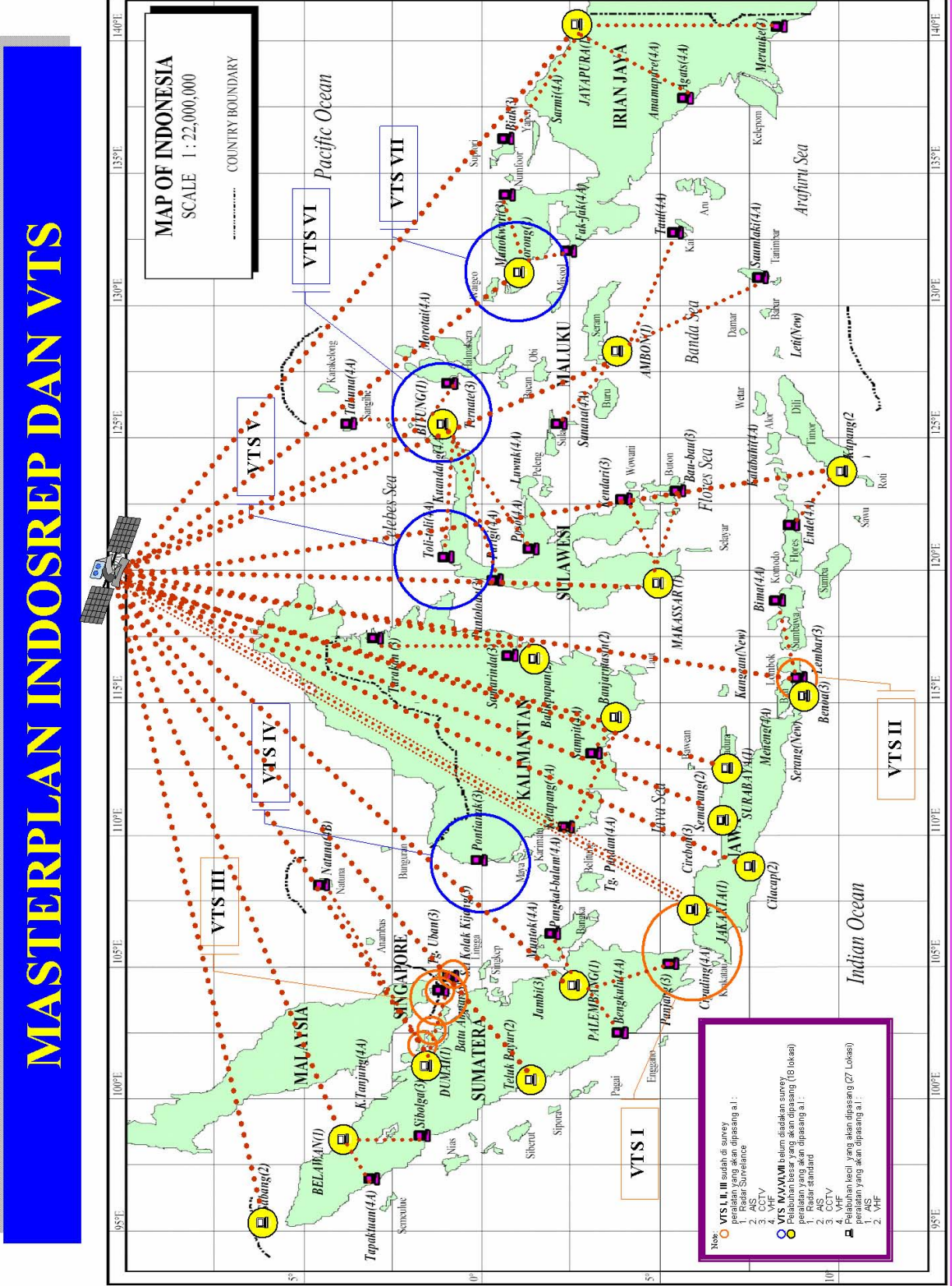


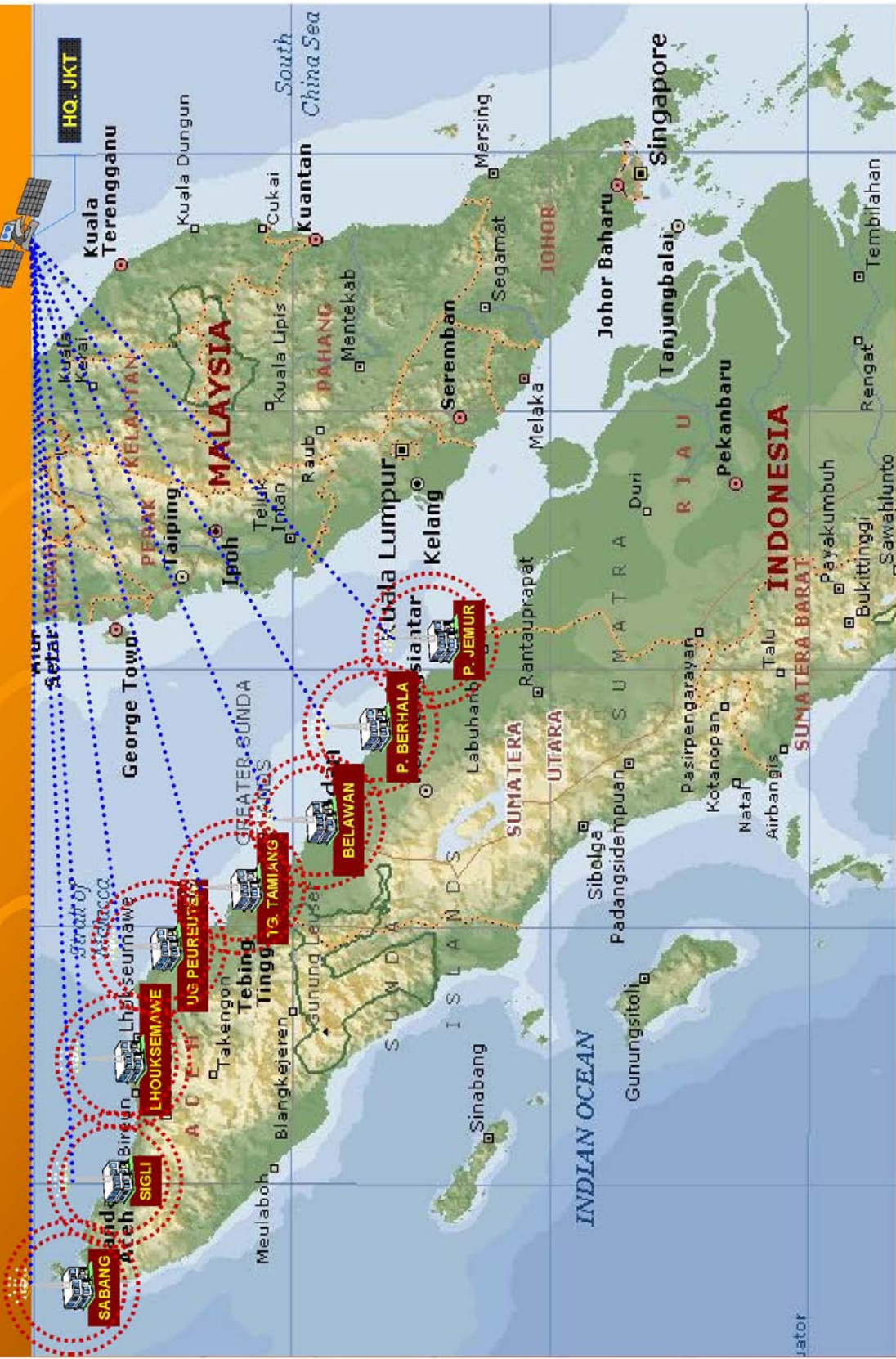
Appendix-5 Other Relevant Data

Appendix 5-1 Master Plan of VTS System in Indonesia



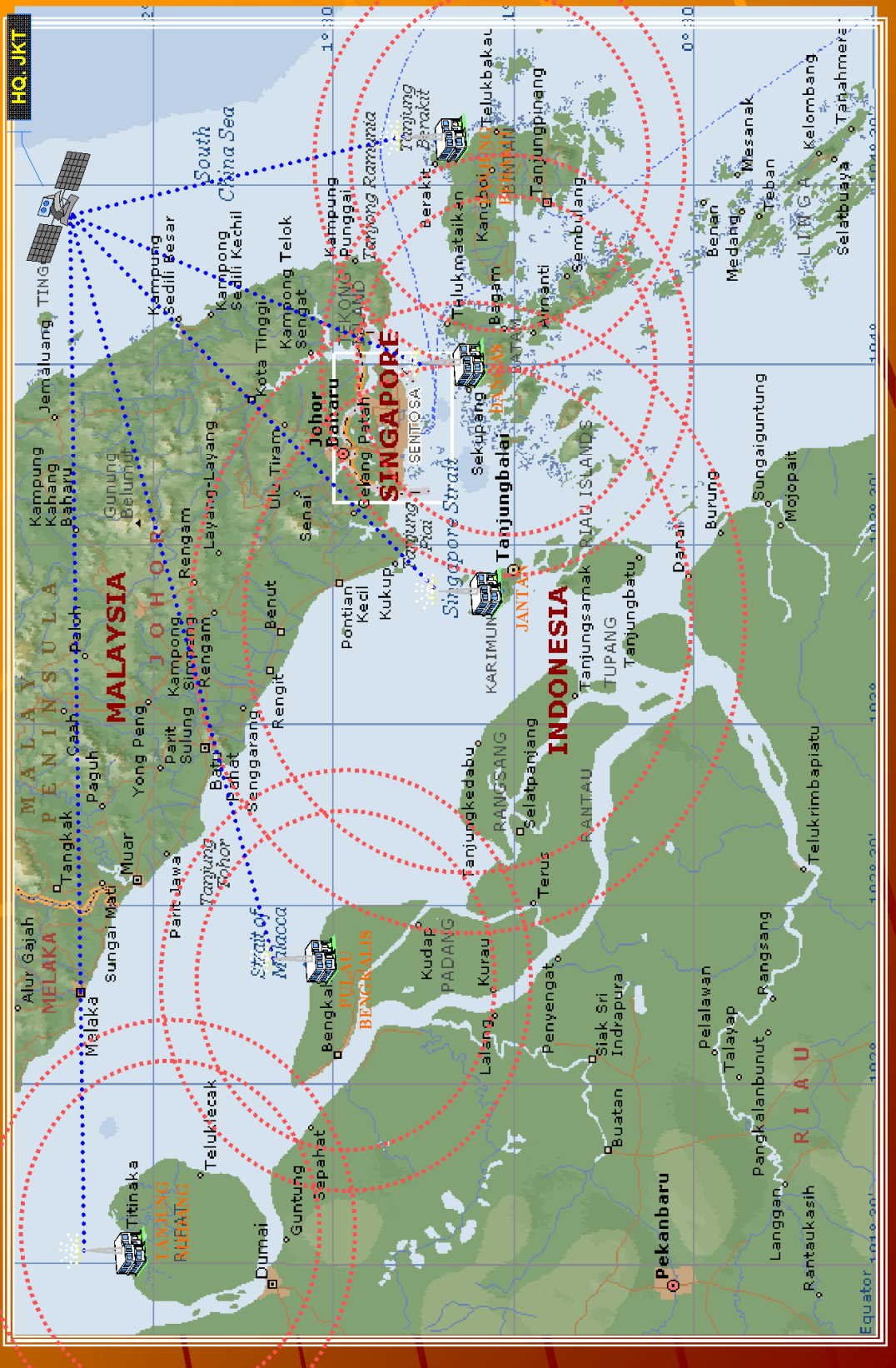
Data Source: Directorate of Navigation

VESSEL TRAFFIC INFORMATION SYSTEM (VTIS) IN MALACCA STRAIT EXTEND TO NORTH



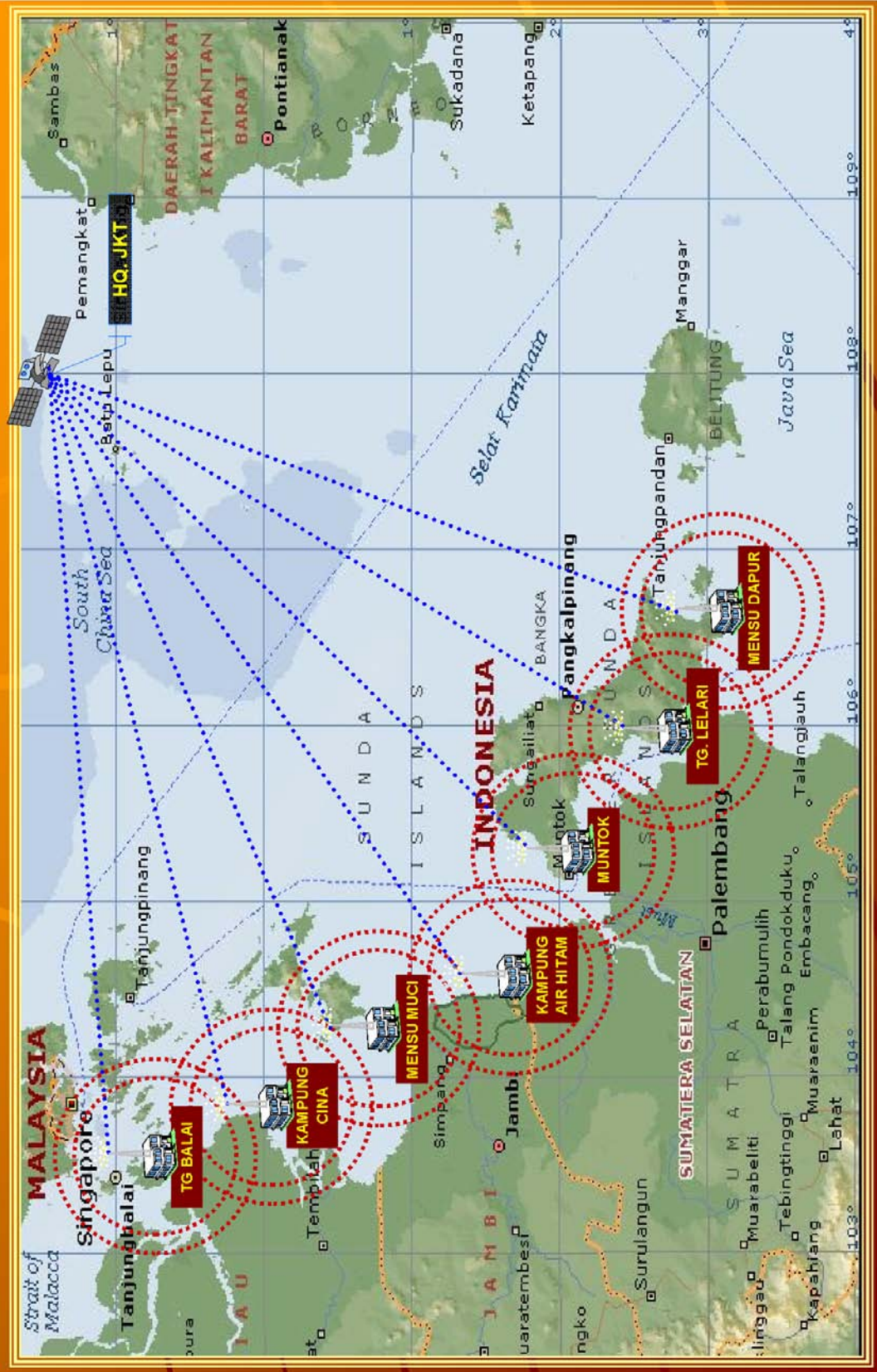
Data Source: Directorate of Navigation

VESSEL TRAFFIC INFORMATION SYSTEM (VTIS) IN MALACCA STRAIT AREA FOR TSS

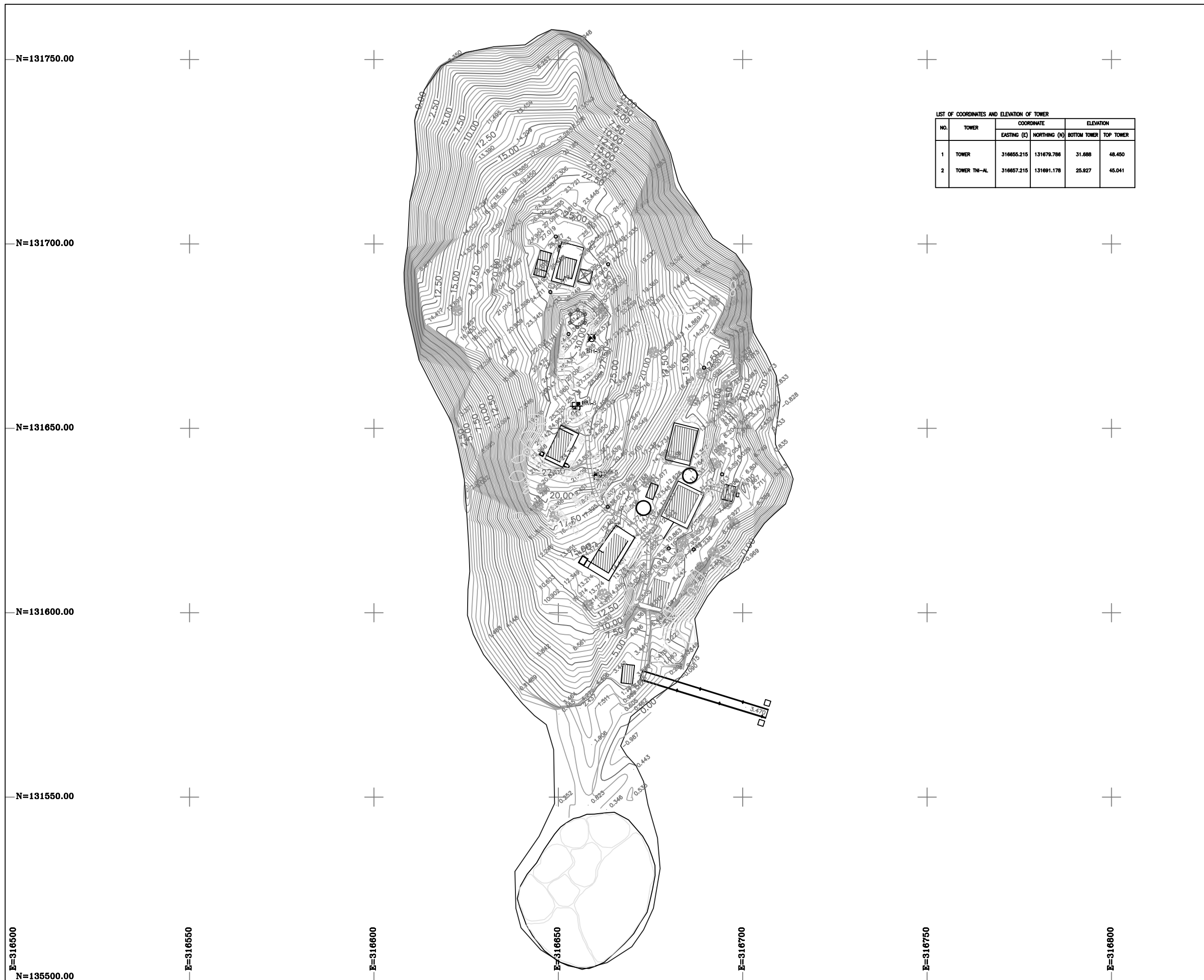


Data Source: Directorate of Navigation

VESSEL TRAFFIC INFORMATION SYSTEM (VTIS) IN MALACCA STRAIT EXTEND TO SOUTH



Data Source: Directorate of Navigation



LIST OF COORDINATES AND ELEVATION OF TOWER

NO.	TOWER	COORDINATE		ELEVATION	
		EASTING (E)	NORTHING (N)	BOTTOM TOWER	TOP TOWER
1	TOWER	316655.215	131679.788	31.888	48.450
2	TOWER TIR-AL	316657.215	131691.178	25.927	45.041

LEGEND

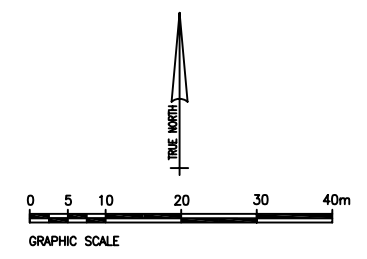
- CONTOUR INTERVAL 50 CM
- BUILDING/HOUSE
- ROAD
- FENCE
- WALL/BOUNDARY OF DEPHEUB AREA
- DITCH
- ELECTRIC POLE
- TOWER
- STONE MASONRY
- TREES
- STONES
- BENCH MARK
- BORE POINT

NOTE :
REFERENCE DATA, COORDINATES FROM GPS

NO.	COORDINATE	
	GEOGRAPHY	UT M.
BM-6	103°21'07".935 E 01°11'26".274 N	E = 316654.823 m N = 131656.002 m

LIST OF COORDINATES AND ELEVATION OF BENCH MARK AND BORE HOLE

NO.	COORDINATE		ELEVATION MSL	REMARK
	EASTING (E)	NORTHING (N)		
BM-5	316660.770	131637.242	21.976	NEW BM
BM-6	316654.823	131656.002	27.056	NEW BM
BH-3	316671.024	131665.892	28.572	BORE HOLE



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CONSULTANT :
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SOILS INVESTIGATIONAL, SURVEY AND ENGINEERING SERVICES

PROJECT :
VESSEL TRAFFIC SERVICE

DRAWING TITLE :
TOPOGRAPHIC MAP
(HIU ISLAND)

SCALE : GRAPHIC

DRAWN : AKHMARUDIN, AGUS P.

SURVEYED : AGUS P.YADI HERMAWAN

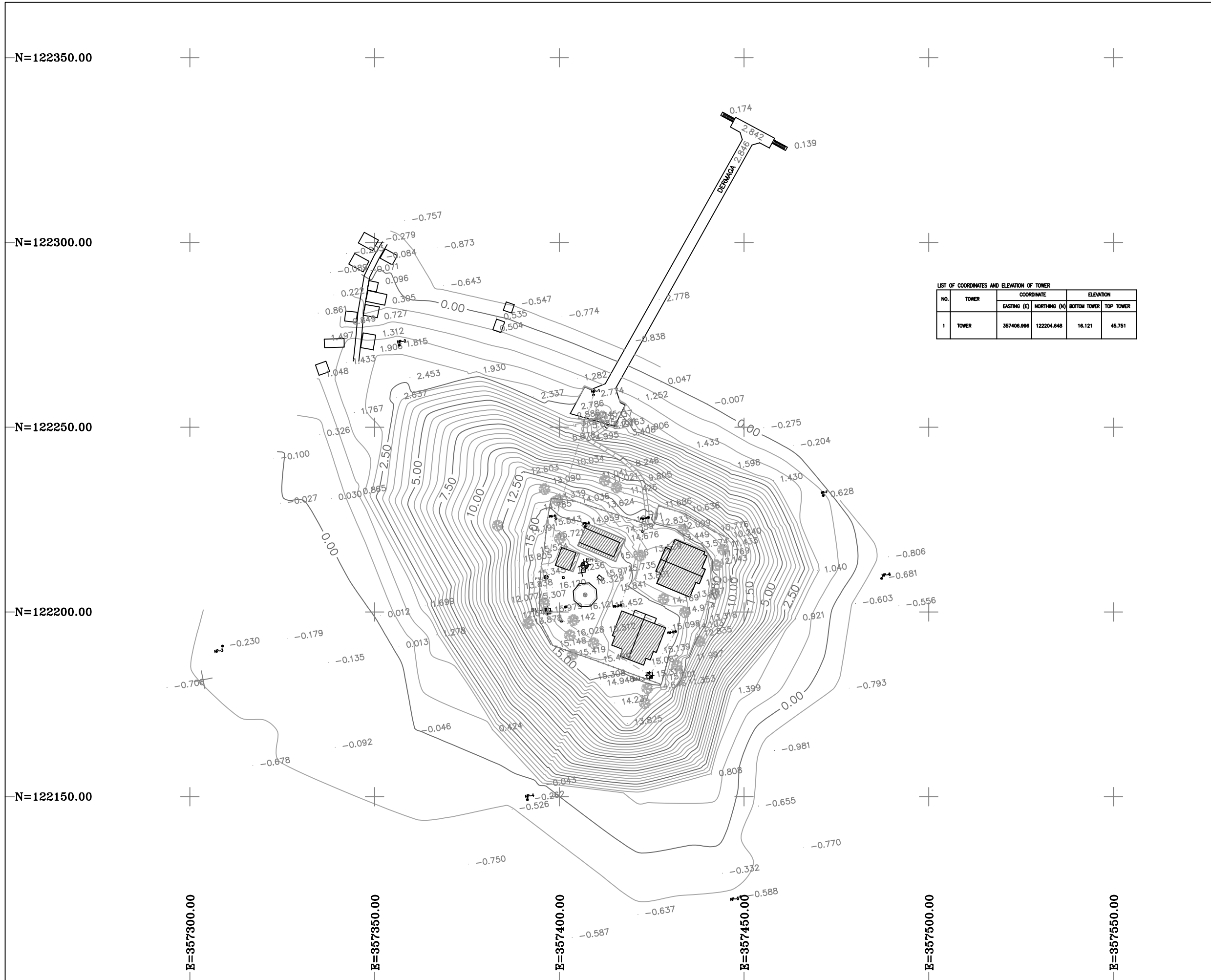
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DRAWING NO. : JICA-PCI/2342/2007/SP-1/Rev-2 DATE : MAY, 2007

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









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LIST OF COORDINATES AND ELEVATION OF TOWER

NO.	TOWER	COORDINATE		ELEVATION	
		EASTING (E)	NORTHING (N)	BOTTOM TOWER	TOP TOWER
1	TOWER	357406.886	122204.648	16.121	45.751

LEGEND

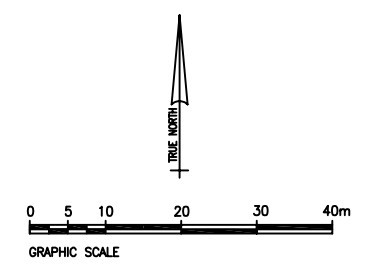
-  CONTOUR INTERVAL 50 CM
-  BUILDING/HOUSE
-  ROAD
-  FENCE
-  TRAVERSE LINE
-  DITCH
-  ELECTRIC POLE
-  TOWER
-  STONE MASONRY
-  TREES
-  BENCHMARK
-  BORE POINT

NOTE :
REFERENCE DATA, COORDINATES FROM GPS

NO.	COORDINATE	
	GEOGRAPHY	UT M.
PM-1	103°43'.100 E 01°06'56.323 N	E = 357396.475 m. N = 122209.409 m.

LIST OF COORDINATES AND ELEVATION OF BENCH MARK AND BORE HOLE

NO.	COORDINATE		ELEVATION MSL.	REMARK
	EASTING (E)	NORTHING (N)		
BM-3	357424.480	122182.818	15.319	NEW BM
BM-4	357396.888	122200.254	16.159	NEW BM
BH-2	357406.887	122212.616	15.857	BORE HOLE



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CONSULTANT :
 **PT. SOILENS**
GEOL. ENVIRONMENTAL, SURVEY AND ENGINEERING SERVICE

PROJECT :
VESSEL TRAFFIC SERVICE

DRAWING TITLE :
TOPOGRAPHIC MAP
(TAKONG ISLAND)

SCALE : GRAPHIC

DRAWN : AKHMARUDIN, AGUS P.

SURVEYED : AGUS P. YADI HERMAWAN

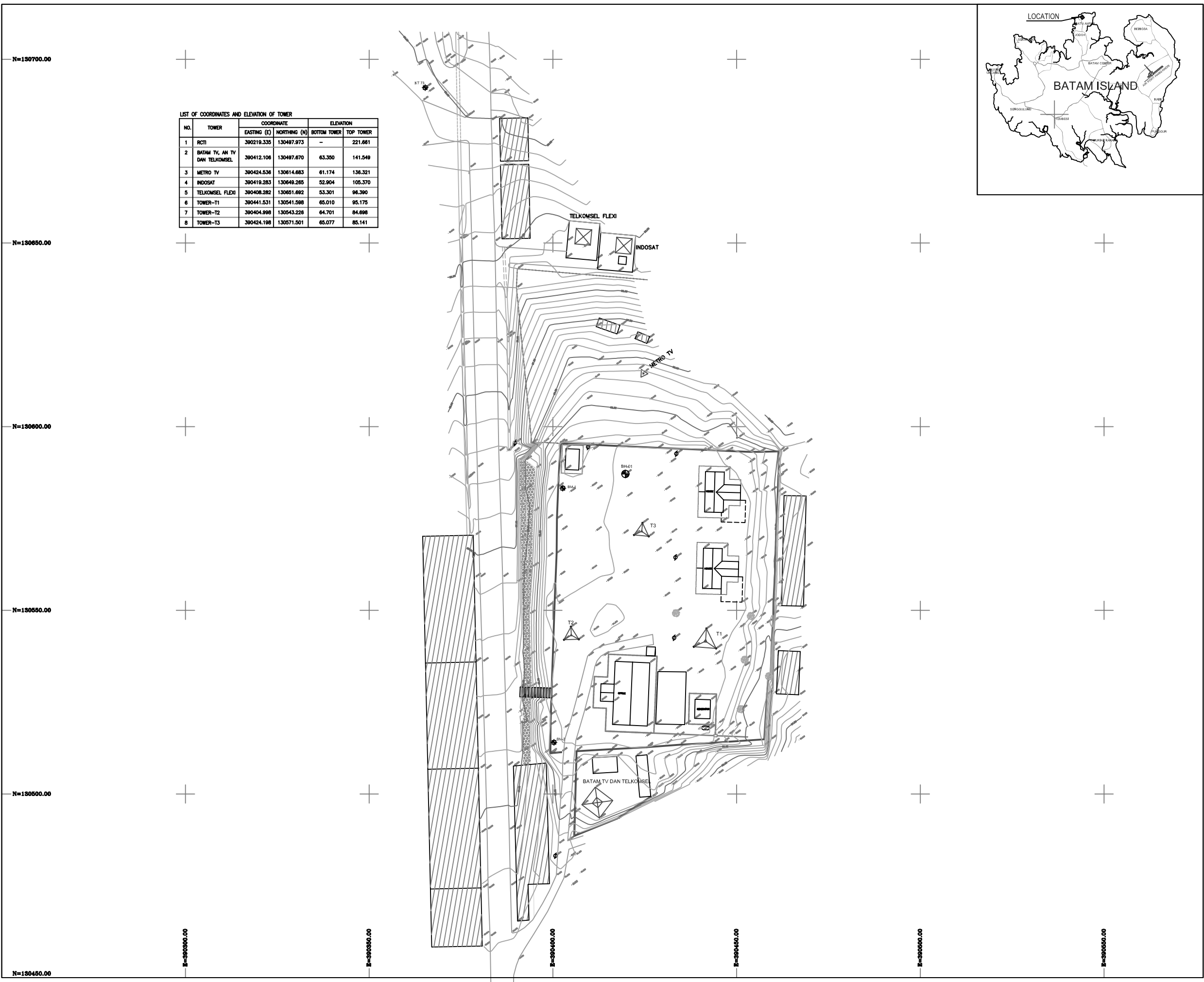
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AKHMARUDIN IR. IMAN MULYANA

DRAWING NO. : JICA-PCI/2342/2007/SP-1 (REV.1) DATE : MAY, 2007

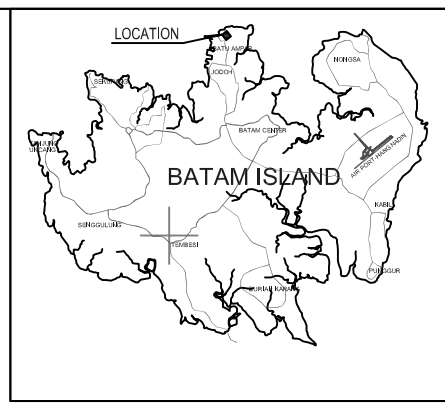
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LIST OF COORDINATES AND ELEVATION OF TOWER

NO.	TOWER	COORDINATE		ELEVATION	
		EASTING (E)	NORTHING (N)	BOTTOM TOWER	TOP TOWER
1	RTI	390219.335	130497.973	-	221.661
2	BATAM TV, AN TV DAN TELKOMSEL	390412.106	130497.670	63.300	141.549
3	METRO TV	390424.536	130614.683	61.174	136.321
4	INDOSAT	390419.283	130649.285	52.904	105.370
5	TELKOMSEL FLEXI	390408.282	130651.692	53.301	96.390
6	TOWER-T1	390441.531	130541.598	65.010	95.175
7	TOWER-T2	390404.998	130543.226	64.701	84.698
8	TOWER-T3	390424.198	130571.501	65.077	85.141



LEGEND

	CONTOUR INTERVAL 50 CM
	BUILDING/HOUSE
	ROAD
	FENCE
	WALL/BOUNDARY OF DEPHUB AREA
	DITCH
	ELECTRIC POLE
	TOWER
	STONE MASONRY
	TREES
	BENCH MARK
	BORE POINT

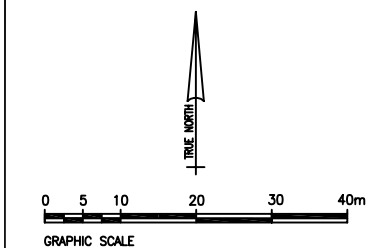
NOTE :
REFERENCE DATA, COORDINATES FROM GPS

NO.	COORDINATE	
	GEOGRAPHY	U T M.
KT-73	104°00'52".502 E	E = 390365.249 m.
	01°10'56".037 N	N = 130692.295 m.

LOCAL ELEVATION FROM KT73 = 50.536 m.

LIST OF COORDINATES AND ELEVATION OF BENCH MARK AND BORE HOLE

NO.	COORDINATE		ELEVATION	REMARK
	EASTING (E)	NORTHING (N)		
Bm-1	390402.707	130583.256	64.552	NEW BM
Bm-2	390400.301	130514.063	64.723	NEW BM
BH-1	390419.740	130587.138	64.608	BORE HOLE



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CONSULTANT :
PT. SOILENS
SOILS INVESTIGATIONAL, SURVEY AND ENGINEERING SERVICE

PROJECT :
VESSEL TRAFFIC SERVICE

DRAWING TITLE :
TOPOGRAPHIC MAP
(BATU AMPAR, BATAM)

SCALE : GRAPHIC

DRAWN : AKHMARUDIN, AGUS P.

SURVEYED : AGUS P.YADI HERMAWAN

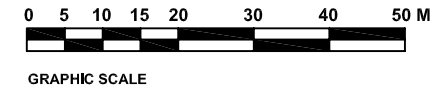
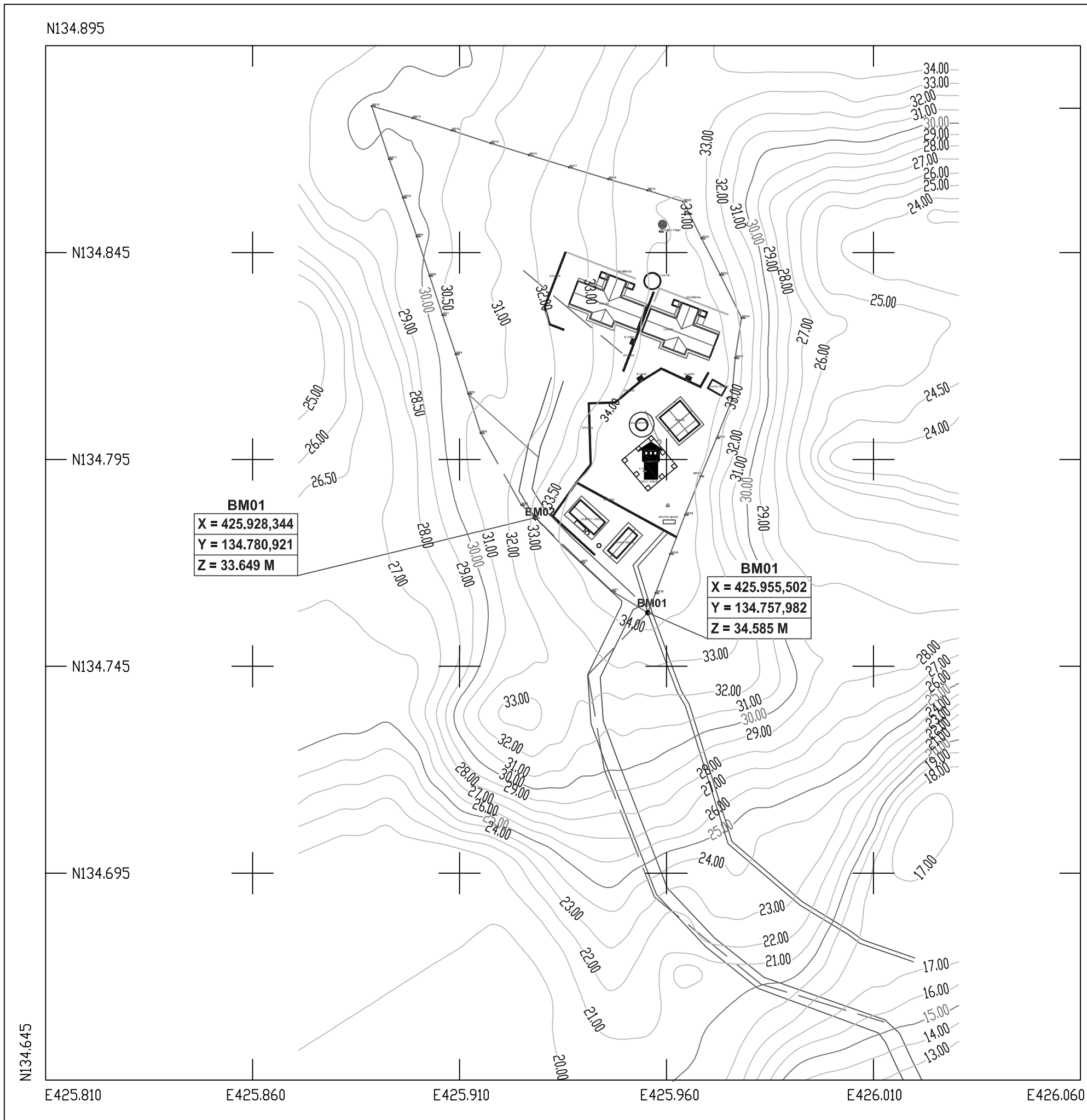
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AKHMARUDIN IR. IMAN MULYANA

DRAWING NO. DATE
JICA-PCI/2342/2007/SP-1 (rev.1) MAY, 2007

WORK NO. PRINTED DATE :

FILE : SHEET
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Proyeksi : Transvers Mercator
 Gridding Sisten : Grid Universal Transvers Mercator
 Datum Horizontal : WGS 84
 Datum Vertikal : Tidal Observation
 levelling : Meter
 Contour interval : 1 Meter

CLIENT :



CONSULTANT :



PROJECT :

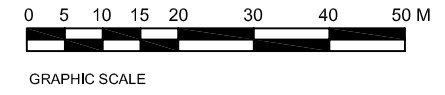
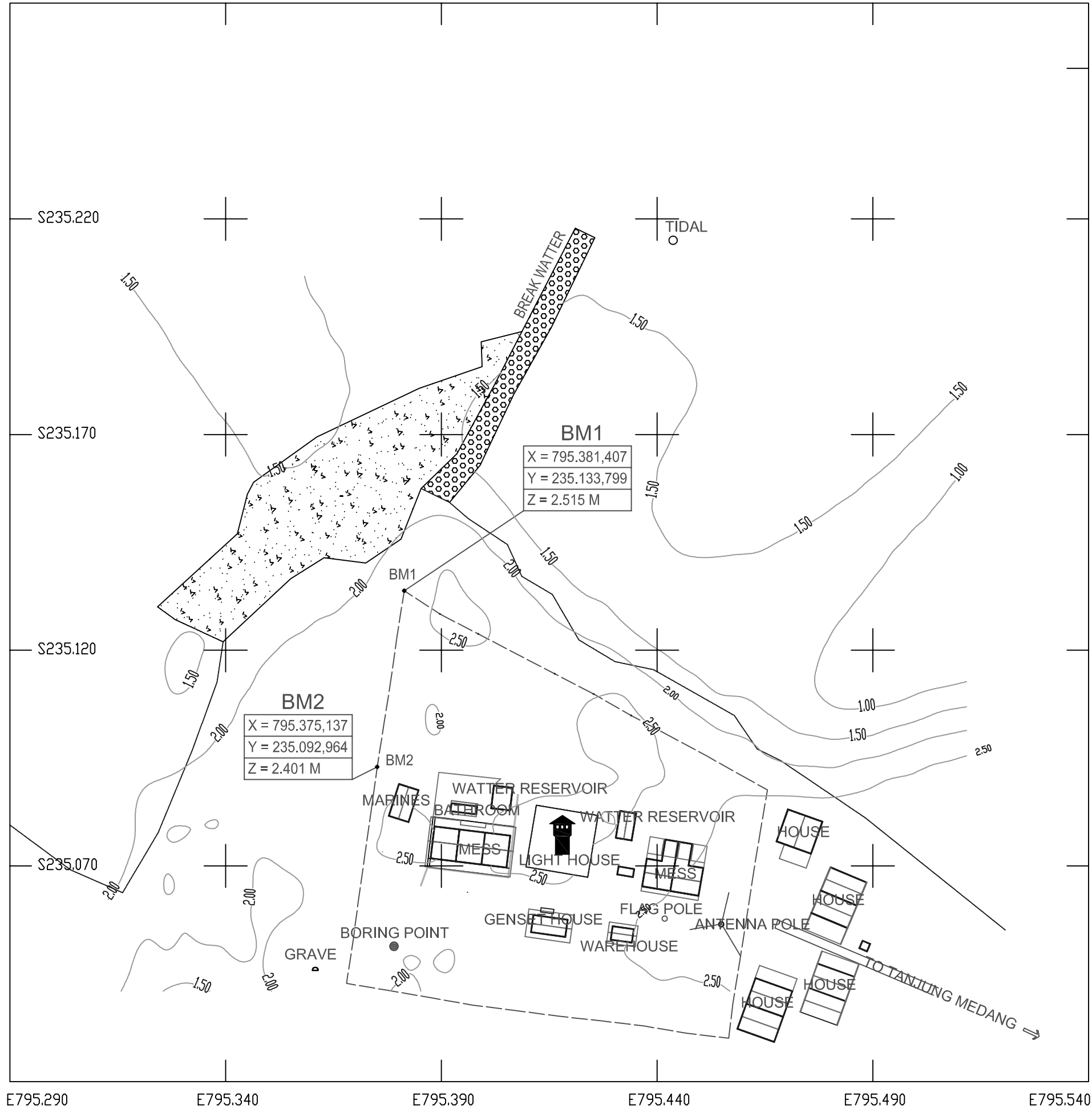
TOPOGRAPHIC MAP
 For
The Basic Design Survey On The
Project For Development Of Vessel Traffic
Service In Malaka and Singapore Straits

DRAWING TITLE :

TOPOGRAPHIC MAP
 AT TJ. BERAKIT LIGHT HOUSE

SCALE	: 1 : 1.000
DRAWN	: SUHARTO
SURVEYED	: RASIDI
CHEKED	: SURANTO
APPROVED	: BAMBANG IRAWAN
DRAWING NO.	DATE
-----	SEPTEMBER, 2007
WORK NO.	PRINTED DATE :
FILE	SHEET
TJ_BERAKIT_A3.DWG	1 / 1

S235.270



Proyeksi : Transvers Mercator
 Gridding Sistem : Grid Universal Transvers Mercator
 Datum Horizontal : WGS 84
 Datum Vertikal : Tidal Observation
 levelling : Meter
 Contour interval : 0.5 Meter

CLIENT :



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JAPAN AIDS TO NAVIGATION ASSOCIATION

CONSULTANT :



PT. RAYA SURVERINDO TIRTASARANA
 SURVEY, MAPPING, ENGINEERING, CONSULTING
 JL. TUBAGUS ISMAIL VII NO. 27 BANDUNG
 PHONE 022-2504343, FAX 022-2532968

PROJECT :

TOPOGRAPHIC MAP
For
The Basic Design Survey On The
Project For Development Of Vessel Traffic
Service In Malaka and Singapore Straits

DRAWING TITLE :

TOPOGRAPHIC MAP
 AT TJ. MEDANG LIGHT HOUSE

SCALE	: 1:1,000
DRAWN	: SUHARTO
SURVEYED	: RASIDI
CHEKED	: SURANTO
APPROVED	: BAMBANG IRAWAN
DRAWING NO.	DATE SEPTEMBER, 2007
WORK NO.	PRINTED DATE :
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S168.780

S168.730

S168.680

S168.630

E214.450

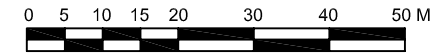
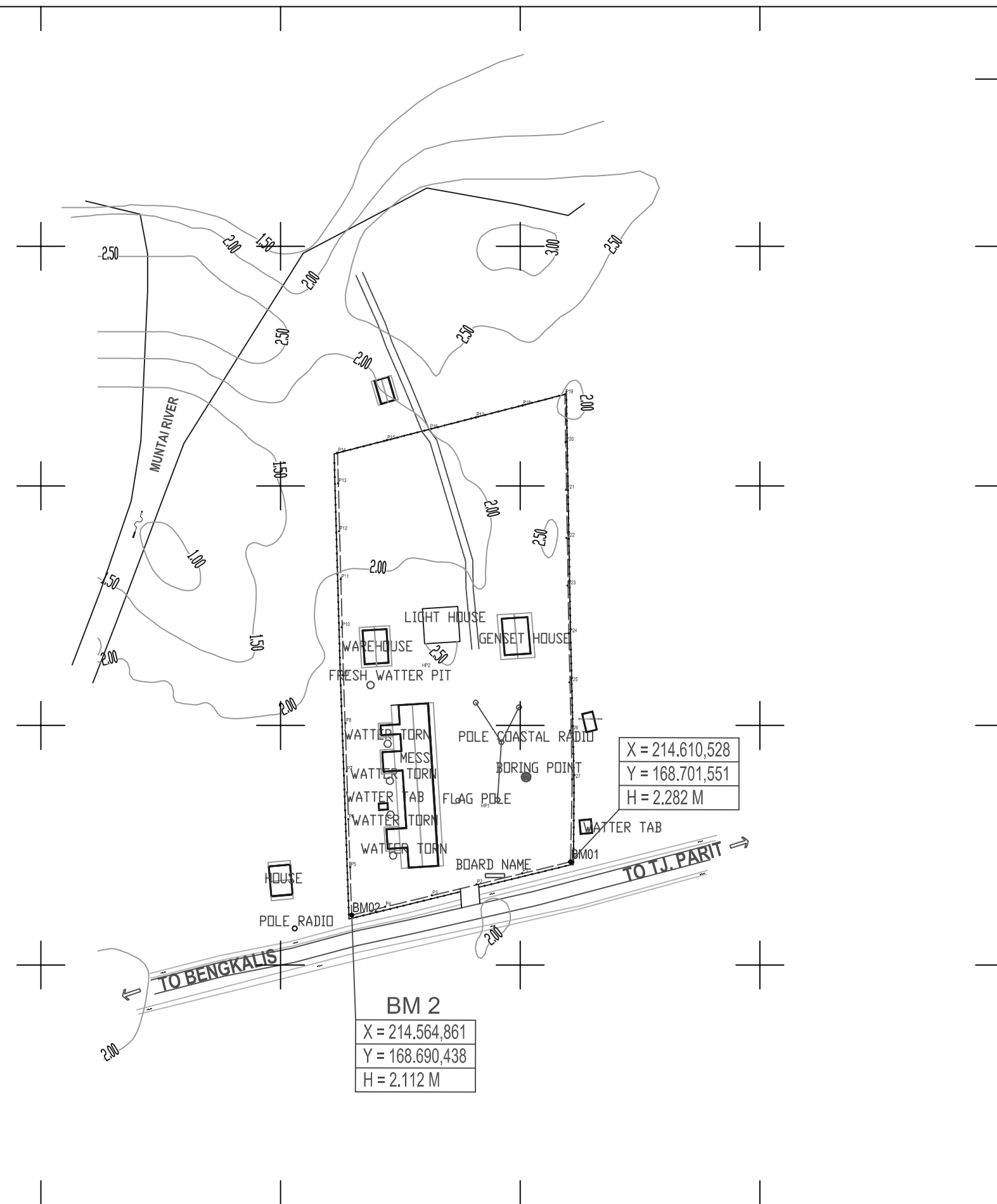
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GRAPHIC SCALE

Proyeksi : Transvers Mercator
 Gridding Sistem : Grid Universal Transvers Mercator
 Datum Horizontal : WGS 84
 Datum Vertikal : Tidal Observation
 levelling : Meter
 Contour interval : 0.5 Meter

CLIENT :



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 PHONE 022-2504343, FAX 022-2532968

PROJECT :

TOPOGRAPHIC MAP
 For
The Basic Design Survey On The
Project For Development Of Vessel Traffic
Service In Malaka and Singapore Straits

DRAWING TITLE :

TOPOGRAPHIC MAP
 AT TJ. PARIT LIGHT HOUSE

SCALE : 1 : 1,000

DRAWN : SUHARTO

SURVEYED : RASIDI

CHEKED : SURANTO

APPROVED : BAMBANG IRAWAN

DRAWING NO. : _____

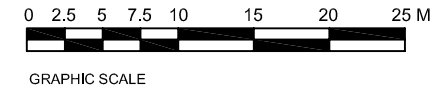
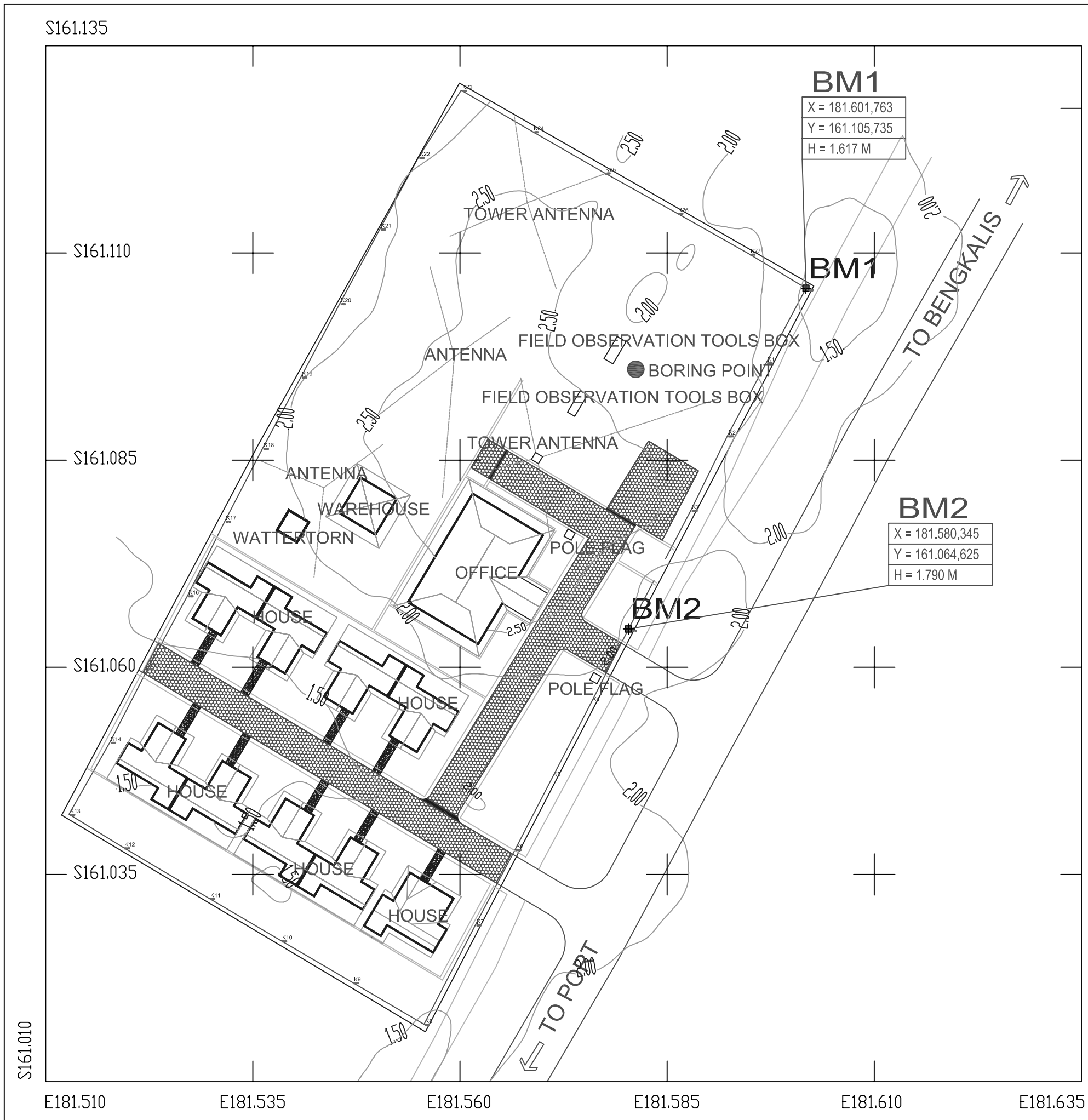
DATE : SEPTEMBER, 2007

WORK NO. : _____

PRINTED DATE : _____

FILE : TJ_PARIT_A3.DWG

SHEET : 1 / 1



Proyeksi : Transvers Mercator
 Gridding Sistem : Grid Universal Transvers Mercator
 Datum Horizontal : WGS 84
 Datum Vertikal : Tidal Observation
 levelling : Meter
 Contour interval : 0.5 Meter

CLIENT :



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PHONE 022-2504343, FAX 022-2532968

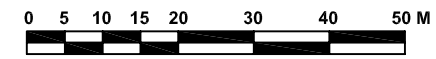
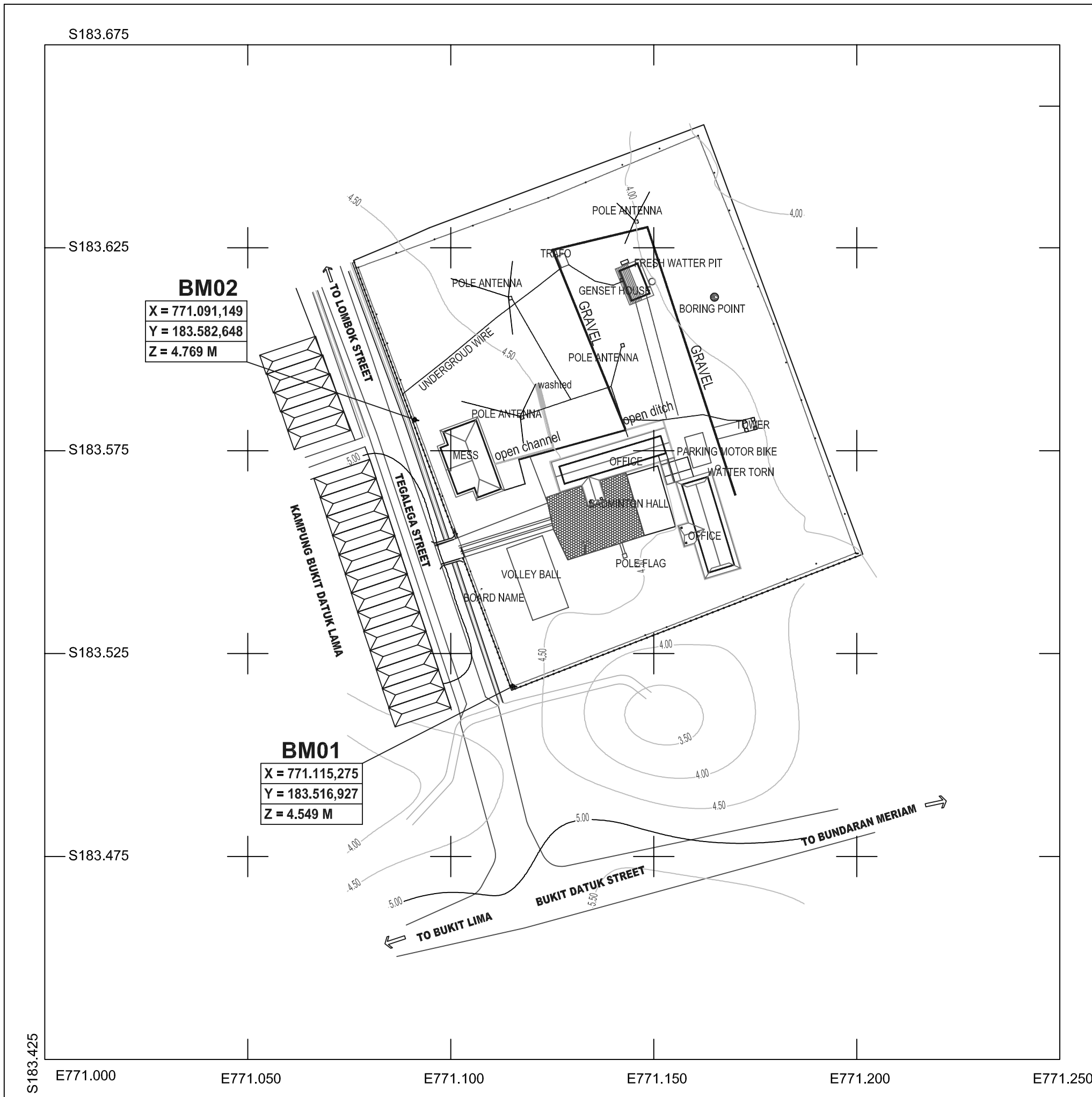
PROJECT :

TOPOGRAPHIC MAP
For
**The Basic Design Survey On The
Project For Development Of Vessel Traffic
Service In Malaka and Singapore Straits**

DRAWING TITLE :

TOPOGRAPHIC MAP
AT BENGKALIS RADIO STATION

SCALE	: 1 : 500
DRAWN	: SUHARTO
SURVEYED	: RASIDI
CHEKED	: SURANTO
APPROVED	: BAMBANG IRAWAN
DRAWING NO.	DATE SEPTEMBER, 2007
WORK NO.	PRINTED DATE :
FILE BENGKALIS_3A.DWG	SHEET 1 / 1



GRAPHIC SCALE

Proyeksi : Transvers Mercator
 Gridding Sitem : Grid Universal Transvers Mercator
 Datum Horizontal : WGS 84
 Datum Vertikal : Tidal Observation
 levelling : Meter
 Contour interval : 1 Meter

CLIENT :



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PROJECT :

TOPOGRAPHIC MAP
 For
The Basic Design Survey On The
Project For Development Of Vessel Traffic
Service In Malaka and Singapore Straits

DRAWING TITLE :

TOPOGRAPHIC MAP
 AT DUMAI RADIO STATION

SCALE : 1 : 1,000
 DRAWN : SUHARTO
 SURVEYED : RASIDI
 CHEKED : SURANTO APPROVED : BAMBANG IRAWAN

DRAWING NO. :
 WORK NO. :
 FILE DUMAI_A3.DWG

DATE : SEPTEMBER, 2007
 PRINTED DATE :
 SHEET : 1 / 1