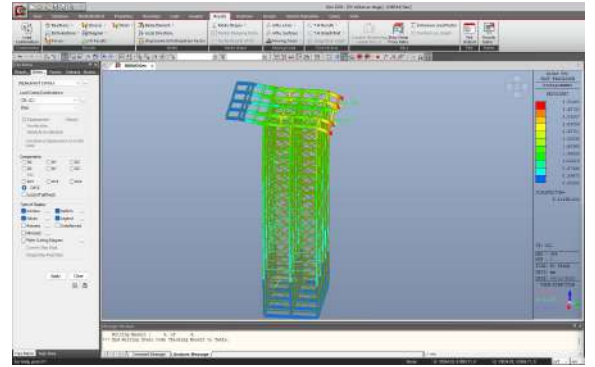
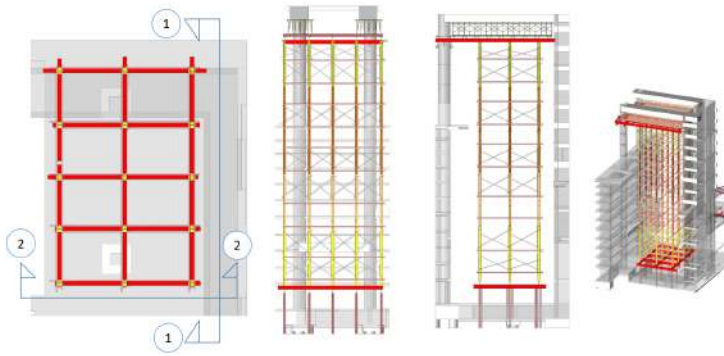
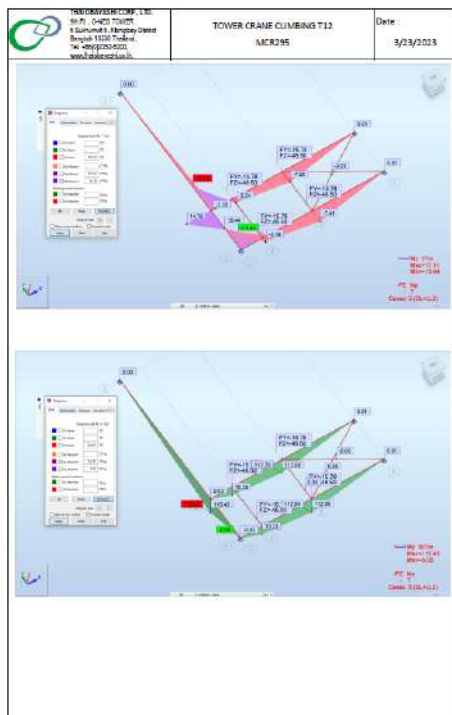


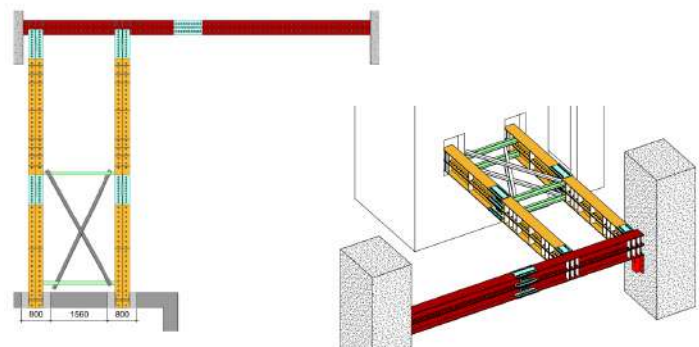
Portfolio: Natthapong Bamrungchaeng



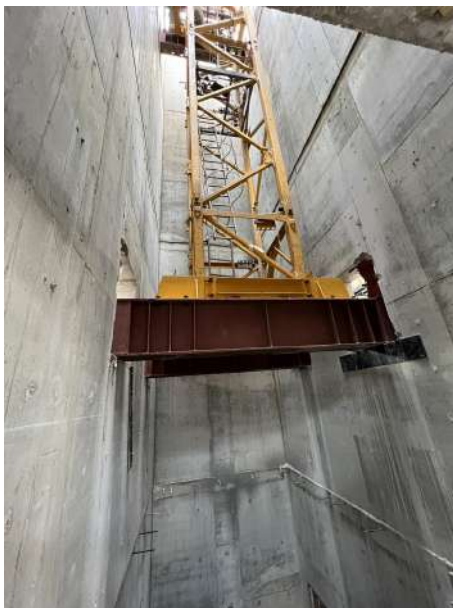
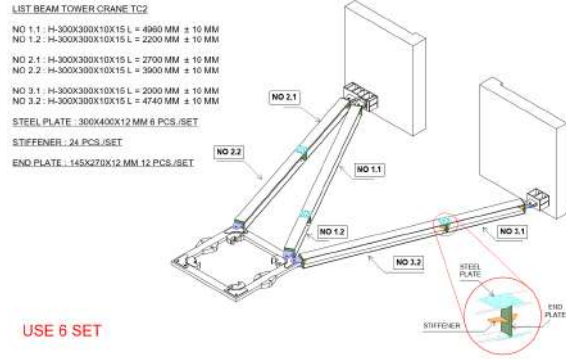
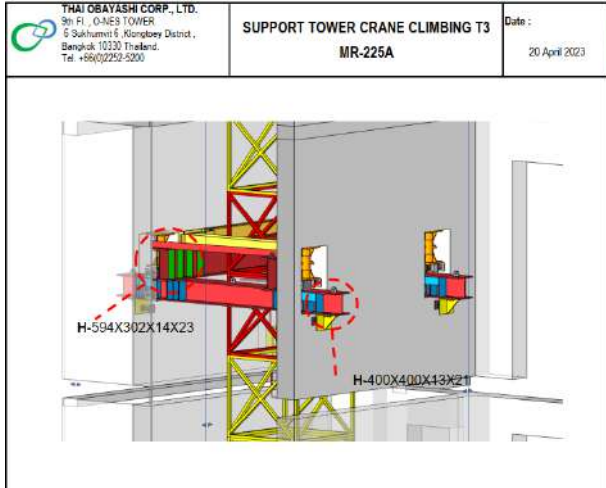
Planning and calculation temporary support rc-beam by midas-gen and revit



Calculation support climbing tower crane potain mr295 by robot analysis and revit



Calculation and shop for fabrication tie-in, support beam tower crane by calculation sheet and revit



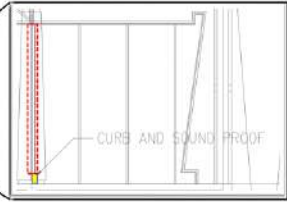
THAI OBAYASHI CORPORATION LTD. 3rd Fl., ONE'S TOWER 5 Sukhumvit 8, Klongtoey District, Bangkok 10330 Thailand Tel: +66(0)2252-5200 www.thaiobayashi.com.th	ANCHORAGE BEAM T2 0	Date: 14 February 2023
<p>Pin Bolt & Joint Plate Design</p> <p>Max. Shear, (V) = 42,420.85 kg</p> <p>1) Check Pin Bolt Shear Allowable in Pin Grade SS400 $F_v = 0.4F_y = 960.00 \text{ ksc}$</p> <p>Use Pin Bolt Diameter = 60 mm</p> $V = F_v \times n \times m \times A_p \quad n = 1 \text{ Bolt}$ $= 960 \times 1 \times 2 \times \frac{\pi}{4} \times d^2 \quad m = 2 \text{ Plane}$ $= 54,286.73 \text{ kg} > 42,420.85 \text{ kg} \quad \text{OK}$ <p>Ø Hole = 6.69 cm</p> <p>2) Check Steel Plate at Joint Plate Steel Plate Thickness, (t) = 12 mm (grade SS400) Width of Steel Plate, (b) = 30 cm Gross Area, (A_g) = 0.91 m² Net Area, (A_{net}) = 29.98 cm² Tension Area, ($A_{tension}$) = 14.04 cm² Shear Area, (A_v) = 14.04 cm²</p> <p>Case 1: Steel Plate Failure $F_t = 0.6 F_u A_g$ $F_t = 91,840.00 \text{ kg}$</p> <p>Case 2: Hole Failure $F_t = 0.9 F_u A_{net}$ $F_t = 56,182.00 \text{ kg}$</p>		

THAI OBAYASHI CORP., LTD. 3rd Fl., ONE'S TOWER 5 Sukhumvit 8, Klongtoey District, Bangkok 10330 Thailand Tel: +66(0)2252-5200 www.thaiobayashi.com.th	SUPPORT TOWER CRANE CLIMBING T3 MR-225A	Date: 20 April 2023
<p>3 Beam design</p> <p>3.1 Size require $F_{vw} = 1.25 \times 0.66F_v = 1980 \text{ ksc}$ $F_{wt} = 1.25 \times 0.75F_v = 2250 \text{ ksc}$ 75% for temporary</p> $S_{vw} = \frac{M_w}{F_w} = \frac{22.9 \times 1000 \times 10^6}{2250} = 10177.78 \text{ cm}^3$ $S_{wt} = \frac{M_t}{F_w} = \frac{6.8 \times 1000 \times 10^6}{2250} = 3022.22 \text{ cm}^3$ <p>USE 401 x 400 H = 40 cm A = 218.7 cm² L = 6030 cm² B = 40 cm W = 17.2 kg/m I_x = 22490 cm⁴ I_y = 13 cm r_x = 330 cm I_p = 3600 cm⁴ t = 2.1 cm I_y = 1128 cm S_y = 1695 cm³</p> <p>3.2 Check compact section $\frac{h}{t_w} = 0.5208 \times \frac{\sqrt{E}}{F_y} = 11.88 \text{ OK}$ $\frac{d}{t_w} = 27.54 \times \frac{\sqrt{E}}{F_y} = 105.6 \text{ OK - Compact Section}$ PRODUCT RB</p> <p>3.3 Check side sloughing distance CLOUD ELEVATION Link# $L_s = 1.44d_s \times \frac{\sqrt{E}}{F_y} = 517.8 \text{ cm} \geq L = 450 \text{ cm} \quad \text{OK - ADDING STIFFENER}$ $= 0.896 \times \frac{\sqrt{E}}{F_y} = 1370 \text{ cm} \times L = 450 \text{ cm} \quad \text{OK}$ Side sloughing enough</p> <p>Conclude : $F_{vw} = 1980 \text{ ksc}$ $F_{wt} = 2250 \text{ ksc}$ 75% for temporary</p>		

Planning construction method and schedule renovation siam paragon

Construction Method

1. ติดตั้งค้ำชั่วคราว curbs และกำแพงกันเสียง
 ติดตั้ง Sound proof ฉนวนกันเสียง
 Temporary wall and sound proof for renovation




CURB AND SOUND PROOF

THAI OBIYASHI

Construction Method

2. หนัก Tower Crane

3. ติดตั้งค้ำและใช้ Tower Crane ภายใต้อ่าง
 Shoring และใช้ Tower Crane ใต้อ่าง



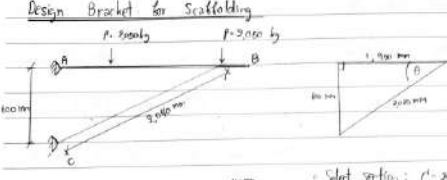
Master Schedule

DESCRIPTION	YEAR 1												YEAR 2											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Preparation/Site Mobilization	[Gantt bar]												[Gantt bar]											
ET Demolition installation EP by step	[Gantt bar]												[Gantt bar]											
CDK Demolition installation	[Gantt bar]												[Gantt bar]											
Tower crane installation	[Gantt bar]												[Gantt bar]											
Structural Reinforcement	[Gantt bar]												[Gantt bar]											
Tower crane base Protection	[Gantt bar]												[Gantt bar]											
T/O Gates, Finishing, MEP	[Gantt bar]												[Gantt bar]											
Remove some part of old truss	[Gantt bar]												[Gantt bar]											
Par: L/F steel truss	[Gantt bar]												[Gantt bar]											
Special roofing	[Gantt bar]												[Gantt bar]											
Installation scaffolding under old truss for steel	[Gantt bar]												[Gantt bar]											
Ship Drawing	[Gantt bar]												[Gantt bar]											
Material Order	[Gantt bar]												[Gantt bar]											
Fabrication Drawing	[Gantt bar]												[Gantt bar]											
Fabrication	[Gantt bar]												[Gantt bar]											
Remove old truss without crane	[Gantt bar]												[Gantt bar]											
Architect / Interior work	[Gantt bar]												[Gantt bar]											
Take off protection / Inspection	[Gantt bar]												[Gantt bar]											

Calculation support beam for external protection Nantawan building by hand and SUT Analysis

Design Bracket for Scaffolding

Reaction: $R_A = 9,225 \text{ kg}$, $R_B = 3,925 \text{ kg}$



Solution from SUT

- Reaction: $R_{Ax} = 9,225 \text{ kg}$, $R_{Bx} = 9,225 \text{ kg}$, $R_{Ay} = 1,502 \text{ kg}$, $R_{By} = 3,925 \text{ kg}$
- Deflection: 0.158 cm
- Moment Maximum: $9,456.95 \text{ kg-cm}$
- Shear Maximum: $1,261.59 \text{ kg}$
- Axial force: $9,225 \text{ kg}$

Stress Calculation

① Tension of chord Member AB

$$T = \frac{P_L + P_R}{h} = \frac{9,502(750 + 1,150)}{100} = 9,225 \text{ kg}$$

② Compressive force of Diagonal Member

$$N = T \cdot \frac{1}{\cos \theta} = \frac{9,225}{0.98} = 9,451 \text{ kg}$$

Design Subbeam

Selection: $d = 200 \times 200 \times 10 \text{ mm}$; $I_x = 2,000 \text{ cm}^4$

Properties: $A = 39.85 \text{ cm}^2$, $I_x = 2,000 \text{ cm}^4$, $W_x = 249 \text{ cm}^3$

Spanning of the beam: 3.2 m

From scaffolding load: $P = 800 \text{ kg/m}$ (uniformly weight) $\rightarrow 2,560 \text{ kg}$

SUT

① Reaction from SUT: $R_A = 2,041.5 \text{ kg}$, $R_B = 3,518.5 \text{ kg}$

② $V_{max} = \frac{MP + wL^2}{L} = \frac{11,760 + 800 \times 3.2^2}{6.4} = 621.42 \text{ kg}$

③ $M_{max} = \frac{PL}{4} + \frac{wL^2}{8} = \frac{2,560 \times 3.2}{4} + \frac{800 \times 3.2^2}{8} = 5,120 \text{ kg-cm}$

④ Deflection from SUT: 0.024 cm

Check Beam Section

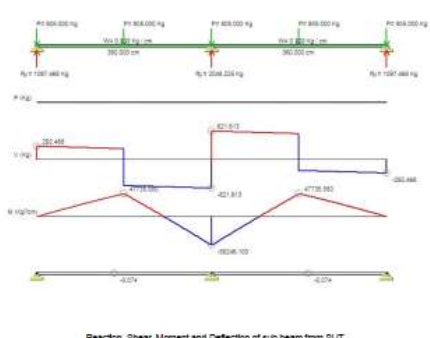
Check section check: $\frac{b}{h} \leq \frac{100}{\sqrt{f_y}}$

$\frac{200}{200} \leq \frac{100}{\sqrt{235}}$ OK

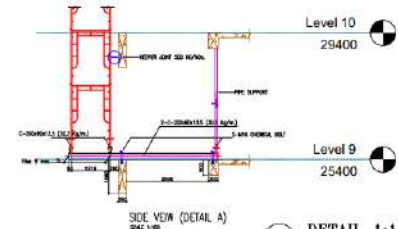
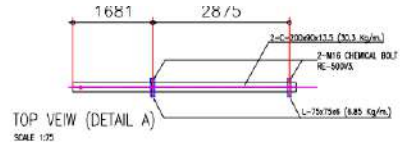
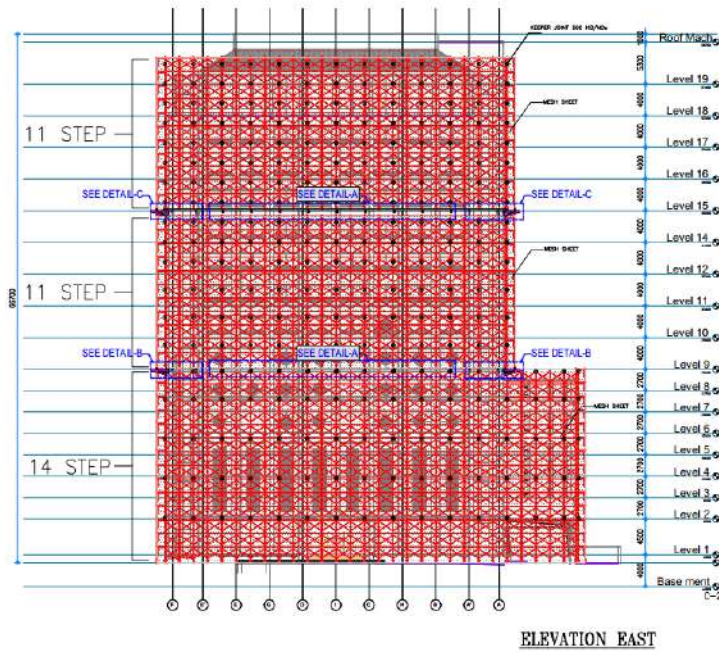
$\frac{d}{t_w} \leq \frac{200}{\sqrt{f_y}}$ OK

$\frac{200}{10} \leq \frac{200}{\sqrt{235}}$ OK

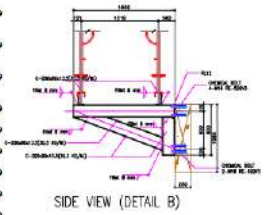
So this section is Check section



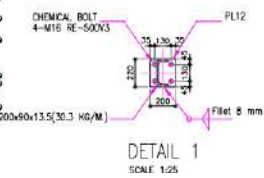
CONDITION : MAXIMUM INSTALL SCAFFOLDING ON BEAM = 11 LAYER.
 MAXIMUM INSTALL SCAFFOLDING ON GROUND = 15 LAYER.
 WORKING ON 2 LAYER AT A TIME. (LIVE LOAD ON SCAFFOLDING 140 kg./sq.m.)



A DETAIL 1:100

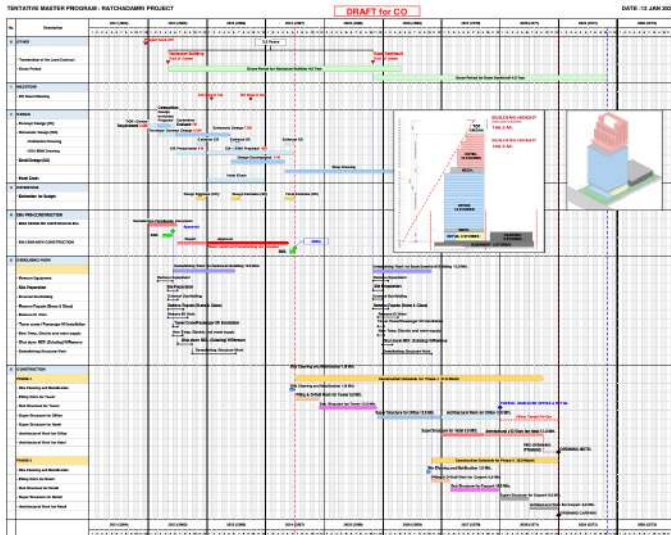


FRONT VIEW (DETAIL B) SCALE 1:50



B DETAIL 1:50

Schedule part of demolishing nantawan building



Schedule and construction sequence for big c warehouse

Construction Sequence

Site Mobilization and Temporary Work

CONSTRUCTION

PROJECT: B18-002-21 Project | OWNER: FRAZER PROPERTY INDUSTRIAL (THAILAND) PUBLIC COMPANY LIMITED | DATE: 31-Mar-22 | DRAWING NO.: Sequence | PAGE: 28

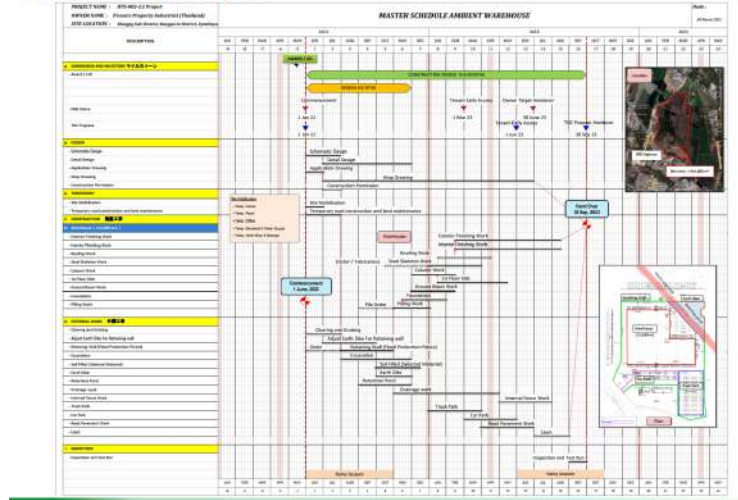
Construction Sequence

Temporary Road and Retaining Wall

CONSTRUCTION

PROJECT: B18-002-21 Project | OWNER: FRAZER PROPERTY INDUSTRIAL (THAILAND) PUBLIC COMPANY LIMITED | DATE: 31-Mar-22 | DRAWING NO.: Sequence | PAGE: 29

Master Schedule



Construction method for connection building central embassy 2

Top Steel Skeleton Connect Method Statement

PROJECT: CENTRAL EMBASSY 2 | OWNER: CPN AND HKL CO., LTD | DATE: 15-Mar-22 | PAGE: 2

Connect Top Steel Skeleton Method Statement

Side View of Steel Skeleton Installation

- Temp. Stage and scaffolding installation
- Beam with temp. bracing installation
- Adjustable temp. steel
- Connection element with column joint installation
- Column installation by telekate ace
- Beam installation
- Column installation by telekate ace
- Connection element installation

PROJECT: CENTRAL EMBASSY 2 | OWNER: CPN AND HKL CO., LTD | DATE: 15-Mar-22 | PAGE: 3

Quality control and check construction work on site field Cloud 11 Project

