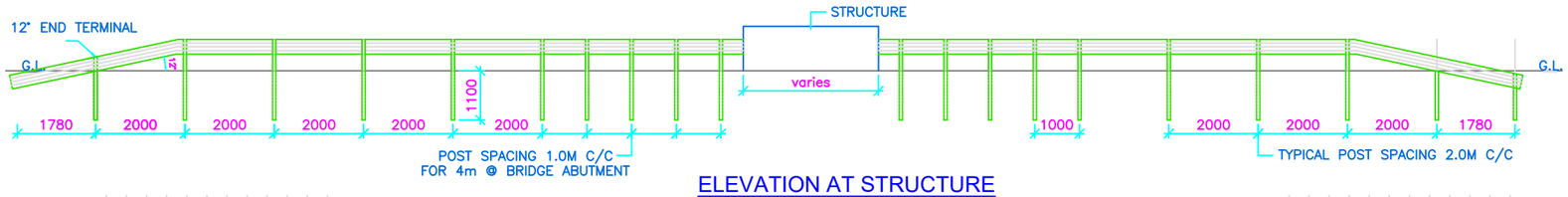
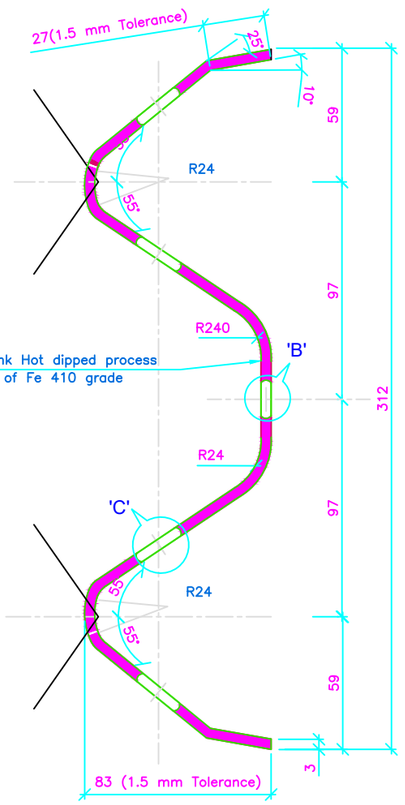
MISCELLANEOUS



ELEVATION AT STRUCTURE

SCALE 1:100

SUGGESTED FLARE RATES FOR END TREATMENTS	
DESIGN SPEED (km/hr)	SEMI RIGID
100	13:1
80	11:1
65	9:1
50	7:1

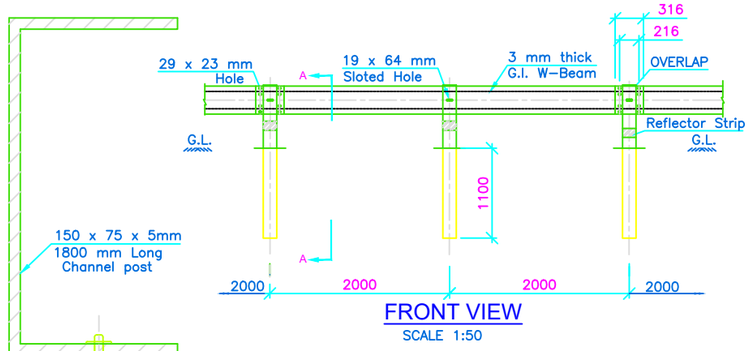


CROSS SECTION OF 'W"BEAM

SCALE 1:2

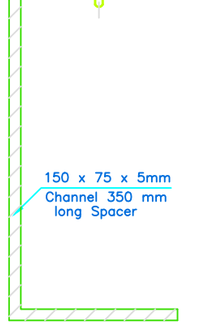
PLAN AT STRUCTURE

SCALE 1:100



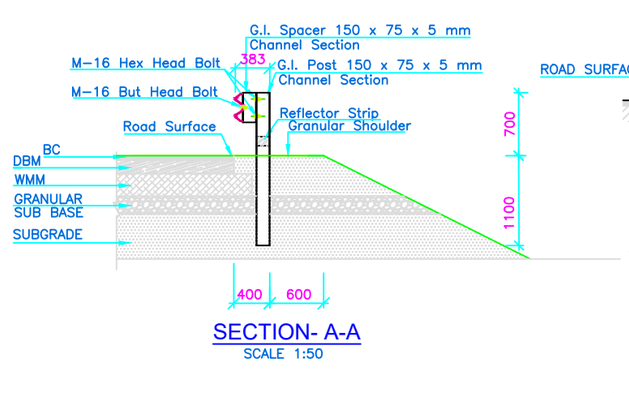
FRONT VIEW

SCALE 1:50



SPACER AND POST

SCALE 1:2

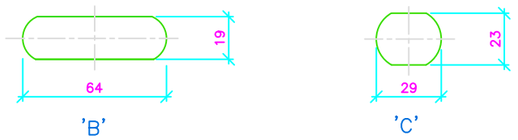


SECTION- A-A

SCALE 1:50

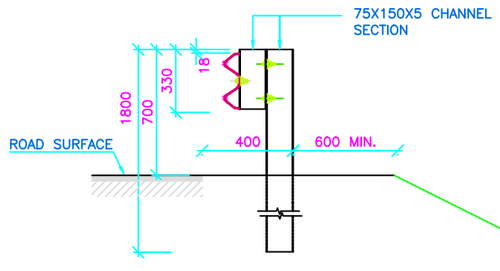
SPLICE BOLT AND NUT

IS-4.6 GRADE
SCALE 1:2

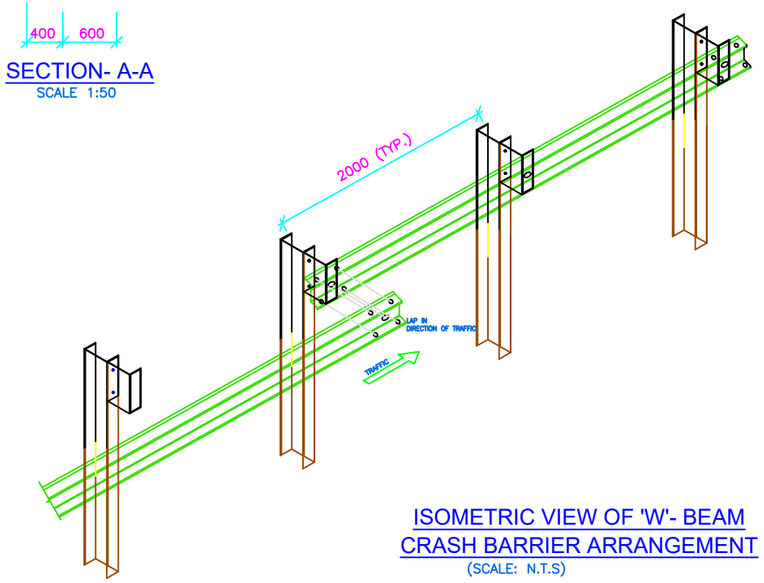


SLOT DETAIL

SCALE 1:2



TYPICAL DETAILS OF "W" BEAM SECTION



ISOMETRIC VIEW OF 'W'- BEAM CRASH BARRIER ARRANGEMENT

(SCALE: N.T.S)

Notes :

1. ALL THE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
2. CORRUGATED METAL BEAM SHALL BE 3MM THICK.
3. W-BEAM SHALL BE COLD ROLL FORMED SECTION.
4. ALL RAW MATERIAL SHALL CONFORM TO IS 5986 (Gr.Fe 410:ST-42) HOT DIP GALVANISED TO 550 gm/Sqm.
5. SPACERS SHALL BE AS PER IS :2062-1992
6. EVERY CHANNEL POST SHALL BE 2M C/C APART EXCEPT STRUCTURE LOCATIONS.
7. THE ENDS OF FASTNERS ARE TO BE FLARED BY PNEUMATIC OPERATION TO ENSURE THAT THE BOLTS ARE NOT REMOVABLE

REV. | DATE

CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
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Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT:
Global Infra Solutions
in JV with **Krishna** Techno Consultants Pvt. Ltd. and association with **Infycons** Creative Software Pvt. Ltd.
F-2, E-8/11A, Sukhsagar Apartment, Trilanga, Bhopal -462039
e: globalinfrasolutions@gmail.com **web:** globalinfrasolutions.org

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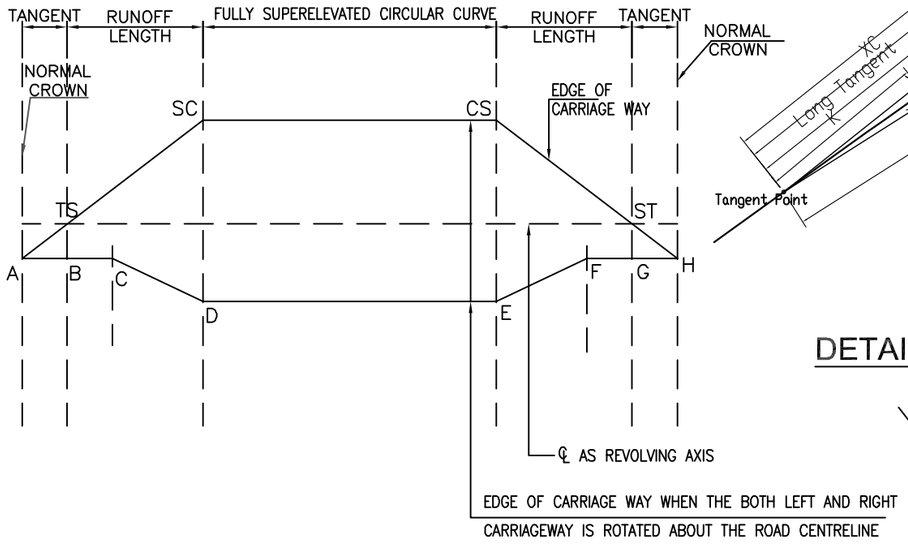
SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
VER.1:250

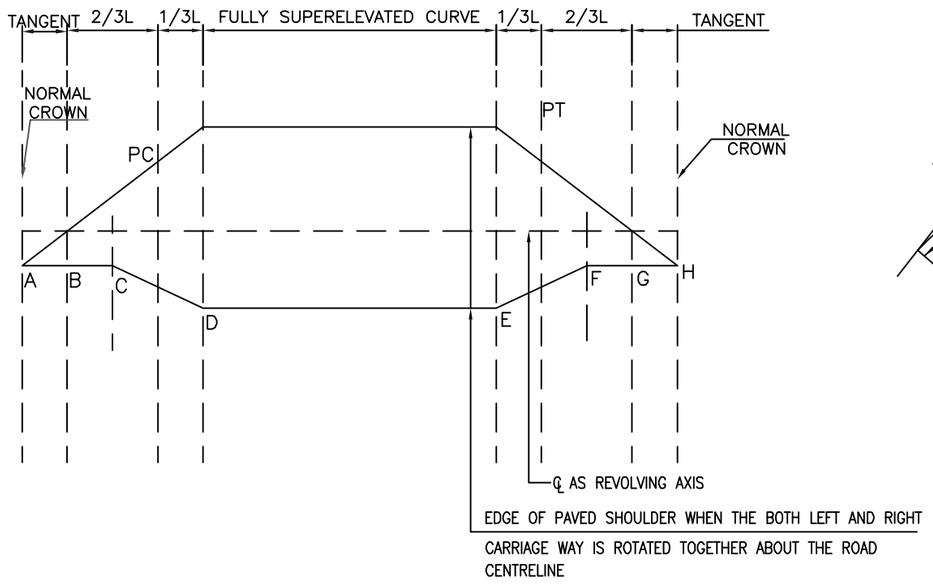
TITLE:
Miscellaneous

CLIENT APPROVAL: | SEAL & SIGNATURE:
DWG NO:-
DRAWN: | CHECKED: | DESIGNED: | APPROVED:
DSP | SK | SS | AD
Team Leader

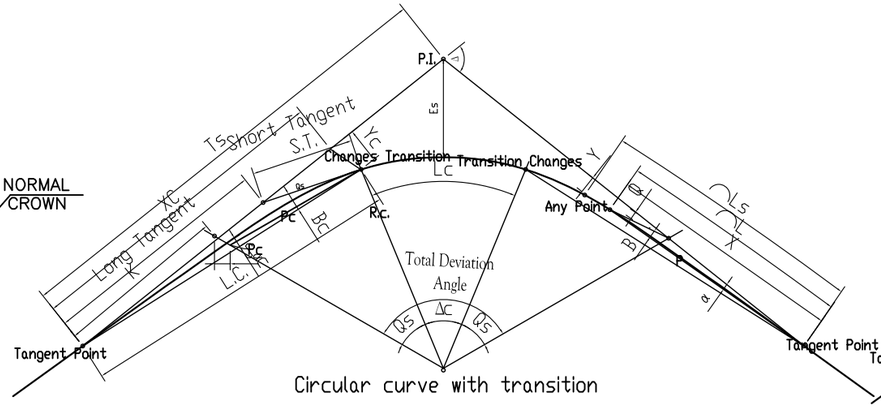
DETAILS OF SUPERELEVATION



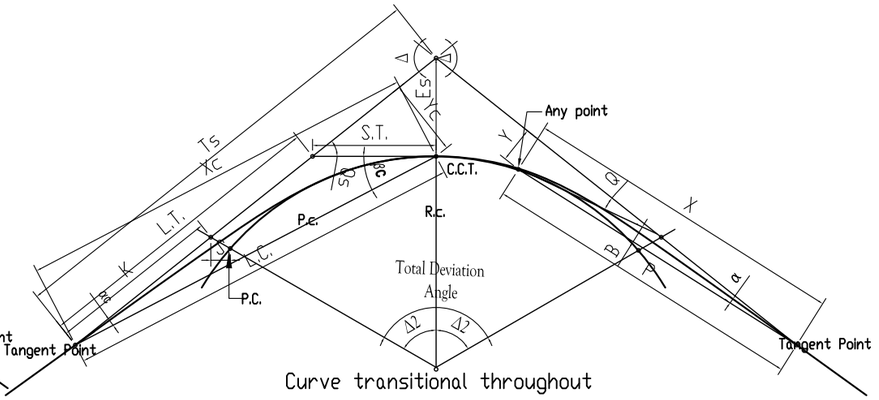
FOR CURVILINEAR SECTION WITH TRANSITION CURVE



FOR CURVILINEAR SECTION WITHOUT TRANSITION CURVE

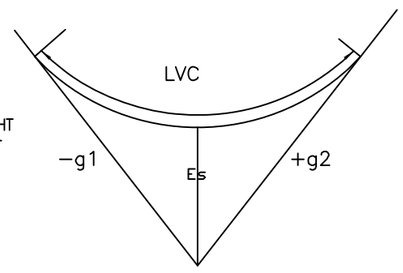


Circular curve with transition

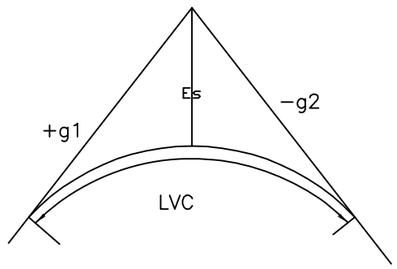


Curve transitional throughout

DETAILS OF VERTICAL CURVE



FOR VALLEY CURVE



FOR SUMMIT CURVE

No.	TERM	DEFINITION
01	Apex of a curve (vertex) (P.I.)	The point of intersection of the two straights connected by curve.
02	Apex distance (Es)	The shortest distance from the apex to the curve.
03	Curve radius (Re)	The minimum radius of the centre line of a curve.
04	Intersection angle (180-?)	The internal angle of intersection between the tangents at the two ends of a curve. This is the supplement of the deviation angle.
05	Long chord (Pc/L.C.)	The length of polar ray from beginning to end of transition i.e., T.P. to C.T.
06	Intersection angle (180-?)	The distance along the straight (T.P.-P.I.) from T.P. to the intersection of the tangent to the curve at C.T.
07	Shift (S)	The displacement of a circular curve from the straight to provide room to introduce of transition curve between it and the straight, the distance of P.C. from the straight T.P. - P.I.
08	Short tangent (S.T.)	The length of the tangent to the curve at C.T. fromC.T. to the straight (T.P.- P.I.)
09	Tangent distance (Ts)	The length of the straight between the apex (P.I.) and the tangent point of the curve (P.T. or T.P.)
10	Tangent point (T.P. or P.T.)	The point where the straight alignment ceases and curvature begins. Also the point of reversal of curvature.
11	Total deviation angle (?)	The external angle at the intersection between the tangents at the ends of a curve. This measures the total change of direction in the alignment of the route. This is also the central angle of the complete curve.
12	Transition length (Ls)	The full length of the transition curve connecting a straight length of road with a curve which may be circular or transitional.
13	C.C.T.(refer Fig. 2)	The mid point of the curve transition throughout i.e., where the total deviation is effected through two transitional curves without a circular arc intervening.
14	C.T. and T.C.	The nearer and farther points on a curve where the transition changes to circular arc.
15	f	The coefficient of lateral friction between the tyre of a moving vehicle and road surface and equal to tan ø.
16	g	The acceleration due to gravity in metre per second per second equals 9.8 metre per second?.
17	K	The distance along the straight from T.P. to P.C.
18	L	The length of the transition from T.P. to any point on the transition.
19	Lc	Length of circular arc C.T. to T.C.
20	Le	Length of transition from T.P. to the point where maximum designed superlevation is reached.
21	l	The wheel base of a vehicle in metres.
22	n	The number of traffic lenes provide in the carriageway width.
23	P.C.	The point on the circular curve produced nearest to the straight.
24	R	The radius of the curve in metres at the point under consideration.
25	Re	The radius of a transitional curve at the point where maximum designed superelevation is reached.
26	V	The speed in kilometres per hour.
27	v	The speed in kilometres per second.
28	W	The weight in kilograms of the moving body.
29	We	The extra width in metre to be provided at curves.
30	X, Y	Co-ordinates to any point on the transition with T.P. as origin, the straight T.P. -P.T. as x axis and Y axis at right angles to T.P.-P.I. at T.P.
31	Xc, Yc	Co-ordinates of C.T.Xe being measured from T.P. along the tangent T.P.-P.I. and Ye at right angle to it.
32	α	polar deflection angle at T.P. from the straight to any point on the transition.
33	αc	polar deflection angle (at T.P.) between the long tangent and the long chord. The long chord and the polar deflection angle define the position of C.T. or C.C.T.
34	β	The angle between the polar ray to any point on the transition and the tangent to the curve at that point

REV.	DATE	REVISIONS

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e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

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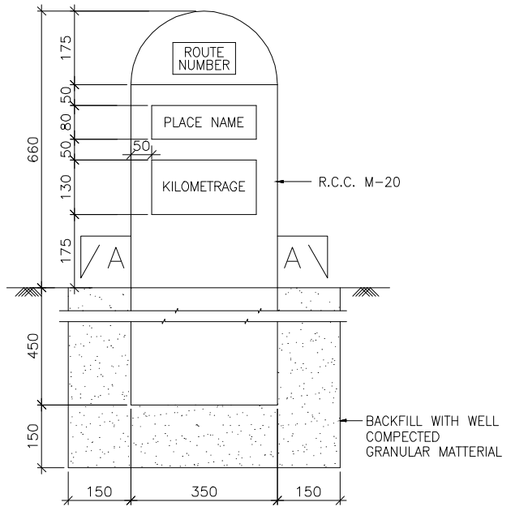
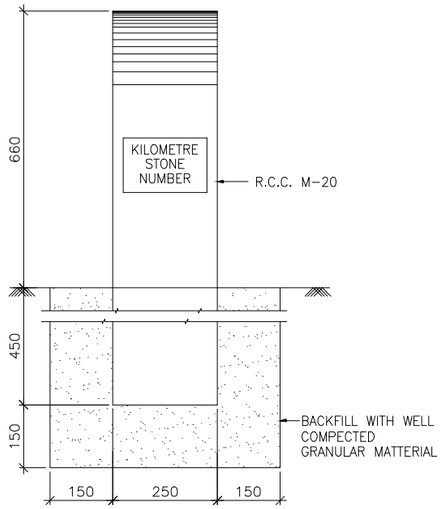
SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
VER.1:250

TITLE:
Miscellaneous

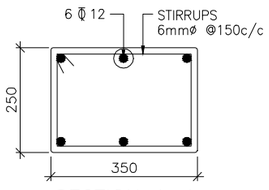
CLIENT APPROVAL: | SEALS SIGNATURE:
DWG NO:-
DRAWN: | CHECKED: | DESIGNED: | APPROVED:
DSP | SK | SS | AD
Team Leader



FRONT ELEVATION

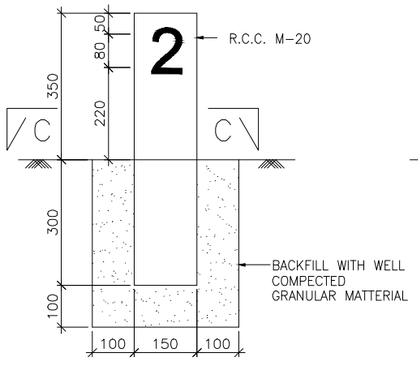


SIDE ELEVATION



SECTION A-A

TYPICAL DETAILS OF ORDINARY KILOMETRE STONE



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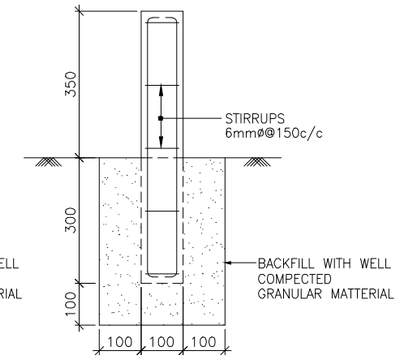
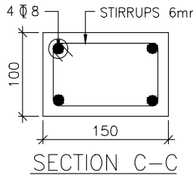
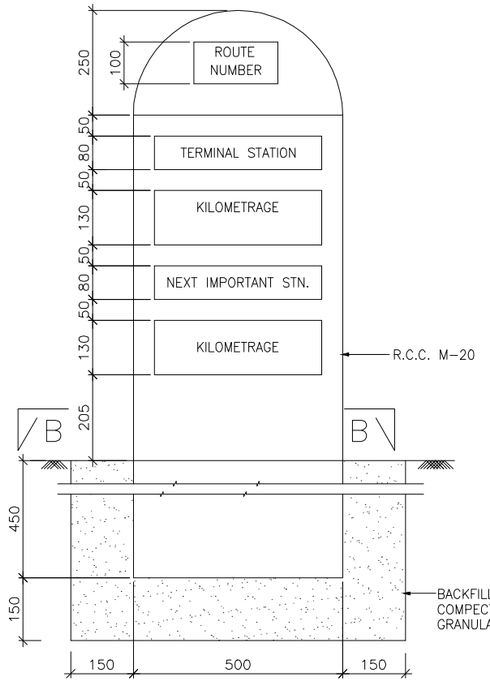


SECTIONAL ELEVATION



SECTION C-C

TYPICAL DETAILS OF 200 METRE STONE



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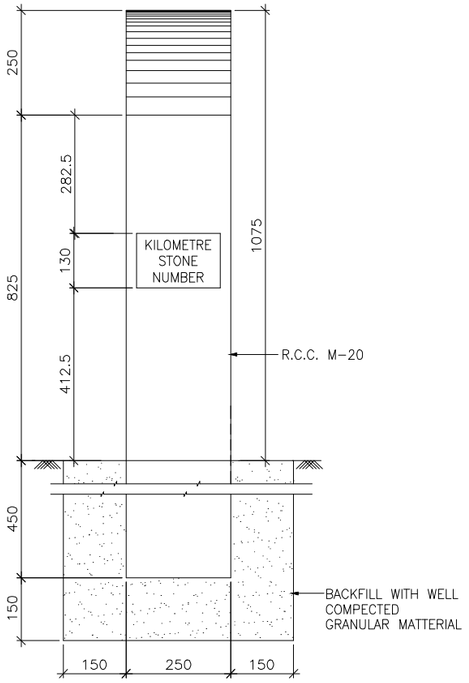
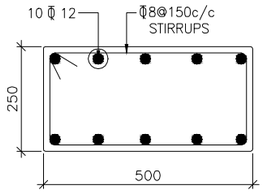


SIDE ELEVATION



SECTION B-B

TYPICAL DETAILS OF FIFTH (5th) KILOMETRE STONE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED
2. DIMENSIONS ARE NOT TO BE SCALED AND ONLY WRITTEN DIMENSIONS TO BE FOLLOWED
3. DETAILS OF ORDINARY KM STONE AND 5th KM STONE ARE GENERALLY BASED ON IRC: 8-1980
4. DETAILS OF 200m STONE ARE GENERALLY BASED ON IRC: 26-1967

REV.	DATE	REVISIONS

CLIENT:

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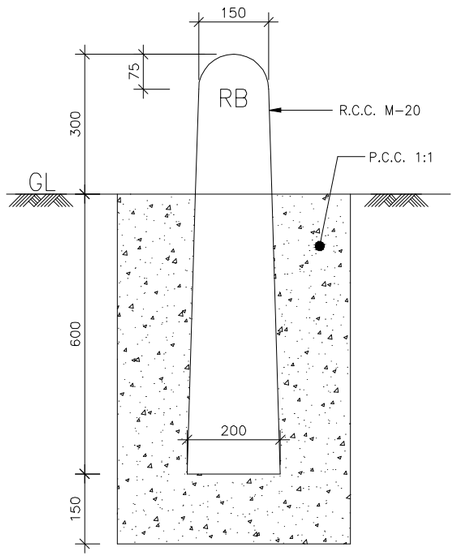
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

CLIENT APPROVAL:	SEAL & SIGNATURE:
DWG NO:-	

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK	SS	AD

Team Leader



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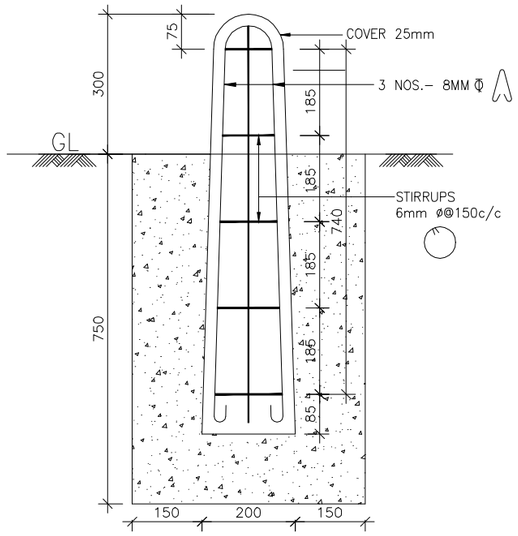
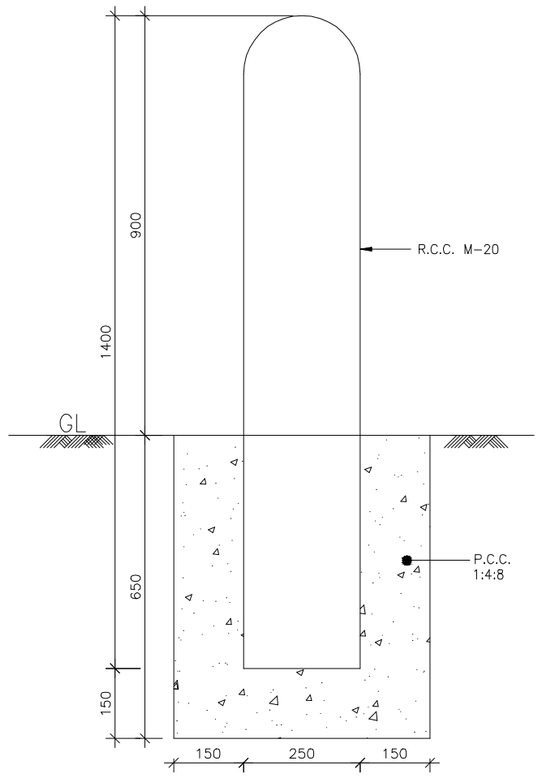


SECTION A–A



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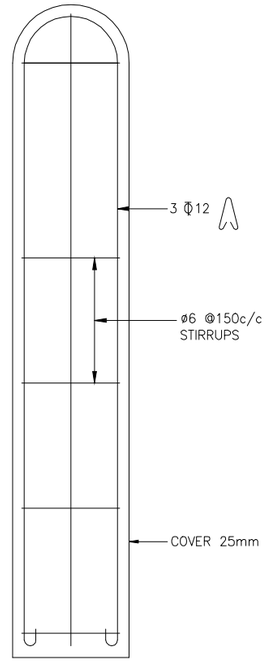
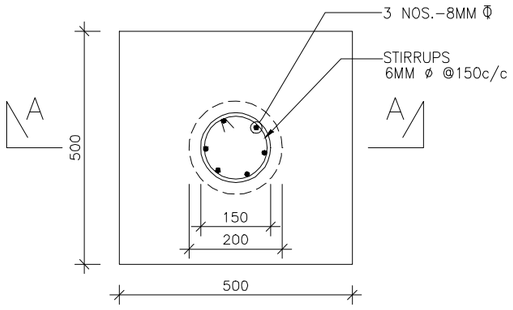


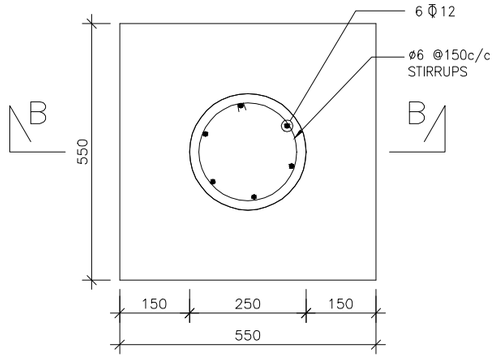
SECTION B–B



PLAN

TYPE DESIGN WITH R.C.C.

BOUNDARY PILLAR



PLAN

GUARD POST

NOTE:–

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HORIZ.1:2500

20 0 20 40 60 80 100

VER.1:250

TITLE:

Miscellaneous

CLIENT APPROVAL: | SEAL & SIGNATURE:

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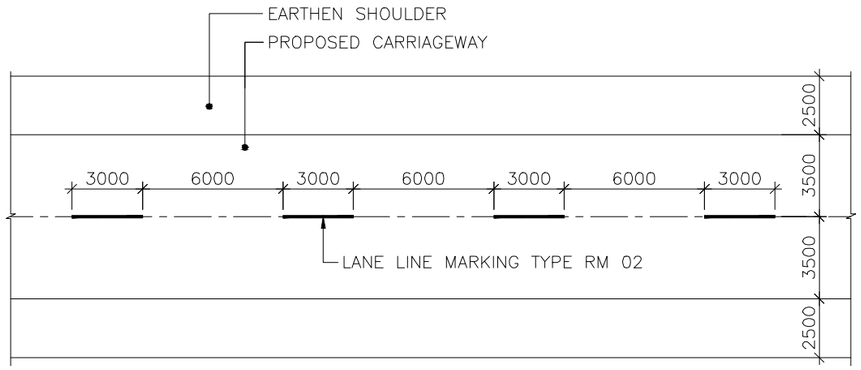
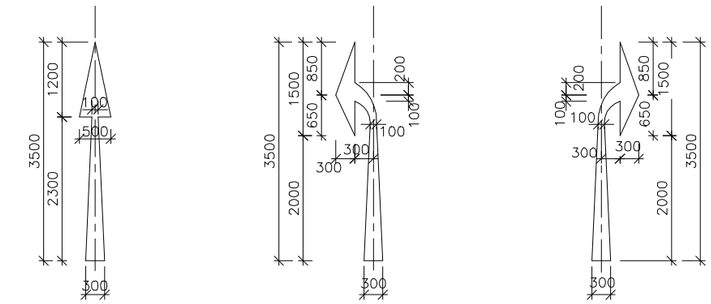
Team Leader



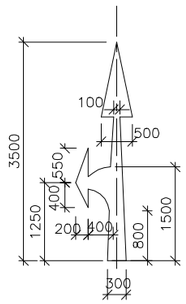
TYPICAL LAYOUT OF ROAD MARKING



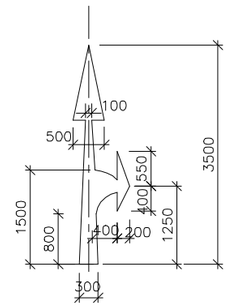
STRAIGHT–RM 14

LEFT–RM 15

RIGHT–RM 16

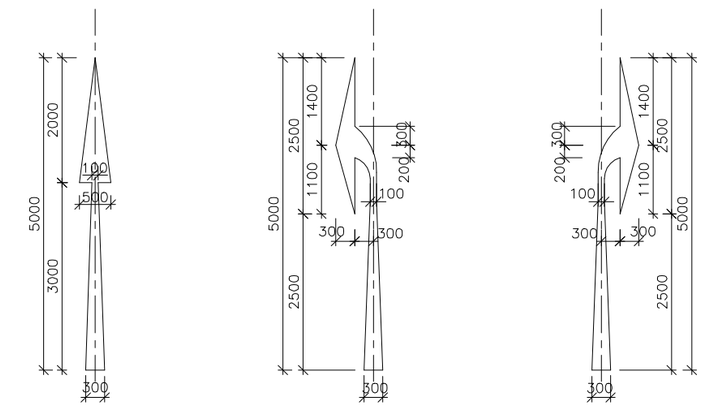


STRAIGHT AND LEFT–RM 17



STRAIGHT AND RIGHT–RM 18

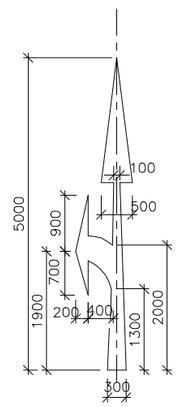
ROUTE DIRECTIONAL ARROWS FOR ROADS WITH DESIGN SPEED UP TO 50 km/hr



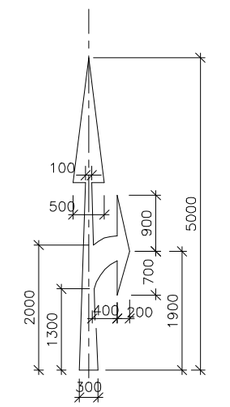
STRAIGHT–RM 14

LEFT–RM 15

RIGHT–RM 16



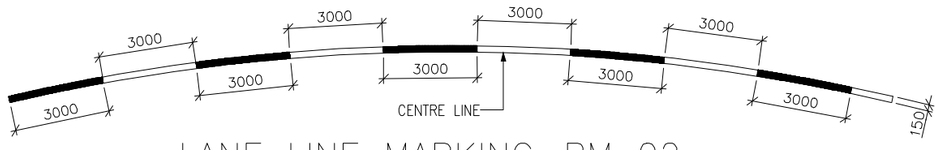
STRAIGHT AND LEFT–RM 17



STRAIGHT AND RIGHT–RM 18

ROUTE DIRECTIONAL ARROWS FOR ROADS WITH DESIGN SPEED MORE THAN 50 km/hr

LANE LINE MARKING–RM 02
(FOR STRAIGHT REACH)



LANE LINE MARKING–RM 02
(AT HORIZONTAL CURVES)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS SHALL NOT BE MEASURED FROM THE DRAWING. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.

REV.	DATE	REVISIONS

CLIENT:

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT:

Global Infra Solutions
in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.
F-2, E-8/11A, Sukhsagar Apartment, Trilanga, Bhopal -462039
e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

PROJECT:
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SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

CLIENT APPROVAL: SEAL & SIGNATURE:

DWG NO:-			
DRAWN:	CHECKED	DESIGNED	APPROVED:
DSP	SK	SS	AD

Team Leader

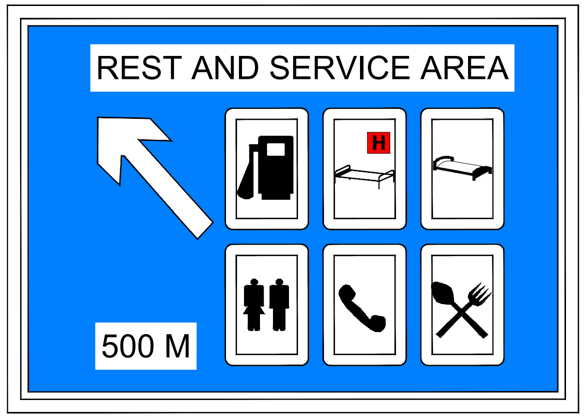

Fig 4.8 Rest and Service Area

Fig 4.13 Fee Plaza Ahead

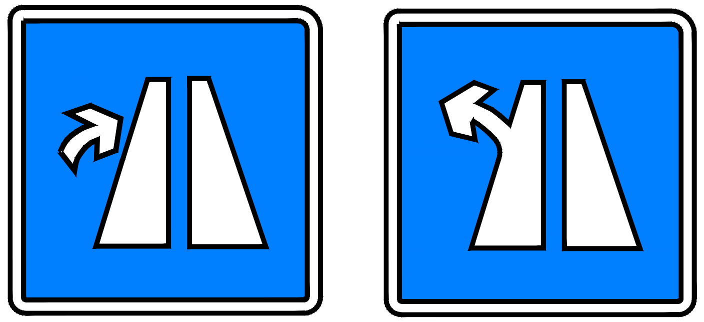

Fig 4.14 Expressway Exit and Entry Ramp

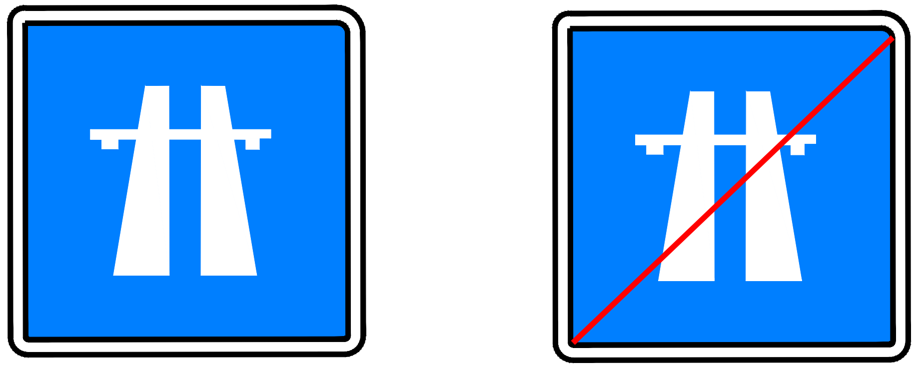

Fig 4.13 Expressway and Expressway End Symbol

Fig 4.12 Heavy Vehicle Keep Left

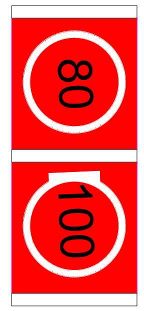

Fig 5.8 Speed Limit as Road Marking

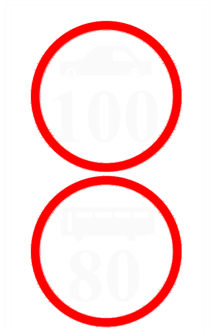

Fig 2.2 Speed Limit

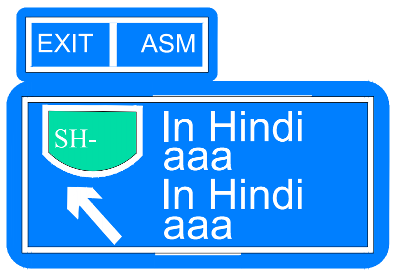

Fig 4.5 Advance Direction Sign 1 Km Before Exit

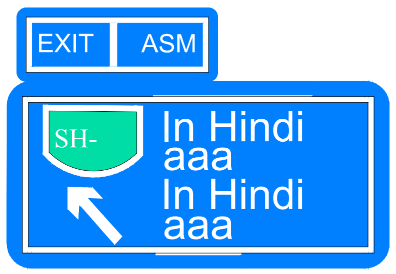

Fig 4.6 Advance Direction Sign 500 m Before Exit

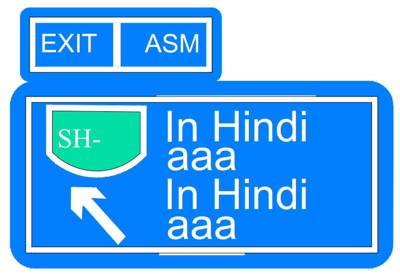

Fig 4.7 Advance Direction Sign at Exit Nosing

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Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT:

Global Infra Solutions
in JV with Krishna Techno Consultants Pvt. Ltd. and association with Infycons Creative Software Pvt. Ltd.
F-2, E-8/11A, Sukhsagar Apartment, Trilanga, Bhopal -462039
e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

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SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

CLIENT APPROVAL: | SEAL & SIGNATURE:
DWG NO:-

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK	SS	AD

Team Leader

Fig 4.4 Advance Direction Sign 2 Km Before Exit for Expressway

Fig 4.1 Reassurance Sign

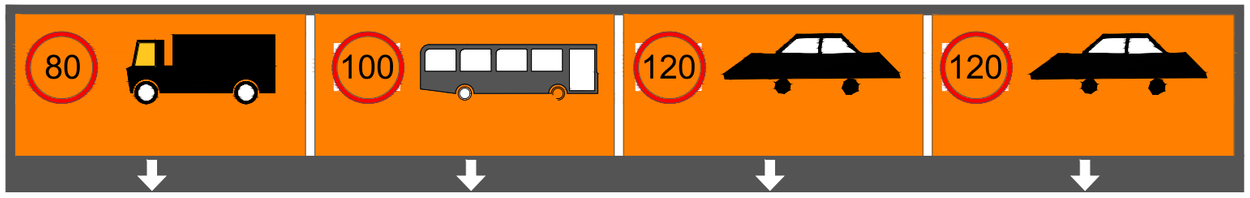

Fig 2.3 Speed Gantry

REV.	DATE	REVISIONS

CLIENT:

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
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SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

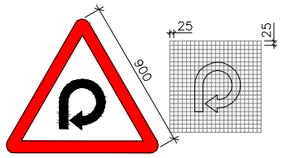
TITLE:
Miscellaneous

CLIENT APPROVAL: SEAL & SIGNATURE:

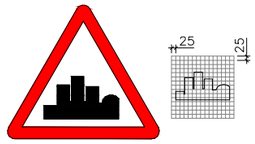
DWG NO:-

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK	SS	AD

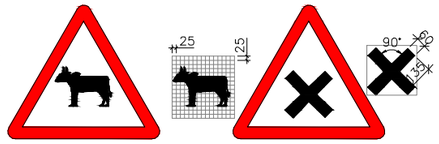
[Team Leader]



270 DEGREE LOOP
FIG 15.1

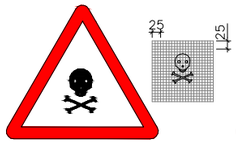


BUILT UP AREA
FIG 15.4

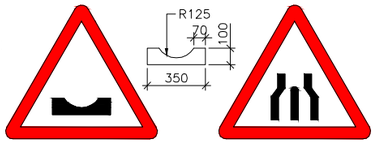


CATTLE CROSSING FIG 15.5

CROSS ROAD
FIG 15.6

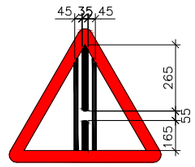


DANGER WARNING
FIG 15.9

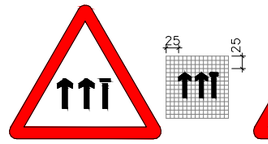


DANGEROUS DIP
FIG 15.10

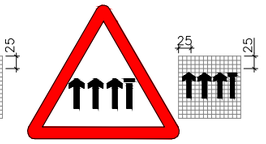
END OF DUAL CARRIAGEWAY
FIG 15.13



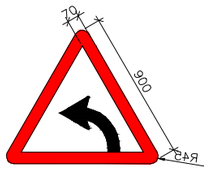
GAP IN MEDIAN
FIG 15.16



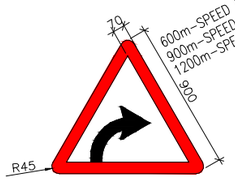
LANE CLOSED (THREE LANE CARRIAGEWAY)
FIG 15.20



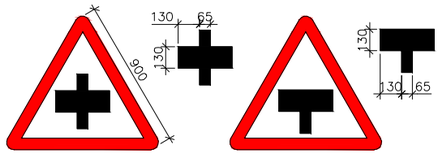
LANE CLOSED (FOUR LANE CARRIAGEWAY)
FIG 15.21



LEFT HAND CURVE
FIG 15.22



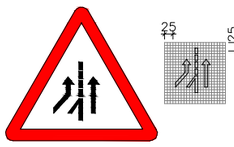
RIGHT HAND CURVE
FIG 15.23



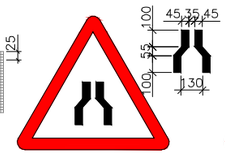
MAJOR ROAD AHEAD
FIG 15.25

MAJOR ROAD AHEAD
FIG 15.26

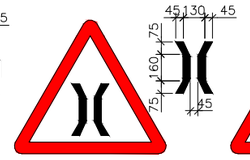
MEN AT WORK
FIG 15.27



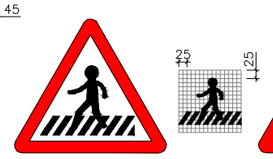
MARGING TRAFFIC AHEAD
FIG 15.28



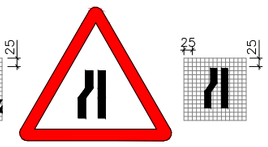
NARROW ROAD AHEAD
FIG 15.29



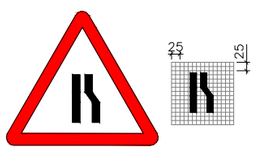
NARROW BRIDGE AHEAD
FIG 15.30



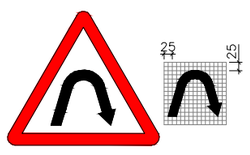
PEDESTRIAN CROSSING
FIG 15.33



REDUCED CARRIAGEWAY
FIG 15.37

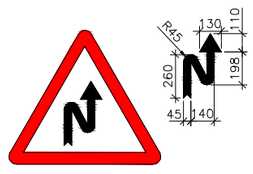


REDUCED CARRIAGEWAY
FIG 15.38



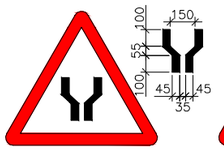
RIGHT HAIRPIN BEND
FIG 15.39

LEFT HAIRPIN BEND
FIG 15.40

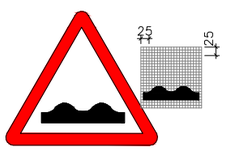


RIGHT REVERSE BEND
FIG 15.41

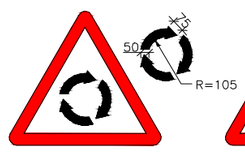
LEFT REVERSE BEND
FIG 15.42



ROAD WIDENS
FIG 15.43

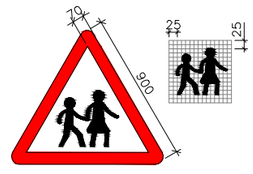


ROUGH ROAD
FIG 15.44

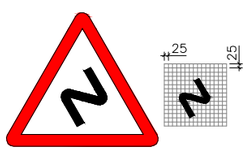


ROUNDABOUT
FIG 15.45

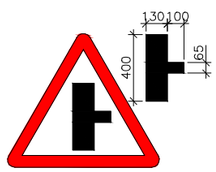
RUMBLE STRIP
FIG 15.46



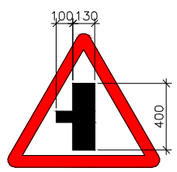
SCHOOL AHEAD
FIG 15.48



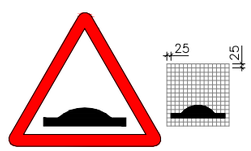
SERIES OF BENDS
FIG 15.49



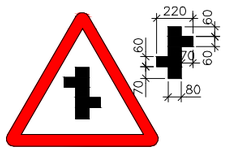
RIGHT SIDE ROAD
FIG 15.50



LEFT SIDE ROAD
FIG 15.51



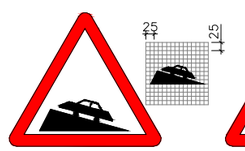
SPEED BREAKER AHEAD
FIG 15.54



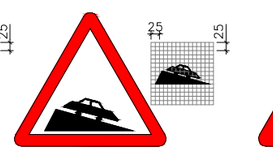
STAGGERED INTERSECTION
15.55

STAGGERED INTERSECTION
15.56

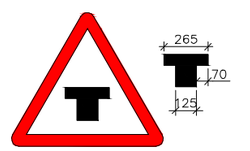
START OF DUAL CARRIAGEWAY
15.57



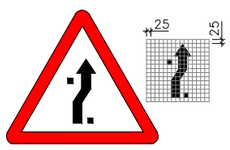
STEEP ASCENT
FIG 15.58



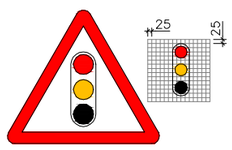
STEEP DESCENT
FIG 15.59



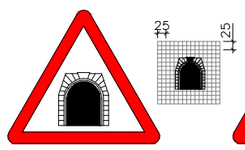
T-INTERSECTION
FIG 15.61



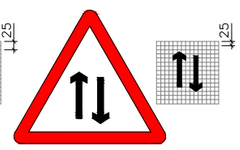
TRAFFIC DIVERSION ON DUAL CARRIAGEWAY
FIG 15.62



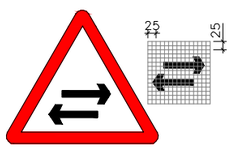
TRAFFIC SIGNALS
FIG 15.63



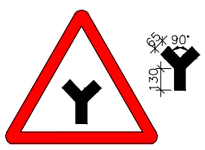
TUNNEL AHEAD
FIG 15.65



TWO WAY OPERATION
FIG 15.66



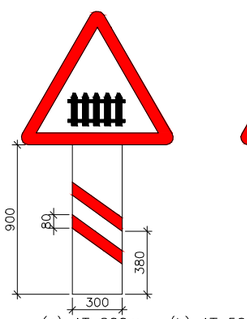
TWO WAY TRAFFIC ON CROSS ROAD AHEAD WARNINNG
FIG 15.67

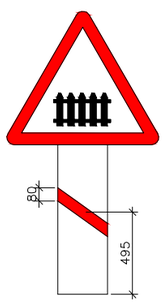


Y INTERSECTION
FIG 15.69

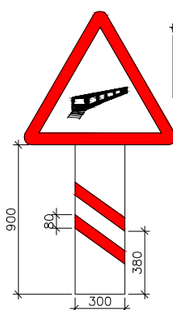
Y INTERSECTION
FIG 15.70

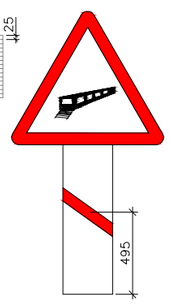
Y INTERSECTION
FIG 15.71





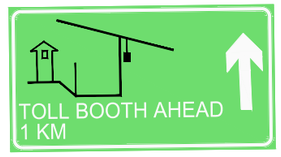
(a) AT 200m (b) AT 50–100m (PLAIN/ROLLING) AT 30–60m (HILL)
GUARDED RAILWAY CROSSING
FIG 15.17





(a) AT 200m (b) AT 50–100m (PLAIN/ROLLING) AT 30–60m (HILL)
UNGUARDED RAILWAY CROSSING
FIG 15.18

FLAG TYPE DIRECTION SIGN
(Fig.16.04)



FEE PLAZA AHEAD
(Fig. 4.13)

SIZE & SITING OF CAUTIONARY/WARNING SIGNS

SIZE TYPE	LENGTH OF TRIANGLE(mm)	DISTANCE OF SIGN FROM HAZARD (m)
TRAFFIC SPEED UP TO 60 KMPH	600mm	45m–80m
60 – 80 KMPH	900mm	80m–120m
> 80 KMPH	1200mm	> 120m

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS SHALL NOT BE MEASURED FROM THE DRAWING. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. FIGURE NUMBER REFER TO IRC:67–2010

REV.	DATE	REVISIONS

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Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT:
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e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

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SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

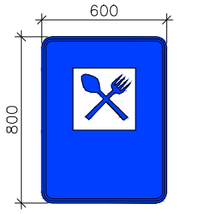
TITLE:
Miscellaneous

CLIENT APPROVAL: SEAL & SIGNATURE:

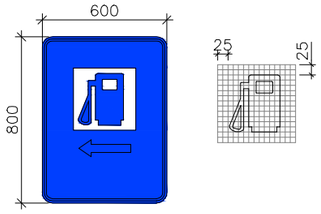
DWG NO:-

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK	VSS	AD

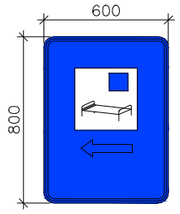
Team Leader



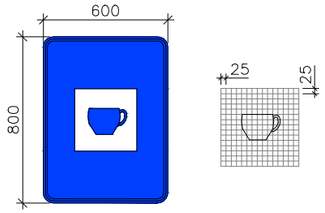
EATING PLACE
FIG 16.10



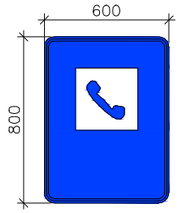
FILLING STATION
(FUEL PUMP)
FIG 16.11



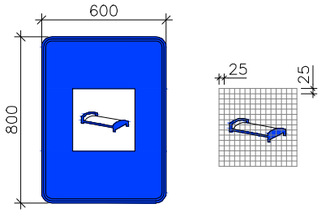
HOSPITAL
FIG 16.13



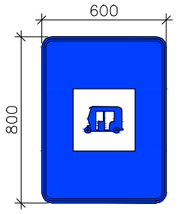
LIGHT REFRESHMENT
FIG 16.14



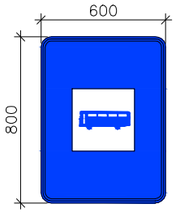
PUBLIC TELEPHONE
FIG 16.15



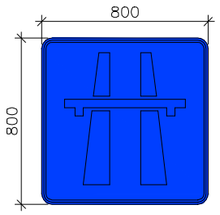
RESTING PLACE
FIG 16.16



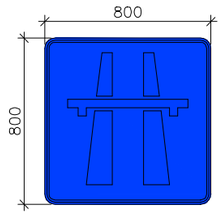
AUTORICKSHAW STAND
FIG 16.18



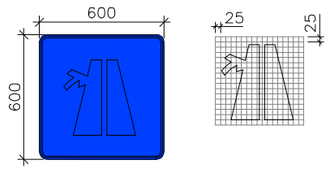
BUS STOP
FIG 16.20



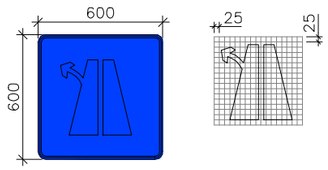
EXPRESSWAY SYMBOL
FIG 16.28



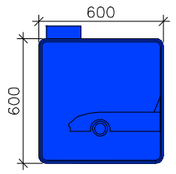
END OF EXPRESSWAY
FIG 16.29



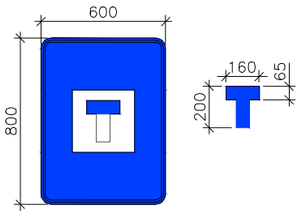
ENTRY RAMP OF
EXPRESSWAY
FIG 16.31



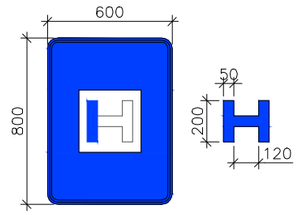
EXIT RAMP FOR
EXPRESSWAY
FIG 16.32



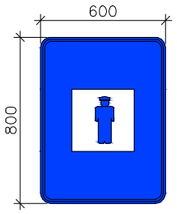
GUIDE SIGN ON
TOLL LANE PORTAL
FIG 16.37



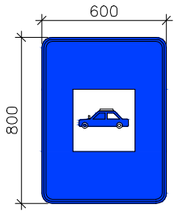
NO THROUGH ROAD
FIG 16.42



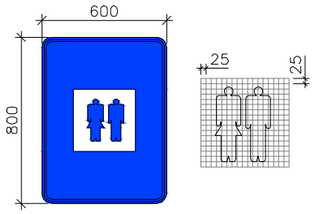
NO THROUGH SIDE ROAD
FIG 16.43



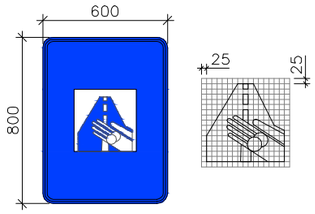
POLICE STATION
FIG 16.46



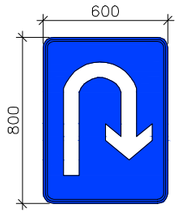
TAXI STAND
FIG 16.50



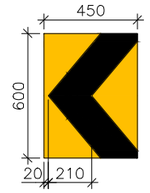
TOILET
FIG 16.51



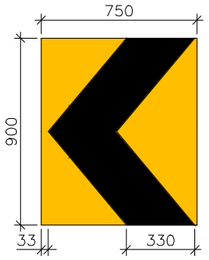
TOLL ROAD AHEAD
FIG 16.52



U–TURN AHEAD
FIG 16.53

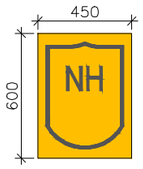


SINGLE CHEVRON
FIG 16.62 (S)
FOR SPEED UPTO
100 KMPH



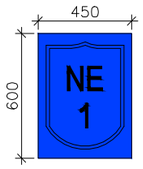
SINGLE CHEVRON
FIG 16.62 (B)
SPEED EXCEEDING
100 KMPH

ROUTE MARKER SIGN



NATIONAL HIGHWAY
ROUTE MARKER SIGN
FIG 16.71
(RM1)

STATE HIGHWAY
ROUTE MARKER SIGN
FIG 16.72

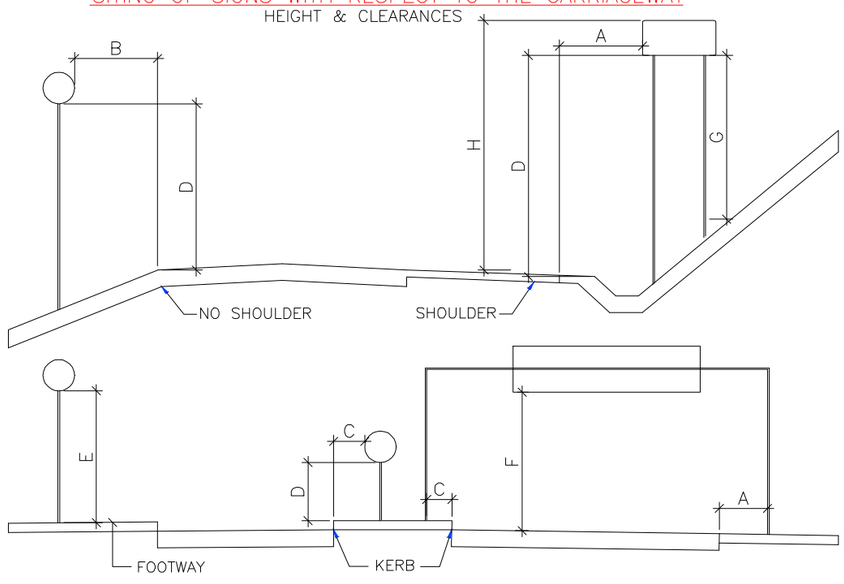


EXPRESSWAY
ROUTE MARKER SIGN
FIG 16.73

MINIMUM (mm)	DESIRABLE (mm)	MAXIMUM (mm)
A	600	1000	2500
B	1000	2000	3000
C	300	600	1000
D	2000	2000	2500
E	2100	2100	2500
F	5500	6000	
G	750		
H			5000

SITING OF SIGNS WITH RESPECT TO THE CARRIAGEWAY

HEIGHT & CLEARANCES



NOTES:–

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE MENTIONED.
2. FIGURE NUMBER REFER TO IRC:67–2010
3. MANDATORY SIGNS (e.g. KEEP LEFT) ON TRAFFFIC ISLANDS ARE NORMALLY MOUNTED SO THAT THE BOTTOM EDGE IS ABOUT 1000 mm ABOVE THE PAVED SURFACE.
   WHEN SEVERAL SIGNS HAVE TO BE PLACED ALONG THE SAME SECTION OF ROAD TAKE CARE THAT THEY DO NOT OBSURE EACH OTHER.
   LOCATE THE SIGNS A MINIMUM OF 0.6V METRES APART (WHERE V IS THE 85 PERCENTILE SPEED IN km/H)
   SIGNS ARE NORMALLY ERECTED ON THE LEFT SIDE OF THE ROAD. BUT FOR EXTRA EMPHASIS A SECOND SIGN MAY BE PLACED ON THE RIGHT SIDE OF THE ROAD. THIS IS ESPECIALLY USEFUL ON LEFT HAND BENDS.

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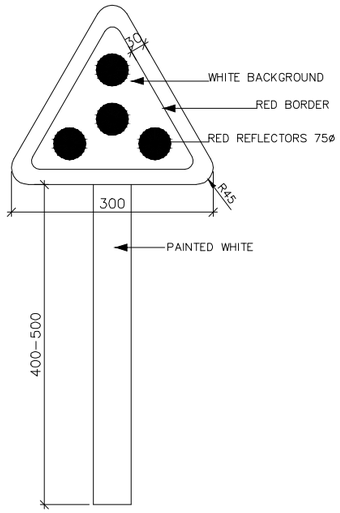
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

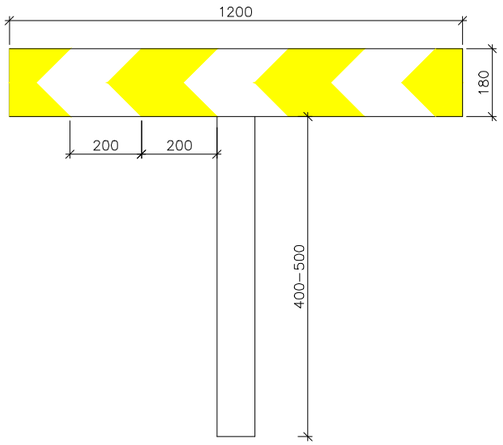
CLIENT APPROVAL:
SEAL & SIGNATURE:
DWG NO:-

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK – N	SS	AD

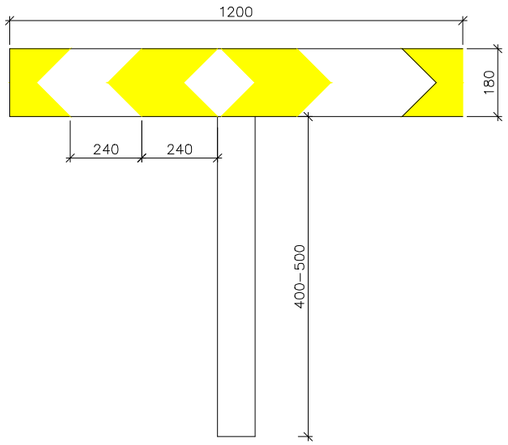
Team Leader



CLUSTER OF RED REFLECTORS
TA-1



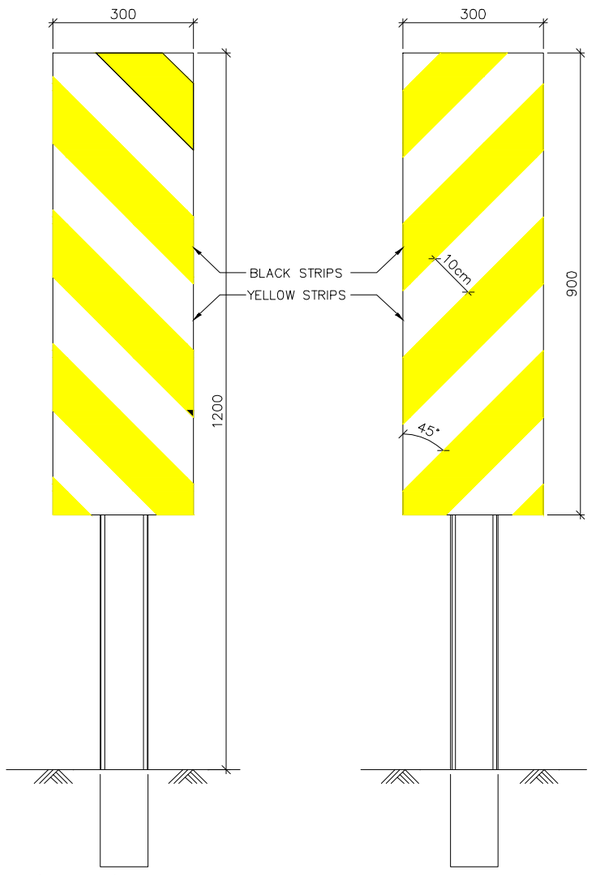
ONE WAY HAZARD MARKER
TA-2



TWO-WAY HAZARD MARKER
TA-3

NOTES:

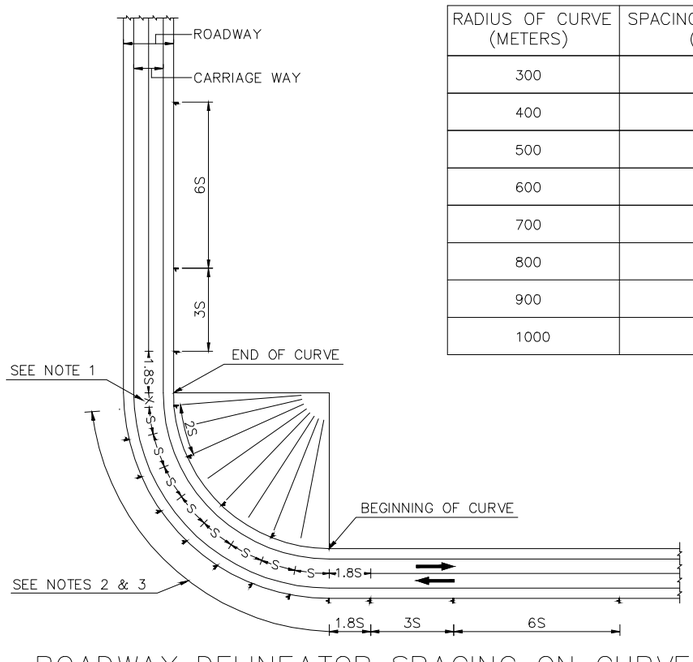
1. ALL DIMENSIONS ARE IN mm EXCEPT WHERE OTHERWISE MENTIONED.
2. ADJUST DISTANCE 'X' SUITABLY SO THAT THE LAST ROADWAY DELINEATOR IS AT THE END OF THE CURVE.
3. INSTALL ALL DELINEATORS AT EDGE OF THE ROADWAY PERPENDICULAR TO THE ONCOMING TRAFFIC.
4. SEE TABLE1 FOR VALUE OF 'S' i.e. SPACING OF DELINEATORS ON THE CURVE.
5. THE SPACING OF FIRST, SECOND & THIRD DELINEATORS ON THE APPROACHES SHALL BE 1.85S, 3S & 6S RESPECTIVELY BUT NOT EXCEEDING 50m.



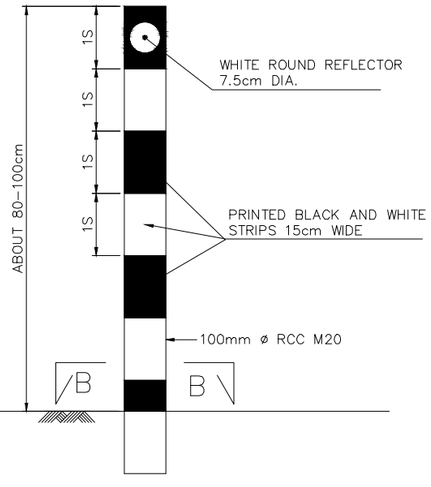
(LEFT) HAZARD MARKERS (RIGHT)

TABLE FOR RECOMMENDED SPACING FOR ROADWAY DELINEATORS ON HORIZONTAL CURVES

RADIUS OF CURVE (METERS)	SPACING ON CURVE, S (METERS)
300	25
400	30
500	35
600	38
700	42
800	45
900	48
1000	50



ROADWAY DELINEATOR SPACING ON CURVES



DELINEATOR WITH RECTANGULAR REFLECTOR

REV.	DATE	REVISIONS

CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
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New Delhi - 110029
Contact No- 011-26768950, E-mail - info@nhidcl.com

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VER.1:250

TITLE:
Miscellaneous

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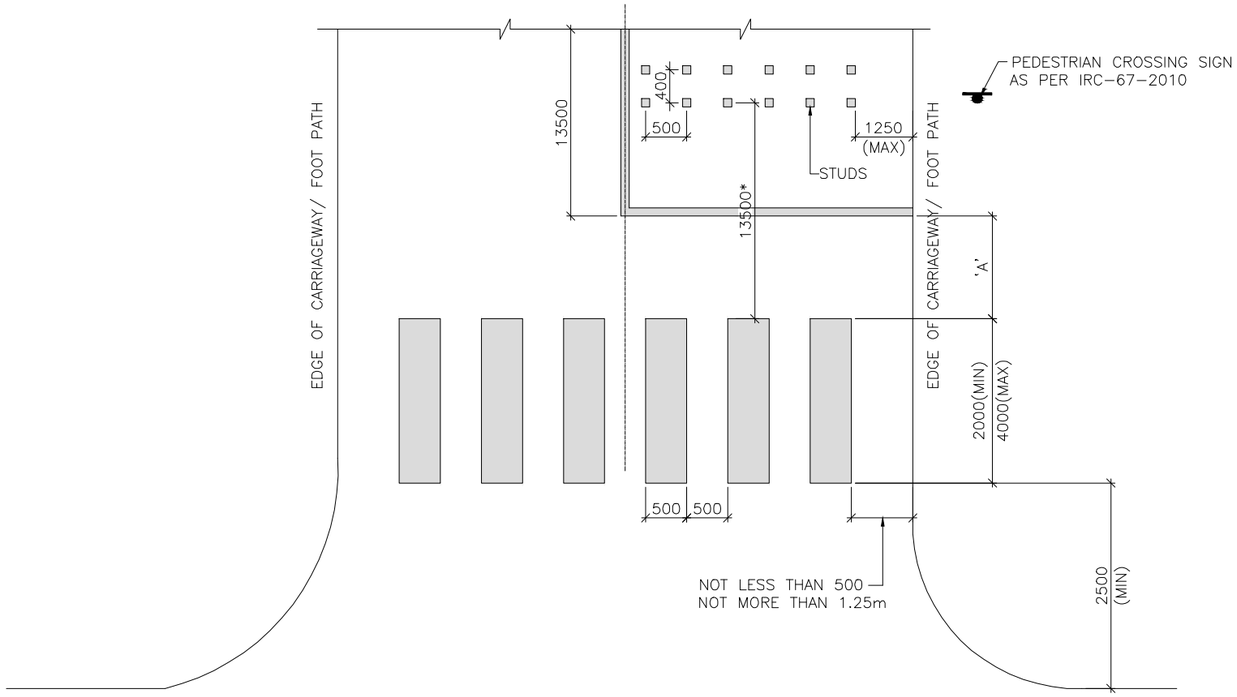
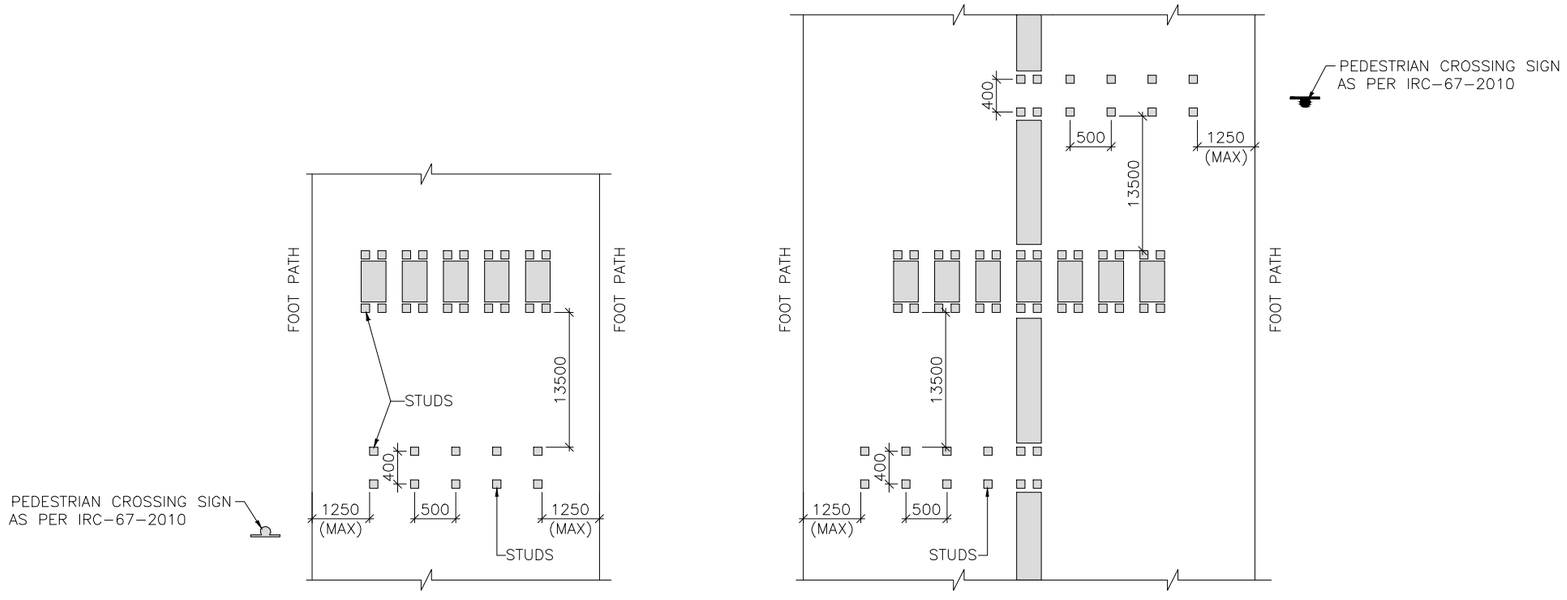
SEAL & SIGNATURE:
DWG NO:-
DRAWN: DSP | CHECKED: SK | DESIGNED: SS | APPROVED: AD
Team Leade



PEDESTRIAN CROSSING AT AN UNSIGNALISED INTERSECTION

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS SHALL NOT BE MEASURED FROM THE DRAWING. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.
3. STUDS MAY BE SQUARE OF SIDE 0.15m OR CIRCULAR OF DIA.. 0.15m
4. STUDS NOT TO PROTRUDE THE SURFACE BY MORE THAN 15mm AT THE HIGHEST POINT OR 6mm AT THE EDGES.
5. * IN EXCEPTIONAL CASES 9.0m
6. THE DISTANCE 'A' SHALL BE AS PER PARA 9.6.5 OF IRC:35-1997.



ONE WAY STREET

TWO WAY STREET

PEDESTRIAN CROSSING AND APPROACHES THERETO FOR LOCATIONS OTHER THAN INTERSECTIONS

REV.	DATE	REVISIONS

CLIENT:

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e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY **4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-2: FROM KM 45+645 TO KM 78+600, DESIGN LENGTH – 32.955 KM)**

SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
VER.1:250

TITLE:
Miscellaneous

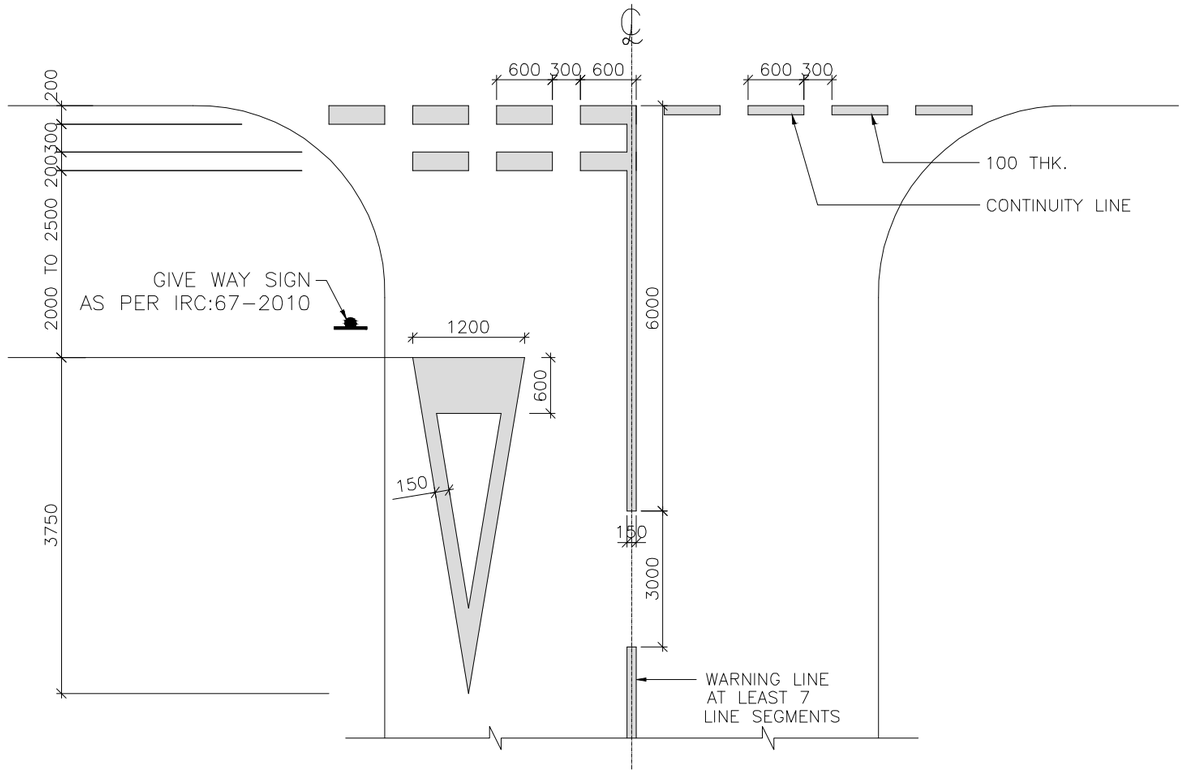
CLIENT APPROVAL:

SEAL & SIGNATURE:

DWG NO:-

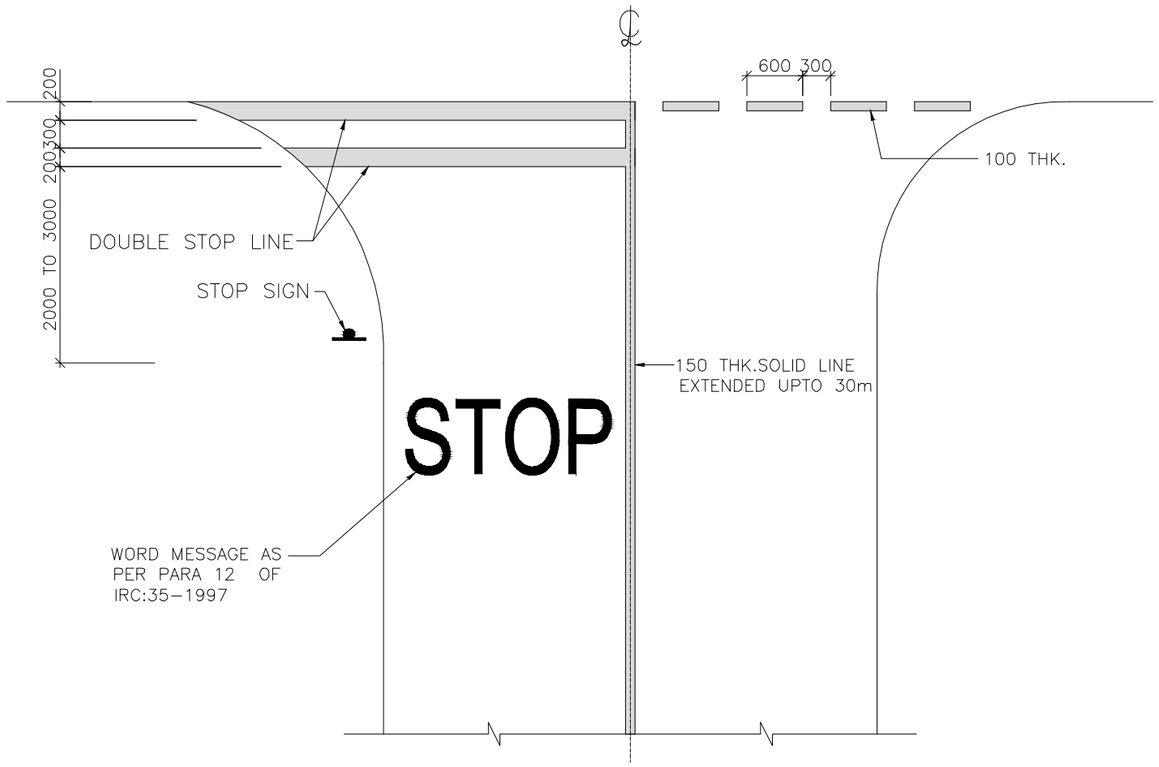
DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SK	SS	AD

Team Leader



MARKING FOR GIVE WAY LINES

(FIG -13) IRC:35



STOP LINE MARKINGS FOR USE WITH STOP SIGN

(FIG -10) IRC:35

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE MENTIONED.
2. DIMENSIONS SHALL NOT BE MEASURED FROM THE DRAWING. ONLY WRITTEN DIMENSIONS TO BE FOLLOWED.

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20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

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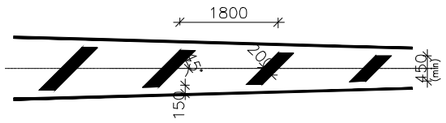
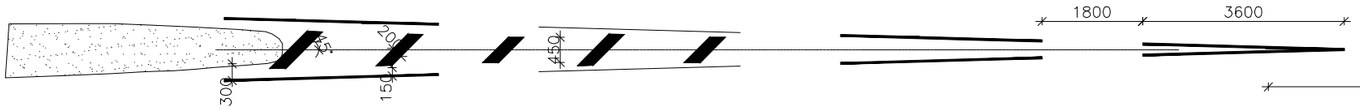
Team Leader

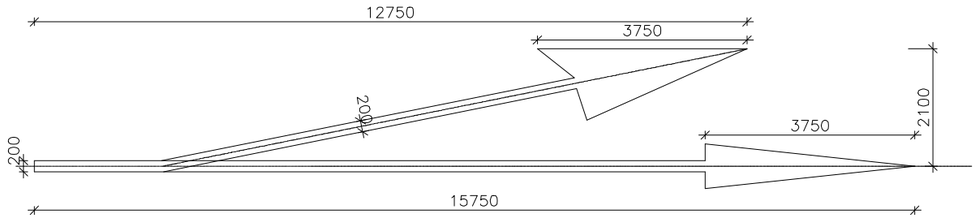
FOR IMPORTANT ROADS



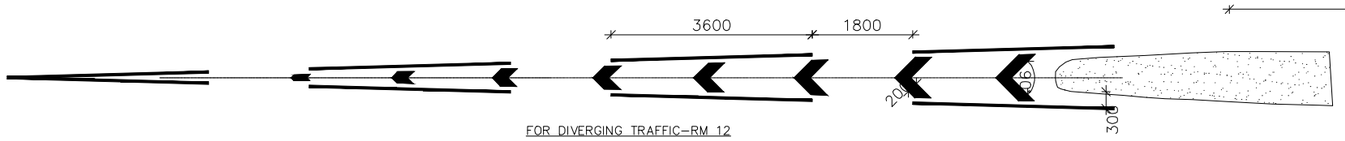
OBSTRUCTION MARKING
ON KERBS–RM 20



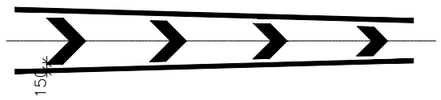
CROSS ROAD MARKING AT APPROCH TO ISLAND–RM 11

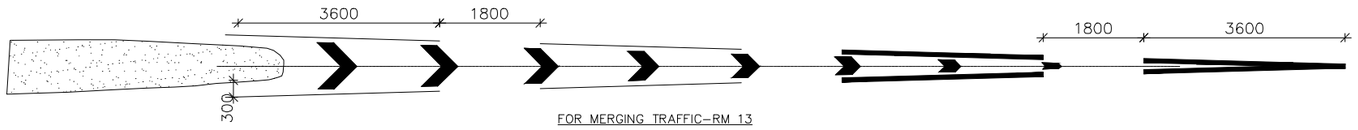


DECELERATION LANE ARROW–RM 19



FOR DIVERGING TRAFFIC–RM 12





FOR MERGING TRAFFIC–RM 13

CHEVRON MARKING AT APPROCH TO ISLAND

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VER.1:250

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Miscellaneous

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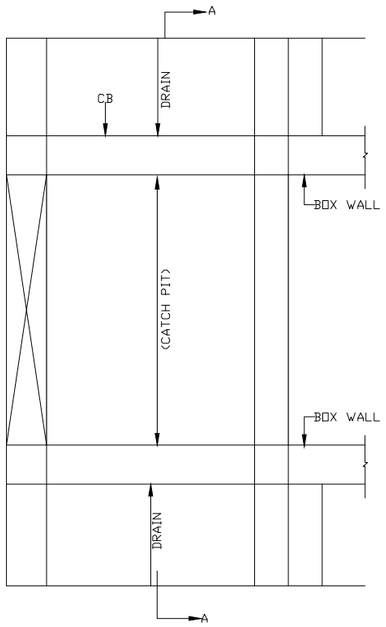
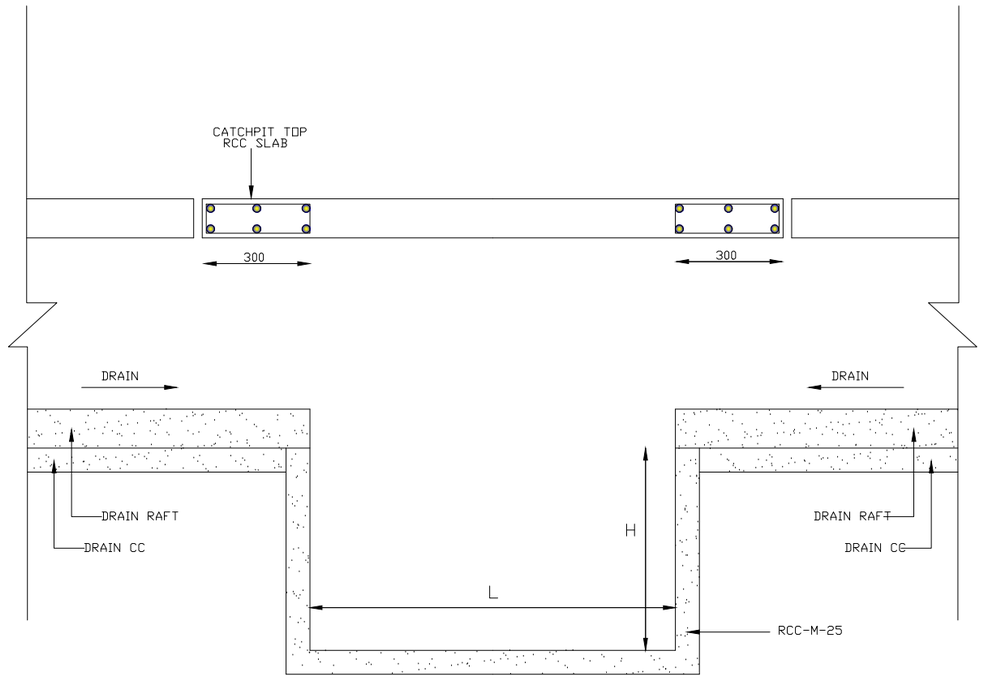
Team Leader



PLAN



DETAILS OF CATCHPIT
(SECTION "A-A")

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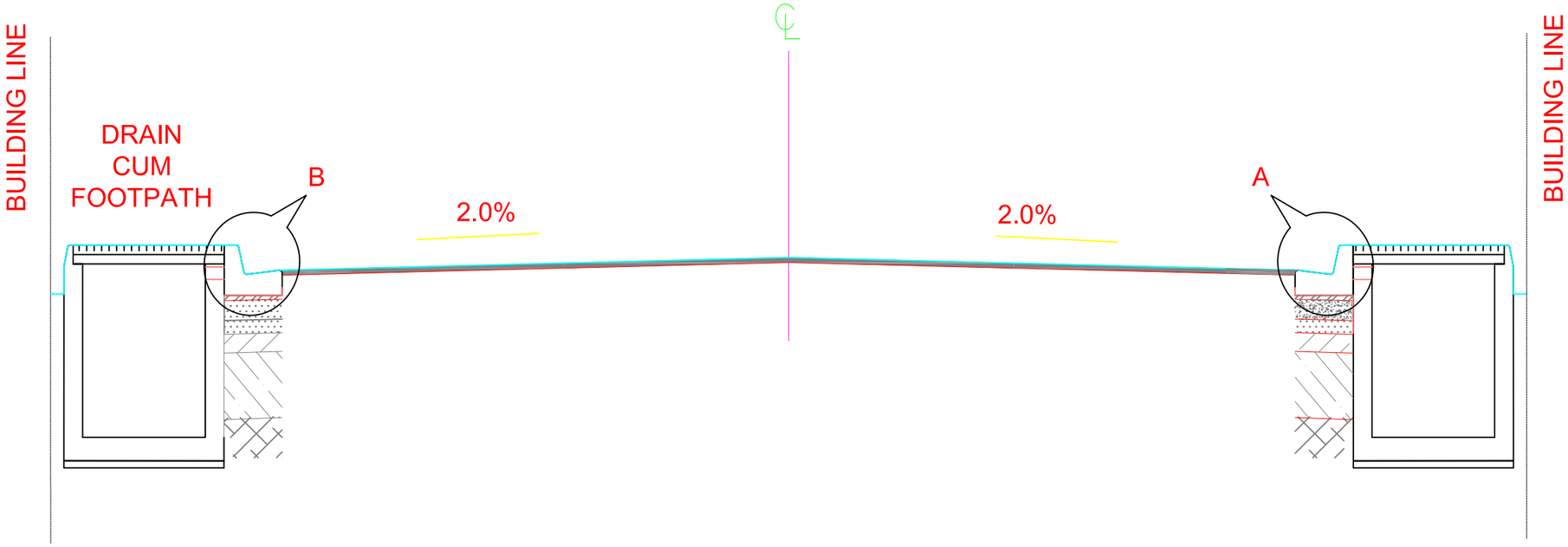
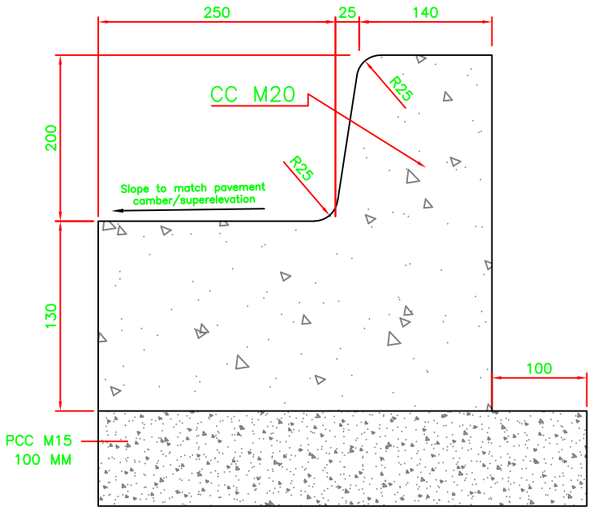
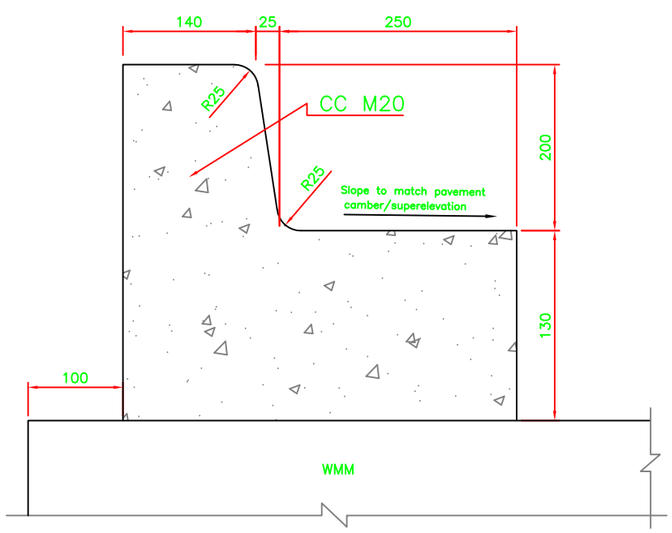




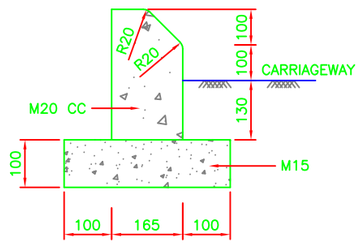
KERB WITH CHANNEL (OVERLAY SIDE)

DETAIL A

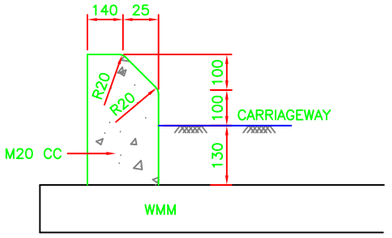


KERB WITH CHANNEL (NEW/RECONSTRUCTION SIDE)

DETAIL B



KERB WITHOUT CHANNEL
(OVERLAY SIDE)



KERB WITHOUT CHANNEL
(NEW/RECONSTRUCTION SIDE)

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VER.1:250

TITLE:

Miscellaneous

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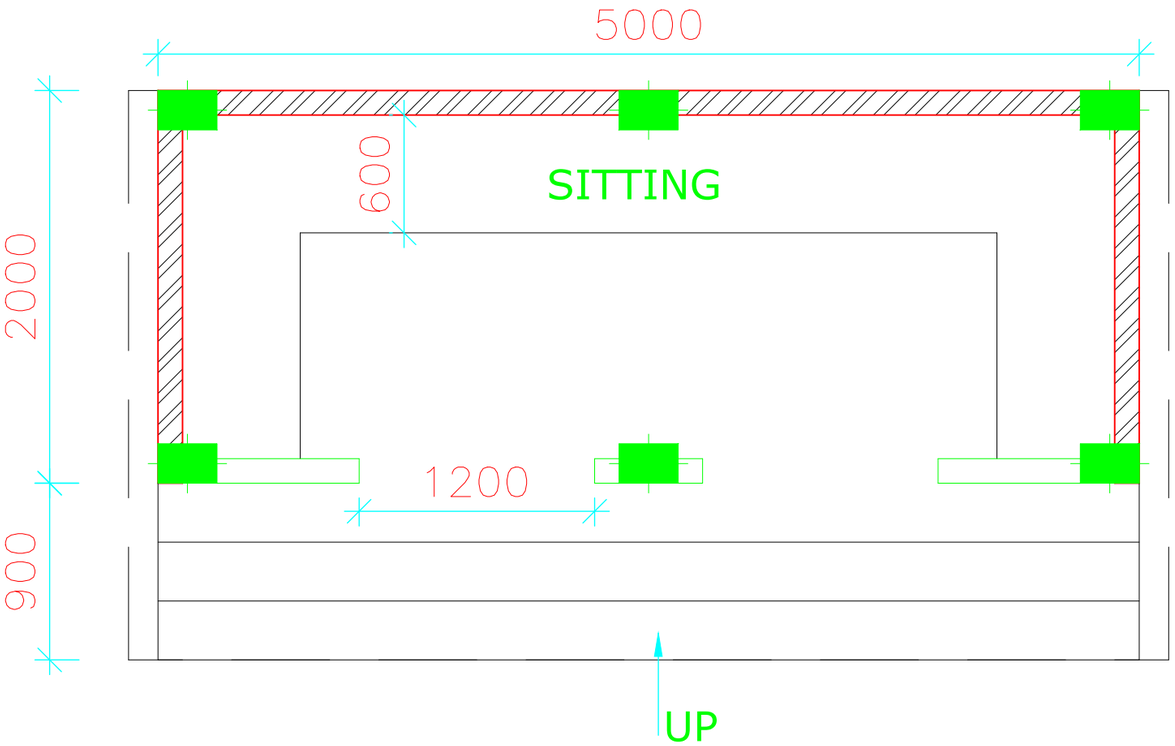
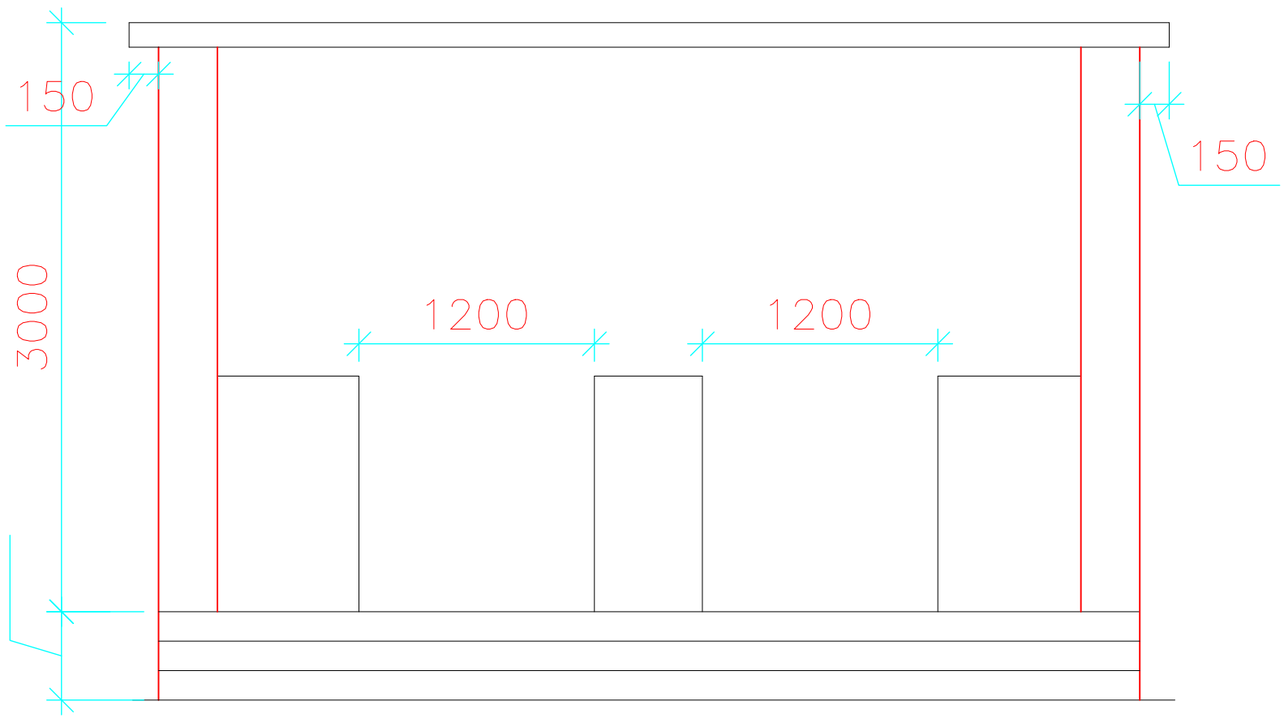


BUS SHELTER PLAN



ELEVATION

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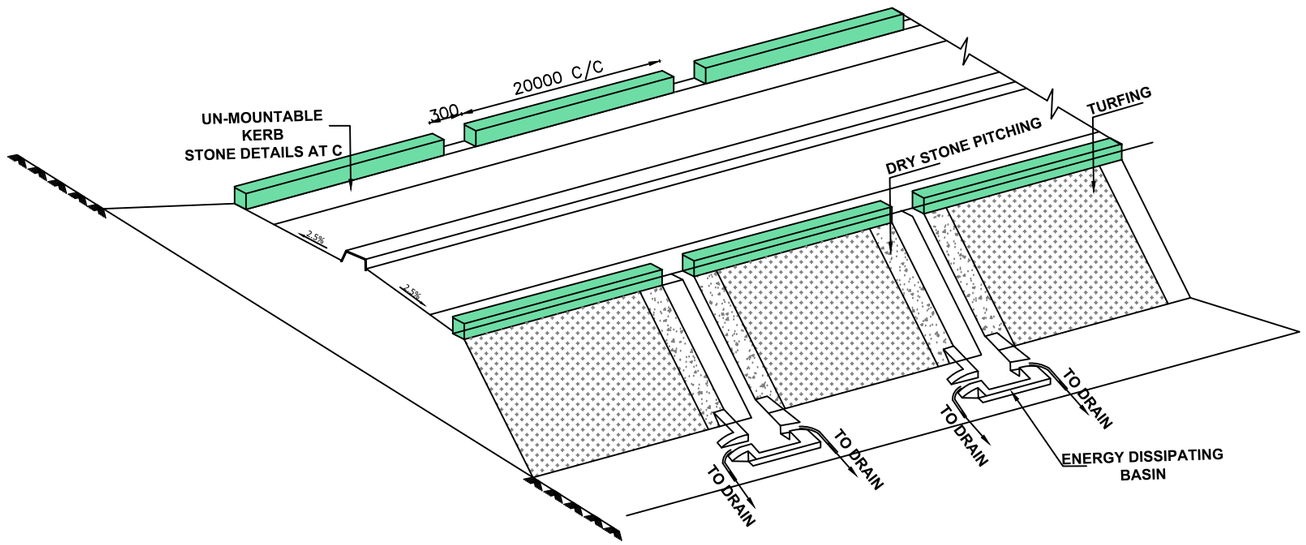
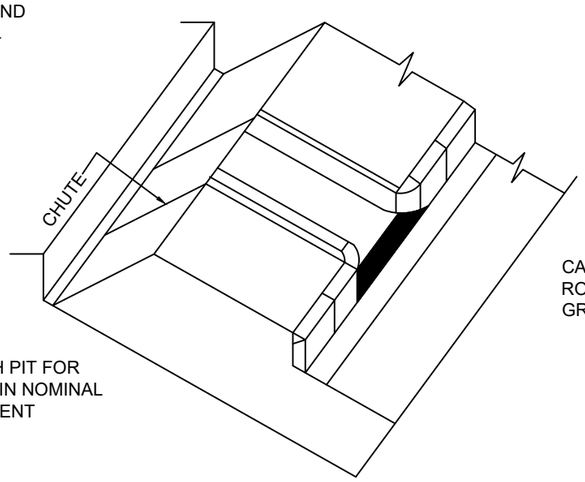
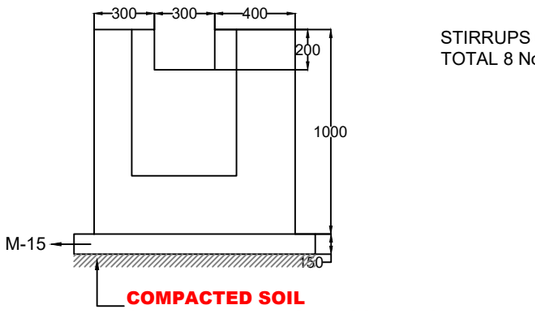


A SCHEMATIC VIEW OF SLOPE PROTECTION ARRANGEMENT WITH PLAIN CHUTE/ FLUME

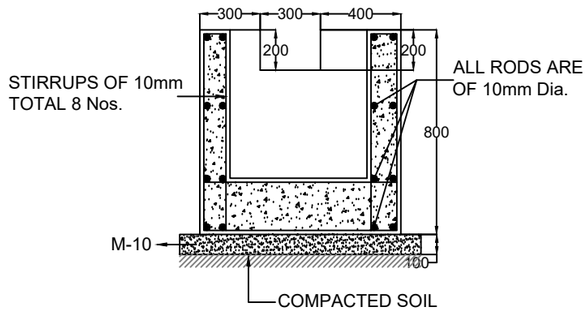
DRAINAGE ARRANGEMENT FOR VERTICAL COLLECTION AND FLOW OF RAIN WATER TO NATURAL GROUND LEVEL



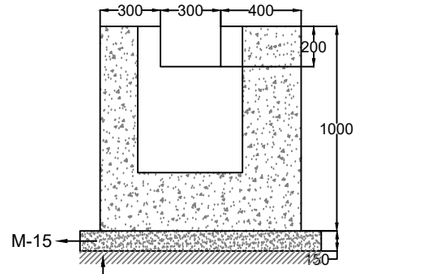
(ENTER OF WATER FROM BOTH DIRECTIONS)



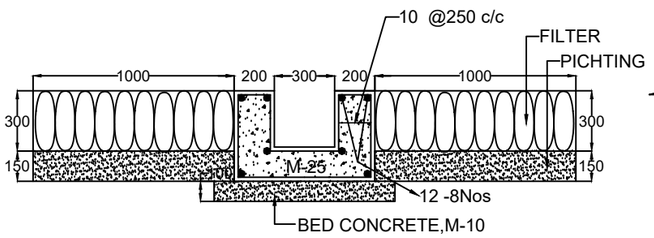
COMPACTED SOIL
SIDE VIEW ENERGY DISSIPATION BASIN



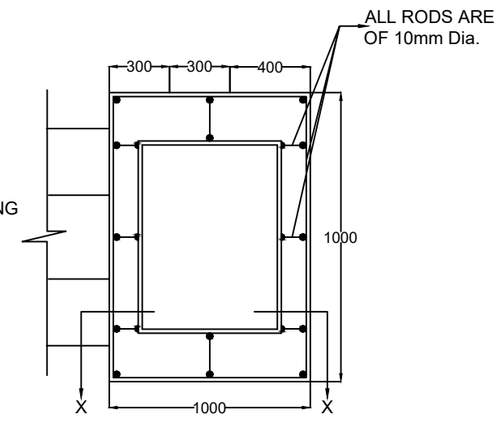
TYPICAL CROSS-SECTION OF ENERGY DISSIPATION BASIN AT SECTION X-X



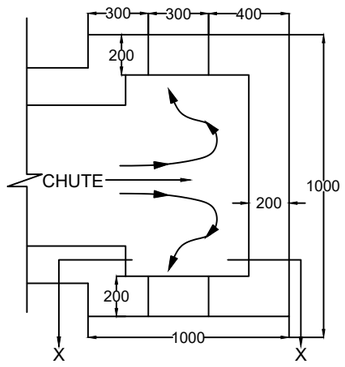
COMPACTED SOIL SIDE VIEW
ENERGY DISSIPATION BASIN



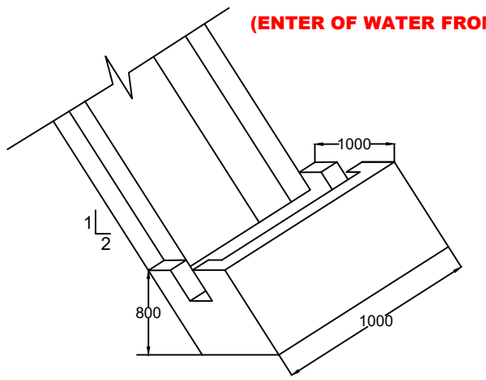
TYPICAL CROSS-SECTION OF FLUME/CHUTE
WITH REINFORCEMENT DETAILS



PLAN OF ENERGY DISSIPATION BASIN
SHOWING REINFORCEMENT



PLAN OF ENERGY DISSIPATION BASIN



ENERGY DISSIPATION BASIN AT TOE TO CHUTE WHERE HEIGHT OF EMBANKMENT IS MORE THAN 3.0 M

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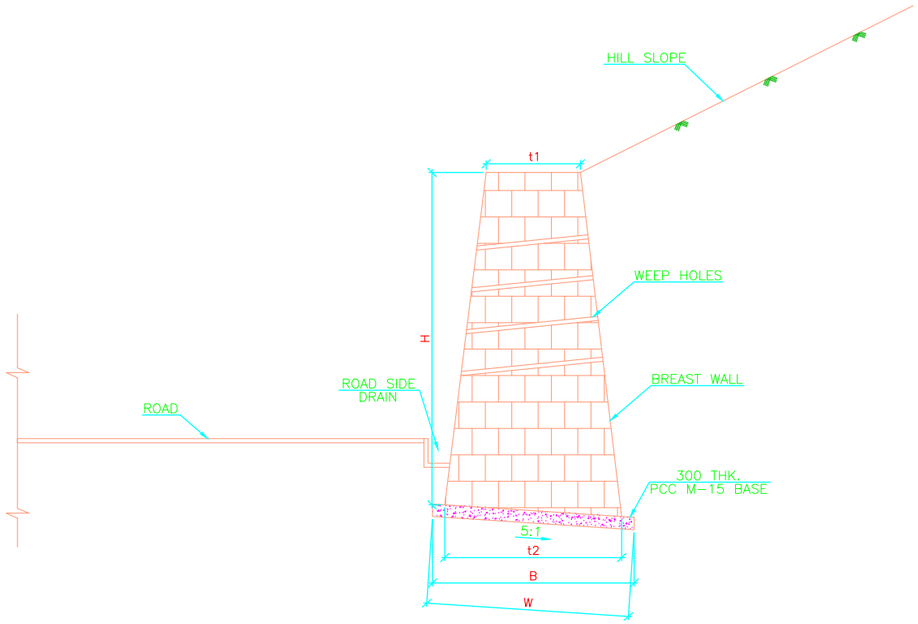

DETAILS OF STONE MASONRY BREAST WALL

DIMENSIONAL DETAILS OF BREAST WALL

Height (mm)	Wall		Base Width (mm)	Dip Slope of Base	Inclined Base Width (mm)
	Top Width (mm)	Bottom Width (mm)			
(H)	(t1)	(t2)	(B)		(W)
1000	300	700	1300	5 : 1	1326
1500	400	1000	1600	5 : 1	1632
2000	500	1300	1900	5 : 1	1938
2500	600	1700	2300	5 : 1	2346
3000	650	1910	2510	5 : 1	2560
3500	700	2500	3100	5 : 1	3161
4000	750	3200	3800	5 : 1	3875
4500	800	4100	4700	5 : 1	4793
5000	850	5000	5600	5 : 1	5711
5500	900	6100	6700	5 : 1	6833
6000	1000	8410	9010	5 : 1	9188

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. LEVELS ARE IN METERS.
2. MIN. 600 MM THK. FILTER MEDIA SHALL BE PROVIDED BEHIND BREAST WALL ABOVE GROUND LEVEL.
3. 100 ø WEEP HOLES WITH A.C. PIPE @ 1.0 M C/C VERTICALLY & HORIZONTALLY STAGGERED SHALL BE PROVIDED ABOVE G.L.
4. WALL GEOMETRY: FRONT FACE INCLINED, BACK FACE INCLINED, BASE INCLINED WITH HILL.
5. BACKFILL TOP: INCLINED WITH SURCHARGE

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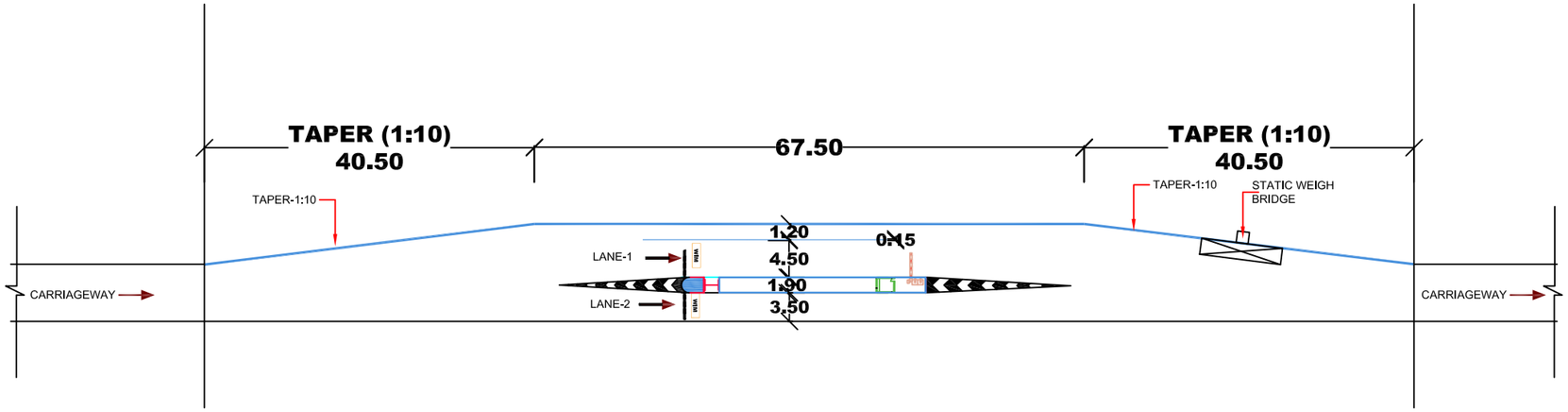
SCALE:
Not to scale
Dimensions as mentioned

TITLE:
TYPICAL DAWING FOR STONE MASONRY BREAST WALL

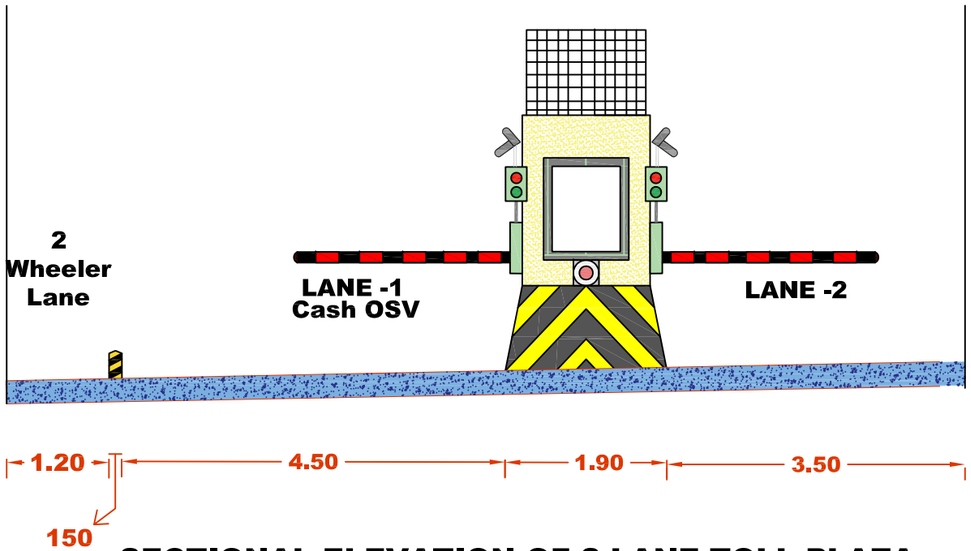
CLIENT APPROVAL: | SIGNATURE:

DWG NO:– ICS/WBP/NHIDCL/FS/MISC/

DRAWN:	CHECKED:	DESIGNED:	APPROVED:
DSP	SJ	SC	DA

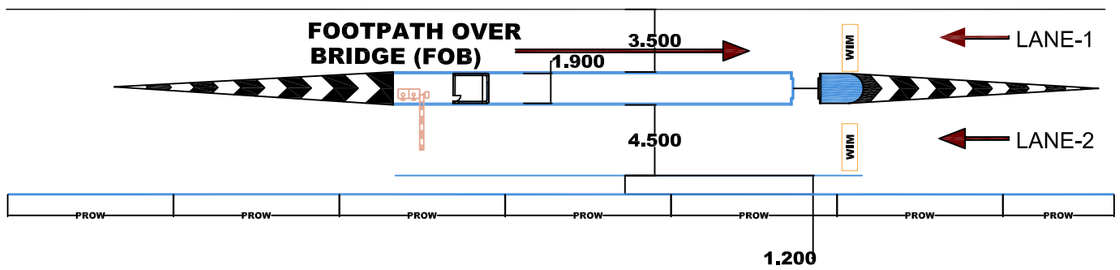


TYPICAL LAYOUT PLAN OF 2 LANE TOLL PLAZA



SECTIONAL ELEVATION OF 2 LANE TOLL PLAZA

VIEW OF LANES



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Contact No- 011-26768950, E-mail - info@nhidcl.com

DESIGN CONSULTANT:

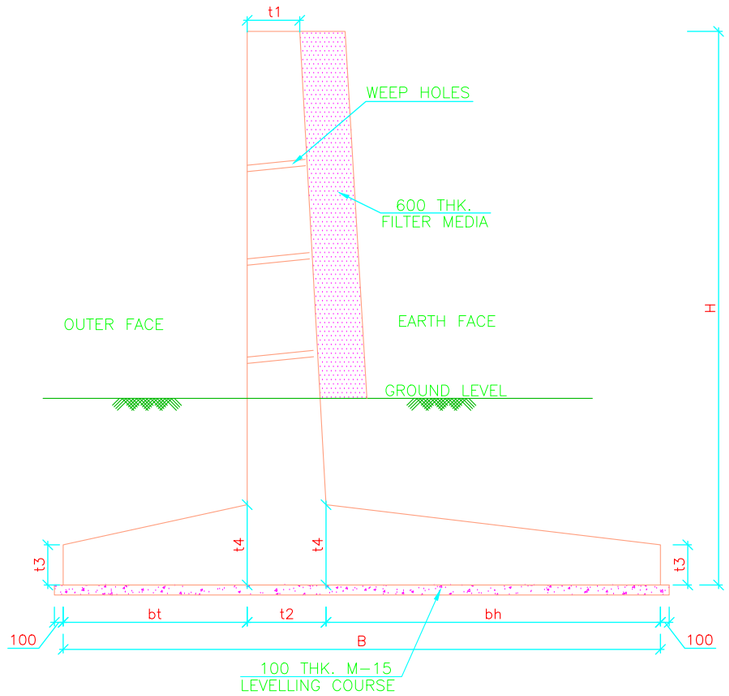
Global Infra Solutions
in JV with **Krishna** Techno Consultants Pvt. Ltd. and association with **Infycons** Creative Software Pvt. Ltd.
F-2, E-8/11A, Sukhsagar Apartment, Trilanga, Bhopal -462039
e: globalinfrasolutions@gmail.com web: globalinfrasolutions.org

PROJECT:
DEVELOPMENT, MAINTENANCE, MANAGEMENT AND OPERATION OF GREENFIELD HIGH-SPEED CORRIDOR FROM MAWLYNGKHUNG (NEAR SHILLONG) IN MEGHALAYA TO PANCHGRAM (NEAR SILCHAR) IN ASSAM BY **4-LANING WITH PAVED SHOULDERS ON HYBRID ANNUITY BASIS. (PACKAGE-2: FROM KM 45+645 TO KM 78+600, DESIGN LENGTH – 32.955 KM)**

SCALE AT A3 SIZE DRAWING
HORIZ.1:2500
20 0 20 40 60 80 100
VER.1:250

TITLE:
Miscellaneous

CLIENT APPROVAL: SEAL & SIGNATURE:
DWG NO:-
DRAWN: CHECKED: DESIGNED: APPROVED:
DSP SK SS AD
Team Leader



DETAILS OF RCC RETAINING WALL

DIMENSIONAL DETAILS OF RETAINING WALL							
H (mm)	B (mm)	b_t (mm)	b_h (mm)	t_1 (mm)	t_2 (mm)	t_3 (mm)	t_4 (mm)
2000	1400	420	810	170	170	300	200
2500	1750	530	1010	210	210	300	250
3000	2100	630	1220	250	250	300	300
3500	2450	740	1410	300	300	300	350
4000	2800	840	1620	300	340	300	400
4500	3150	950	1820	300	380	300	450
5000	3500	1050	2030	300	420	300	500
5500	3850	1160	2230	300	460	300	550
6000	4200	1260	2440	300	500	300	600
6500	4550	1370	2630	300	550	300	650
7000	4900	1470	2840	300	590	300	700
7500	5250	1580	3040	300	630	380	750
8000	5600	1680	3250	300	670	400	800
8500	5950	1790	3450	300	710	430	850
9000	6300	1890	3660	300	750	450	900
9500	6650	2000	3850	300	800	480	950
10000	7000	2100	4060	300	840	500	1000
10500	7350	2210	4260	300	880	530	1050
11000	7700	2310	4470	300	920	550	1100
11500	8050	2420	4670	300	960	580	1150
12000	8400	2520	4880	300	1000	600	1200
12500	8750	2630	5070	300	1050	630	1250
13000	9100	2730	5280	300	1090	650	1300

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. LEVELS ARE IN METERS.
2. MIN. 600 MM THK. FILTER MEDIA SHALL BE PROVIDED BEHIND BREAST WALL ABOVE GROUND LEVEL.
3. BACKFILLING BEHIND BOX SHALL CONSIST OF SELECTED EARTH CONFORMING TO APPENDIX 6 OF IRC: 78-2014 HAVING PROPERTIES DENSITY=2 T/CUM, PHI=30, DELTA=15
4. 100 ø WEEP HOLES WITH A.C. PIPE @ 1.0 M C/C VERTICALLY & HORIZONTALLY STAGGERED SHALL BE PROVIDED ABOVE G.L.

REV.	DATE	REVISIONS

CLIENT:
NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.
1st & 2nd Floor,
Tower A, World Trade Centre, Nauroji Nagar,
New Delhi - 110029
Contact No- 011-26768950, E-mail - info@nhidcl.com

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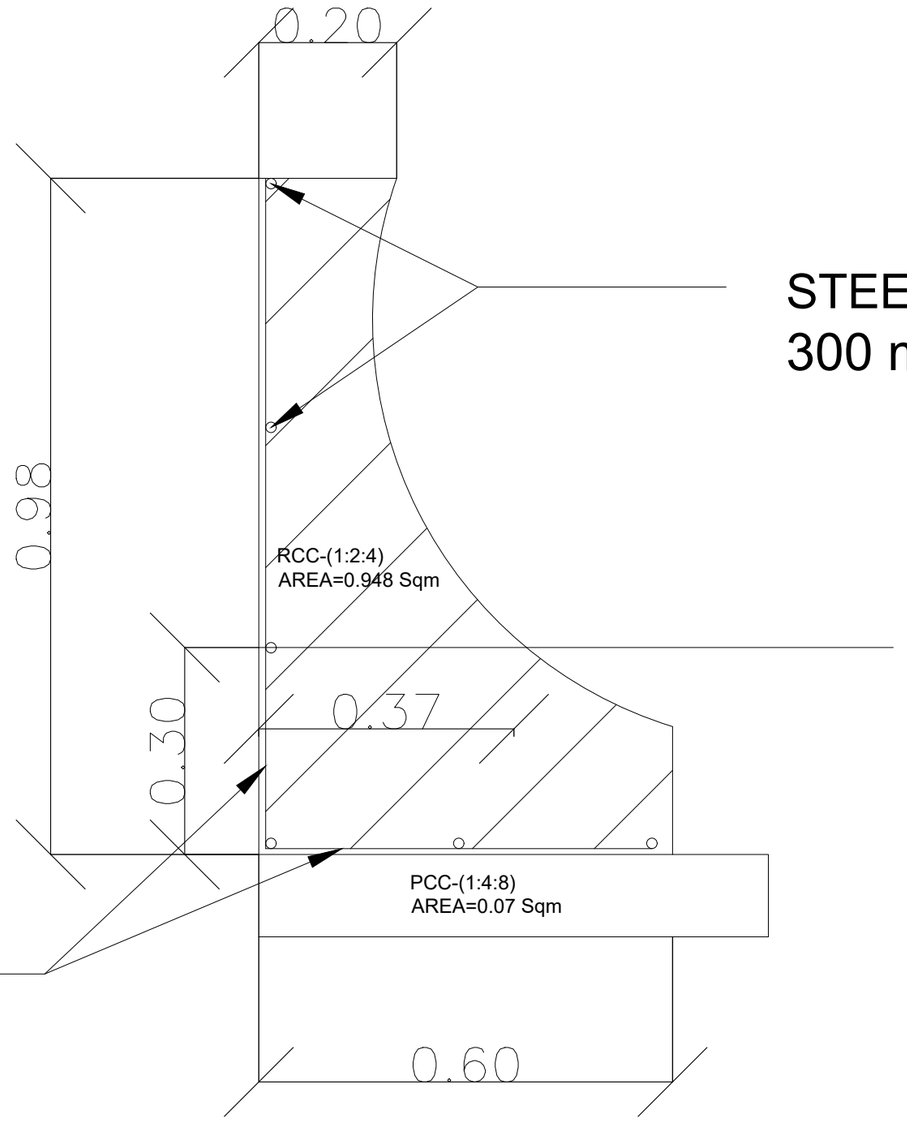

STEEL BAR Ø 10 mm @
300 mm C/C

STEEL BAR Ø 10 mm @
300 mm C/C

TOE / BOUNDARY WALL

REV.	DATE	REVISIONS

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