** The Construction of the  
Outgoing Cable Tunnels of the Chidlom  
Terminal Station

**Owner :** Italian-thai Development (ITD)

**Period of Service :** 2017 to 2018

**Project Cost :** 1,000 MB

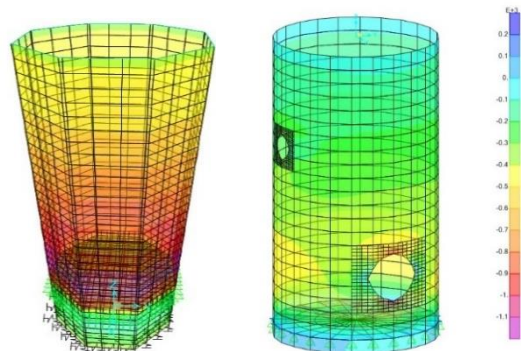
**Location :** Bangkok, Thailand

**Project Description :** The project comprises of  
design and construction of 4 shafts, 1.87 km  
tunnels (ID2.6m. and 3.6m.) by TBM method,  
14 manholes, 1.13 km duct bank by pipe  
jacking method.

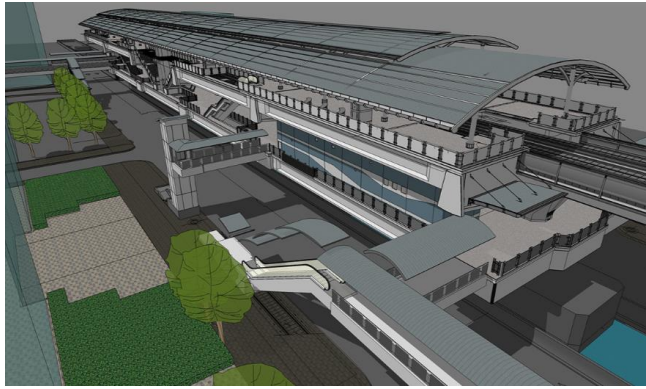


#### **Scope of Works**

- Detailed design for 4 shafts
- Detailed design for all tunnels
- Existing structure impact assessment  
from shaft and tunnel construction







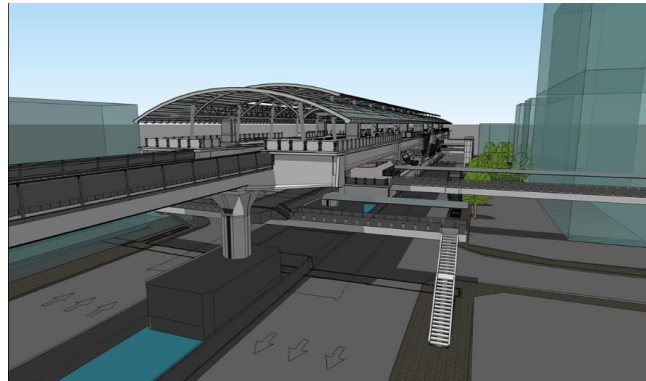
**Project Name:** Suksa Witthaya BTS Station (S4)

**Owner:** BTSC

**Period of services:** 2016-2017

**Project Cost:** 360 Million Baht.

**Location:** Sathorn Tai, Bangkok, Thailand.



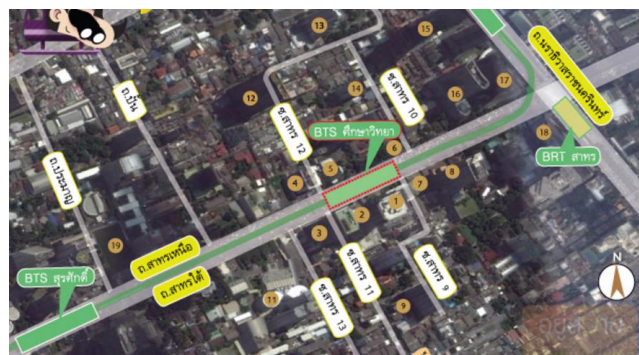
### Project Description:

Due to growth of urban area around the BTS system particularly on Sathorn road, BTS plans to add one additional station between the existing station S3 and S5. The project consists of Design and build of the BTS new station(S4) on existing pre-constructed foundations and columns. Both Trains and traffic are operated at all time during construction.



### Scope of Works:

- Detailed Design for structural work
- Provide Shop and As-built drawings
- Supervision for construction planning







เริ่มต้นสัญญา : วันที่ 21 เมษายน 2559  
ระยะเวลาก่อสร้างรวม : 720 วัน  
สิ้นสุดสัญญา : วันที่ 19 เมษายน 2561  
ผู้รับผิดชอบโครงการ : สำนักการโยธา คทม.



**Project Name:** Construction supervision of Ramkhamhaeng - Pattanakarn - Thawornthawat Underpass

**Owner:** Bangkok Metropolitan Administration. (BMA)

**Period of services:** 2016-2018

**Project Cost:** 762 Million Baht.

**Location:** Bangkok, Thailand.

**Project Description:**

*The underpass at Ramkhamhaeng - Pattanakarn -Thawornthawat contains 2 lanes , 10.8 m width and 788 m length. The clear height is about 5 m. Include the systems of the underpass such as drainage, traffic sign, road improvement etc.*

**Scope of Works:**  
Construction supervision.

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**Project Name:** Construction supervision of Srinagarindra-Romklao Phase 3

**Owner:** BMA

**Period of services:** 2015-2017

**Project Cost:** 795 Million Baht.

**Location:** Bangkok, Thailand.

**Project Description:** The Road construction at Srinagarindra-Romklao Phase 3 From Lamsalee canal to Wang Mai canal.



- From km 1 + 800 to km 4 + 100  
Distance 2,300 meters.
- 10 reinforced concrete pavement lane two-way .
- Car reinforced concrete bridge over the canal of 3 dams along the canal lining.
- Building sidewalks, drainage, curbs and retaining wall.
- Electrical systems, lighting, signage and road markings



**.Scope of Works:**  
Construction supervision.





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# Feasibility Study and Definitive Design for High Speed Rail Project (Bangkok – padangbeza route)



## Project Description:

High Speed Train(HST) is a flagship project of the grand vision to modernized national transportation system. The Train travel at 250 km/hr from Bangkok “Bang Sue” station 225km to Hua Hin station with additional stations in Nakhon Pathom, Ratchaburi and Petchaburi.

The train run out of Ban Sae to densely packed Bangkok area through a tunnel under the Chaopraya river before elevate cross the Maeglong river. Along the route, it face many challenges as passes national heritage,swamp, central city area of Nakhon Pathom,Ratchaburi and Petchaburi.

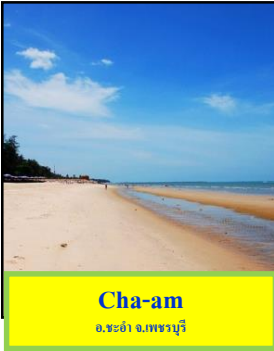
**Owner:** Office of traffic and transport policy and planning. (OTP)

**Period :** 2012- 2014

**Location:** Phase1 from Bangkok to Huahin. Phase 2 from Hua Hin to *padangbeza*

**Scope of Works:** Definitive Design of the whole project

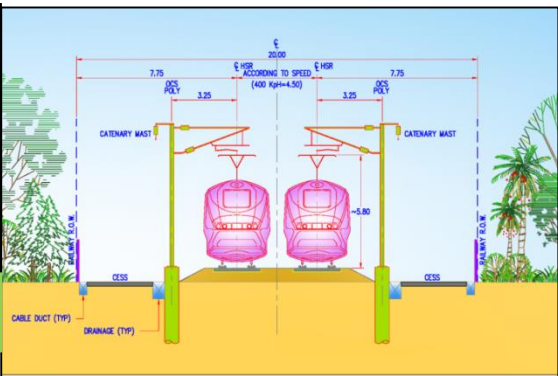
: Route selection and detailed design of tract structure.



**Cha-am**  
อ.ชะอำ จ.เพชรบุรี



**Hua Hin Station**  
อ.หัวหิน จ.ประจวบคีรีขันธ์







## Detailed Design for MRTA Purple Line Extension, Tao Poon-Rat Burana Section .



### Owner:

Mass Rapid Transit Authority of  
Thailand (MRTA)

**Period** 2012-2013

**Project Cost** 66,820 Million Baht.

**Location** Bangkok, Thailand.



### Project Description:

The length of Tao Poon-Rat Burana Section is 20 km. with 13.2 km. underground structure incorporating 10 stations and 6.8 kilometers elevated structure with 6 stations. The project starts from Tao Poon, it goes along Sam Saen Road in underground structure, passing New Parliament, Royal Irrigation Department, Vajira Hospital and National Library of Thailand and then turn left to Ratchadamnoen Klang Road and Maha Chai Road. The route crossing under the Chao Phraya River and passing Wongwian Yai. Then, it change the level to elevated structure reaching Rat Burana Station.



**Scope of Works** Detailed Design for tract structure.  
Detailed Design for stations

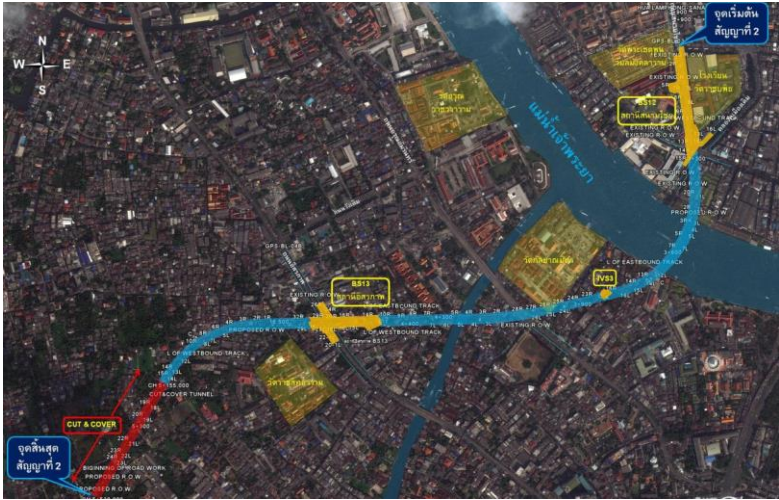
**Utility Design Consultants Co., Ltd.**







*Construction supervision for MRTA Blue Line Extension, Hua Lamphong-Bang Kae Section (Contract2, Sanamchai to Tha-Phra).*



- Owner:** Mass Rapid Transit Authority of Thailand (MRTA)
- Period** 2010-2015
- Project Cost :** 10,028.6 Million Baht.
- Location:** Bangkok, Thailand.
- Scope of Works** Construction supervision.

**Project Description:**

The Blue Line Hua Lamphong-Bang Kae Section (Contract2, Sanamchai to Tha-Phra) is about 2.6 kilometers underground structure with 2 stations (Sanamchai and Itsaraphap Station) and 1 intervention shaft. The project starts at Sanamchai (near Wat Pho) passes under The Chao Phraya River at Pak Khlong Talart. to Tha-Phra.





## Detailed Design Double Track between Nakhon Pathom to Huahin.

### Project Description:

SRT plans to upgrade the existing single track system into a double track system by installing another track alongside the existing 165 km track from Nakhon Pathom to Hua Hin through 160 intersections, 90 bridges and 28 railway stations in 4 provinces (Nakhon Pathom, Ratchaburi, Phetchaburi, and Prachuap Khiri Khan)



**Owner:** STATE RAILWAY OF THAILAND (SRT)

**Period** 2012-2013

### Scope of Works

1. Detailed design for structure and alignment.
2. Prepare information for land acquisition.

**Construction Cost** 17,856 Million Baht.

**Location** Nakhon Pathom - Huahin, Thailand.

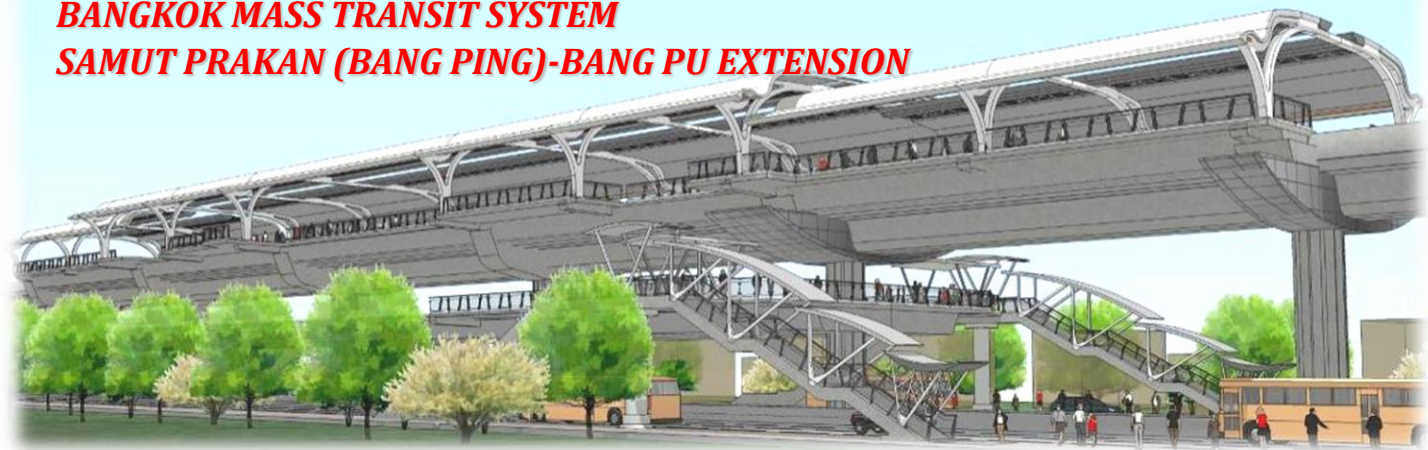




## DETAILED DESIGN AND PREPARATION OF TENDER DOCUMENTS

### BANGKOK MASS TRANSIT SYSTEM

### SAMUT PRAKAN (BANG PING)-BANG PU EXTENSION



#### PROJECT ROUTE

This extended electric train line of Samut Prakan (Bang Ping)-Bang Pu is the extension of the Light Green Line of Bearing-Samut Prakan which have 9 stations, all are elevated. They are *Samrong Station (E15)*, *Puchao Saming Phrai Station (E16)*, *Erawan Museum Station (E17)*, *Naval Academy Station (E18)*, *Samut Prakan Station (E19)*, *Srinagarindra Station (E20)*, *Praksa Station (E21)*, *Sailuat Station (E22)*, *National Housing Station (E23)* which is the terminal station of the project. Two of the nine stations, E18 and E22 are future stations. After passing the E23 station the tracks will end at the Depot where the extension line of Samut Prakan (Bang Ping)-Bang Pu will be started from and connected to.



#### JOB DESCRIPTIONS

- Reviewed Feasibility Study.
- Study for System Operation Plan.
- Study the Environment Improvement.
- Fare Rate Analysis
- Detailed Design for Civil Work and Track work
- Prepare Information for Acquisition.
- Prepare Public Relations and Public Participations.
- Prepare Bidding Documents and Cost Estimate.

**Project value** : 10,127 M. Baht

**Project period** : 2009-2010

**Client** : Office of Transport and Traffic Policy and Planning (OTP)





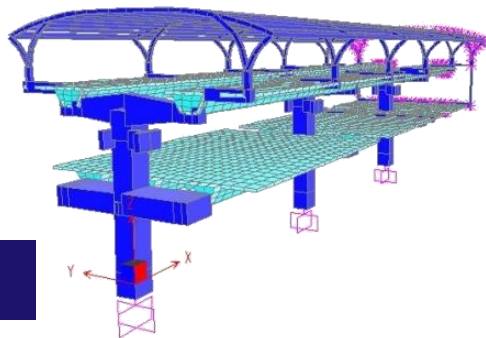
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## DETAILED DESIGN AND PREPARATION OF TENDER DOCUMENTS

### BANGKOK MASS TRANSIT SYSTEM BEARING-SAMUTPRAKAN SECTION

#### PROJECT ROUTE

Start at the end of Bangkok Mass Transit System, Onnut-Bearing at Soi Sukhumvit 107 (Bearing), Travel along Sukhumvit Road Through Samutprakan Province and come to The end at Bearing Substation. Total distance is about 13 Km. The project consists of 9 Stations, 1 Depot and 1 Park & Ride.



#### JOB DESCRIPTIONS

- ◆ Reviewed Feasibility Study.
- ◆ Study for System Operation Plan.
- ◆ Study the Environment Improvement.
- ◆ Fare Rate Analysis
- ◆ Detailed Design for Civil Work and Trackwork
- ◆ Prepare Information for Acquisition.
- ◆ Prepare Public Relations and Public Participations.
- ◆ Prepare Bidding Documents and Cost Estimate.

**Project value** : 25,000 M. Baht

**Project period** : 2007-2008

**Client** : Office of Transport and Traffic  
Policy and Planning (OTP)



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## ***Engagement of Consultants for Management of Mass Transit Rail System Project and During Construction Phase, Bangkok Thailand***

**Project period** : 2008-2009

**Client**: Office of Transport and Traffic Policy and Planning (OTP)



### **PROJECT DESCRIPTIONS**

- Study and Recommend an Overall Integrated Management for MRT System.
- Recommendation of Private Sector's Participation in MRT Projects and Government's Role.
- Revision MRT Assessment Standardization.
- Study on Related Regulations and Laws on Management of Mass Transit System Investing and Developing Surrounding Business Areas.
- Study and Analysis of the Management in case of having Multi-Operator.
- Study and Recommend the Quality of Services Measurement Determination Criteria for MRT System.
- Approach for an Integration of MRT System with Other Public Transportation Modes
- Proposed the Station Accessibility Development of Airport Rail Link Project and Red line Rail System Project Bang Sue-Talingsan.
- Study the Loss of Economical Opportunity due to Delay in MRT Project Construction.
- Preparation of Project Master Schedule and Coordination Plan.
- Project Monitor Program, Traffic Analysis and Management during Construction of the SRT Red line Project Bang Sue-Talingsan and the MRTA Purple Line Project Bang Yai-Bang Sue.
- In-House Technical Arms of OTP.



**Utility Design Consultants Co., Ltd.**





## Construction Supervision of BTS Extension Silom (S7-S8)

Construction Supervision  
of the two-BTS Stations :

- Charoen Nokhon Station (S7)
- Wong Wian Yai Station (S8)

The work include civil work,  
structural work, track work and  
building service system

- Approval of Detailed Design
- Verify Construction Drawings
- Project Scheduling Control
- Quality Control
- Contract Administration



Project Value : 1,033 M.Baht  
Client : Bangkok Metropolitan  
Administration  
Project period : 2006-2007

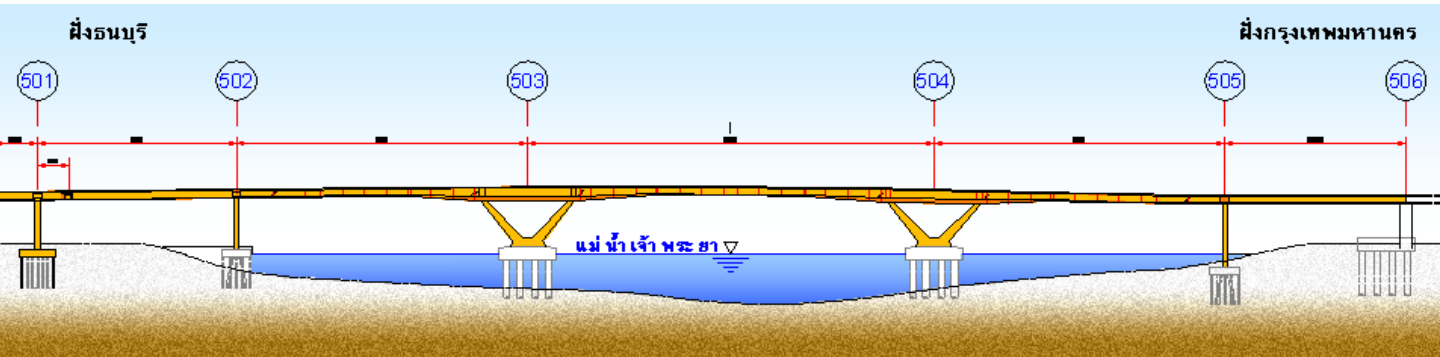






## Construction and Supervision Bangkok Mass Transit –Silom Extension Line, Phase. (Elevated Viaduct only) Bangkok (Prasri-Charoen Elevated Road way Section2 Modify Structure for BTS)

The project starts from the existing station S6 (Paphan Taksin) of Bangkok Transit System (BTS) and end at Phetkasem Road. The 1,383 million baht contract to build a 6.8 km. length Of elevated viaduct including the bridge crossing Chao Phraya River was launched from November 2000.



On land single viaduct with 36 m. typical span Length shored up by single reinforced concrete Pier and one 1.80 m. diameter bored pile. The Main span of bridge cross over Chao Phraya River 92 m. while two side spans are 66 m. and Back spans on Thonburi side are 45 m.



The responsibilities of **UDC** are as follow :  
To approve the calculation sheet of structural, Electrical and drainage system. To approve Shop drawings and construction method Statements. Diary supervise and inspection. The project will complete on January 2006.



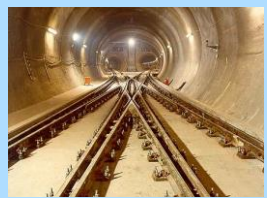




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Since the Office of Transport and Traffic Policy and Planning (OTP), who has responsible to oversee the transportation system in Thailand, had an intention to integrate mass transportation systems in Bangkok for better service; therefore, a group of consultants was signed up to prepare a master plan for the mass transportation system in Bangkok. The goal of the project is to combine modes in mass transportation as one system

## Feasibility Studies for BTS Extension 6 Parts



In 2003, OTP desired to prepare an implementation plan for the master plan. The project started on March 31st, 2003 and finished on April 16th, 2004. The study recommended extending the existing track network from 44 kilometers to 291 kilometers long within 2009. The new system will cover whole Bangkok especially 20 kilometer radius from Central Business District (CBD) and high density residential area.



On February 23rd, 2004 at the Cultural Center subway station, the committee presided by the prime Minister approved the plan and budget for the 291 Km. Bangkok Mass Transit (BMT) network in Bangkok and its vicinity.



Bangkok Metropolitan Administration (BMA), who is assigned to prepare green lines in the BMT had an intention to provide the feasibility study of extension plan for the mass transportation system, and the possibility of connecting extension part to the existing system. Therefore, a group of consultant is granted to do the study. The study will also propose an investment plan and financial feasibility study.

In this project, Feasibility Study and Environmental Impact Assessment of six MRT extension lines, 95.8 km. will be prepared. Thirty one km. are in BMT Implementation plan phase 1 for first 6 years







# Construction supervision of Srinagarindra-Sukhumvit 103 (Udom Suk) Underpass

## Project Description:

*The underpass at Srinagarindra-Sukhumvit 103 (Udom Suk) contains 4 traffic lanes, 16.6 m width and 757 m length, 5 m. of clear height. Include the systems of the underpass such as drainage, traffic sign, road improvement etc.*



Owner	Bangkok Metropolitan Administration. (BMA)
Period	2009-2012
Project Cost:	539 Million Baht.
Location:	Bangkok, Thailand.
Scope of Works:	Construction supervision of the entire systems of underpass







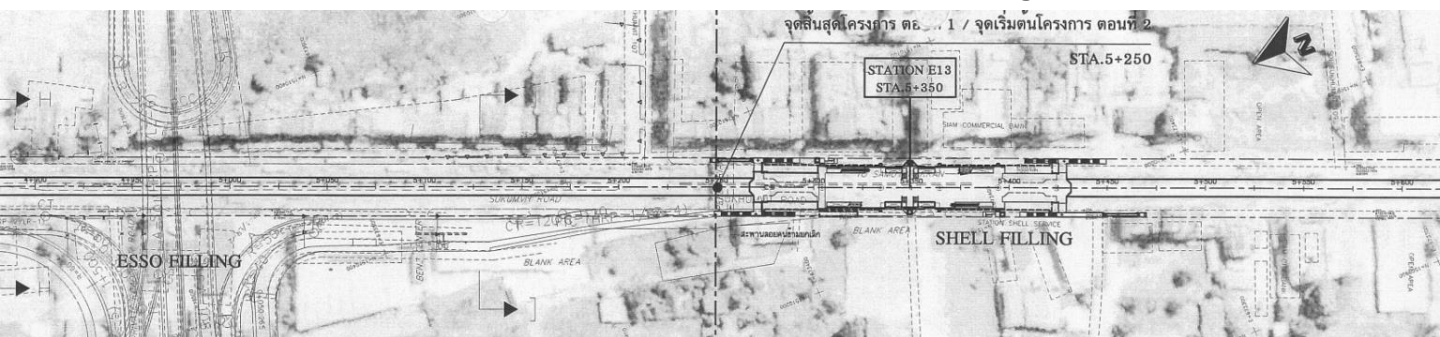
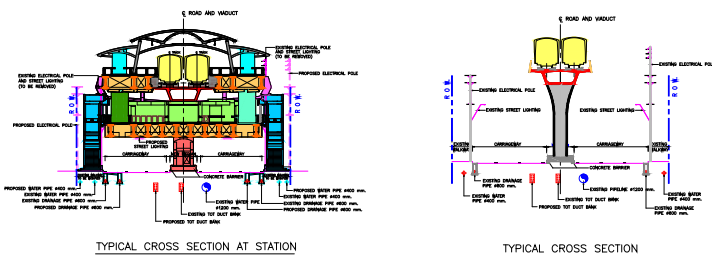
## Preliminary Design (Bid Document preparation and Evaluate technical Proposal) for BTS Extension Sukhumvit and Silom

Bangkok Mass Transit Sukhumvit and Silom Extension Line will be extended from existing Line for alleviating the chronic traffic problems.

**The Sukhumvit Line** is separated into 2 section, Viz .

**Section 1** : which commences from the end of Existing line at Sukhumvit soi 85, travels along Sukhumvit Road and comes to an end at Sukhumvit soi 107, total distance 5.25 km.

**Section 2** : which commences from the end of Section 1 travel along Sukhumvit Road and



**The Silom Line**, which commences from the End of existing line at Taksin Station, over the Chao Phraya River travels along Krungthongburi Road and comes to an end at Taksin Intersection Total distance 2.2 km.

These extensions comprise of elevated viaducts For dual track heavy passenger train network.

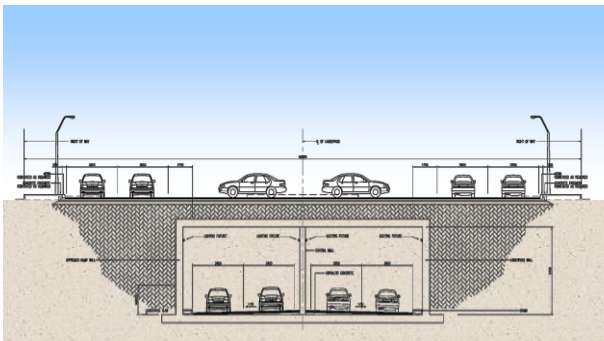
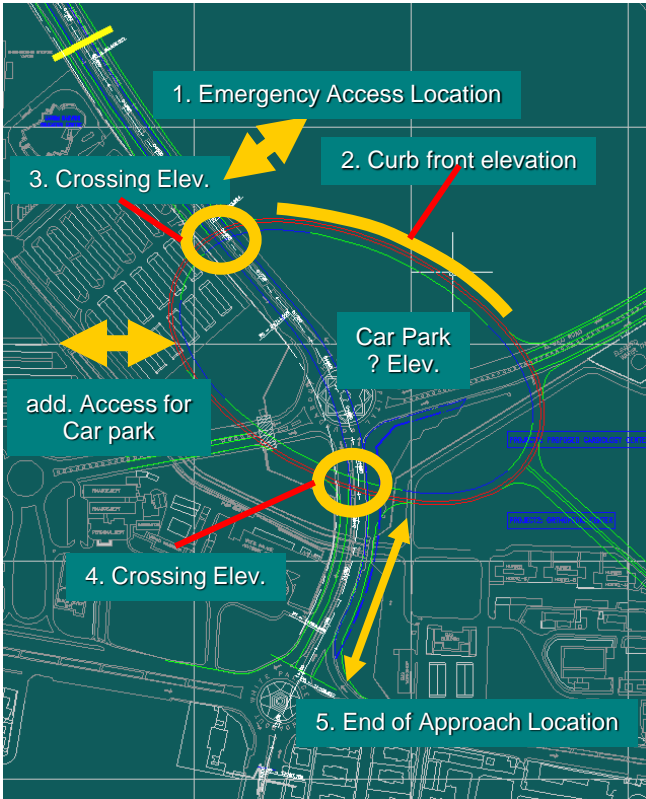
UDC conducts all preliminary drawings of viaduct, Station and depot. The project cost and all bidding Document including construction specification are Including in UDC responsibility





To cope with the predicted traffic volume during the Asian Game Year 2006, the C-ring road of Doha Qatar have to be improved its level of service. At feasibility study stage UDC involved in traffic modeling and traffic analysis, proposed typical cross section of the road and suggested the new underpass at the intersections. The tasks are also included cost guesstimate and construction planning.

After the client, Ministry of Municipal Affairs and Agriculture of Qatar decided to carry on the project. UDC was ordered to conduct the detailed design of underpass.



## DETAILED DESIGN FOR HAMAD HOSPITAL UNDERPASS



The AASHTO code with 2 times of HS20-44 live load is widely use in Qatar. There are 2 underpasses in the project, one is along the C-ring road and the other situated in oval road which encompass the first underpass. The length of C-ring road which have to be modified is 800 m. The first underpass length is 145 m. with the total roadway width of 30 m. Due to a horizontal curve at one end of the underpass the central support i.e. column or wall shall be neglected. To provide the emergency entrance for the nearby Hamad hospital the concrete cover slab is designed to sustain live load both in longitudinal and transverse direction. The total retaining wall length is 600 m. while the height varies from 0.5 to 9 m. The second underpass is 60 m. long and 16 m. wide. The transverse span of the cover slab is 5 + 11 m. All structural members are concrete cast in-situ.

The detailed design of drainage, electrical and mechanical system in the underpasses is included in UDC responsibility.



## Detailed Design

### The Southern Short Cut Motorway Project ( Samut Sakhon – Laem Pak Bia – Cha Am )



The Department of Highway has sign up a group of consultant to study a possibility of a new motorway to the south.



The new motorway will provide a faster alternate to the south. Moreover, it will help increase economic growth in southern areas. A new motorway will have two traffic lanes per direction and might increase to three lanes per direction in future study. The project started from Rama II road at km 35+000 passing Mahachai – Mae Klong railroad before hit The Gulf of Thailand on Wat Kra sa khao Samut Sakhon travel along deep water line then reaches Laem Pak Bia at Ban Makamkal and ended at Cha Am Petchaburi province. The total distance is 91 km with inland part of 44 km and offshore part of 47 km.





## **DETAILED DESIGN**

### ***The Road Construction Project under Logistics Strategic Plan: Road Linked Hwy. No. 7 – Ban Nongkraserm A. Muang Chonburi***



**Project Value :** 1,300 M. Baht  
**Client :** The Department of Rural Road,  
Ministry of Transport  
**Project period :** 2006

**Undertaken the project development from Project Feasibility Study Stage to Detailed Design Stage. The work comprise of:**

- Project Feasibility Study
- Route Selection
- Public Relation & Participation
- Traffic Study
- Assessment on Economic Feasibility
- Topographic Survey
- Soil Investigation
- Detailed Engineering Design
- Architectural and Landscaping Design
- Construction Planning
- Cost Estimation

#### **Project Descriptions**

The construction of new road link Chonburi-Pattaya Motorway (Hwy. no. 7) at km. 5+420 and Sukhumvit Road (Hwy. no. 3) at km. 103+000. The road will be the short-cut for traffic from/to Chonburi-Pattaya Motorway to/from Bangsaen Beach. The project comprise of:

- 6-lane road, AC. Pavement and 4.932 km. in length.
- 4-lane bridge crossing over railway and crossing Liang Nong Mon Road intersection, 20 m. typical I-Girder span bridge, 1,161 m. in length
- Trumpet Intersection at Hwy. no. 7 km. 5+420







## ***SURVEY AND DETAILED DESIGN***

### ***RURAL BRIDGE CONSTRUCTION FOR THE FISCAL YEAR 2007 GROUP 5***

**Project Value :** 380 M. Baht

**Client :** Department of Rural Road  
Ministry of Transport

**Project Period :** 2007

#### **Job Descriptions**

- To perform Topographic Survey, Soil Survey and Detailed Design of 10 Bridges crossing river, stream, canal in the central area of Thailand.



#### **Scope of Work**

- Preliminary Survey of 26 Bridges and select 10 Bridges for Detailed Design.
- Detailed Topographic Survey.
- Subsurface Investigation and Construction material survey.
- Detailed Design of Bridges and connection road.
- Preparation of road connection permission documents and others.
- Project cost estimation and Preparation of Tender documents.
- Public Relations and Public Participations.







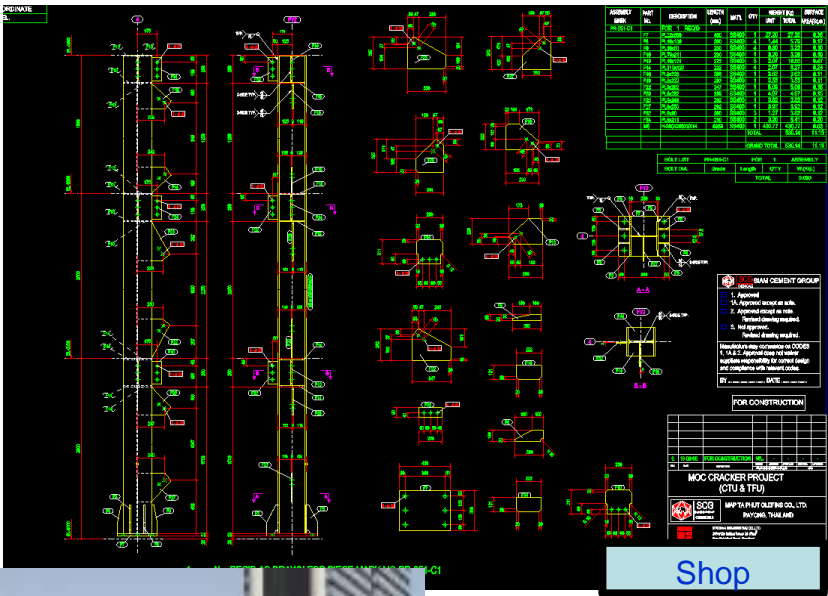
# Sky Walk

**Project description:** a 1-kilometer long skywalk with escalators which will connect Surasak Station with the Sathorn river pier.

**Project Scope:** Detail design and shop drawing and planing

**Project Cost:** 600M baht

**Location:** Thonburi



Shop drawing

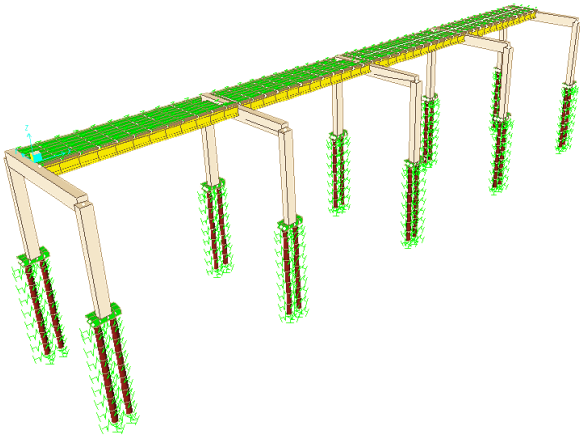


Existing BTS and Sky walk integration





# Dhaka elevated express way



**Scope:** Detailed design, detail drawing, route selection and alignment work

**Client:** Italian- Thai Development Public Co Ltd Project

**Cost:** 20,000 M baht

**Location:** Dhaka, Bangladesh

**Project Description:** The four-lane 26-kilometre elevated expressway will be built from Shahjalal International Airport to Kutubkhali on the Dhaka-Chittagong highway via Kuril, Banani, Mohakhali, Tejgaon, Satrasta, Maghbazar, Kamlapur, Khilgaon and Golapbagh.



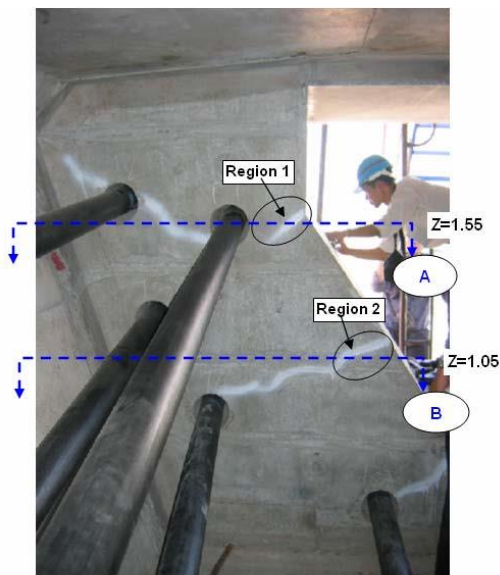


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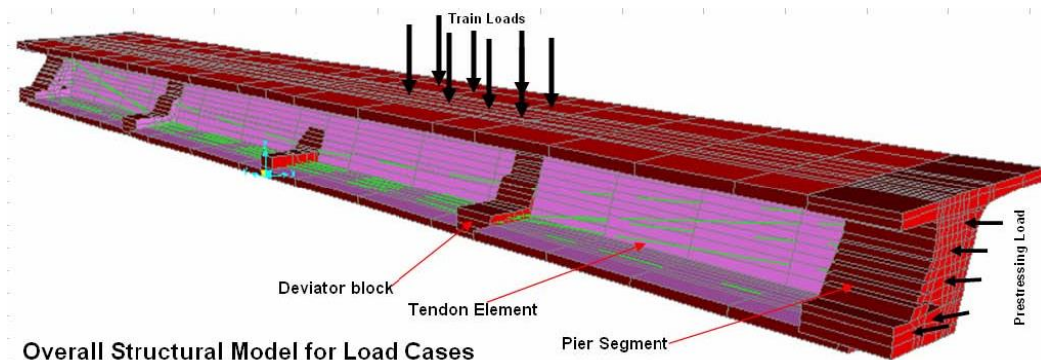
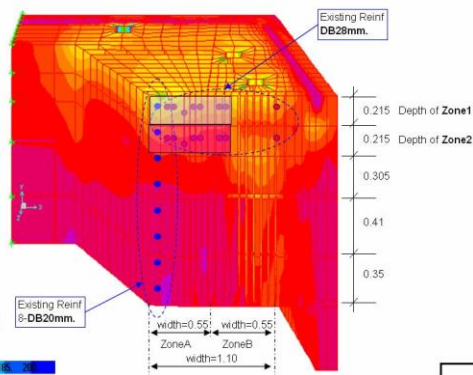
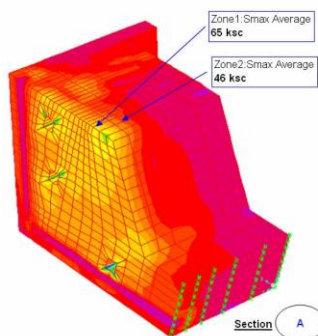
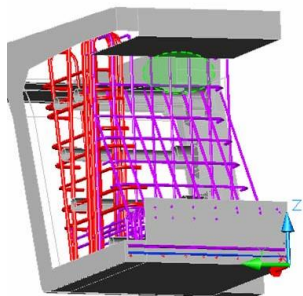
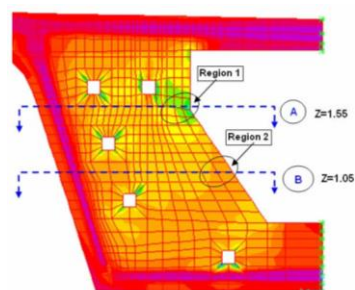
*For Suvarnabhumi Airport Rail Link and City Air Terminal*

Independent check of overall viaduct superstructure of Suvarnabhumi International Airport Rail Link

Strengthening Design of Existing Viaduct Superstructure



Comparison of stress of all construction stage to 1st-stage (Combination #1)





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# **POWER PLANT AND ENERGY DEVELOPMENT**







Survey and detailed design for electrical distribution system 115 KV, 69 KV, steam supplies and condensate return pipelines for Laemchabang 105 MW CCGT Project.







## Design for gas turbine installation



Gas Turbine at Operating Stage



Gas Turbine Foundation under Construction



Cooling Tower







**Pumping Station**

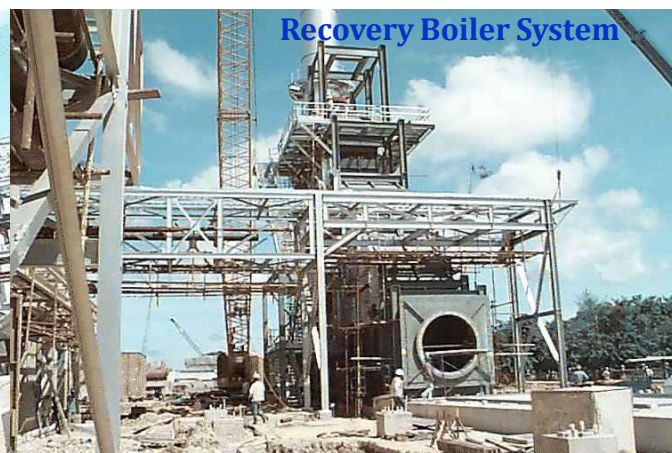
**Saha-Cogen Power Plant Project**  
**Site : Siracha Cholburee 500 Mw Combined Cycle**

**Design all Civil Works:**

- Structures and Foundations
- Pipe Supports
- Access Roads
- Drainage System



**Pipe Support System**



**Recovery Boiler System**

**Lampchabung Power Plant**

Site : Lampchabung Industry Estate Lampchabung, Choburi 500 Mw Combined Cycle

**Design all Civil Works:**

- Structures and Foundations
- Pipe Supports
- Access Roads
- Drainage System





**Survey, consultant and construction management for factory gas pipeline and NGV stations around the Bangchak Gas pipeline route Project**

Location : Samutprakan, Thailand

Owner / Customer : PTT Public Company Limited

Year : 2009

Project detail : - Survey of the existing Bangchak's gas pipeline, prepare documents and drawing for permitting processes and detail design work for installation of distributing pipes from the existing pipe route on the Thang-Rotfai-Sai-Kao road to industrial groups and NGV stations.

- Pipe diameter: 16"

- Total distance: 6.93 km

Responsibility : - Survey pipe route and do detailed design for Gas pipeline permission

- Coordinate for pipeline permission

- Support for EIA and Public relation



**MTP Interconnection Pipeline Analysis**

Location : Rayong, Thailand

Client : Infra Technology Service Company Limited

Year : 2007

Project Value : 205 (Million Baht)

Project detail : Design and Consult on Construction contractor

Responsibility : Analyze stresses in Gas Pipelines and design the pipeline, pipe supports, and Investigate Soil properties in construction

of Maptaphut pipeline, Rayong



**Survey and Detailed Drawings for Pressure Control and Gas Volume Measure Station at Bangchak Refinery**

Location : Bangkok, Thailand

Owner / Customer : PTT Public Company Limited

Year : 2006

Project Value : 60 (Million Baht)

Project detail : Survey for appropriate location of the Pressure Control and Gas Volume Measure Station at Bangchak Refinery

Responsibility : Survey pipe route and prepare the detailed drawings







**Survey/Drawings and Engineering documents for Gas pipeline permission of Sreththakit Road Industrial Group Project**

Location : Bangkok, Samutsakorn, Thailand

Owner / Customer : PTT Public Company Limited

Year : 2009

Project detail : - Survey for Gas Pipeline, prepare the drawings for permission and Engineering pipe works of Seththakit Road Industrial Group.

- The total distance: 34 km

- Pipe diameter: 12"

Responsibility : - Survey pipe route and do detailed design for Gas pipeline permission  
- Coordinate for pipeline permission  
- Support for EIA and Public relation

**New Lorry Loading Project of Thai Oil Public Company Limited**

Location : Rayong, Thailand

Owner / Customer : Thai Oil Public Company Limited

Year : 2007-2008

Project Value : 750 (million Baht)

Project detail : Design and Consult

Responsibility : - Design and Consult of Overland Oil and Fuel distribution system  
- Design and Consult on Construction of Building, Foundation, Oil storage tank, Oil distributor plant, Pipeline supports, Landscape and Pipe lining

**Survey and Detailed Drawings for Pressure Control and Gas Volume Measure Station at Bangchak Refinery**

Location : Bangkok, Thailand

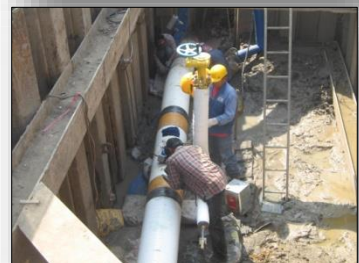
Owner / Customer : PTT Public Company Limited

Year : 2006

Project Value : 60 (million Baht)

Project detail : Survey for appropriate location of the Pressure Control and Gas Volume Measure Station at Bangchak Refinery

Responsibility : Survey pipe route and prepare the detailed drawings





# Ywama Power Plant in Burma

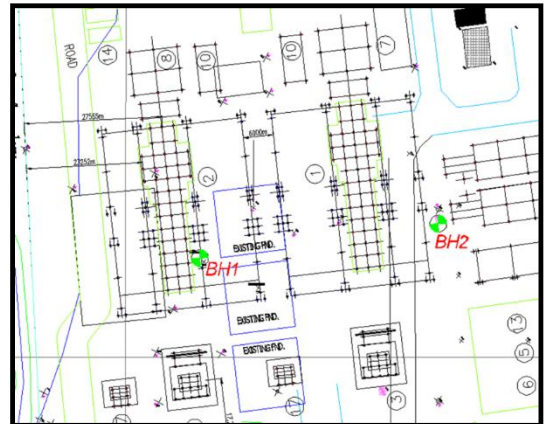
**Client:** STFE AND BURMA GOVERNMENT

**Scope:** Foundation design for Gas Turbines and Generators

**Location:** Yangon

**Cost:** 5,000M baht

**Project description:** projects to generate 1,000 megawatts.





# DEMCO wind turbine foundations and access road design, Houbong

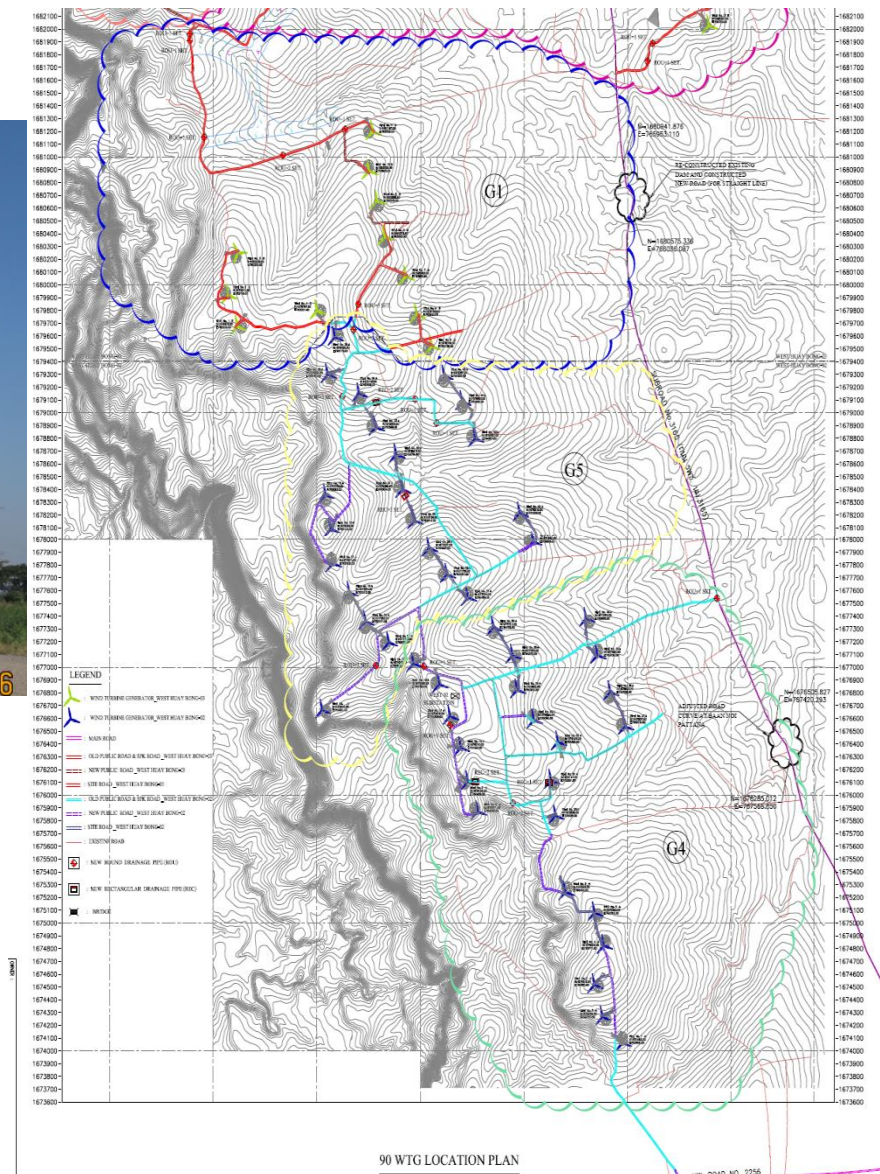
**Client:** Sustain Wind Energy Holding Co Ltd

## **Scope:** Foundation design for wind turbine Generators

**Location:** Houbong, Ratchaseema

**Cost: 5,000M baht**

**Project description:** projects to generate 120-140 megawatts.





# DEMCO wind turbine foundations and access road design, Kao Kor

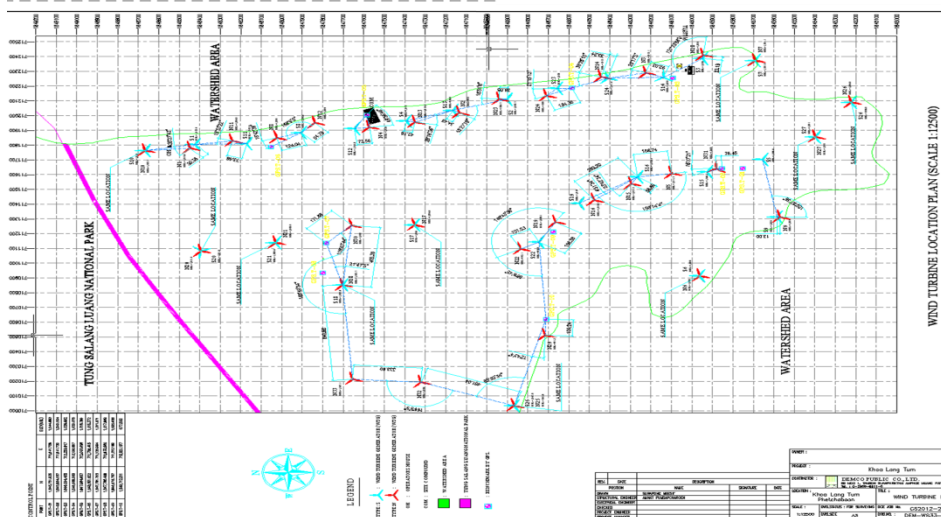
**Client:** Sustain Wind Energy Holding Co Ltd

**Scope:** Foundation design for electrical generator wind turbine Generators

**Location:** Kao Kor and Ratchaburi

**Cost:** 2,000M baht

**Project description:** projects to generate 60-70 megawatts.





**PROJECT NAME :** Praekasa Power Plant

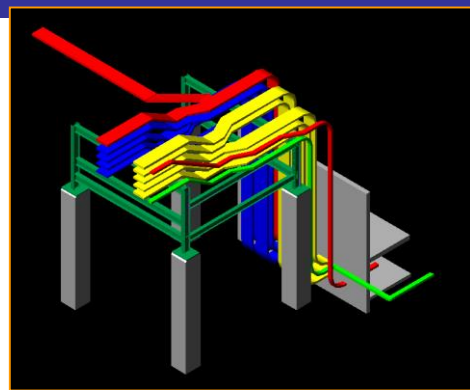
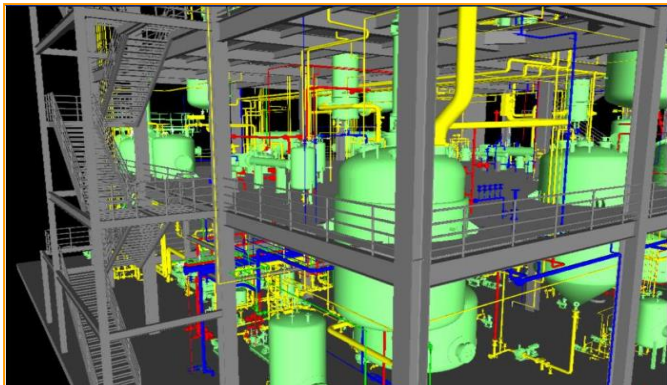
**LOCATION :** Samutprakarn

**OWNER :** Praekasa Company Limited

## PROJECT DESCRIPTION :

The scope include structural design ,piping design ,3D model Equipment, Cable Duct & Cable tray.

- Project cost approximately 3 million baht.



**SERVICE RENDERED :** Structural analysis & Design , Architectural Design, Piping Design, Mechanical & Electrical Design

**DURATION :** April 2005



**PROJECT NAME :** TCL Boiler steel structure

**& foundation design project LOCATION :** Rayong

**OWNER :** TRC Construction Public Company Limited

## DESCRIPTION :

The new boiler weight 180 tons shell be installed at the TCL. Therefore new super structures and sub-structures have to be designed to accommodate the boiler.

The super-structures will be designed as the steel structure while the

foundations will be designed as reinforced concrete structures with bored piles.



### Steel structure

- The analysis and design steel super-structures including plat from and stair cases
- The engineering details of members and joint (bolt) connections
- The 3-Dimensional Drawings (members only)
- The 2-Dimensional Shop Drawings

### Reinforce concrete

- The analysis and design of reinforced concrete sub-structures for boiler and stack support,
- The engineering details drawings

### Misc

- Recheck existing structure for support new steam pipeline
- Project cost approximately 550 million baht

**SERVICE RENDERED :** Structural analysis & Design

**DURATION :** May 2006

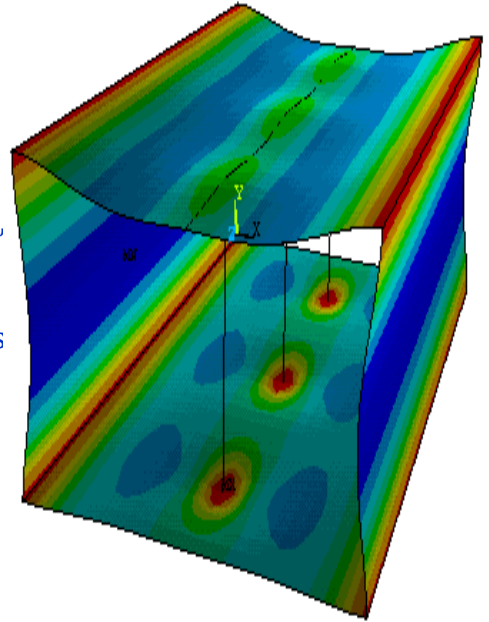


**PROJECT NAME :** Pipe Bridge Foundation For  
Mtp Project Box Culvert For Pipe Line(completed)  
**LOCATION :** Rayong  
**OWNER :** PTT Public Company Limited

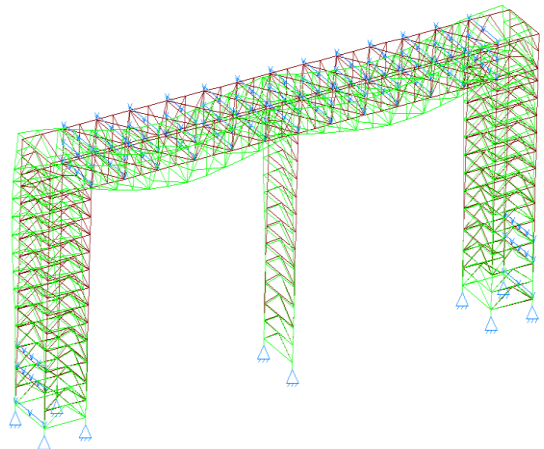
#### DESCRIPTION :

The scope includes civil design of M/R station building, pipe stress analysis and construction supervision.

- Finite Element Analysis Software (Ansys, Staad, Sap, Plaxis) was employed to simulate the structures
- Detail design was done by using AutoCad
- Project cost approximately 205 million baht.



**SERVICE RENDERED :** Structural analysis  
& Design , Piping Design  
**DURATION :** January - October 2002







## Detailed Design Construction of 230 kV Underground transmission Line

Detailed design for construction of 230 kV underground Transmission Line between Bangkapi and Childom Terminal Stations.

The line pass under Klong Saensab and MRT subway. Work compose of the tender design work in civil engineering and service systems and various tender supporting activities categorized as:

### Civil works:

- 1) Tunnel segments including concrete segments, steel segment at the sharp curve, and bolting.
- 2) Concrete shafts including ventilation towers.
- 3) Vertical support for cable in tunnel.
- 4) Layout of duct bank and galleries and cross sections including piling as necessary.
- 5) Cooling plant building including details of beams, slabs, walls and columns, finishing foundation, and building services.
- 6) Cooling plant system excluding the portion in the tunnel.



### Systems:

- 1) Ventilation system in tunnel.
- 2) Utilities systems in tunnel including the followings:
  - Power distribution system
  - Drainage system
  - Lighting system
  - Fire detection system
  - Telephone system
  - Gas detection system
  - Patrol car system including only rails and accessories
  - Communication cables between substations
  - Security system



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# **MARINE/PORTS ENGINEERING**







## **Design and Construction Supervision of Prachuap Wharf Project** **(Western Wharf and Additional Wharf)**

**Owner :** Prachuap Port Co.,Ltd. **Project Value :** 855 (Million Baht)

**Location :** Prachuap khirikhan

This project is the wharf extension from the main berth. Construction wharf by block work quay wall system have the western wharf width 50 m length 450 m for support cargo ship (Not over 80,000 ton) including the additional wharf width 50 m length 442 m for support cargo ship (Not over 10,000 ton). The rear of quay wall fill by rubble backing. UDC responsibilities daily supervise and inspection.

**Design and Supervision  
of Third Port**



**Utility Design Consultants Co., Ltd.**





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## Sahaviriya Ports Project



Main Berth of Sahaviriya Project



Underneath Port Structure

- ◆ Survey and Investigation of Existing Port
- ◆ Analysis for Capacity of Port to support Heavy weight Trailers
- ◆ Design and Strengthening the Structures



Piles Submerged Condition



Location : Prachuap khirikhan

Project Value : 50 (Million Baht)

**Utility Design Consultants Co., Ltd.**







## Access Bridge Project



Overall Bridge Layout

- Survey and Investigation of Existing Access Bridge
- Analysis for Capacity of Port to support Heavy weight Trailers
- Design and Strengthening the Structures



Survey Bridge Condition

Strengthening by Joining Discontinuous Slabs



Lateral Truss Supports



Location : Prachuap khirikhan

Project Value : 50 (Million Baht)





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Overall Uni-Thai Jetty

## Uni-Thai Jetty



Survey for Existing Structures



Survey for Existing Structures



Strengthening by External Post-tension

Detail Supports for Prestressing Tendon



Location : Chonburi

Project Value : 80 (Million Baht)

# Utility Design Consultants Co., Ltd.

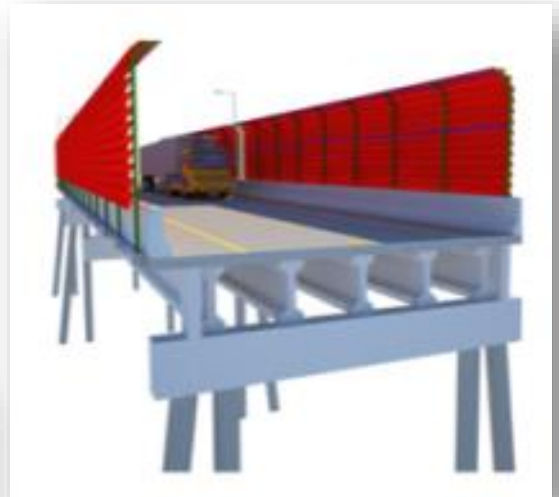






## Laem Sing Port And Stockpiles Project

- Preliminary design
- Feasibility study to select the optimum location
- Engineering aspect study
- Construction cost estimation



Location : Chanthaburi

Project Value : 100 (Million Baht)





# **BUILDINGS**

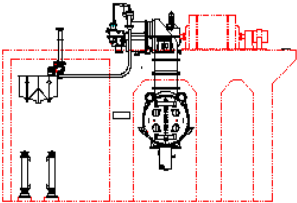

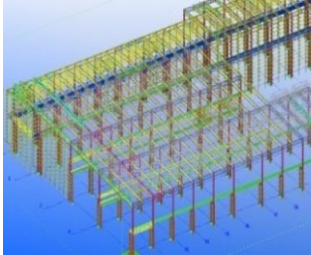


## **Residential & Industrial**







## WORK EXECUTION (Industrial)

PROJECT/OWNER	SCOPE DESCRIPTIONS
	<p>Turbine&amp;Generator House BuaYai, Nakhonratchasima BuaYai Bio Power Co., Ltd.</p> <p>The scope include structural design of the building. The design also include dynamic analysis of machine foundation.</p>
	<p>MaeSord Ethanol Factory Mae Sod Clean Energy Co., Ltd.</p> <p>Factory The scope includes Structure, civil, Architectural design and Project cost approximately 350 million baht. (excluding machine)</p>
	<p>New Melt Shop Factory Siam Yamato Steel Co., Ltd.</p> <p>The scope include structural design of steel structure factory and R/C machine foundation Project cost approximately 1,800 million baht (Excluding machine)</p>
	<p>New CPF Factory Klang, Rayong Charoen Pokphand Foods Public Company Limited</p> <p>The scope includes structure, Civil, Architectural, Electrical, Mechanical design and Project cost approximately 800 million baht</p>
	<p>NEXT CAN INNOVATION NhonKhae, Saraburi Swan Development Co., Ltd</p> <p>The scope includes structure, Civil, Architectural, Electrical, Mechanical design and Project cost approximately 300 million baht</p>





**PROJECT NAME : New Melt Shop Factory**

**LOCATION : Rayong**

**OWNER : Siam Yamato Co., Ltd.**

**DESCRIPTION :**

The scope include structural design of melt shop factory

- Finite Element Analysis Software (Sap) was employed to simulate the structures.
- Wind and Earthquake load are included in structural design.
- Detail design & shop drawing was done by AutoCAD and Tekha software
- Machine foundation design drawing was drawn using Solidwork

**SERVICE RENDERED : Structural analysis& Design,  
Construction supervision**

**DURATION : 2007-2008**



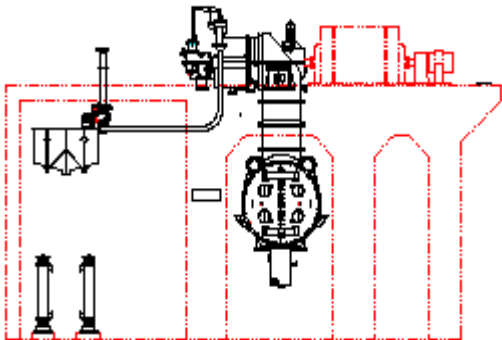




**PROJECT NAME :** Turbine&Generator House  
**LOCATION :** BuaYai, Nakhonratchasima  
**OWNER :** BuaYai Bio Power Co., Ltd.

**DESCRIPTION :**

The scope include structural design of the structure.



**PROJECT NAME :** Swan Factory  
**LOCATION :** Samutprakarn  
**OWNER :** Swan Industries (Thailand) Co., Ltd.




**DESCRIPTION :**

The Works include, but are not limited to, the following elements:

- This Building is 3.50 storeys and have 26,000 sq.m area first floor is Factory area second and third floor is cargo area
- Main structure is reinforce concrete and steel roof truss





<i><b>industrial</b></i>		
<b>PROJECT/OWNER</b>		<b>SCOPE DESCRIPTIONS</b>
	Biomass Dryer Saraburi The Siam Cement (Kaeng Khoi) Co., Ltd.	The scope include structural design of the structrue.
	New Packaging Factory Bangna-Trad Samutprakarn Swan Development Co., Ltd.	The scope includes design of Structure,Civil,Architectural, Electrical, Machanical and construction supervision. Project cost approximately 250 million baht
	New Lorry Loading Laemchabang, Rayong Thai Oil Public Company Limited	The scope includes structure, Civil,,Architectural,Electrical, Machanical design and Project cost approximately 60 million baht
	CP-Meijj Plant Factory Nongkhae, Saraburi CP Meiji Co., Ltd.	The scope includes structure, Civil, Architectural, Electrical, Machanical design and Project cost approximately 500 million baht
	NEXT CAN Factory NhongKhae, Saraburi Swan Development Co., Ltd	The scope includes structure, Civil, Architectural, Electrical, Machanical design and Project cost approximately 400 million baht







**PROJECT NAME :** Mitr Lao Sugar Factory

**LOCATION :** Savannaket, Laos PDR

**OWNER :** MitrLao Co., Ltd.

**DESCRIPTION :**

The scope include

Analysis & design of the structure

- The main objective of this factory is produce raw sugar supply to European
- The product included of 30 building which are.
- Main sugar factory, office & canteen building, staff house, htm morass tank, and etc.

Area summary of the project is around 40,000 sq.m. and the site area is 600 rais



**SERVICE RENDERED :** Structural analysis & design

**DURATION :** July 2007 – December 2007



**PROJECT NAME :** Maesord Clean Energy

**LOCATION :** Maesord, Tark Province

**OWNER :** Mitr Phol Sugar Corp., Ltd.






**DESCRIPTION :**

The scopes are

- Structural and Architect design
- Main objective of this plant is to produce ethanol which has been added to gasoline supplier to fuel's firms which are Main factory buildings, office & canteen building, staff, dormitory building and etc.
- Area summary of the project is around 35,000-40,000 sq.m. and the site , Area is 600 rais





WORK EXECUTION (Strengthening)		
PROJECT/OWNER		SCOPE DESCRIPTIONS
	Fertilizer Plant 2 Suksawad Rd,Samut Prakan Thai Central Chemical Public Company Limited	The scope include Recheck and Strengthening of corrosion R.C. Structure and Construction Project cost approximately 20 million baht
	Hua Seng Heng Building 2 Yaowarat Rd,Bangkok Hua Seng Heng Group	The scope includes structural design of steel building, The scope also include sequence of construction and steel pile installation. Project cost approximately 52 million baht
	Big-C Rajdamri EGV Cinema extention. Rajdamri Road, Bangkok Big-C Supercenter Public Company Limited	The scope includes recheck the existing structure and strengthening design. Project cost approximately 300 million baht.
	Retrofit of Thai Poly Acrylic Factory Nakornprathom Thai Poly Acrylic Public Company Limited	The scope includes strengthening design and inspect existing structure, Underpinning design is also included. Project cost approximately 200 million baht.
	The Office @ Central World Ratchaprasong ,Bangkok Central Pattana Public Company Limited	The scope includes Recheck the existing design,Strengthening existing structure design and design for extension existing building to 50 stories. Project cost approximately 1,250million baht.







WORK EXECUTION (High-rise Building)		
PROJECT/OWNER		SCOPE DESCRIPTIONS
	<p>Blocs 77</p> <p>Soi Sukhumvit 77, Sukhumvit Road, Bangkok</p> <p>Sansiri Public Company Limited</p>	<p>The scope include</p> <p>Structure design 28-Storey building Condominium with the areas of 35,529 sqm2</p> <p>Project cost approximately 680 MB.</p>
	<p>Hive Sathon</p> <p>Sathorn Road, Bangkok</p> <p>Sansiri Public Company Limited</p>	<p>The scope include</p> <p>Analysis &amp; design of the structure</p> <p>Structure design of 28 Storey and 36 Storey</p> <p>Project cost approximately 1,100 MB.</p>
	<p>Hive Taksin</p> <p>Krungthonburi Road, Bangkok</p> <p>Sansiri Public Company Limited</p>	<p>The scope include</p> <p>Analysis &amp; design of the structure</p> <p>Structure design of 28 Storey Building</p> <p>Project cost approximately 570 MB.</p>
	<p>Quattro</p> <p>Soi Thonglor 4 Sukhumvit Road, Bangkok</p> <p>Sansiri Public Company Limited</p>	<p>The scope include</p> <p>Analysis &amp; design of the structure</p> <p>Structure design of 28 Storey and 36 Storey buildings</p> <p>Project cost approximately 1,100 MB.</p>
	<p>The Office@Central World</p> <p>Ratchaprasong Road, Bangkok</p> <p>Central Pattana Public Company Limited</p>	<p>The scope include</p> <p>recheck the existing design, strengthening existing structure</p> <p>design and design for extension existing building to 50 stories.</p> <p>Project cost approximately 1,250 MB.</p>



# *WORK EXECUTION (High-rise Building)*

PROJECT/OWNER		SCOPE DESCRIPTIONS
	Siri Sukhumvit 39 Sukhumvit Road, Bangkok Sansiri Public Company Limited	The scope include Structural design of 31 Story Condominium Project cost approximately 650 MB.
	North Park Condominium Laksi Road, Nonthaburi T.C.C. Capitalland Co.,Ltd	The scope include Structural design of 24 Story Condominium (Value Engineering Design) Project cost approximately 750 MB.
	Villa Sathorn Condominium Sathorn Road, Bangkok T.C.C. Capitalland Co,Ltd	The scope include Structural design of 42 Story Condominium (Value Engineering Design) Project cost approximately 950 million baht.
	Siri Sukumvit 38 Sukumvit Road, Bangkok Sansiri Public Company Limited	The scope include Analysis&design of the Structure Structure design of 35 Story resident Building Project cost approximately 600million baht.
	The Park Ventures Sukumvit Road, Bangkok Univentures Public Company Limited	The scope include Analysis&design of the structure Structure design of 35 Story resident Building Project cost approximately 2,500 million baht







WORK EXECUTION (High-rise Building)		
PROJECT/OWNER		SCOPE DESCRIPTIONS
	Fuse Sathorn-Taksin Sathorn Road, Bangkok Pruksa Real Estate Public Company Limited	The scope include Analysis & design of the structure Structure design of 27-30 Storey Building Project cost approximately 1,100 MB.
	Keyne by Sansiri Sukhumvit Road, Bangkok Sansiri Public Company Limited	The scope include Analysis & design of the structure Structure design of 28 Storey Project cost approximately 800 MB..
	Pyne by Sansiri Phayathai Road, Bangkok Sansiri Public Company Limited	The scope include Analysis & design of the structure Structure design of 42 Storey Project cost approximately 1,900 MB.
	Teal Sathorn-Taksin Krungthonburi Road, Bangkok Sansiri Public Company Limited	The scope include Analysis & design of the structure Structure design of 27 Storey Building Project cost approximately 1,100 MB.
	White Sand Beach Pattaya, Chonburi APX Development Public company Limited.	The scope include Structural design of 35 Story, Building There is a transferred floor at level 6 <sup>th</sup> . Project cost approximately 840 MB.



## Strengthening

PROJECT NAME : Central World Tower, 50-story Height

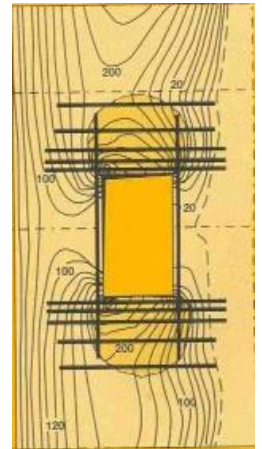
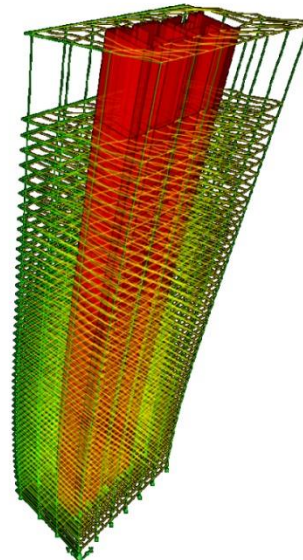
LOCATION : Bangkok, Thailand

OWNER : Central Pattana Property Investment & Development

### DESCRIPTION :

The scope include analysis & design of the structure, recheck the integrity of the existing structure and strengthening.

- Finite element analysis software (Staad, Sap, Etabs) was employed to simulate the structures.
- Detail design was done by using AutoCAD
- Strengthening of existing of existing beam and slab using cfrp (carbon fiber reinforced polymer).
- Project cost approximately 1,250 million baht.



**SERVICE RENDERED :** Structural analysis & Design

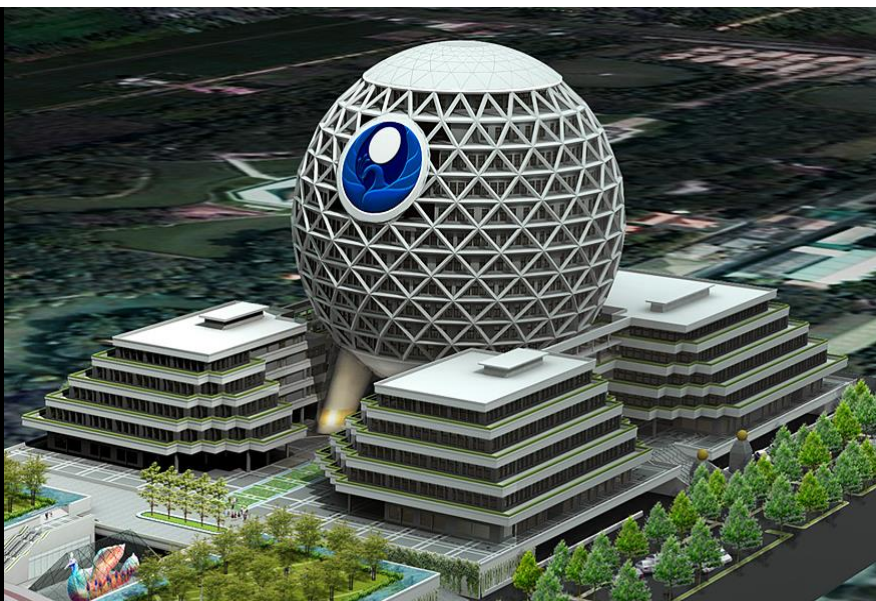
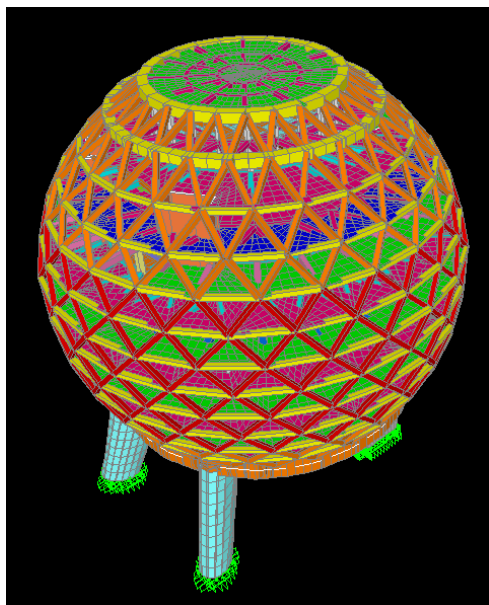
**DURATION :** April 2003 – November 2004







## Dhammakaya 100 year khun-yai building



**Client:** Ritta construction

**Project Description:** Upon completion the building will be one of the world biggest standing concrete sphere structure and the very first sphere office building. It stand 95 meters tall and 81 meters wide and contain office floors, car parks, conference rooms, schools, tv studios and museum.

**Project Scope:** Original design revision, proposed new detail design

**Project Cost:** 1200M baht

**Project duration:** 2010-2012

**Location:** Pathumthani





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# **WATER RESOURCE**







## Feasibility Studies for Chanthaburi River Management

Chanthaburi has vast fertile land, which is very suitable for agriculture. Those agricultural products make ten of million baht income every year.

Despite that, these areas have heavy rainfall (approximately 2183.36 mm<sup>2</sup> per year) many still facing water shortage due to lack of proper water management.

Therefore, it is necessary to find the solution for the water management system once and for all.

### Objective

Our objectives are to set up water management system, to increase agriculture and industry productivity and to better the people's quality of life.

### Goal

Analytical report shall be made. The report will contain solution for the problem including study of water supply from Chanthaburi River and need in each area especially during the summer. Moreover, the study will propose solution that produces less impact on environmental and the local.

### Study Scope

- Exploring physical condition of Chanthaburi River and mapping the areas
- Make preliminary study on engineering aspect as follow: Hydrology, Civil, Geology and other necessary subjects.
- Environmental study and the impact on cultivation also propose conceptual plan for water management system.
- Study the existing water management system
- Study on the water containing method such as a dam, ladder dam or catchments areas also include EIR and cost-estimation
- Feasibility study, Preliminary design and Cost-estimation for possible water storage facility in Tambon Jantaklam, Tambon Ta Kien Tong, King Amper Kaow Kisku etc.





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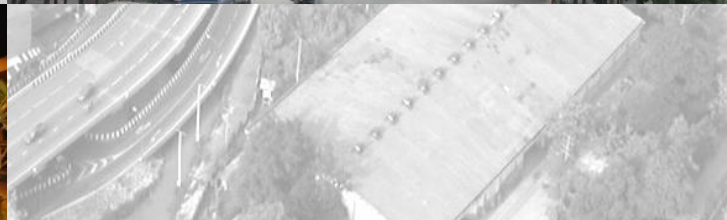
เรา UDC... จะเป็นผู้ให้บริการด้านวิศวกรรมที่ปรึกษา  
ด้วยเทคโนโลยีที่ทันสมัย  
เพื่อคุณภาพตามมาตรฐานสากล  
เราจะปรับปรุงประสิทธิภาพในการบริการอย่างต่อเนื่อง  
ด้วยระบบรับประกันคุณภาพ  
เพื่อมอบความพอใจสูงสุดแก่ลูกค้า

”

“

We, at UDC... are committed to providing  
Professional services in engineering consultants.  
We will ensure excellence service quality of  
International standard.  
We will fulfill these responsibilities to all our  
Clients by continually developing and  
Maintaining effective and productive Quality  
Assurance System.  
To fulfill our customers utmost expectation.

”







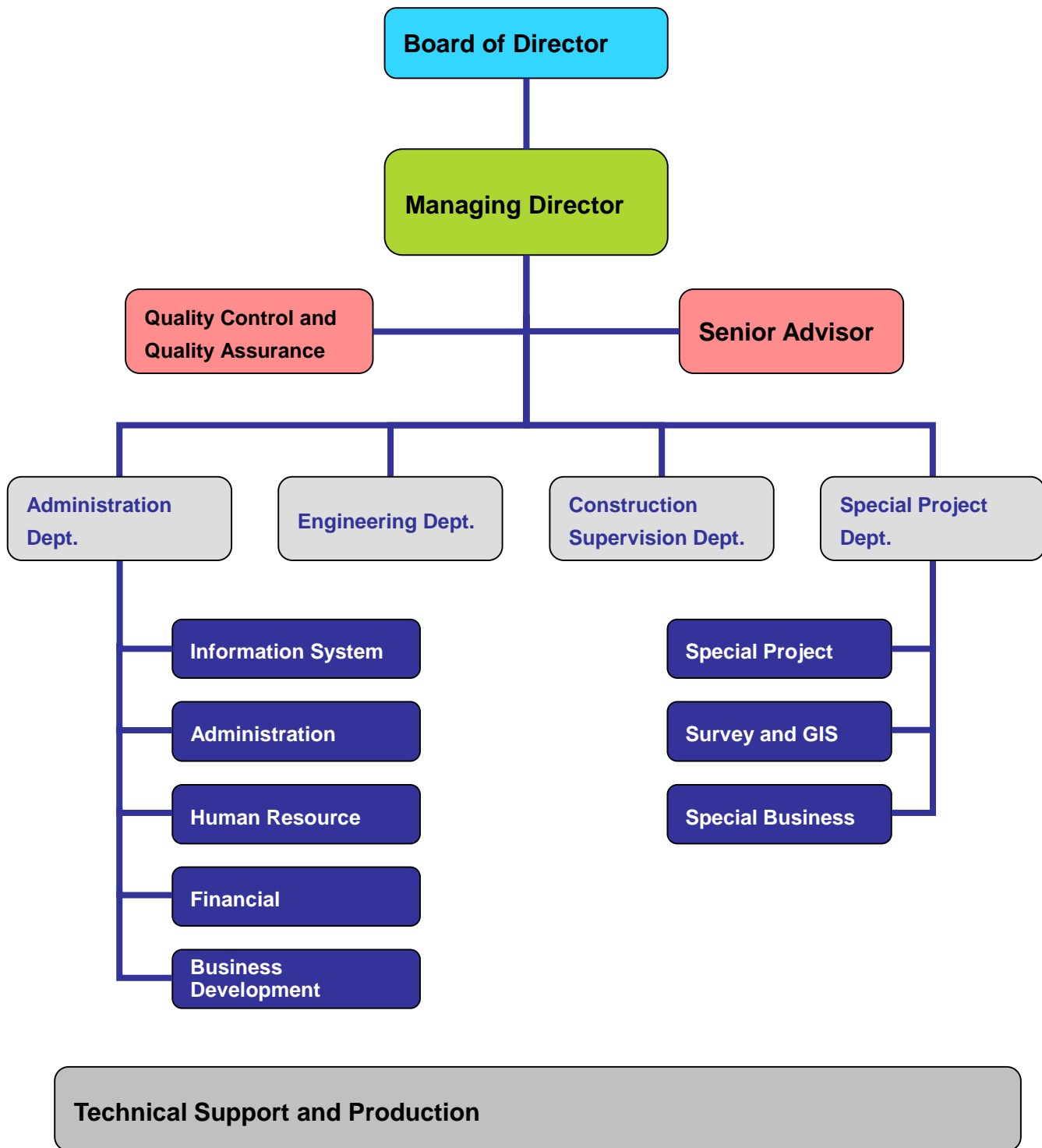
## Vision

We aspire to ensure excellence service quality met with international standard and quality assurance system

## Benefit for our customer

1. Our structural evaluation and integrated services can help control and minimize construction costs and improve effectiveness with less downtime.
2. Our state-of-the-art computer technology, in-depth and expansive research Database guarantees cutting-edge analysis and information.
3. We are modernly equipped with electronic data transfer technology
4. Our value-added service ensure customer's full satisfaction
5. Our professional consultants are available either on-line, or travel to your site anywhere and to meet with you on short notice. We will serve you with rapid response and flexibility.







[www.udc.co.th](http://www.udc.co.th)



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