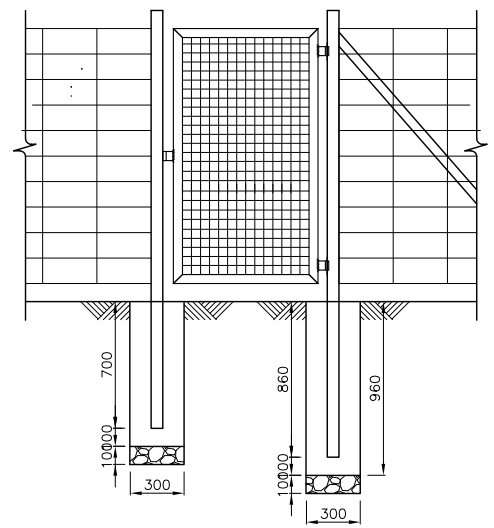
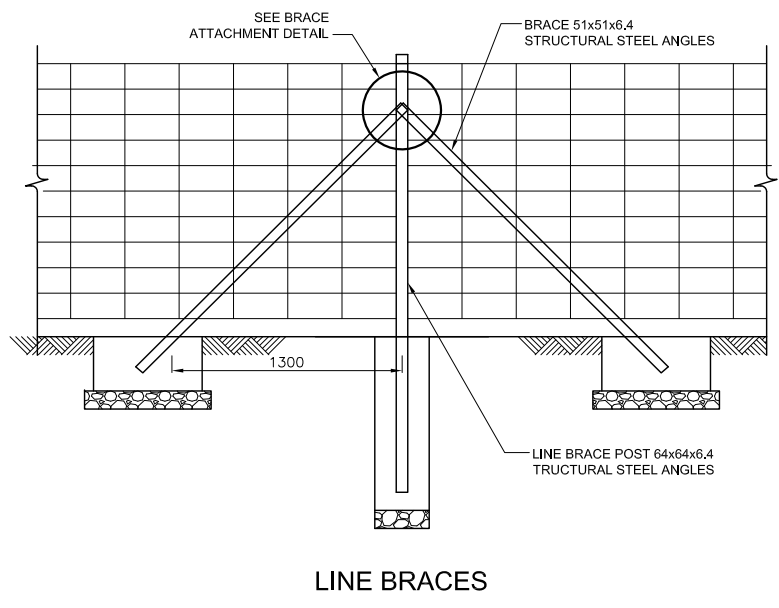
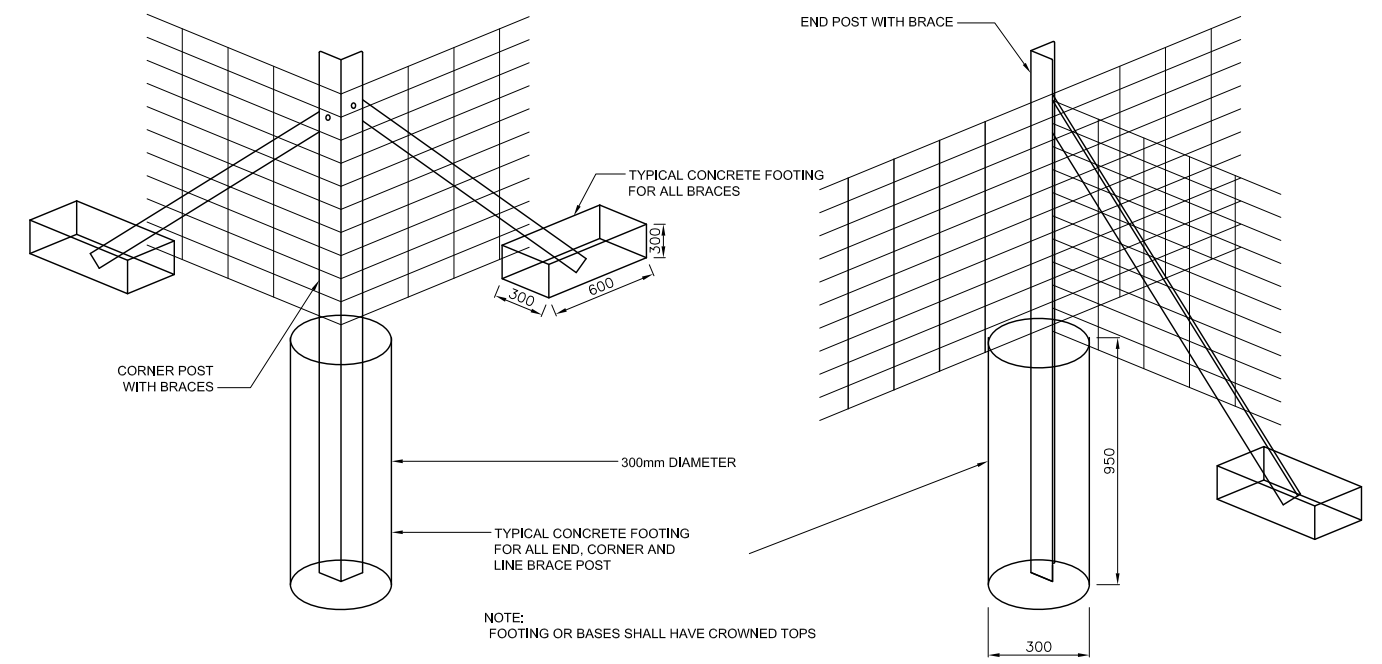
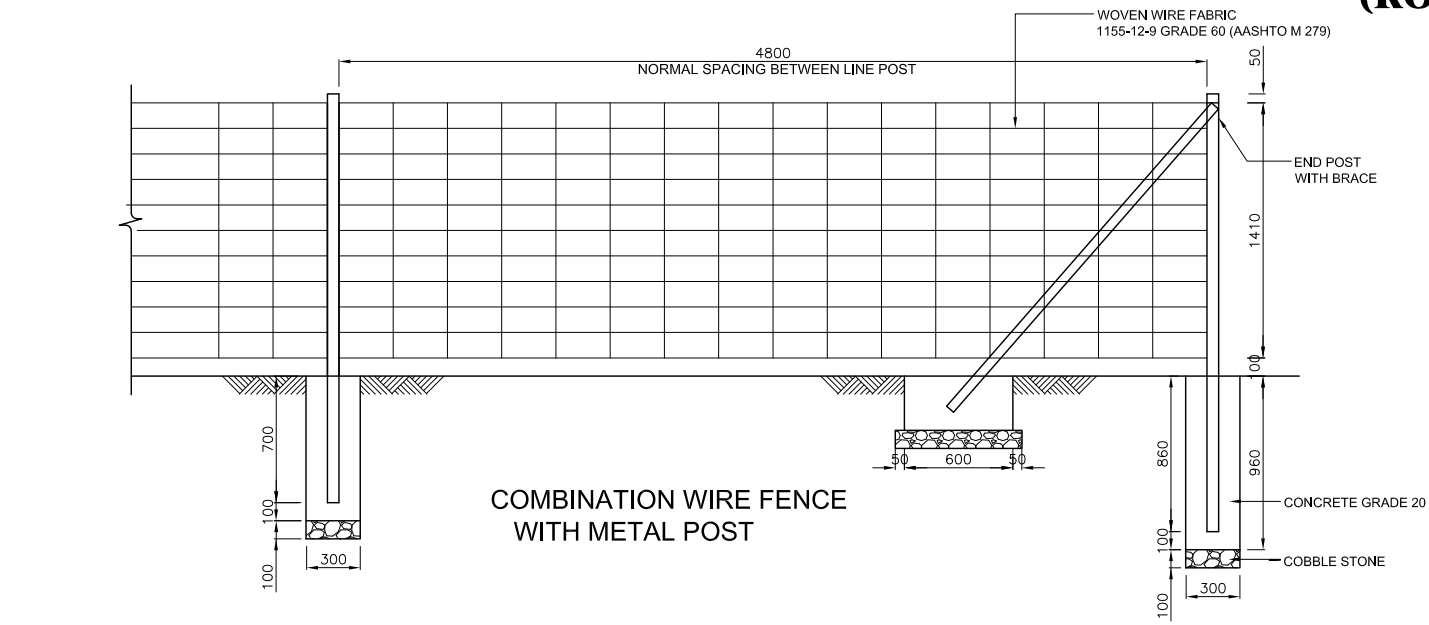


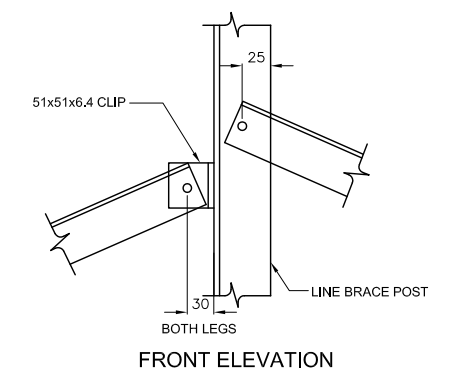
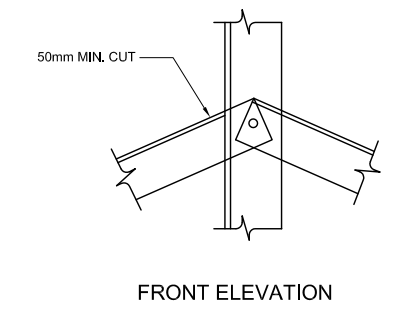
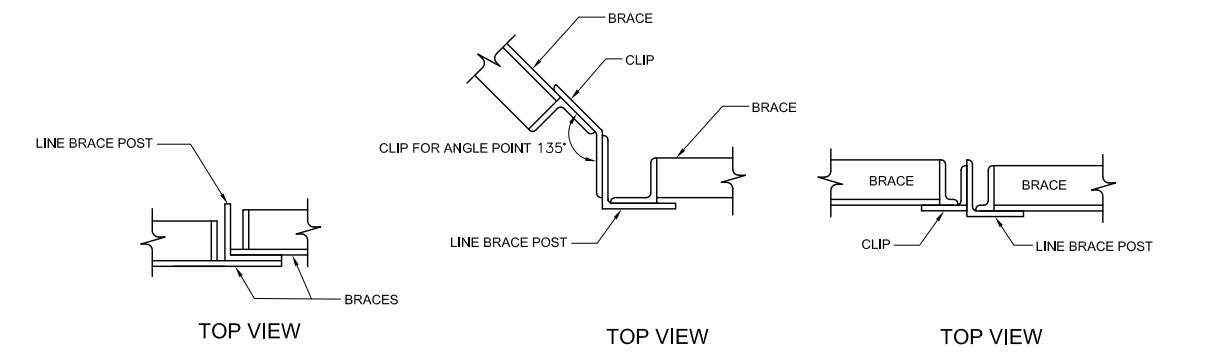
N. MISCELLANEOUS

RIGHT OF WAY FENCE (ROWF)



**TYPICAL CORNER POST
INSTALLTION**

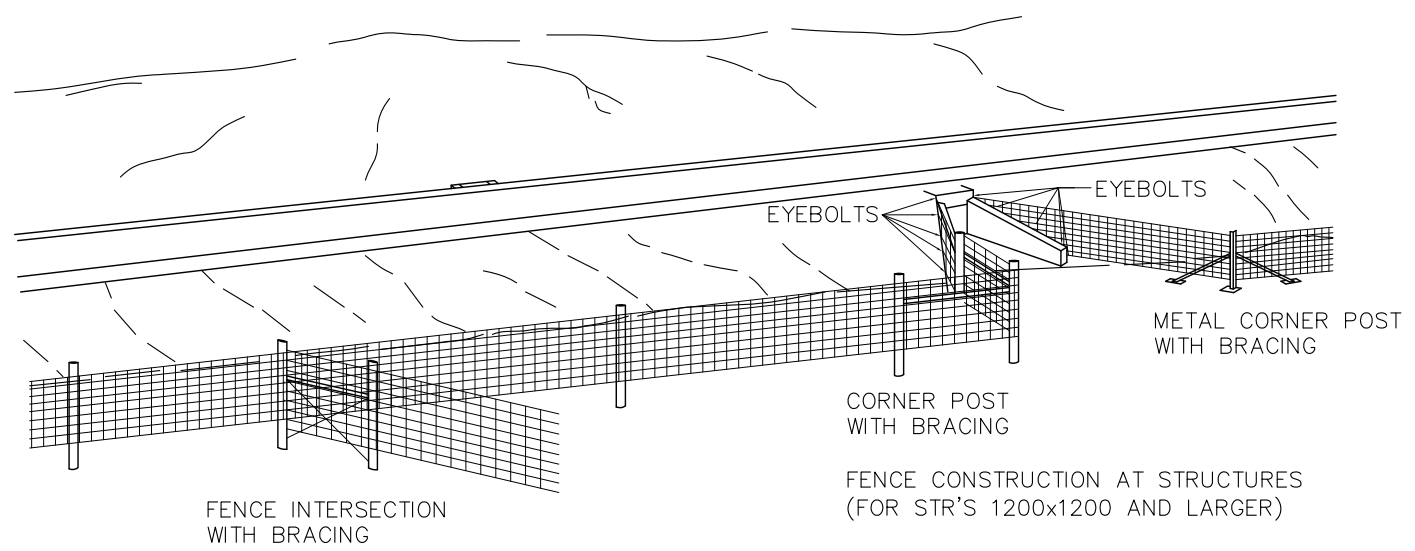
**TYPICAL INSTALLTION
AT FENCE INTERSECTIONS**



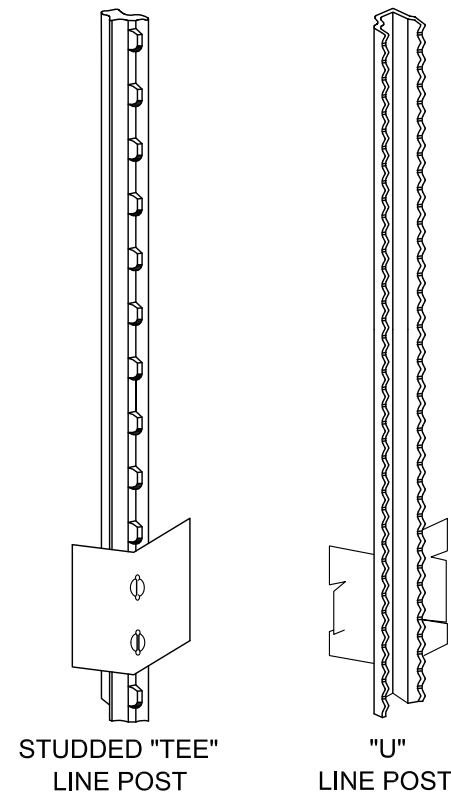
BRACE ATTACHMENT DETAIL

**ALTERNATIVE BRACE
ATTACHMENT DETAIL**

NOTE:
ALTERNATIVE ATTACHMENT METHODS, ACCEPTABLE
TO THE ENGINEER, MAY BE USED.



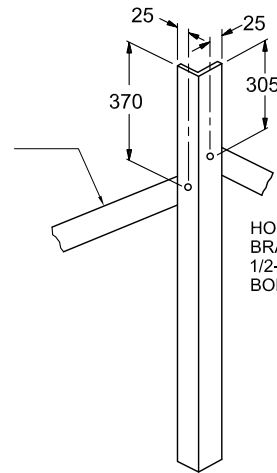
GENERAL NOTES



STUDDED "TEE"
LINE POST

"U"
LINE POST

WHEN POST IS TO BE USED FOR AN END POST, THIS BRACE SHALL BE LEFT OFF.



HOLES IN ANGLE POSTS AND BRACES SHALL ACCOMMODATE 1/2-13 UNC GALVANISED MACHINE BOLTS.

ANGLE POST
(FOR END, CORNER AND LINE BRACE)

DETAILS FOR HOLE SPACING

TYPICAL METAL POSTS

METAL POSTS:

ALL POSTS AND BRACES SHALL BE OF THE TYPES AND WEIGHTS SHOWN OR ACCEPTABLE EQUIVALENTS AND SHALL CONFORM TO AASHTO M 281. HOLES TO BE PROVIDED IN END, CORNER AND GATE POSTS AS DETAILED.

CORNER AND LINE BRACE POSTS:

TYPE - 64 x 64 x 6.4 STRUCTURAL STEEL ANGLES
WEIGHT - 6.10 kg/m
LENGTH - 1980 MIN.
NO. OF BRACES - 2

LINE POSTS:

TYPE - "STUDDED TEE" OR "U"
WEIGHT - 1.98 kg/m (WITHOUT ANCHOR)
LENGTH - 1820 MIN.
ANCHOR - SECURELY FASTENED, WITH BEARING SURFACE SUFFICIENT TO RESIST MOVEMENT OF POST. WEIGHT - 0.30 kg

METAL END POSTS AND GATE POSTS:

TYPE - 64 x 64 x 6.4 STRUCTURAL STEEL ANGLES
WEIGHT - 6.10 kg/m
LENGTH - END, 1980 MIN.; PANEL GATE, 2120 MIN.
NO. OF BRACES - 1

BRACES: (FOR CORNER, END OR LINE BRACE POSTS)

TYPE - 51 x 51 x 6.4 STRUCTURAL STEEL ANGLES
WEIGHT - 4.75 kg/m
LENGTH - SAME AS CORNER AND END POSTS USED.

FOOTINGS OR BASES:

FOOTING OR BASES SHALL HAVE CROWNED TOPS

CONCRETE SHALL BE CLASS A, AX, OR B. CONCRETE WITH LIGHT WEIGHT AGGREGATES CONFORMING TO AASHTO M 195 (ASTM C 330) WILL BE PERMITTED.

ALTERNATIVES: END, CORNER AND LINE BRACE POSTS ALTERNATIVES: (CONTRACTOR'S OPTION)

HOLES IN POSTS, BRACES AND CUP SHALL ACCOMMODATE 1/2-13 UNC GALVANISED MACHINE BOLTS

	TYPE	I.D.	O.D.	kg/m	WALL THK.
1.	STD. GALV. PIPE	63	73.0	8.63 ±5%	5.16
2.	H.S. COLD ROLLED PIPE	63	73.0 ±0.4	6.91 ±5%	4.06 ±5%

LENGTHS SHALL BE 1980mm MIN.

BRACES:

TYPE - 35mm O.D. TUBULAR STEEL WITH 63mm BRACE BAND, HINGE BOLT AND 35mm I.D. RAIL END; ALL GALVANISED.
WEIGHT - 24 kg/m ±5%
LENGTH - 1980 MIN.

WOVEN WIRE MESH:

WOVEN WIRE USED IN COMBINATION WIRE FENCE SHALL BE GALVANISED AND CONFORM TO AASHTO M 279, (ASTM A 116) COATING CLASS 1, AND THE FOLLOWING:

STANDARD	WOVEN WIRE FIELD FENCE, STYLE OR DESIGN NO.
	1155-12-9

ALL FENCE WIRE TIES, CLIPS, CLAMPS, STAPLES AND OTHER WIRE APPURTENANCES SHALL BE GALVANISED IN ACCORDANCE WITH AASHTO M232.

WALK GATES:

HEIGHT - APPROXIMATELY 1510 (5 PANELS)
WEIGHT - GALVANIZED STEEL, 7.3kg; TEMPERED ALUMINIUM, 4.5 kg
WIDTH OF GATE OPENING - 910 MIN.

ALTERNATIVE WALK GATES:

HEIGHT - 1070
WEIGHT - NOT LESS THAN 8.2kg COMPLETE WITH LATCH AND HINGES.

WIDTH OF GATE OPENING - 910 MIN.
GATE FRAME - NPS-3/4 STANDARD GALVANISED PIPE OR ACCEPTABLE EQUIVALENT AND SHALL BE OF ALL-WELDED CONSTRUCTION.
WOVEN WIRE SHALL BE OF THE SAME CONSTRUCTION DESIGNATED FOR DRIVEWAY GATE.
ALTERNATIVE EQUIVALENT STANDARD METAL GATES OTHER THAN SHOWN WILL BE ACCEPTABLE SUBJECT TO THE ENGINEER'S APPROVAL.
IN LIEU OF GALVANISED FINISH ON GATE FRAMES, CADMIUM-PLATED PIPE OR ALUMINIUM PAINTING WILL BE CONSIDERED TO BE EQUIVALENT.

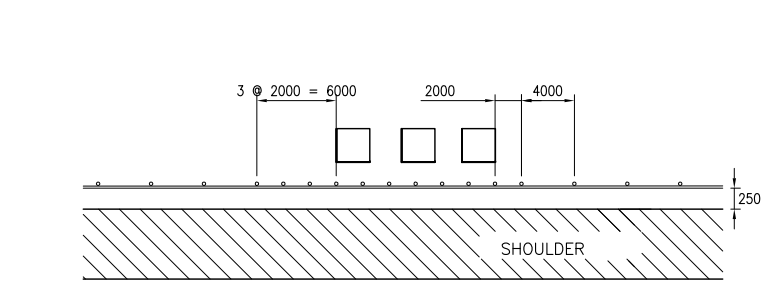
LATCHES AND HINGES:

GALVANISED STEEL OR ALUMINIUM OF STANDARD MAKE.
HINGES SHALL BE PLACED AS SHOWN, TO PREVENT THEFT.
IN LIEU OF STANDARD MAKE LATCHES, IT WILL BE PERMISSIBLE TO USE AN ELECTRO-GALVANIZED CHAIN, EYEBOLT AND SNAP HOOK TYPE LATCH. EYEBOLT, CHAIN AND SNAP HOOK ASSEMBLY TO BE SECURED TO LATCH SIDE OF GATE. GATE CLOSURE EFFECTED BY WRAPPING CHAIN AROUND END POST AND SNAPPING HOOK INTO CHAIN.

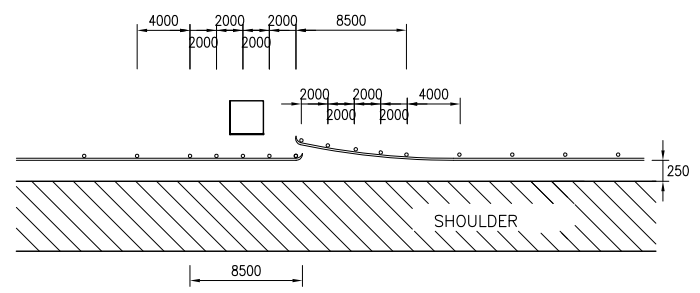
FENCE LAYOUT

AT ALL STRUCTURES OF 1200x1200 AND LARGER, THE FENCE SHALL BE ENDED AT EYEBOLTS IN THE WINGS OF THE STRUCTURE. WHERE THE TYPE OF STRUCTURE PROHIBITS THE USE OF EYEBOLTS, AN END POST WITH BRACE SHALL BE USED. EYEBOLTS SHALL BE MADE OF 13 mm. ROUND BARS WITH A MINIMUM OF 150 mm. OF BODY LENGTH EMBEDDED (HOOKED OR BENT) IN FRESH CONCRETE. IN EXISTING CONCRETE, THE 13 mm. ROUND BARS SHALL BE DEFORMED AND GROUTED INTO DRILLED HOLES. EYEBOLTS SHALL HAVE A MINIMUM OF 25 mm. INSIDE EYE DIAMETER. EYEBOLTS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. COST OF EYEBOLTS WILL BE INCLUDED IN THE CONTRACT PRICE FOR FENCING.

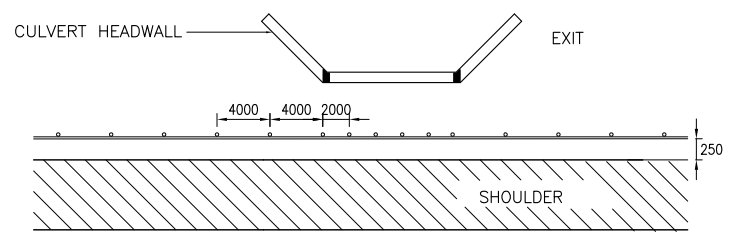
NOTE:
ALTERNATIVE ATTACHMENT METHODS, ACCEPTABLE TO THE ENGINEER, MAY BE USED.



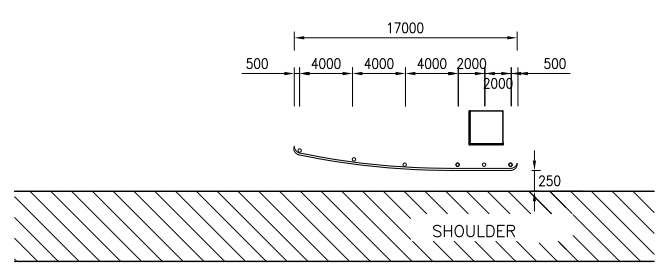
GUARD RAIL FOR
ROADSIDE OBSTRUCTIONS



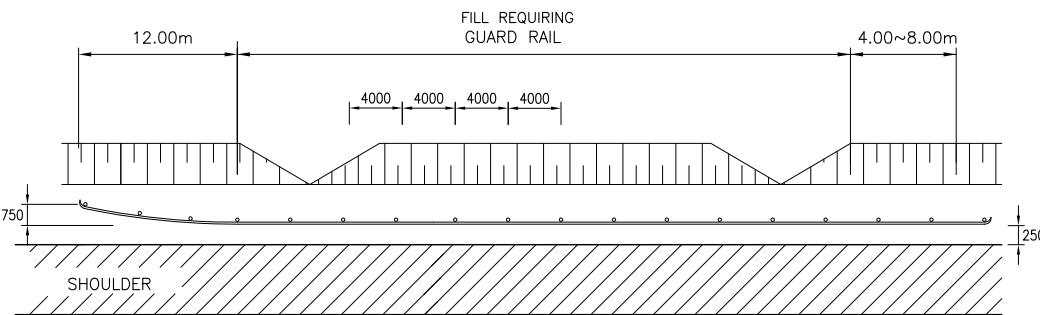
GUARD RAIL FOR
EMERGENCY TELEPHONE



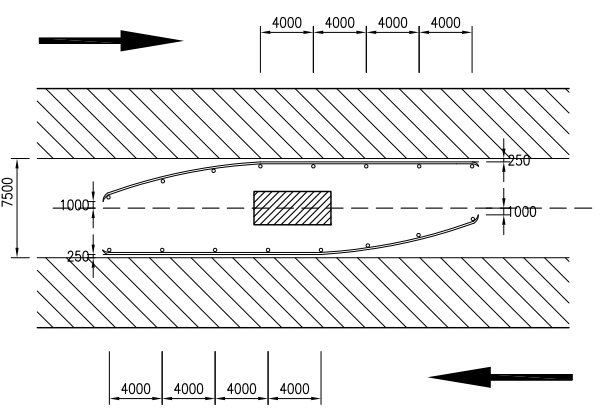
GUARD RAIL FOR CULVERTS



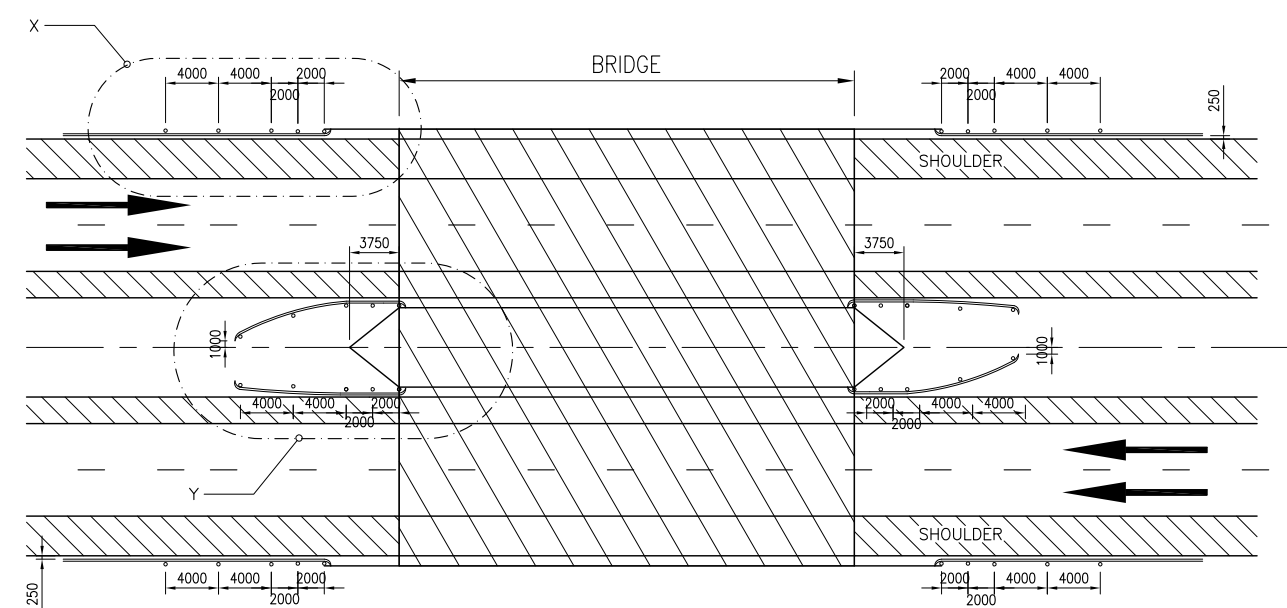
GUARD RAIL FOR
ROADSIDE OBSTRUCTIONS



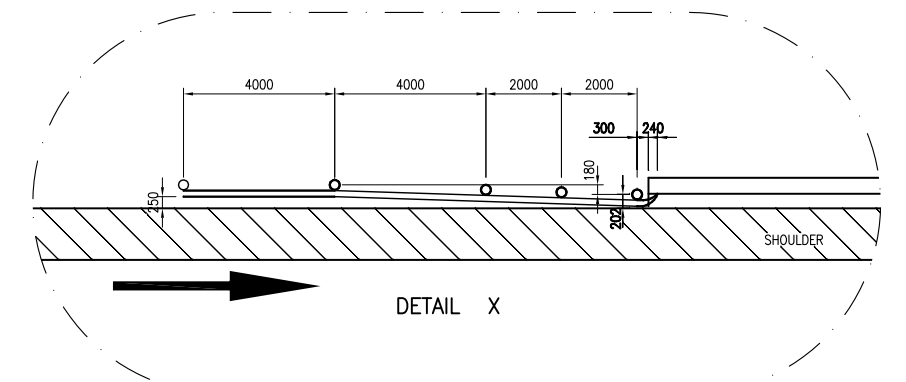
GUARD RAIL FOR
ROADSIDE CUT-TO-FILL CONDITION



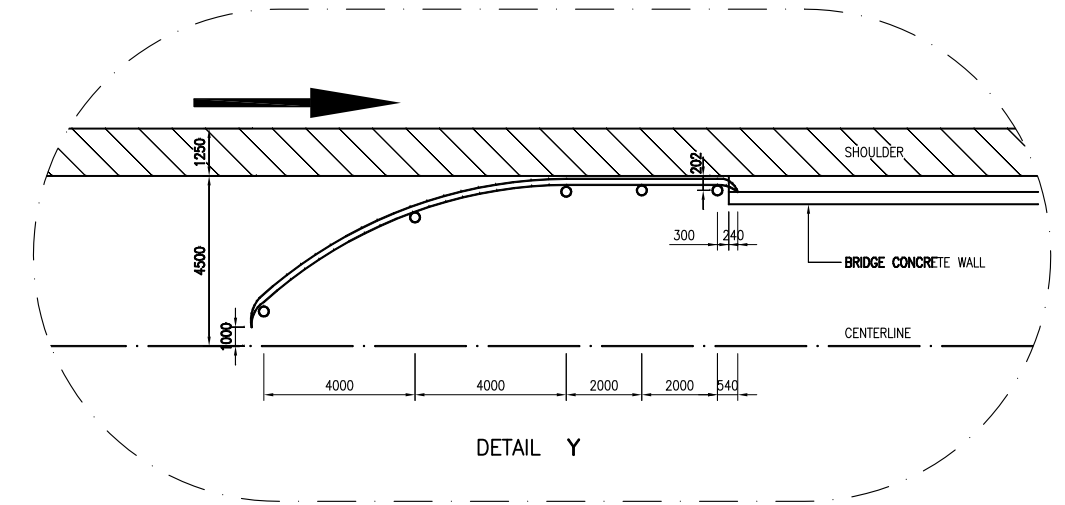
GUARD RAIL FOR
BRIDGE PIER OR THE LIKE IN THE MEDIAN



NORMAL BRIDGE APPLICATION



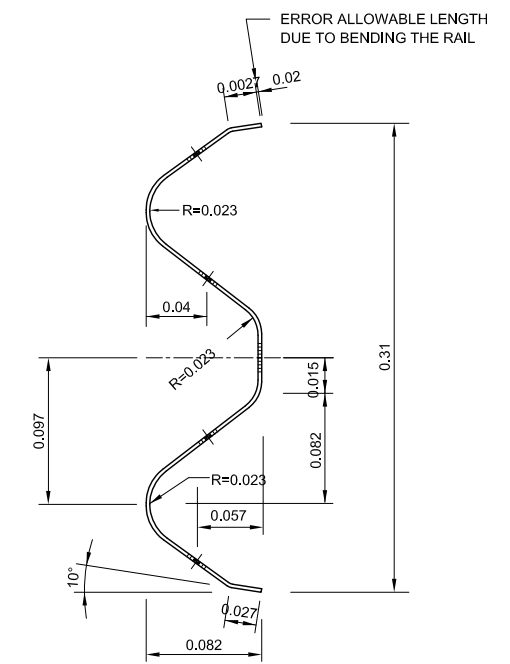
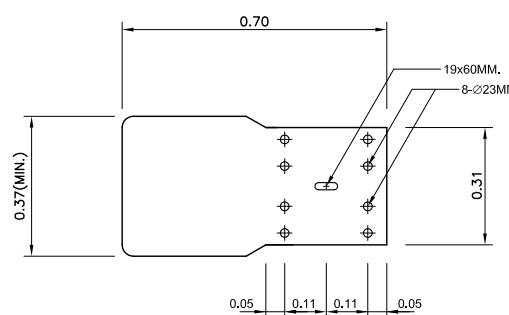
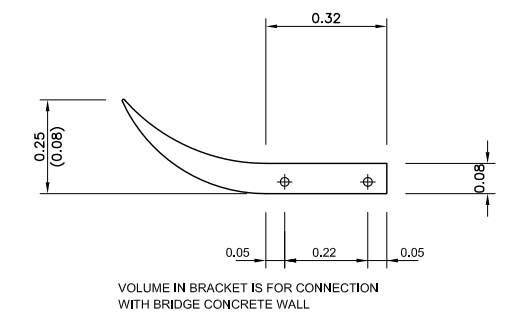
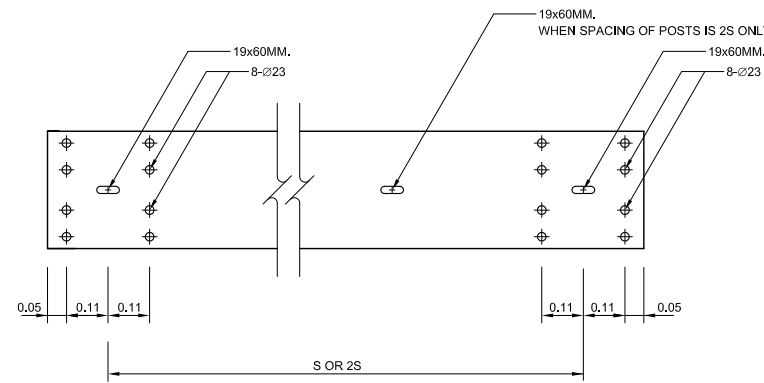
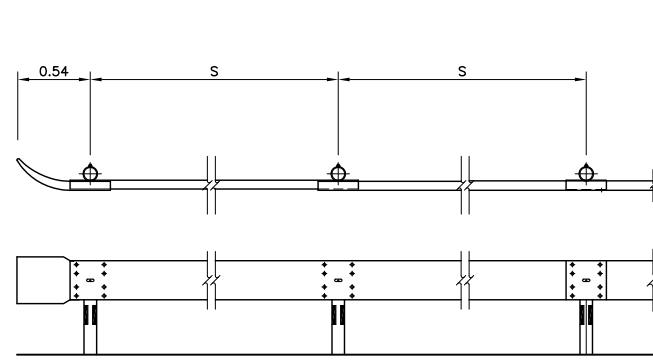
DETAIL X



DETAIL Y

GENERAL NOTES

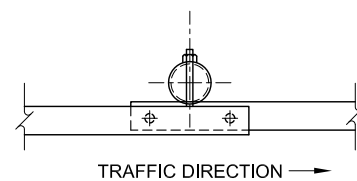
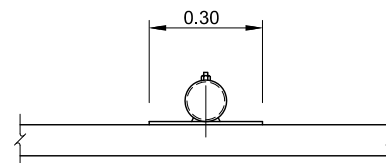
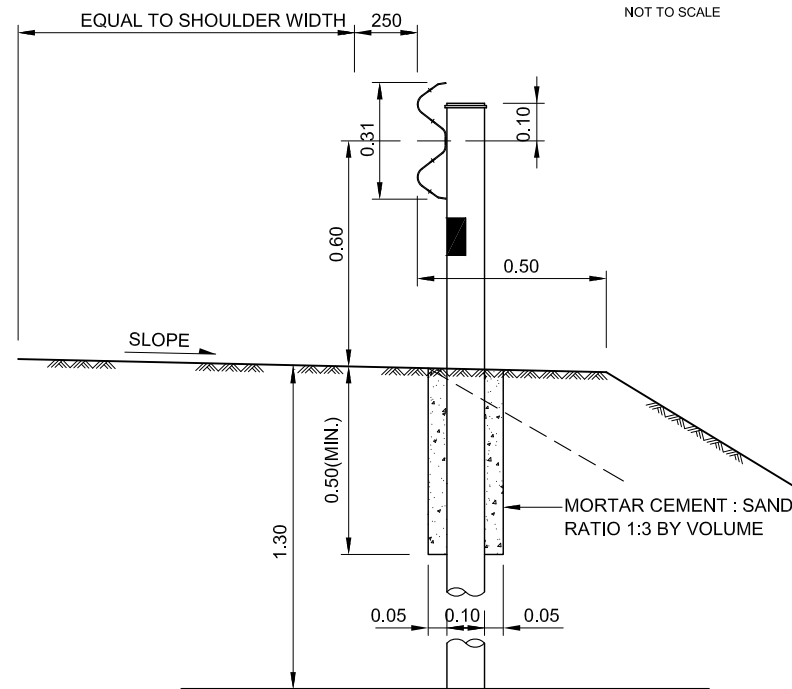
RAIL LENGTHS ARE MINIMUM. ADDITIONAL LENGTH TO SATISFY GUARD RAIL WARRANTS SHALL BE PROVIDED.



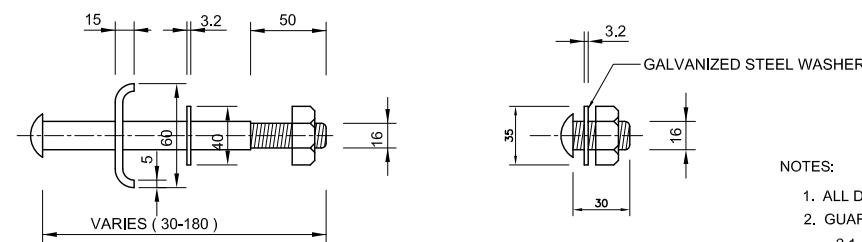
PLAN AND ELEVATION
NOT TO SCALE

TERMINAL SECTION
SCALE 1:20

RAIL SECTION
SCALE 1:5



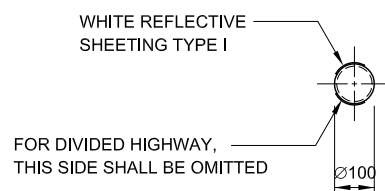
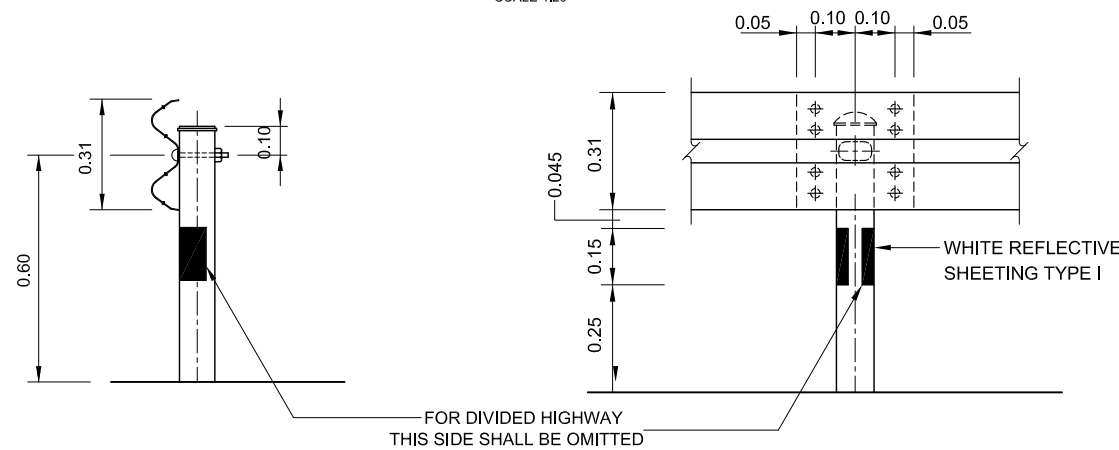
SCALE 1:20



BOLT & NUT
SCALE 1:5

NOTES:

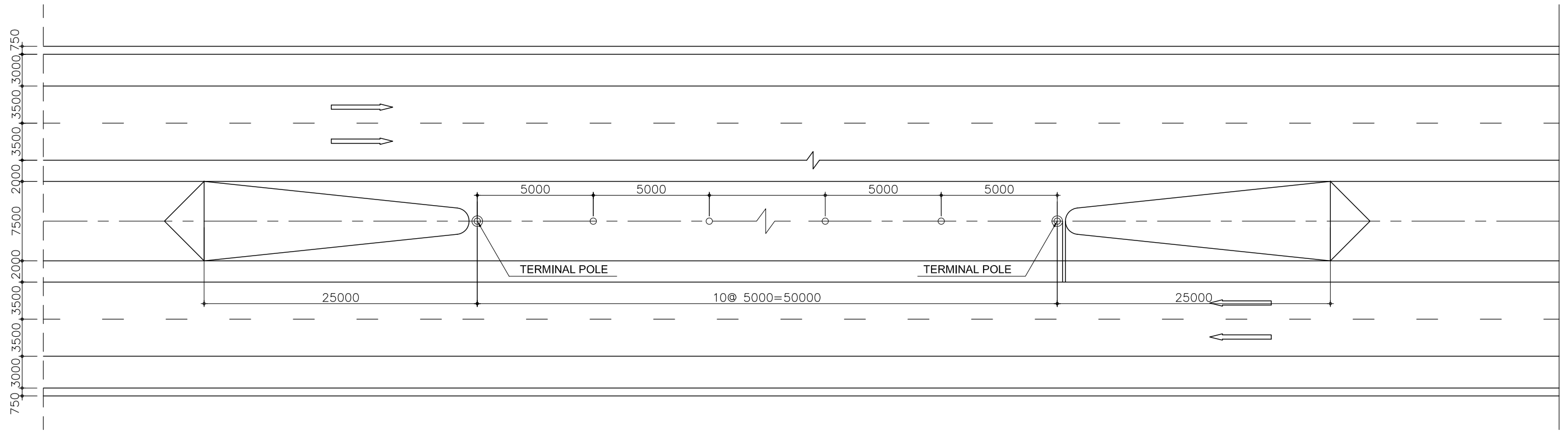
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
- GUARDRAIL SHALL CONFORM TO THE FOLLOWING REQUIREMENT:
 - STEEL RAIL SHALL BE MADE FROM STEEL OF THICKNESS NOT LESS MINIMUM THICKNESS SPECIFIED FOR EACH CLASS OF RAIL AND SHALL BE GALVANIZED WITH THE MINIMUM WEIGHT OF ZINC COATING ACCORDING TO THE SPECIFICATION GIVEN IN TABLE BELOW:
 - POST SHALL BE GALVANIZED STANDARD STEEL PIPE
 - THE GALVANIZING OF BOLTS, NUTS, WASHERS AND SIMILAR THREADED FASTENERS SHALL BE IN ACCORDANCE WITH STANDARDS GIVEN.
- THE TABULATION OF GUARD RAIL WILL SPECIFY THE TYPE OF CORROSION PROTECTION: GALVANISED OR CORROSION-RESISTANT STEEL.
- STEEL POSTS AND BLOCKS SHALL HAVE THE SAME CORROSION PROTECTION AS SPECIFIED FOR THE METAL BEAM RAIL. PUNCHING, DRILLING, OR CUTTING WILL NOT BE PERMITTED AFTER GALVANISING.
- S - REFERS TO SPAN BETWEEN TWO POLES AND SHALL BE AS SPECIFIED IN THE GUARD DETAIL DRAWINGS



POST
SCALE 1:20

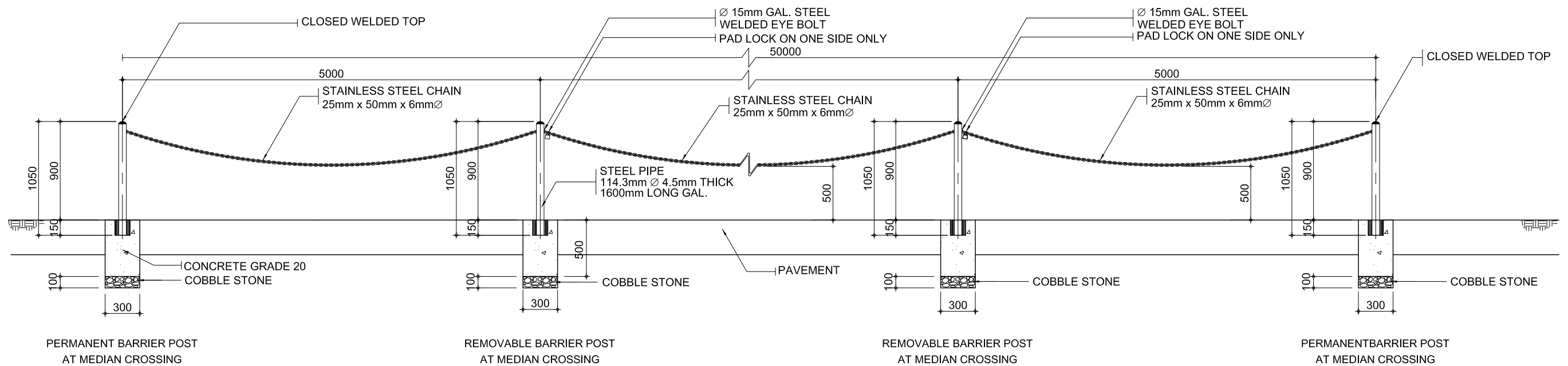
DIAMETER & TYPE	LENGTH L	THREAD LENGTH	INTENDED USE	AASHTO-AGC-ARTBA STANDARD NUMBER	NO. BOLTS, NUTS & WASHERS
16mm BUTTON	35	FULL (30)	ALL RAIL SPLICES	F-3 (11/4")-76(FBB01)	8 PER SPLICE
HEAD, OVAL SHLDR.	50	MIN. 45	FASTEN RAIL TO STEEL BLOCK	F-3 (2")-76(FBB02)	1 PER POST

PART	MATERIAL SPEC.	GALVANISING SPEC.	CORROSION-RESISTANT SPEC.
W-BEAM RAIL BACK-UP PLATE & TERMINAL SECTIONS	AASHTO M 180, CLASS A OR B	AASHTO M 180, TYPE 1 OR 2	AASHTO M 180, TYPE 4
NUTS, BOLTS & STUDS FOR GENERAL USE	ASTM A 307	AASHTO M 232, CLASS C	OR
HIGH STRENGTH BOLTS & NUTS	ASTM A 325		
HIGH STRENGTH STUDS & NUTS	ASTM A 449		
ROUND STEEL WASHERS	ASTM F 436M		ASTM B 695 CLASS 50
RECTANGULAR WASHERS	AASHTO M 180		



PLAN

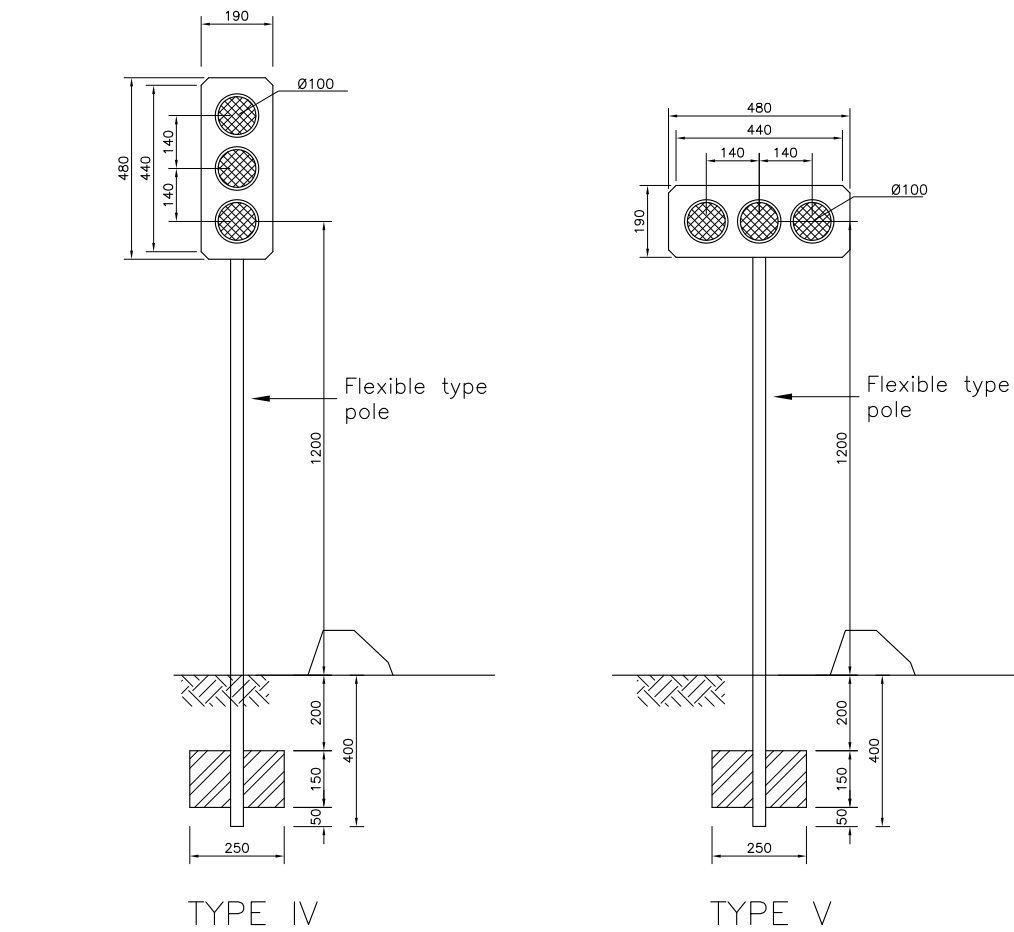
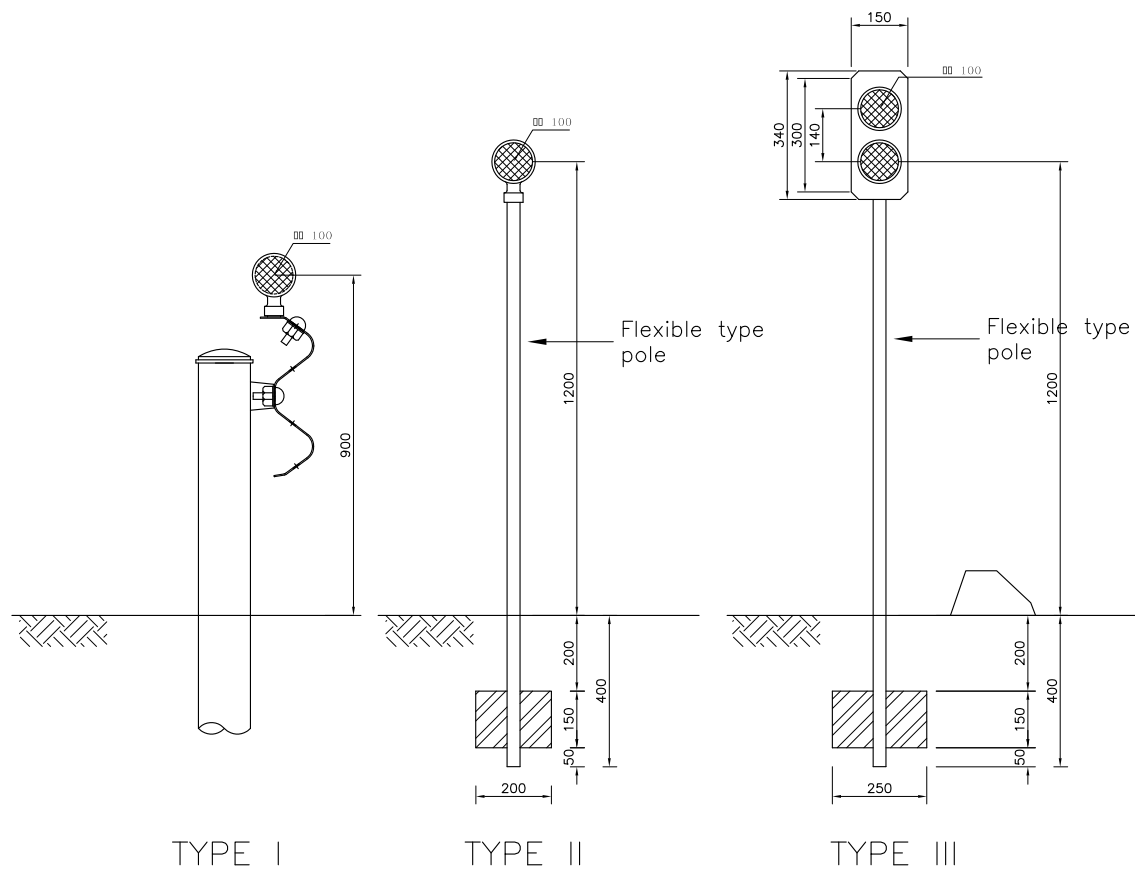
NOT TO SCALE



ELEVATION

NOT TO SCALE

No	REVISION	DATE



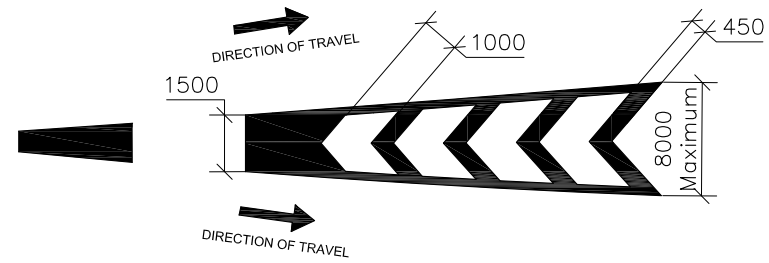
LEGEND

- TYPE I - 1 (CRYSTAL)
(Left Shoulder on Embankment - Main Carriageway)
- TYPE I - 2 (ORANGE)
(Median near Bridge - Main Carriageway & Ramp)
- TYPE II - 1 (CRYSTAL)
(Left Shoulder on Cut - Main Carriageway)
- TYPE II - 2 (ORANGE)
(Median - Main Carriageway & Ramp)
- TYPE III (ORANGE DOUBLE)
(Speed Change Lane)
- TYPE IV (ORANGE TRIPPLE VERTICAL)
(On Ramp Nose & End of Acceleration Lane)
- TYPE V (ORANGE TRIPPLE HORIZONTAL)
(Off Ramp Nose & Beginning of Deceleration Lane)
- TYPE VI - 1 (CRYSTAL)
(Left Shoulder - Bridge)
- TYPE VI - 2 (ORANGE)
(Median - Main Carriageway & Ramp-Bridge)
- TYPE VIII (ORANGE DOUBLE)
(Speed Change Lane - Bridge)

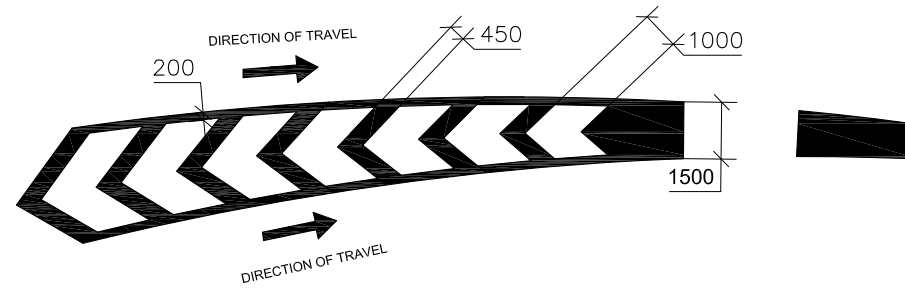
Spacing for Delineator Post (Expressway)

Radius of Curve (m)	1,951	1,551	1,201	901	651	501	406	321	246	181	126	81	51	0	Applicable minimum radius of Curve (m)		
Gloithoid parameter A (m)	∞	1,950	1,550	1,200	900	650	500	405	320	245	180	125	80	50			
10															1	10	
20															1	20	
30													1	1	1	30	
40												1	0	2	1	40	
50												1	1	3	1	50	
60											1	1	1	1		60	
70										1	0	1	3	1		80	
80										1	1	1	1			100	
90										1	0	1	2	1		100	
100										1	0	1	1	1		120	
110										1	0	1	1	1		150	
120										1	0	0	1	2	1	150	
130										1	0	1	1	2	1	160	
140										1	0	0	1	1	2	1	180
150										1	0	1	0	1	1	200	
160										1	0	1	1	1		250	
180										1	0	1	0	2	1	300	
200										1	0	1	1	2	1	300	
210										1	1	0	1	2	1	300	
220										1	0	1	1	1	1	300	
230										1	0	1	1	1	2	1	300
240										1	0	1	1	2	1	1	300
250										1	0	1	2	1	1	350	
280										1	0	1	1	1	1	500	
300										1	0	1	1	1		550	
350										1	0	1	1	2	1	550	
400										1	1	0	2	2	1	650	
450										2	0	1	2	3	1	650	
500										2	1	1	2	4	1	650	
550										3	1	1	3	1		700	
600										3	1	2	3	1		700	
650										4	1	2	4	1		900	
700										5	1	2	1			1,000	
750										5	2	3	1			1,000	
800										6	2	3	1			1,000	
900										8	2	4	1			1,000	
950										9	2	1				1,500	
1,000										10	3	1				1,500	
1,100										12	4	1				1,500	
1,200										14	1					1,500	
1,500										23	1					1,800	

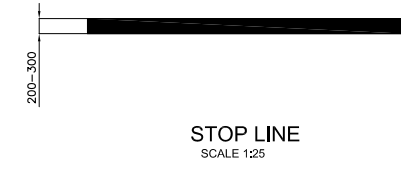
- Note:-
- Mounting pole for delineator types II, III, IV, V shall be flexible in type and confirm to acceptable International Standards / approval of the Engineer.
 - Footing Details for the flexible posts shall be proposed by the Contractor according to the type specified and shall be subject to the approval of the Engineer.



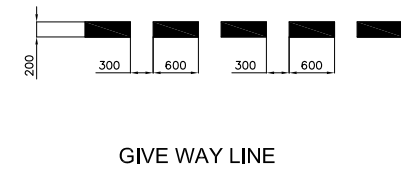
CHEVRON MARKING DETAIL
SCALE 1:200



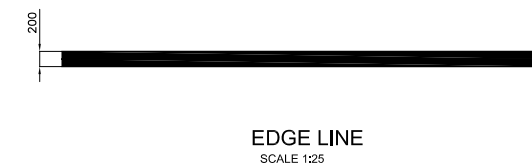
CHEVRON MARKING DETAIL
SCALE 1:200



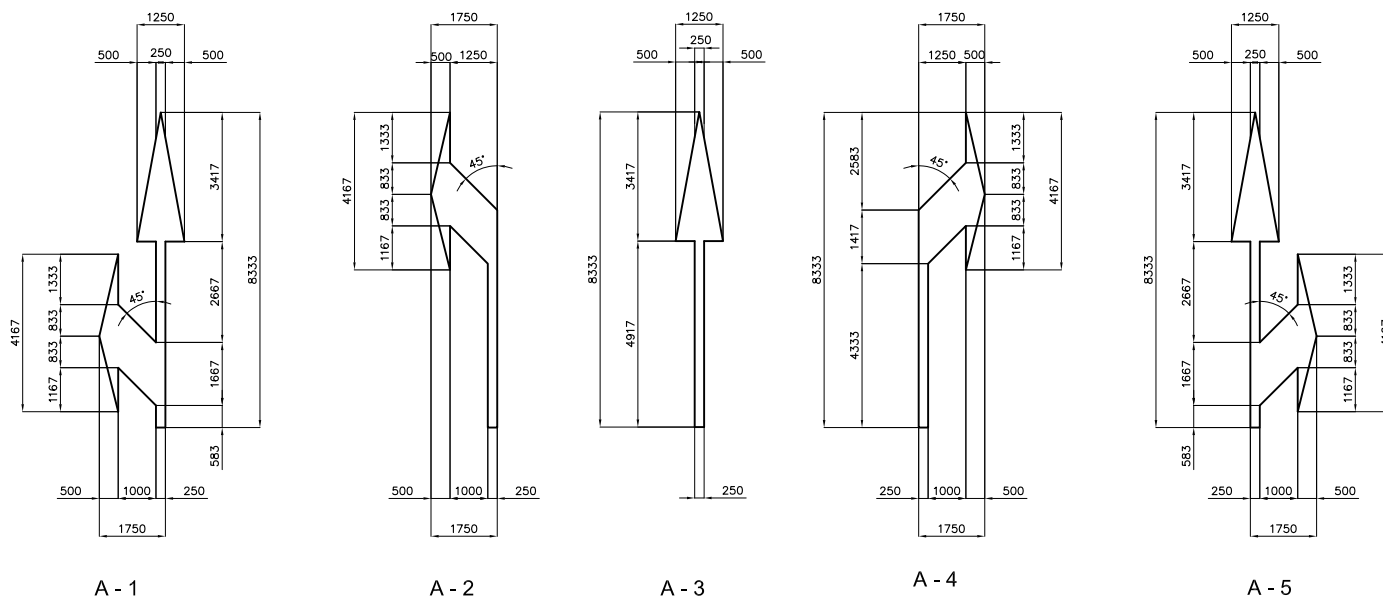
STOP LINE
SCALE 1:25



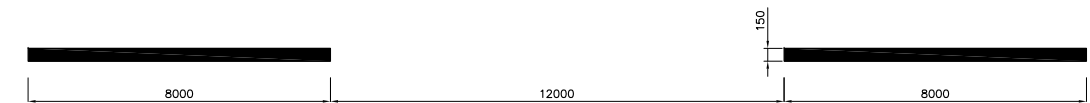
GIVE WAY LINE
SCALE 1:25



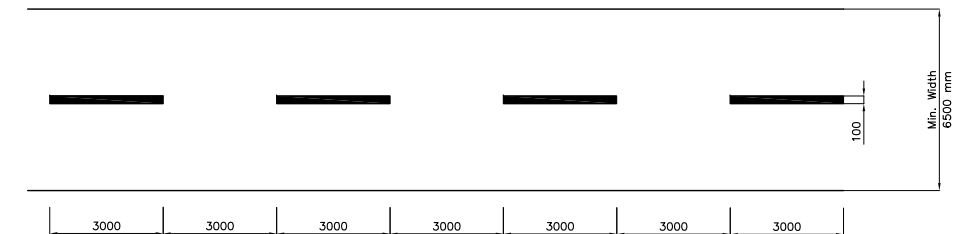
EDGE LINE
SCALE 1:25



TYPICAL ARROWS DETAIL
SCALE 1:200

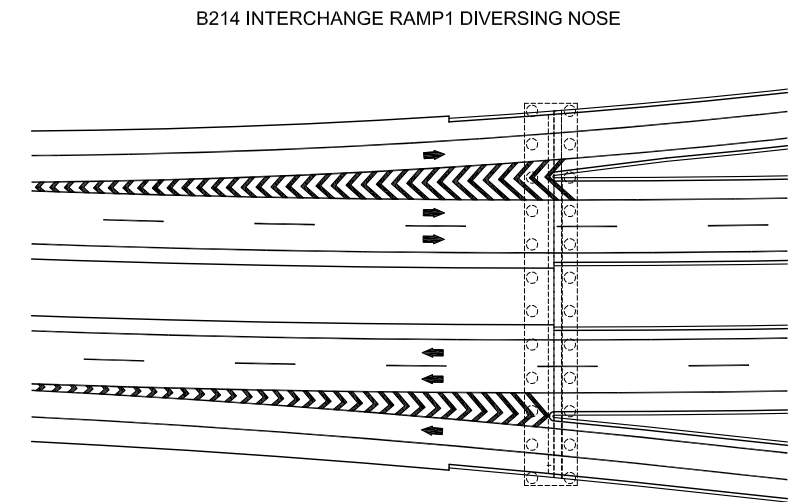
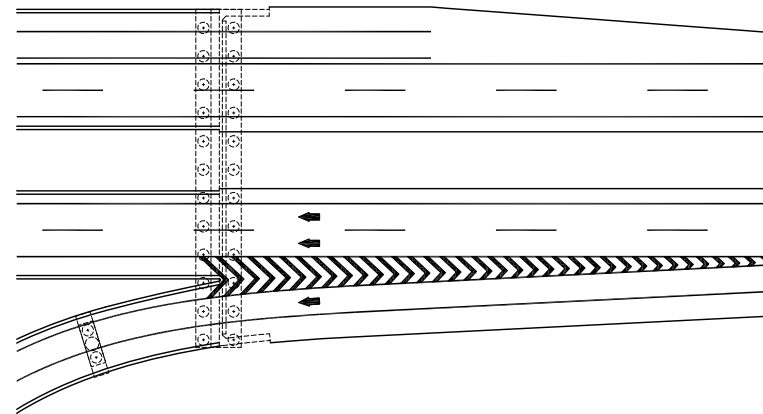
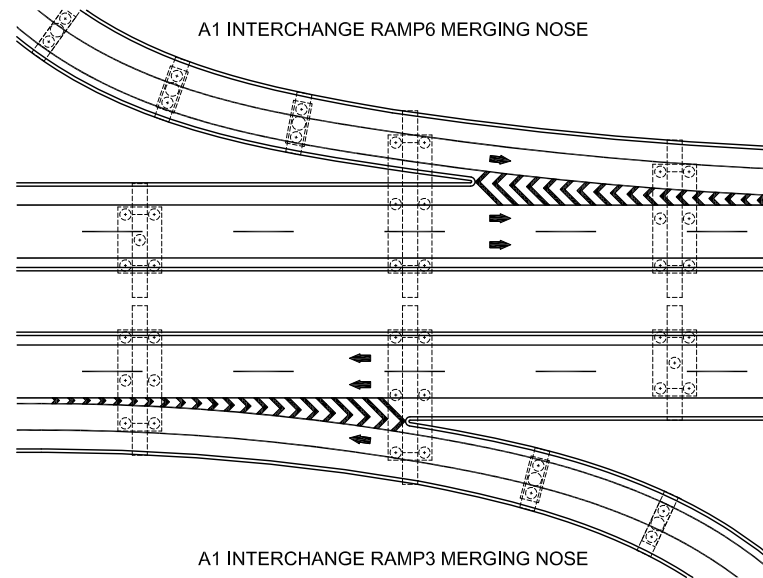
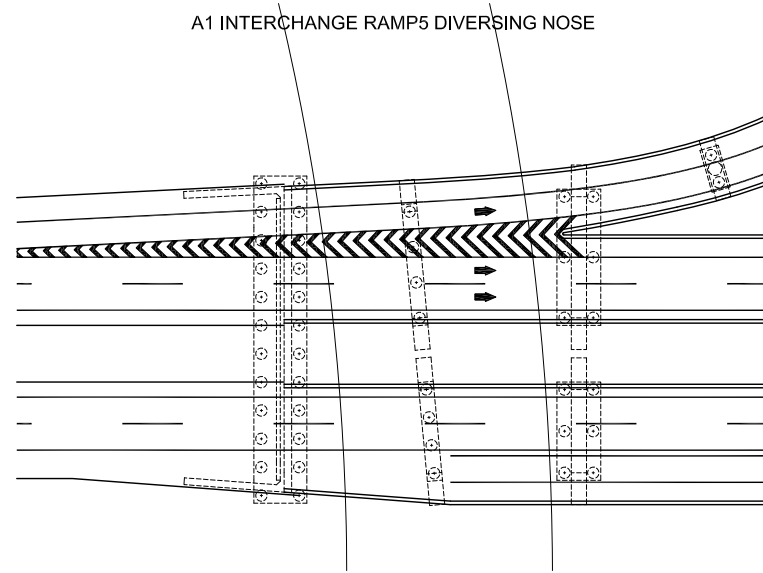
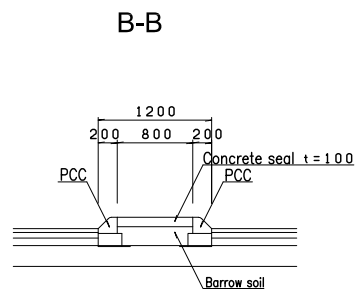
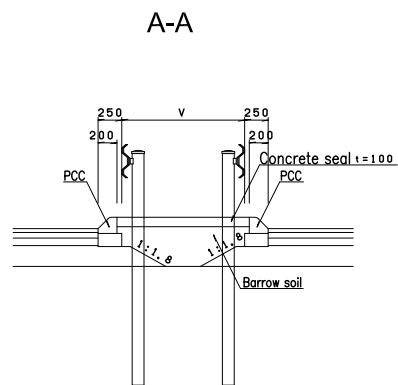
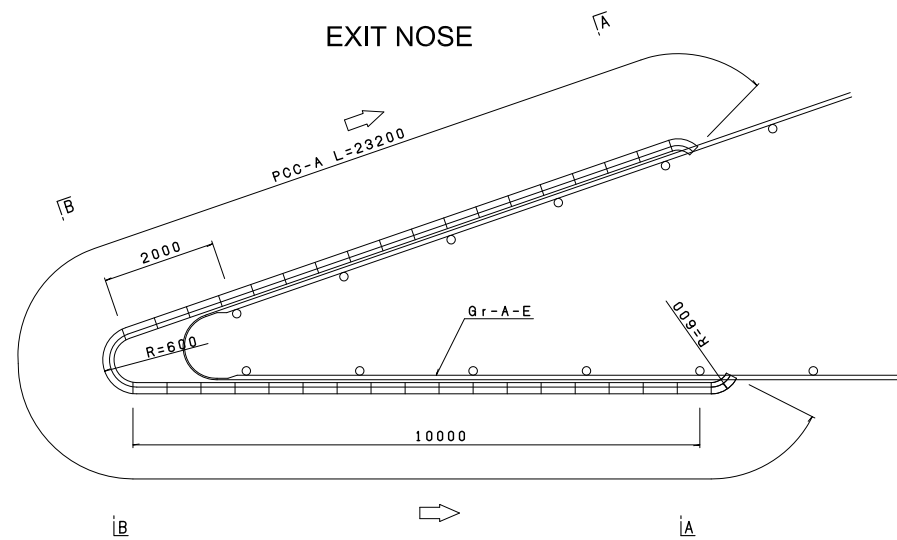
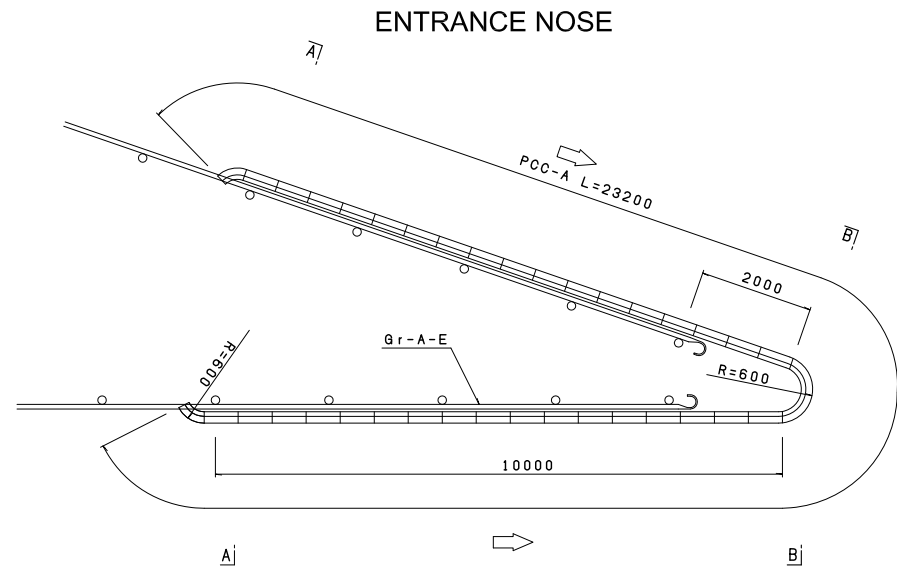


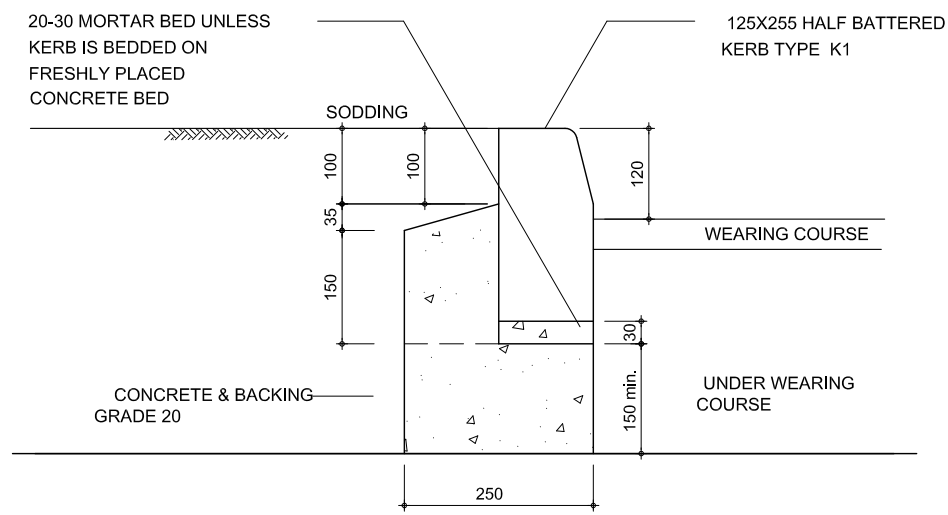
BROKEN LANE LINE
SCALE 1:200



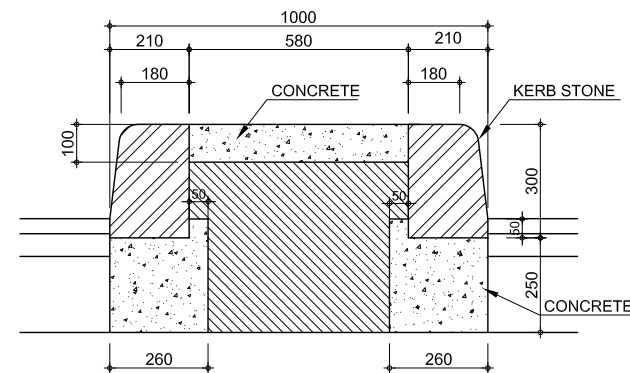
CENTER LINE MARKING FOR UNDIVIDED ROAD (APPROACH ROAD)
SCALE 1:200

TABLE OF PAVEMENT MARKINGS	
LANE LINE	BROKEN WHITE LINE 150mm WIDE 8.0m LONG AT 12.0m INTERVAL
PAVEMENT EDGE LINE	SOLID WHITE LINE 200mm WIDE
STOP LINE	SOLID WHITE LINE 300mm WIDE

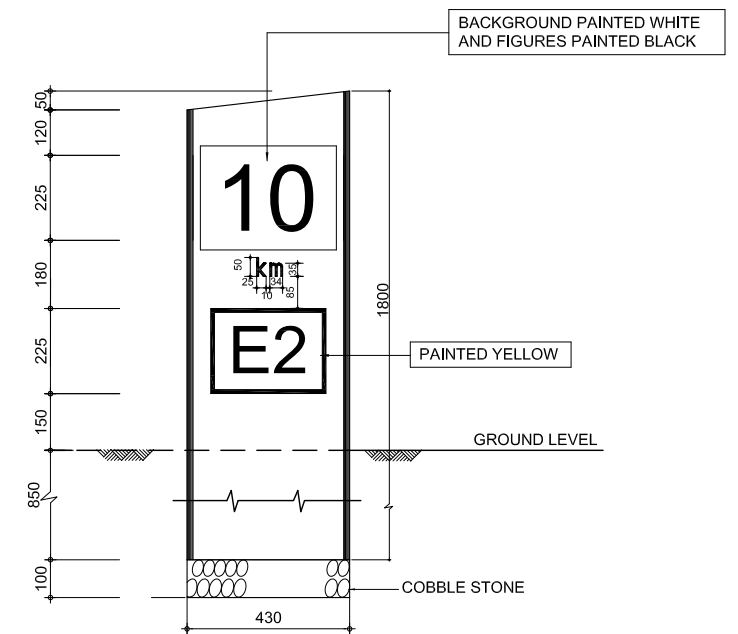




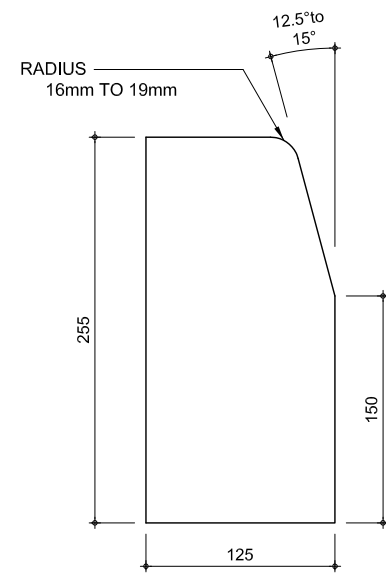
STANDARD CONCRETE KERB
SCALE 1:10



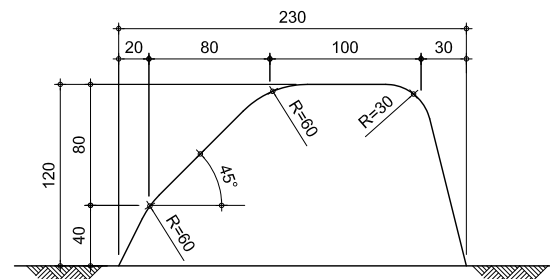
DETAILS OF MEDIAN STRIP
SCALE 1:20



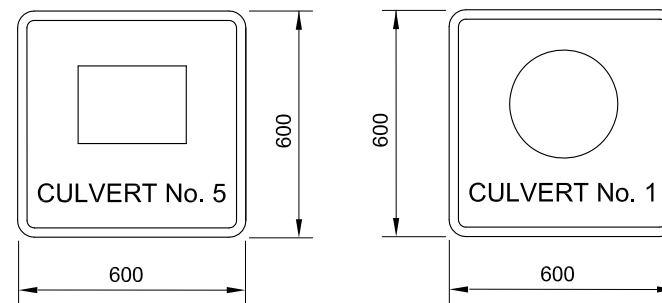
FRONT ELEVATION
SCALE 1:20



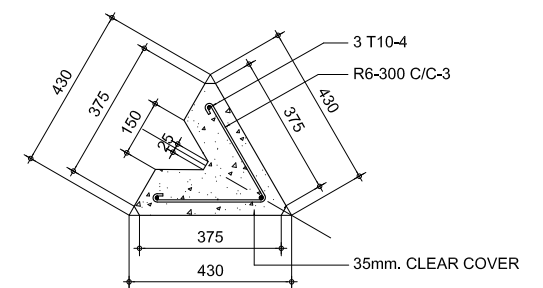
STANDARD CONCRETE KERB HALF BATTER
SCALE 1:5



ASPHALT KERB DETAIL
SCALE 1:5



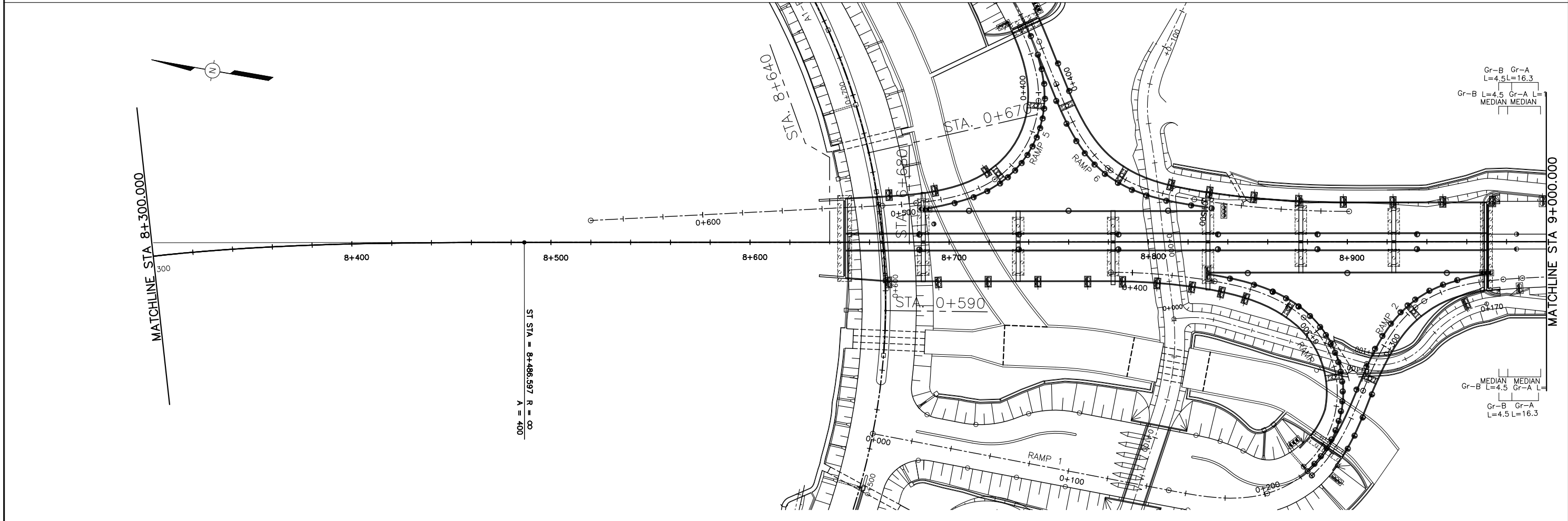
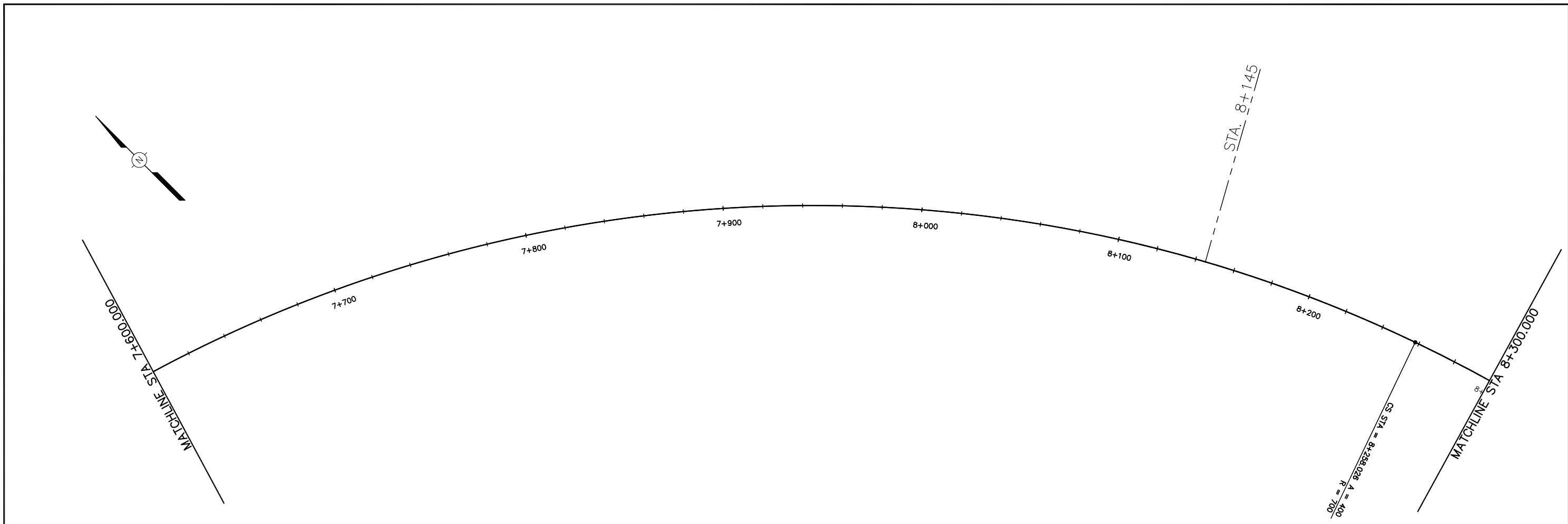
CULVERT MARKERS
SCALE 1:20



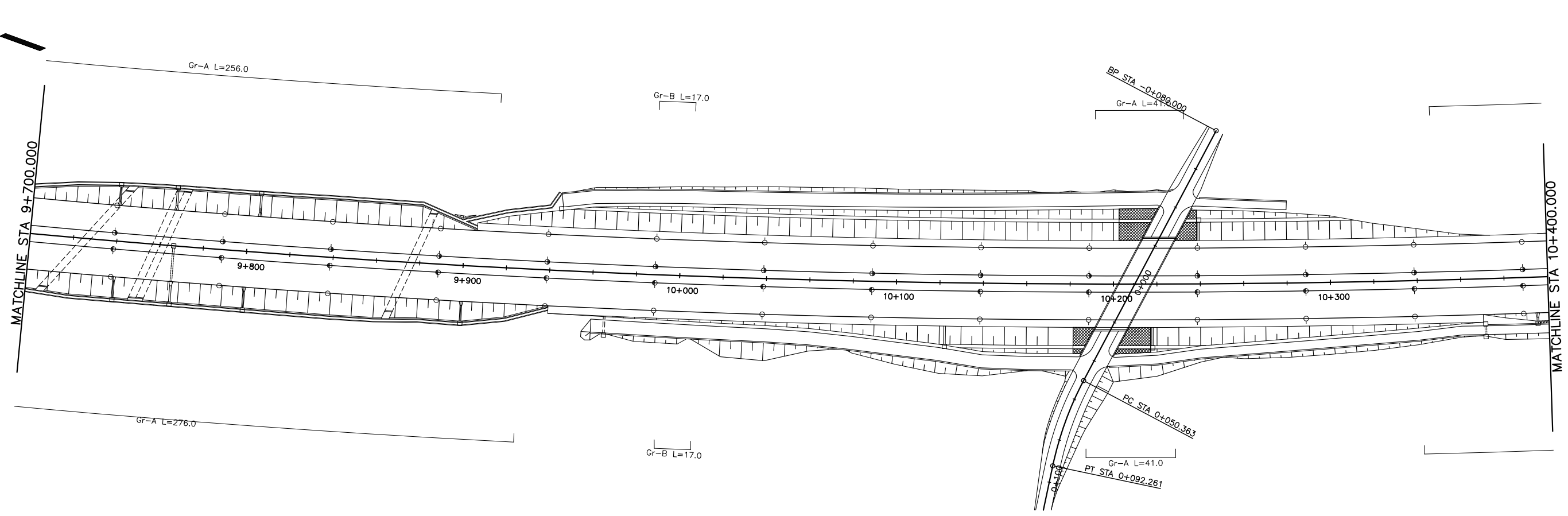
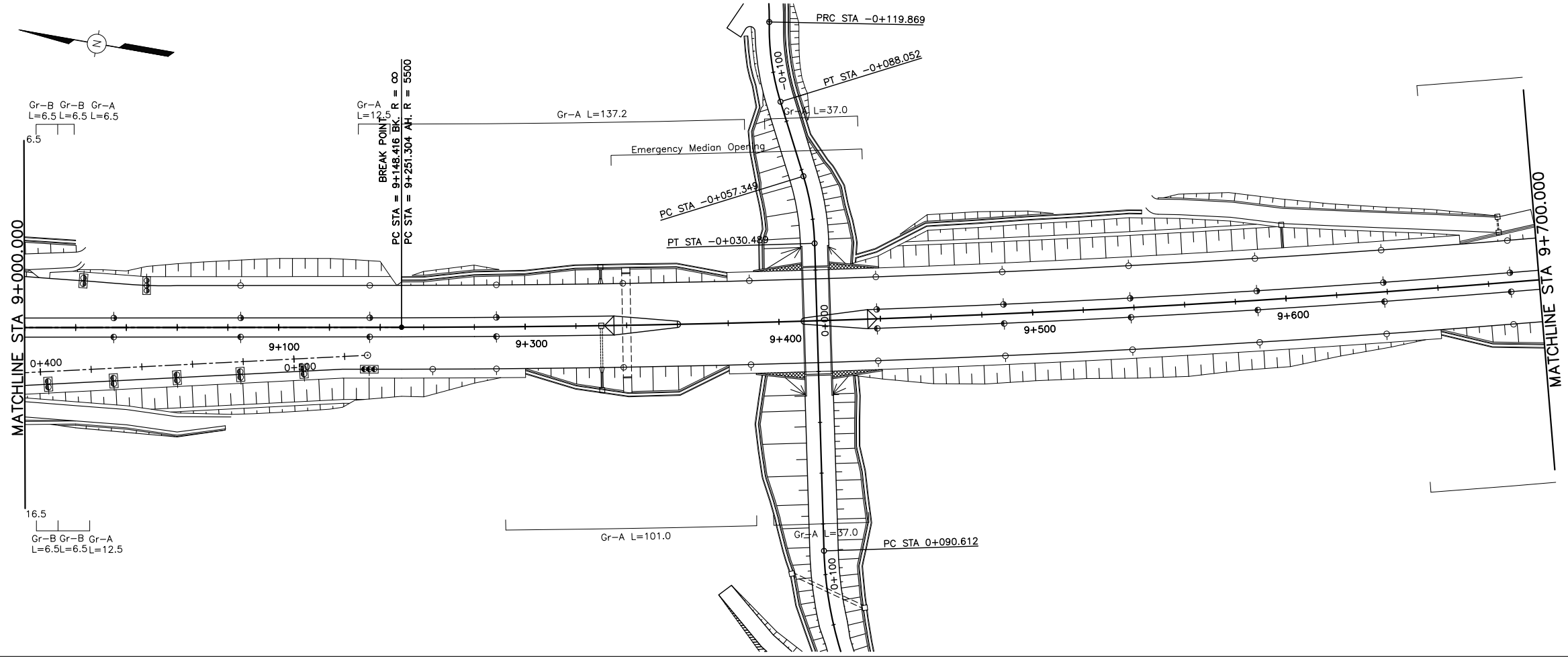
PLAN (SHOWING REINFORCEMENT)
SCALE 1:20

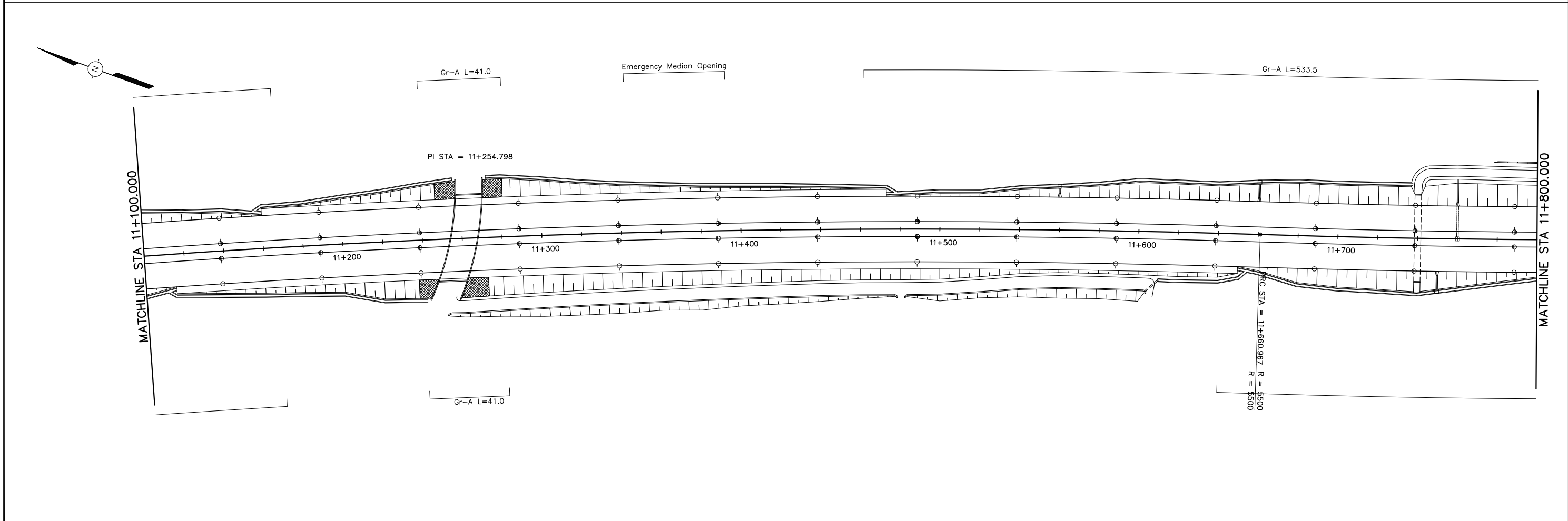
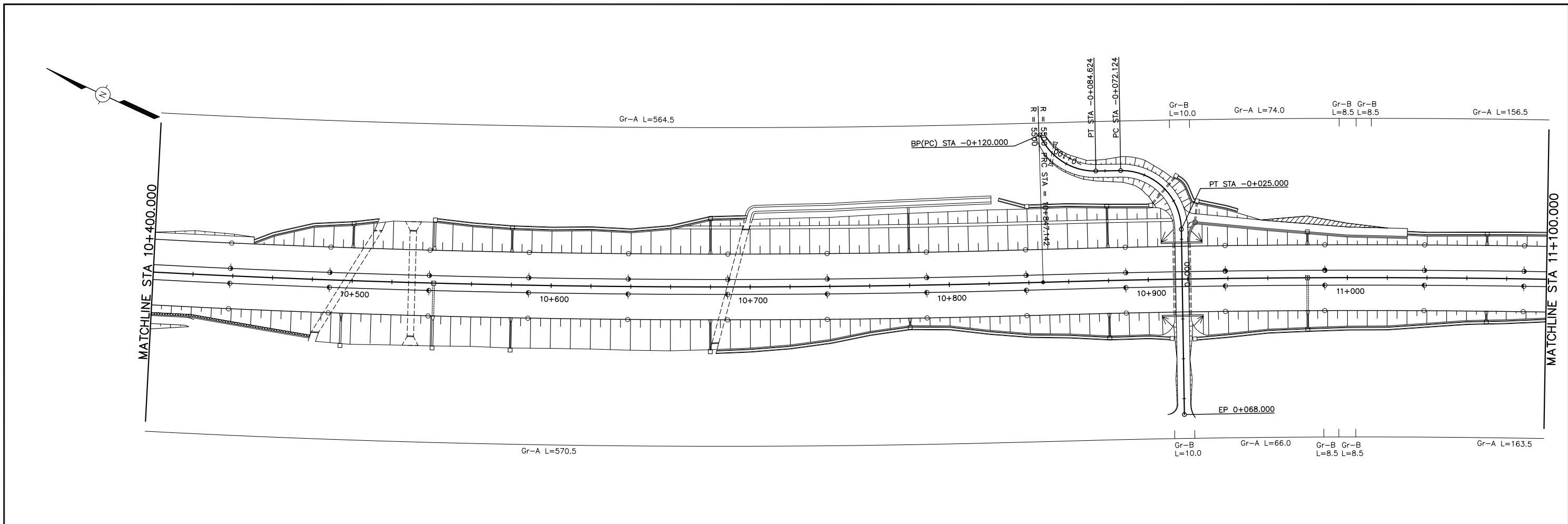
KILOMETRE POST

Note:-
ALL DIMENSIONS ARE IN MILLIMETERS

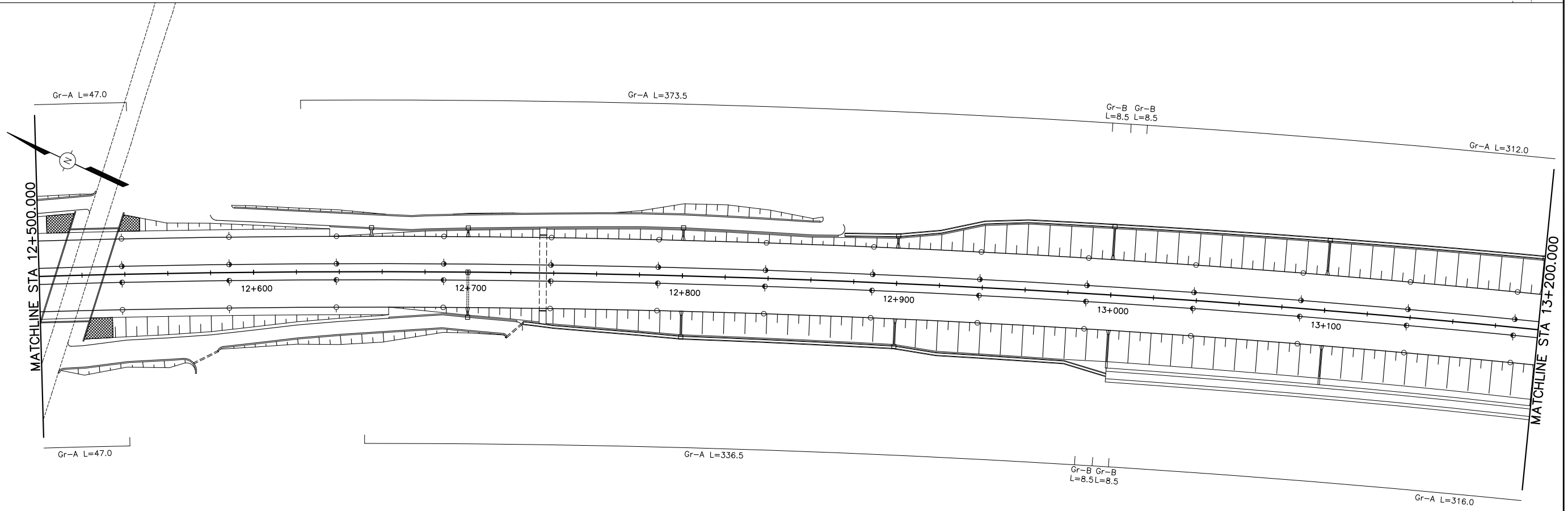
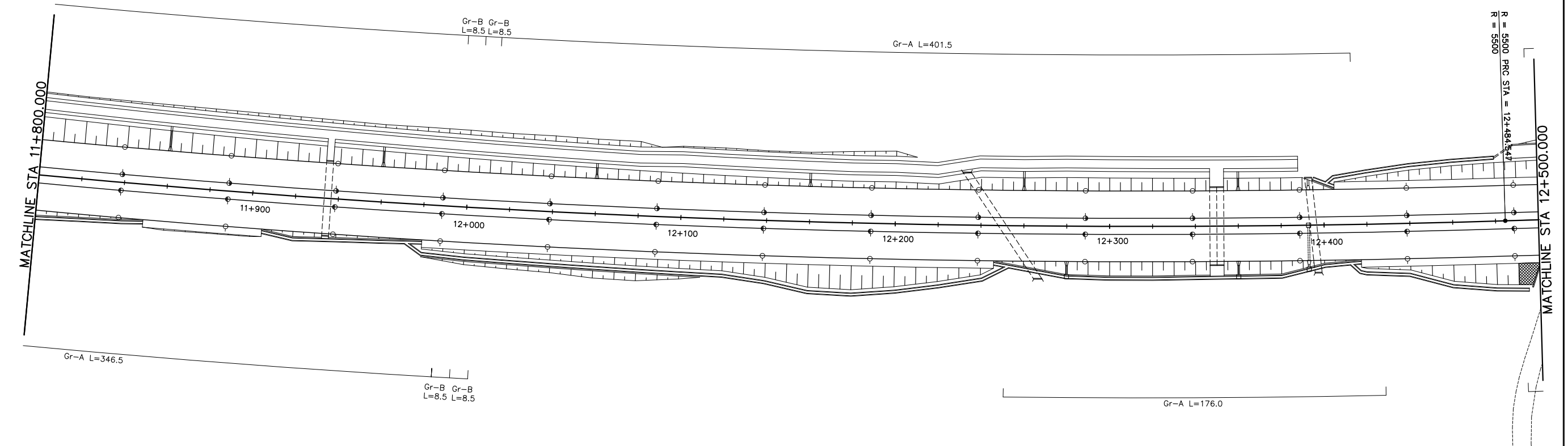
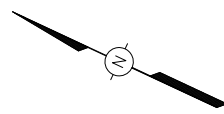


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT 	JAPAN INTERNATIONAL COOPERATION AGENCY ORIENTAL CONSULTANTS COMPANY LIMITED in association with PACIFIC CONSULTANTS INTERNATIONAL	No. _____ REVISION _____ DATE _____	COLOMBO OUTER CIRCULAR HIGHWAY PROJECT (NORTHERN SECTION 1)		DESIGNED BY: _____ CHECKED BY: _____ APPROVED BY: _____
			LAYOUT DRAWING - 1 GUARDRAILS & DELINEATORS		DWG. NO. N-10



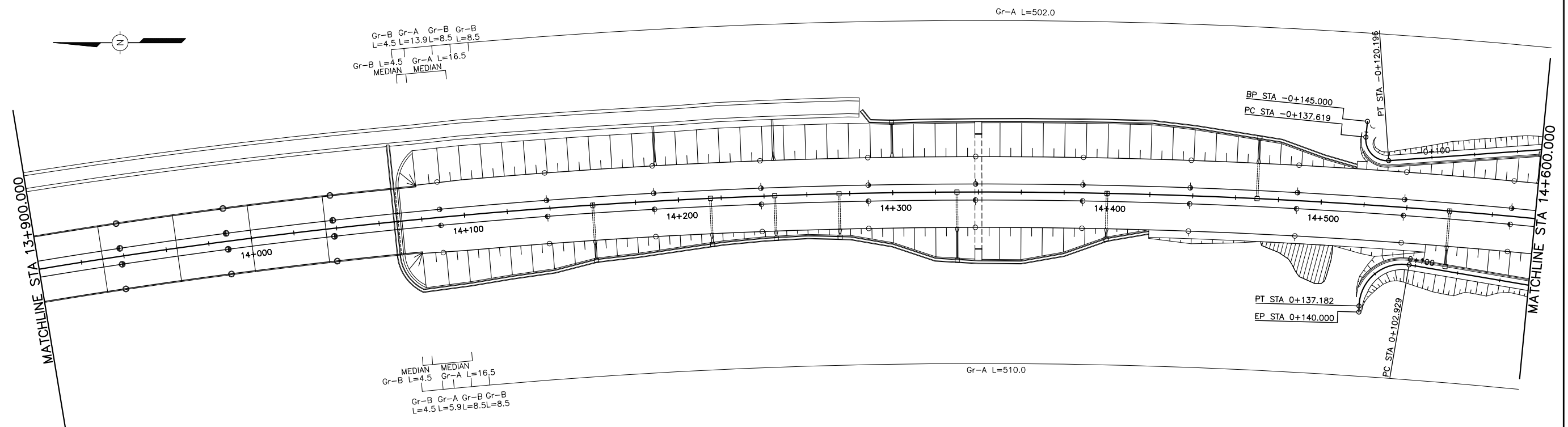
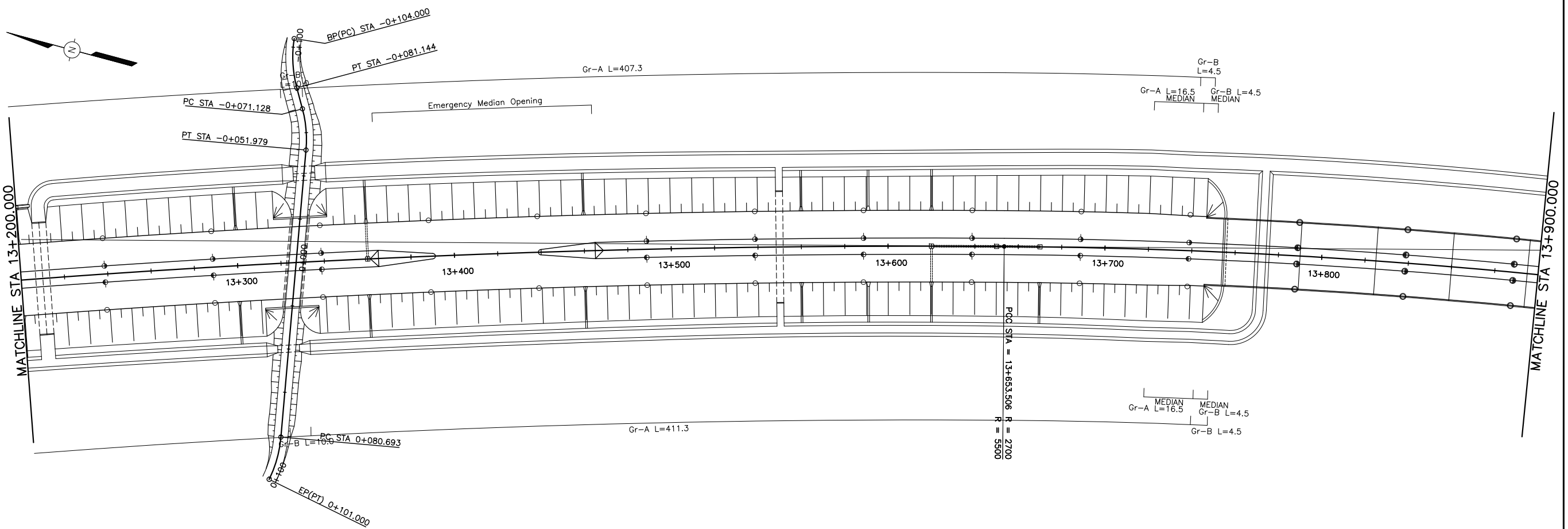


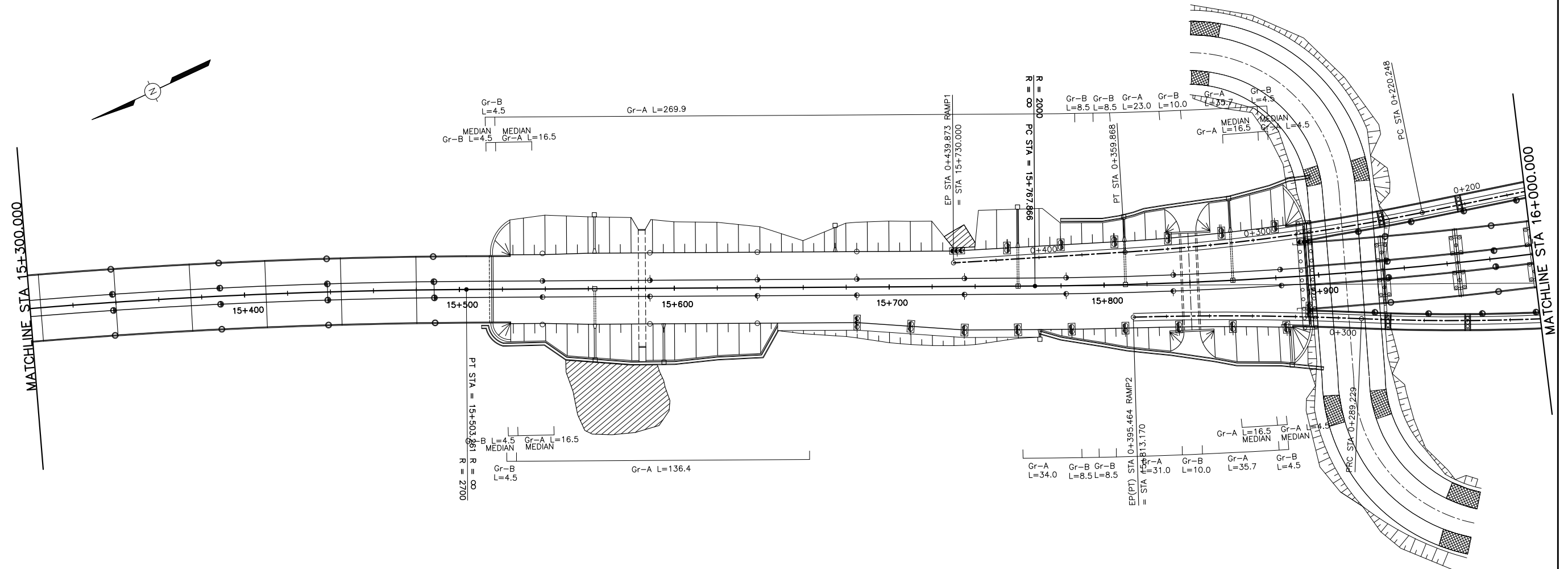
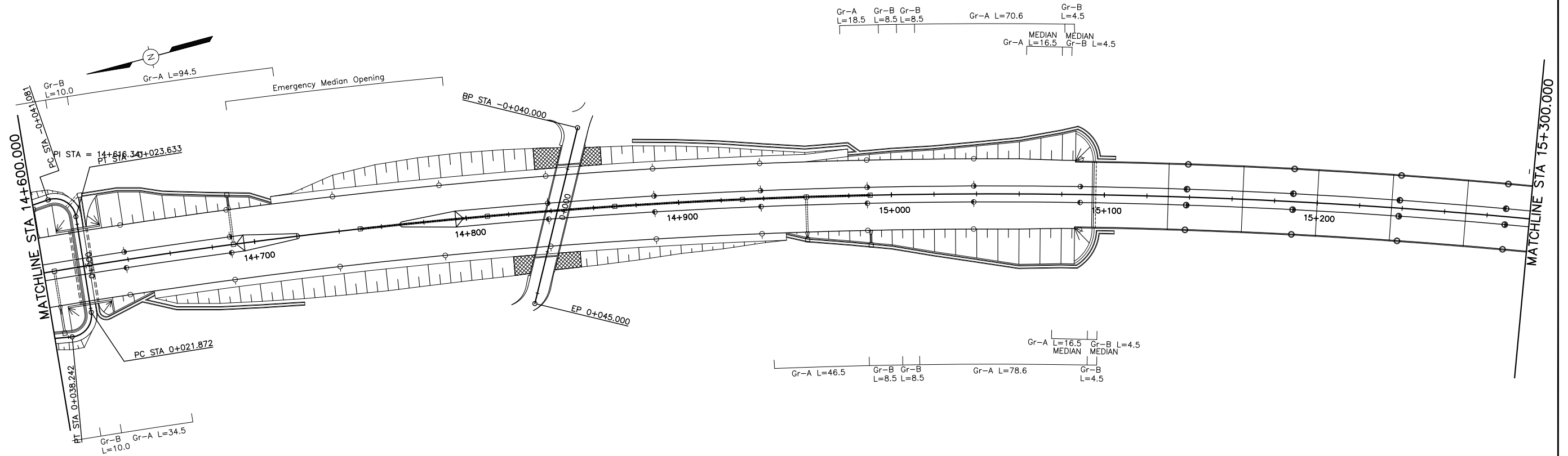
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT 	JAPAN INTERNATIONAL COOPERATION AGENCY ORICON ORIENTAL CONSULTANTS COMPANY LIMITED in association with PACIFIC CONSULTANTS INTERNATIONAL	 	No	REVISION	DATE	COLOMBO OUTER CIRCULAR HIGHWAY PROJECT (NORTHERN SECTION 1) LAYOUT DRAWING - 3 GUARDRAILS & DELINEATORS	DESIGNED BY: CHECKED BY: APPROVED BY:
						DWG. NO. N-12	



No	REVISION	DATE

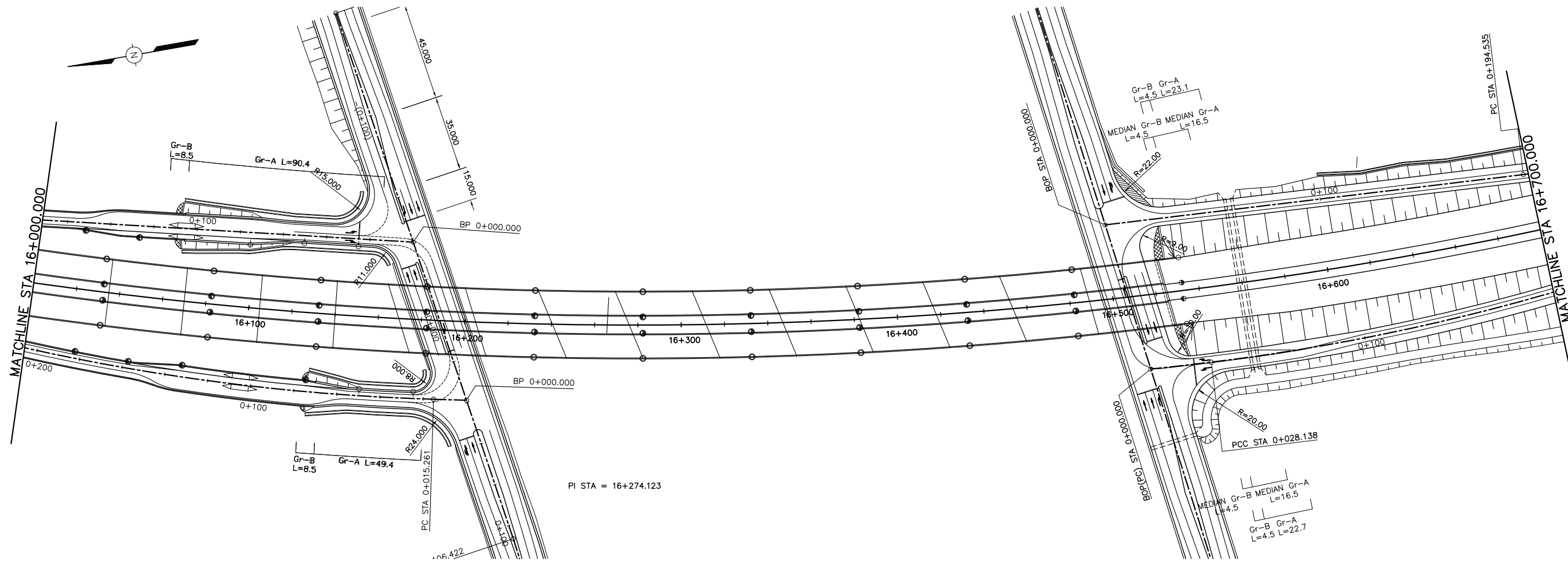
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-13





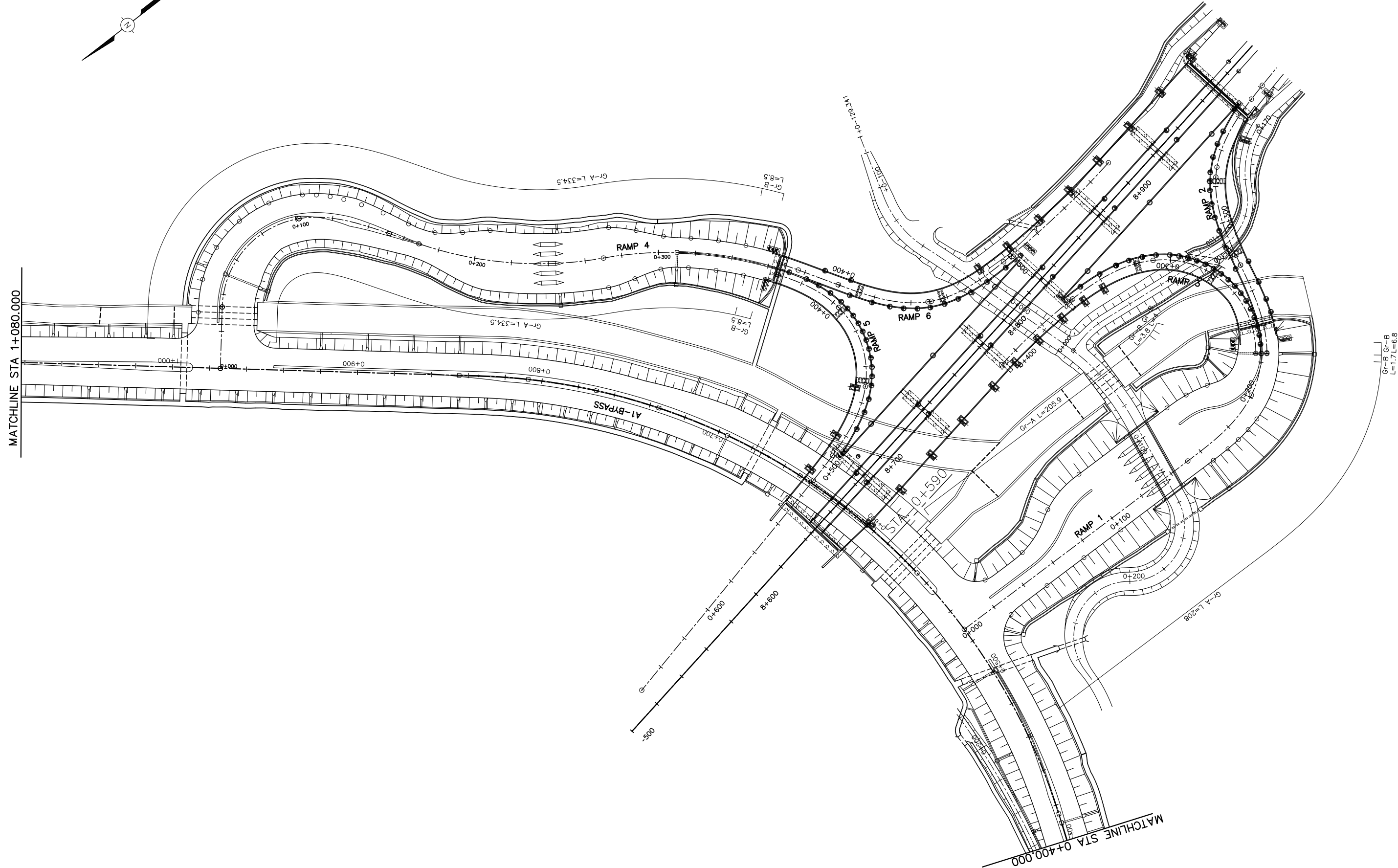
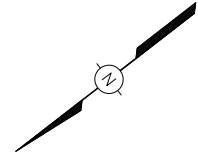
No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-15



No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-16



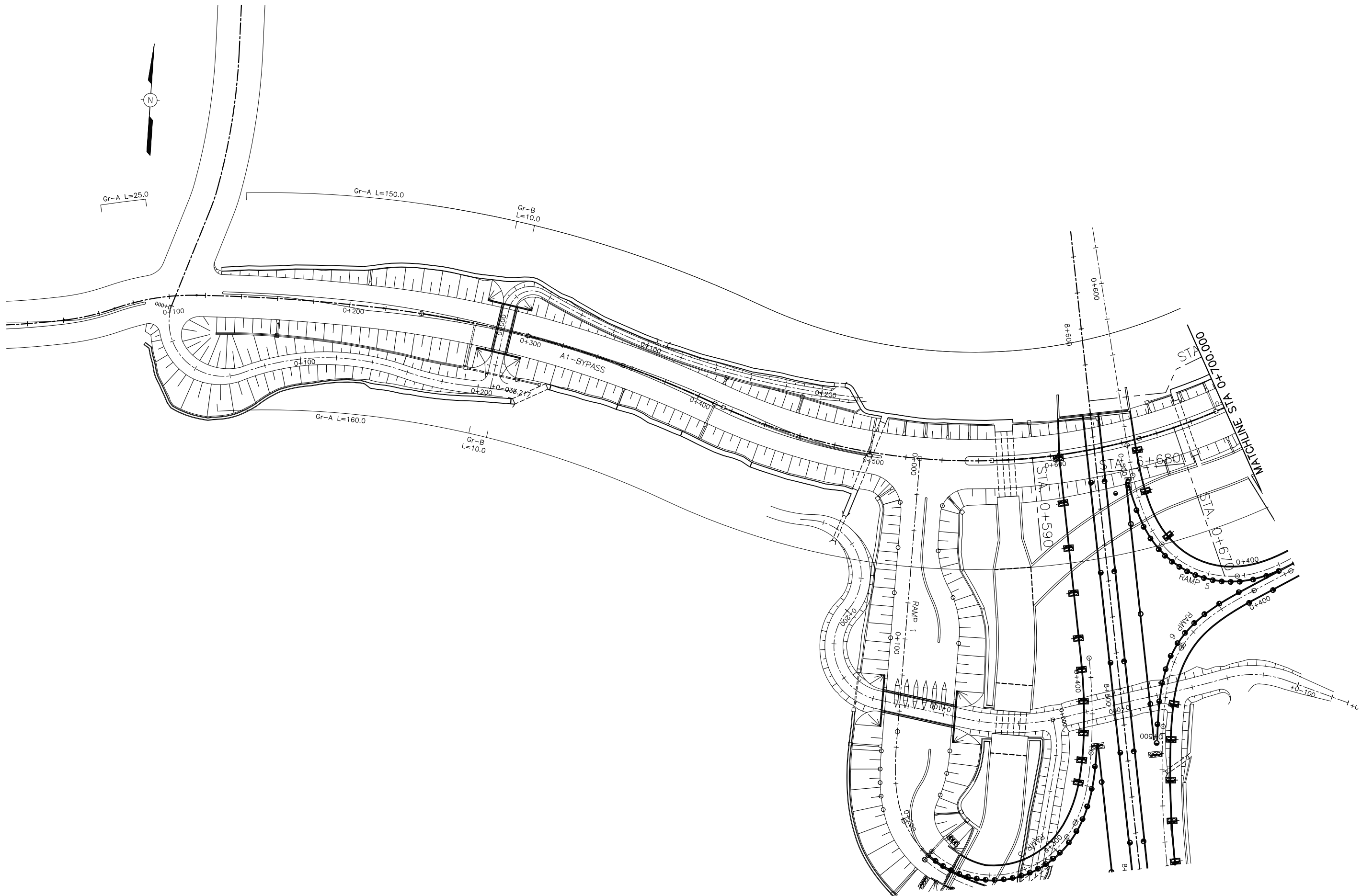
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT
Road Development Authority

JICA JAPAN INTERNATIONAL COOPERATION AGENCY
ORIENTAL CONSULTANTS COMPANY LIMITED
 in association with
PACIFIC CONSULTANTS INTERNATIONAL

No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
 (NORTHERN SECTION 1)
LAYOUT DRAWING - 8
 GUARDRAILS & DELINEATORS

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-17



THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT



JICA JAPAN INTERNATIONAL COOPERATION AGENCY



ORIENTAL CONSULTANTS COMPANY LIMITED
in association with
PACIFIC CONSULTANTS INTERNATIONAL

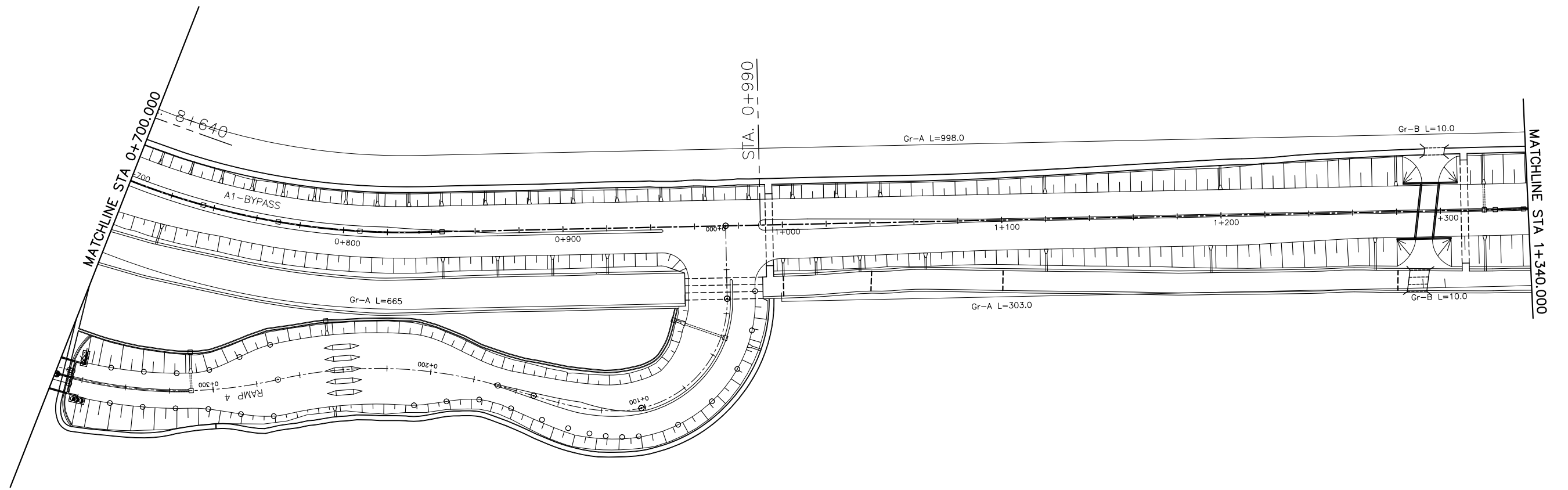
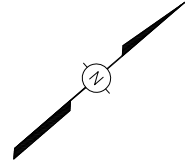


No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
(NORTHERN SECTION 1)

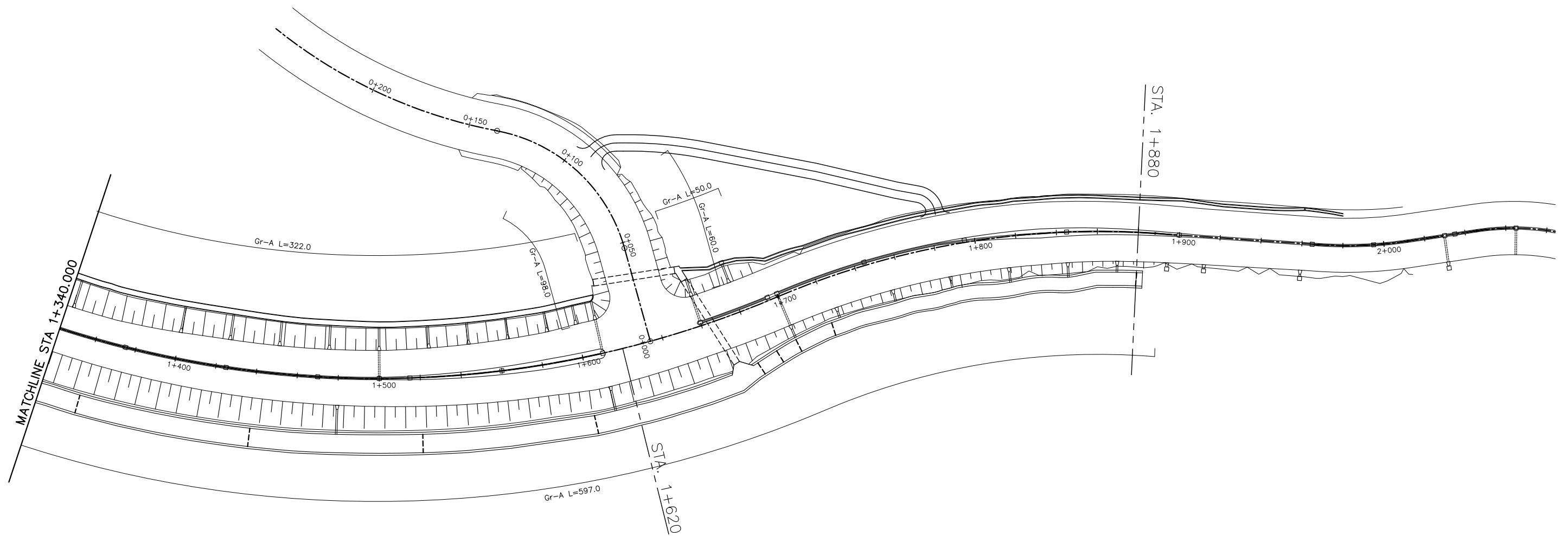
LAYOUT DRAWING - 9
GUARDRAILS & DELINATORS

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-18



No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	N-19



THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT



JICA JAPAN INTERNATIONAL COOPERATION AGENCY



ORIENTAL CONSULTANTS COMPANY LIMITED
in association with
PACIFIC CONSULTANTS INTERNATIONAL



No

REVISION

DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
(NORTHERN SECTION 1)

LAYOUT DRAWING - 11
GUARDRAILS & DELINEATORS

DESIGNED BY:

CHECKED BY:

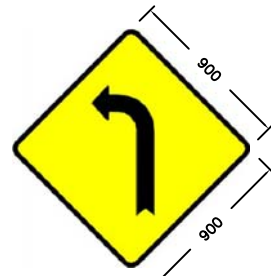
APPROVED BY:

DWG. NO.

N-20

O. TRAFFIC SIGNS

DANGER WARNING SIGNS



2. 2. 1
LEFT BEND AHEAD



2. 2. 2
RIGHT BEND AHEAD



2. 2. 3
DOUBLE BEND
LEFT AHEAD

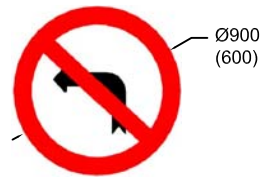


2. 2. 15
T-JUNCTION AHEAD



2. 2. 17
TRAFFIC FROM LEFT
MERGES AHEAD

PROHIBITORY SIGNS



2. 3. 1. 2
NO LEFT TURN



2. 3. 1. 3
NO RIGHT TURN

RESTRICTIVE SIGNS

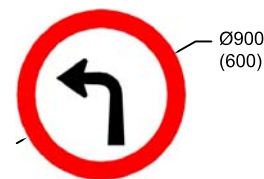


2. 3. 2. 5(a)
SPEED LIMIT



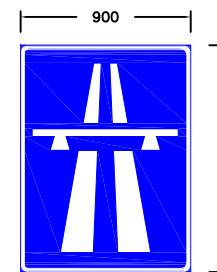
2. 3. 2. 5(b)
SPEED LIMIT

MANDATORY SIGNS

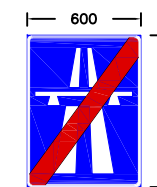


2. 3. 3. 4
LEFT TURN

SPECIAL REGULATION SIGNS



2. 4. 8. 16
EXPRESSWAY



2. 4. 8. 17
END OF EXPRESSWAY

No	REVISION	DATE
----	----------	------

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O-01



2.4.4.2(d)



2.4.4.2(c)



2.4.4.2(b)



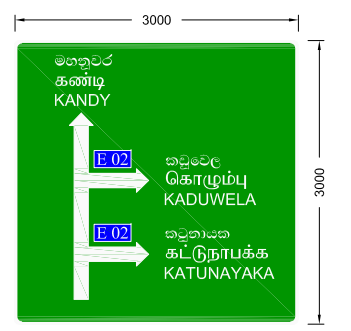
2.4.4.2(d)



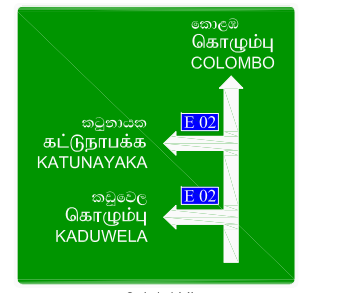
2.4.4.2(c)



2.4.4.2(b)



2.4.1.1(d)



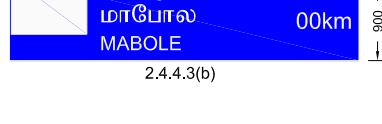
2.4.1.1(d)



2.4.4.3(b)



2.4.4.3(b)



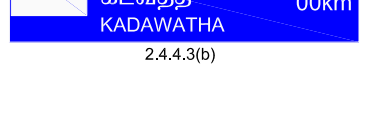
2.4.4.3(b)



2.4.4.3(b)



2.4.4.3(b)



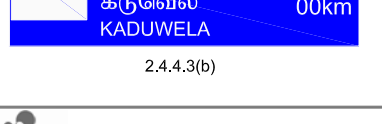
2.4.4.3(b)



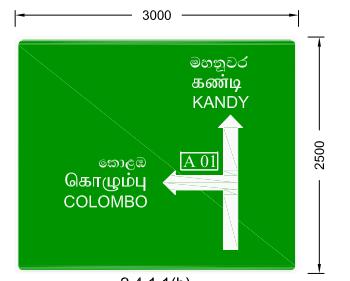
2.4.4.3(b)



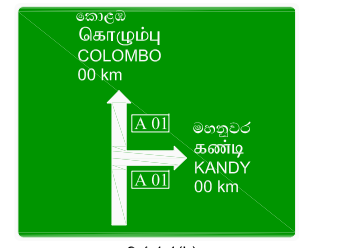
2.4.4.3(b)



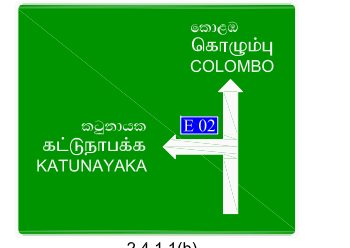
2.4.4.3(b)



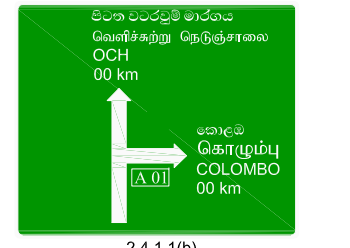
2.4.1.1(b)



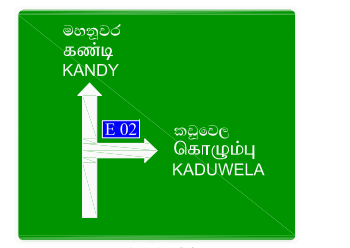
2.4.1.1(b)



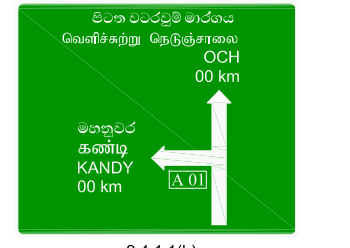
2.4.1.1(b)



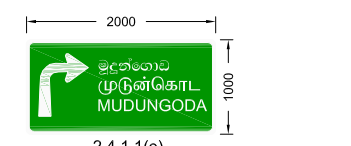
2.4.1.1(b)



2.4.1.1(b)



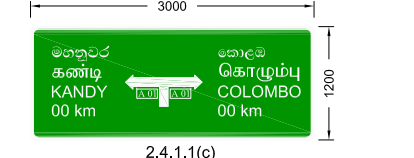
2.4.1.1(b)



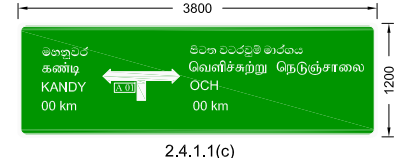
2.4.1.1(e)



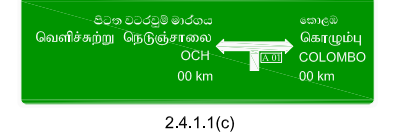
2.4.1.1(e)



2.4.1.1(c)



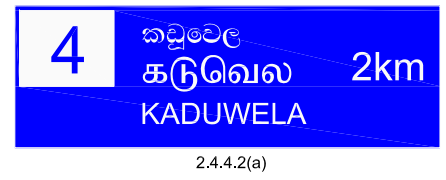
2.4.1.1(c)



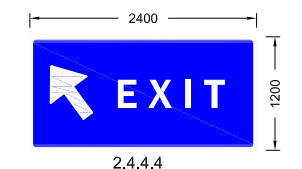
2.4.1.1(c)



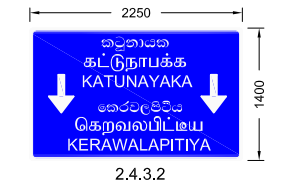
2.4.4.2(a)



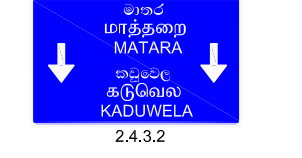
2.4.4.2(a)



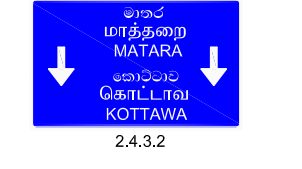
2.4.4.4



2.4.3.2



2.4.3.2



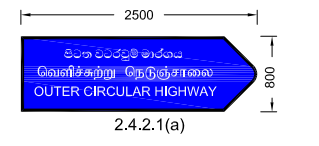
2.4.3.2



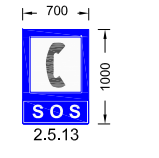
2.4.3.2



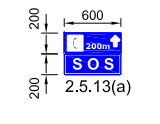
2.4.3.2



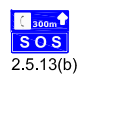
2.4.2.1(a)



2.5.13



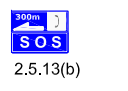
2.5.13(a)



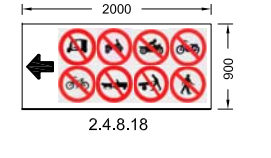
2.5.13(b)



2.5.13(a)

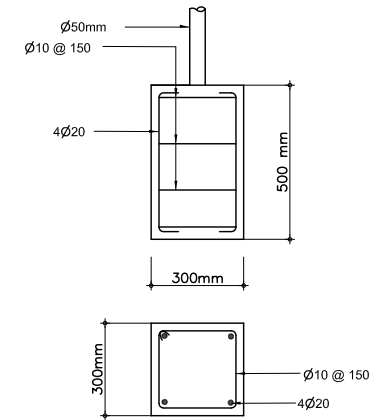
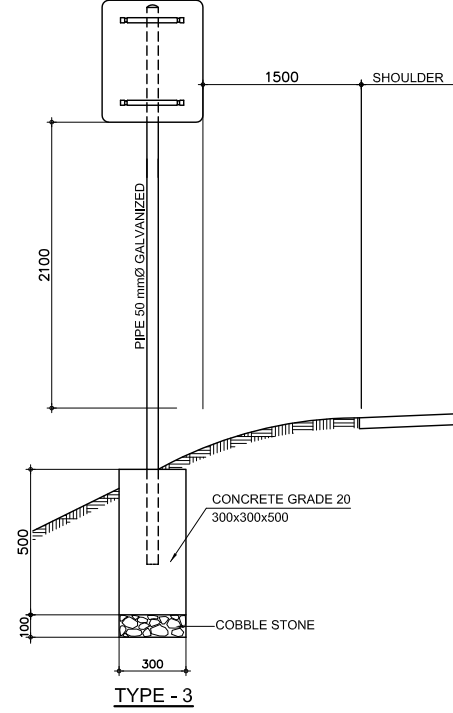
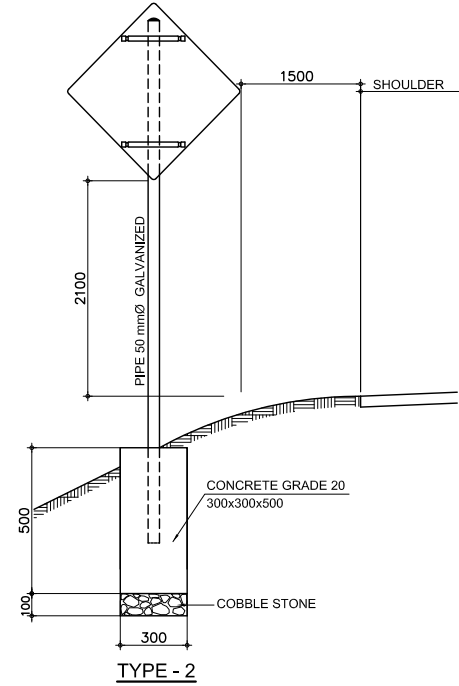
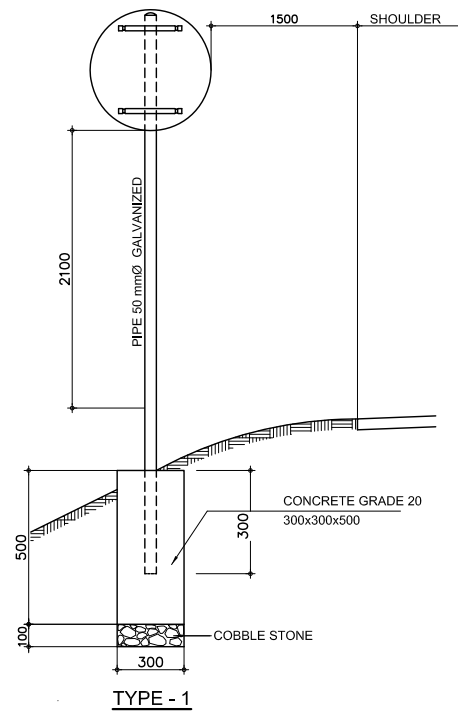


2.5.13(b)



2.4.8.18

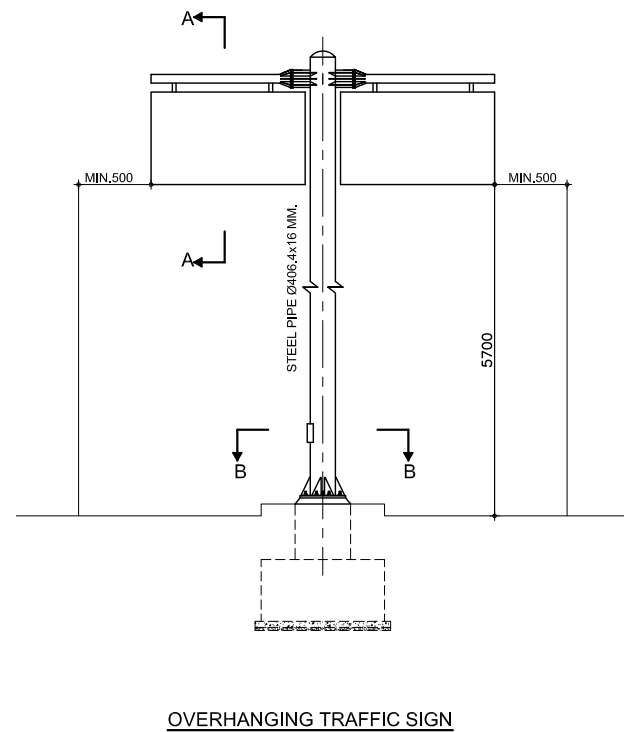
NOTE: DISTANCES TO THE DESTINATIONS TO BE GIVEN BY THE ROAD DEVELOPMENT AUTHORITY.



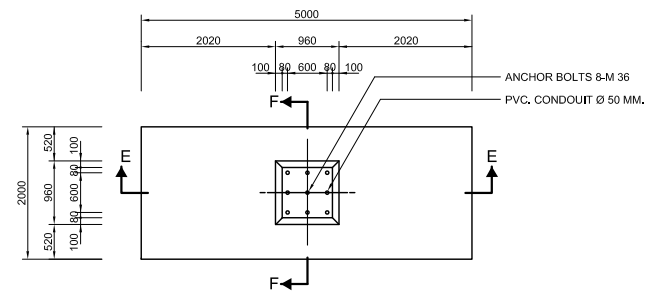
FOUNDATION FOR NORMAL TRAFFIC SIGN POST

NOTE:
 H= 1500 mm FOR RURAL AREAS
 H= 2100 mm FOR URBAN AREAS

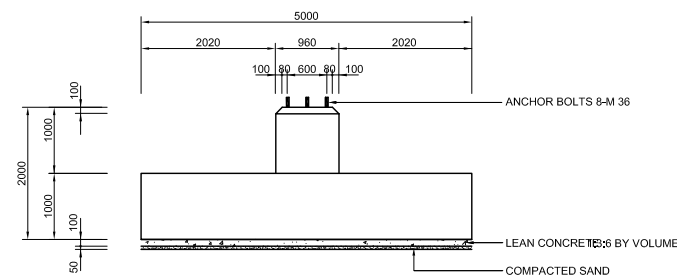
ELEVATIONS OF TYPICAL SIGNS



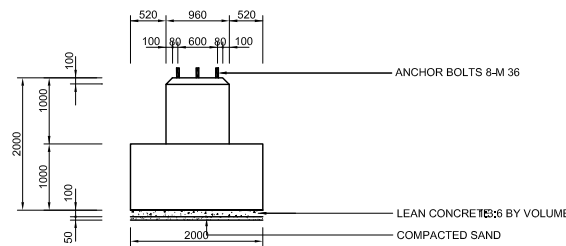
OVERHANGING TRAFFIC SIGN



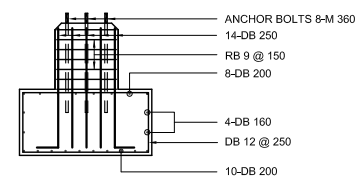
PLAN OF FOUNDATION



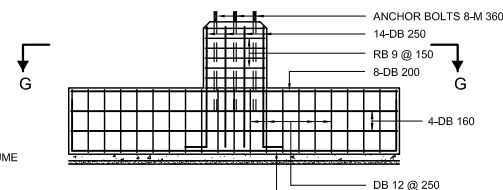
FRONT OF FOUNDATION



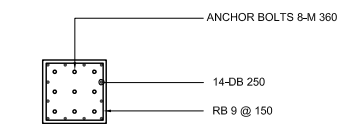
SIDE OF FOUNDATION



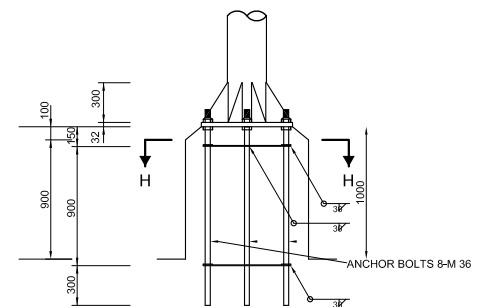
SECTION F - F



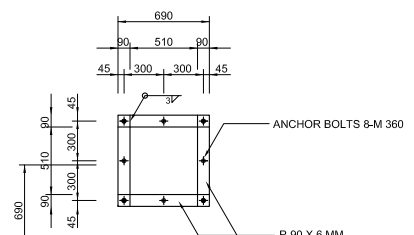
SECTION E - E



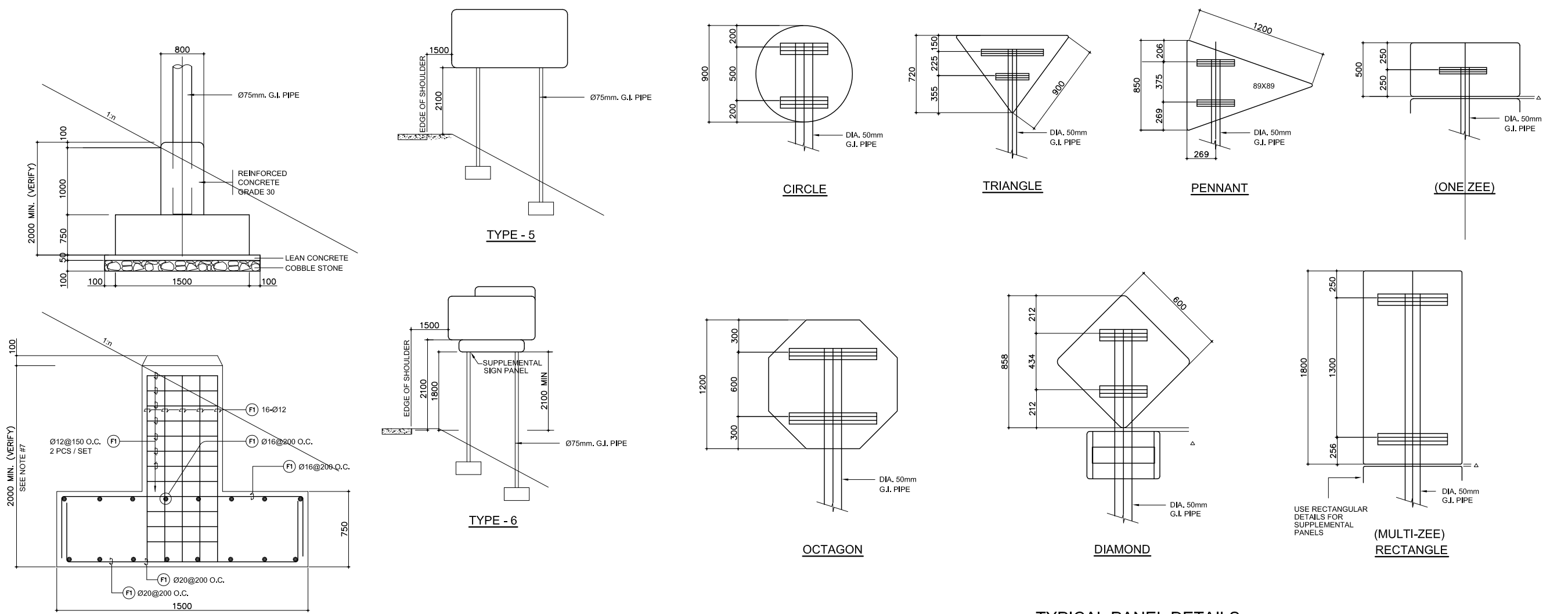
SECTION G - G



ANCHOR BOLT DETAILS



SECTION H - H



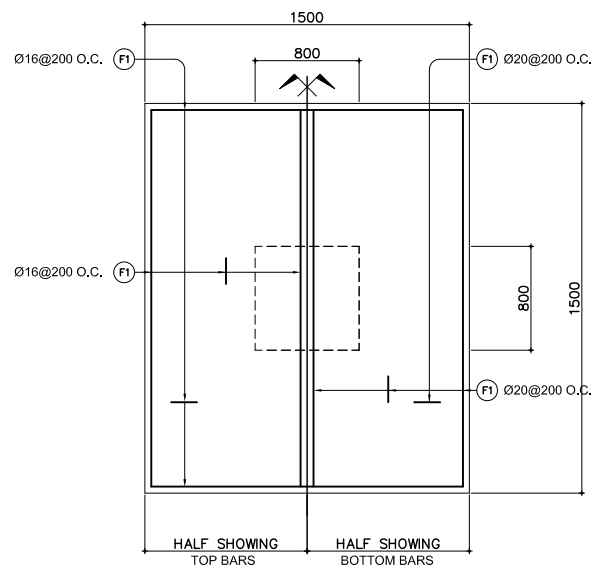
FOOTING SECTION (FOR TYPE 5 & 6)

GUIDE SIGN POST DETAILS

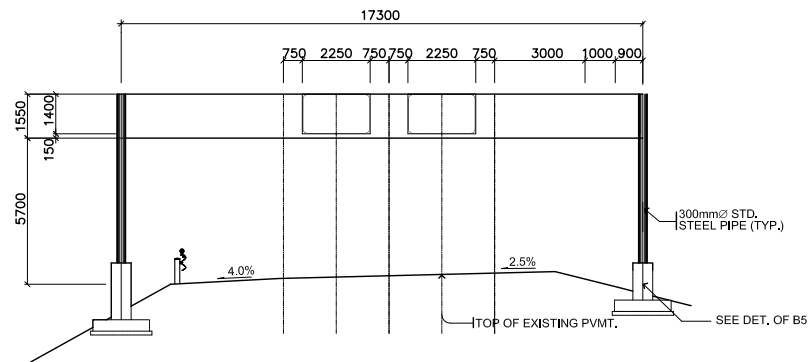
TYPICAL PANEL DETAILS

NOTES

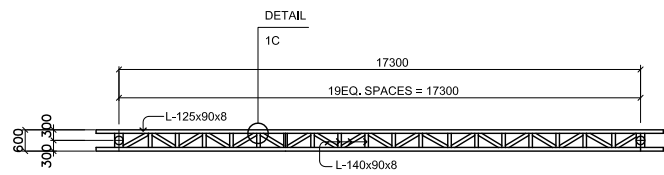
1. THE ENGINEER SHALL ESTABLISH GRADES AND LOCATIONS FOR ALL SIGN POSTS IN ACCORDANCE WITH DETAILS SHOWN ON THE PLANS
2. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN
3. MINIMUM POST EMBODIMENT SHALL BE 0.6 m FOR DIA. 50mm G.I. POST FOR FOOTING DEPTH SEE THE APPLICABLE STANDARD.
4. NORMAL LATERAL PLACEMENT IS MEASURED FROM THE SHOULDER.
5. IN URBAN AREAS A LATERAL CLEARANCE OF 300mm FROM THE CURB FACE IS PERMISSIBLE WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING POLES ARE CLOSE TO THE KERB
6. "EDUCATIONAL PLAQUES" FOR SYMBOL SIGNS WILL NOT BE CONSIDERED WHEN DETERMINING VERTICAL PLACEMENT.
7. NORMAL ANGULAR PLACEMENT IS 0, SIGNS CLOSER THAN 9m SHOULD BE TURNED SLIGHTLY AWAY TO MINIMISE SPECULAR REFLECTION SIGNS PLACED 9M OR MORE SHOULD GENERALLY BE TURNED TOWARD THE ROAD.
8. THE EXIT PANEL IS MOUNTED ON RIGHT SIDE FOR RIGHT HAND EXITS AND THE LEFT SIDE FOR LEFT HAND EXITS
9. SIZE OF FOUNDATION FOR LARGE SIGNS (DIRECTION SIGNS) TO BE DETERMINED ACCORDING TO DIMENSION OF SIGN.
10. IN CUT SECTIONS THE PLACING OF SIGN POSTS IN THE SIDE DITCH SHOULD BE AVOIDED BY CHOOSING A SUITABLE VALUE FOR B



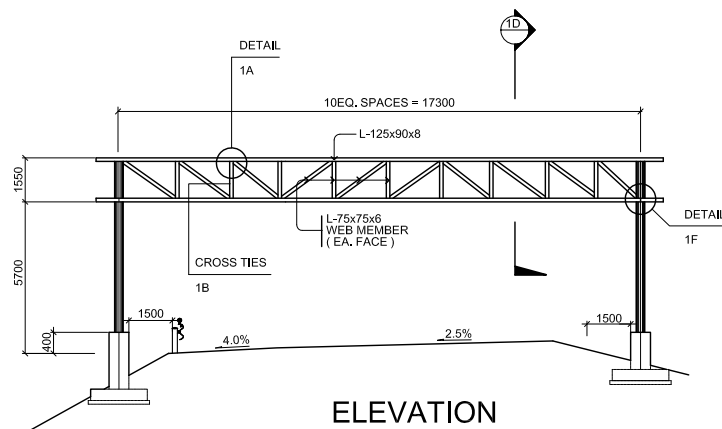
FOOTING PLAN (FOR TYPE 5 & 6)



ELEVATION
NOT TO SCALE

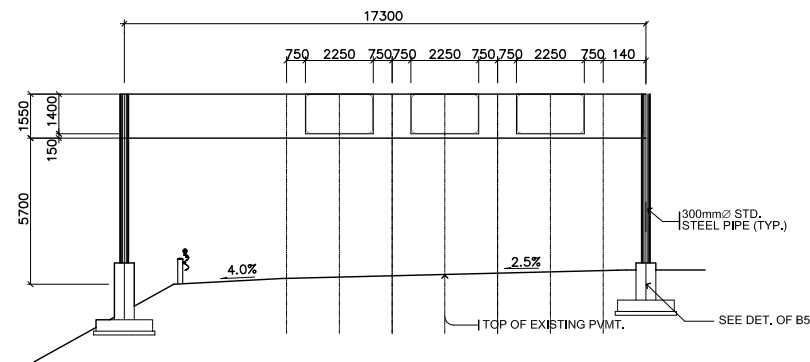


PLAN
NOT TO SCALE

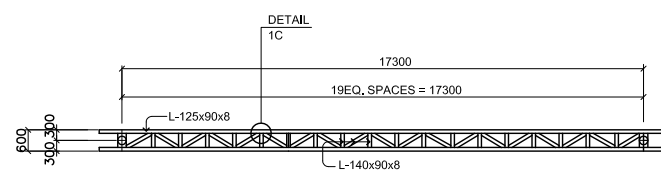


ELEVATION
NOT TO SCALE

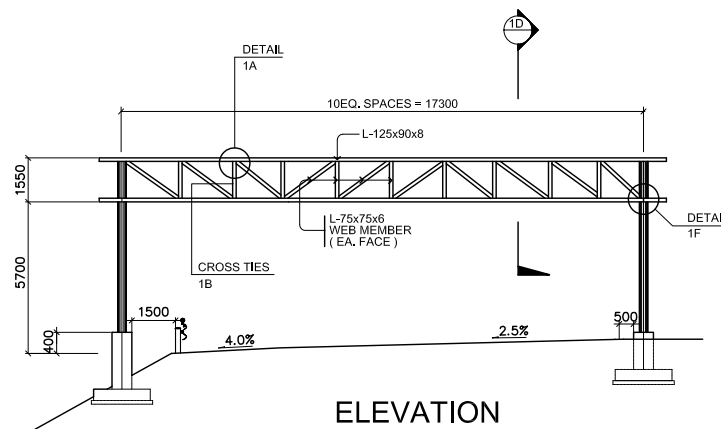
Initial Stage



ELEVATION
NOT TO SCALE



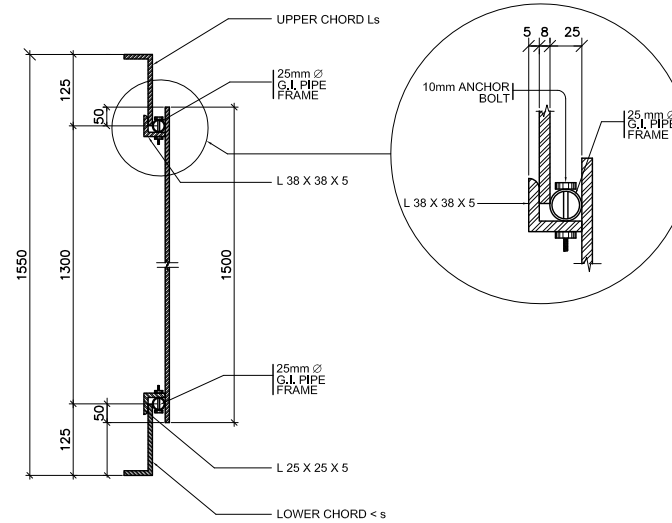
PLAN
NOT TO SCALE



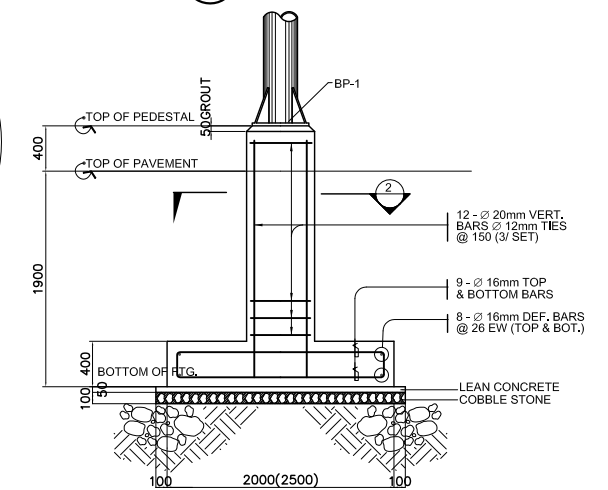
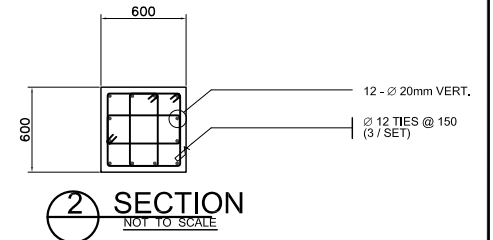
ELEVATION
NOT TO SCALE

Ultimate Stage

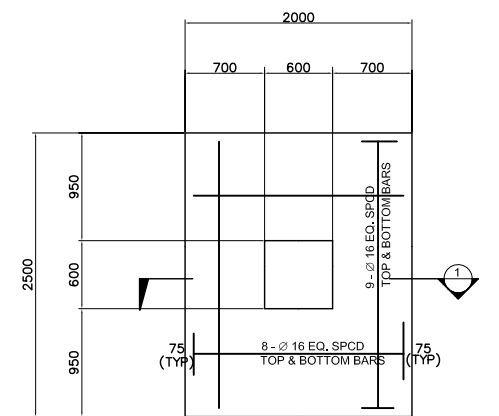
OVERHEAD SIGN



PANEL FRAME MOUNTING DETAIL
NOT TO SCALE

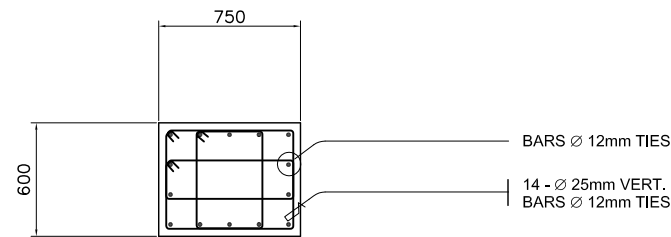


SECTION 1
NOT TO SCALE

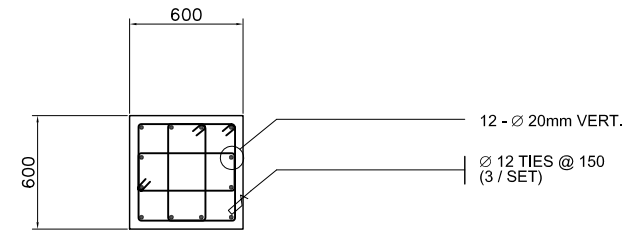


PLAN
NOT TO SCALE

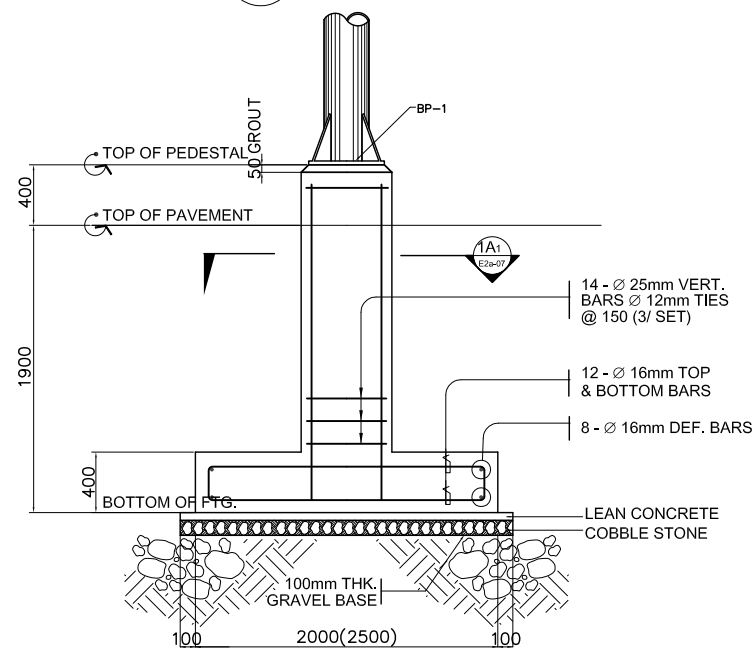
FOOTING DETAIL



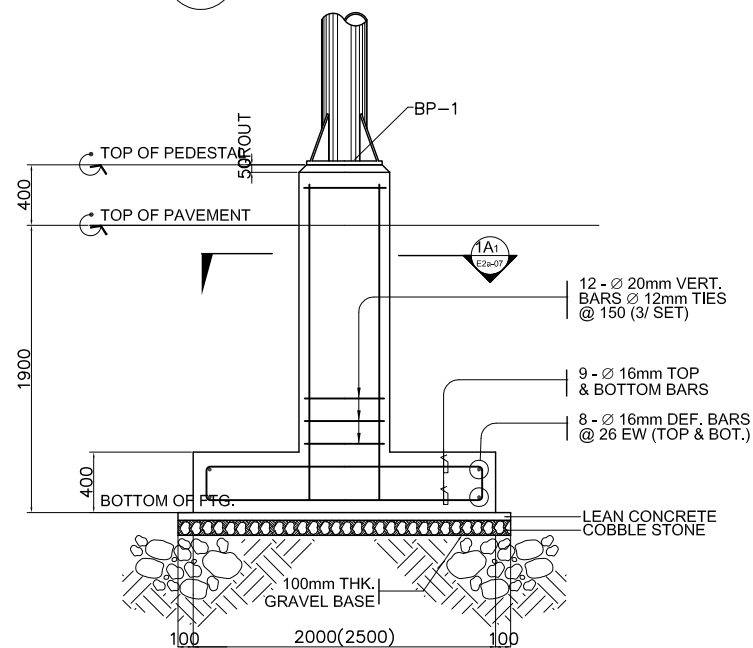
1A1 SECTION
SCALE 1:20



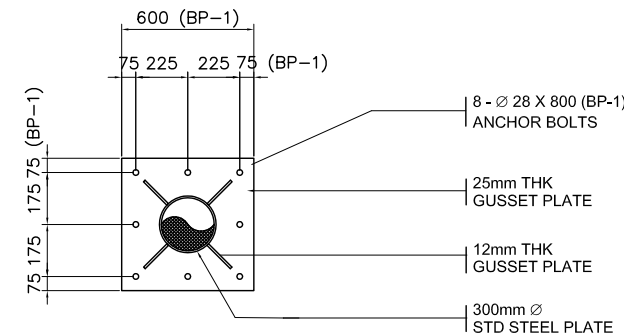
1B1 SECTION
SCALE 1:20



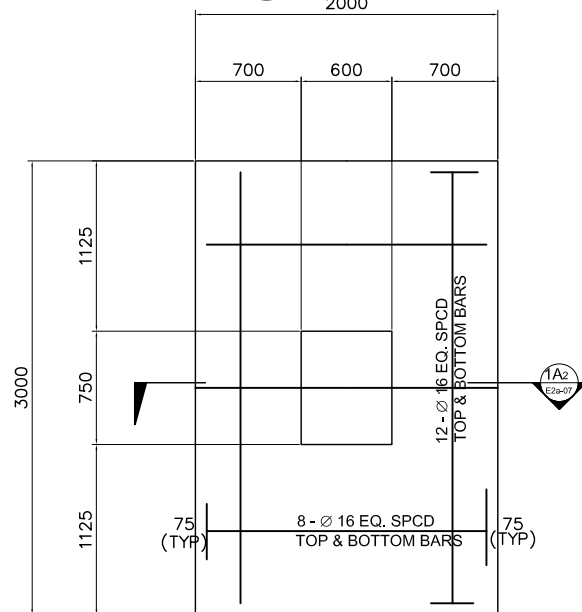
1A2 SECTION
SCALE 1:25
2000



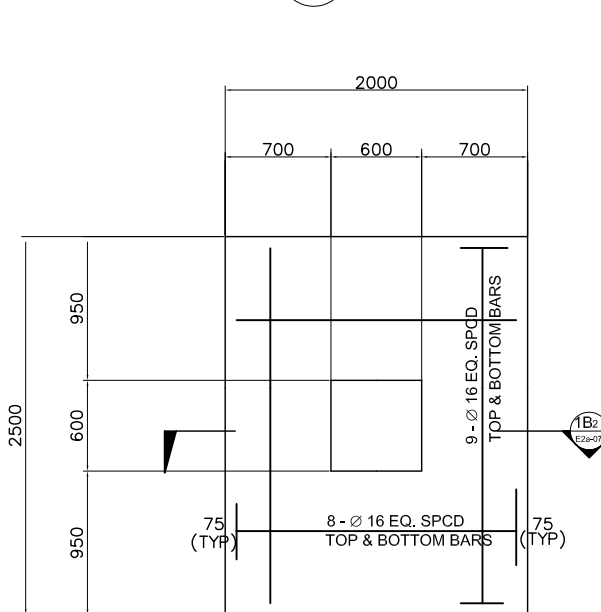
1B2 SECTION
SCALE 1:25



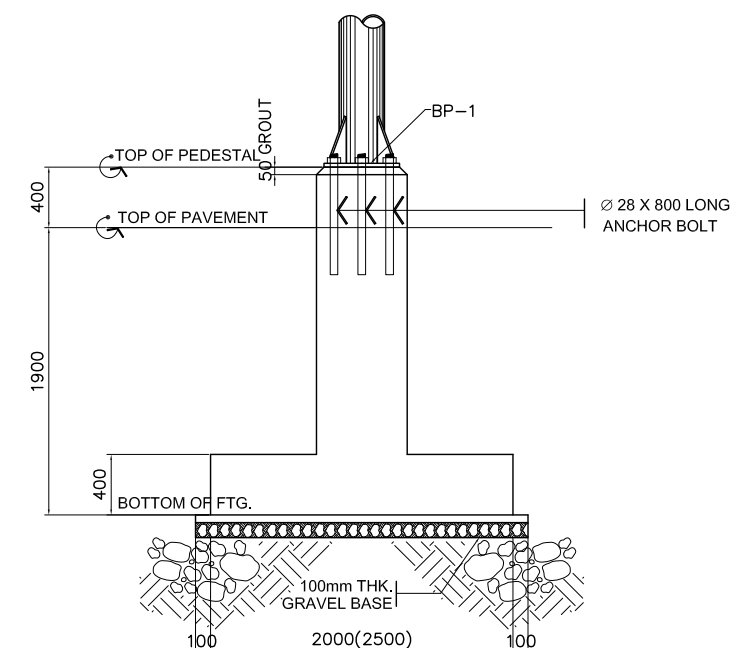
1D1 PLAN
SCALE 1:20



1A3 BASE PLATE
SCALE 1:25



1B2 PLAN
SCALE 1:25

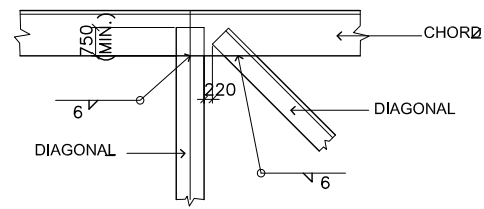


1D2 ELEVATION
SCALE 1:25

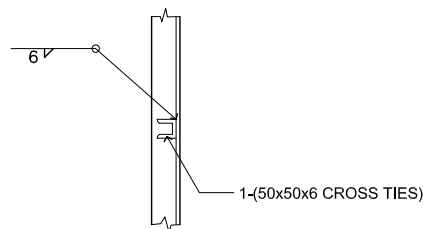
1A FOOTING (F-1) DETAIL
SCALE 1:25

1B FOOTING (F-2) DETAIL
SCALE 1:25

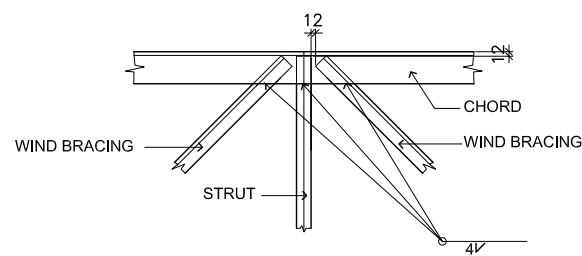
1D BASE PLATE DETAIL
SCALE 1:25



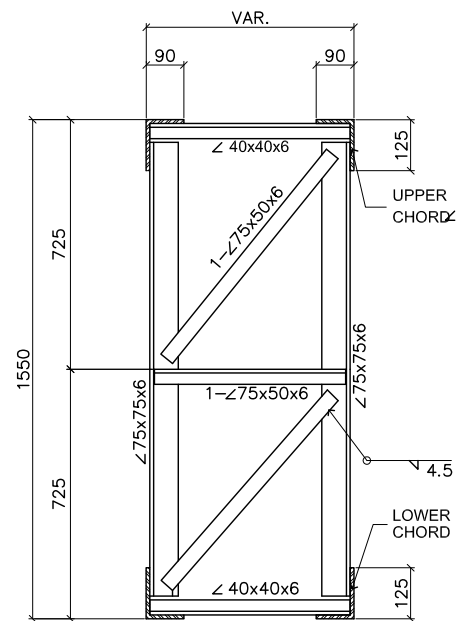
1C DETAIL SCALE 1:100



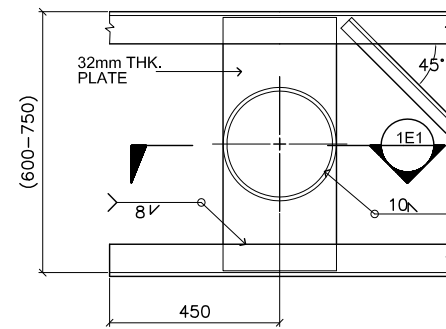
1B DETAIL SCALE 1:100



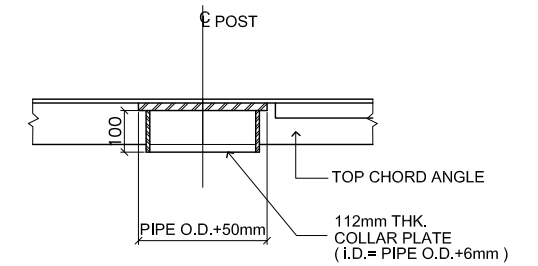
1A DETAIL SCALE 1:100



1D DETAIL SCALE 1:100

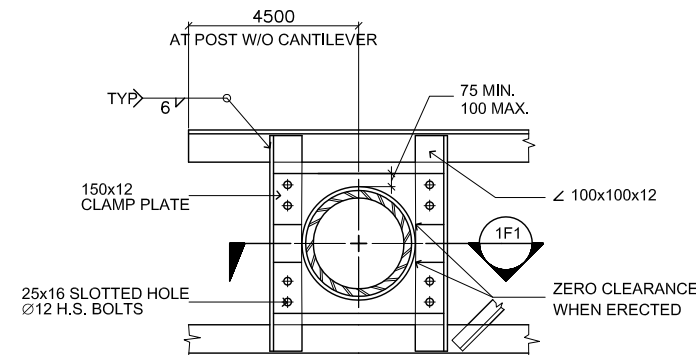


1E PLAN SCALE 1:100

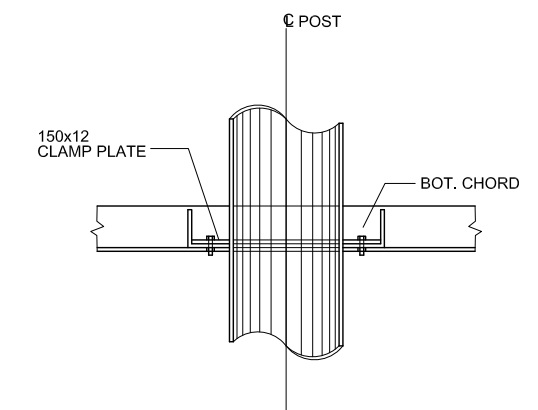


1E1 SECTION SCALE 1:100

1E UPPER CHORD CONNECTION SCALE 1:100

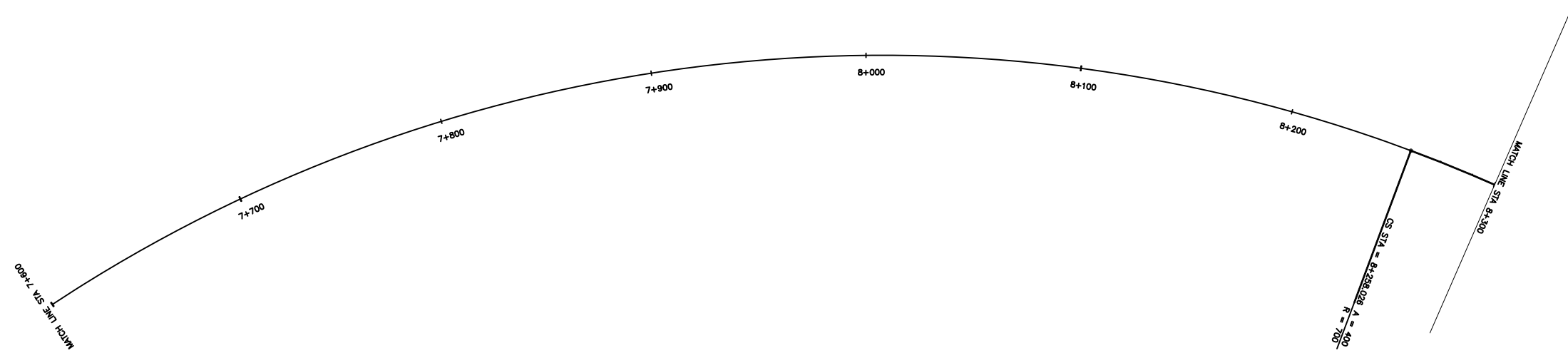
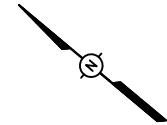


1F PLAN SCALE 1:100



1F1 SECTION SCALE 1:100

1F UPPER CHORD CONNECTION SCALE 1:100



THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT



JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ORIENTAL CONSULTANTS COMPANY LIMITED
in association with
PACIFIC CONSULTANTS INTERNATIONAL

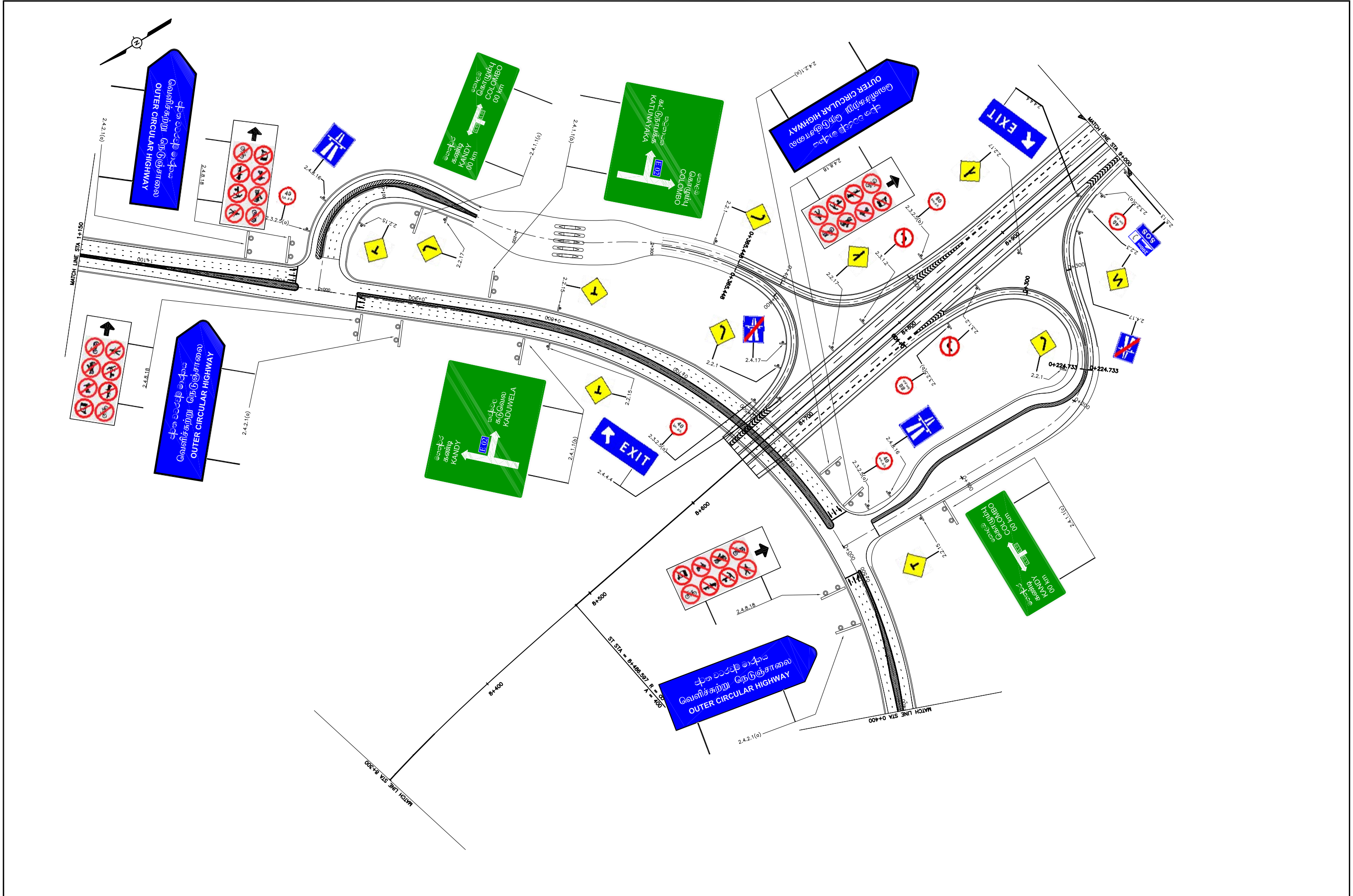


No	REVISION	DATE

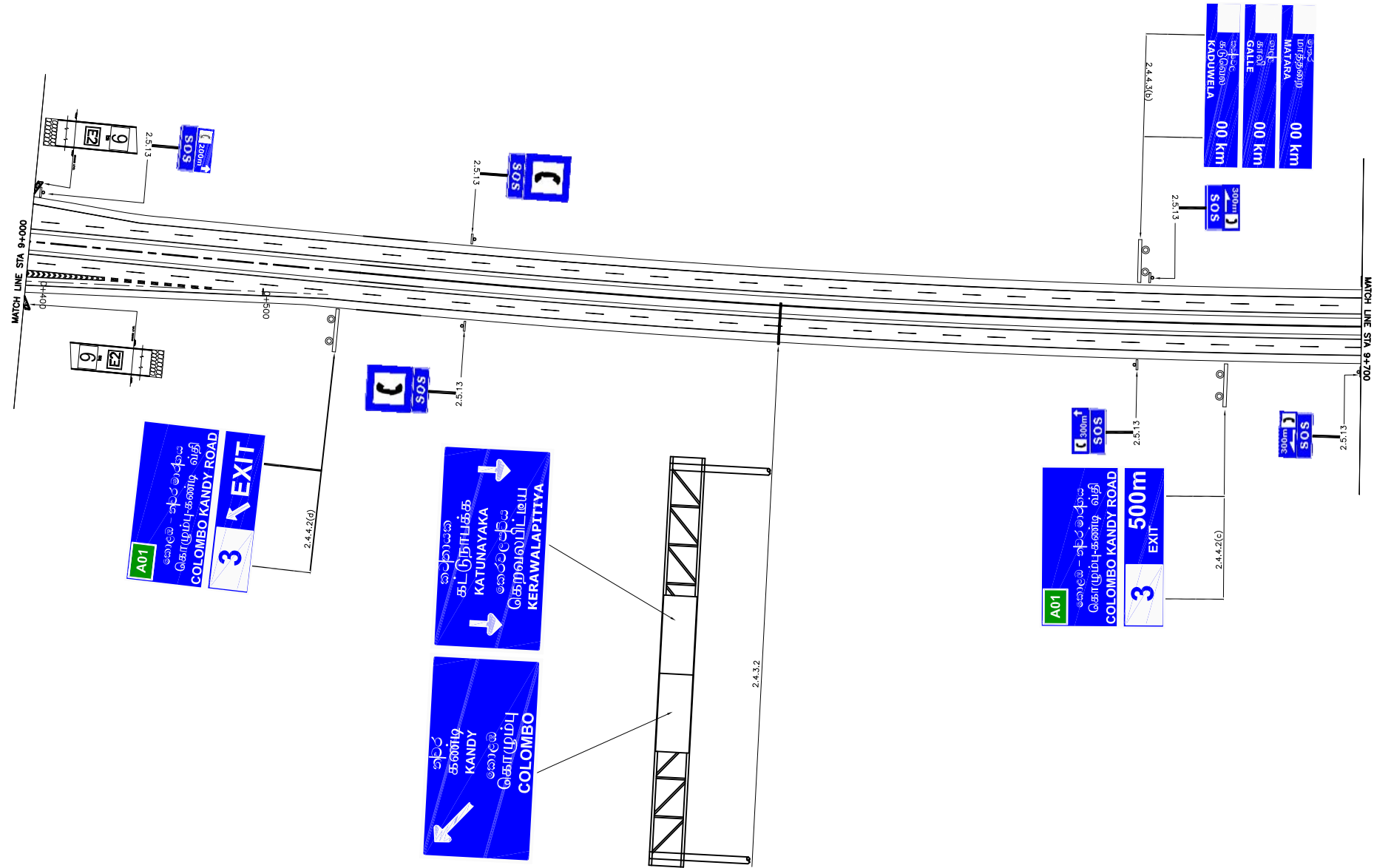
COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
(NORTHERN SECTION 1)

TRAFFIC SIGN LAYOUT - 1

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O-08

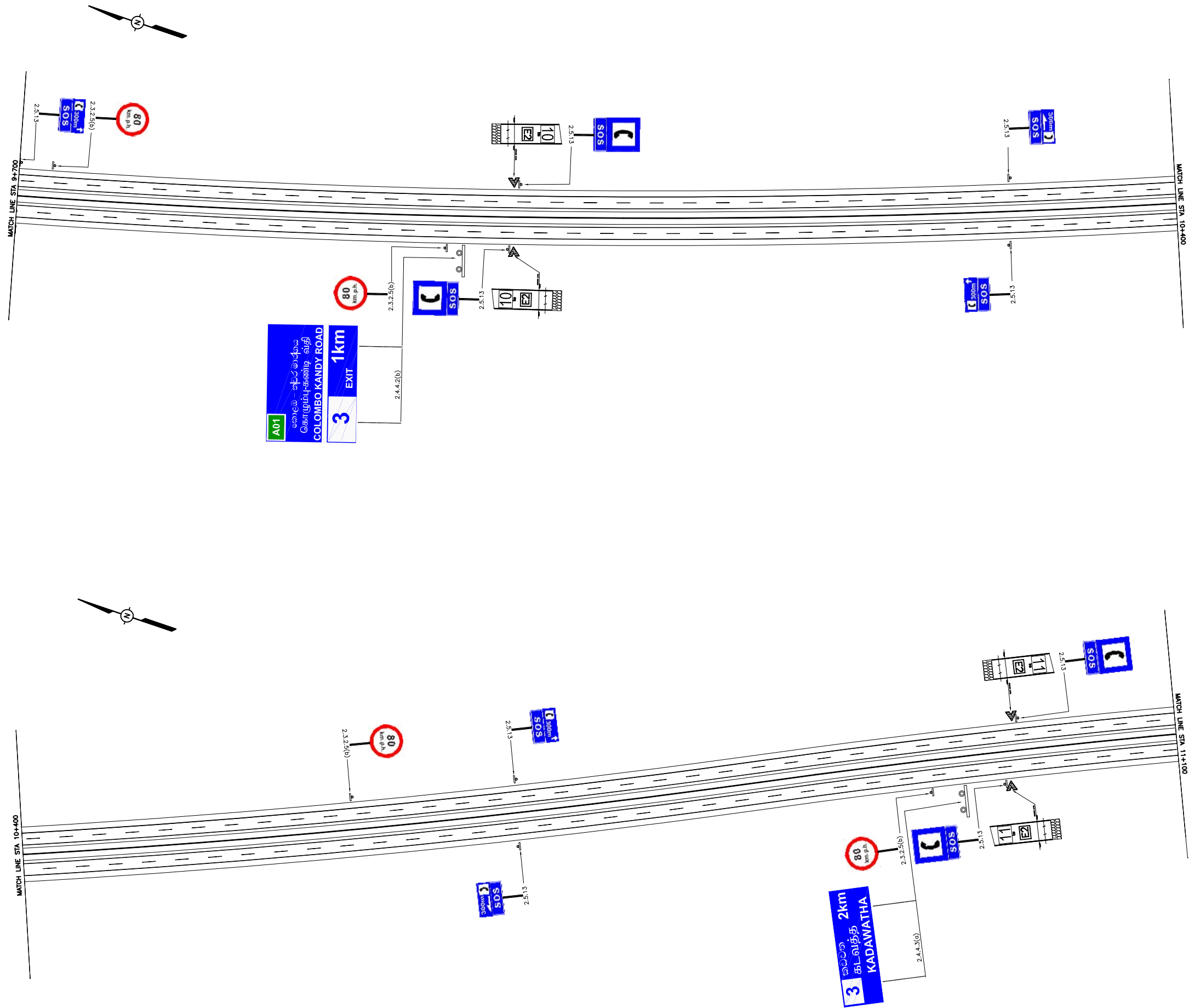


THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT 	JAPAN INTERNATIONAL COOPERATION AGENCY ORICON PACIFIC CONSULTANTS INTERNATIONAL	JAPAN PACIFIC CONSULTANTS INTERNATIONAL	COLOMBO OUTER CIRCULAR HIGHWAY PROJECT (NORTHERN SECTION 1)		DESIGNED BY:
			TRAFFIC SIGN LAYOUT - 2		CHECKED BY:
			APPROVED BY:	DWG. NO. O-09	
		No	REVISION	DATE	



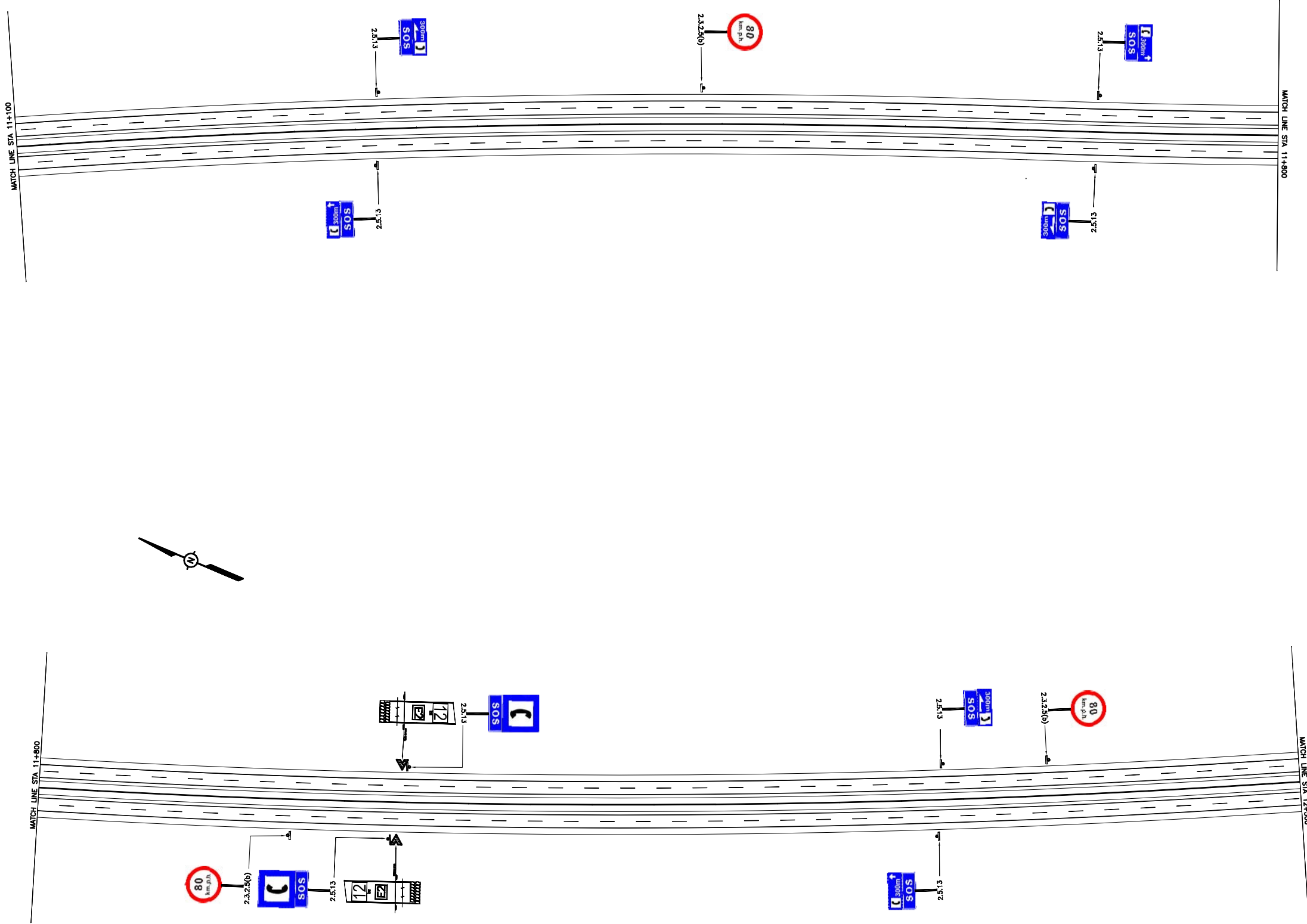
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DESIGNED BY:	
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APPROVED BY:	
DWG. NO.	O-10



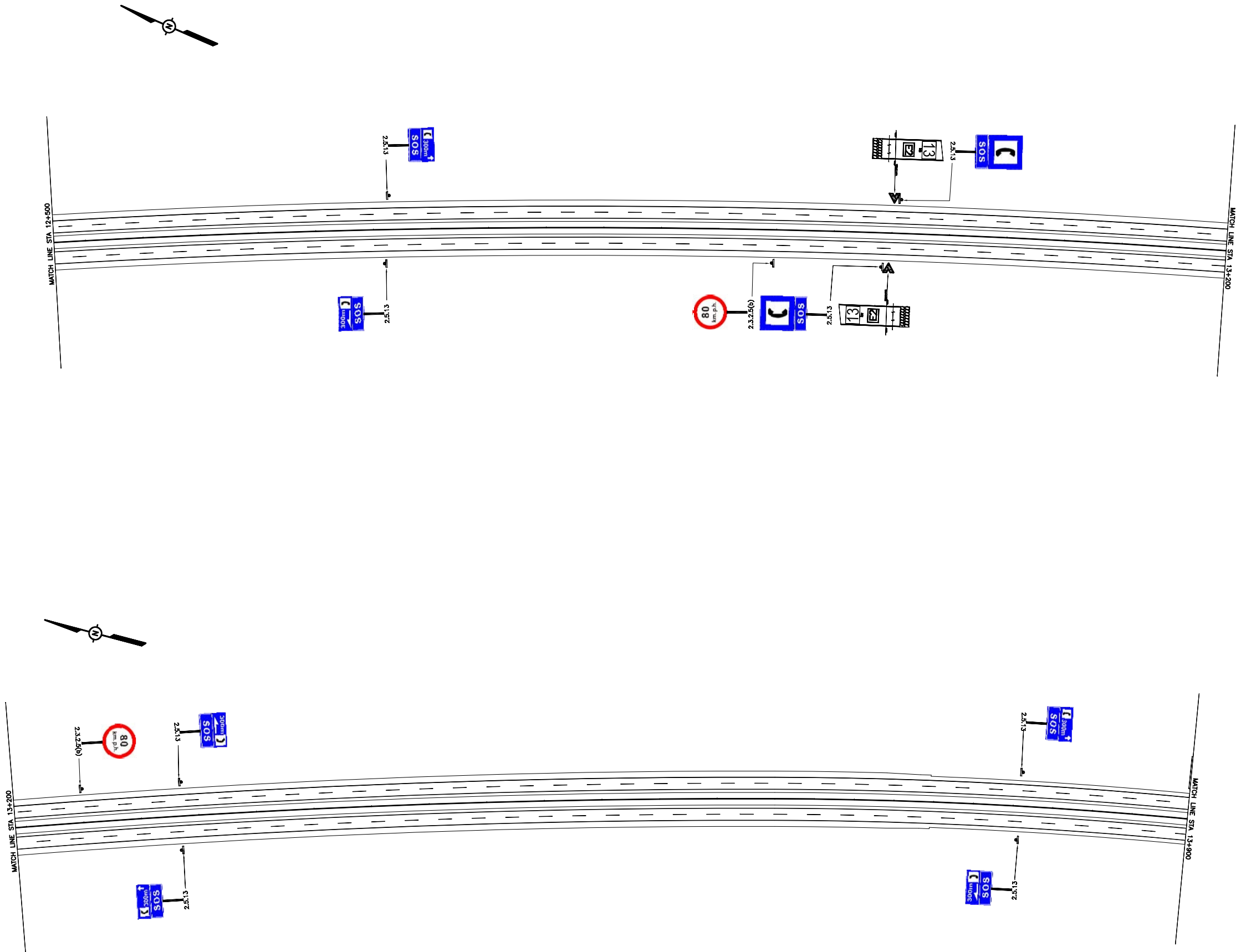
No	REVISION	DATE

DESIGNED BY:	
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APPROVED BY:	
DWG. NO.	O- 11



No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O-12

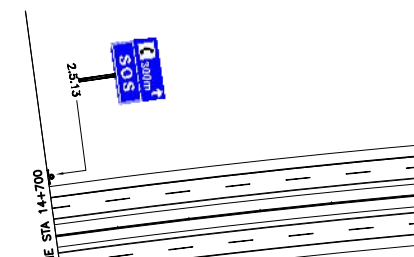
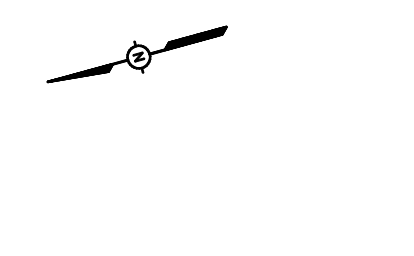
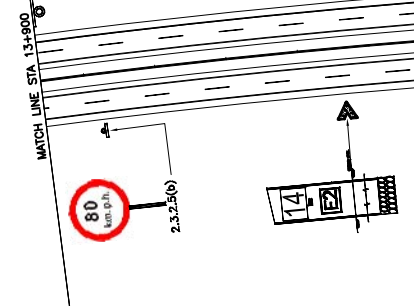


No	REVISION	DATE

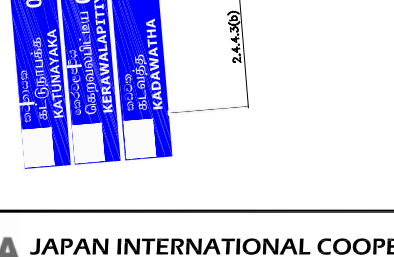
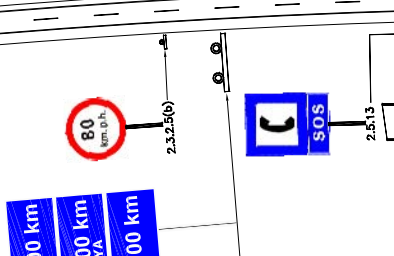
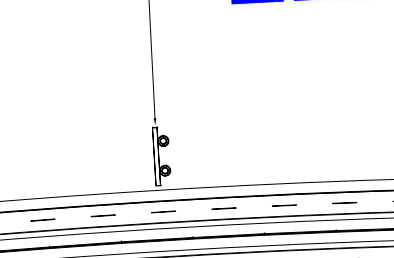
DESIGNED BY:	
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APPROVED BY:	
DWG. NO.	O-13



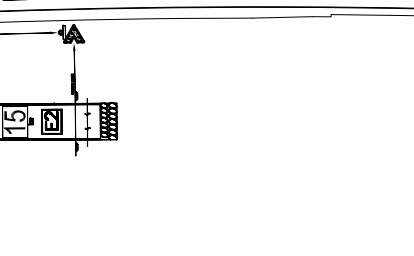
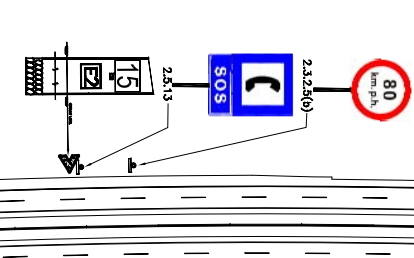
4
KADUWELA
2km



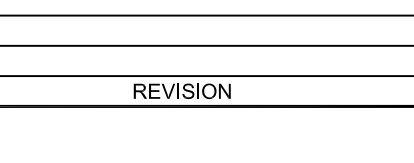
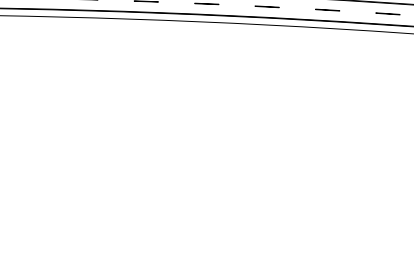
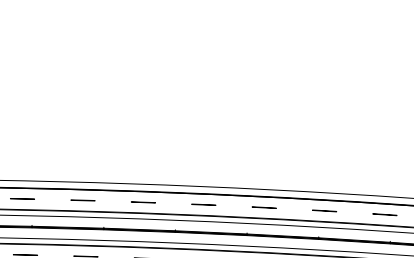
B214
4
EXIT
1km
KELANIYA - MUNDUNGOODA ROAD



B214
4
EXIT
500m
KELANIYA - MUNDUNGOODA ROAD



B214
4
EXIT
2km
KADUWELA



THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT



JICA JAPAN INTERNATIONAL COOPERATION AGENCY

ORIENTAL CONSULTANTS COMPANY LIMITED
in association with
PACIFIC CONSULTANTS INTERNATIONAL

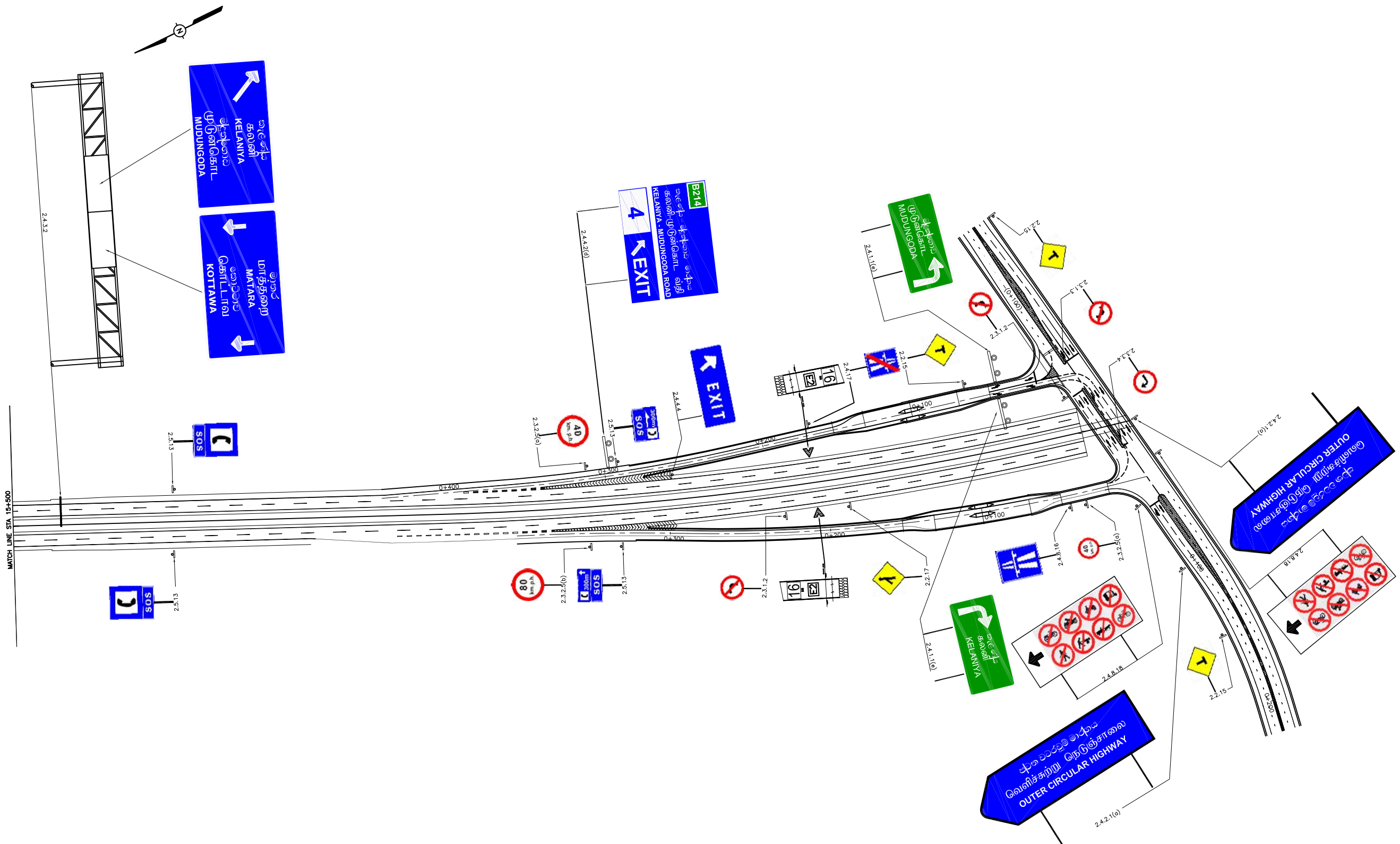


No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
(NORTHERN SECTION 1)

TRAFFIC SIGN LAYOUT - 7

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O- 14



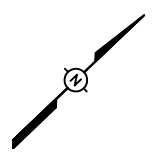
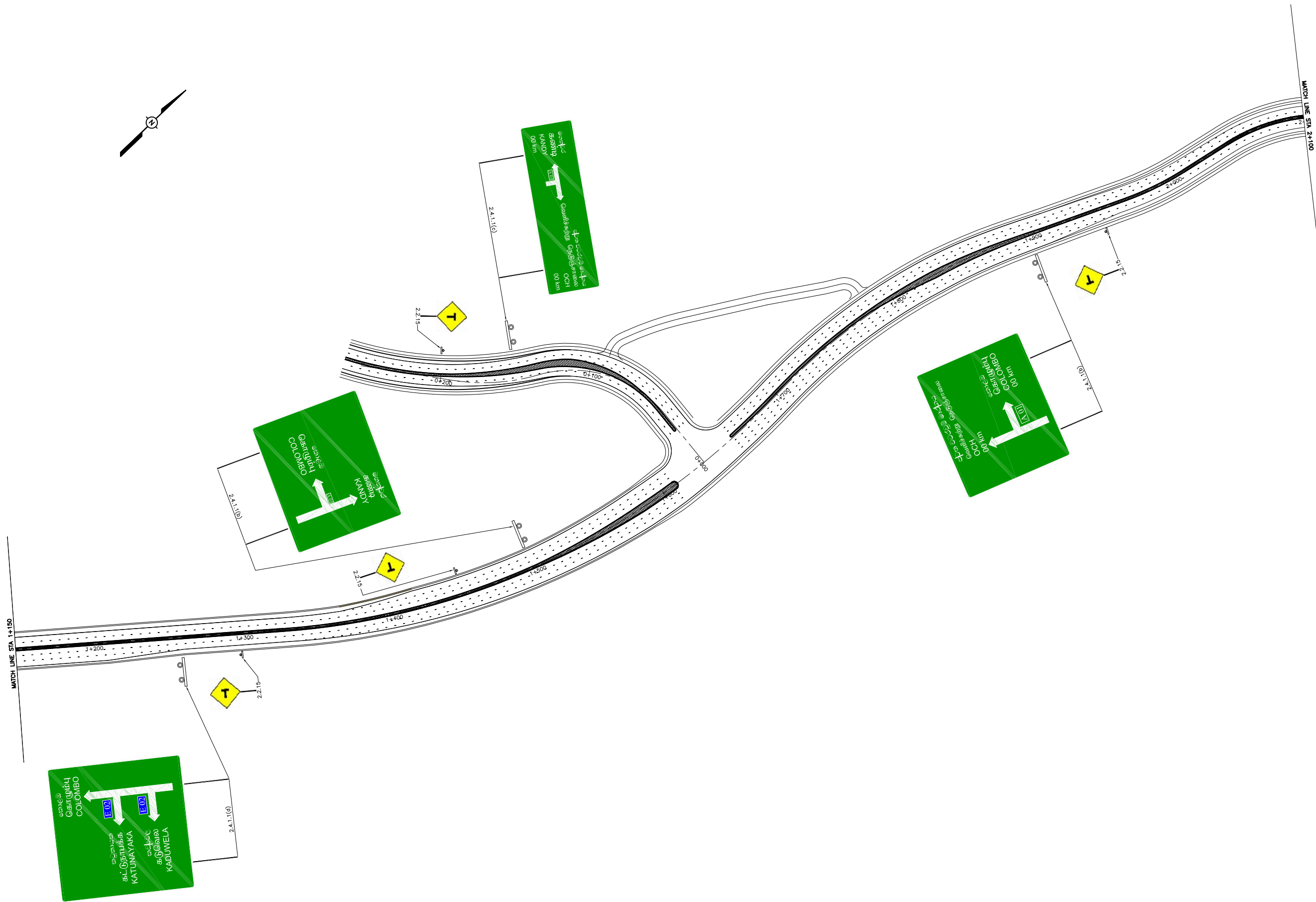
No	REVISION	DATE

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APPROVED BY:	
DWG. NO.	O-15



No	REVISION	DATE

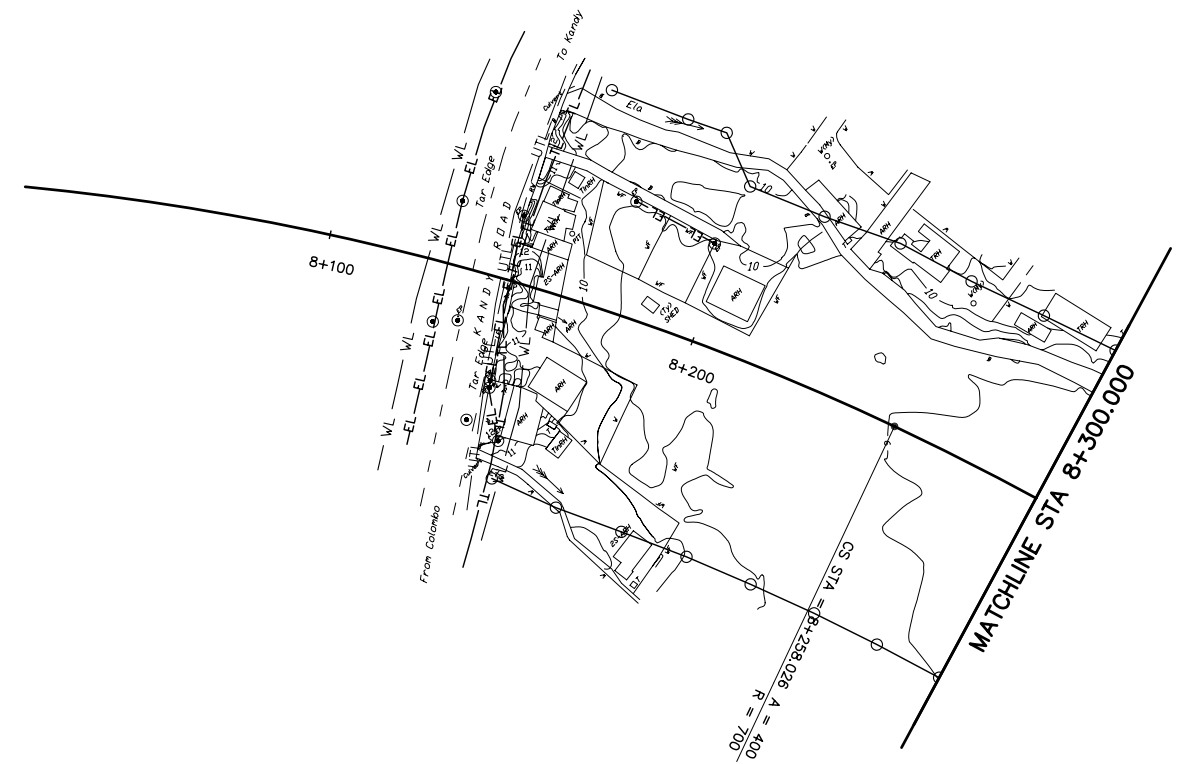
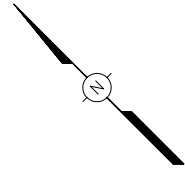
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O- 16



No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	O-17

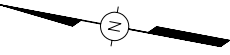
P. EXISTING UTILITIES



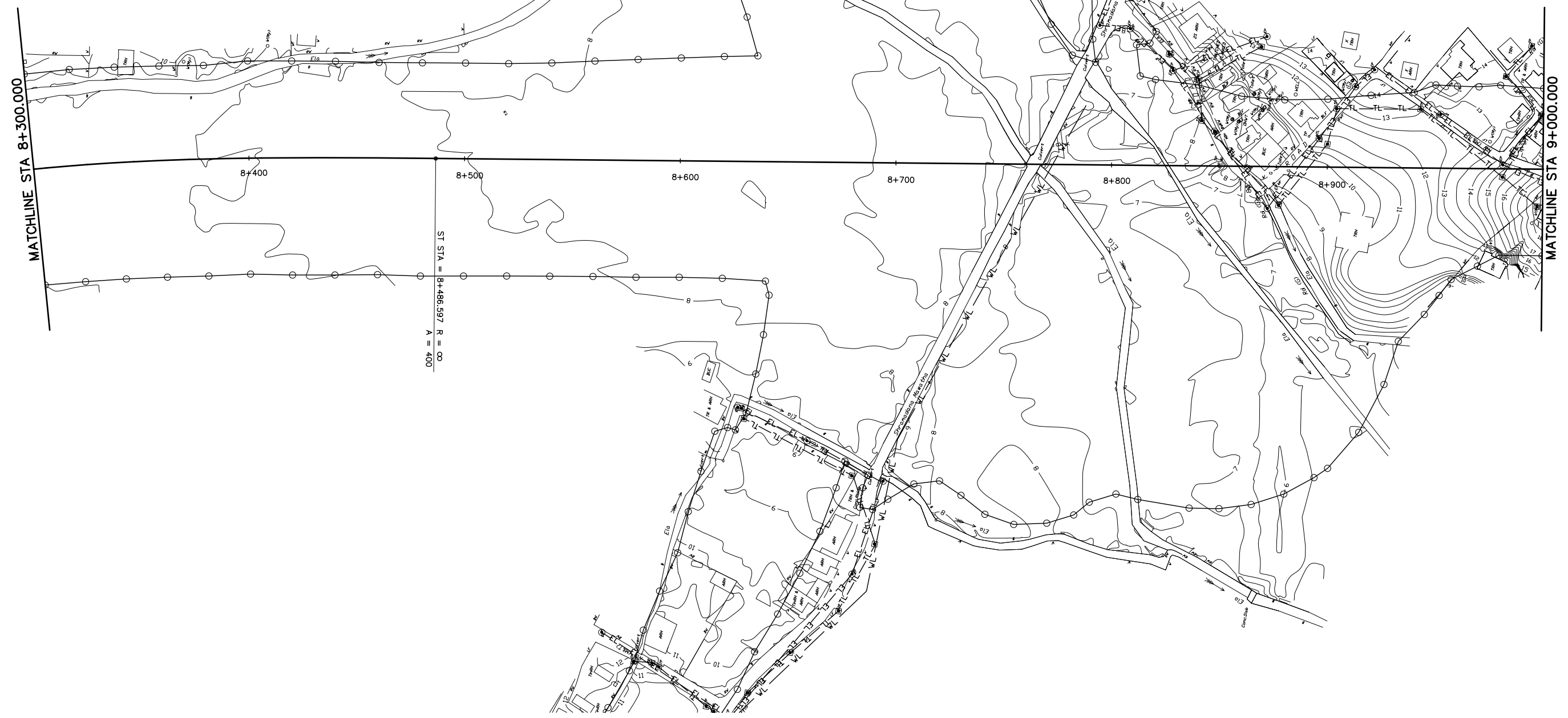
LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-01



LEGEND	
■ TP	TELEPHONE POST
● EP	ELECTRICAL POST
● EPHT	ELECTRIC POST HIGH TENSION
— TL —	TELEPHONE LINE
— EL —	ELECTRICAL LINE
— HTL —	HIGH TENSION POWER LINE
— WL — WL	WATER PIPE LINE
— UTL — UTL	UNDERGROUND TELECOM



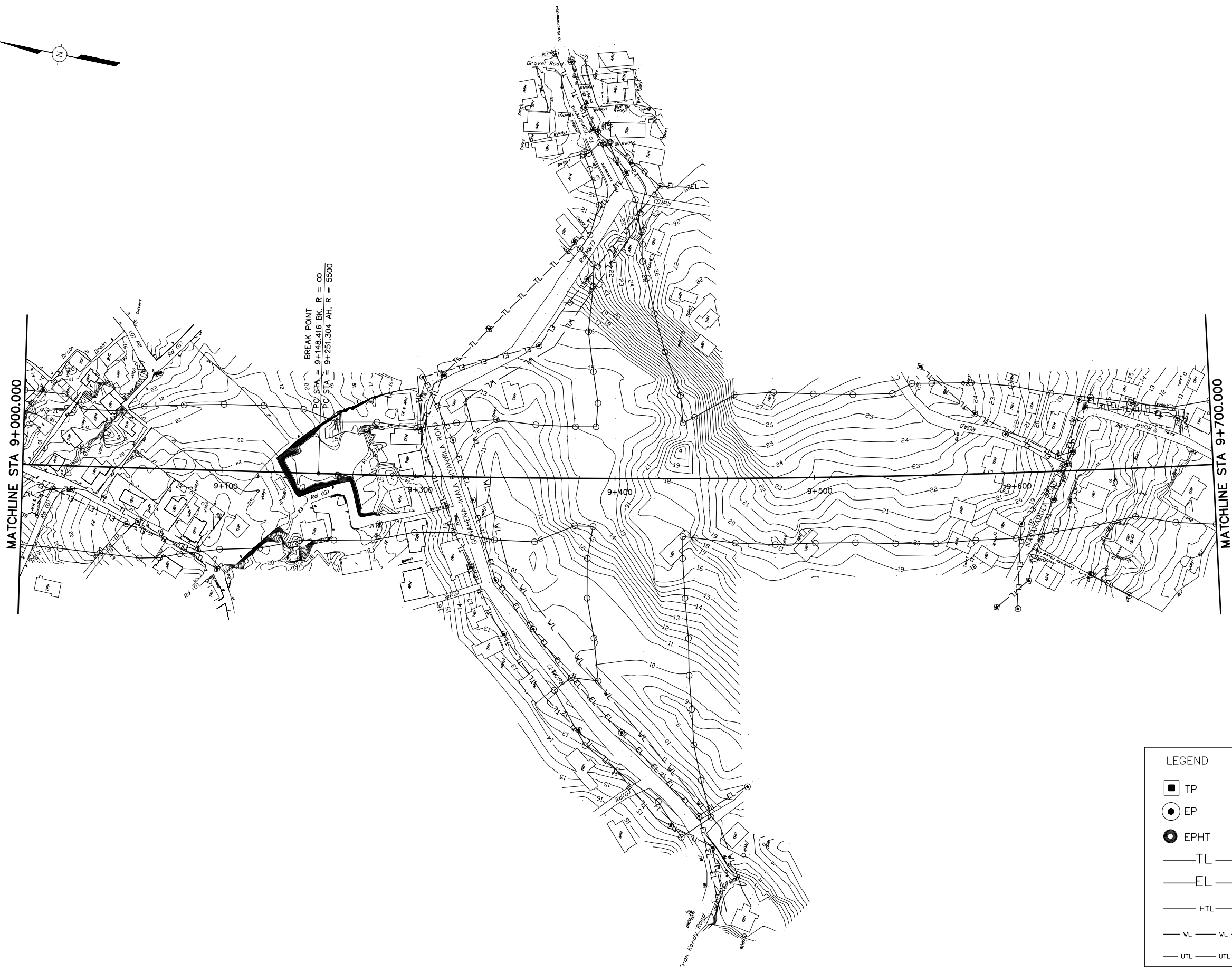
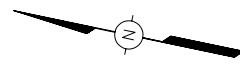
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT
Road Development Authority

JICA JAPAN INTERNATIONAL COOPERATION AGENCY
ORIENTAL CONSULTANTS COMPANY LIMITED
 in association with
PACIFIC CONSULTANTS INTERNATIONAL

No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
 (NORTHERN SECTION 1)
EXISTING UTILITIES
 STA. 8+300.000 TO 9+000.000

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-02

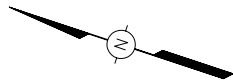


BREAK POINT
 PC STA = 9+148.416 BK. R = ∞
 PC STA = 9+251.304 AH. R = 5500

LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE

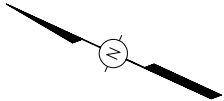
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-03



LEGEND	
■	TP - TELEPHONE POST
●	EP - ELECTRICAL POST
●	EPHT - ELECTRIC POST HIGH TENSION
— TL —	TL - TELEPHONE LINE
— EL —	EL - ELECTRICAL LINE
— HTL —	HTL - HIGH TENSION POWER LINE
— WL —	WL - WATER PIPE LINE
— UTL —	UTL - UNDERGROUND TELECOM

No	REVISION	DATE

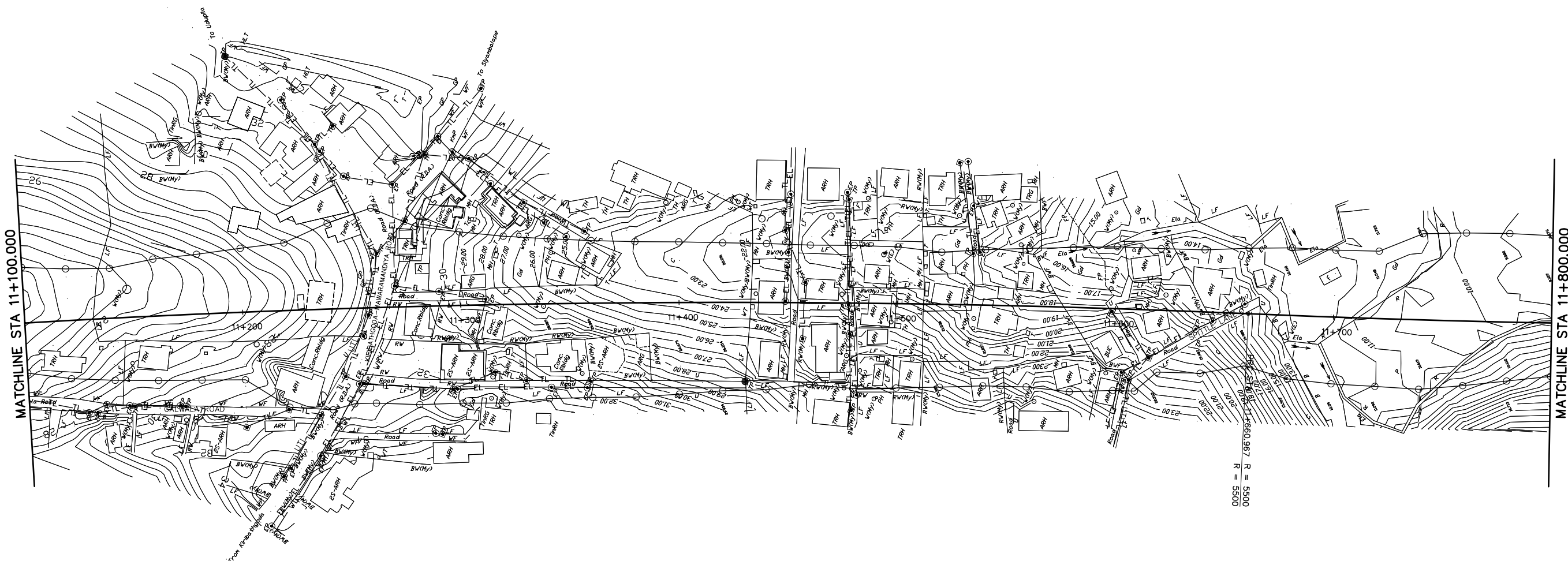
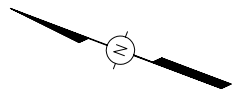
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-04



LEGEND	
■	TP - TELEPHONE POST
●	EP - ELECTRICAL POST
●	EPHT - ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL —	— WATER PIPE LINE
— UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-05

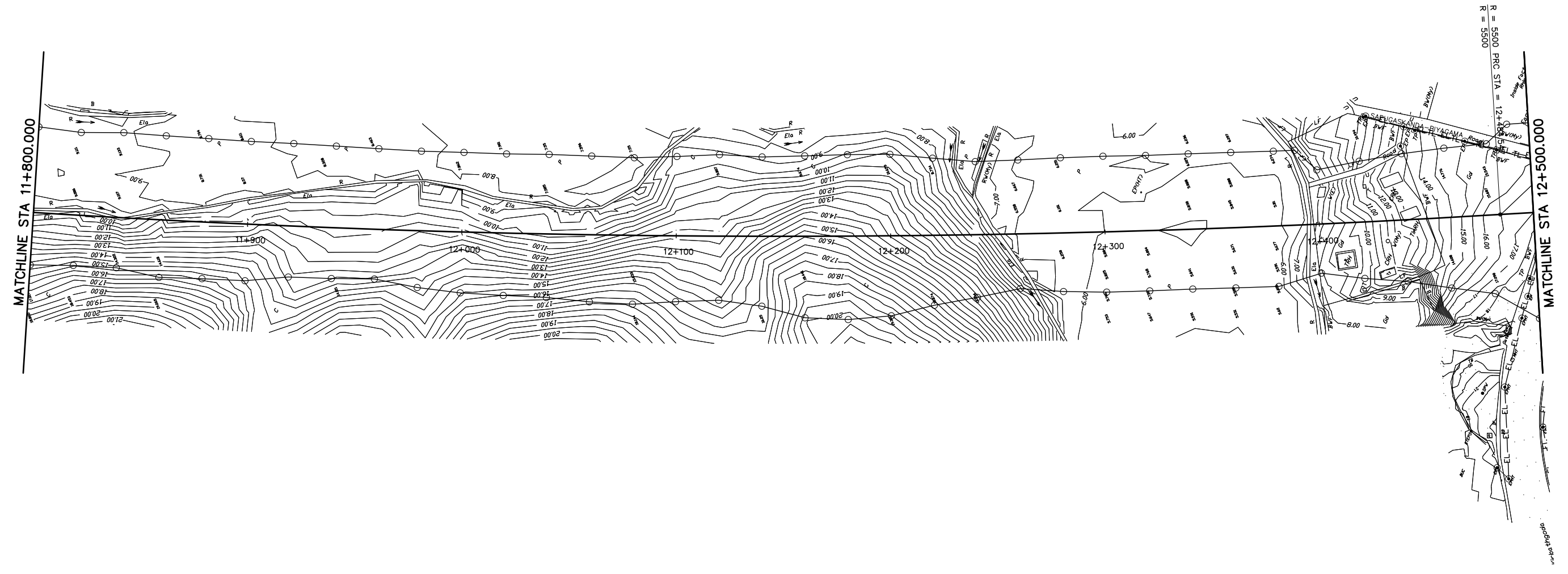
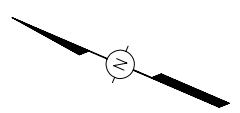


LEGEND	
■	TP - TELEPHONE POST
●	EP - ELECTRICAL POST
●	EPHT - ELECTRIC POST HIGH TENSION
— TL —	TL - TELEPHONE LINE
— EL —	EL - ELECTRICAL LINE
— HTL —	HTL - HIGH TENSION POWER LINE
— WL —	WL - WATER PIPE LINE
— UTL —	UTL - UNDERGROUND TELECOM

No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-06

LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL —	— WATER PIPE LINE
— UTL —	— UNDERGROUND TELECOM



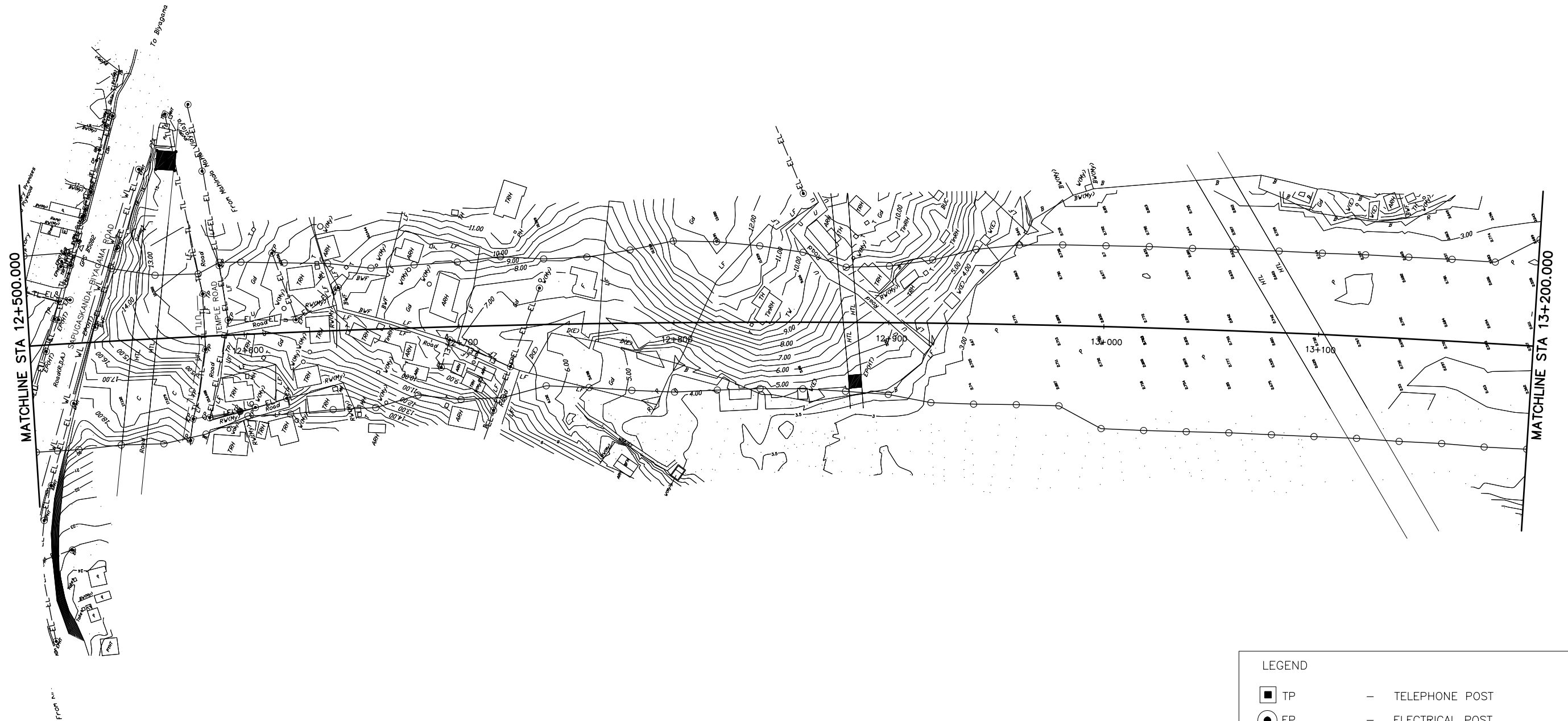
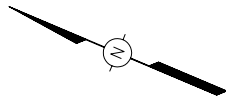
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
 MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT
Road Development Authority

JICA JAPAN INTERNATIONAL COOPERATION AGENCY
ORIENTAL CONSULTANTS COMPANY LIMITED
 in association with
PACIFIC CONSULTANTS INTERNATIONAL

No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
 (NORTHERN SECTION 1)
EXISTING UTILITIES
 STA. 11+800.000 TO 12+500.000

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-07



LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

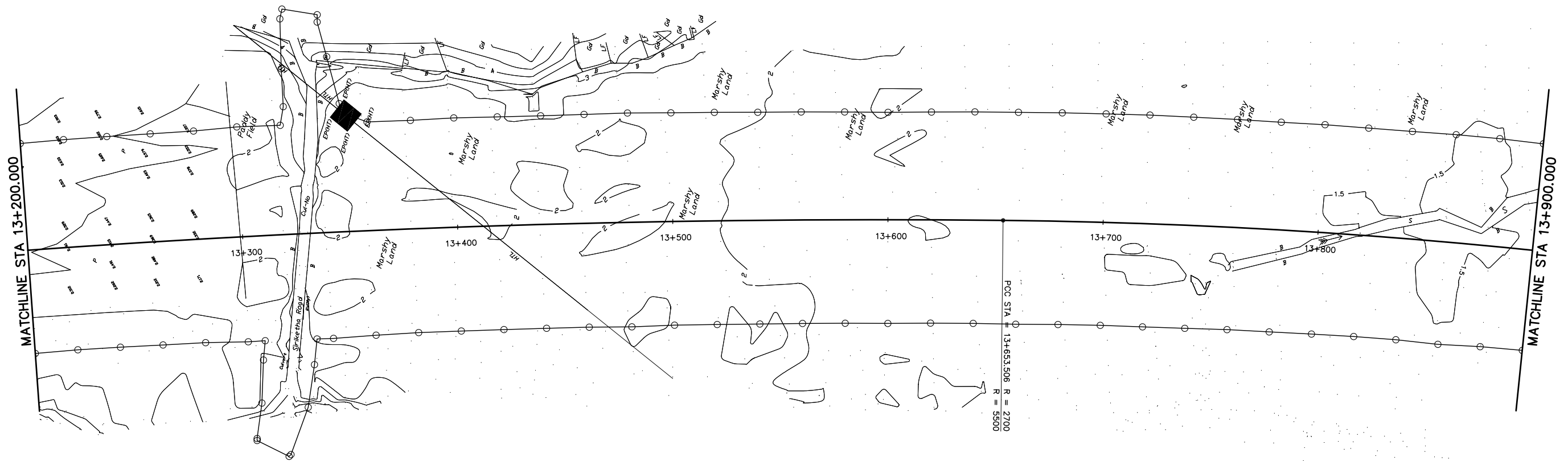
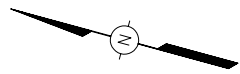
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Road Development Authority

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ORIENTAL CONSULTANTS COMPANY LIMITED
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PACIFIC CONSULTANTS INTERNATIONAL

No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
 (NORTHERN SECTION 1)
EXISTING UTILITIES
 STA. 12+500.000 TO 13+200.000

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-08



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MINISTRY OF HIGHWAYS & ROAD DEVELOPMENT



JICA JAPAN INTERNATIONAL COOPERATION AGENCY

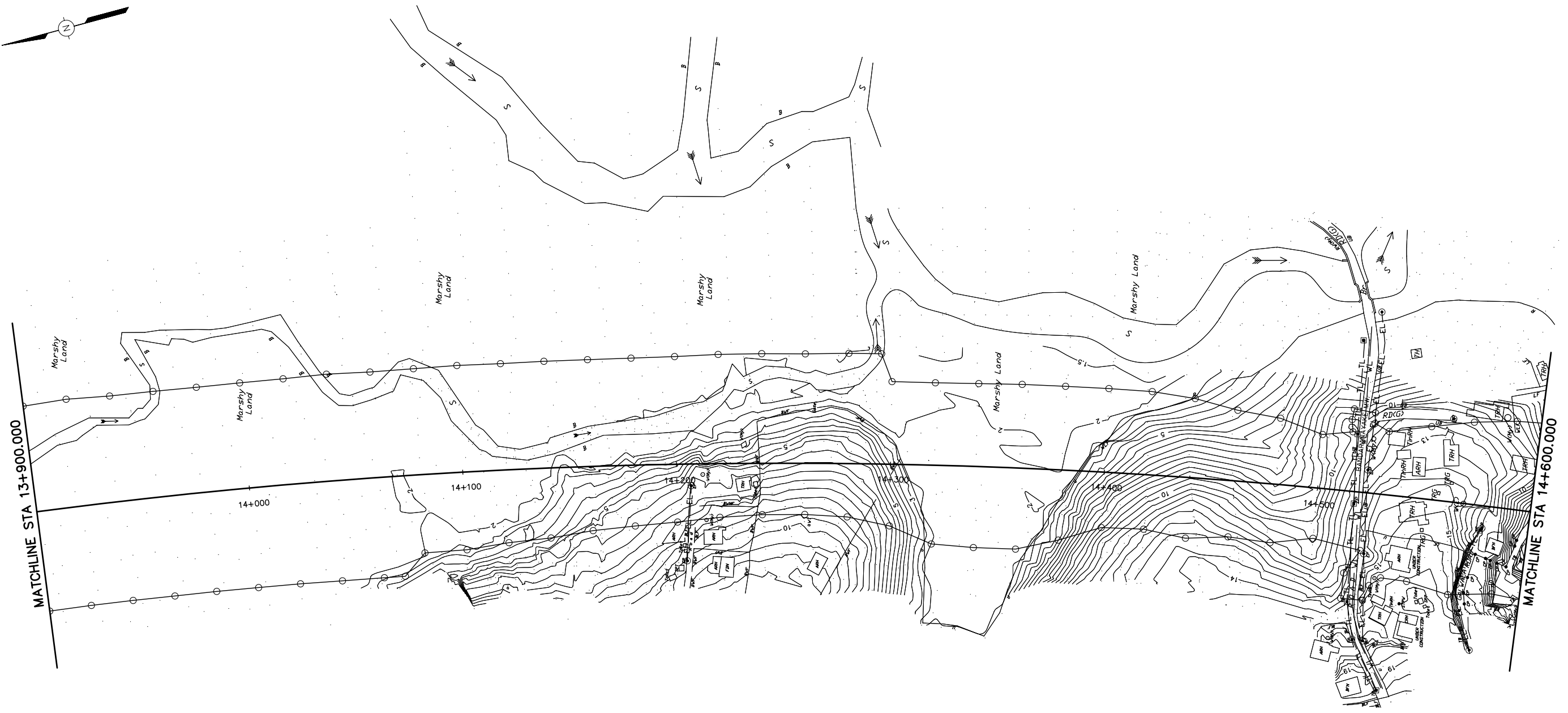
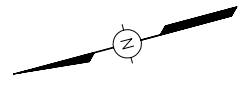
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PACIFIC CONSULTANTS INTERNATIONAL

No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
(NORTHERN SECTION 1)

EXISTING UTILITIES
STA. 13+200.000 TO 13+900.000

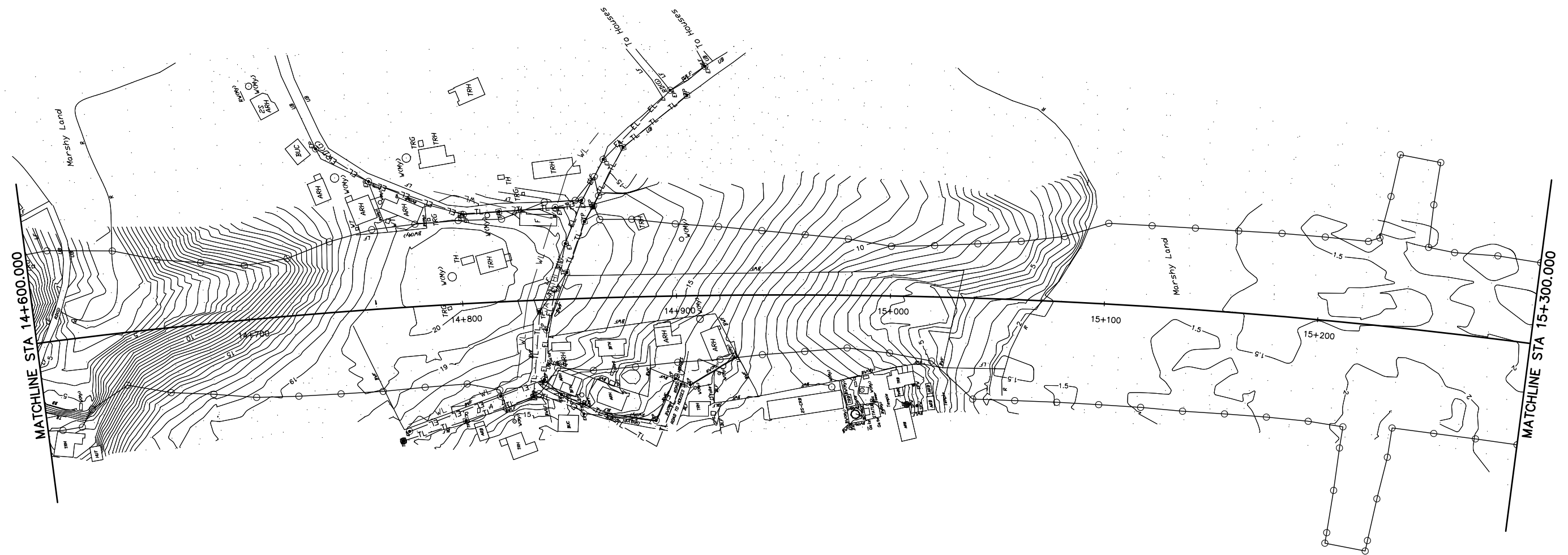
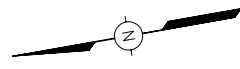
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-09



LEGEND	
■	TP — TELEPHONE POST
●	EP — ELECTRICAL POST
●	EPHT — ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL —	— WATER PIPE LINE
— UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE

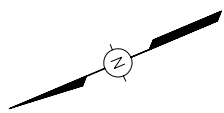
DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-10



LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

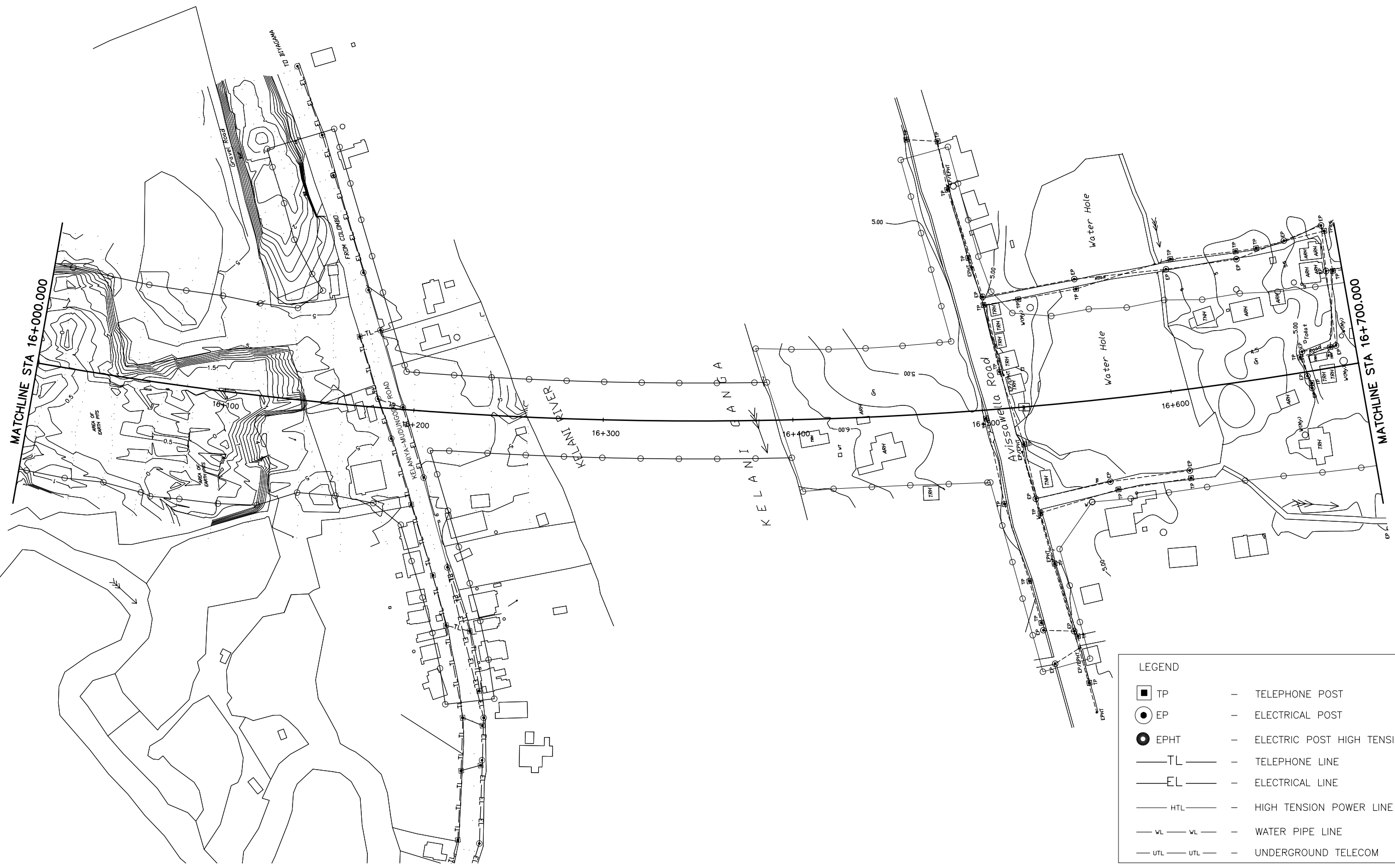
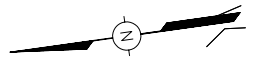
No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-11



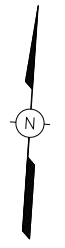
No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-12



LEGEND	
■	TP - TELEPHONE POST
●	EP - ELECTRICAL POST
●	EPHT - ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— VL — VL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE



LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM



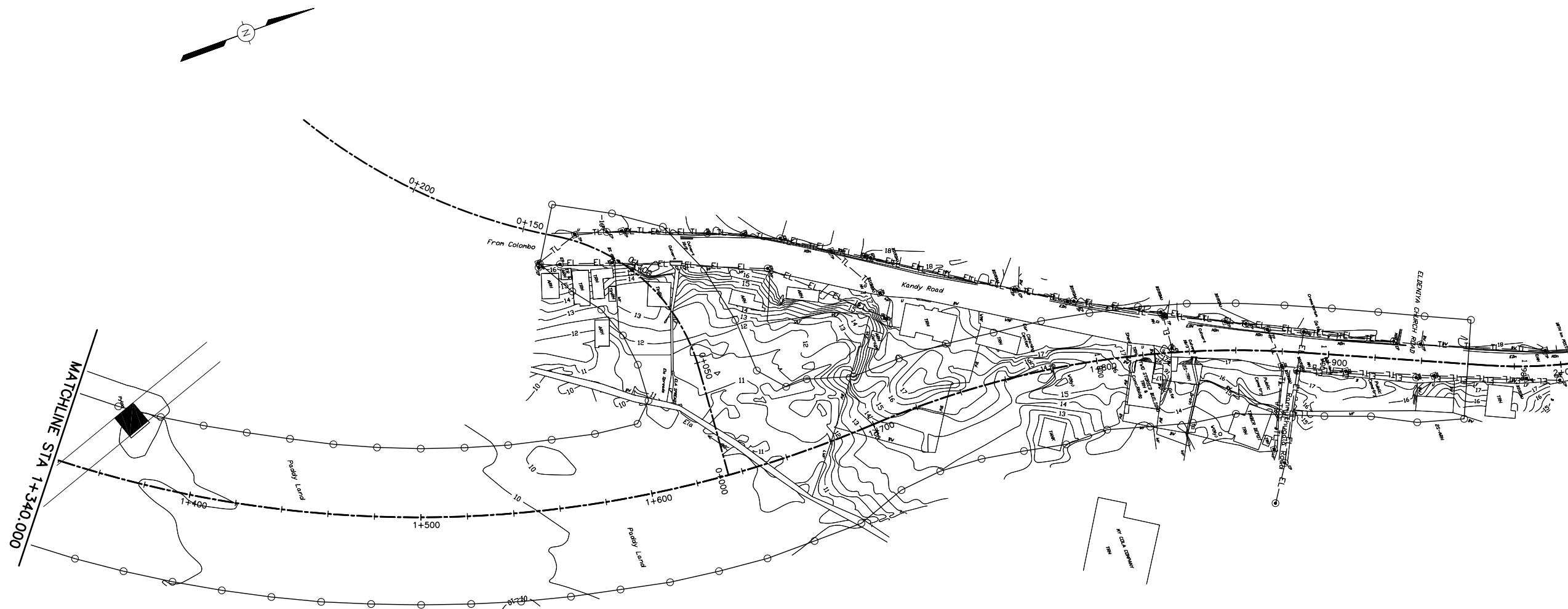
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Road Development Authority

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ORIENTAL CONSULTANTS COMPANY LIMITED
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No	REVISION	DATE

COLOMBO OUTER CIRCULAR HIGHWAY PROJECT
 (NORTHERN SECTION 1)
EXISTING UTILITIES
 A1-BP (01)

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-14



LEGEND	
■ TP	— TELEPHONE POST
● EP	— ELECTRICAL POST
● EPHT	— ELECTRIC POST HIGH TENSION
— TL —	— TELEPHONE LINE
— EL —	— ELECTRICAL LINE
— HTL —	— HIGH TENSION POWER LINE
— WL — WL —	— WATER PIPE LINE
— UTL — UTL —	— UNDERGROUND TELECOM

No	REVISION	DATE

DESIGNED BY:	
CHECKED BY:	
APPROVED BY:	
DWG. NO.	P-16