

DAFTAR PUSTAKA

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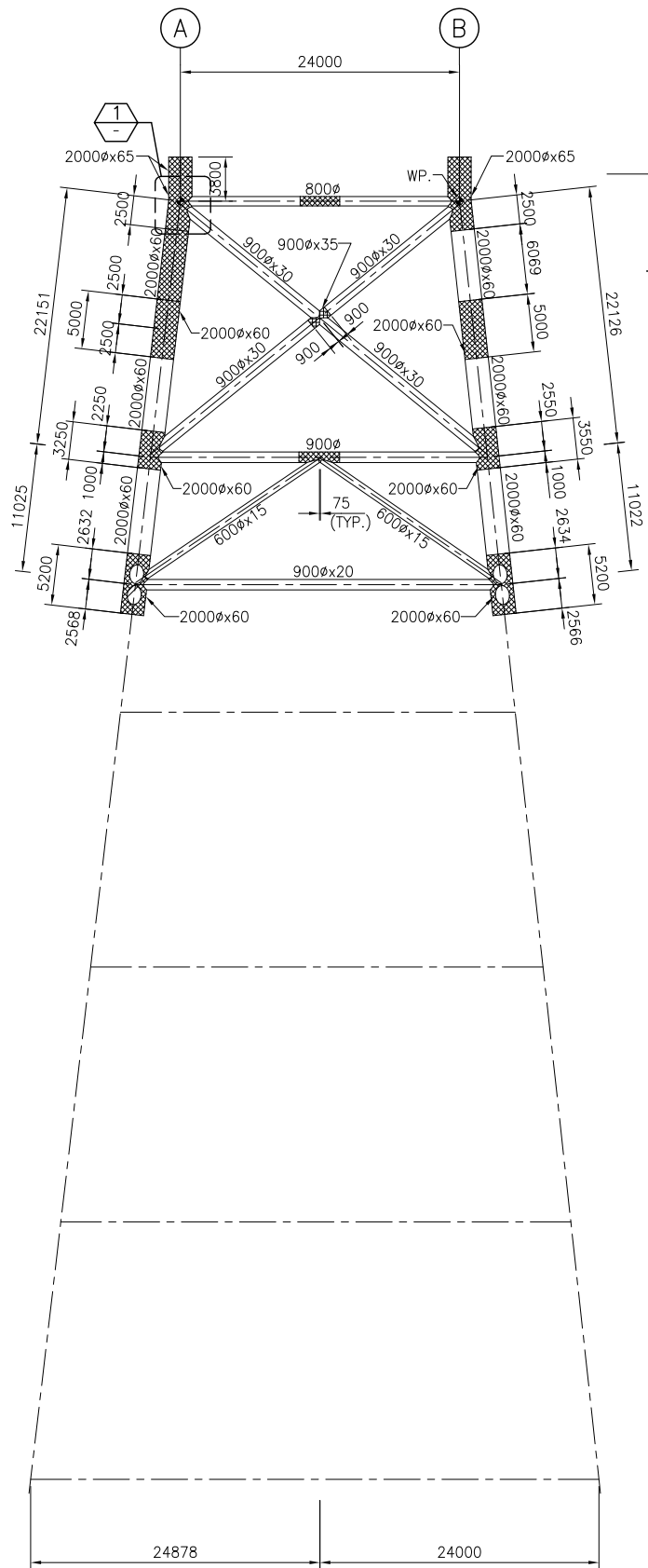
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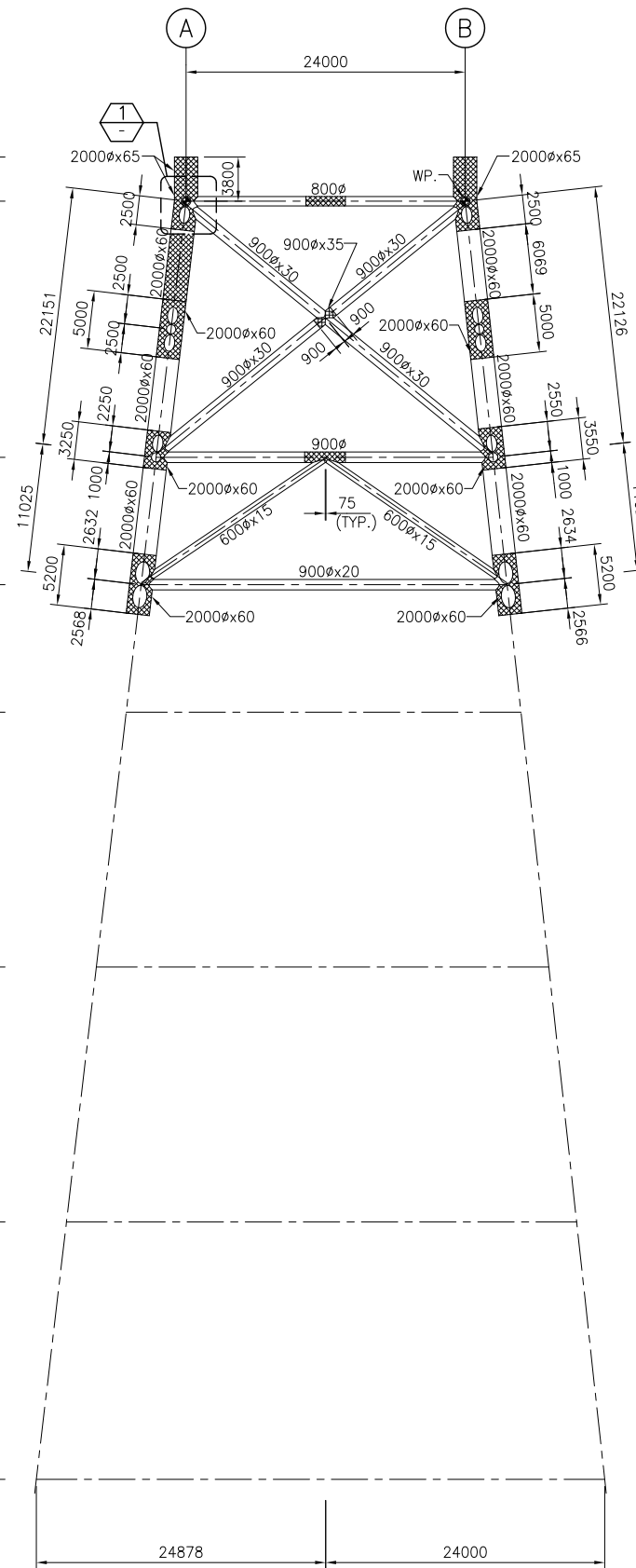
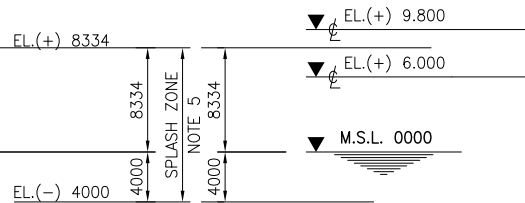
LAMPIRAN A

JACKET DRAWING

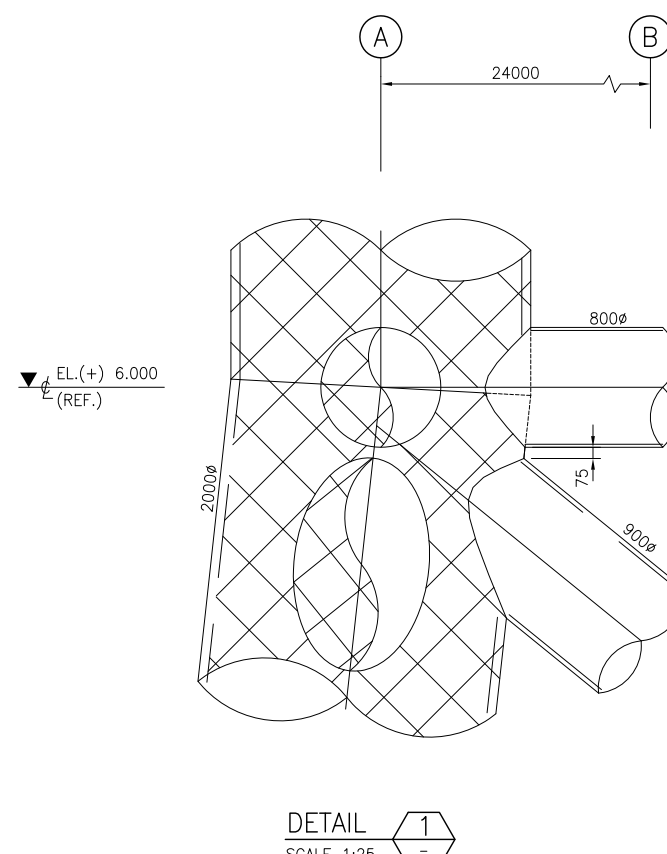
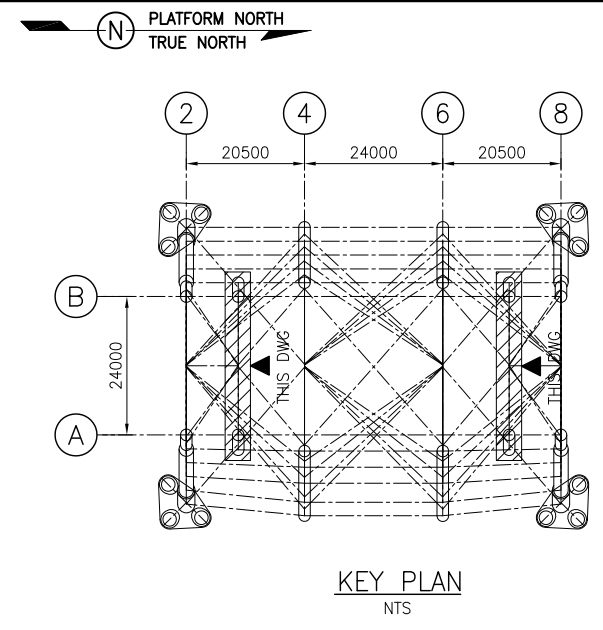




ELEVATION ROW 3
SCALE 1:300



ELEVATION ROW 7
SCALE 1:300



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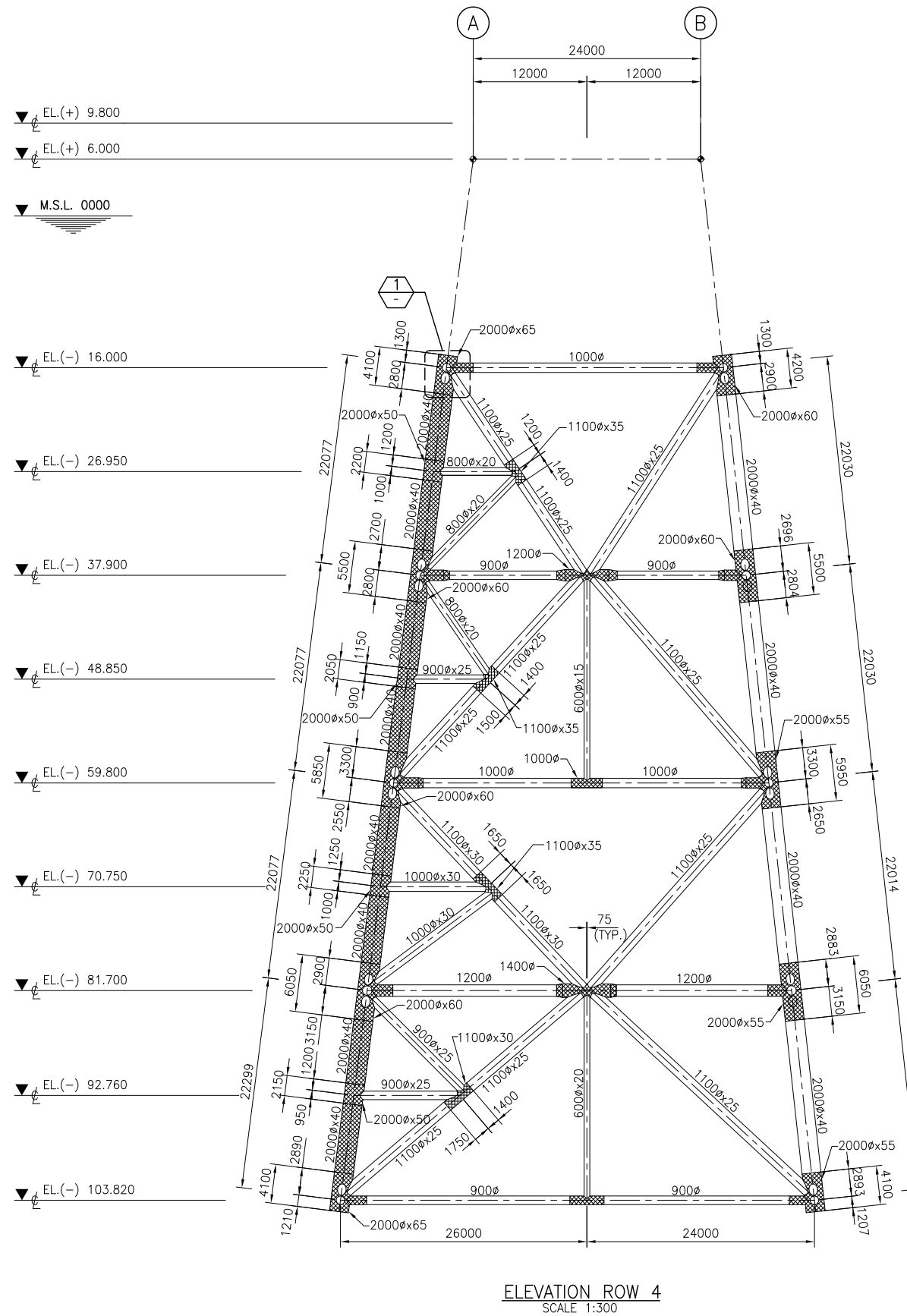
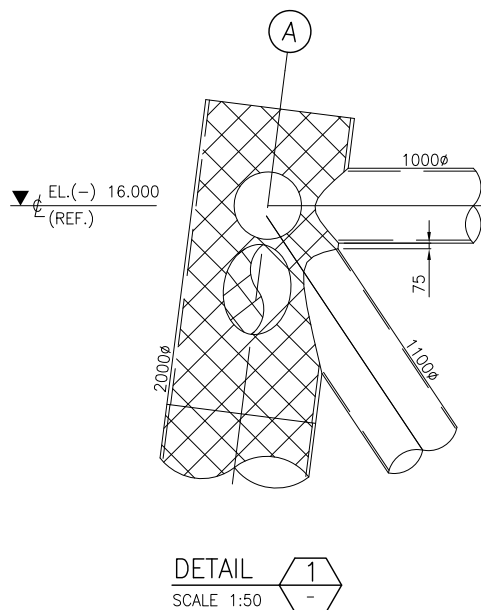
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- SPLASH ZONE INCLUDING INSTALLATION TOLERANCE AND SUBSIDANCE

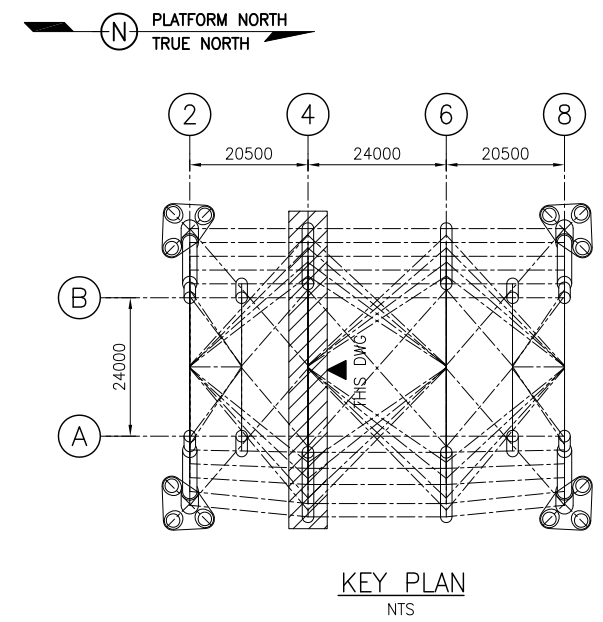
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ELEVATION ROW 4
SCALE 1:300



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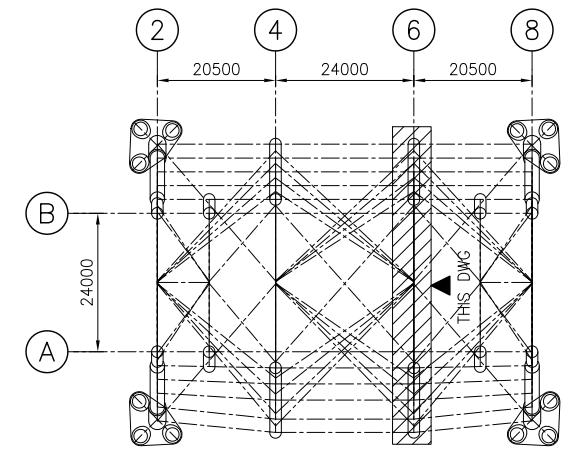
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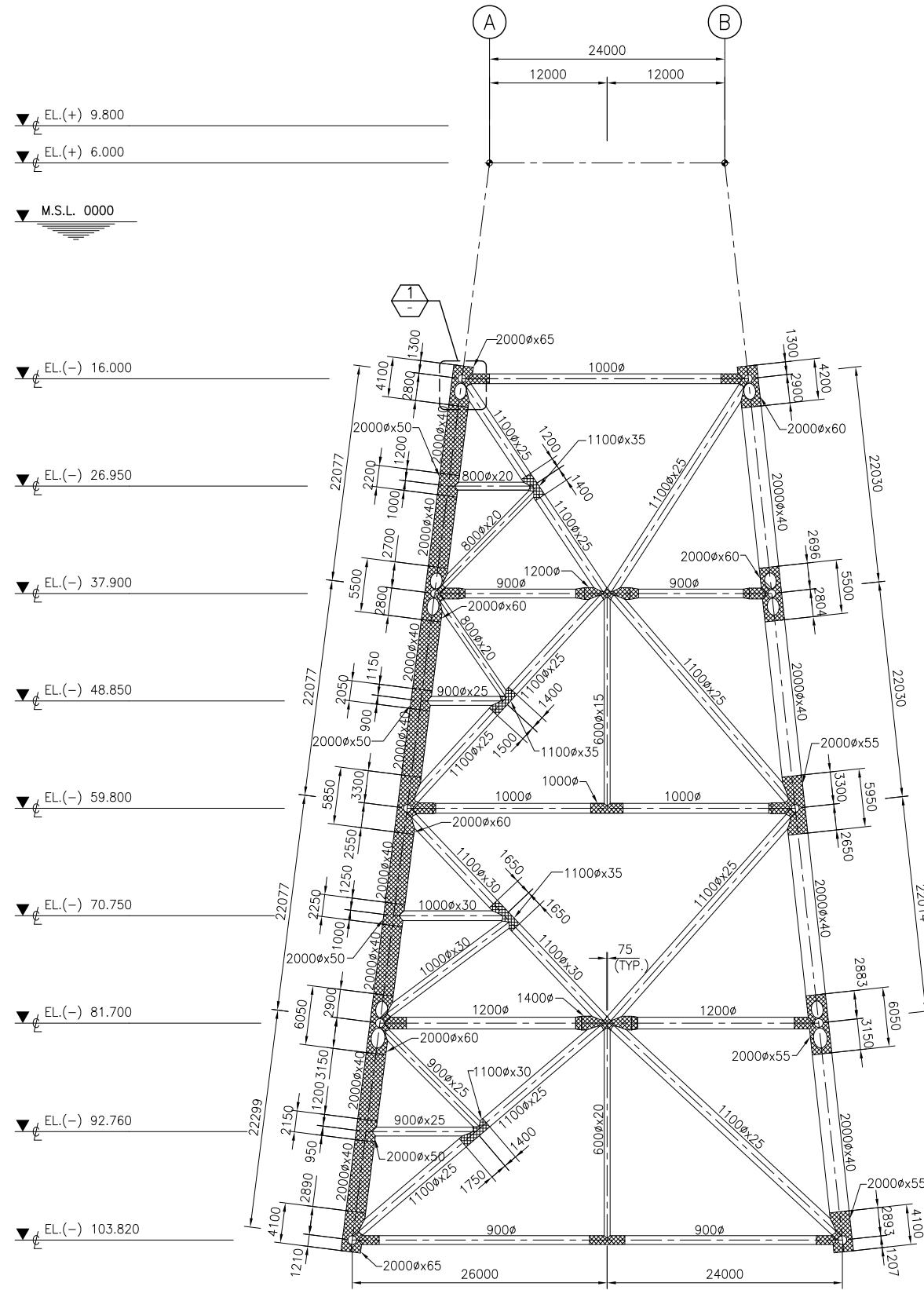
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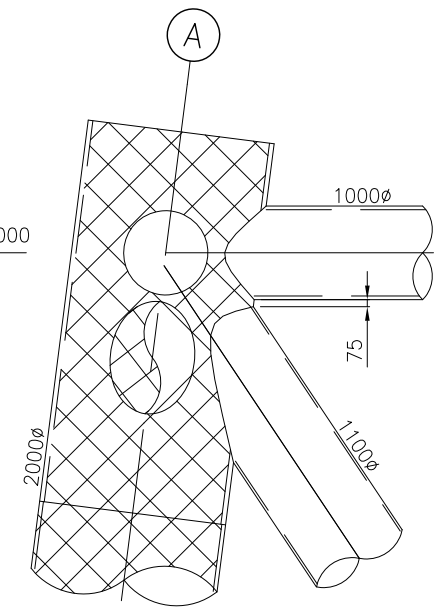
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KEY PLAN
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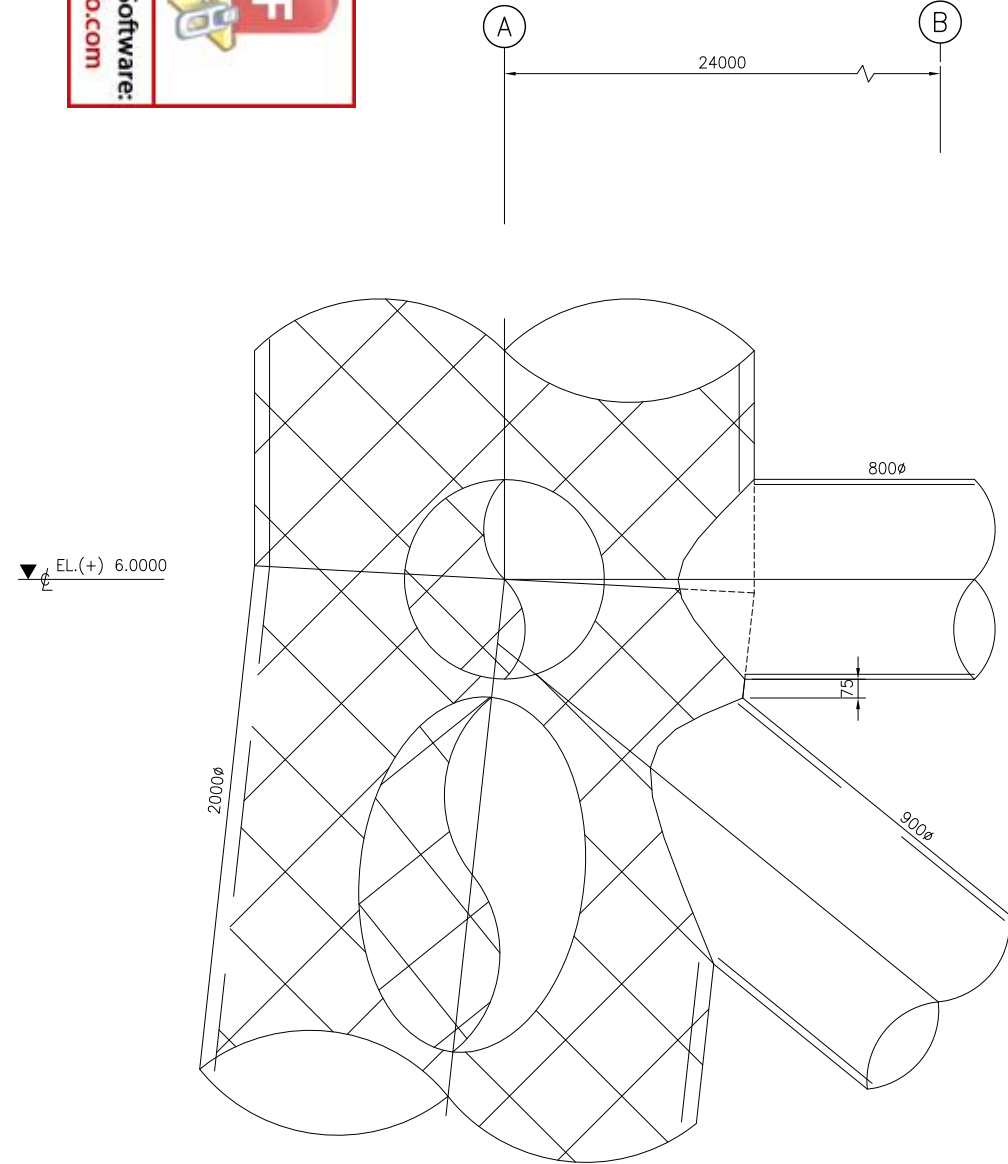
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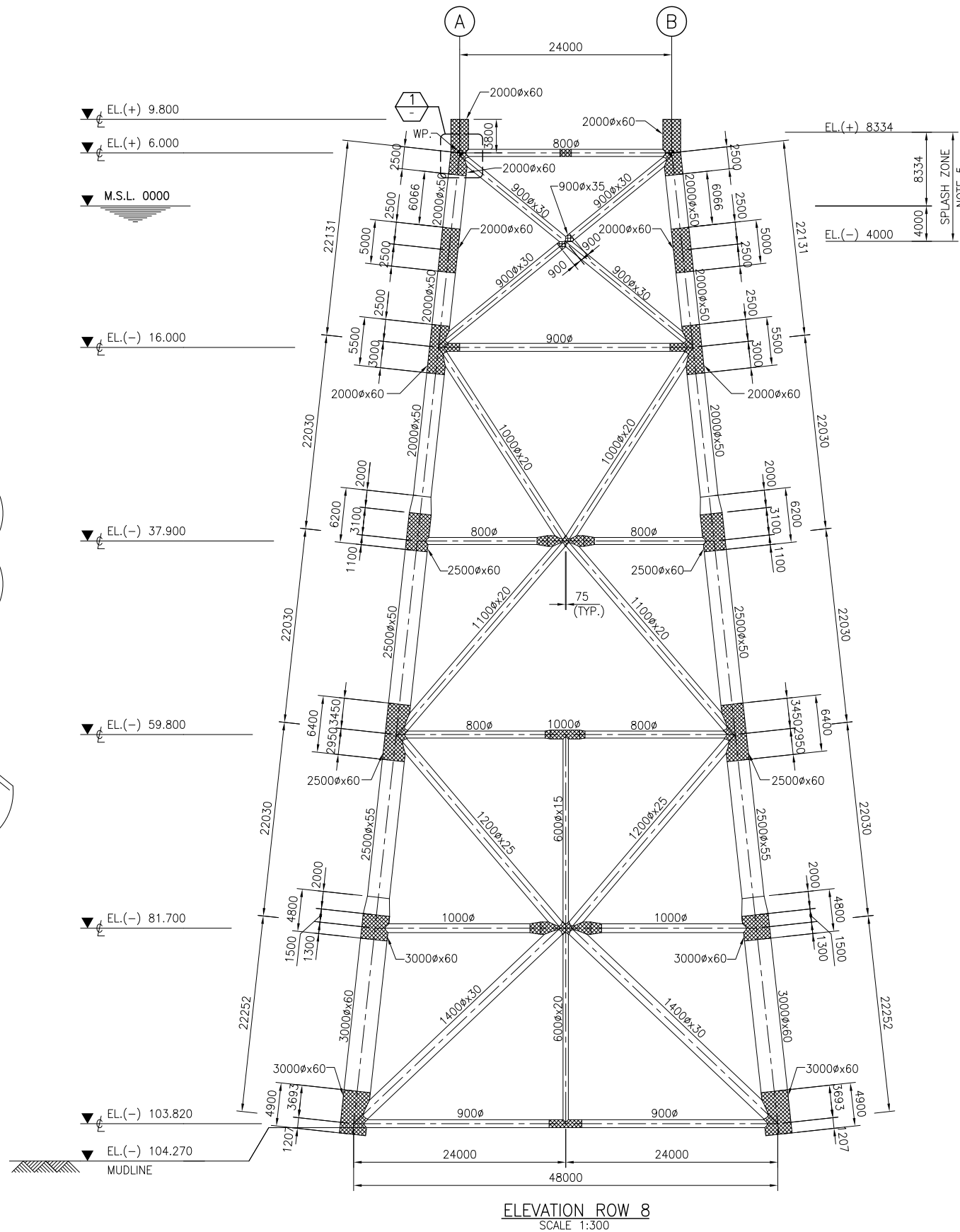
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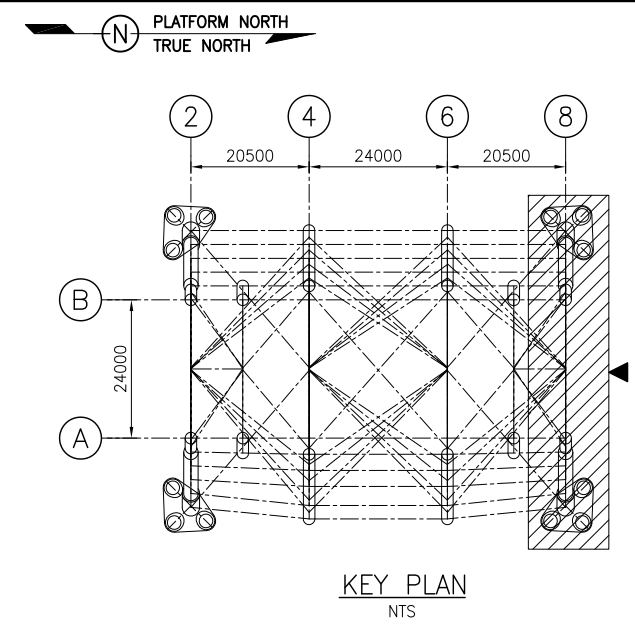
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DETAIL 1
SCALE 1:15



ELEVATION ROW 8
SCALE 1:300



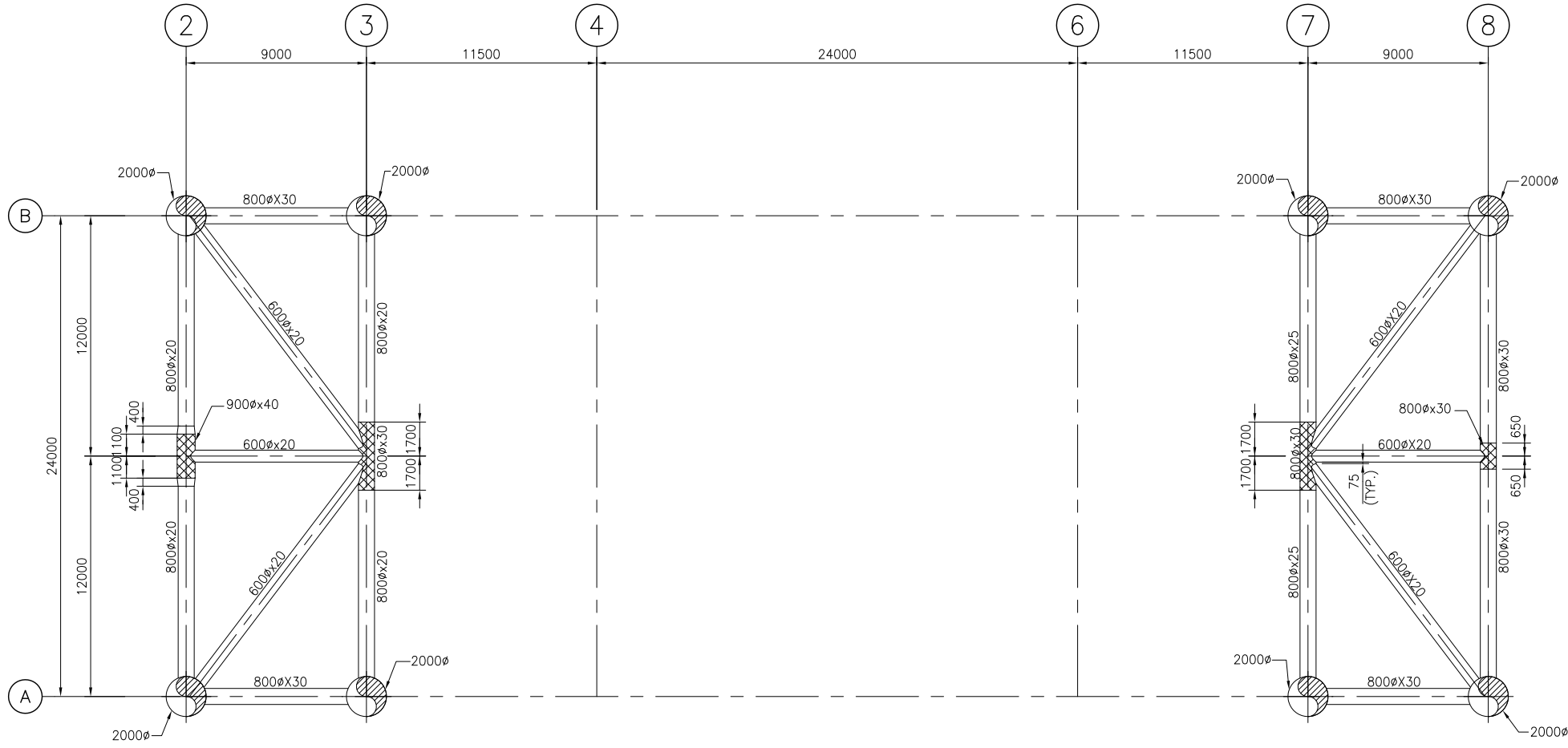
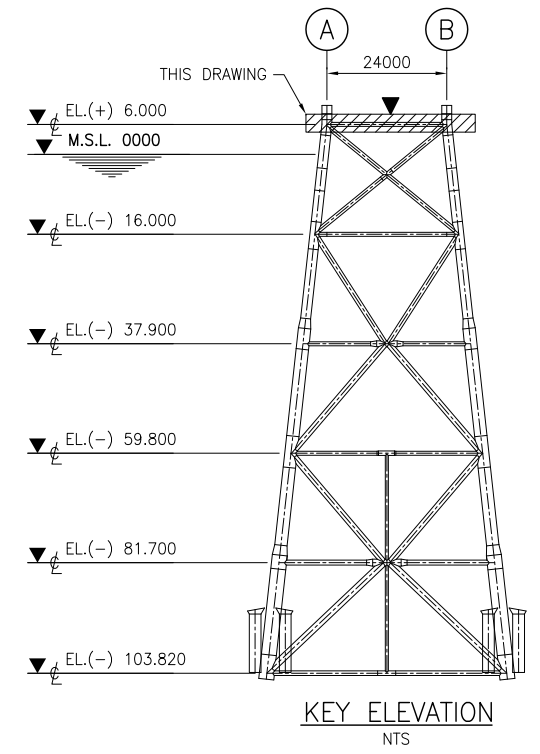
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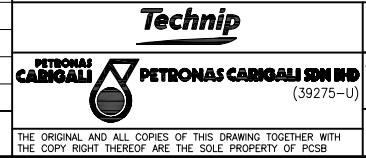
HORIZONTAL FRAMING PLAN AT CL EL (+)6.000
SCALE 1:150

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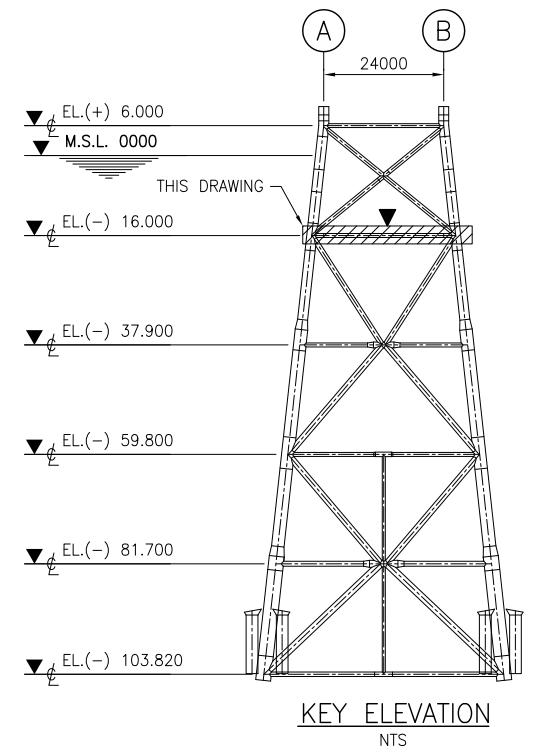
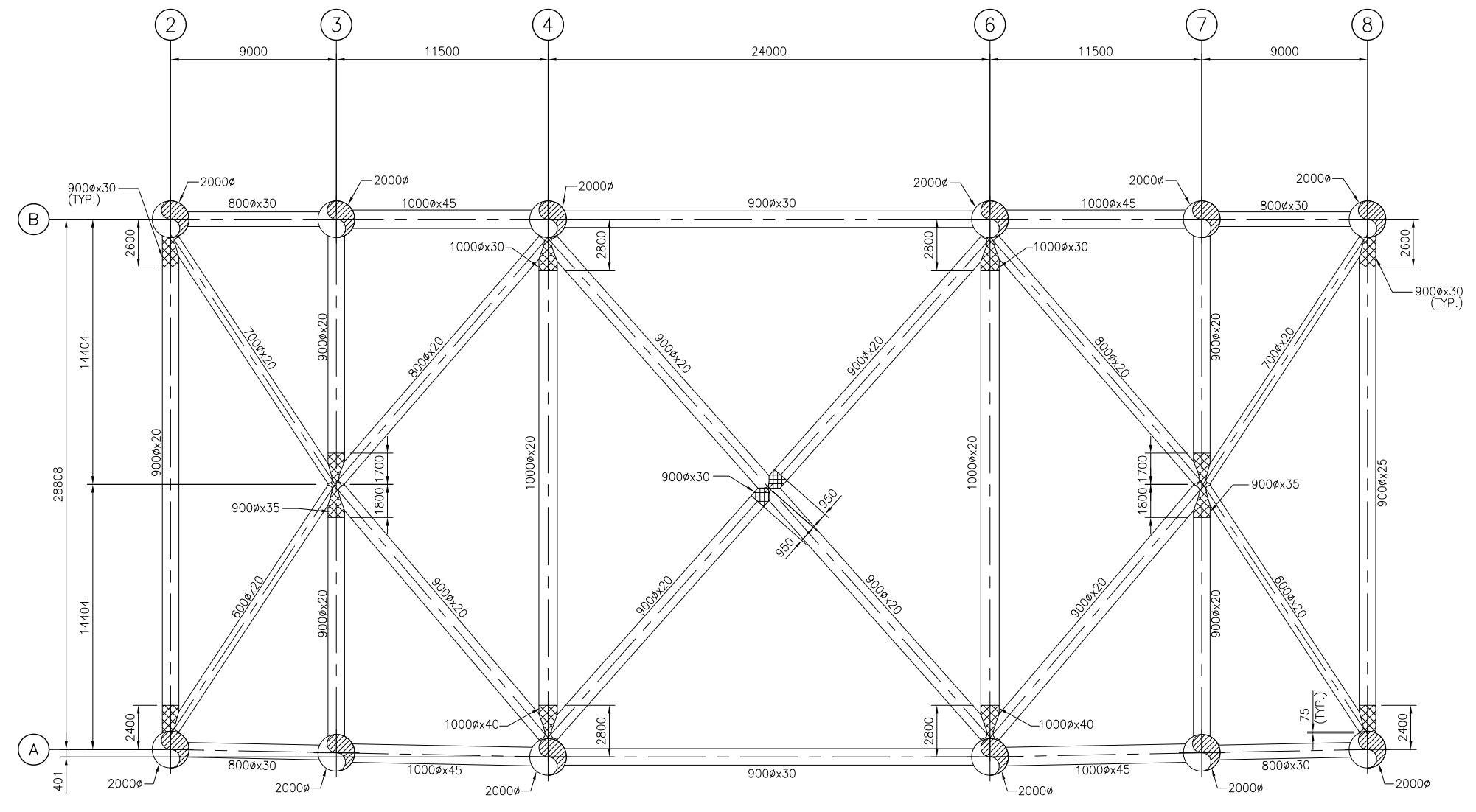
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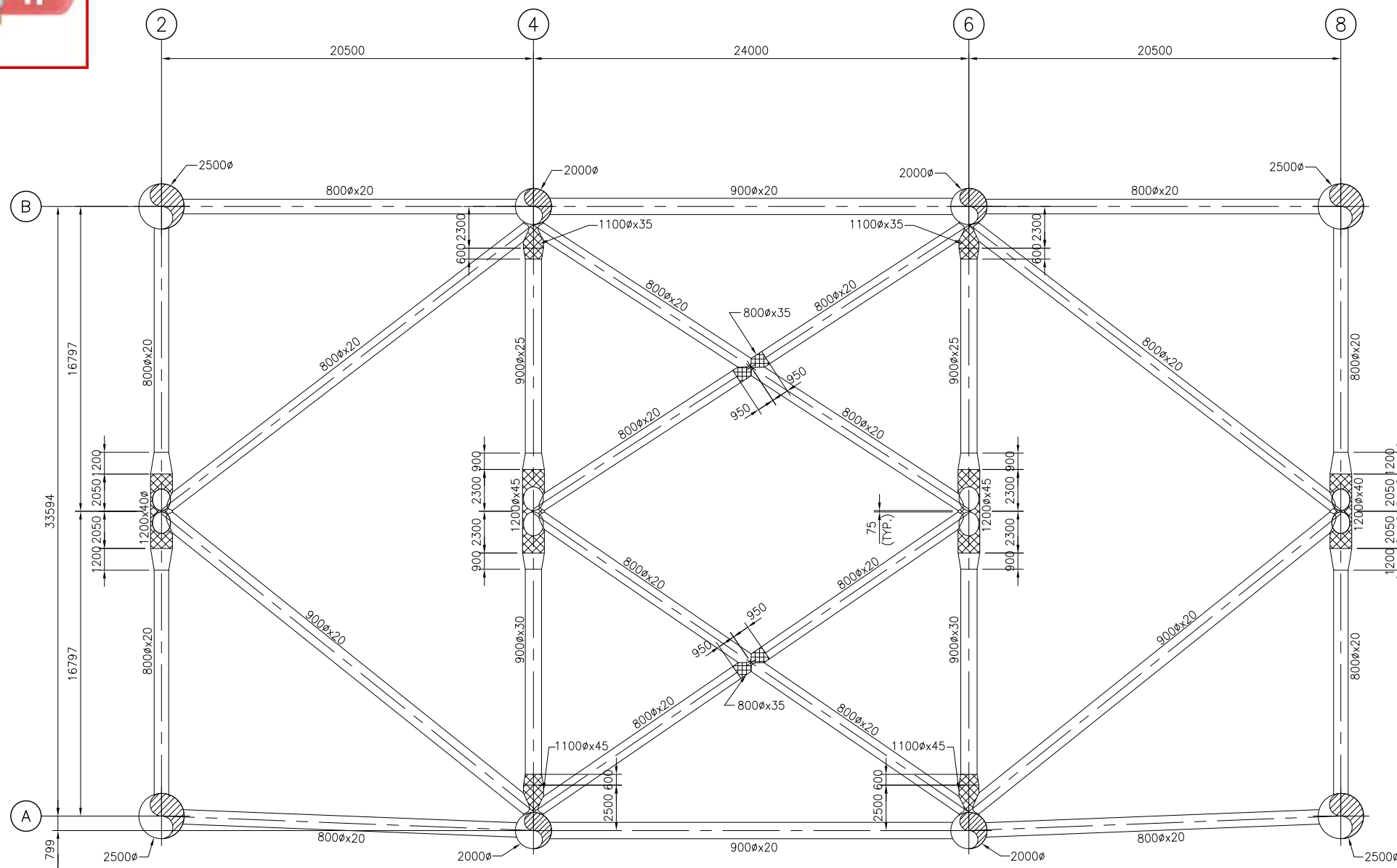
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SCALE 1:150

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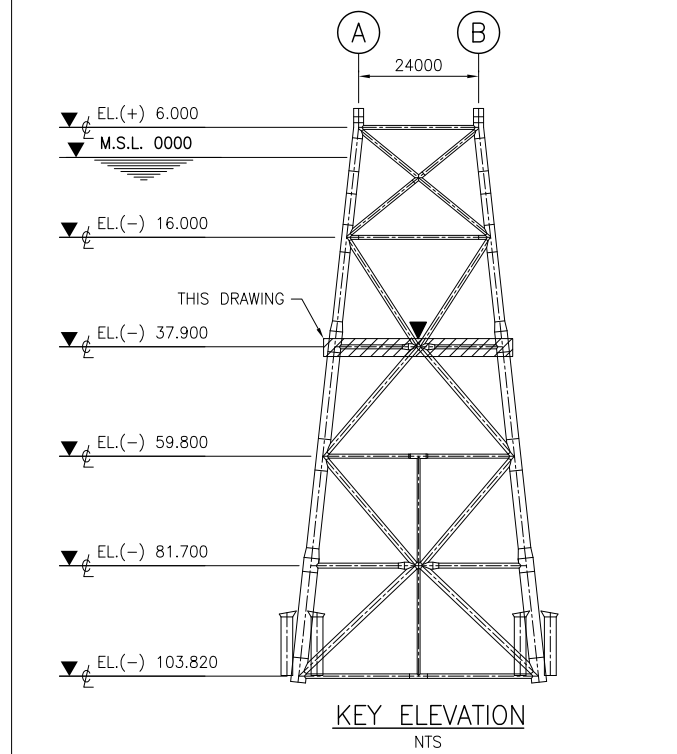
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HORIZONTAL FRAMING PLAN AT CL EL (-)37.900
SCALE 1:150

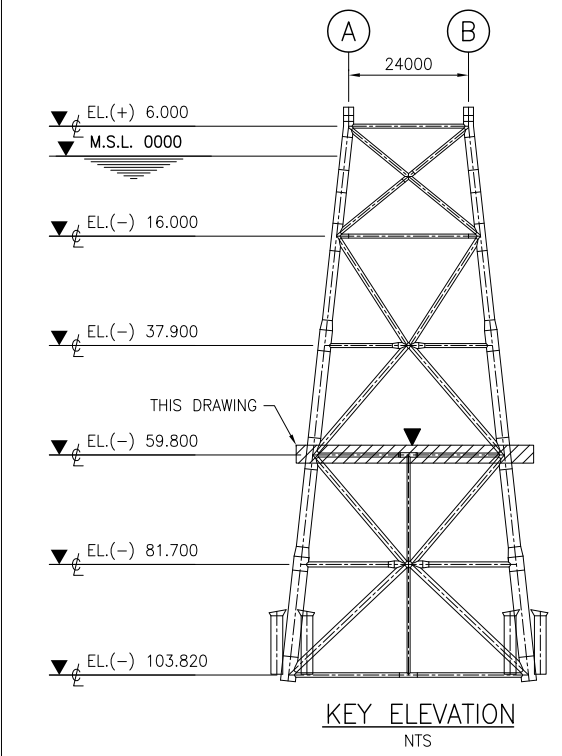
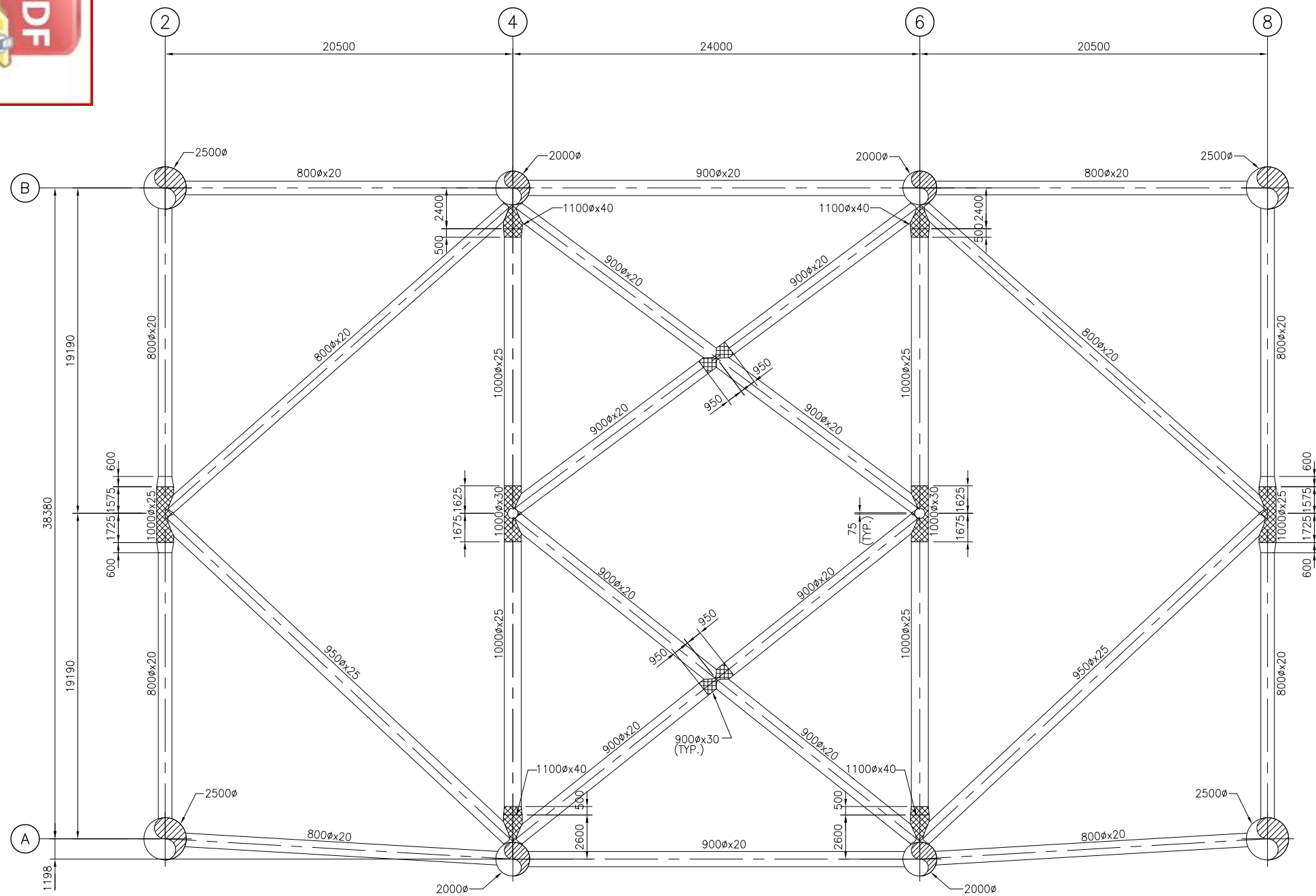


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SCALE 1:150

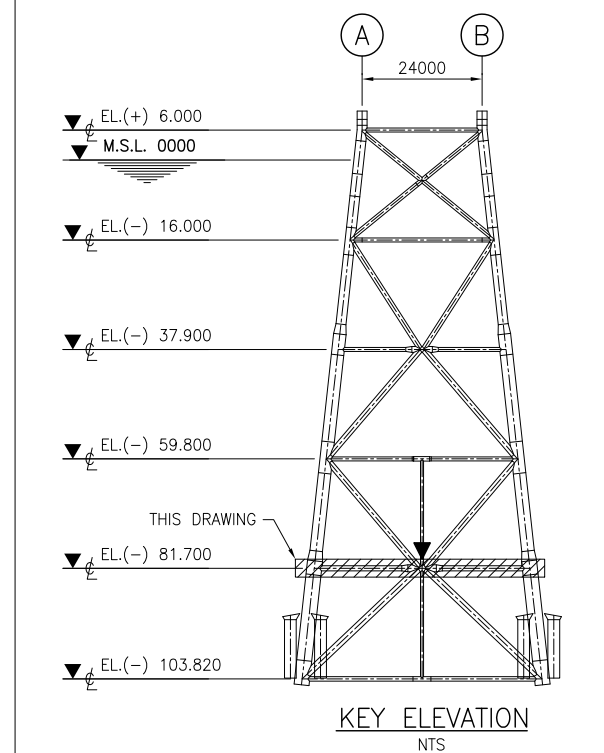
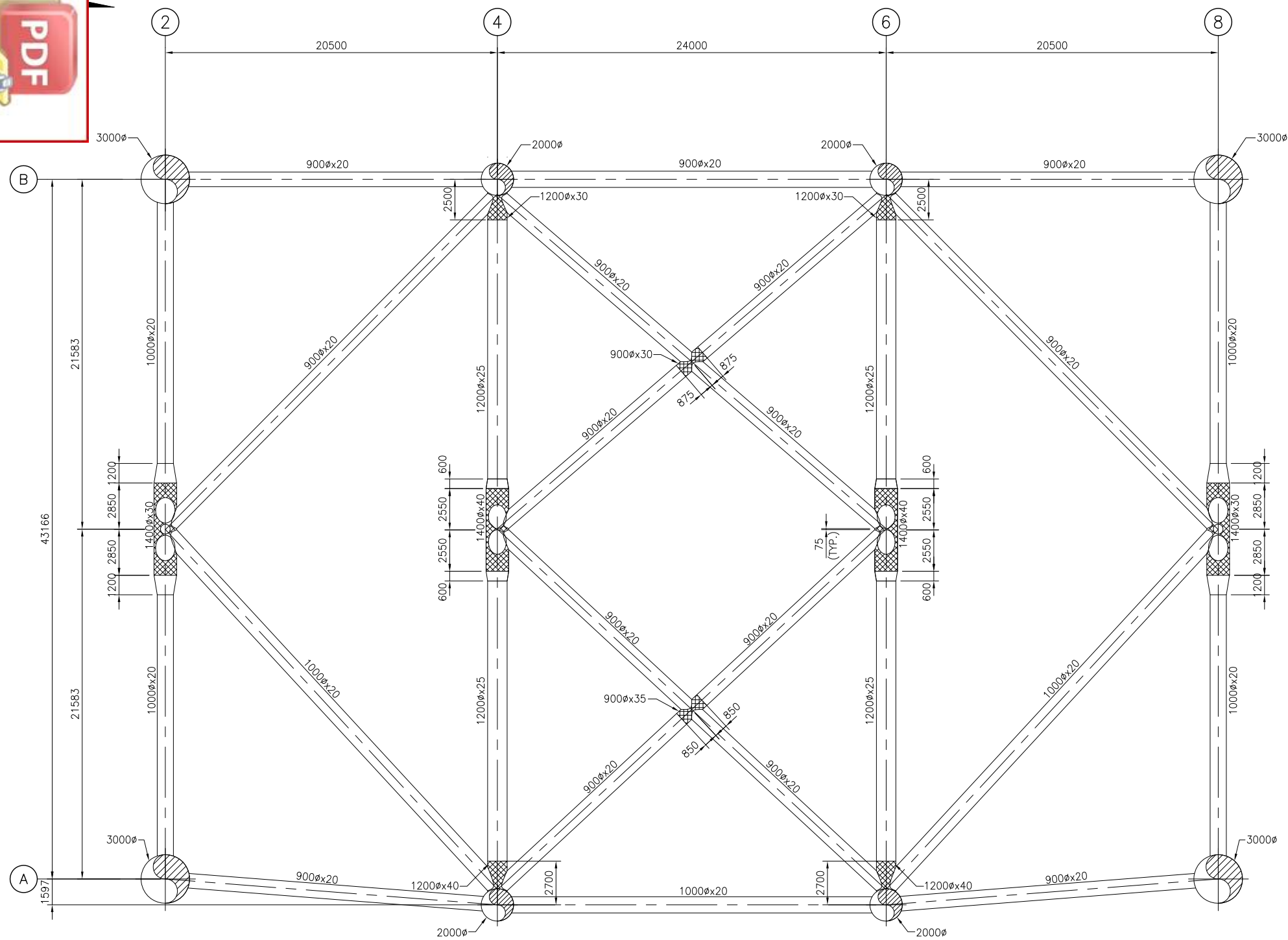
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HORIZONTAL FRAMING PLAN AT CL EL (-)81.700
SCALE 1:150

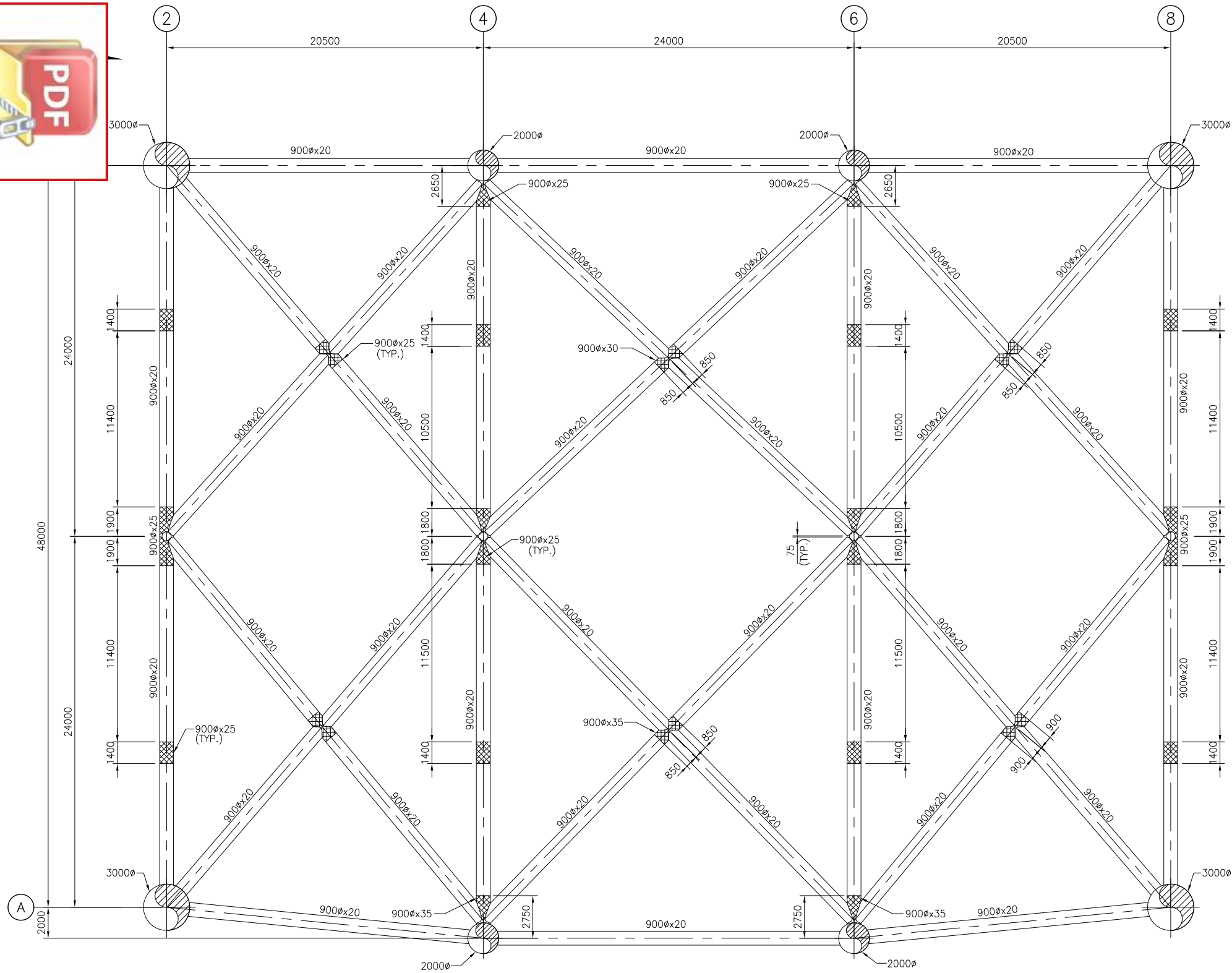
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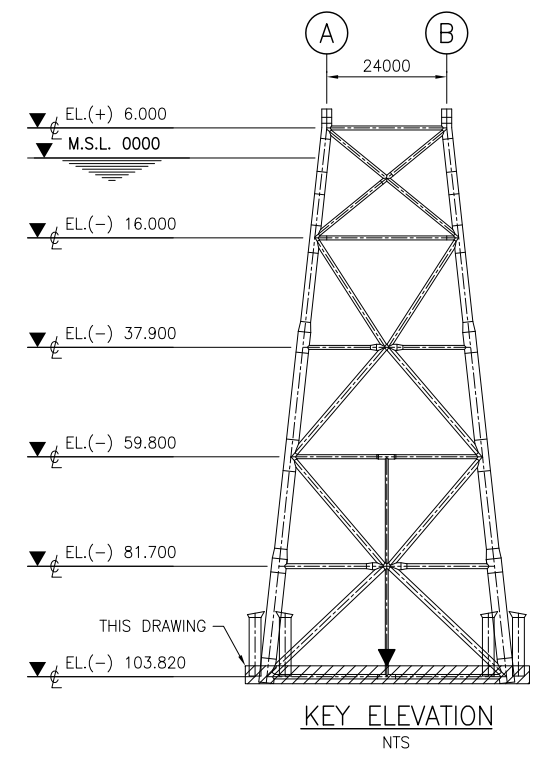
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HORIZONTAL FRAMING PLAN AT CL EL (-)103.820
SCALE 1:150



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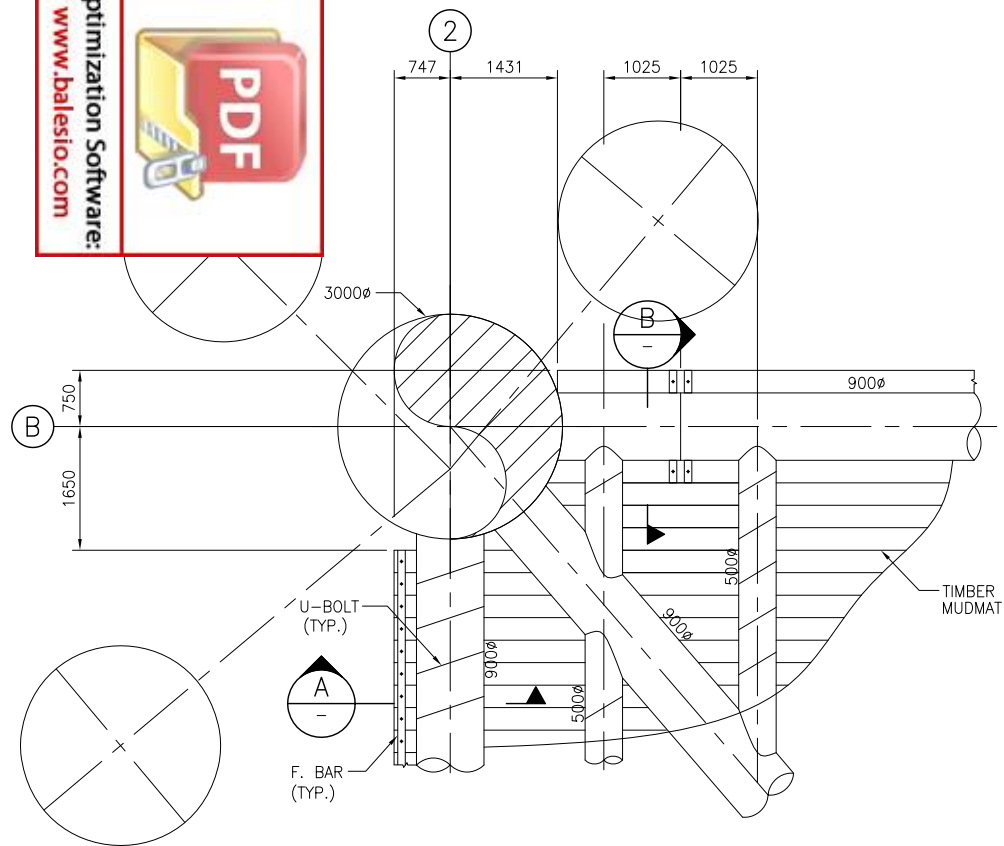
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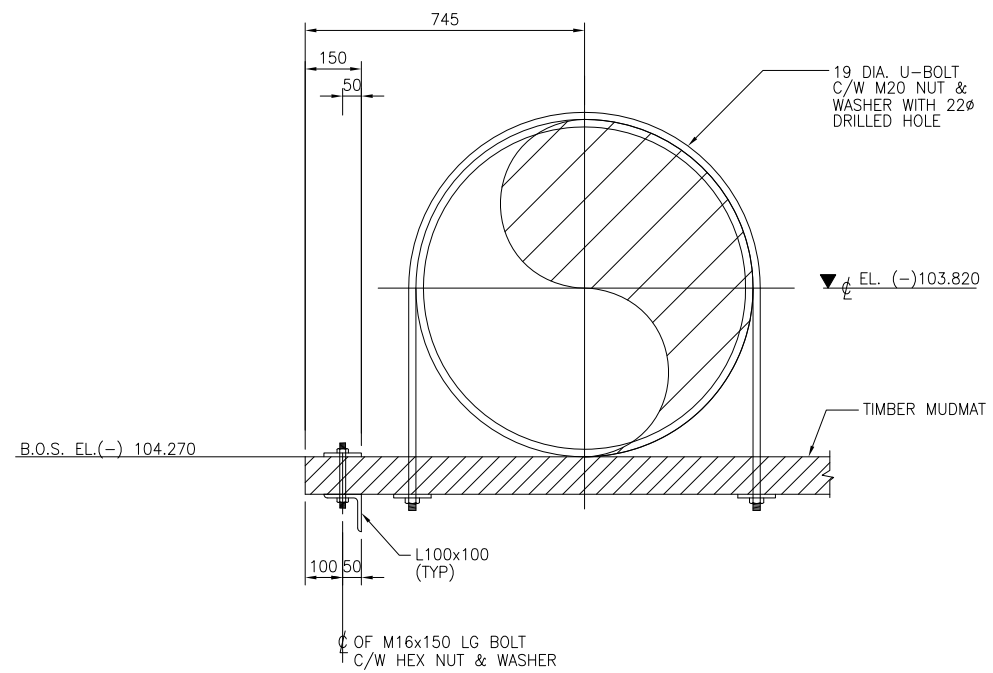
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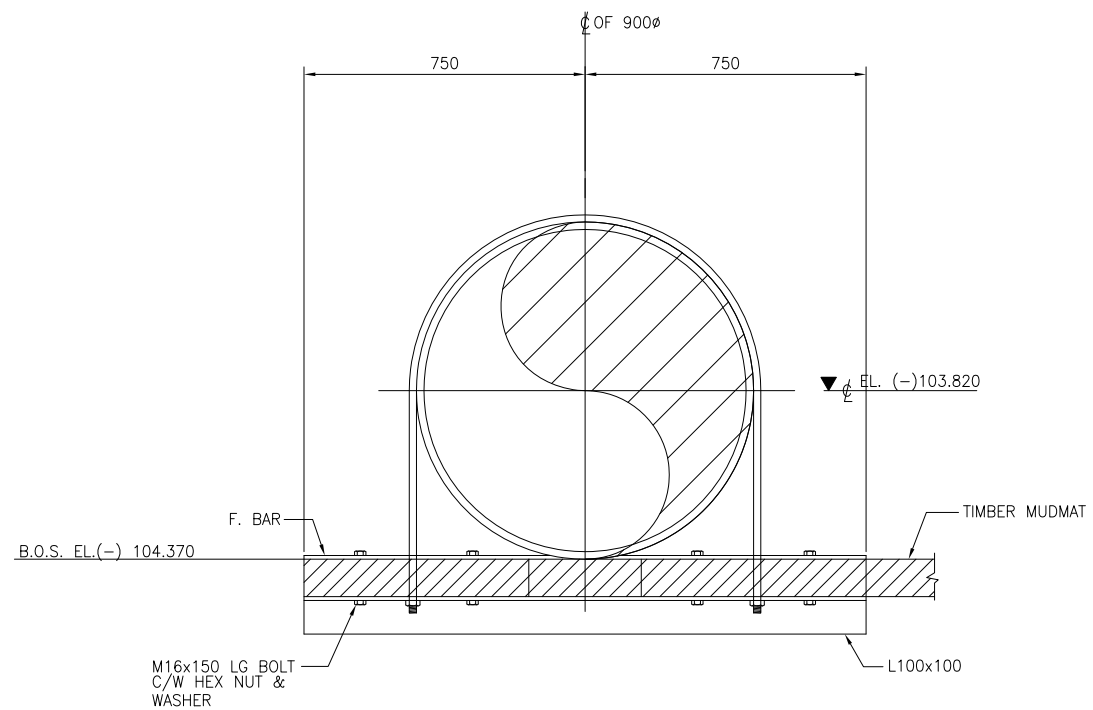
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DETAIL 1
SCALE 1:50
1019



SECTION A
SCALE 1:10



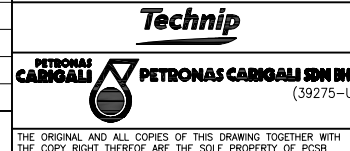
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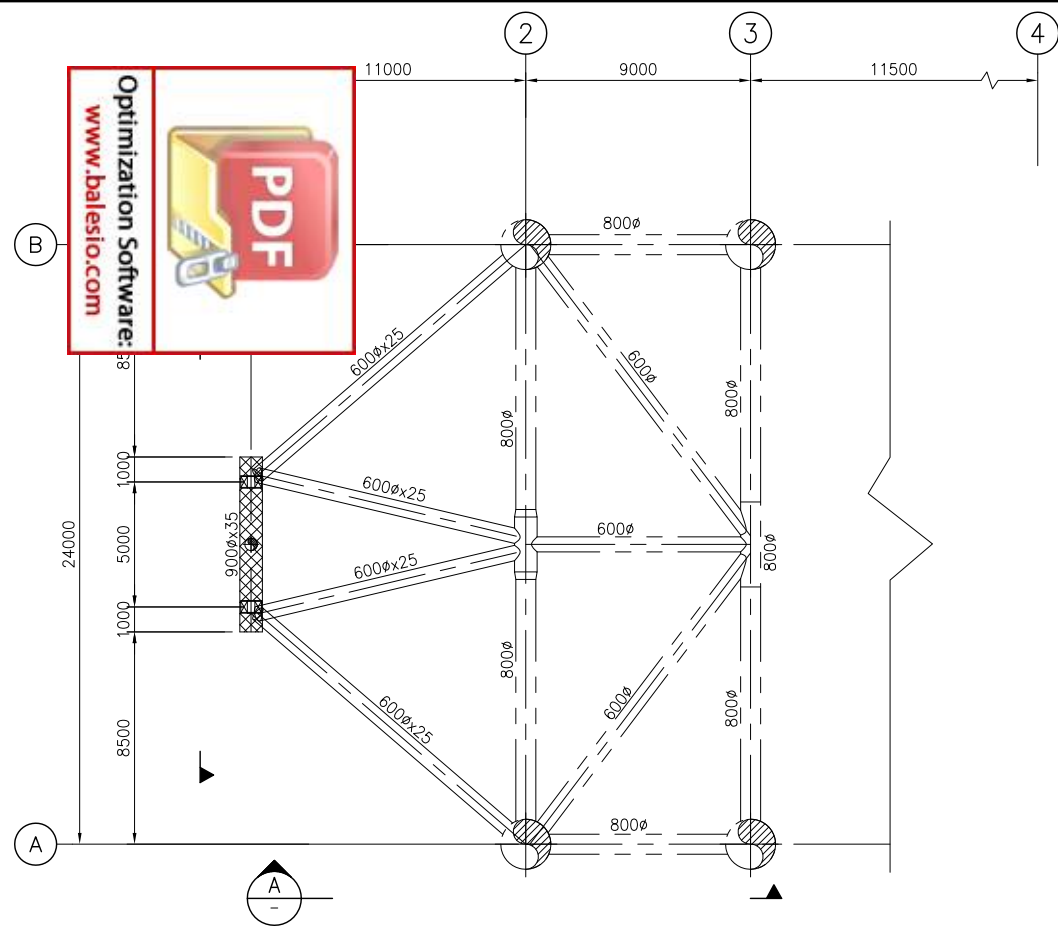
NOTES :
1. FOR GENERAL NOTES, SEE DWG NO 05-NC3CPP-S-0002 SHTS 1 & 2.
2. ALL STRUCTURAL STEELS ON THIS DRAWING SHALL BE TYPE 1, UNO.

										TENDER NO.	CHO/2012/0316/1000
										DRAWN BY	DRF
										DATE	08/02/13
										SCALE	AS SHOWN
										CHECKED	MB
										DATE	08/02/13
										APPROVED	CHH
										DATE	08/02/13
										DRAWN	CHKD
										BIDDER	APPD
										BIDDER	PCSB
DRAWING No.	REV.	REFERENCE DRAWINGS	REV.	DESCRIPTION	DATE						
				A0 ISSUED FOR INTER DISCIPLINE CHECK	08/02/13	DRF	MB	CHH			

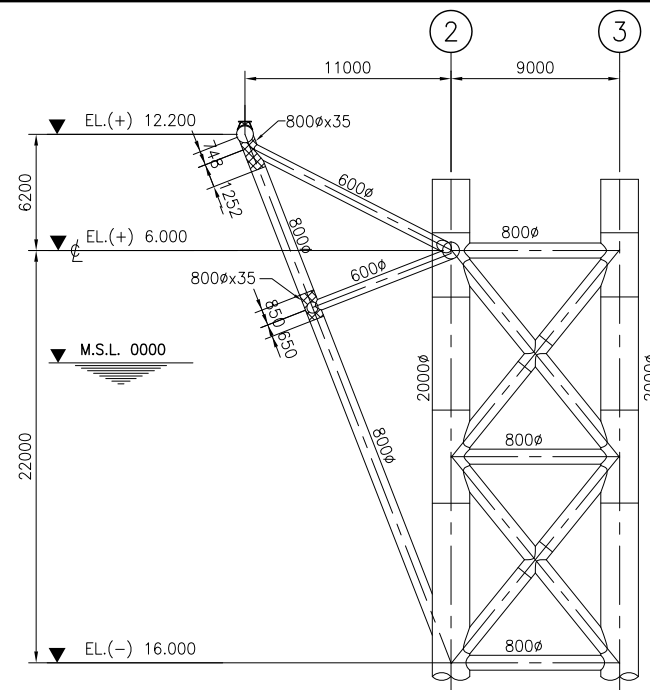
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TITLE :		CPP SUB-STRUCTURE MUDMAT SECTIONS & DETAILS	
CAD FILE		05-NC3CPP-S-1024-A0	
AREA	LOCATION	NC3CPP	
DISCIPLINE	DRAWING NO.	SHT NO.	REV.
S	05-NC3CPP-S-1024	1/1	A0



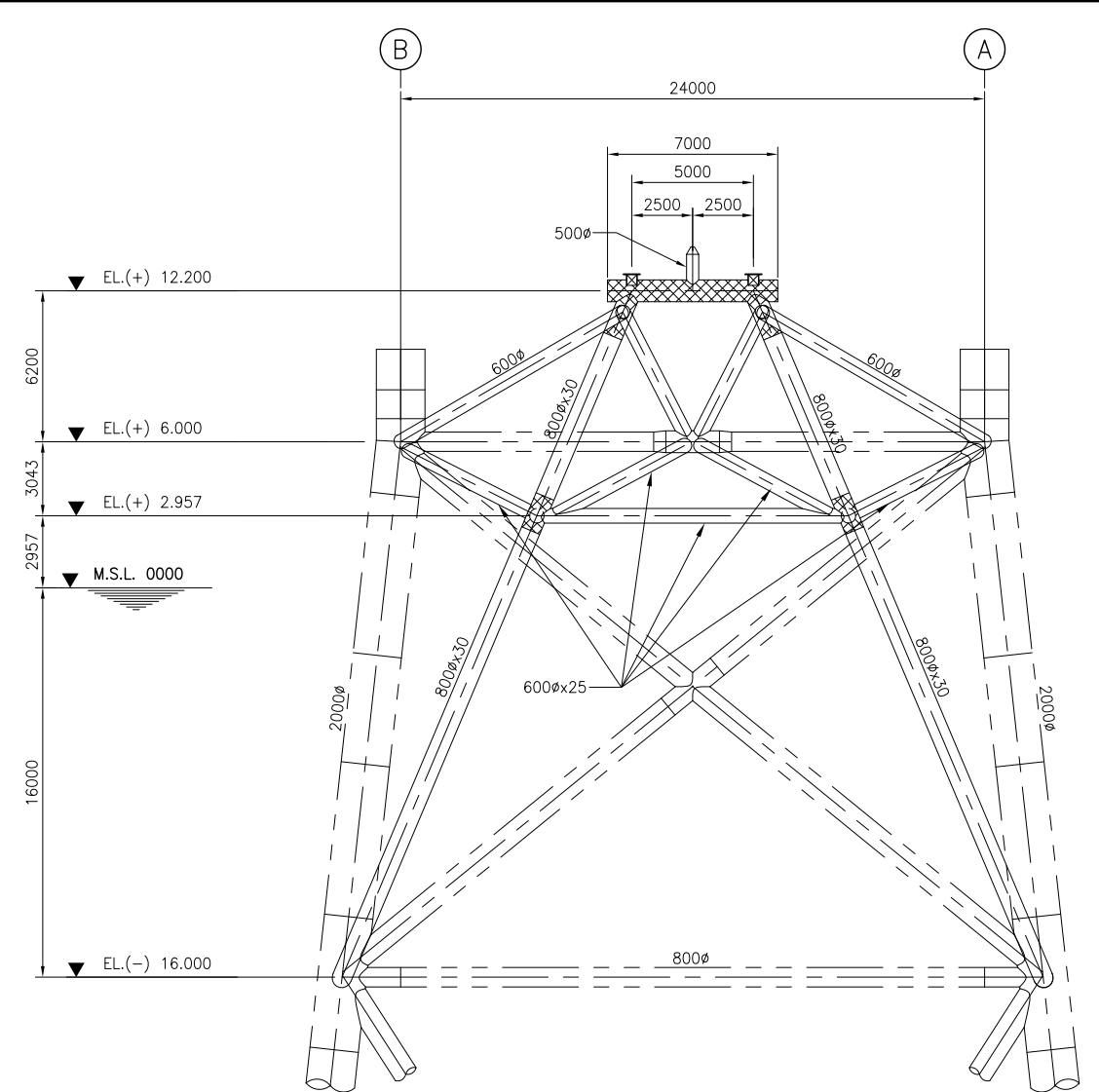
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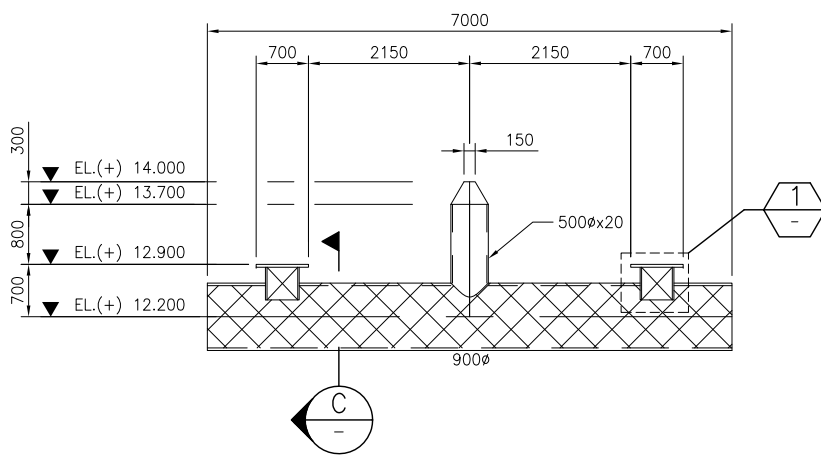
HORIZONTAL FRAMING PLAN
SCALE 1:150



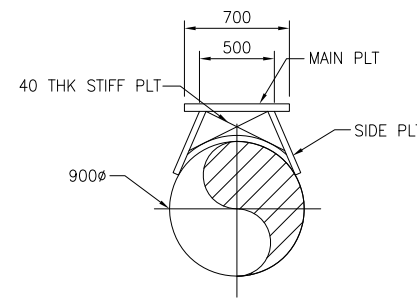
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SCALE 1:200



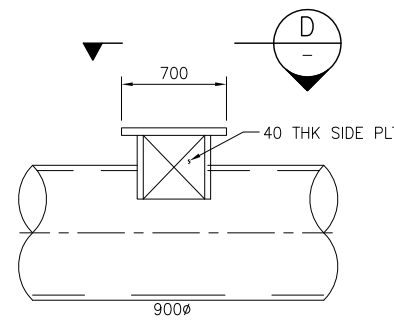
SECTION B
SCALE 1:150



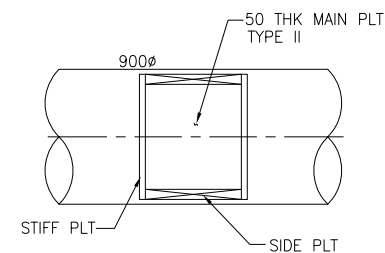
BUMPERS DETAIL
SCALE 1:50



SECTION C
SCALE 1:25



DETAIL 1
SCALE 1:25



SECTION D
SCALE 1:25

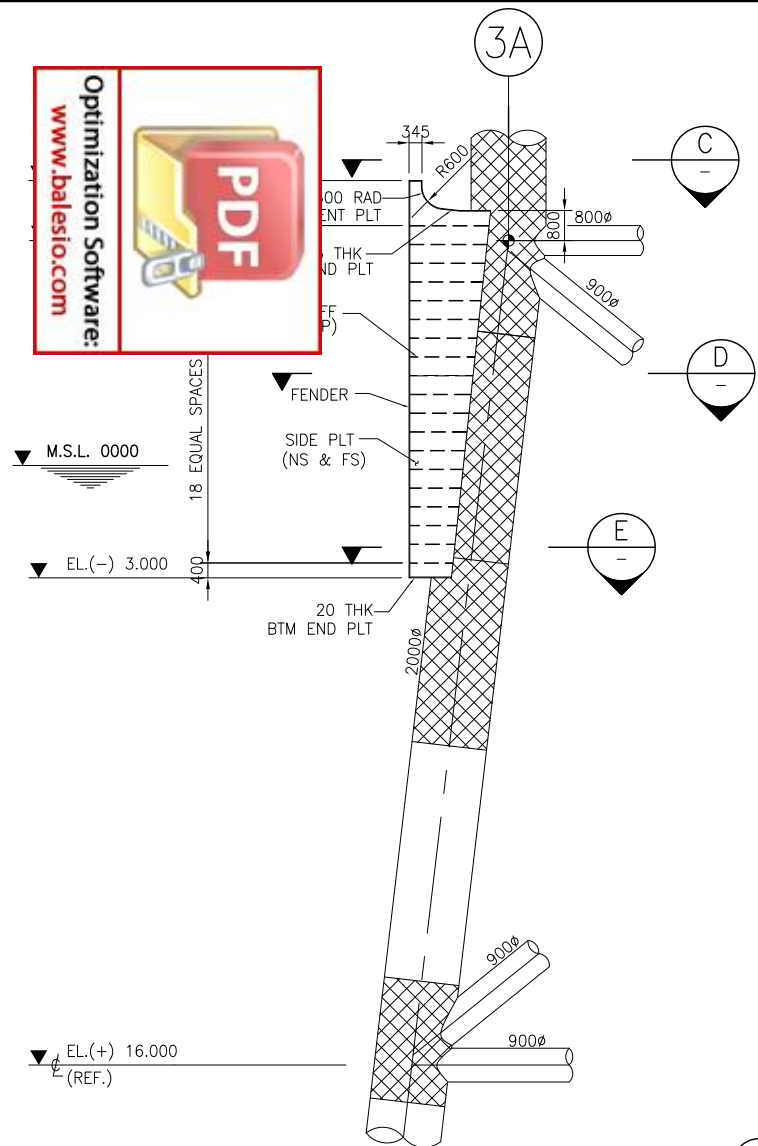
CAD PRODUCED DRAWING - NO MANUAL REVISION ALLOWED

- NOTES :
- FOR GENERAL NOTES, SEE DWG NO 05-NC3CPP-S-0002 SHTS 1 & 2.
 - ALL STRUCTURAL STEELS ON THIS DRAWING SHALL BE TYPE I, UNO.
 - ALL STRUCTURAL STEELS MARKED WITH SHALL BE TYPE II.

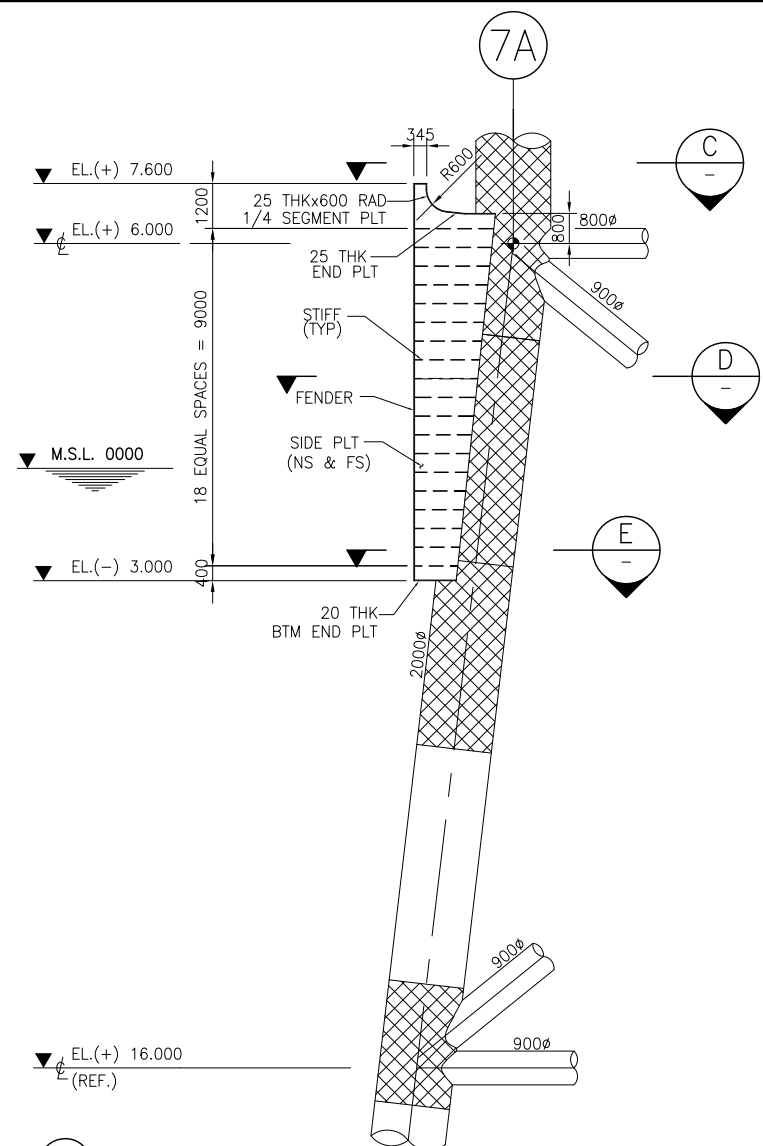
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							CHECKED	MB
							DATE	08/02/13
							APPROVED	CHH
							DATE	08/02/13
DRAWING No.	REV.	REFERENCE DRAWINGS	REV.	DESCRIPTION	DATE	DRAWN	CHKD	APPD
						BIDDER		PCSB

PROJECT TITLE :		PROVISION OF FEED AND EPCIC FOR SK316 GAS DEVELOPMENT PROJECT	
TITLE :		CPP SUB-STRUCTURE WHP BRIDGE SUPPORT	
CAD FILE		05-NC3CPP-S-1026-A0	
AREA		05	
LOCATION		NC3CPP	
DISCIPLINE		S	
DRAWING NO.		05-NC3CPP-S-1026	
SHT NO.	REV.		
1/1	A0		

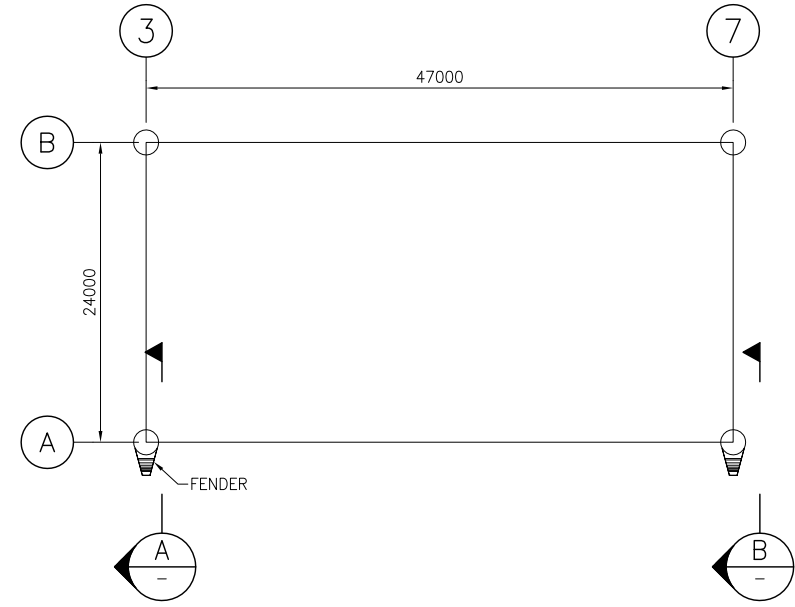
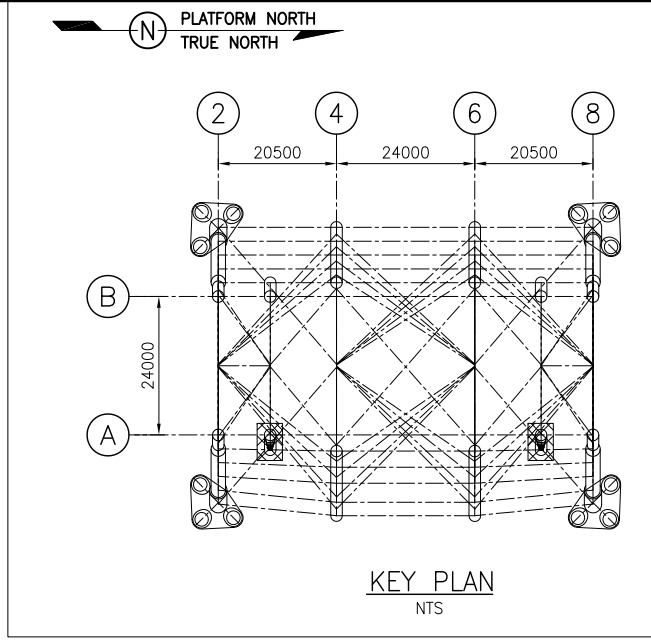
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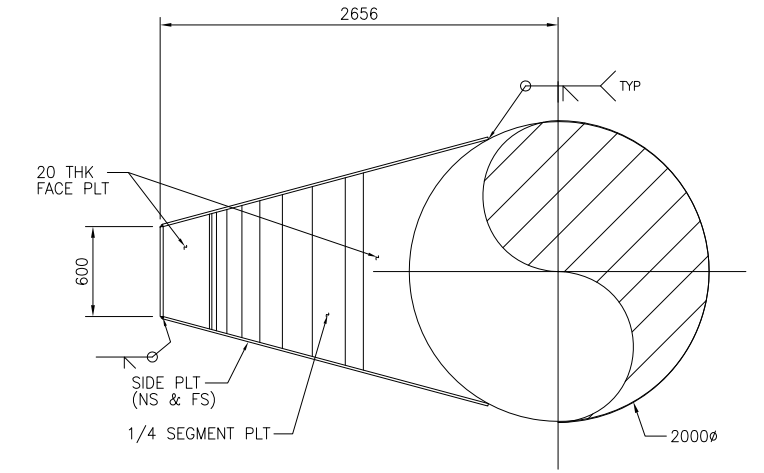
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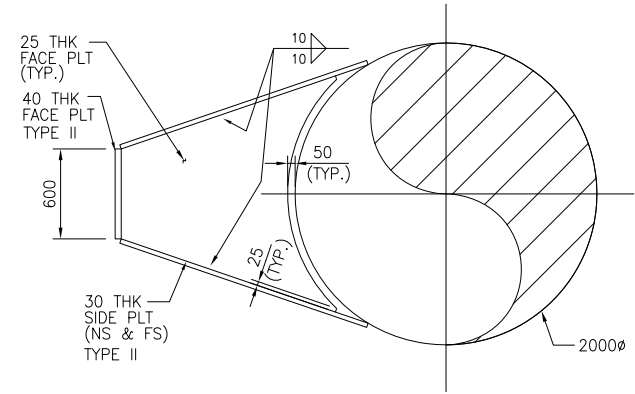
SECTION B
SCALE 1:100



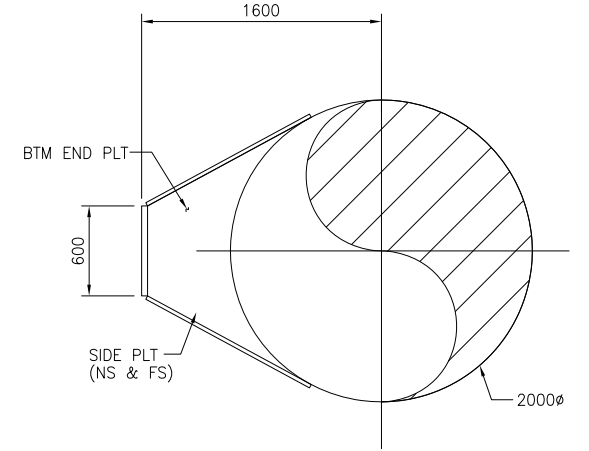
LAYOUT PLAN
NTS



SECTION C
SCALE 1:25



SECTION D
SCALE 1:25



SECTION E
SCALE 1:25

CAD PRODUCED DRAWING - NO MANUAL REVISION ALLOWED

NOTES :
 1. FOR GENERAL NOTES, SEE DWG NO 05-NC3CPP-S-1002 SHTS 1 & 2.
 2. ALL STRUCTURAL STEELS ON THIS DRAWING SHALL BE TYPE I, UNO.
 3. ALL STRUCTURAL STEELS MARKED WITH [Hatched Pattern] SHALL BE TYPE II.

DRAWING No.	REV.	REFERENCE DRAWINGS	REV.	DESCRIPTION	DATE	DRAWN	CHKD	APPD	BIDDER	PCSB
			A0	ISSUED FOR INTER DISCIPLINE CHECK	08/02/13	DRF	MB	CHH		

TENDER NO.	CHO/2012/D316/1000	PROJECT TITLE :	PROVISION OF FEED AND EPCIC FOR SK316 GAS DEVELOPMENT PROJECT
DRAWN BY	DRF	TITLE :	CPP SUB - STRUCTURE SURGE FENDER
DATE	08/02/13		
SCALE	AS SHOWN		
CHECKED	MB		
DATE	08/02/13		
APPROVED	CHH		
DATE	08/02/13		
		CAD FILE	05-NC3CPP-S-1053-A0
		AREA	05
		LOCATION	NC3CPP
		DISCIPLINE	S
		DRAWING NO.	05-NC3CPP-S-1053
		SHT NO.	1/1
		REV.	A0

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LAMPIRAN B
LAUNCHING BARGE
SPESIFICATION



HEEREMA MARINE CONTRACTORS

Equipment Data

ED-0xx	LAUNCH / CARGO BARGE H-542	December 2011
Revision 0		Page 1 of 6

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Action	Discipline	Name	Initials	Date
Prepared	Technical Inspector	E.F.H. Bögels		
	Lead Technical Inspector	H Kleinbekman		
	Lead Drawing Office	T. Bol		
	Manager EM	W. Vernooy		
	Manager QESH	T Koning		



1.0 GENERAL

Type of vessel	:	Launch / Cargo Barge	
Owner	:	Heerema Shipping 21 B.V.	
Port of registry	:	Panama	
Registration number	:	Panama,	
Class registration	:	DNV, No. 31679	
IMO Number	:	8771588	
Year constructed	:	2012	
Built by	:	China Merchant Heavy Industries Shenzhen LTD.	
Kind of service	:	World-wide	
Summer draft	:	8.0 m	25 ft
Displacement	:	52 994 Tonnes	
GRT	:	20765	
NRT	:	6230	
Suez Canal tonnage	:	23504	
Light weight	:	11 467 Tonnes	
		(excl. Skid- or Launch equipment)	
Max. allow. bend. m.	:	seagoing : 178 755 T.m	
		Harbour : 250 000 T.m	
Midship section modulus	:	$W_{Deck} = 18.673 \text{ m}^3$	
		$W_{Bottom} = 17.975 \text{ m}^3$	
Max. submersion bottom shell	:	20 m measured from keel bottom.	

2.0 DIMENSIONS

Length of vessel	:	165.00 m	540 ft
Breadth	:	42.00 m	138 ft
Depth (moulded)	:	10.70 m	35 ft

3.0 CLASSIFICATION

DNV class \star 100A1 barge for deck cargo, ocean-going.

4.0 CERTIFICATES

Suez Canal Special Tonnage Certificate

5.0 TANK CAPACITIES

Water ballast tanks	:	62 000 m ³
Fuel oil tanks	:	38 m ³
Coolingwater tank	:	416 m ³ .



6.0 BALLAST SYSTEM

6.1 Transfer Capacity

Ballast pumps (2 off) : 1 000 m³/hr x 20 m head each pump.
Each pump is driven by a 85 kW x 889 rpm electrical motor.

Strip pumps mach. area (1 off) : 100 m³/hr x 52 m head.
Pump is driven by a 42 kW x 1750 rpm electrical motor. (pipetunnel / pump room only)

6.2 Seachests

The following seachests (3 off), size 1170 x 1170 x R225 mm:

One (1) low seachest in 2 centre starboard tank, in the bottom plating.

One (1) high seachest in 2 portside tank, in sideshell plating, approx. 3 m above bottom.

One (1) low seachest in pipe tunnel between frames 11 and 12, in the bottom plating.

All piping from seachests is fitted with two double acting hydraulic controlled butterfly valves.

7.0 POWER GENERATION SYSTEM

7.1 Generators

Main generators : Two sets of 180 kW, 175 kVA, 480V, 3-phase, 0.8PF, 60Hz, 3-wire, diesel engine driven,.

Aux. Generator : One set of 80 kW, 77.5 kVA, 480V, 3-phase, 60Hz, 3-wire, 0.8PF, diesel engine driven, electric start.

7.2 Compressor Capacity

Air compressor : One sets of 156m³/hr at 10 bar, electric motor driven, 22 kW, 480V, 3 phase, 60 Hz.

7.3 Oily Water / Bilge Pump

Oily water/ Bilge pump (2 off) : 2.5 m³/hr x 35 m head, driven by a 0.3 kW, 295 rpm electrical motor.



8.0 DECK CAPACITY

Deck area	:	6 760 m ²	
Deck load capacity	:	Centre part 15 T/m ² Other 20 T/m ²	
Max. load capacity	:	Main deck (frame 20 – 44):	1250 T/4m
		Deck (frame 0 - 56):	875 T/4m
Max. launch capacity	:	20 500 Tonnes jacket	

9.0 MANHOLES

Two per ballast tank, except for 1 P SWB and 1 S SWB tanks, 1 per tank.

10.0 ANCHOR SYSTEM

Anchor	:	8,0 mt stockless bow anchor.
Anchor chain	:	Ø58mm x 330m; chain, U3
Anchor winch	:	40 mT x 9 m/min, hydraulically operated.

11.0 MOORING ARRANGEMENT

- 12 bollards of 50mt minimum capacity
- 12 Panama chocks
- Eight white polypropylene of 120m minimum long x 10”inch circular, both ends spliced eyes.

12.0 TOWING ARRANGEMENT

12.1 Towing Bridle

- One forerunner studlink chain cable of 10m long x 87 mm diameter, grade U3, proofload 400 Tonnes
- Two bridle studlink chain cables of 31m long x 87mm diameter, grade U3, proofload 400 Tonnes
- Three GP shackles, SWL 150 Tonnes.
- One triangle plate
- One retrieving wire of 50m long x 25 mm, galvanised, hardeye one end with 25 Tonnes SWL shackle
- One bridle retriever winch of 15 Tonnes x 7 m/min. and 20 Tonnes stall pull, hydraulically operated.



12.2 Emergency Towing

- Two bridle studlink chain cable of 31m long x 87 mm diameter, grade U3, proofload 400 Tonnes (one spare)
- One steel wire of 160 m long x 76mm diameter, galvanised, 400 Tonnes MBL
- One white and floating polypropylene of 150m long x 6” circumference
- One orange floating buoy, 1m diameter, connected at free end of polypropylene line.

12.3 Towing Brackets

Six (6) Smit towing brackets: 2 port side, 2 star board side forward, 1 port side, 1 star board aft deck, each 300 Tonnes proofload, incl. fairleaders.

13.0 NAVIGATION LIGHTS

One set (1) of electrical operational navigation lights:

- One (1) green side light
- One (1) red side light
- One (1) white stern light
- Two (2) white anchor lights
- Two (2) red N.U.C. lights
- One (1) signal mast on bow deck
- One (1) removable signal mast on aft deck.

14.0 LIFE SAVING EQUIPMENT

Life buoys.

15.0 FIRE FIGHTING EQUIPMENT

Spread at various locations (i.e. control room, pump room, winch room, tunnel, a.o.) consisting of portable powder fire extinguishers and portable CO2 fire extinguisher

16.0 LAUNCH EQUIPMENT

16.1 Skid / Tilting Spread

The width between both skid- and tilting beams centrelines can be varied from 14.5 m to 35.75 m.

16.2 Skid Tracks

Skid track consisting of 10 parts:

Length	part No.1 and 6	:	25 m / 100 T each (incl. skid track)
	All other parts	:	30 m / 115 T each (incl. skid track)
Total length		:	2 x 145 m
Width skid beam		:	2.0 m
Height		:	2.05 m



16.3

Tilting Beams

Total length per beam	:	19.85 m
Total weight per beam	:	200 Tonnes each (exclusive X brace)
Length skid surface	:	19.85 m
Height	:	2.0 m
Max. rocker reaction	:	7 500 Tonnes
Tilting angle	:	0° - 90°.
Steel Quality	:	S 355 J2 G3 skid- and tilting beam. Minimum yield hinge point: 355 N/mm ²

17.0

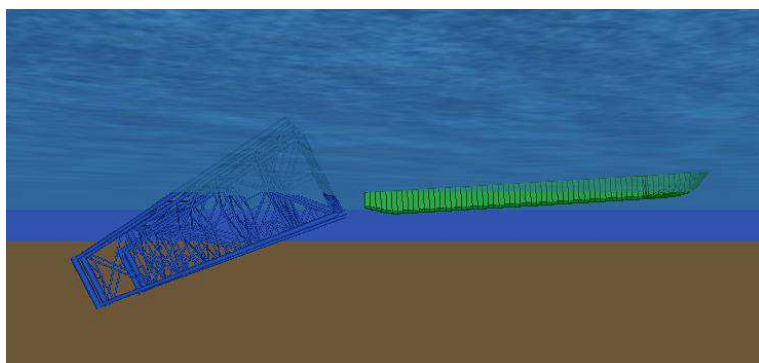
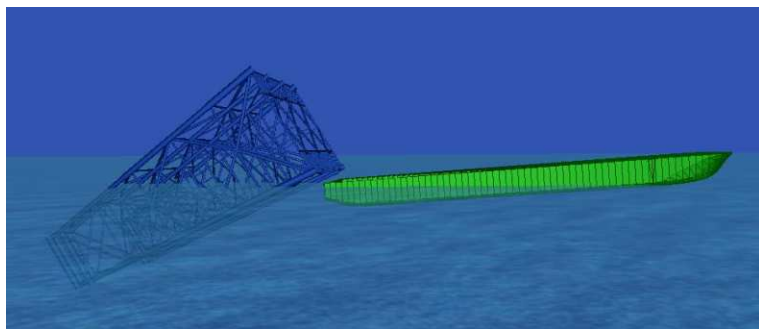
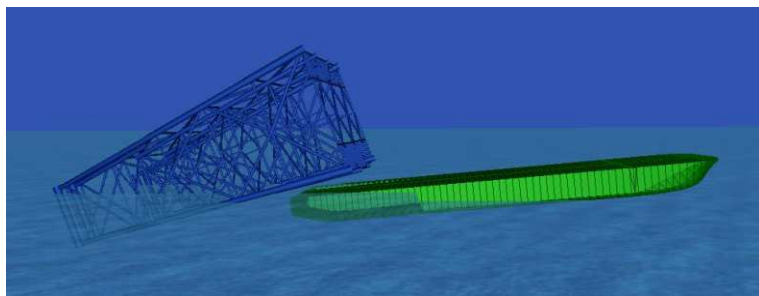
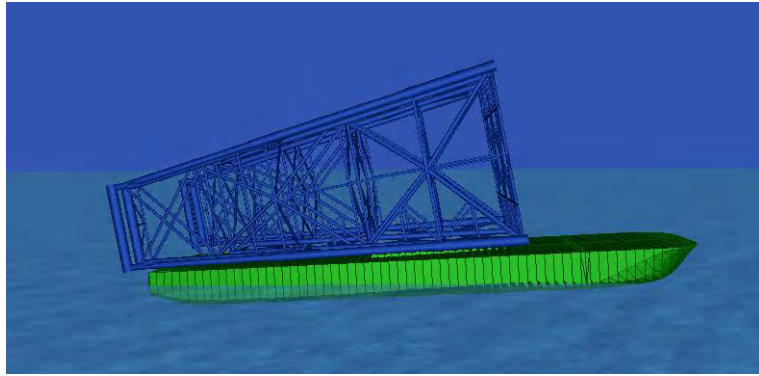
ATTACHMENTS

Attachment 1	-	Midship Section and Deck
Attachment 2	-	Lay-out Ballast Tanks
Attachment 3	-	Cross Curves of Stability / Hydrostatic Curves
Attachment 4	-	General Arrangement for Specifications.

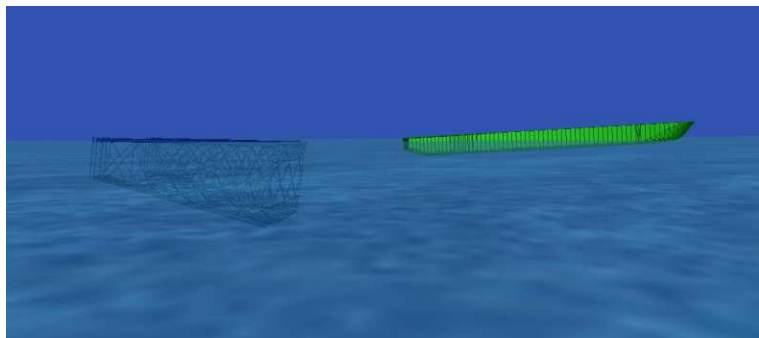
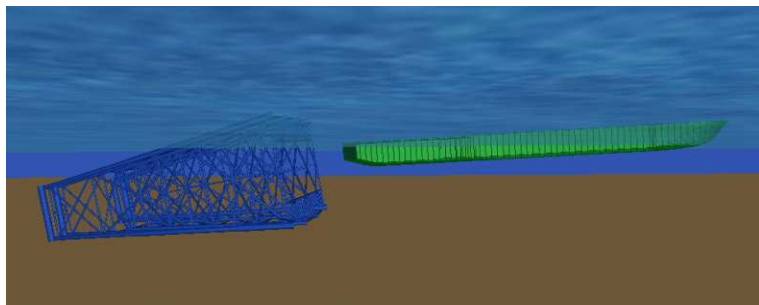
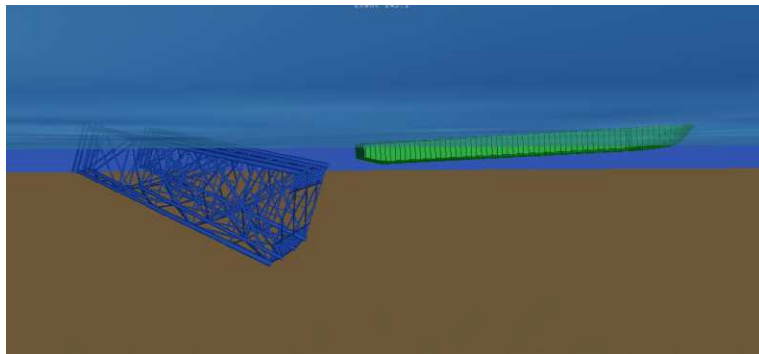
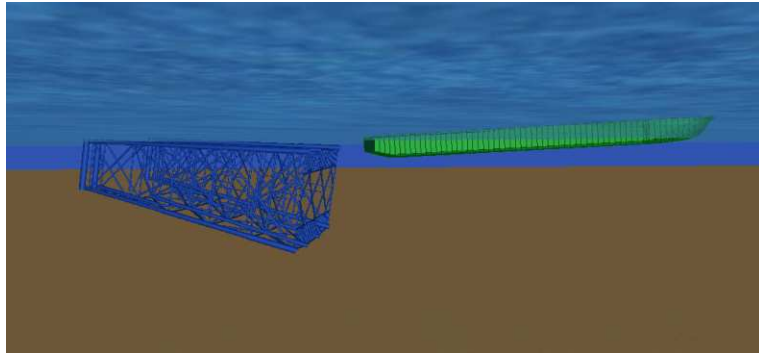


LAMPIRAN C
LAUNCH SEQUENCE DRAWING





Optimization Software:
www.balesio.com



LAMPIRAN D

MOSES OUTPUT



WELCOME TO MOSES Version 07.10.01.11

=====

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Default License Suite: MOSES Automatic Elevation

=====

```
>&device -primary device -oecho n -mecho n
>&style output -lpi 15
>&dime -dim meters m-tons
>&set BRG = H-542
>&set JKT = NC3CPP
>&set wd = 104.27
>&set MXA = 90
>&set JLBB = 50
>&set BTRIM = 3.5
>&set BROLL = 0.0
>&set Frict = 0.08
>&title NC3CPP Jacket Launch of H-542 Barge (Base Case, Initial Trim = \
    3.5deg, Frict = 0.08)
>&para -dep 104.27
>INMOD -offset
Loading File:
  C:/Program Files/Bentley/Engineering/MOSES 7.10 \
    V8i//hdesk/tools/stab/macros/stab.mac
Loading File:
  C:/Program Files/Bentley/Engineering/MOSES 7.10 V8i//hdesk/convert/sac.mac
Time To perform Inmodel          : CP= 5.00
>&dime -dim meters m-tons
>&desc body H-542
>hstat
m 1 0 0 -draft 0.1 41
```



```

>&stat b_w -h
>&weight -total NC3CPP 7620 0.17 -1.4 -55.67 37.37 41.35 29.18
>&rep_sel -body NC3CPP
>&summ
>cate &rep_sel -br
>end
>&set JBUOY = 8983.484
>&set JFW = 7619.999
>&set RB = 17.89351
>&set RBUOY = 17.89
>&set INITF = 7619.999*0.2*(0.9981348-6.104853E-2)
>&set INITF = 1428.119
>&set INITF = 1428
>&report -h
>ctype 'Reserve Buoyancy =' 17.89 %
>ctype 'Initial Force To Pull Jacket =' 1428 MT
>end
>&rep_sel -body @
>&SET stbd_nod = *J7018 *J5009 *JLG54 *J4006 *JLG43 *J3006 *JLG32 *J2006 \
    *JLG21 *J1006 *J7020
>&SET port_nod = *J7022 *J5010 *JLG45 *J4007 *JLG34 *J3007 *JLG23 *J2007 \
    *JLG12 *J1007 *J7024
>MEDIT
>LLEG *J7018 *J5009 *JLG54 *J4006 *JLG43 *J3006 *JLG32 *J2006 *JLG21 *J1006 \
    *J7020 H-542 0 12.00 0 -TPIN 3.8 165 12 10.65 -FRICT 0.08 -beam \
    19.855 4.4e12
>LLEG *J7022 *J5010 *JLG45 *J4007 *JLG34 *J3007 *JLG23 *J2007 *JLG12 *J1007 \
    *J7024 H-542 0 -12.00 0 -TPIN 3.8 165 -12 10.65 -FRICT 0.08 -beam \
    19.855 4.4e12
>END
>&inst NC3CPP -move 50 0 0
>&inst -con H-542 0 0 0
>&inst -con H-542 1 0.0 3.5
>&comp -perc FO@ 50
>&comp -perc COOL@ 90
>&comp -perc BILGE@ 50
>&comp -perc SLUD@ 50
>
>&comp_bal H-542 9@ 8@ 7@ 6@ 5@ 4@

```



+++ RESULT OF BALLASTING +++

=====

CHANGE OF BALLAST IN TANKS

TANK	NEW % FULL	% CHANGE	TANK	NEW % FULL	% CHANGE
4P-SWB	10.23	8.23	4PC-SWB	13.38	11.38
4S-SWB	9.80	7.80	4SC-SWB	13.16	11.16
5P-SWB	19.58	17.58	5PC-SWB	26.15	24.15
5S-SWB	19.12	17.12	5SC-SWB	25.92	23.92
6P-SWB	29.19	27.19	6PC-SWB	39.21	37.21
6S-SWB	28.72	26.72	6SC-SWB	38.97	36.97
7P-SWB	38.87	36.87	7PC-SWB	52.35	50.35
7S-SWB	38.41	36.41	7SC-SWB	52.12	50.12
8P-SWB	48.59	46.59	8PC-SWB	65.52	63.52
8S-SWB	48.12	46.12	8SC-SWB	65.29	63.29
9P-SWB	64.50	62.50	9PC-SWB	73.66	71.66
9S-SWB	63.97	61.97	9SC-SWB	73.47	71.47

Total Ballast Moved = 18467

Alg. Sum of Ballast Moved = 18467

>&equi -maxit 500

+++ CURRENT SYSTEM CONFIGURATION +++

=====

Process is DEFAULT: Units Are Degrees, Meters, and M-Tons Unless Specified
Location and Net Force at Body Origin

Body	X	Y	Z	RX	RY	RZ
H-542 Location	-0.11	-0.00	-1.00	-0.01	3.50	0.00
N Force	-0.01	-0.18	0.29	-10	-37	-18
NC3CPP Location	50.13	0.00	10.40	-0.01	3.50	0.00
N Force	-0.01	0.18	0.01	-9	0	9

Equilibrium Converged in 2 Iterations

at b_w -h
at draft -h
at comp -h
tm




```

>&subt Initial Position (Beginning of Launch, Initial Trim =3.5deg)
>pic iso
>pic sta
>pic top
>pic bow
>end
>&subt Launch Simulation
>&dcptime
>launch -maxtime 300 -maxosc 35 -tstep 0.2 0.2 0.5 -winch 0.3 -noyaw
License elevated to: MOSES Enterprise
=====

```

LAUNCH EVENTS SUMMARY

```

=====

```

	Time (Sec)	Change in Time	Jac. (Deg)	Roll (Deg)	Jac. Pitch Deck	Length of Leg on Deck
Saving Database	2.00	2.00	-0.01	3.51	114.90	
Saving Database	4.00	4.00	-0.02	3.52	114.30	
Saving Database	6.00	6.00	-0.02	3.54	113.71	
Jacket Slides	6.20	6.20	-0.02	3.54	113.65	
Saving Database	8.00	1.80	-0.02	3.56	113.12	
Saving Database	10.00	3.80	-0.01	3.58	112.52	
Saving Database	12.00	5.80	-0.01	3.61	111.93	
Saving Database	14.00	7.80	-0.01	3.63	111.33	
Saving Database	16.00	9.80	-0.02	3.66	110.74	
Saving Database	18.00	11.80	-0.02	3.68	110.15	
Saving Database	20.00	13.80	-0.02	3.70	109.55	
Saving Database	22.00	15.80	-0.01	3.73	108.96	
Saving Database	24.00	17.80	-0.01	3.76	108.37	
Saving Database	26.00	19.80	-0.01	3.78	107.77	
Saving Database	28.00	21.80	-0.02	3.81	107.18	
Saving Database	30.00	23.80	-0.02	3.83	106.59	
Saving Database	32.00	25.80	-0.02	3.86	105.99	
Saving Database	34.00	27.80	-0.02	3.89	105.40	
Saving Database	36.00	29.80	-0.02	3.91	104.81	
Saving Database	38.00	31.80	-0.02	3.94	104.21	
Saving Database	40.00	33.80	-0.02	3.97	103.62	
Saving Database	42.00	35.80	-0.02	4.00	103.03	
Saving Database	44.00	37.80	-0.02	4.03	102.43	



Saving Database	46.00	39.80	-0.02	4.06	101.84
Saving Database	48.00	41.80	-0.02	4.09	101.25
Saving Database	50.00	43.80	-0.02	4.12	100.66
Saving Database	52.00	45.80	-0.02	4.15	100.06
Saving Database	54.00	47.80	-0.02	4.17	99.47
Saving Database	56.00	49.80	-0.02	4.20	98.88
Saving Database	58.00	51.80	-0.02	4.23	98.29
Saving Database	60.00	53.80	-0.02	4.26	97.69
Saving Database	62.00	55.80	-0.02	4.30	97.10
Saving Database	64.00	57.80	-0.02	4.33	96.51
Saving Database	66.00	59.80	-0.02	4.36	95.92
Saving Database	68.00	61.80	-0.02	4.39	95.32
Saving Database	70.00	63.80	-0.02	4.42	94.73
Saving Database	72.00	65.80	-0.02	4.45	94.14
Saving Database	74.00	67.80	-0.02	4.48	93.55
Saving Database	76.00	69.80	-0.02	4.51	92.96
Saving Database	78.00	71.80	-0.02	4.54	92.36
Saving Database	80.00	73.80	-0.02	4.57	91.77
Saving Database	82.00	75.80	-0.01	4.60	91.18
Saving Database	84.00	77.80	-0.01	4.63	90.58
Saving Database	86.00	79.80	-0.01	4.66	89.95
Saving Database	88.00	81.80	-0.01	4.68	89.24
Saving Database	90.00	83.80	-0.01	4.71	88.45
Saving Database	92.00	85.80	-0.01	4.74	87.54
Saving Database	94.00	87.80	-0.01	4.78	86.50
Saving Database	96.00	89.80	-0.01	4.81	85.30
Saving Database	98.00	91.80	-0.01	4.85	83.92
Saving Database	100.00	93.80	-0.01	4.90	82.33
Saving Database	102.00	95.80	-0.01	4.95	80.49
Saving Database	104.00	97.80	-0.01	5.01	78.39
Saving Database	106.00	99.80	-0.01	5.08	75.97
Saving Database	108.00	101.80	-0.01	5.15	73.22
Saving Database	110.00	103.80	-0.01	5.22	70.11
Saving Database	112.00	105.80	-0.01	5.30	66.61
Saving Database	114.00	107.80	-0.02	5.39	62.73
Saving Database	116.00	109.80	-0.02	5.49	58.45
Saving Database	118.00	111.80	-0.02	5.59	53.81
Saving Database	120.00	113.80	-0.02	5.71	48.83
Jacket Tips	121.80	115.60	-0.02	5.82	44.10
Saving Database	122.00	0.20	-0.02	5.84	43.56
Saving Database	124.00	2.20	-0.02	7.30	38.38
Saving Database	126.00	4.20	-0.02	11.56	33.01
Saving Database	128.00	6.20	-0.02	16.80	25.91



Saving Database	130.00	8.20	-0.04	20.83	16.44
Saving Database	132.00	10.20	-0.06	23.45	5.74
Jacket Separates	133.20	11.40	-0.18	24.64	0.00
Saving Database	135.20	2.00	-0.62	21.48	0.00
Saving Database	140.20	7.00	-1.37	-5.09	0.00
Saving Database	145.20	12.00	-0.85	-25.27	0.00
Saving Database	150.20	17.00	-0.40	-24.11	0.00
Saving Database	155.20	22.00	-0.65	-21.63	0.00
Saving Database	160.20	27.00	-0.74	-18.77	0.00
Saving Database	165.20	32.00	0.16	-14.45	0.00
Jacket Oscillates	165.70	32.50	0.21	-14.76	0.00
Saving Database	170.20	37.00	-0.52	-18.19	0.00
Saving Database	175.20	42.00	-0.93	-19.95	0.00
Jacket Oscillates	176.20	43.00	-0.84	-20.22	0.00
Saving Database	180.20	47.00	-0.35	-19.54	0.00
Saving Database	185.20	52.00	-0.23	-15.88	0.00
Jacket Oscillates	188.20	55.00	-0.20	-15.00	0.00
Saving Database	190.20	57.00	-0.06	-15.46	0.00
Saving Database	195.20	62.00	-0.39	-18.25	0.00
Jacket Oscillates	199.70	66.50	-0.83	-18.87	0.00
Saving Database	200.20	67.00	-0.83	-18.77	0.00
Saving Database	205.20	72.00	-0.29	-17.49	0.00
Saving Database	210.20	77.00	-0.10	-15.80	0.00
Jacket Oscillates	211.70	78.50	-0.24	-15.45	0.00
Saving Database	215.20	82.00	-0.31	-16.12	0.00
Saving Database	220.20	87.00	-0.22	-17.54	0.00
Jacket Oscillates	224.20	91.00	-0.50	-17.88	0.00
Saving Database	225.20	92.00	-0.55	-17.95	0.00
Saving Database	230.20	97.00	-0.44	-17.24	0.00
Saving Database	235.20	102.00	-0.10	-15.97	0.00
Jacket Oscillates	237.70	104.50	-0.19	-16.02	0.00
Saving Database	240.20	107.00	-0.33	-16.30	0.00
Saving Database	245.20	112.00	-0.37	-17.36	0.00
Jacket Oscillates	249.20	116.00	-0.35	-17.77	0.00
Saving Database	250.20	117.00	-0.37	-17.68	0.00
Saving Database	255.20	122.00	-0.41	-16.86	0.00
Saving Database	260.20	127.00	-0.20	-16.25	0.00
Jacket Oscillates	260.70	127.50	-0.19	-16.20	0.00
Saving Database	265.20	132.00	-0.27	-16.46	0.00
Saving Database	270.20	137.00	-0.43	-17.23	0.00
Jacket Oscillates	274.20	141.00	-0.36	-17.30	0.00
Saving Database	275.20	142.00	-0.33	-17.30	0.00
Saving Database	280.20	147.00	-0.33	-16.94	0.00



```

Saving Database      285.20  152.00  -0.30  -16.30  0.00
Jacket Oscillates   287.20  154.00  -0.24  -16.37  0.00
Saving Database      290.20  157.00  -0.23  -16.60  0.00
Saving Database      295.20  162.00  -0.40  -17.05  0.00
Jacket Oscillates   298.70  165.50  -0.42  -17.34  0.00
Maximum Time        300.20  167.00  -0.39  -17.31  0.00
Saving Database      300.20  167.00  -0.39  -17.31  0.00

```

Simulation Terminated at Specified Time

```

=====
Time For Time Domain          : CP=  57.33
>&dcptime time to perform launch
time to perform launch       : CP=   0.00
>prcpost
>laup_std
Time for Launch Post-Processing : CP=  11.47
>traj
>vlist

```

The Variables Available for Selection are:

```

=====
1 Event          17 V-MAG:H-542      32 RZ:NC3CPP
2 Max. Const. Force  18 A-X:H-542      33 V-X:NC3CPP
3 Bot.Clear:H-542   19 A-Y:H-542      34 V-Y:NC3CPP
4 Displ:H-542      20 A-Z:H-542      35 V-Z:NC3CPP
5 X:H-542          21 A-RX:H-542     36 V-RX:NC3CPP
6 Y:H-542          22 A-RY:H-542     37 V-RY:NC3CPP
7 Z:H-542          23 A-RZ:H-542     38 V-RZ:NC3CPP
8 RX:H-542         24 A-MAG:H-542     39 V-MAG:NC3CPP
9 RY:H-542         25 Bot.Clear:NC3CPP 40 A-X:NC3CPP
10 RZ:H-542        26 Displ:NC3CPP    41 A-Y:NC3CPP
11 V-X:H-542       27 X:NC3CPP        42 A-Z:NC3CPP
12 V-Y:H-542       28 Y:NC3CPP        43 A-RX:NC3CPP
13 V-Z:H-542       29 Z:NC3CPP        44 A-RY:NC3CPP
14 V-RX:H-542     30 RX:NC3CPP       45 A-RZ:NC3CPP
15 V-RY:H-542     31 RY:NC3CPP       46 A-MAG:NC3CPP
16 V-RZ:H-542
>plot 1 17 39 -rax 39 -no
>end
>&pltm
>&subt Jacket Free Sliding

```

```

sta -even 6.2 6.2
>subt Jacket Tipping at Rocker Arm
sta -even 121.80 121.80
>subt Jacket Separate

```



```
>pic sta -even 133.20 133.20
>&subt Jacket Maximum Dive
>pic sta -even 149.70 149.70
>&subt Jacket Free Floating
>pic sta -even 300 300
>end
>&subt Jacket Launch Simulation
>&pltm
>pic star -even 0 300 10
>end
>
>&fini
```

MOSES Finished Normally

```
=====
CP Time      82.97
=====
Total Units  82.97
=====
```

