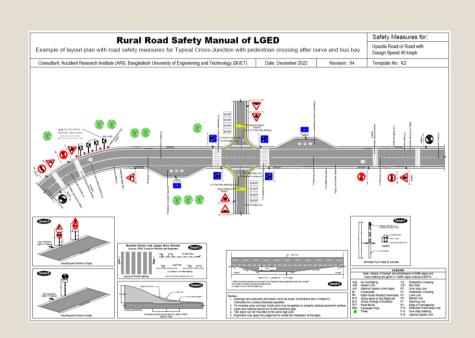
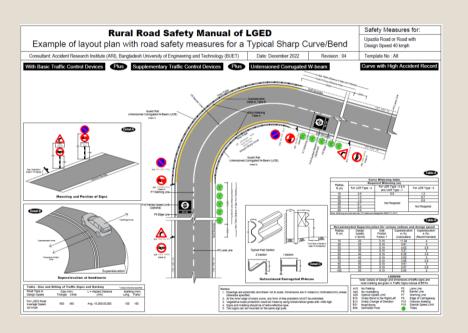


Rural Road Safety Manual (Typical Templates)



Layout Plan with Road Safety Measures





SECOND RURAL TRANSPORT IMPROVEMENT PROJECT

Local Government Engineering Department (LGED)

Ministry of Local Government, Rural Development and Co-operatives Government of the People's Republic of Bangladesh







Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

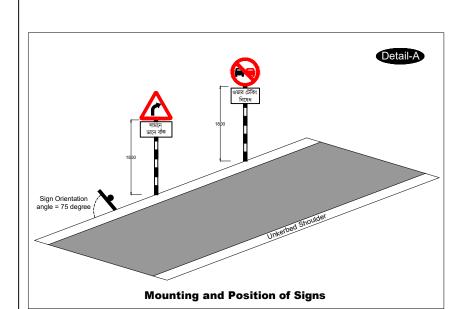
Date: December 2022 Revision : 04 Temp

Upazila Road or Road with Design Speed 40 kmph

Safety Measures for:

Template No : A1

With Basic Traffic Control Devices



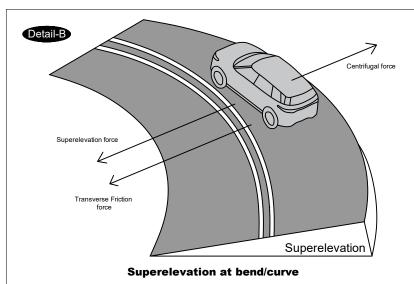
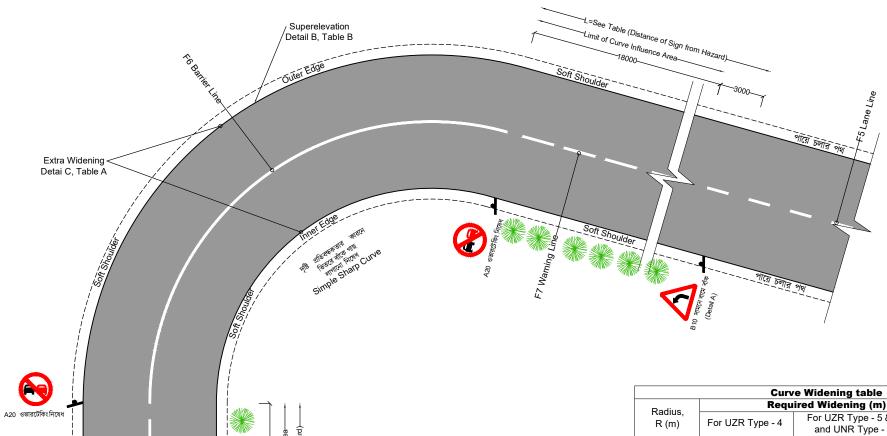
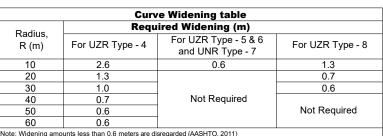
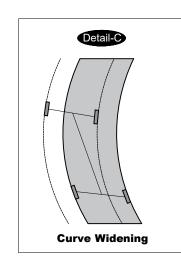


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified							
Road Type or	Size (mm)	L = Hazard Distance	Marking (mm)			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150		







Recommended Superelevation for various radious and design speed								
Radius,	Design	Side	Superelevation	Superelevation				
R (m)	Speed,	Friction	e (%)	e (%)				
	V (km/h)	Factor, f	(Calculated)	(Recommended)				
10	20	0.19	11.04	4				
20	25	0.19	5.61	3				
30	30	0.19	4.62	2.5				
40	35	0.19	5.21	3				
50	40	0.19	6.20	3.5				
60	40	0.19	2.00	2				
70	45	0.19	3.88	2.5				
80	50	0.19	5.61	3				
90	50	0.19	2.87	2.5				
100	50	0.19	0.69	2				

Notes:

F5 Lane Line

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- 3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

	road marking are given in Traf	ric Signs	manual of BRTA
A18	No Parking	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
B10	Sharp Bend to the Right/Left	F9	Edge of Carriageway
B13	Sharp Change of Direction	F15	Chevron Marking
B31	Road Bump	F18	Special Speed Limit
B56	Delineator Post		Trees

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

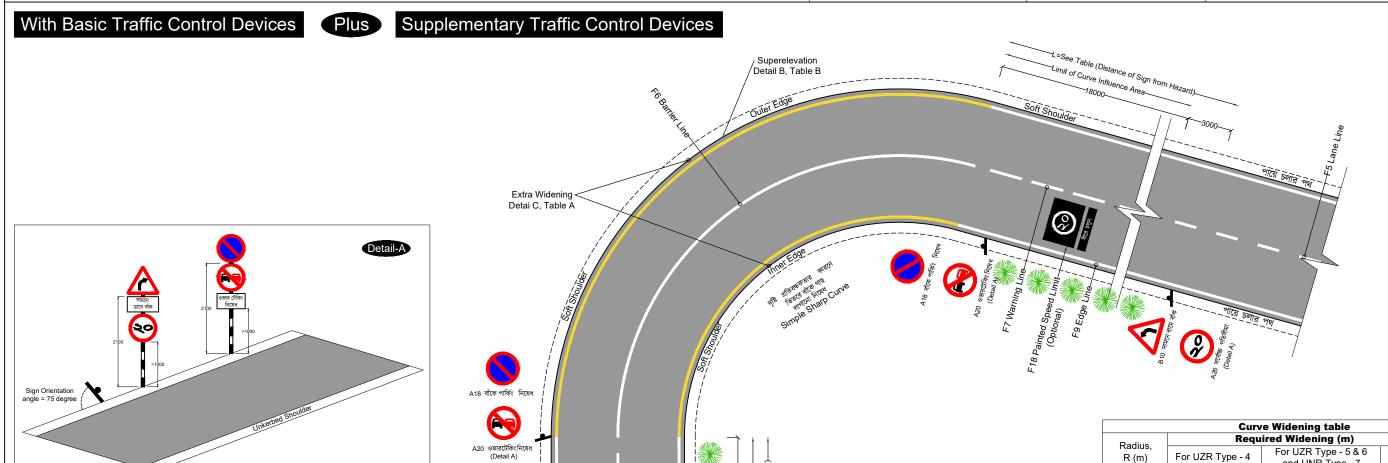
Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No : A2

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022



Mounting and Position of Signs

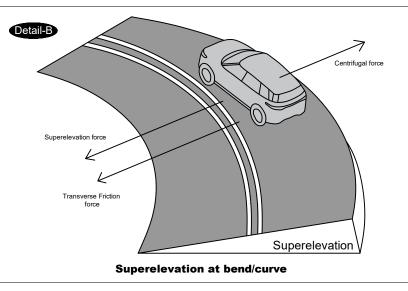
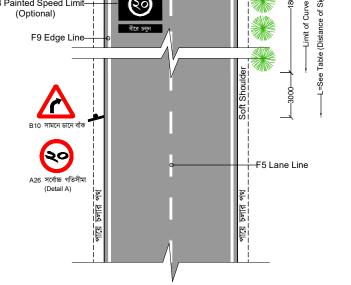
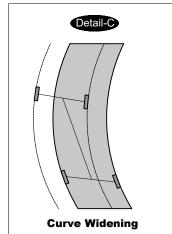


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified							
Road Type or	ype or Size (mm) L = Hazard Distance			Marking (mm)			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150		





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D.	Radius,
S	R (m)
V (
	10
	20
	30
	40
	50
	60
	70
	80
	90
	100

0.6

Revision: 04

Recomme	nded Superelev	ation for vario	us radious and	design speed				
Radius,	Design	Side	Superelevation	Superelevation				
R (m)	Speed,	Friction	e (%)	e (%)				
	V (km/h)	Factor, f	(Calculated)	(Recommended)				
10	20	0.19	11.04	4				
20	25	0.19	5.61	3				
30	30	0.19	4.62	2.5				
40	35	0.19	5.21	3				
50	40	0.19	6.20	3.5				
60	40	0.19	2.00	2				
70	45	0.19	3.88	2.5				
80	50	0.19	5.61	3				
90	50	0.19	2.87	2.5				
100	50	0.19	0.69	2				

s:				
rawings	are	schem	atic and	drawn

- not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- 3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

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For UZR Type - 8

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0.7 0.6

Not Required

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

and UNR Type - 7 0.6

Not Required

A18	No Parking	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
B10	Sharp Bend to the Right/Left	F9	Edge of Carriageway
B13	Sharp Change of Direction	F15	Chevron Marking
B31	Road Bump	F18	Special Speed Limit
B56	Delineator Post	#	Trees

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: A3

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

18 Painted Speed Limit (Optional)

F7 Warning Line

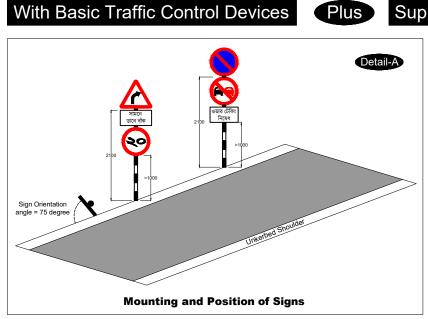
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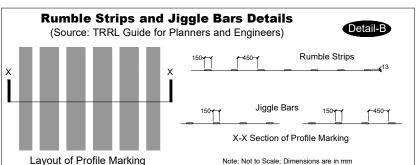
Date: December 2022

Supplementary Traffic Control Devices Plus

Speed Reducing Rumble Device







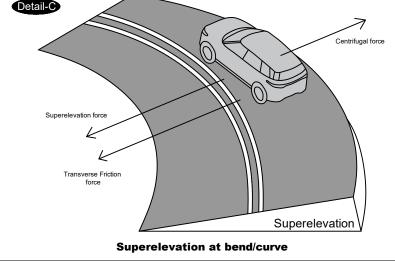
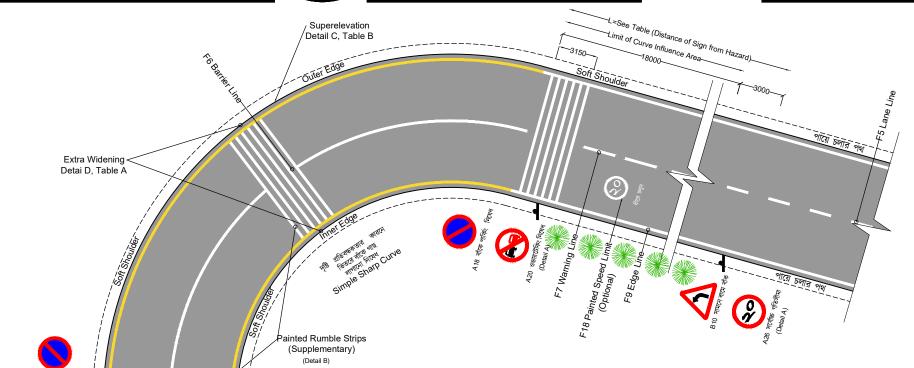
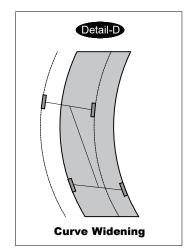


Table - Size and	Sitting of T	raffic Sig	ns and Marking	*Unless otherv	vise specified	
Road Type or Size (mm)		mm)	L = Hazard Distance Markin		ıg (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	



Curve Widening table						
Dodino	Requ	ired Widening (m)				
Radius, R (m)	For UZR Type - 4	For UZR Type - 5 & 6 and UNR Type - 7	For UZR Type - 8			
10	2.6	0.6	1.3			
20	1.3		0.7			
30	1.0		0.6			
40	0.7	Not Required				
50	0.6		Not Required			
60	0.6					
Note: Widening amounts less than 0.6 meters are disregarded (AASHTO, 2011)						



Recommended Superelevation for various radious and design speed								
Radius,	Design	Side	Superelevation	Superelevation				
R (m)	Speed,	Friction	e (%)	e (%)				
	V (km/h)	Factor, f	(Calculated)	(Recommended)				
10	20	0.19	11.04	4				
20	25	0.19	5.61	3				
30	30	0.19	4.62	2.5				
40	35	0.19	5.21	3				
50	40	0.19	6.20	3.5				
60	40	0.19	2.00	2				
70	45	0.19	3.88	2.5				
80	50	0.19	5.61	3				
90	50	0.19	2.87	2.5				
100	50	0.19	0.69	2				

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- 3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

ī	F	G	F	N	n	

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

	rodd marking aro givon in man	io Cigilio	manaar or Brenze
18	No Parking	F5	Lane Line
20	No Overtaking	F6	Barrier Line
126	Special Speed Limit	F7	Warning Line
10	Sharp Bend to the Right/Left	F9	Edge of Carriageway
13	Sharp Change of Direction	F15	Chevron Marking
31	Road Bump	F18	Special Speed Limit

B56 Delineator Post

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

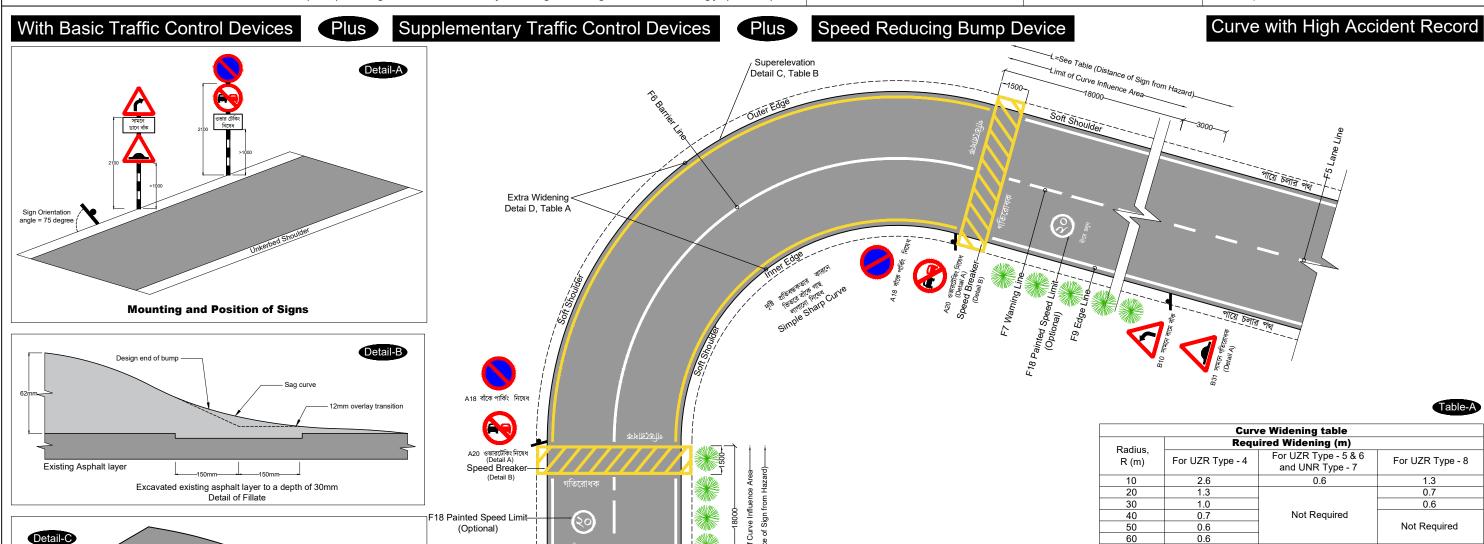
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No: A4



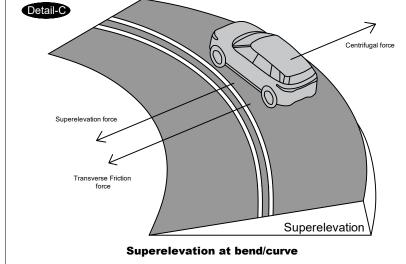
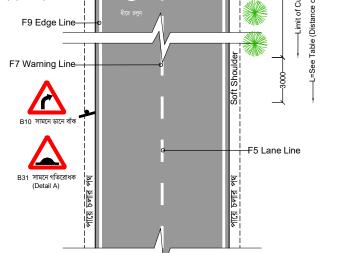
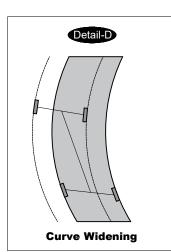


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified						
Road Type or	Size (ı	mm)	L = Hazard Distance	Markii	ng (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	





				Tuble B
Recomme	nded Superelev	vation for vario	us radious and	design speed
Radius,	Design	Side	Superelevation	Superelevation
R (m)	Speed,	Friction	e (%)	e (%)
	V (km/h)	Factor, f	(Calculated)	(Recommended)
10	20	0.19	11.04	4
20	25	0.19	5.61	3
30	30	0.19	4.62	2.5
40	35	0.19	5.21	3
50	40	0.19	6.20	3.5
60	40	0.19	2.00	2
70	45	0.19	3.88	2.5
80	50	0.19	5.61	3
90	50	0.19	2.87	2.5
100	50	0.19	0.69	2

10	tes:
1.	Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unles
	atherwise aposition

- otherwise specified.

 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

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Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

18	No Parking	F5
20	No Overtaking	F6
26	Special Speed Limit	F7
10	Sharp Bend to the Right/Left	F9
13	Sharp Change of Direction	F15
31	Road Rump	F18

B56 Delineator Post

F6 Barrier Line
F7 Warning Line
F9 Edge of Carriageway
F15 Chevron Marking
F18 Special Speed Limit

Lane Line

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Date: December 2022 Revision: 04 Template No : A5

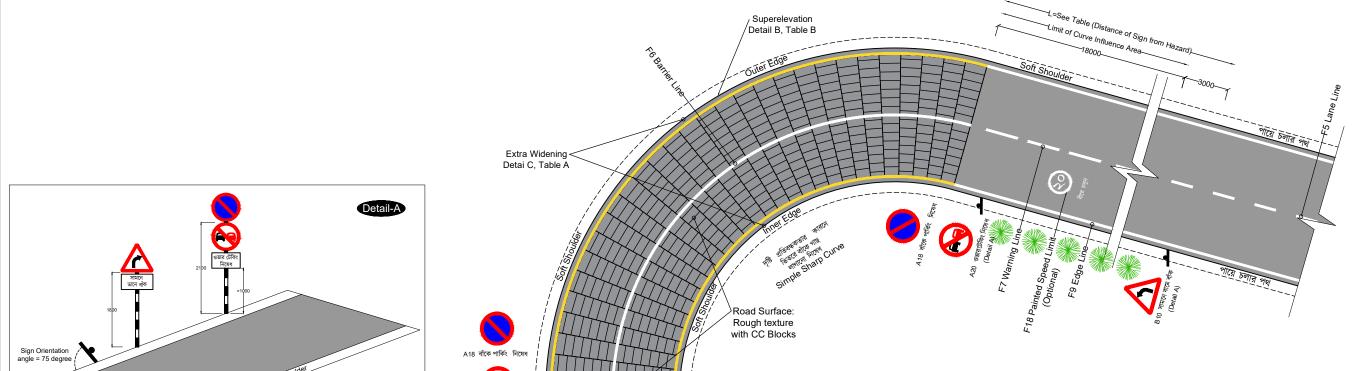
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Supplementary Traffic Control Devices

Plus

Speed Reducing Rough Surface

Curve with High Accident Record



Mounting and Position of Signs

With Basic Traffic Control Devices

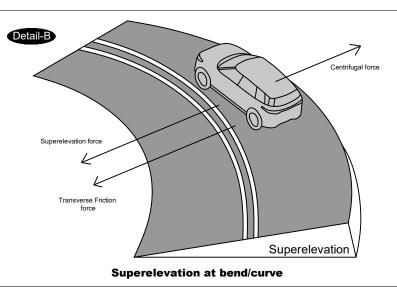
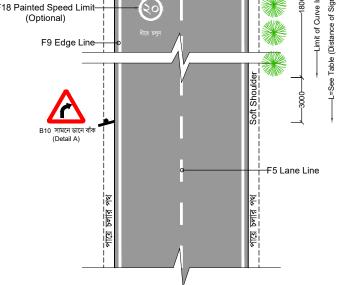
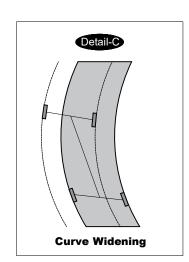


Table - Size and S	itting of T	raffic Sig	ns and Marking	*Unless other	vise specified
Road Type or	Size (mm)	L = Hazard Distance	Markir	ng (mm)
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150





Curve Widening table					
Radius,	Requ	ired Widening (m)			
Radius, R (m)	For UZR Type - 4	For UZR Type - 5 & 6 and UNR Type - 7	For UZR Type - 8		
10	2.6	0.6	1.3		
20	1.3		0.7		
30	1.0		0.6		
40	0.7	Not Required			
50	0.6		Not Required		
60	0.6				
lote: Widening amounts less than 0.6 meters are disregarded (AASHTO, 2011)					

Recomme	nded Superelev	ation for vario	us radious and	design speed
Radius,	Design	Side	Superelevation	Superelevation
R (m)	Speed,	Friction	e (%)	e (%)
	V (km/h)	Factor, f	(Calculated)	(Recommended)
10	20	0.19	11.04	4
20	25	0.19	5.61	3
30	30	0.19	4.62	2.5
40	35	0.19	5.21	3
50	40	0.19	6.20	3.5
60	40	0.19	2.00	2
70	45	0.19	3.88	2.5
80	50	0.19	5.61	3
90	50	0.19	2.87	2.5
100	50	0.19	0.69	2

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- 3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

Radius,	Design	Side	Superelevation	Superelevation
R (m)	Speed,	Friction	e (%)	e (%)
	V (km/h)	Factor, f	(Calculated)	(Recommended)
10	20	0.19	11.04	4
20	25	0.19	5.61	3
30	30	0.19	4.62	2.5
40	35	0.19	5.21	3
50	40	0.19	6.20	3.5
60	40	0.19	2.00	2
70	45	0.19	3.88	2.5
80	50	0.19	5.61	3
90	50	0.19	2.87	2.5
100	50	0.19	0.69	2

	LEGEND					
	Note: Details of Design and dimensions of traffic signs and					
	road marking are given in Traffic Signs manual of BRTA					
A18	No Parking	F5	Lane Line			
A20	No Overtaking	F6	Barrier Line			
A26	Special Speed Limit	F7	Warning Line			
B10	Sharp Bend to the Right/Left	F9	Edge of Carriageway			
B13	Sharp Change of Direction	F15	Chevron Marking			
B31	Road Bump	F18	Special Speed Limit			
B56	Delineator Post		Trees			
		480				

LEGEND

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

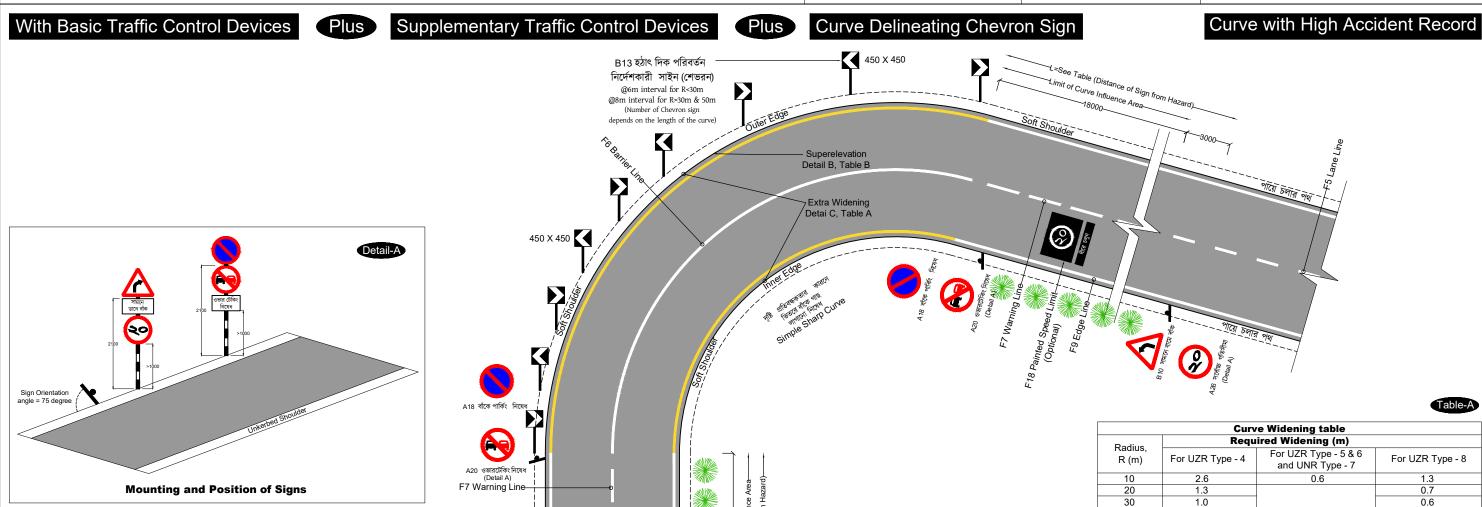
Upazila Road or Road with Design Speed 40 kmph

Template No : A6

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

nber 2022 Revision: 04



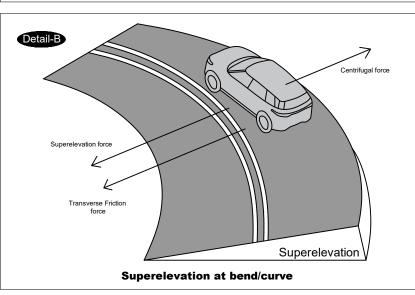
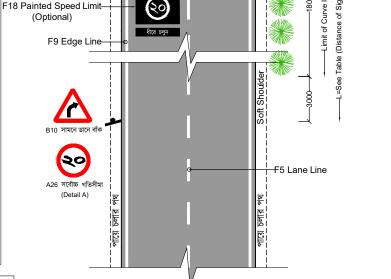
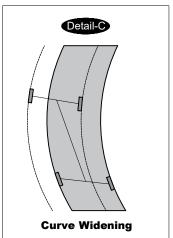


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified					
Road Type or	Size (ı	mm)	L = Hazard Distance	Markii	ng (mm)
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150





	Recomme	nded S
	Radius,	De
	R (m)	Sp
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	70	
	80	
	90	
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na		

60

0.6

Recomme	nded Superelev	vation for vario	us radious and	design speed
Radius,	Design	Side	Superelevation	Superelevation
R (m)	Speed,	Friction	e (%)	e (%)
	V (km/h)	Factor, f	(Calculated)	(Recommended)
10	20	0.19	11.04	4
20	25	0.19	5.61	3
30	30	0.19	4.62	2.5
40	35	0.19	5.21	3
50	40	0.19	6.20	3.5
60	40	0.19	2.00	2
70	45	0.19	3.88	2.5
80	50	0.19	5.61	3
90	50	0.19	2.87	2.5
100	50	0.19	0.69	2

LEGEND

Note: Details of Design and dimensions of traffic signs and

Not Required

road marking are given in Traffic Signs manual of BRTA A18 No Parking F5 Lane Line A20 No Overtaking F6 Barrier Line

Delineator Post

A26 Special Speed Limit
B10 Sharp Bend to the Right/Left
B13 Sharp Change of Direction
B31 Road Bump

F5 Lane Line F6 Barrier Line F7 Warning Line F9 Edge of Carriageway F15 Chevron Marking F18 Special Speed Limit

Not Required

Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
 Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high.
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

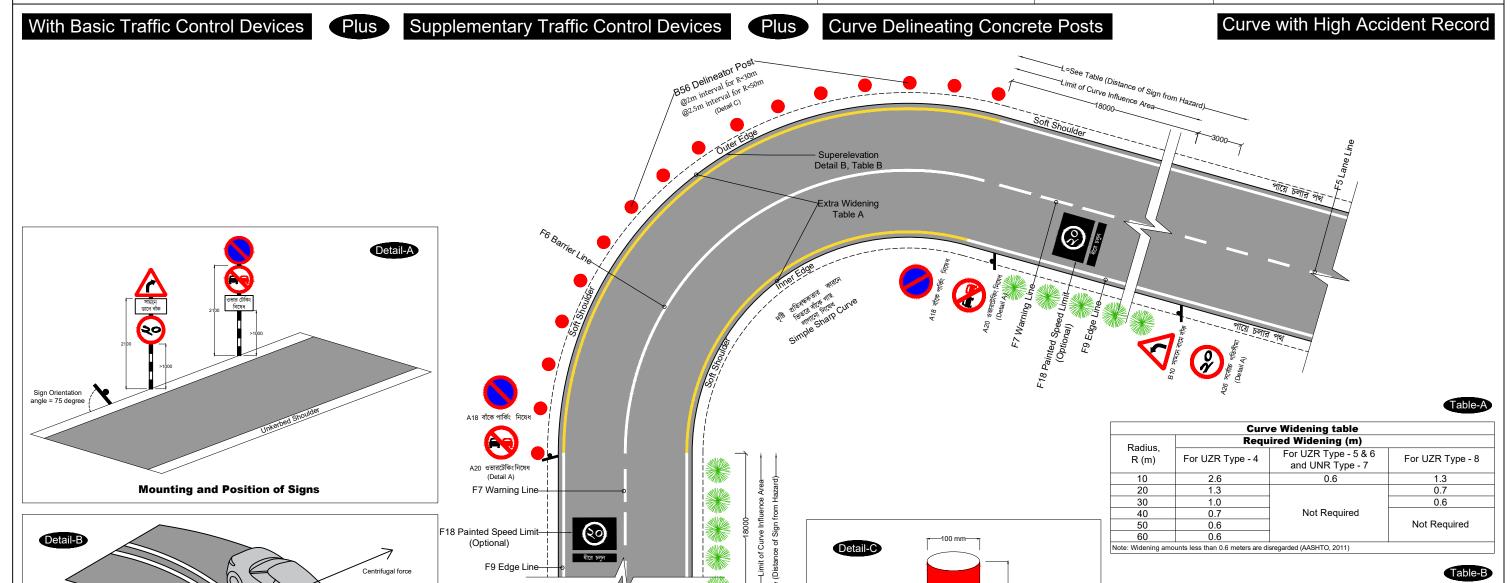
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No: A7



ed Superelevation for various radious and design speed					
Design	Side	Superelevation	Superelevation		
Speed,	Friction	e (%)	e (%)		
V (km/h)	Factor, f	(Calculated)	(Recommended)		

Recomme	Recommended Superelevation for various radious and design speed						
Radius,	Design	Side	Superelevation	Superelevation			
R (m)	Speed,	Friction	e (%)	e (%)			
	V (km/h)	Factor, f	(Calculated)	(Recommended)			
10	20	0.19	11.04	4			
20	25	0.19	5.61	3			
30	30	0.19	4.62	2.5			
40	35	0.19	5.21	3			
50	40	0.19	6.20	3.5			
60	40	0.19	2.00	2			
70	45	0.19	3.88	2.5			
80	50	0.19	5.61	3			
90	50	0.19	2.87	2.5			
100	50	0.19	0.69	2			

Table - Size and	Sitting of Tra	ffic Sig	gns and Marking	*Unless otherv	vise specified
Road Type or	Size (mm	۱)	L = Hazard Distance	Markir	ng (mm)
Design Speed	Triangle C	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600 4	50	Avg. 15,000-20,000	100	150

Superelevation at bend/curve

Superelevation

B56 Delineator Post

1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless

2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.

3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high

4. Signs and marking should be of retro-reflective type.

5.	Two	signs can	be	mounted	on the	same	sign	pole.

	Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA				
\18	No Parking	F5	Lane Line		
\20	No Overtaking	F6	Barrier Line		
\26	Special Speed Limit	F7	Warning Line		
310	Sharp Bend to the Right/Left	F9	Edge of Carriageway		
313	Sharp Change of Direction	F15	Chevron Marking		
331	Road Bump	F18	Special Speed Limit		
356	Delineator Post		Trees		

LEGEND

Example of layout plan with road safety measures for a Typical Sharp Curve/Bend

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

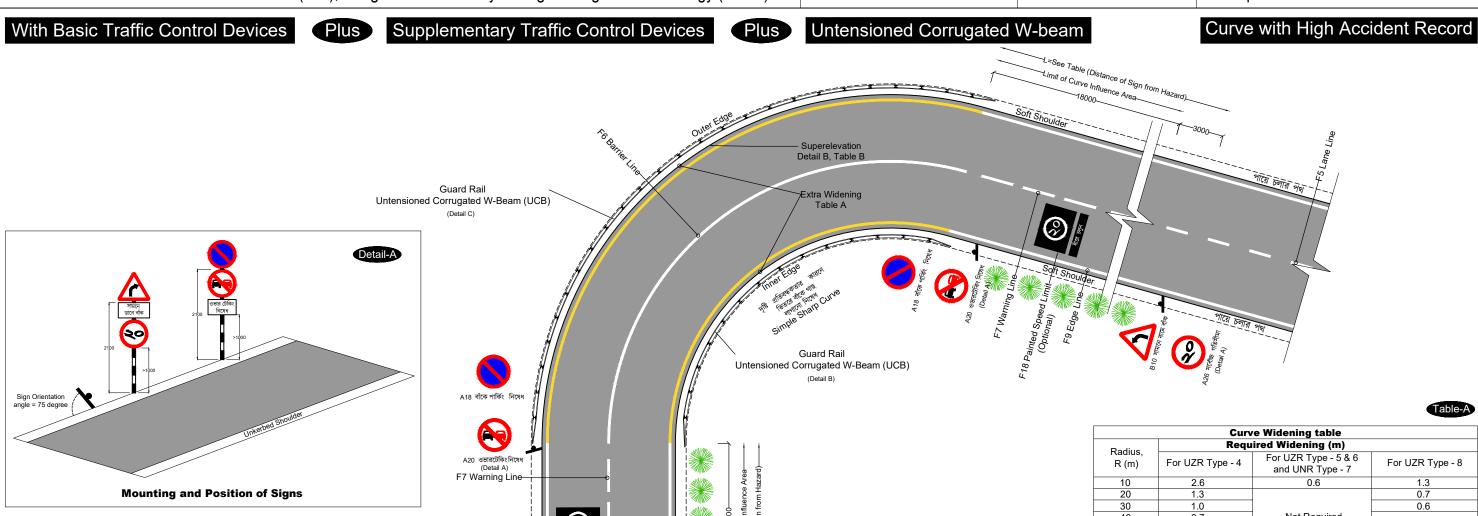
Template No: A8

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

(Optional)

Date: December 2022

Revision: 04



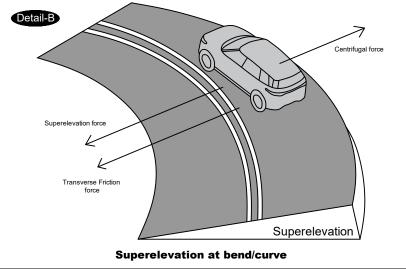
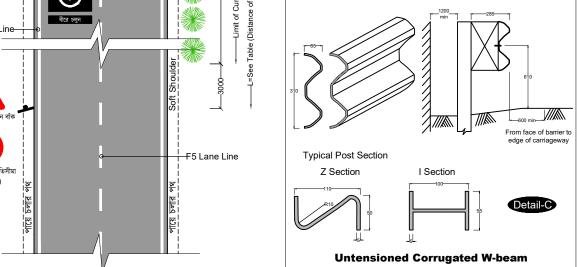


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified						
Road Type or	Size (mm)	L = Hazard Distance	Markii	ng (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	



<u>i </u>	Untensione	ed Corrugated W-k	peam	
	Z Section	I Section	Detail-C	
F5 Lane Line	Typical Post Section		From face of barrier to edge of carriageway	

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. At the inner edge of sharp curve, any form of tree plantation MUST be prohibited.
- 3. Vegetative slope protection could be made by using Shrub/Vetiver grass with <600 high
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

Curve Widening table				
Required Widening (m)				
Radius, R (m)	For UZR Type - 4	For UZR Type - 8		
10	2.6	0.6	1.3	
20	1.3		0.7	
30	1.0		0.6	
40	0.7	Not Required		
50	0.6		Not Required	
60	0.6			

Recomme	Recommended Superelevation for various radious and design speed						
Radius,	Design	Side	Superelevation	Superelevation			
R (m)	Speed,	Friction	e (%)	e (%)			
	V (km/h)	Factor, f	(Calculated)	(Recommended)			
10	20	0.19	11.04	4			
20	25	0.19	5.61	3			
30	30	0.19	4.62	2.5			
40	35	0.19	5.21	3			
50	40	0.19	6.20	3.5			
60	40	0.19	2.00	2			
70	45	0.19	3.88	2.5			
80	50	0.19	5.61	3			
90	50	0.19	2.87	2.5			
100	50	0.19	0.69	2			

LEGEND
Note: Details of Design and dimensions of traffic signs and
road marking are given in Traffic Signs manual of BRTA

	road marking are given in Trail	iic Signs	manual of BRTA
A18	No Parking	F5	Lane Line
A20	No Overtaking	F6	Barrier Line
A26	Special Speed Limit	F7	Warning Line
B10	Sharp Bend to the Right/Left	F9	Edge of Carriage
B13	Sharp Change of Direction	F15	Chevron Marking
B31	Road Bump	F18	Special Speed Lir
B56	Delineator Post		Trees

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

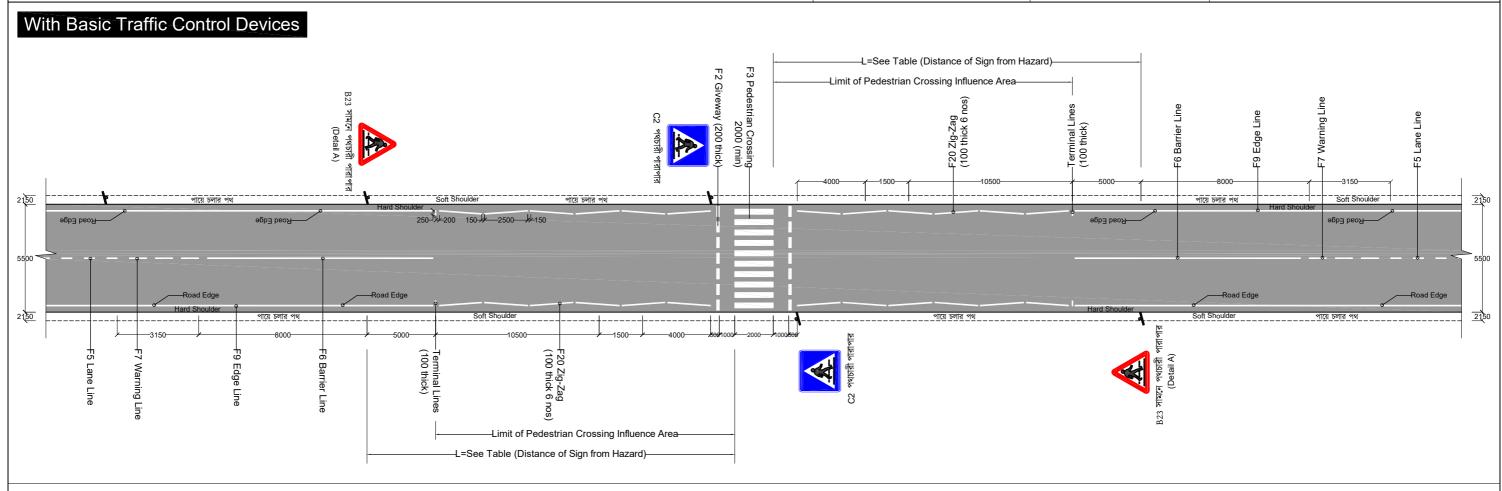
Upazila Road or Road with Design Speed 40 kmph

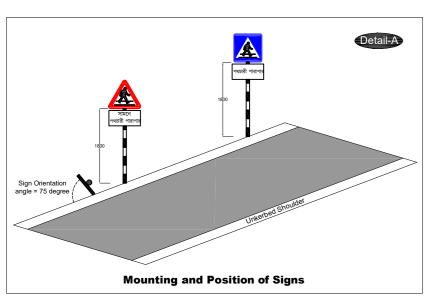
Template No: B1

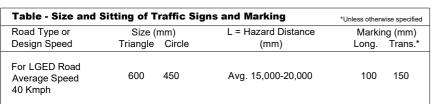
Revision: 04

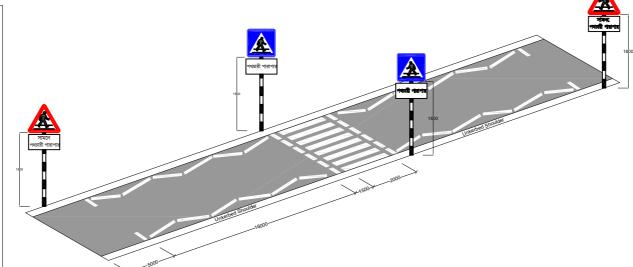
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023









Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole.

LEGEND
Note: Details of Design and dimensions of traffic signs and
road marking are given in Traffic Signs manual of BRTA

- No Overtaking Special Speed Limit
- B23 Pedestrian Crossing
- B31 Road Hump
 - Location of Pedestrian
- Give Way Line Pedestrian Crossing Lane Line
- Barrier Line
 - Warning Line Edge of Carriageway
 - Special Speed Limit

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

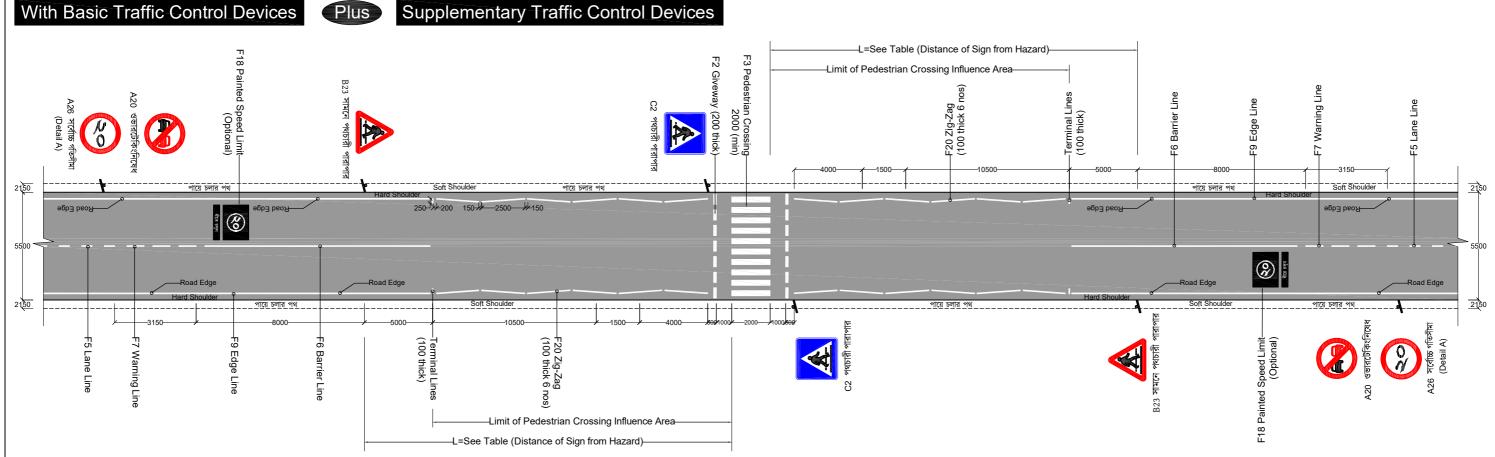
Upazila Road or Road with Design Speed 40 kmph

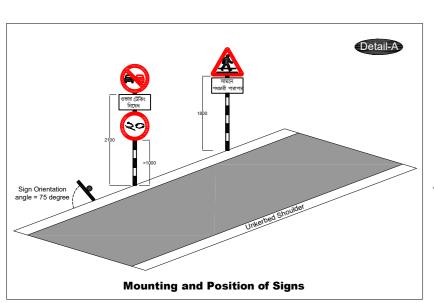
Template No : B2

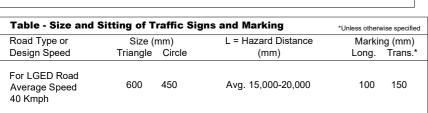
Revision: 04

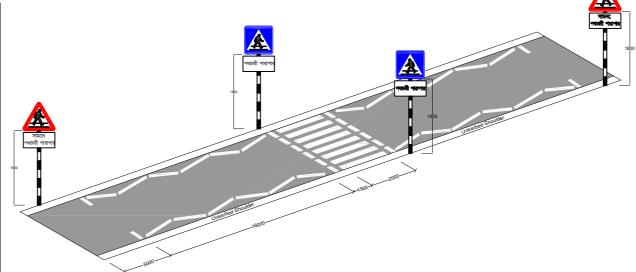
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Supplementary Traffic Control Devices









Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface

Date: August, 2023

- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole.

LEGEND	
Note: Details of Design and dimensions of traffic signs and	ł
road marking are given in Traffic Signs manual of BRTA	

- No Overtaking
- Special Speed Limit B23 Pedestrian Crossing
- B31 Road Hump
- Location of Pedestrian
- Give Way Line Pedestrian Crossing
- F5 Lane Line
- Barrier Line
- Warning Line Edge of Carriageway
- Special Speed Limit

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023 Revision: 04 Template No: B3

Upazila Road or Road with Design Speed 40 kmph

Safety Measures for:

With Basic Traffic Control Devices

Plus

Supplementary Traffic Control Devices

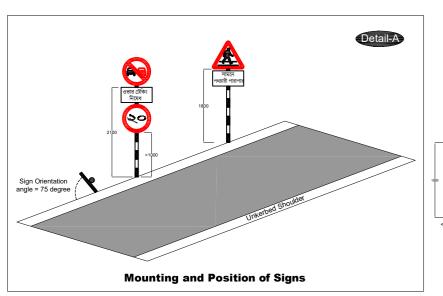
Plus

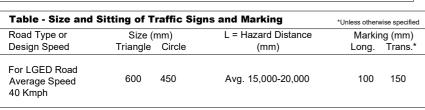
Speed Reducing Rumble Device

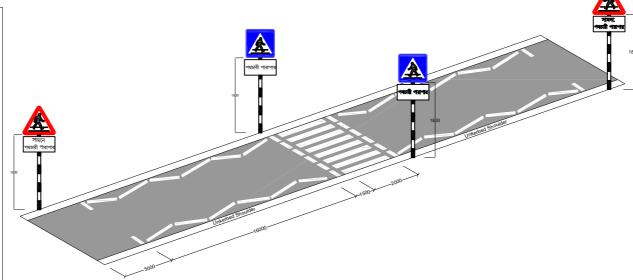
Very High Accident Record

1-5ee Table (Delance of Sign from Hazard)

1-5ee Tabl







Rumble Strips and Jiggle Bars Details (Source: TRRL Guide for Planners and Engineers) X Iso Jiggle Bars X-X Section of Profile Marking Layout of Profile Marking Note: Not to Scale; Dimensions are in mm

of	es:
١.	Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) u
	otherwise specified.

- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

LEGEND

- A20 No Overtaking A26 Special Speed I
- A26 Special Speed Limit B23 Pedestrian Crossing
- 31 Road Hump 2 Location of Pedestrian
- p F6 Ba f Pedestrian F7 W F9 Fd
- F2 Give Way Line F3 Pedestrian Crossing F5 Lane Line
 - 6 Barrier Line 7 Warning Line
 - F9 Edge of Carriageway
 F18 Special Speed Limit

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

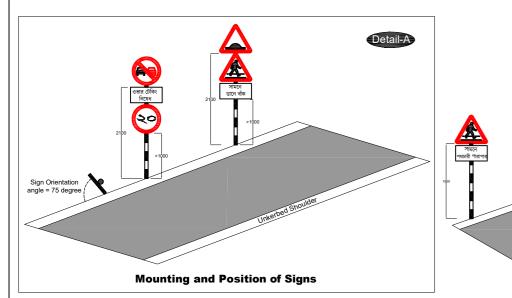
Date: August, 2023 Revision : 04 Template No : B4

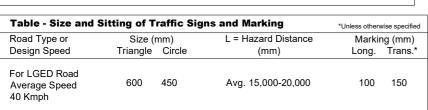
Upazila Road or Road with
Design Speed 40 kmph

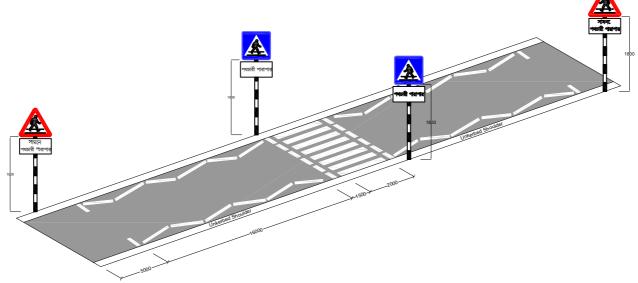
Safety Measures for:

With Basic Traffic Control Devices

Plus Supplementary Traffic Con







Design and of bump Sag curve 12mm overlay transition Excavated existing asphalt layer to a depth of 30mm Detail of Fillate

Notes: 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified

- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type.
- Two signs can be mounted on the same sign pole.

LEGEND Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

- No Overtaking
 Special Speed Limit
- B23 Pedestrian Crossing
- B31 Road Hump
 C2 Location of Pedestrian
- F2 Give Way Line
 F3 Pedestrian Crossing
 F5 Lane Line
- F6 Barrier Line rian F7 Warning Line
 - F7 Warning Line F9 Edge of Carriageway
 - F18 Special Speed Limit

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Upazila Road or Road with Design Speed 40 kmph

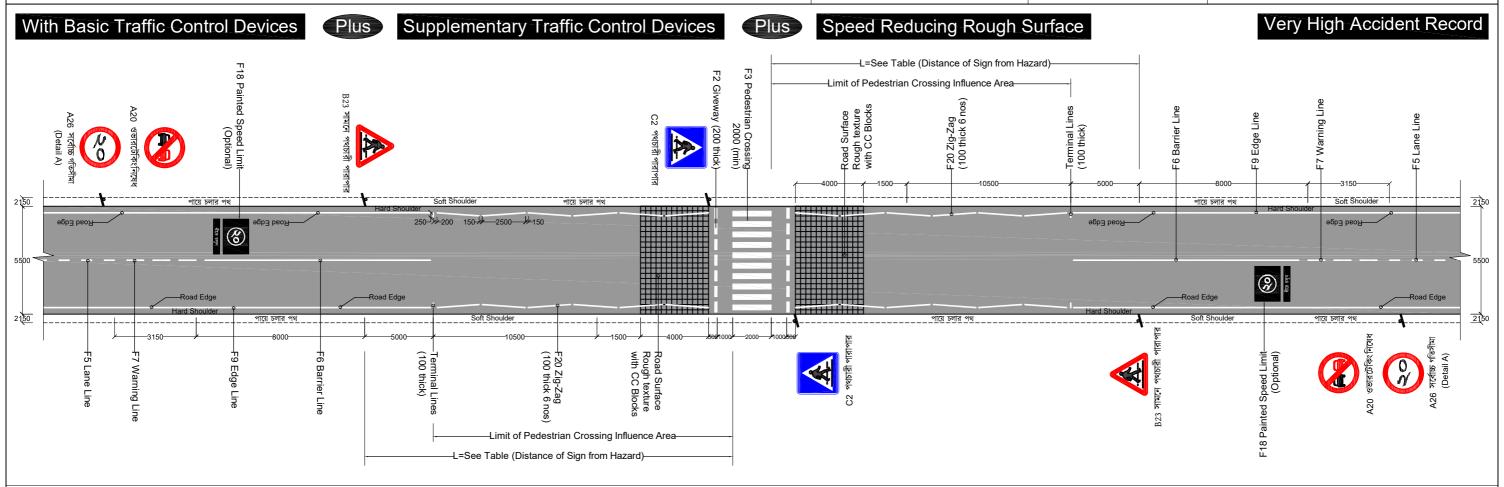
Safety Measures for:

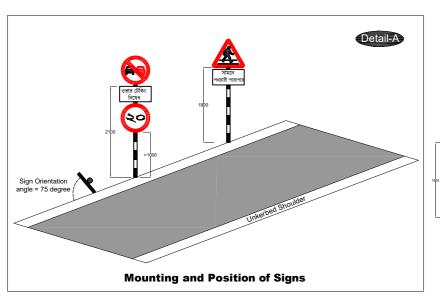
Template No: B5

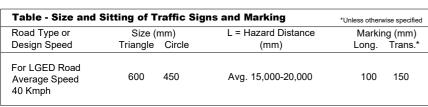
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

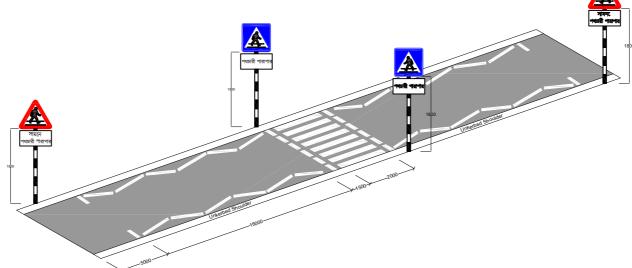
Date: August, 2023

Revision: 04









Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole.

LEGEND	
Note: Details of Design and dimensions of traffic signs and	
road marking are given in Traffic Signs manual of BRTA	

- No Overtaking
- Special Speed Limit B23 Pedestrian Crossing
- B31 Road Hump
- Location of Pedestrian
- Give Way Line Pedestrian Crossing F5 Lane Line
- Barrier Line Warning Line
- Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures for Standard Pedestrian Crossing

Safety Measures for:

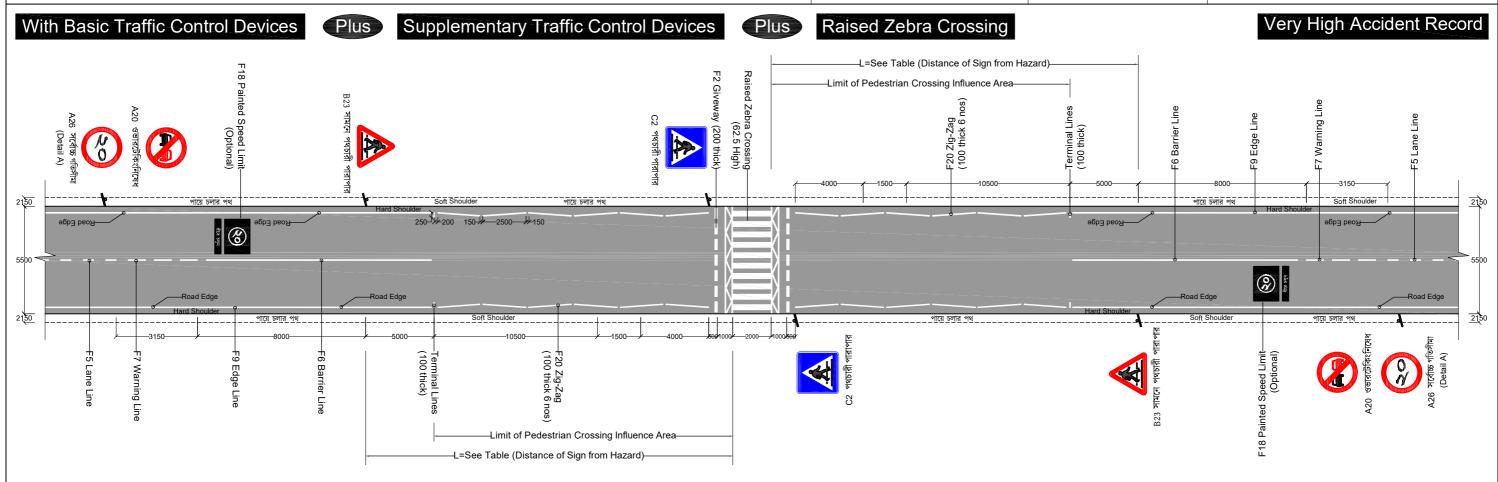
Upazila Road or Road with Design Speed 40 kmph

Template No: B6

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision: 04



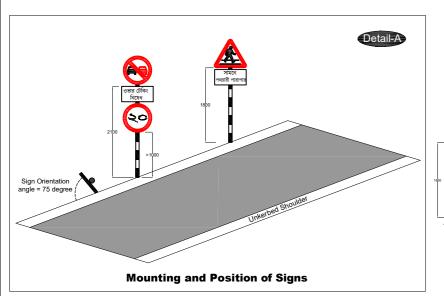


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified							
Road Type or	L = Hazard Distance	Markir	ng (mm)				
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150		

Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole.

LEGEND	
Note: Details of Design and dimensions of traffic signs and	ł
road marking are given in Traffic Signs manual of BRTA	

- No Overtaking
- Special Speed Limit
- B23 Pedestrian Crossing
- B31 Road Hump
- Location of Pedestrian
- Give Way Line Pedestrian Crossing Lane Line
- Barrier Line
- Warning Line
- Edge of Carriageway
- Special Speed Limit

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

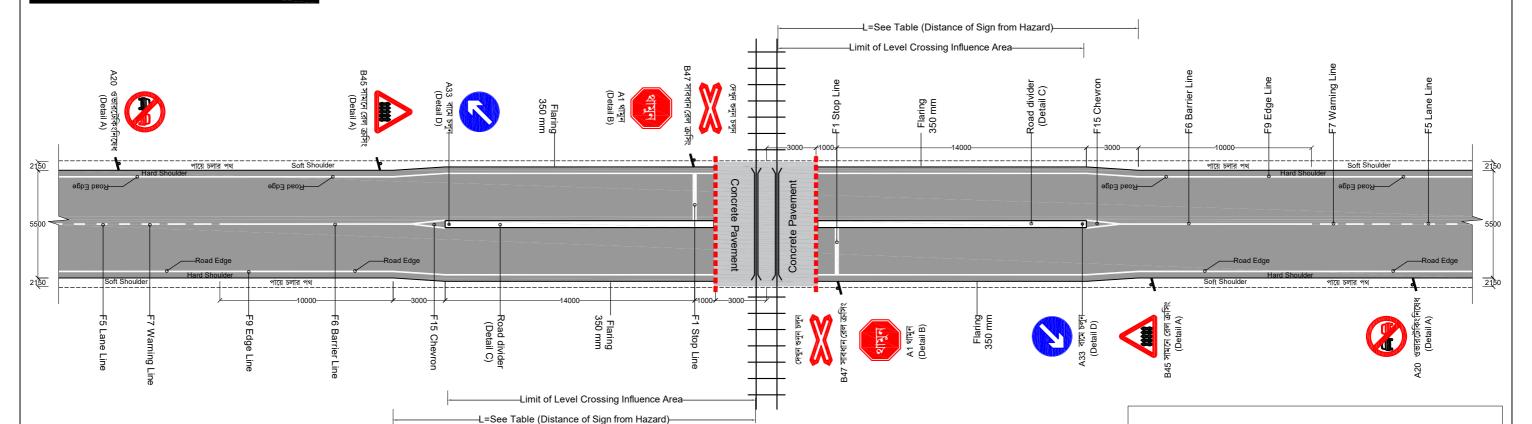
Upazila Road or Road with Design Speed 40 kmph

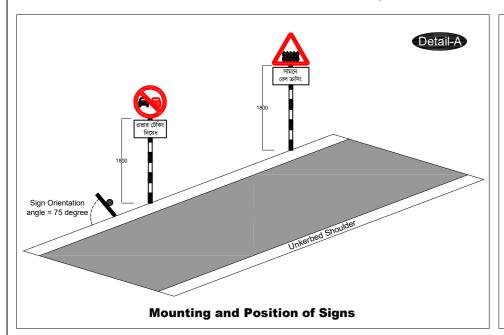
Template No: C1

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

With Basic Traffic Control Devices





L = Hazard Distance

Avg. 15,000-20,000

Marking (mm)

Long. Trans.*

100

Table - Size and Sitting of Traffic Signs and Marking

Size (mm)

Triangle Circle

450

600

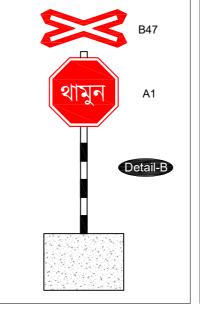
Road Type or

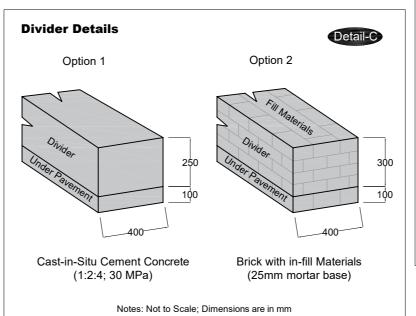
Design Speed

For LGED Road

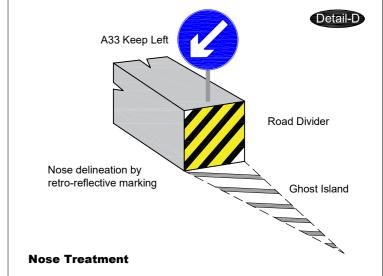
Average Speed

40 Kmph





Date: August, 2023



- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly. 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

	Note: Details of Design and	dimensions	of traffic	signs a	anc
	road marking are given in	Traffic Signs	manual	of BRT	Α
Δ1	Stop and Give Way	F1	Ston Li	ne	

LEGEND

- Give Way
- A20 No Overtaking
- Special Speed Limit
- Keep Left
- Road Hump
- Railway Crossing with Gate B47 Location of Railway Crossing
- Lane Line Barrier Line Warning Line Edge of Carriageway Special Speed Limit
- Railway Crossing without Gate

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: C2

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

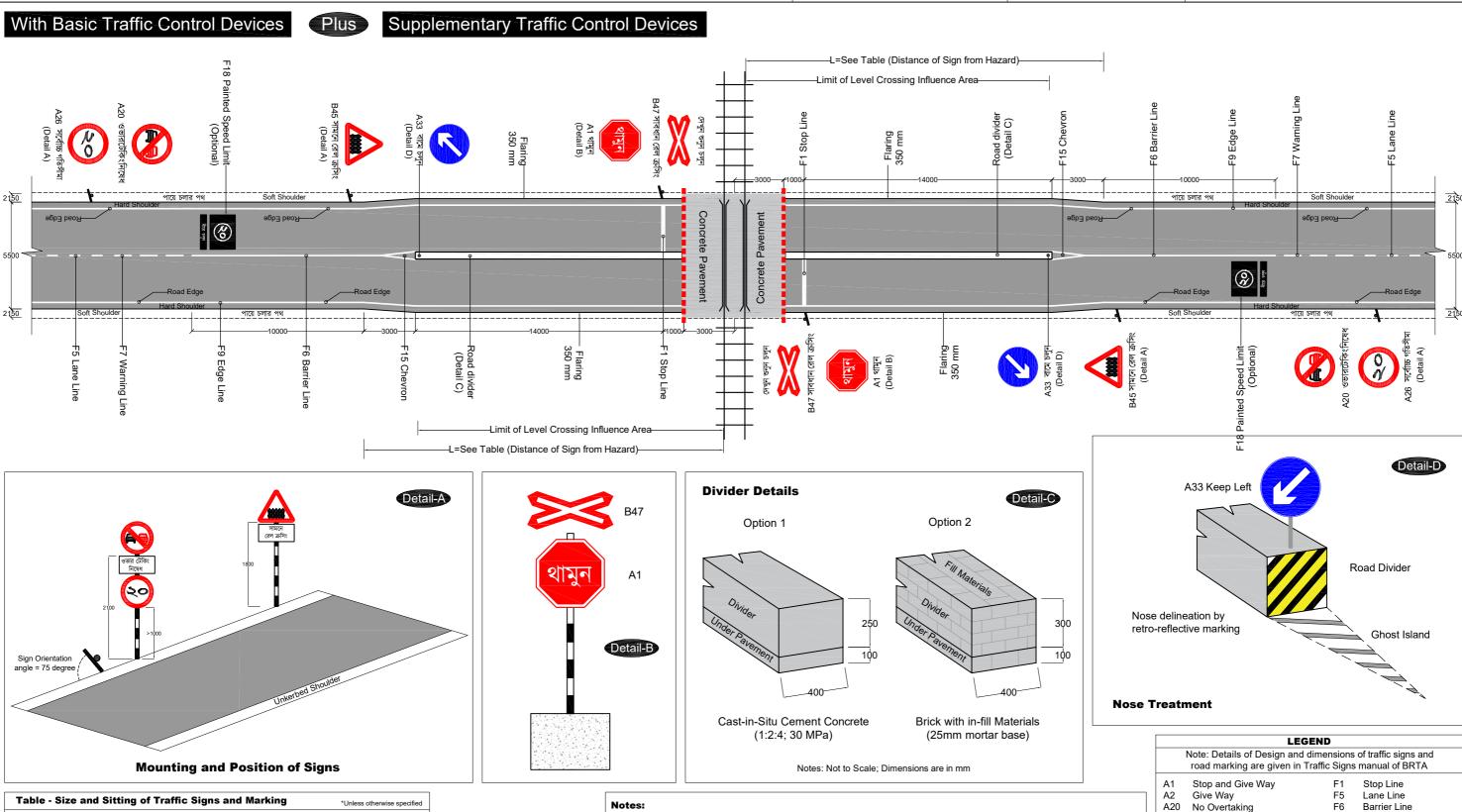


Table - Size and	Table - Size and Sitting of Traffic Signs and Marking				
Road Type or	Road Type or Size (mm)		L = Hazard Distance	Marking (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly. 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

- A20 No Overtaking
- Special Speed Limit
- Keep Left
- Road Hump
- Railway Crossing without Gate Railway Crossing with Gate B47 Location of Railway Crossing
- Warning Line Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: C3

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Very High Accident Record With Basic Traffic Control Devices Speed Reducing Rumble Device Plus -L=See Table (Distance of Sign from Hazard) Limit of Level Crossing Influence Area-Limit of Level Crossing Influence Area -L=See Table (Distance of Sign from Hazard)-Detail-C Road Divider Nose delineation by retro-reflective marking **Rumble Strips and Jiggle Bars Details Ghost Island** (Source: TRRL Guide for Planners and Engineers) Sign Orientation angle = 75 degree a

Mounting	and Position	of Signs

Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified					
Road Type or	L = Hazard Distance	Marking (mm)			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

X-X Section of Profile Marking Layout of Profile Marking Note: Not to Scale: Dimensions are in mn

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly.
- 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA Stop Line

- Stop and Give Way Give Way
- A2
- A20 No Overtaking

Nose Treatment

- Special Speed Limit
- Keep Left
- Road Hump
 - Railway Crossing with Gate
- B47 Location of Railway Crossing
- Edge of Carriageway Special Speed Limit

Lane Line

Barrier Line

Warning Line

- Railway Crossing without Gate

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

Safety Measures for:

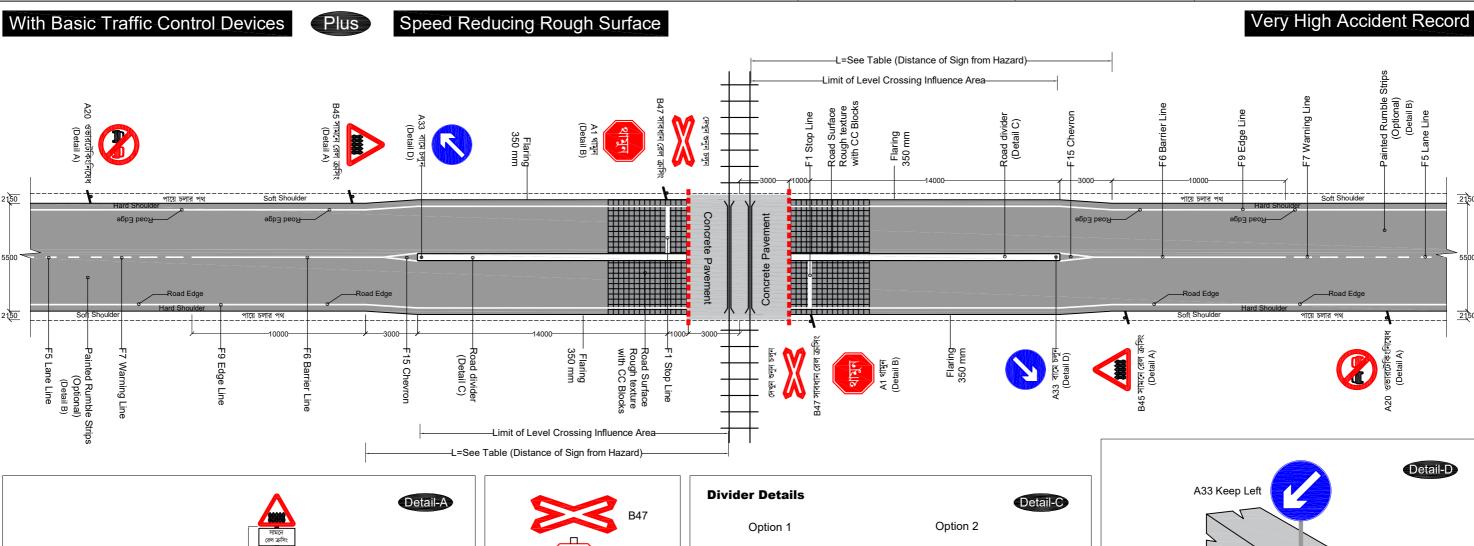
Upazila Road or Road with Design Speed 40 kmph

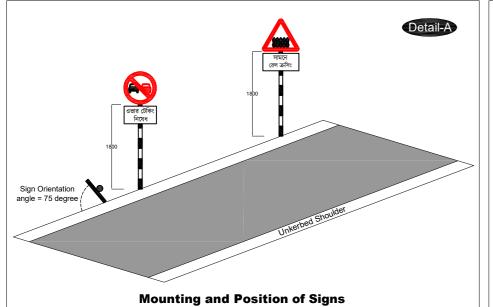
Template No: C4

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023





L = Hazard Distance

Avg. 15,000-20,000

Marking (mm)

Long. Trans.*

100

Table - Size and Sitting of Traffic Signs and Marking

Size (mm)

Triangle Circle

450

600

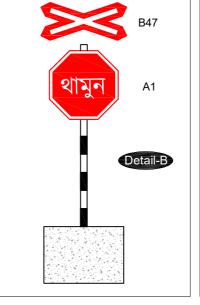
Road Type or

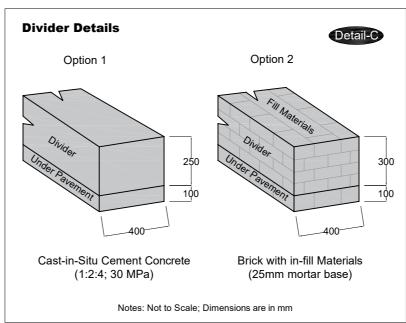
Design Speed

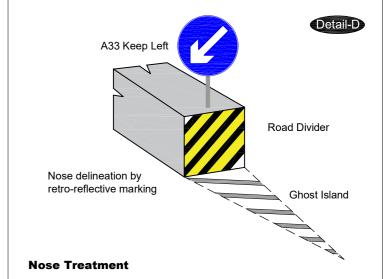
For LGED Road

Average Speed

40 Kmph







- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly.
- 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

	Note: Details of Design and	dimensions	of traffic signs ar
	road marking are given in	Traffic Signs	manual of BRTA
A1	Stop and Give Way	F1	Stop Line
A2	Give Way	F5	Lane Line

LEGEND

Barrier Line

Warning Line

Edge of Carriageway

Special Speed Limit

41	Stop and Give Way
۹2	Give Way

- No Overtaking
- Special Speed Limit
- Keep Left
- Road Hump
- Railway Crossing without Gate
- Railway Crossing with Gate B47 Location of Railway Crossing

Example of layout plan with road safety measures of Railway Crossing with gate or barrier

For LGED Road

Average Speed

40 Kmph

600 450

Avg. 15,000-20,000

100

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Railway Crossing without Gate

Railway Crossing with Gate

B47 Location of Railway Crossing

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET) Date: August, 2023 Revision: 04 Template No: C5 Very High Accident Record With Basic Traffic Control Devices Speed Reducing Bump Device Plus L=See Table (Distance of Sign from Hazard) Limit of Level Crossing Influence Area-2150 Limit of Level Crossing Influence Area **Divider Details** -L=See Table (Distance of Sign from Hazard)-Option 2 Option 1 Sign Orientation Cast-in-Situ Cement Concrete Brick with in-fill Materials angle = 75 degree a (1:2:4; 30 MPa) (25mm mortar base) Notes: Not to Scale; Dimensions are in mm Note: Details of Design and dimensions of traffic signs and Excavated existing asphalt layer to a depth of 30mm Detail of Fillate **Mounting and Position of Signs** road marking are given in Traffic Signs manual of BRTA Stop and Give Way Stop Line A2 Give Way Lane Line **Table - Size and Sitting of Traffic Signs and Marking** A20 No Overtaking Barrier Line Road Type or L = Hazard Distance Marking (mm) Size (mm) 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified. Special Speed Limit Warning Line Design Speed Triangle Circle Long. Trans.* 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly. Edge of Carriageway Keep Left 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority Road Hump Special Speed Limit

4. Signs and marking should be of retro-reflective type.

5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

Example of layout plan with road safety measures of Railway Crossing without gate or barrier

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: C6

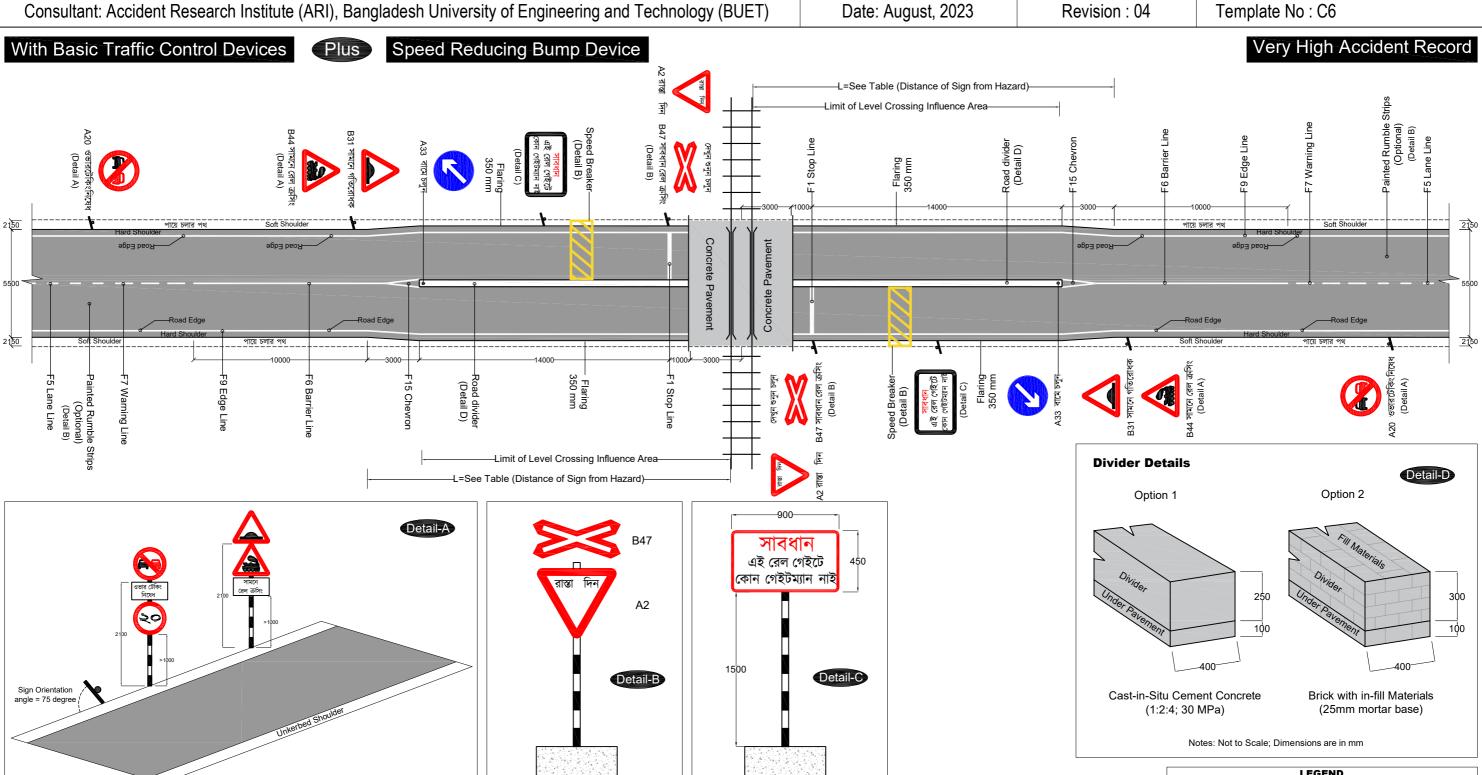


Table - Size and Sitting of Traffic Signs and Marking *Unless o					herwise specified	
Road Type or Design Speed	Size (ı Triangle	,	L = Hazard Distance (mm)	Markir Long.	ng (mm) Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

Mounting and Position of Signs

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Road level should be made to the same level of railway tracks so that NMV/NSV* can pass the rail crossing smoothly. 3. Approval of rail crossing plan, drawings and signs/marking should be taken from the Bangladesh Railway (BR) Authority
- 4. Signs and marking should be of retro-reflective type.
- 5. Two signs can be mounted on the same sign pole.

*NMV: Non-motorised Vehicle; NSV: Non-Standard Vehicle (locally made)

Note: Details of Design and dimensions of traffic signs and

- road marking are given in Traffic Signs manual of BRTA
- Stop and Give Way A2 Give Way
- A20 No Overtaking
- Special Speed Limit
- Keep Left
- Road Hump
 - Railway Crossing without Gate
- Railway Crossing with Gate B47 Location of Railway Crossing
- Stop Line Lane Line
- Barrier Line
- Warning Line Edge of Carriageway
- Special Speed Limit

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: D1

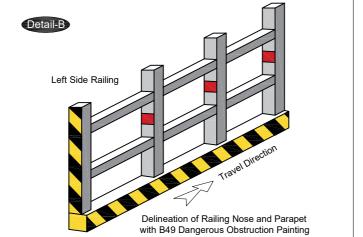
Revision: 04

B56 Delineator Post @2m interval for Abutment Height>1.85m @3m interval for Abutment Height<1.85m

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

With Basic Traffic Control Devices L=See Table (Distance of Sign from Hazard) Limit of Bridge Influence Area B56 Delineator Post 2150 2150

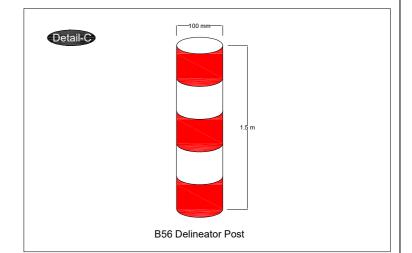




Limit of Bridge Influence Area

-L=See Table (Distance of Sign from Hazard)

Table - Size and	Sitting of T	raffic Sig	ns and Marking	*Unless other	vise specified
Road Type or Size (mm) L = Hazard Distance		Marking (mr			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150



- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert

Date: August, 2023

- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LEGEND
Note: Details of Design and dimensions of traffic signs and
road marking are given in Traffic Signs manual of BRTA

- No Overtaking
- Special Speed Limit
- B31 Road Hump
- Narrow Bridge
- B56 Delineator Post
- Lane Line Barrier Line
- Warning Line
- Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

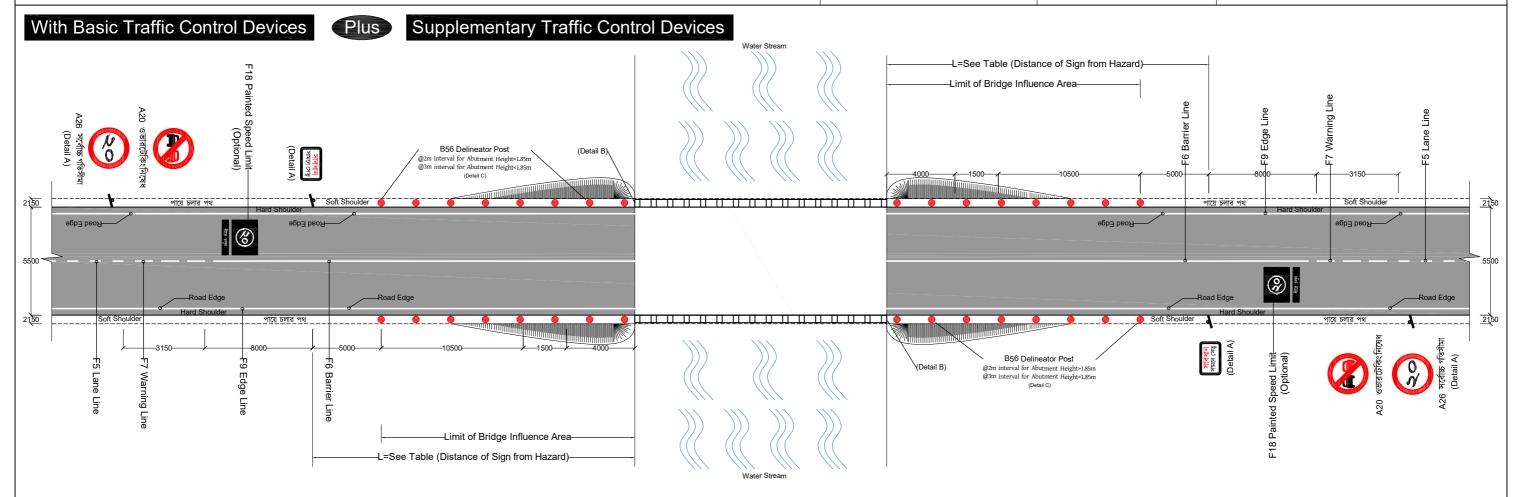
Upazila Road or Road with Design Speed 40 kmph

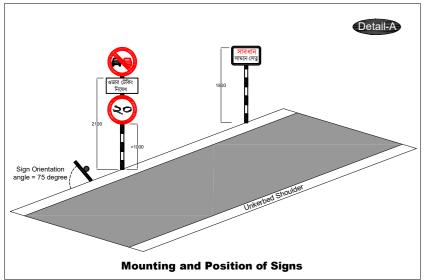
Template No: D2

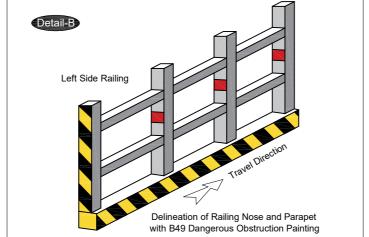
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision: 04







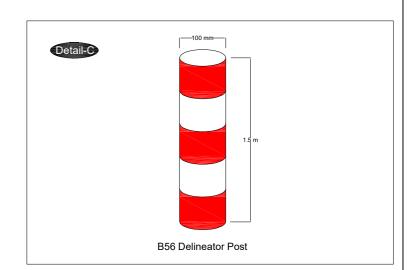


Table - Size and	*Unless otherwise specified				
Road Type or Size (mm) L = Hazard Dista				ance Markir	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LLGLND
Note: Details of Design and dimensions of traffic signs and
road marking are given in Traffic Signs manual of BRTA

4ン()	No Overtaking	

Special Speed Limit

B31 Road Hump Narrow Bridge

Delineator Post

Barrier Line Warning Line Edge of Carriageway

Special Speed Limit

Lane Line

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: D3

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Bridge with High Accident Record With Basic Traffic Control Devices Speed Reducing Bump Device Plus L=See Table (Distance of Sign from Hazard) Limit of Bridge Influence Area B56 Delineator Post 2150 2150 B56 Delineator Post @2m interval for Abutment Height>1.85m @3m interval for Abutment Height<1.85m Limit of Bridge Influence Area L=See Table (Distance of Sign from Hazard)



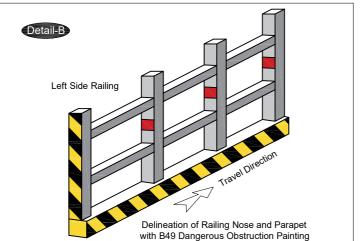
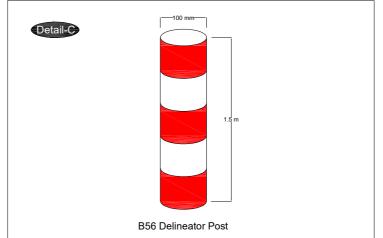
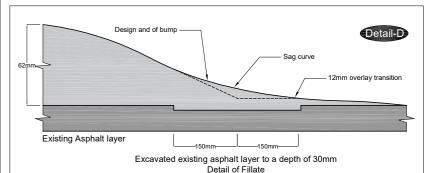


Table - Size and	Oitting Oi i	iaine oigi	ns and marking	*Unless other	vise specified	
Road Type or	Size (mm) L = Hazard [L = Hazard Distance	Markir	king (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	





- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

- No Overtaking
- Special Speed Limit
- B31 Road Hump
- Narrow Bridge
- B56 Delineator Post
- Lane Line Barrier Line
- Warning Line
- Edge of Carriageway
- Special Speed Limit

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

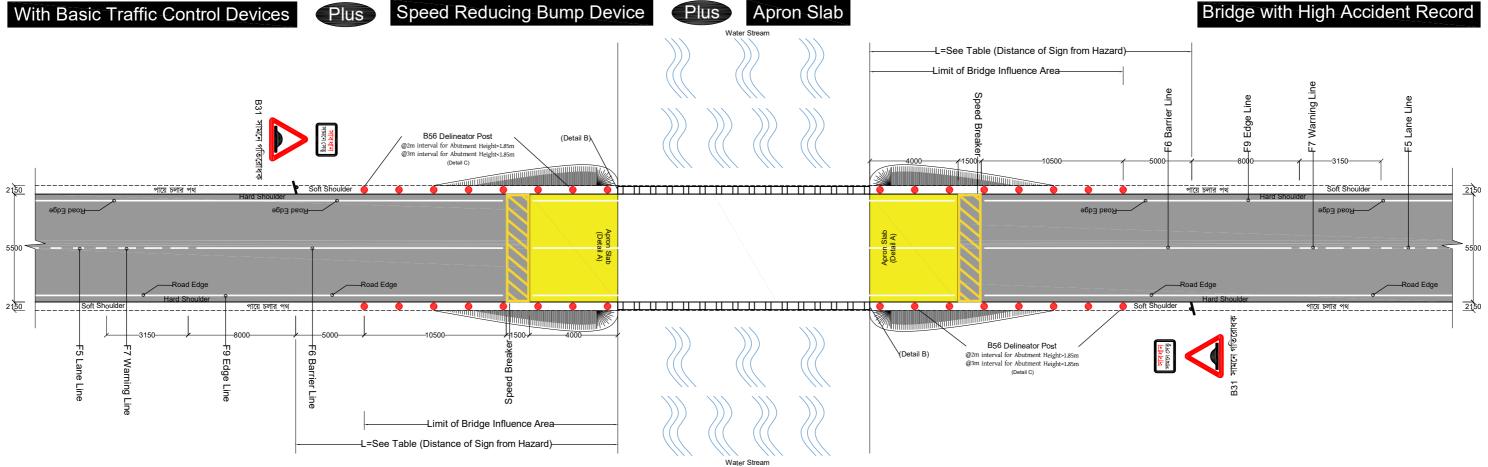
Upazila Road or Road with Design Speed 40 kmph

Template No: D4

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023 Speed Reducing Bump Device Plus Apron Slab



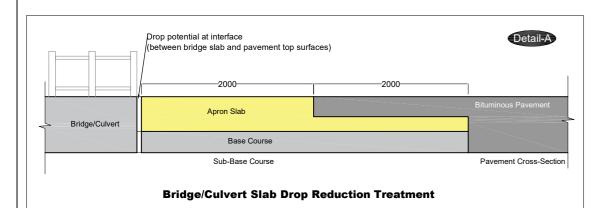
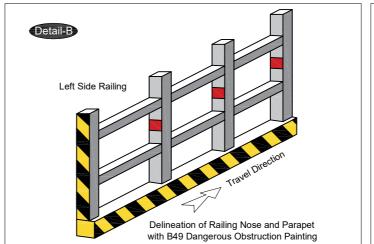
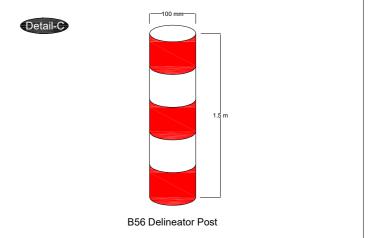


Table - Size and Sitting of Traffic Signs and Marking 'Unless otherwise spe					
Road Type or Design Speed	Size (ı Triangle	,	L = Hazard Distance (mm)	Markir Long.	ng (mm) Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150





Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LEGEND

Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

- No Overtaking
- Special Speed Limit B31 Road Hump
- Narrow Bridge
- B56 Delineator Post
- Lane Line
- Barrier Line
- Warning Line Edge of Carriageway
- Special Speed Limit

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

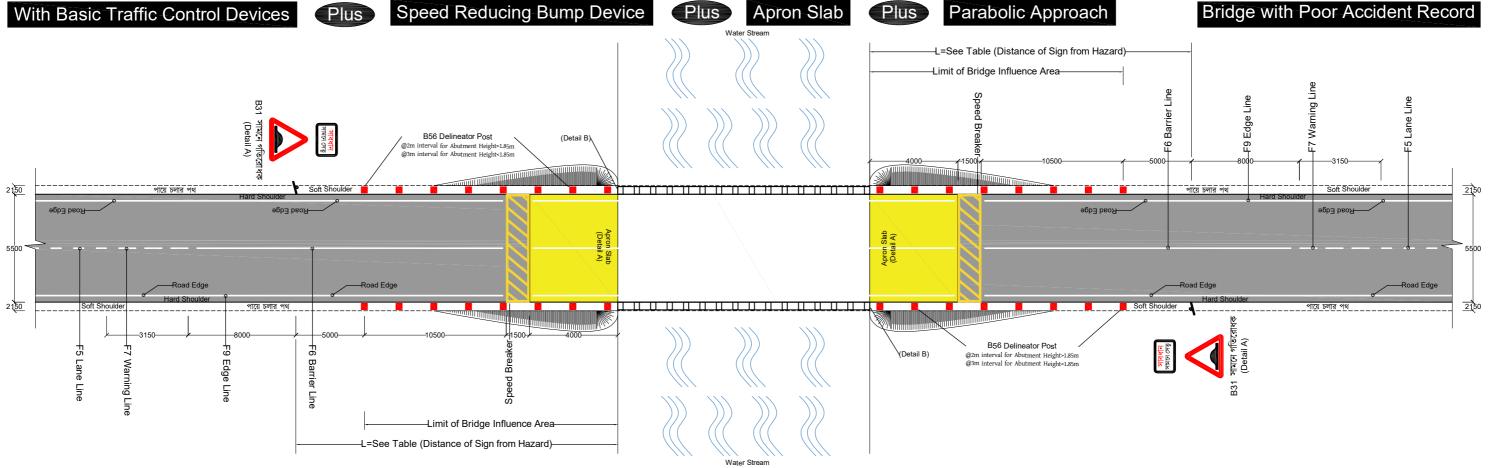
Upazila Road or Road with Design Speed 40 kmph

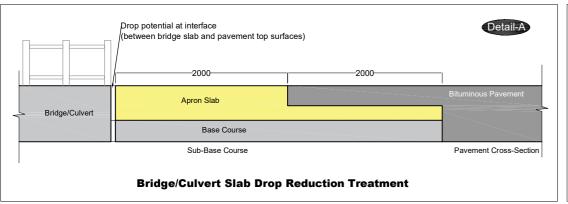
Template No: D5

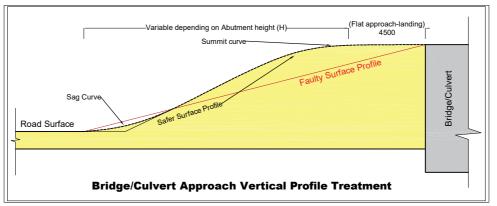
Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023 Speed Reducing Bump Device







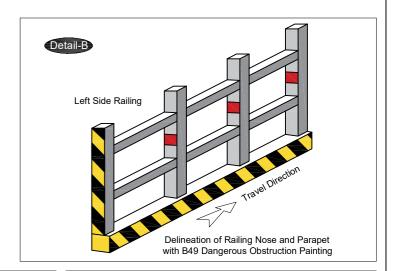


Table - Size and	Sitting of T	raffic Sig	ns and Marking	*Unless other	wise specified
Road Type or	Size (ı	nm)	L = Hazard Distance	Markii	ng (mm)
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

	LEG	SEND		
esign	and	dimensions	of	traffic

Note: Details of De road marking are given in Traffic Signs manual of BRTA

- No Overtaking
- Special Speed Limit
- B31 Road Hump
- Narrow Bridge
- B56 Delineator Post
- Lane Line Barrier Line
- Warning Line
- Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

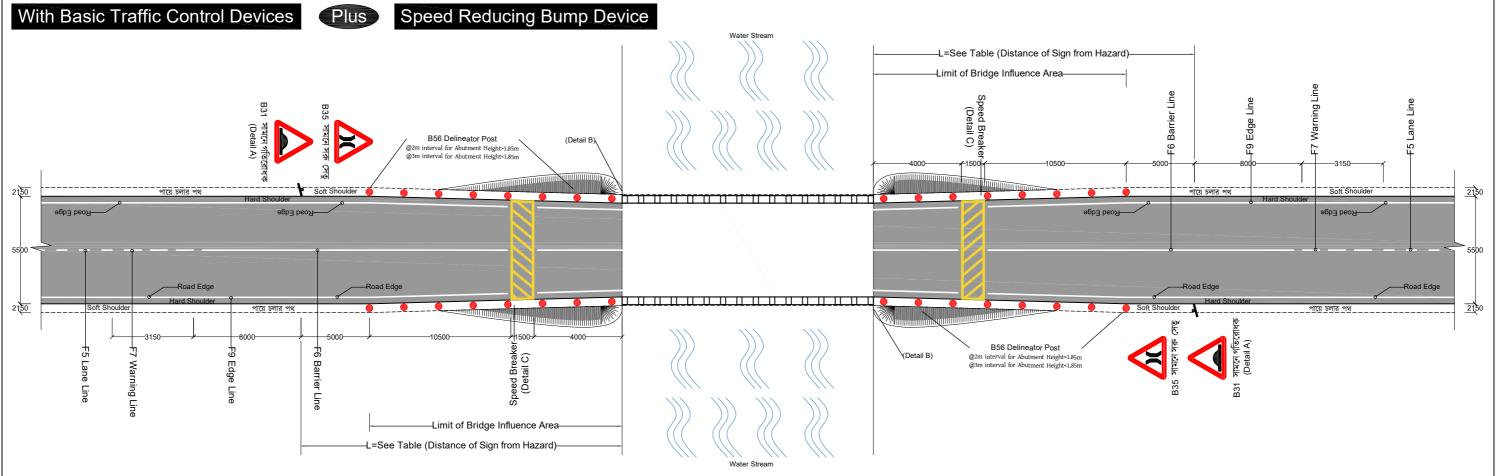
Upazila Road or Road with Design Speed 40 kmph

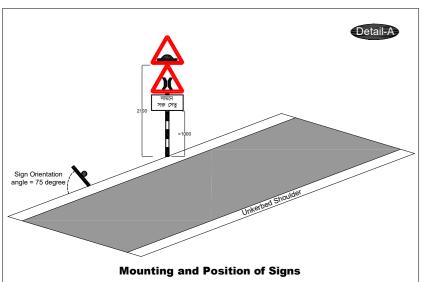
Template No: D6

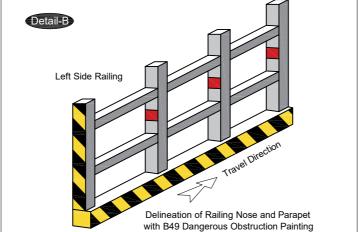
Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023







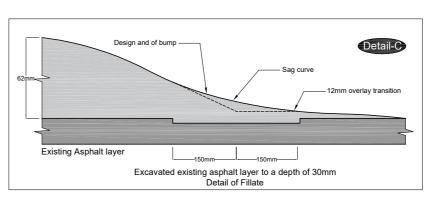


Table - Size and	*Unless otherwise specified					
Road Type or	()		L = Hazard Distance	Marking (mm		
Design Speed			(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

	LEGEND	
ls of Design	and dimensions	of traffic signs ar

Note: Details road marking are given in Traffic Signs manual of BRTA

- No Overtaking
- Special Speed Limit
- B31 Road Hump
- Narrow Bridge B56
 - Delineator Post
- Barrier Line Warning Line
- Edge of Carriageway Special Speed Limit

Lane Line

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

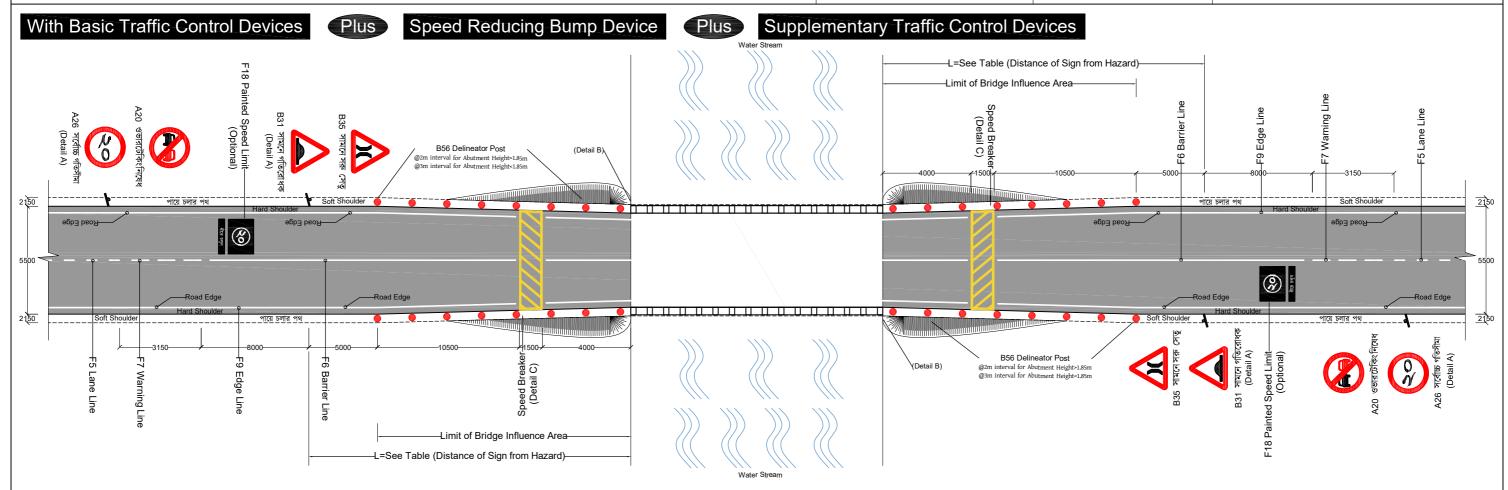
Upazila Road or Road with Design Speed 40 kmph

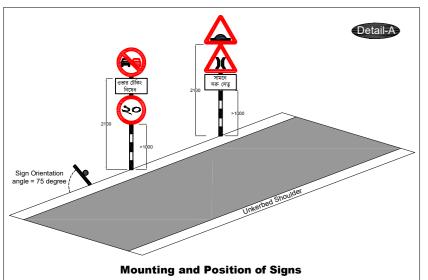
Template No: D7

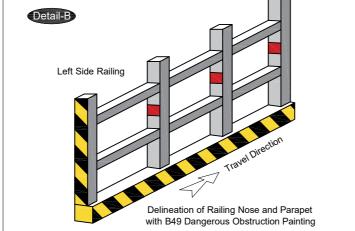
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision: 04







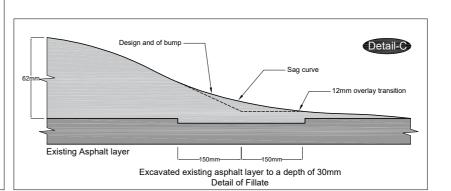


Table - Size and S	*Unless otherwise specified						
Road Type or	Size (mm)		L = Hazard Distance	Marking (mm)			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed	600	450	Avg. 15,000-20,000	100	150		

40 Kmph

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LLGLND							
Note: Details of Design and dimensions of traffic signs and							
road marking are given in Traffic Signs manual of BRTA							

LECEND

- No Overtaking Lane Line Barrier Line
- B31
 - Special Speed Limit
 - Road Hump
- Narrow Bridge
- B56 Delineator Post
- Warning Line Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures for Narrow Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: D8

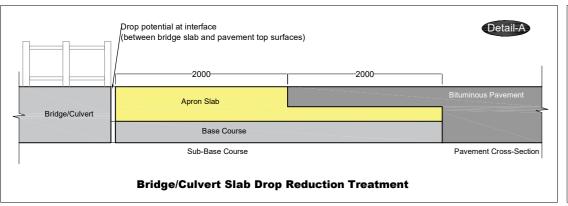
Revision: 04

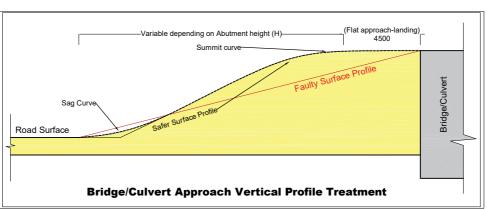
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Limit of Bridge Influence Area

L=See Table (Distance of Sign from Hazard)

With Basic Traffic Control Devices Speed Reducing Bump Device Apron Slab Parabolic Approach L=See Table (Distance of Sign from Hazard) Limit of Bridge Influence Area B56 Delineator Post 2150 2150 B56 Delineator Post





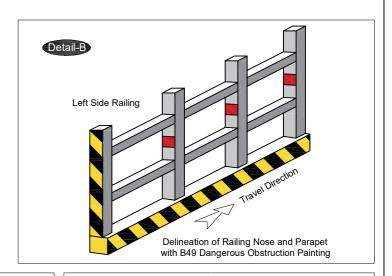


Table - Size and	*Unless otherwise specified						
Road Type or	Size (ı	nm)	L = Hazard Distance	Marking (mm)			
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed	600	450	Avg. 15,000-20,000	100	150		

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. Bridge approaches MUST be connected by parabolic profile.
- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert

Date: August, 2023

- 4. At the bridge approaches drainage should be provided by using gutter.
- 5. Signs and marking should be of retro-reflective type.
- 6. Two signs can be mounted on the same sign pole.

LEGEND										
tails	of Design	and	dimensions	of traffic	sign					

Barrier Line

	road marking are given	in Traffic Signs	manual of BRTA	
A20	No Overtaking	F5	Lane Line	

- Special Speed Limit Road Hump
 - Warning Line Narrow Bridge Edge of Carriageway Delineator Post Special Speed Limit

Example of layout plan with road safety measures for Bridge/Culvert Approaches

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

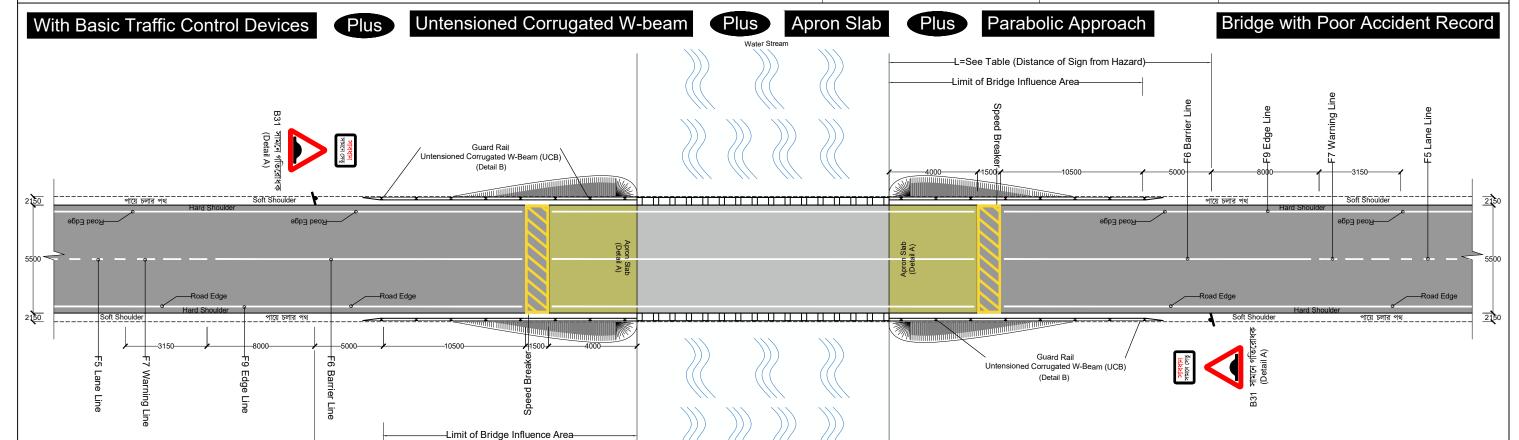
Template No: D9

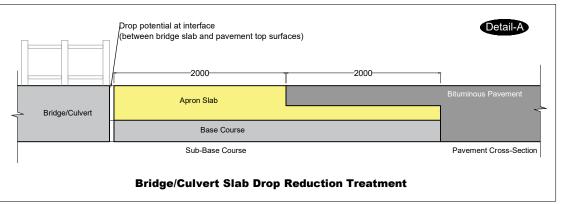
Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

L=See Table (Distance of Sign from Hazard)

Date: August, 2023





L = Hazard Distance

Avg. 15,000-20,000

Marking (mm)

Long. Trans.*

100

Table - Size and Sitting of Traffic Signs and Marking

Size (mm)

Triangle Circle

450

600

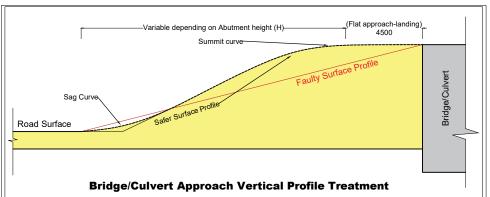
Road Type or

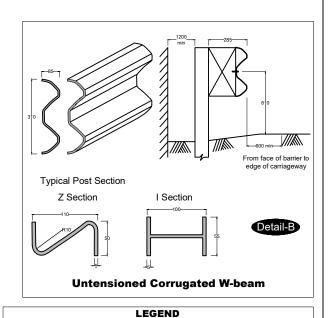
Design Speed

For LGED Road

Average Speed

40 Kmph





- 5. Signs and marking should be of retro-reflective type.

N	-4	-
N	otes	

1.	Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unles
	otherwise specified

Bridge app	roache	s	MUST	be	con	nect	ted	by	parabo	lic	profi	le.	

- 3. Whenever is possible, sidewalk should be provided on both side of the bridge/culvert
- 4. At the bridge approaches drainage should be provided by using gutter.

3.	Two signs	can be	mounted	on the same	e sian pole.
٠.	i wo oigilio	oun bo	mountou	on the cann	oign poic.

oad marking are given in	Traffic Signs manual of	1
No Overtaking	F5 Lanelin	16

Note: Details of Design and dimensions of traffic signs and

420	No Overtaking
Δ26	Special Speed I

Barrier Line Road Hump

Narrow Bridge Delineator Post

Warning Line Edge of Carriageway Special Speed Limit

Example of layout plan with road safety measures for Typical Bus Stoppage

Upazila Road or Road with Design Speed 40 kmph

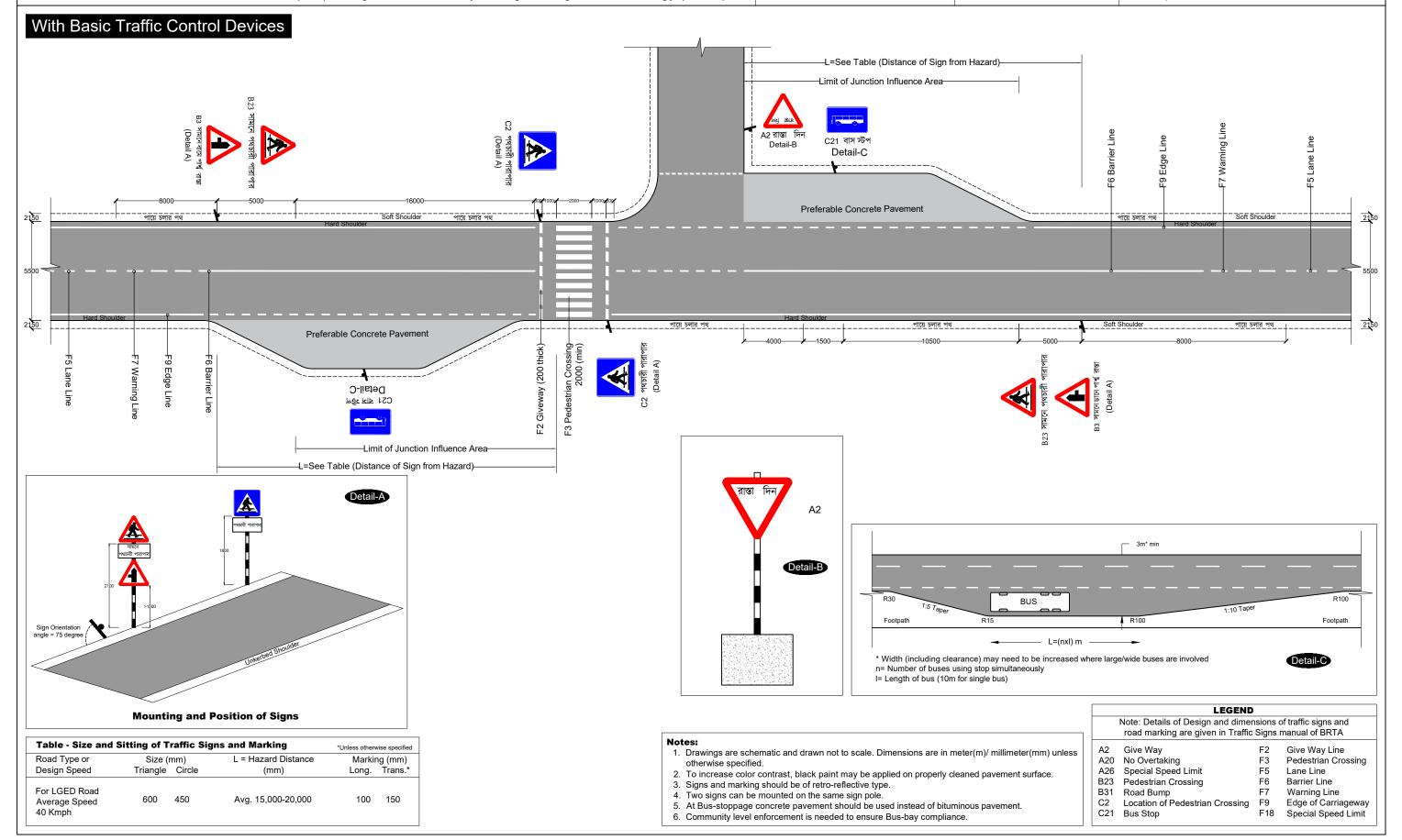
Safety Measures for:

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No : E1



Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

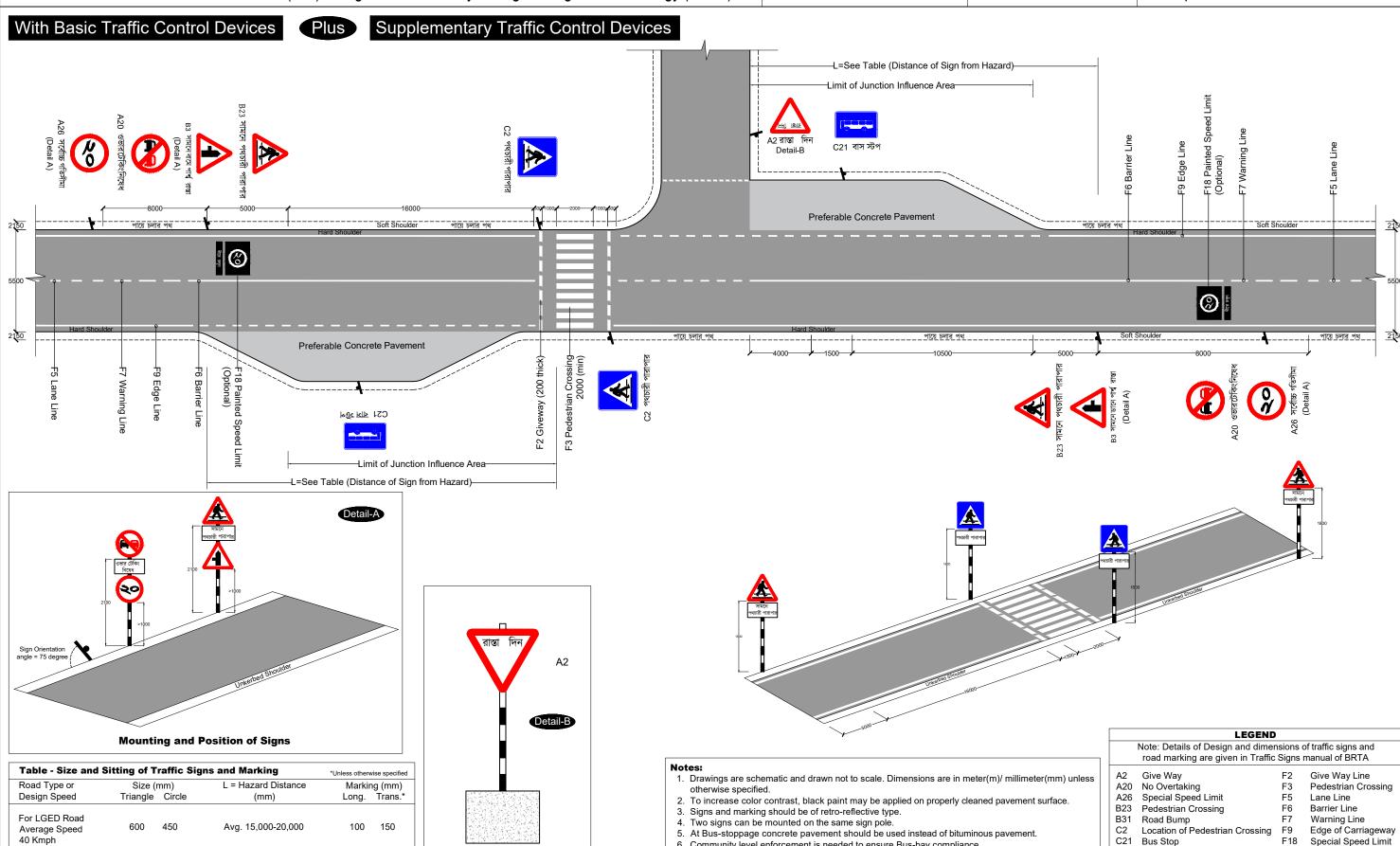
Template No : E2

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

6. Community level enforcement is needed to ensure Bus-bay compliance.

Revision: 04

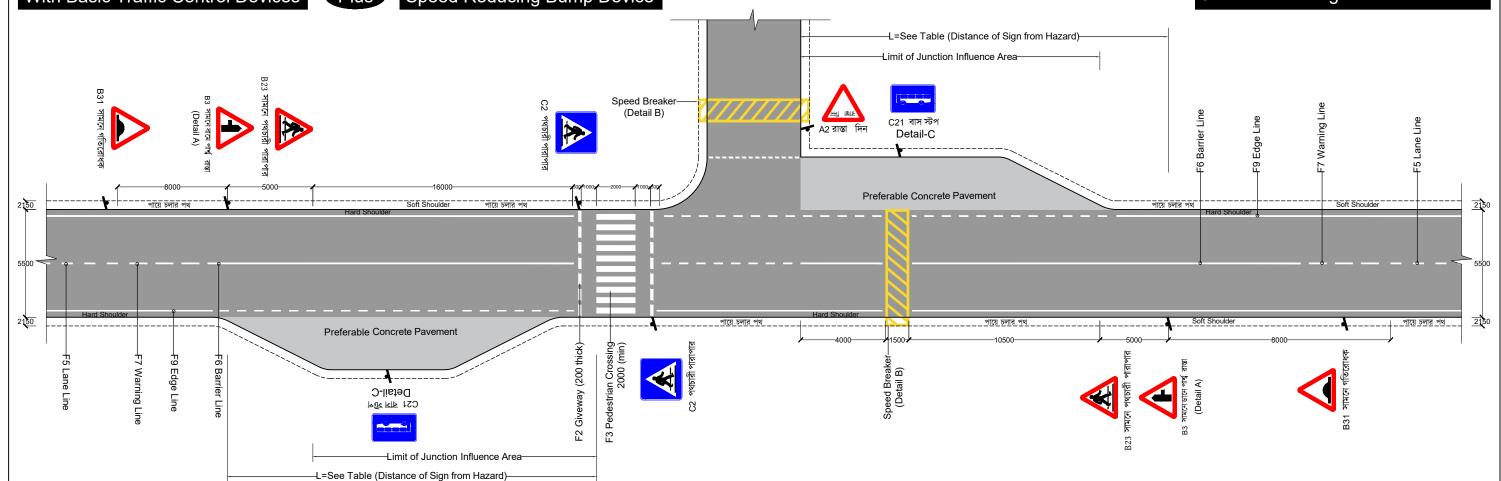


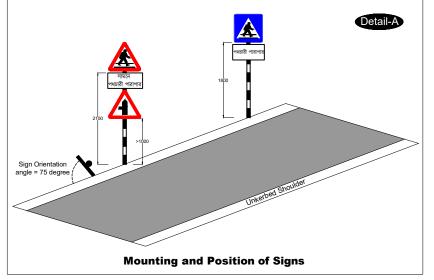
Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET) Template No: E3 Date: December 2022 Revision: 04 Junction with High Accident Record With Basic Traffic Control Devices Speed Reducing Bump Device Plus L=See Table (Distance of Sign from Hazard)-Limit of Junction Influence Area





L = Hazard Distance

Avg. 15,000-20,000

Table - Size and Sitting of Traffic Signs and Marking

Size (mm)

Triangle Circle

450

600

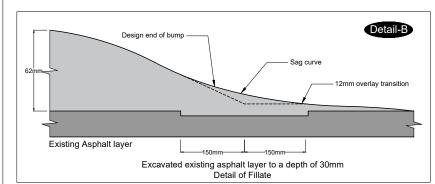
Road Type or

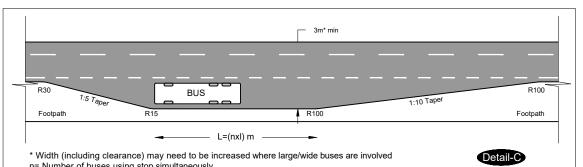
Design Speed

For LGED Road

Average Speed

40 Kmph





n= Number of buses using stop simultaneously

I= Length of bus (10m for single bus)

Marking (mm)

Long. Trans.*

100

- Notes: 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type. 4. Two signs can be mounted on the same sign pole.
- 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- 6. Community level enforcement is needed to ensure Bus-bay compliance.

Note: Details of Design and dimensions of traffic signs and				
road marking are given in Traffic Signs manual of BRTA				
A2	Give Way	F2	Give Way Line	
A20	No Overtaking	F3	Pedestrian Crossing	
A26	Special Speed Limit	F5	Lane Line	
B23	Pedestrian Crossing	F6	Barrier Line	
B31	Road Bump	F7	Warning Line	
C2	Location of Pedestrian Crossing	F9	Edge of Carriageway	
C21	Bus Stop	F18	Special Speed Limit	

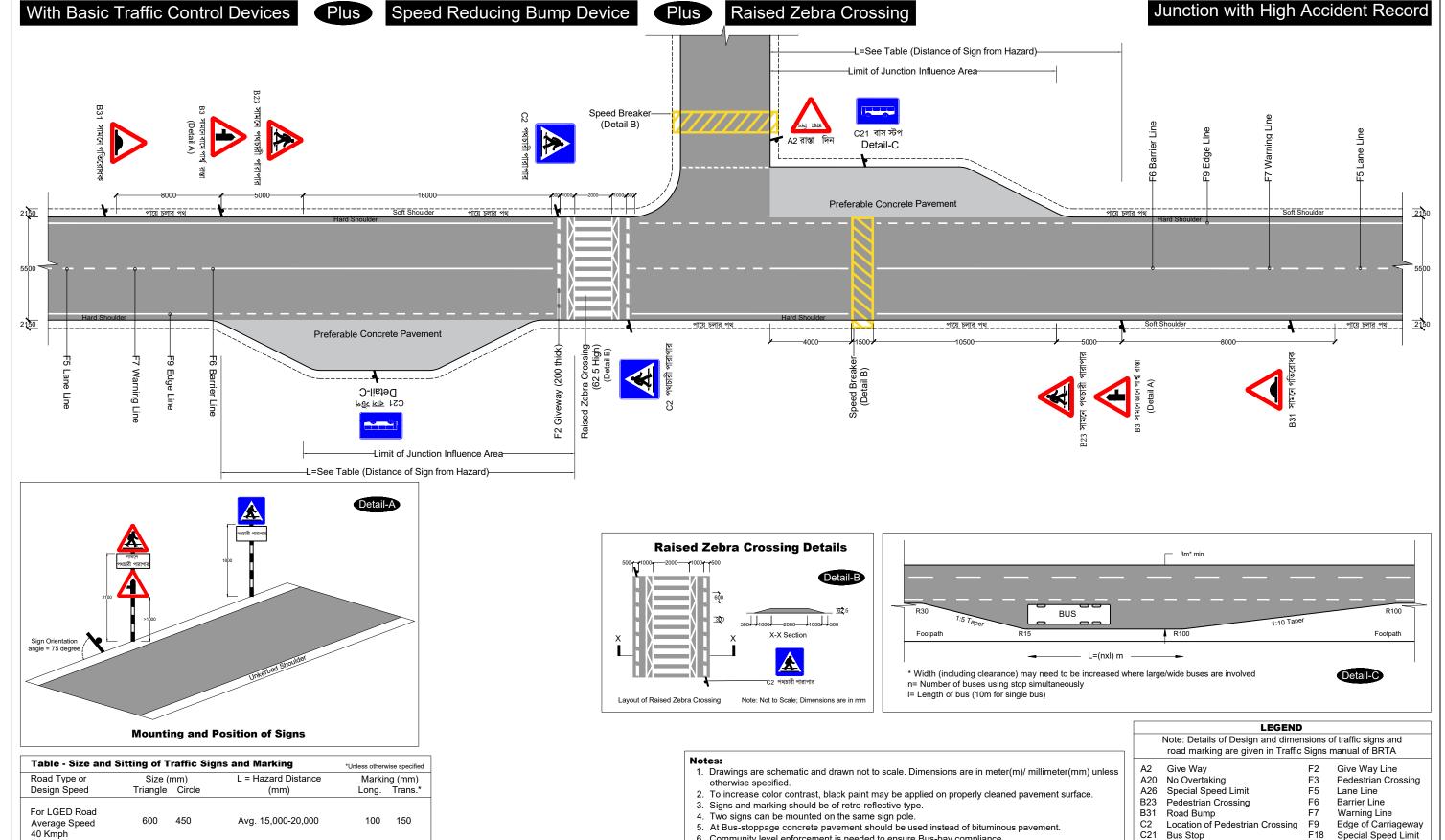
LEGEND

Example of layout plan with road safety measures for Typical Bus Stoppage

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET) Template No: E4 Date: December 2022 Revision: 04 Junction with High Accident Record With Basic Traffic Control Devices Speed Reducing Bump Device Plus Raised Zebra Crossing



6. Community level enforcement is needed to ensure Bus-bay compliance.

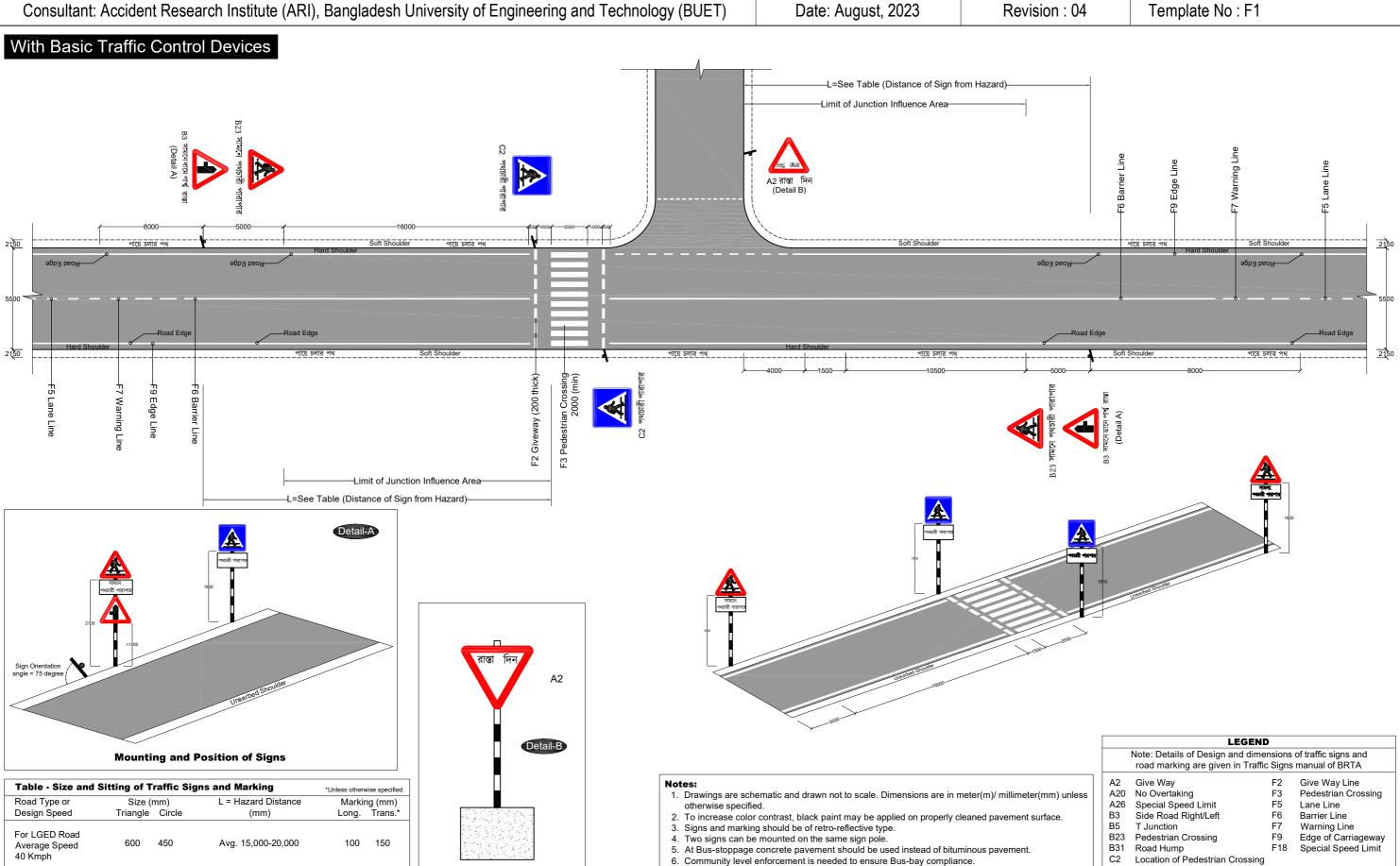
Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: F1

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)



Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

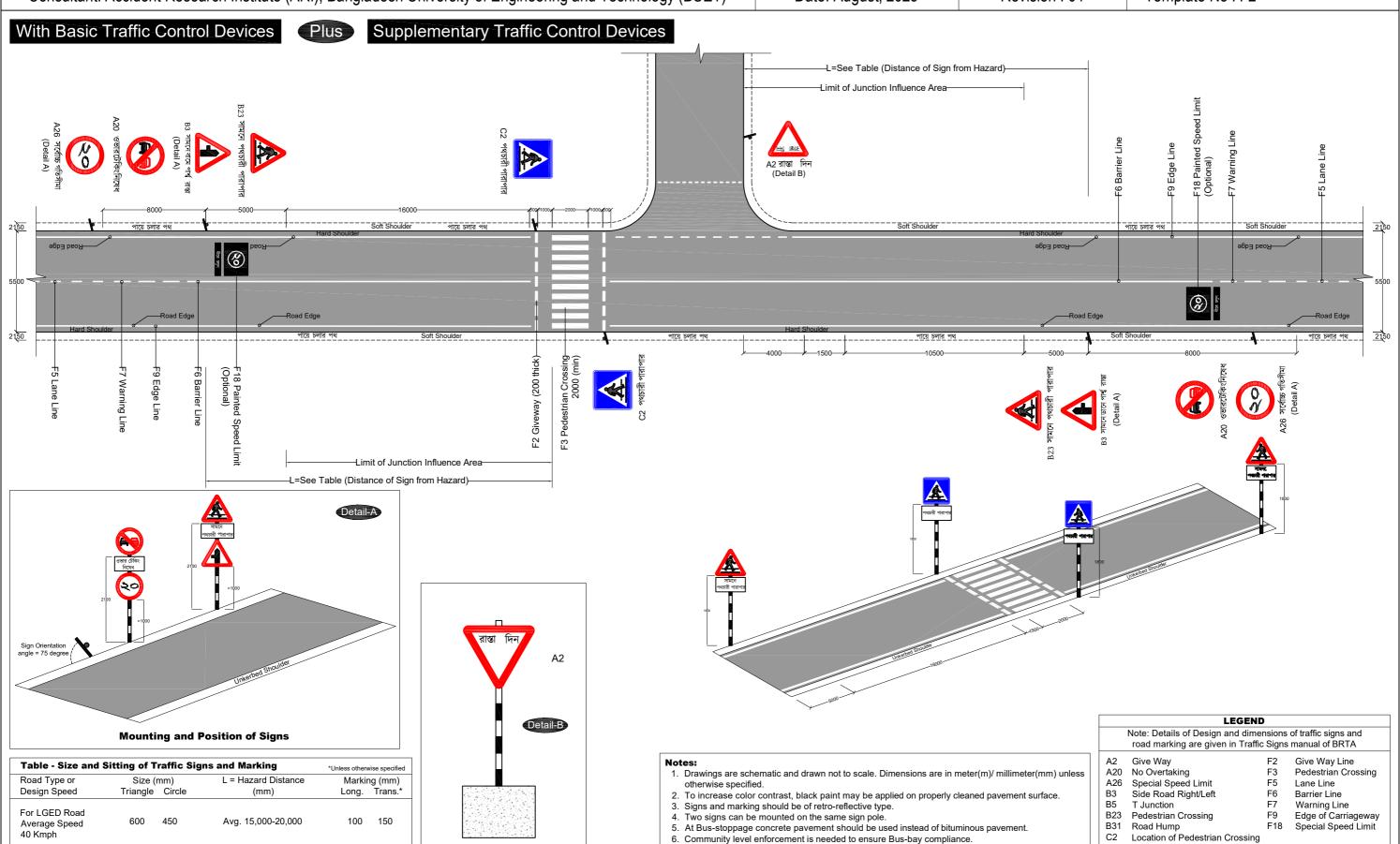
Upazila Road or Road with Design Speed 40 kmph

Template No: F2

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: August, 2023

Revision: 04



Example of layout plan with road safety measures for Typical T-Junction

Safety Measures for:

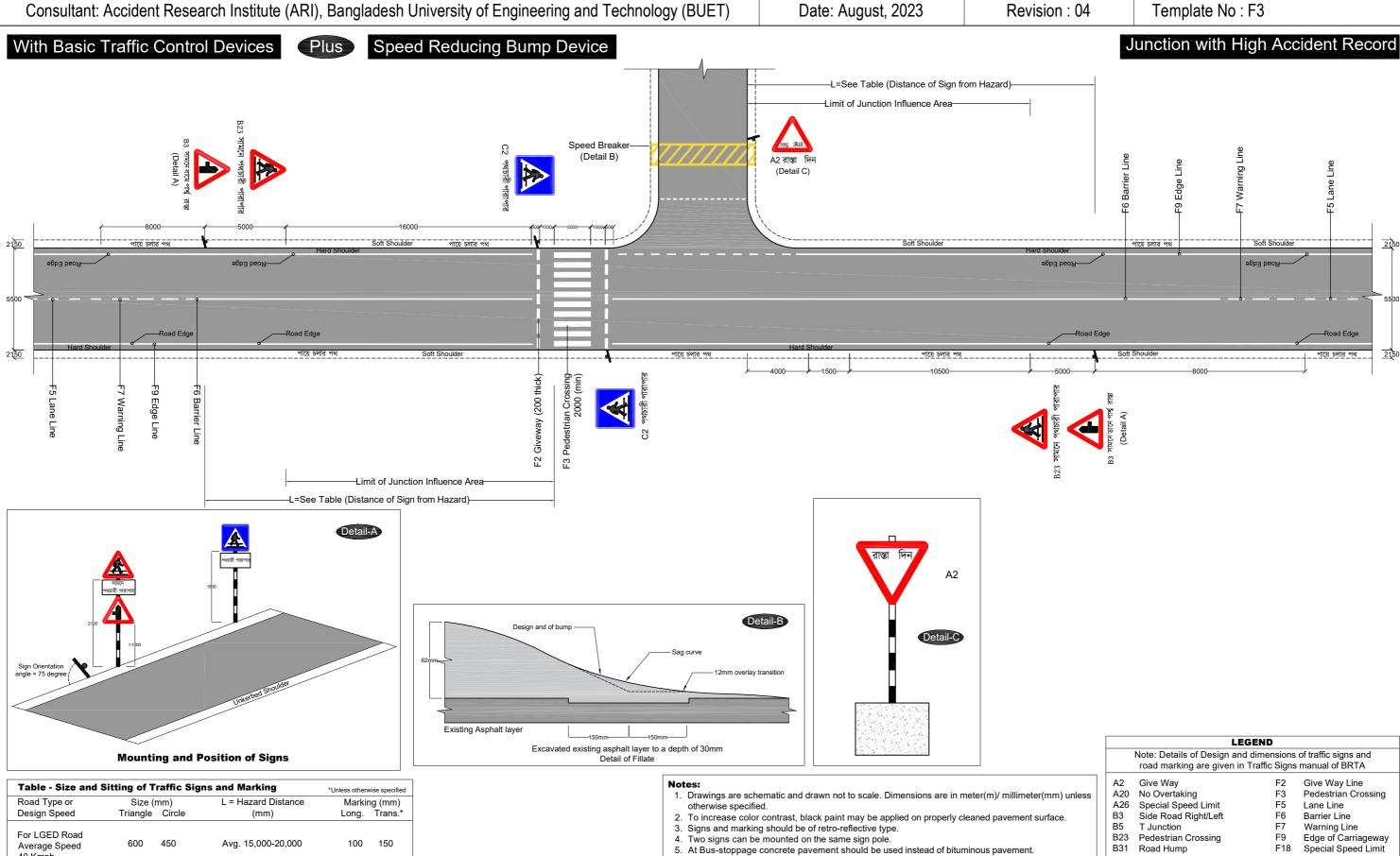
Upazila Road or Road with Design Speed 40 kmph

Template No: F3

C2 Location of Pedestrian Crossing

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

40 Kmph



6. Community level enforcement is needed to ensure Bus-bay compliance.

Example of layout plan with road safety measures for Typical T-Junction

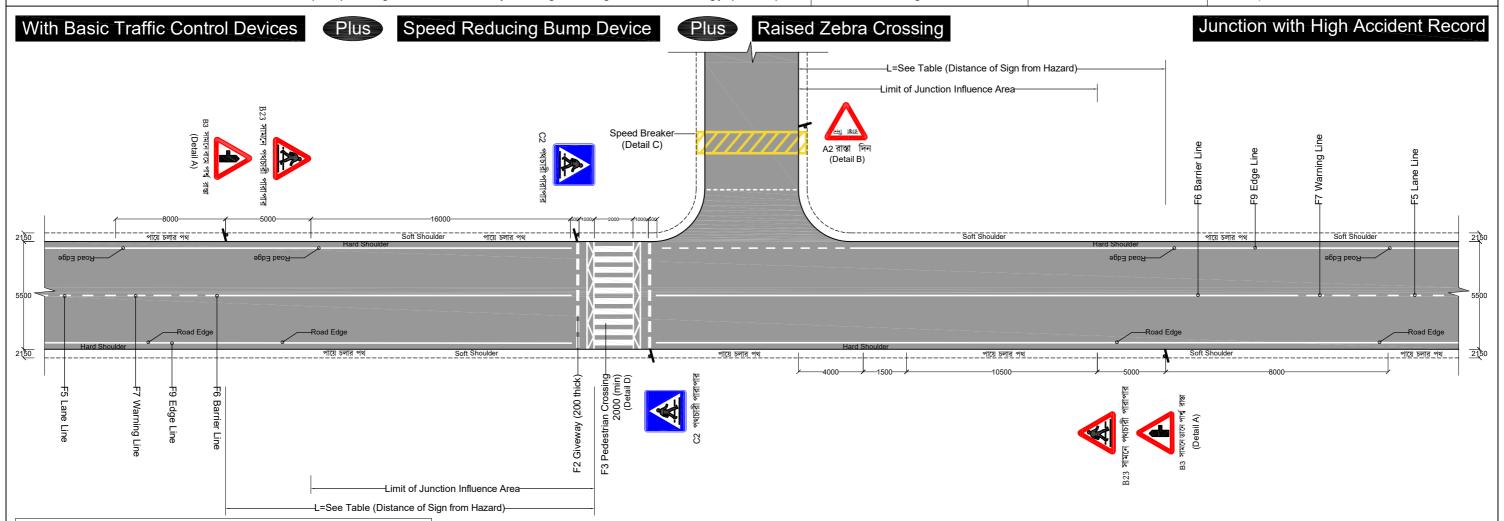
Upazila Road or Road with

Design Speed 40 kmph

Safety Measures for:

Date: August, 2023 Revision: 04 Template No: F4

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)



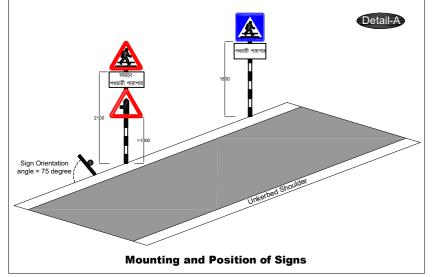
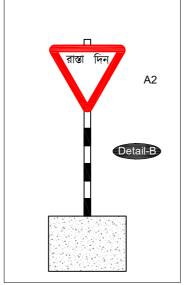
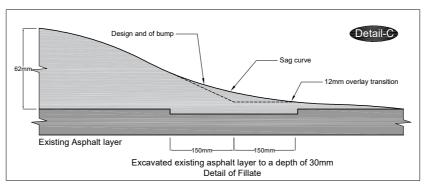


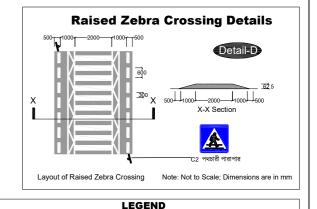
Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified						
Road Type or	Size (ı	mm)	L = Hazard Distance	Markir	ng (mm)	
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*	
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150	





Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type. 4. Two signs can be mounted on the same sign pole.
- 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- 6. Community level enforcement is needed to ensure Bus-bay compliance.



Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA						
A2	Give Way	F2	Give Way Line			
A20	No Overtaking	F3	Pedestrian Crossing			
A26	Special Speed Limit	F5	Lane Line			
B3	Side Road Right/Left	F6	Barrier Line			
B5	T. lunction	F7	Warning Line			

- B23 Pedestrian Crossing Edge of Carriageway F18 Special Speed Limit Road Hump
- C2 Location of Pedestrian Crossing

Example of layout plan with road safety measures of RHD - LGED Intersection

Safety Measures for:

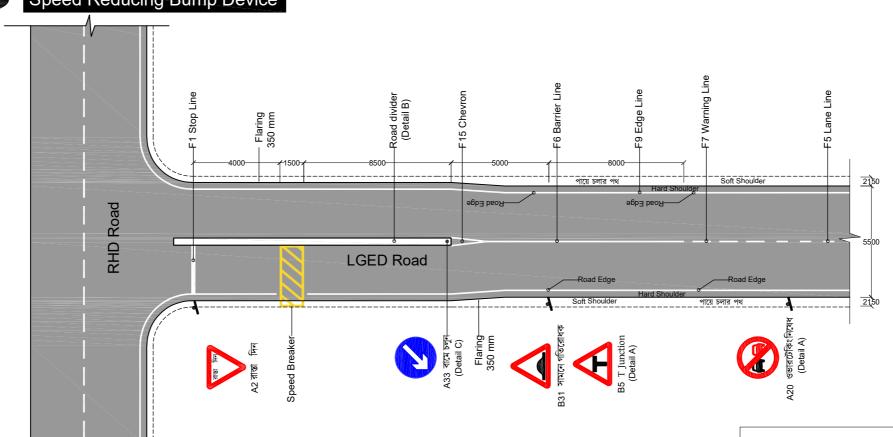
Upazila Road or Road with Design Speed 40 kmph

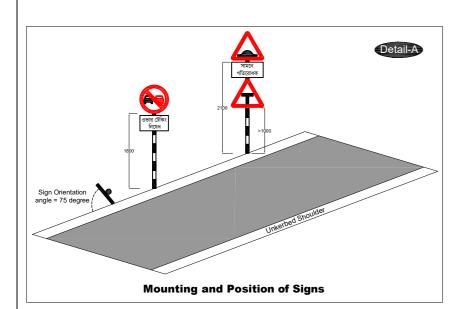
Template No : F5

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

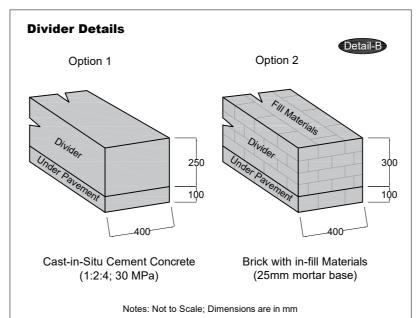
Speed Reducing Bump Device Plus





With Basic Traffic Control Devices

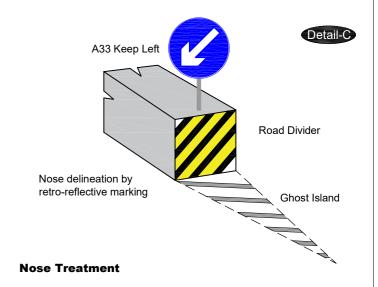
Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise s					
Road Type or	Size (ı	,	L = Hazard Distance		ng (mm)
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150



Date: August, 2023

Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type. 4. Two signs can be mounted on the same sign pole.
- 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- 6. Community level enforcement is needed to ensure Bus-bay compliance.



	LEG	END	
	Note: Details of Design and or road marking are given in T		
2	Give Way	F2	Give Way Line

- Give Way
- A20 No Overtaking
- Special Speed Limit Side Road Right/Left
- B5 T Junction B23
- Pedestrian Crossing Road Hump
- Lane Line Barrier Line Warning Line Edge of Carriageway

Pedestrian Crossing

- Special Speed Limit
- C2 Location of Pedestrian Crossing

Example of layout plan with road safety measures of RHD - LGED Intersection

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

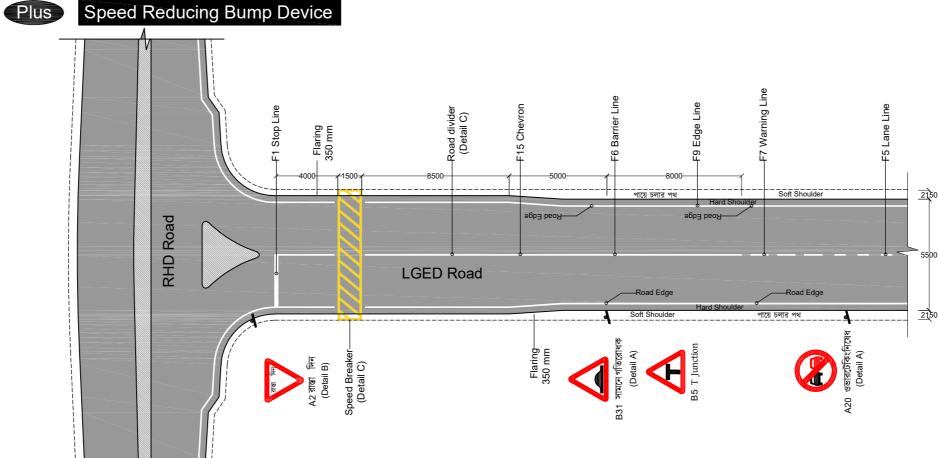
Template No : F6

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

With Basic Traffic Control Devices

Speed Reducing Bump Device



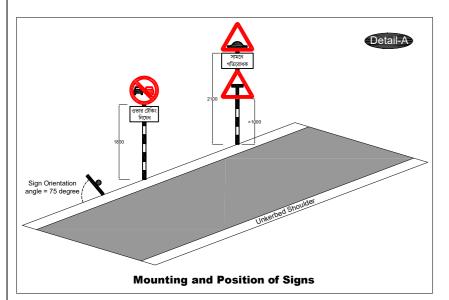
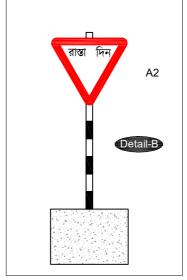
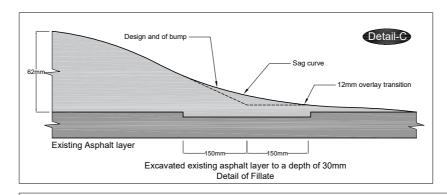


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified							
Road Type or	Size (ı	mm)	L = Hazard Distance	Marki	ng (mm)		
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150		





Date: August, 2023

Notes:

- 1. Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type. 4. Two signs can be mounted on the same sign pole.
- 5. At Bus-stoppage concrete pavement should be used instead of bituminous pavement.
- 6. Community level enforcement is needed to ensure Bus-bay compliance.

	LEGEND						
	Note: Details of Design and dimensions of traffic signs and						
	road marking are given in Traffic Signs manual of BRTA						
A2	Give Way	F2	Give Way Line				
A20	No Overtaking	F3	Pedestrian Crossing				
A26	Special Speed Limit	F5	Lane Line				
B3	Side Road Right/Left	F6	Barrier Line				
B5	T Junction	F7	Warning Line				
B23	Pedestrian Crossing	F9	Edge of Carriageway				
B31	Road Hump	F18	Special Speed Limit				
C2	Location of Pedestrian Crossing						

Example of layout plan with road safety measures for Typical Hat/Bazar

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Edge of Carriageway

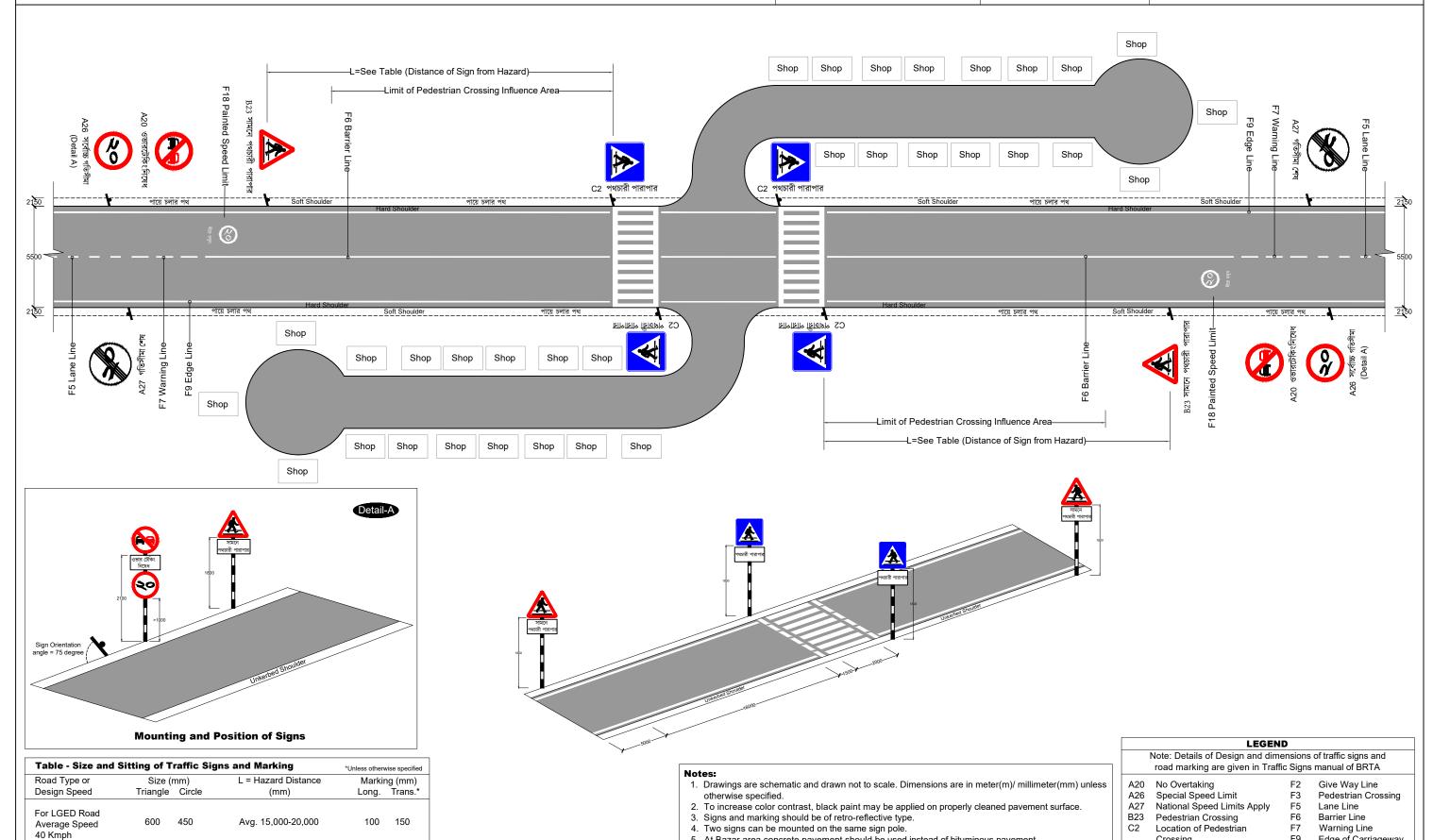
Template No: G1

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

5. At Bazar area concrete pavement should be used instead of bituminous pavement.

Revision: 04



Example of layout plan with road safety measures for Typical Hat/Bazar

Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

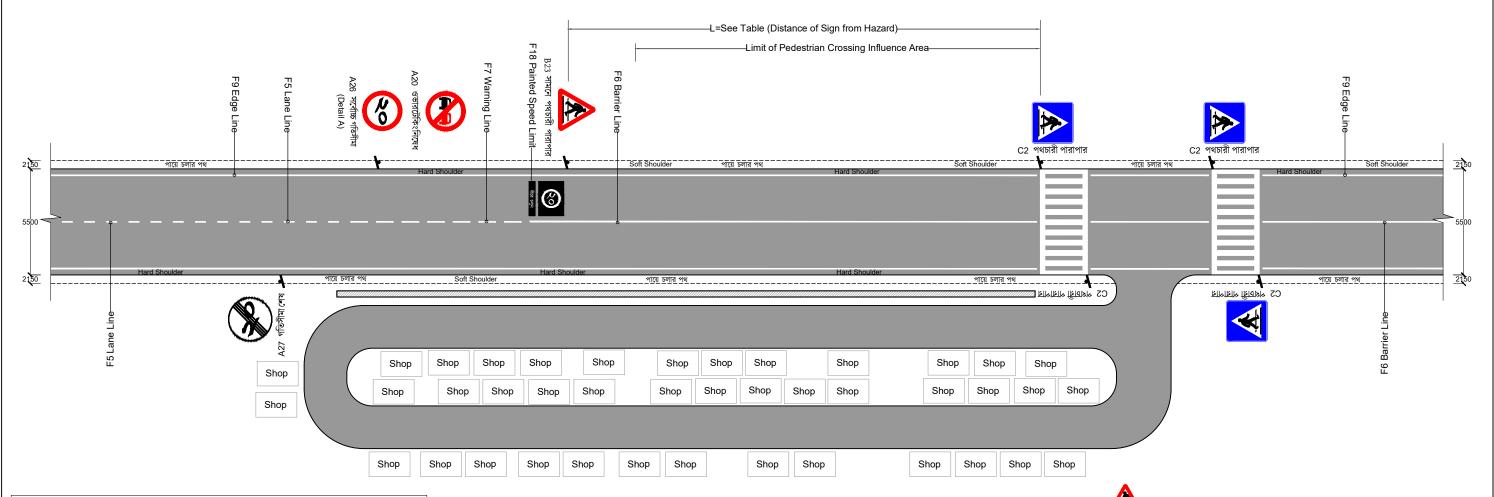
Date: December 2022

Revision: 04

Template No: G2

Safety Measures for:

Upazila Road or Road with



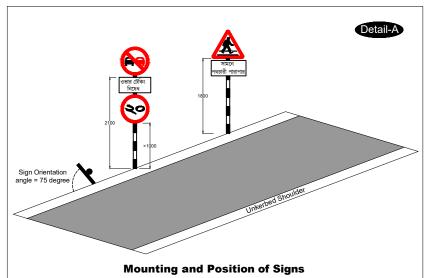
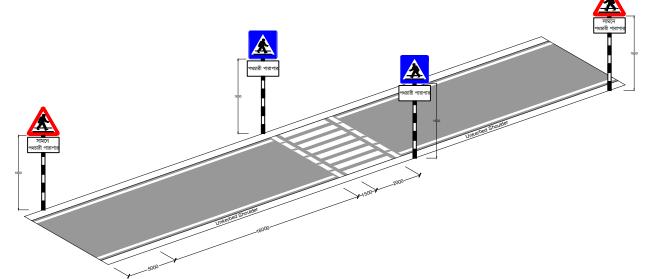


Table - Size and Sitting of Traffic Signs and Marking *Unless otherwise specified							
Road Type or	Size (ı	mm)	L = Hazard Distance	Markir	ng (mm)		
Design Speed	Triangle	Circle	(mm)	Long.	Trans.*		
For LGED Road Average Speed 40 Kmph	600	450	Avg. 15,000-20,000	100	150		



Notes:

- Drawings are schematic and drawn not to scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole.
- 5. At Bazar area concrete pavement should be used instead of bituminous pavement.

LEGEND Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

20	No Overtaking	F2	Give Way Line
26	Special Speed Limit	F3	Pedestrian Cros

- A26 Special Speed Limit F3 Pedestrian
 A27 National Speed Limits Apply F5 Lane Line
 B23 Pedestrian Crossing F6 Barrier Lin
 - Pedestrian Crossing F6 Barrier Line Location of Pedestrian F7 Warning Line
 - ng F9 Edge of Carriageway

Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Bridge/Culvert

Safety Measures for:

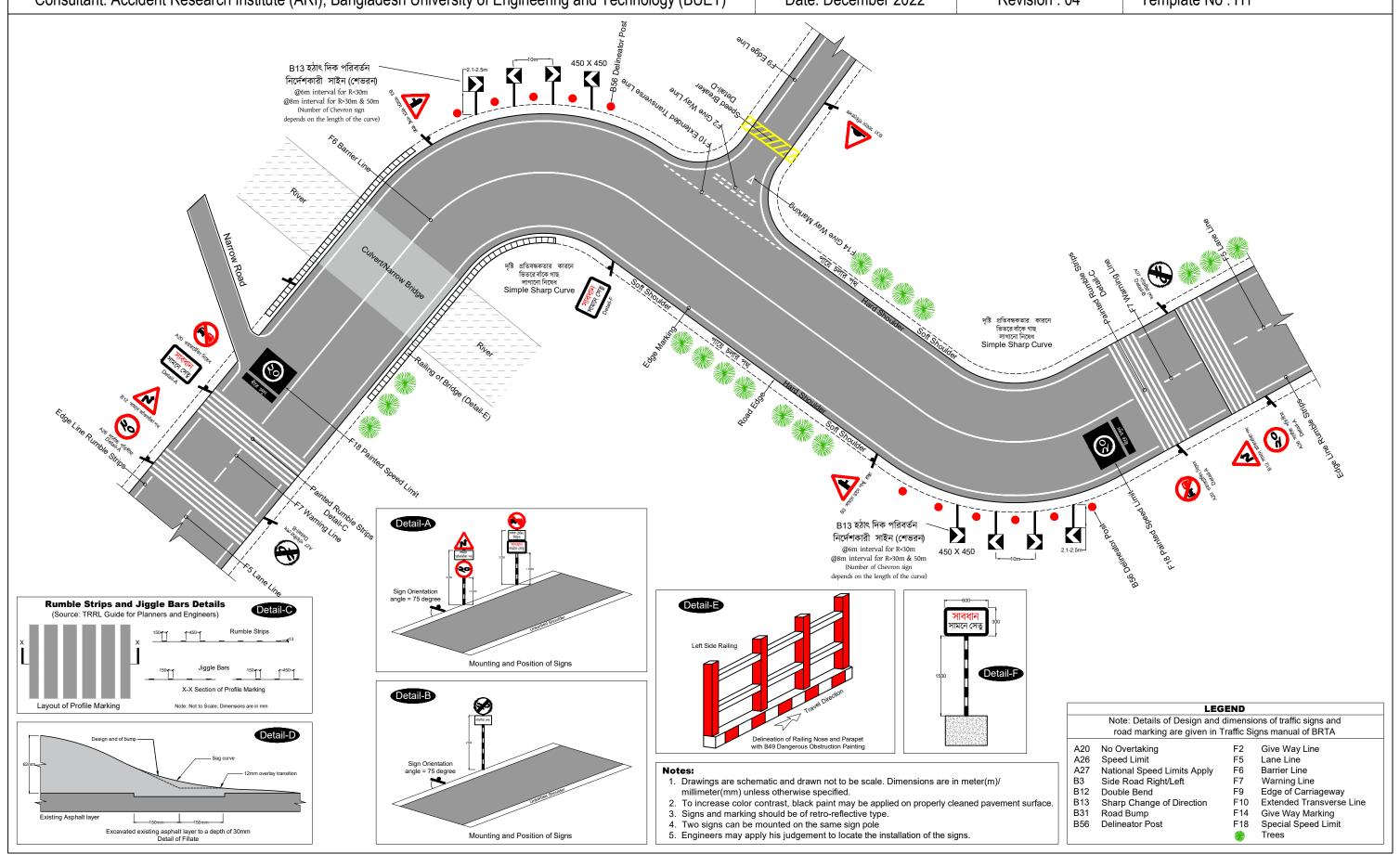
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No: H1



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

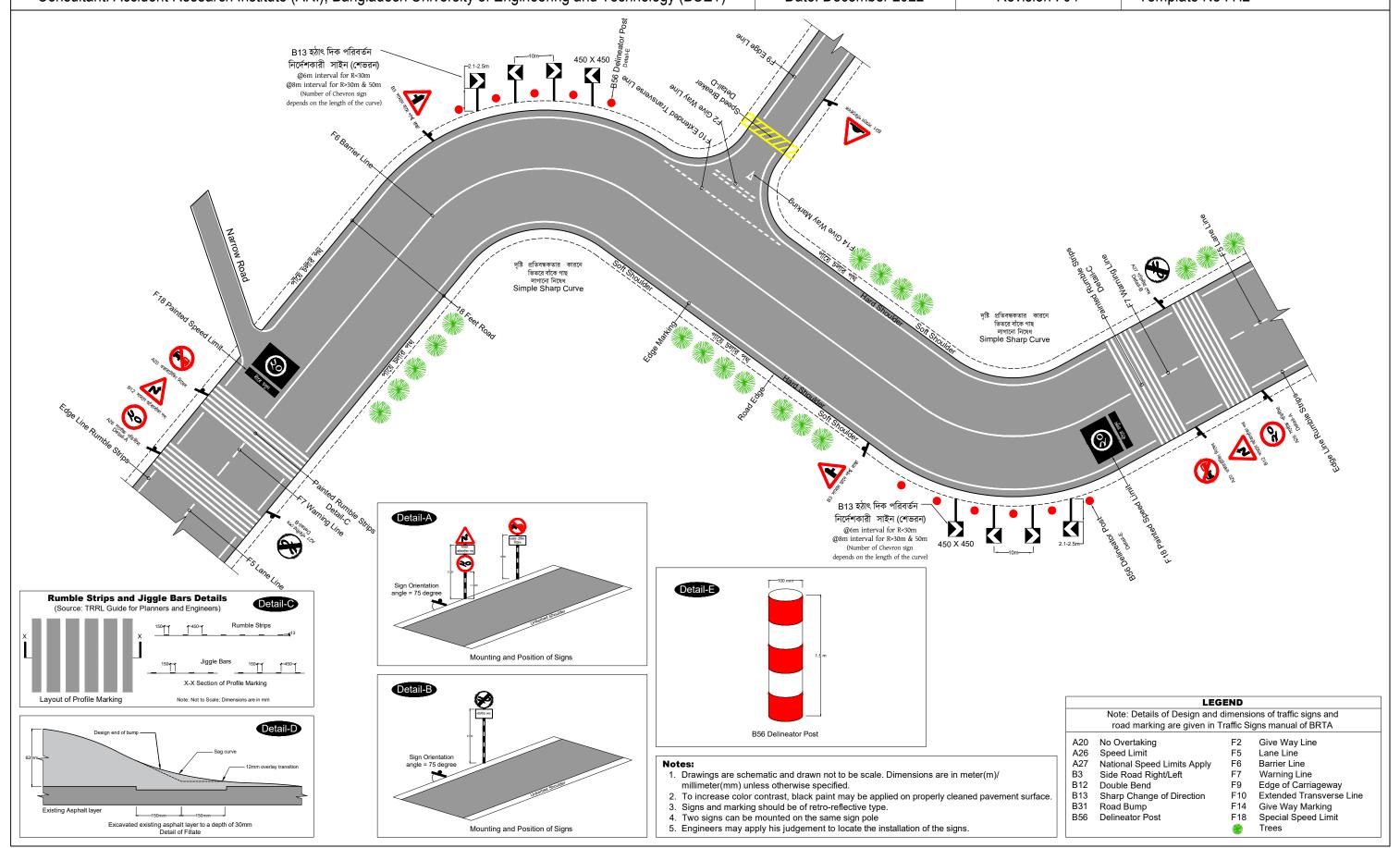
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No: H2



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

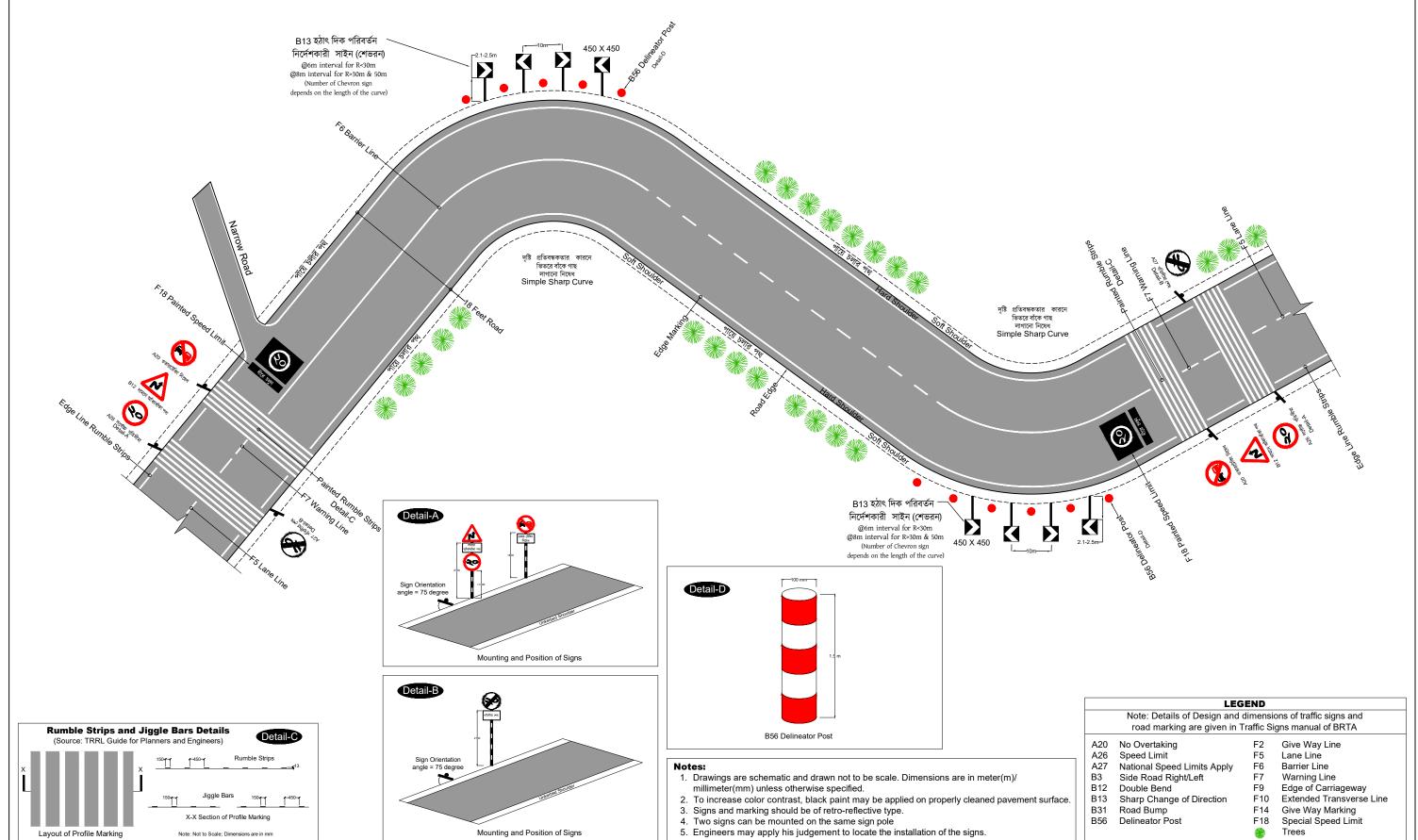
Upazila Road or Road with Design Speed 40 kmph

Template No : H3



Date: December 2022

Revision: 04

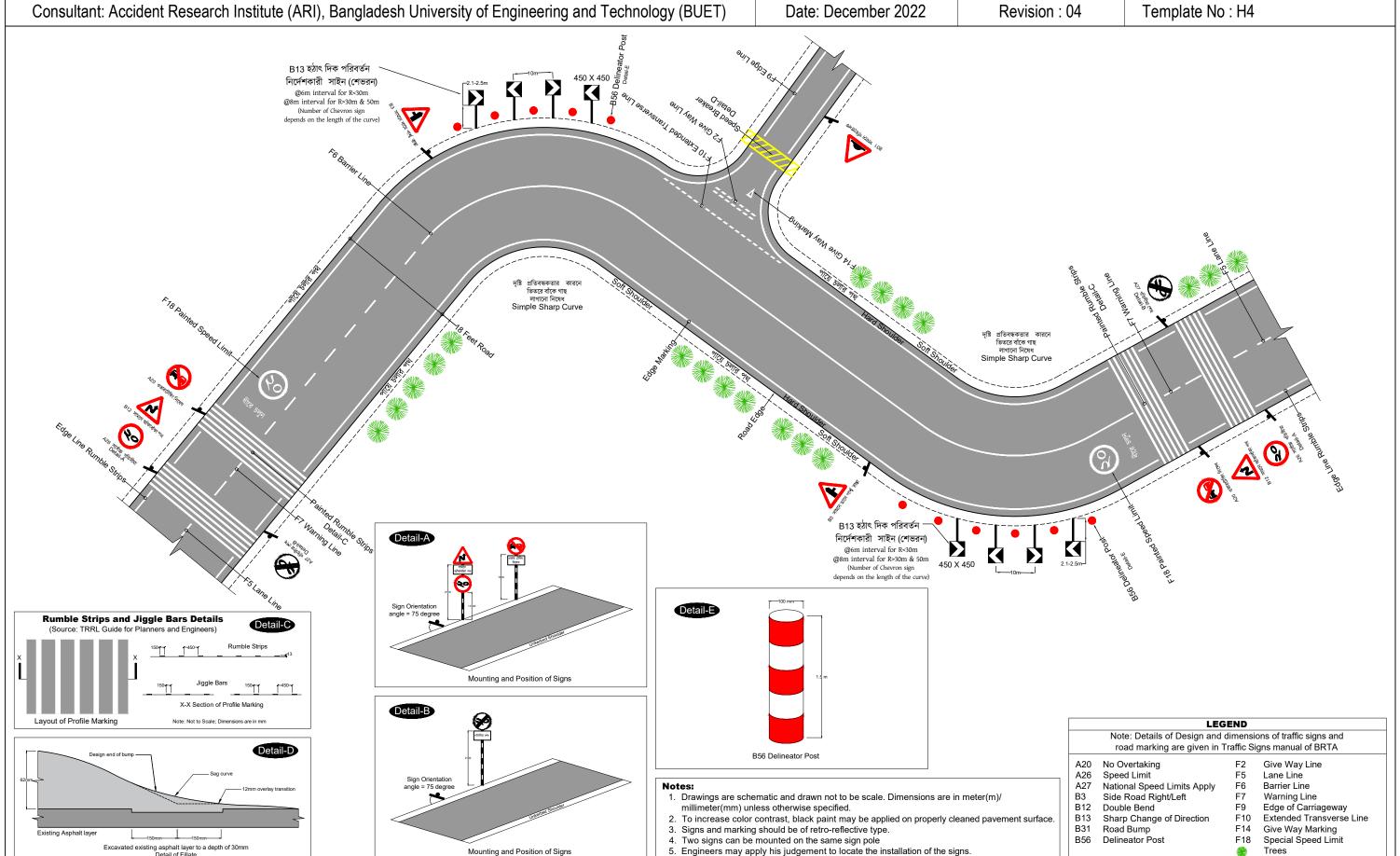


Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: H4



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve

Safety Measures for:

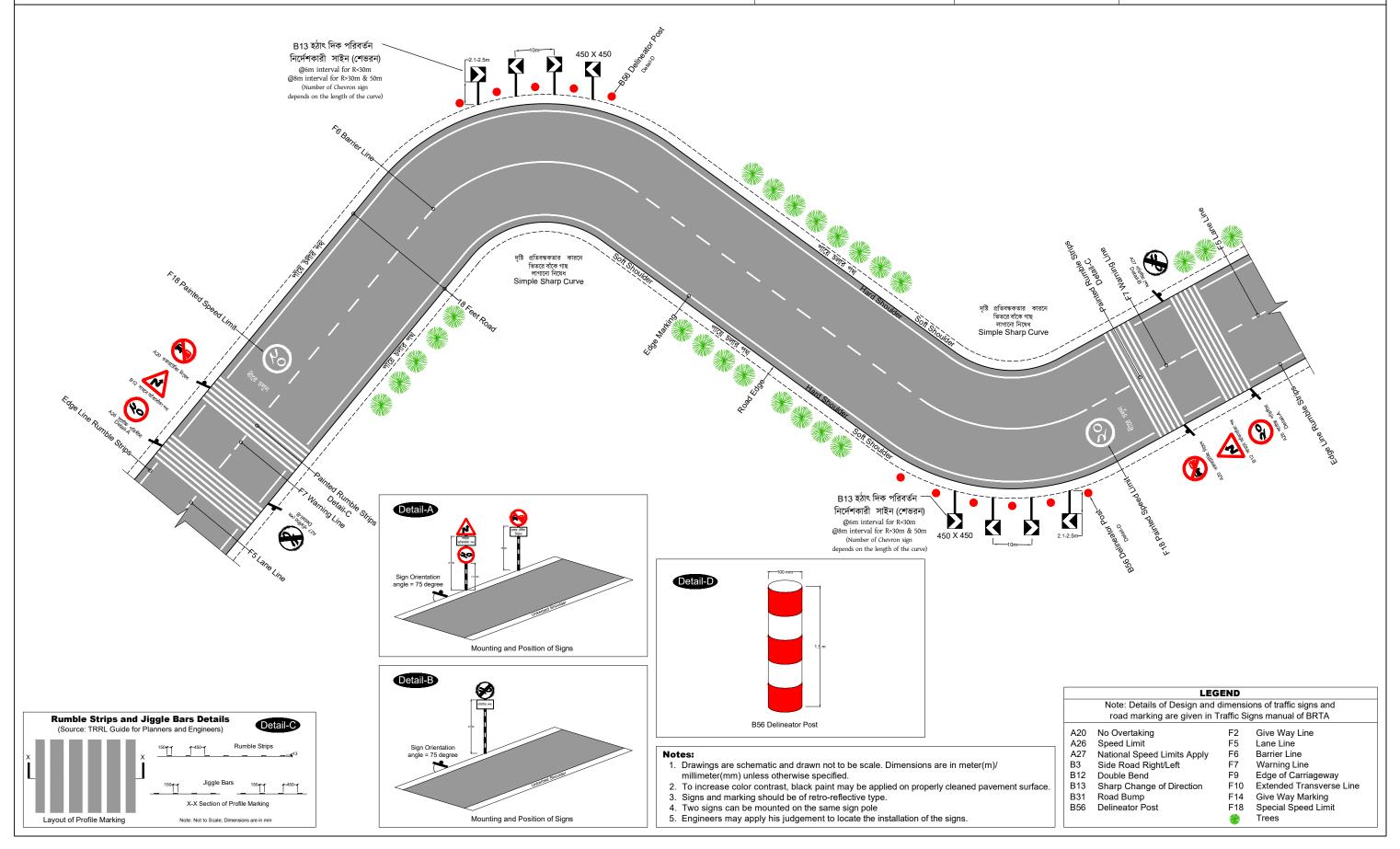
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No : H5



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Hat/Bazar

Safety Measures for:

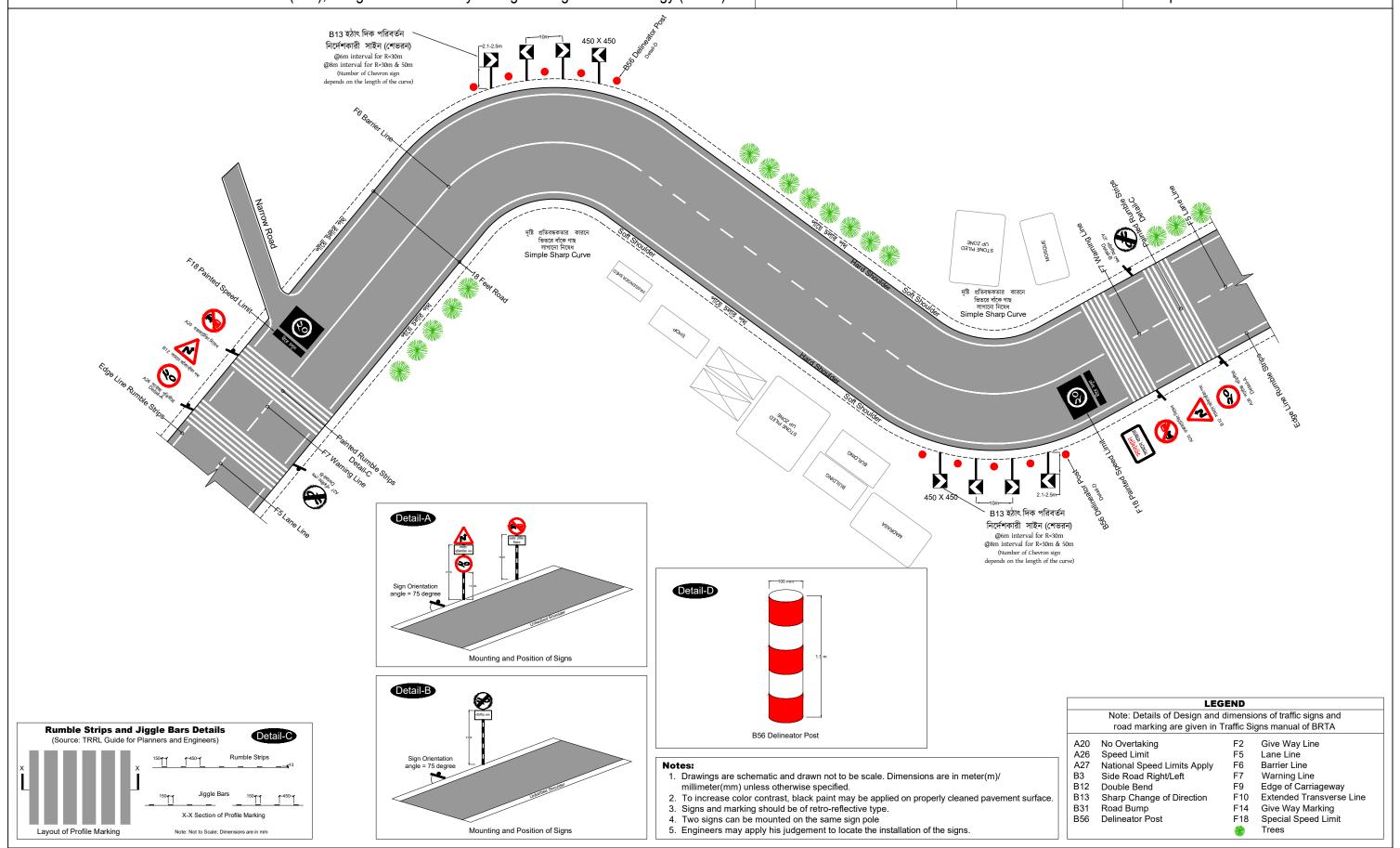
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No: H6



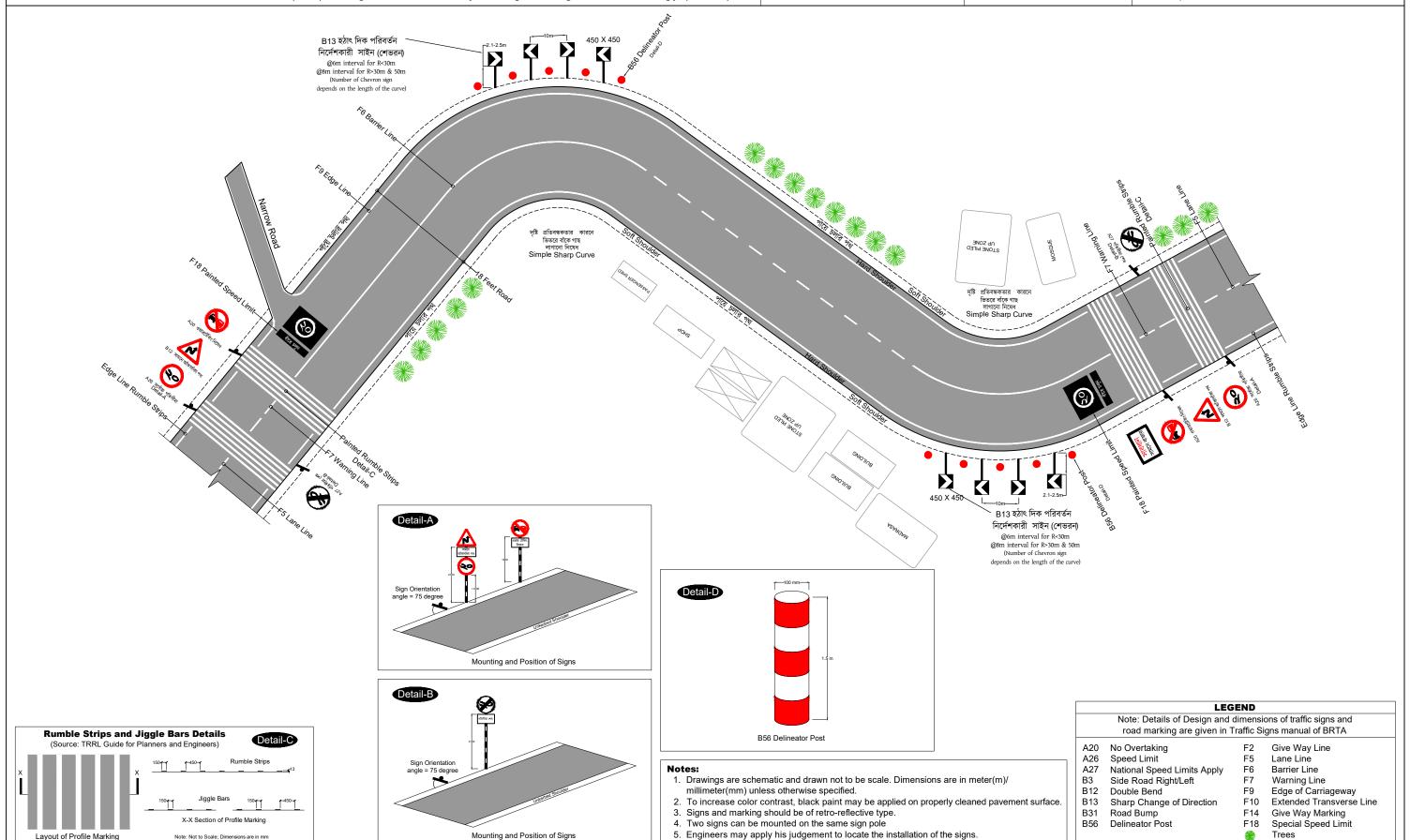
Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Hat/Bazar and Side Road

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Date: December 2022 Revision : 04 Template No : I1

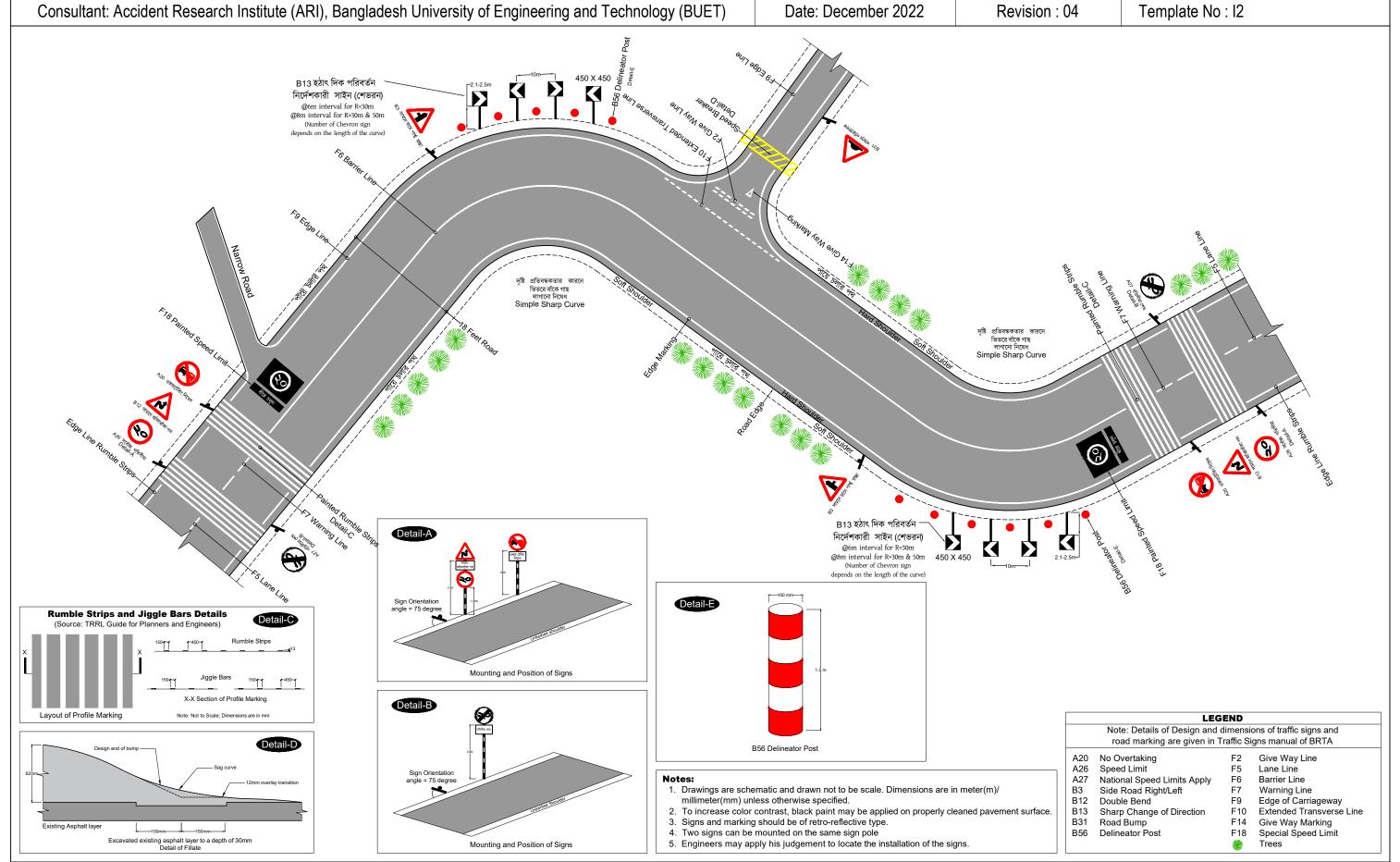


Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: I2 Date: December 2022 Revision: 04



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

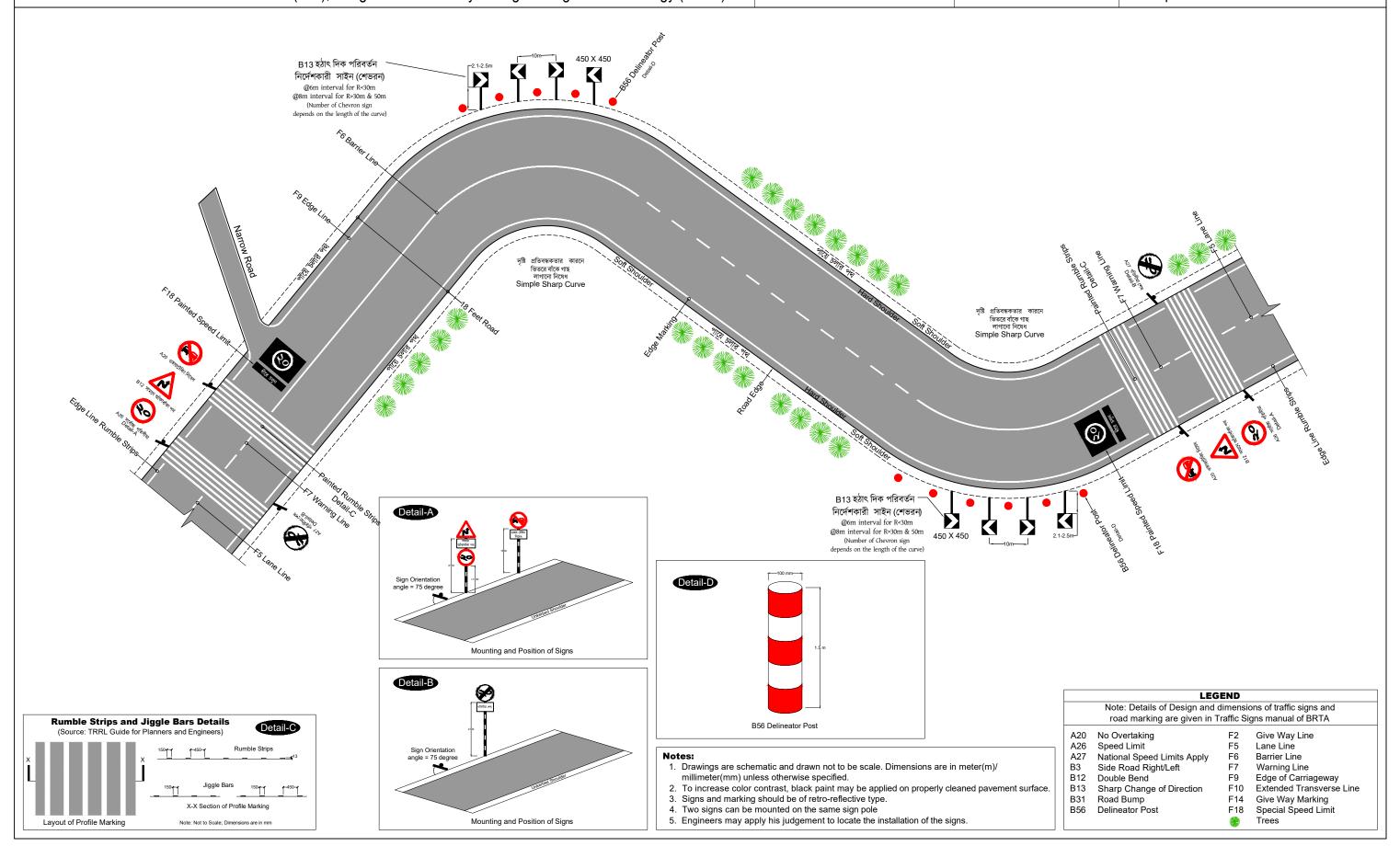
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

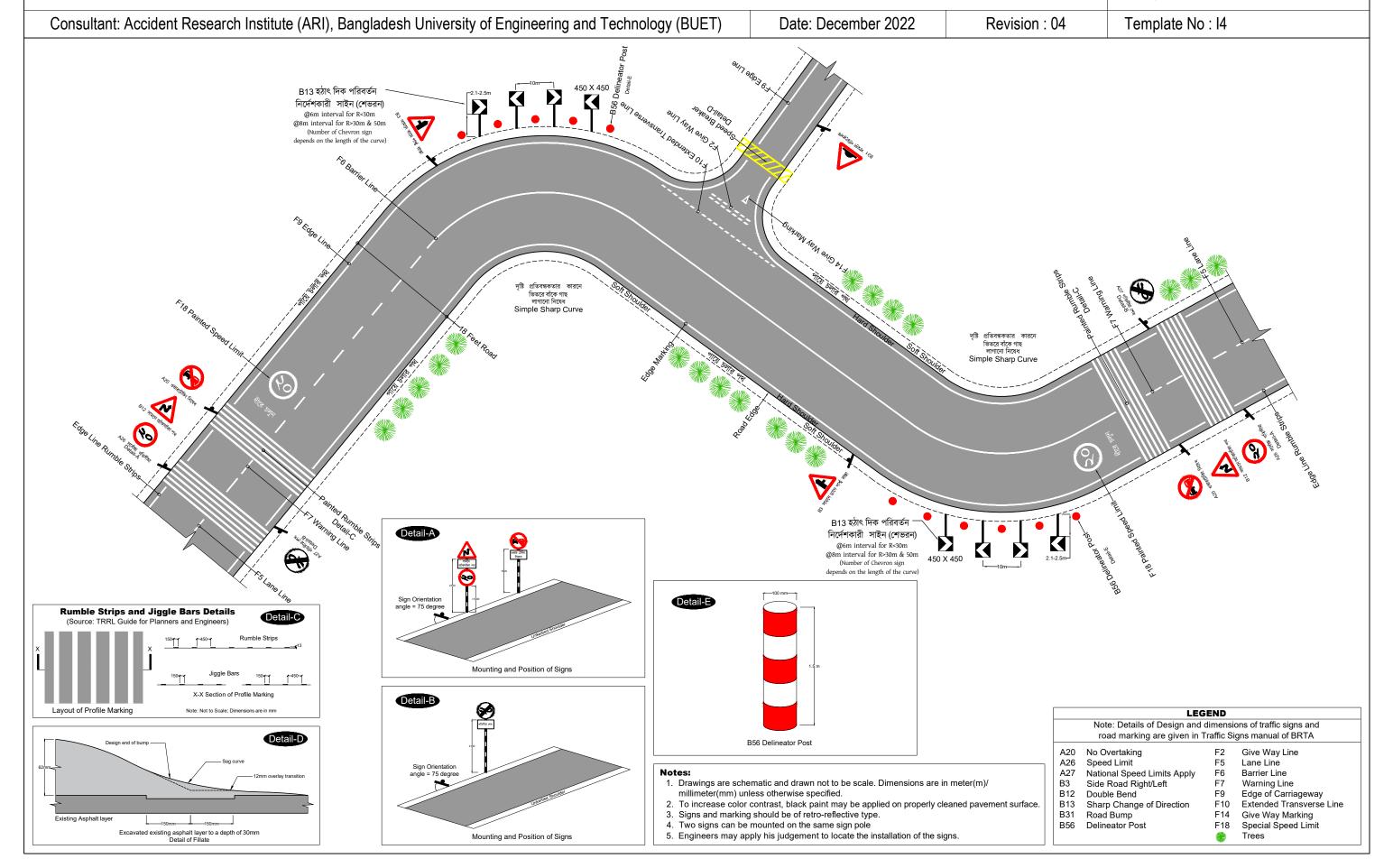
Template No: 13



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Side Road

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve

Safety Measures for:

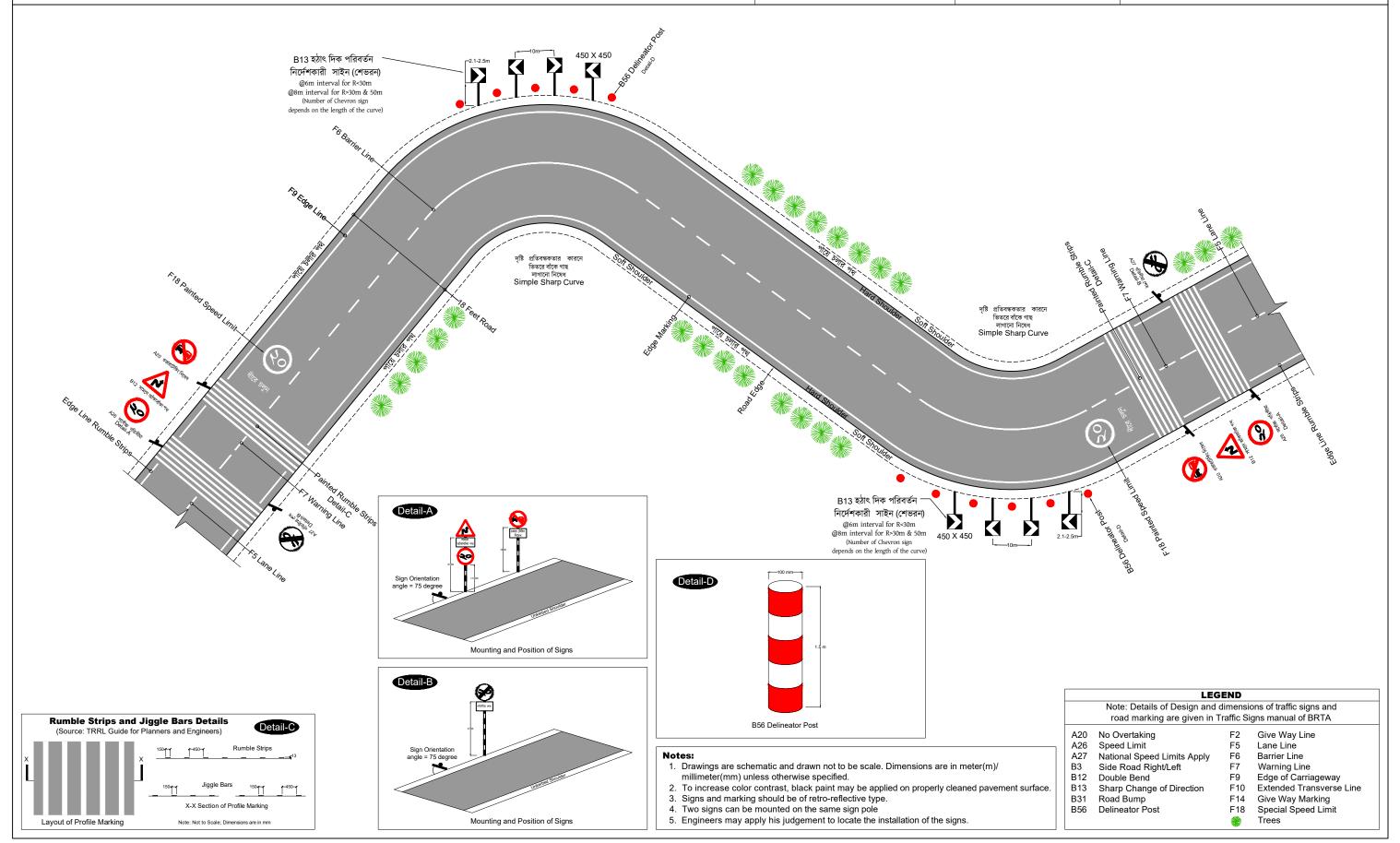
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No : I5

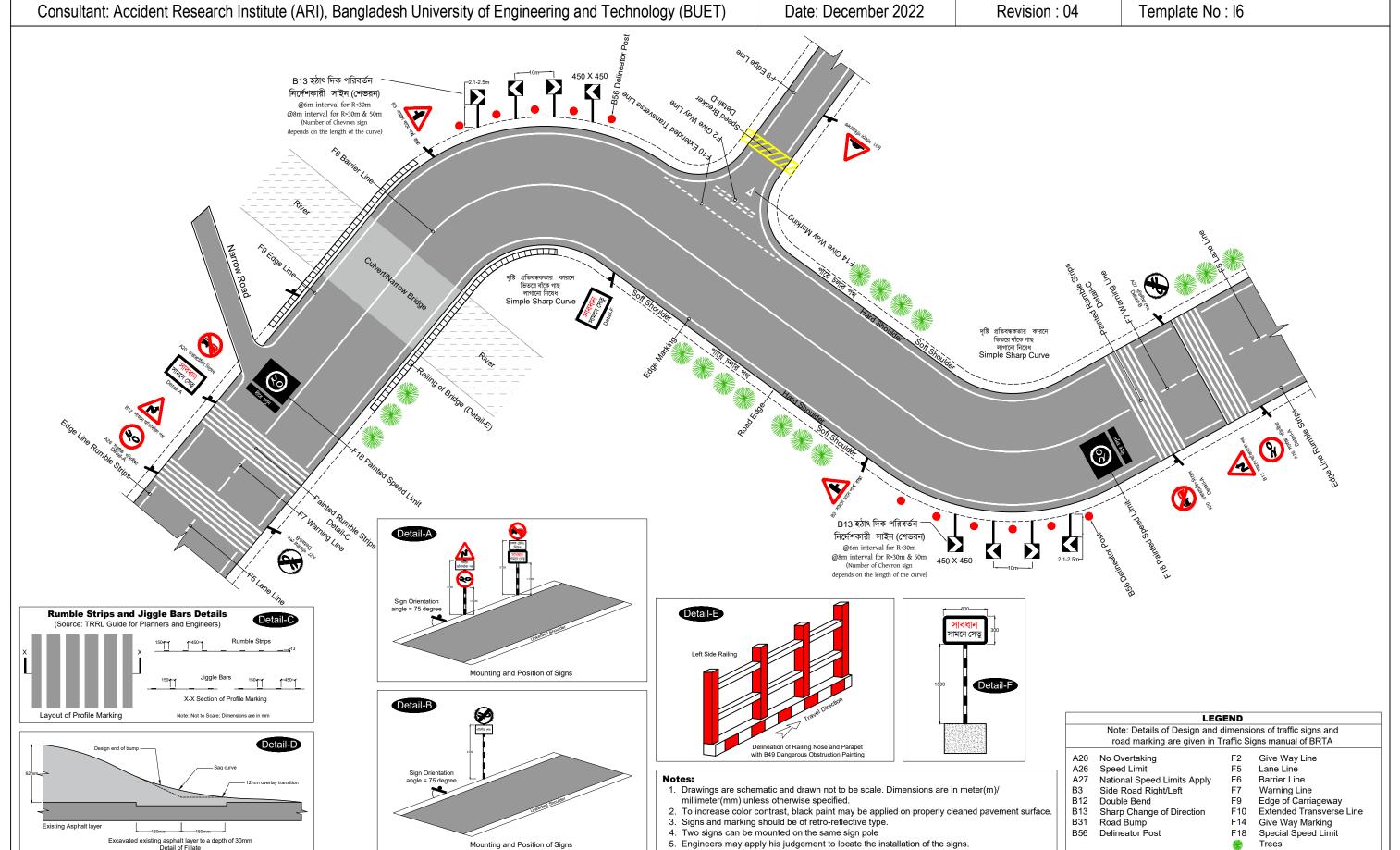


Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with Bridge/Culvert

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Template No: 16



Example of layout plan with road safety measures for Typical S-Curve/ Consecutive Curve with W-beam

Safety Measures for:

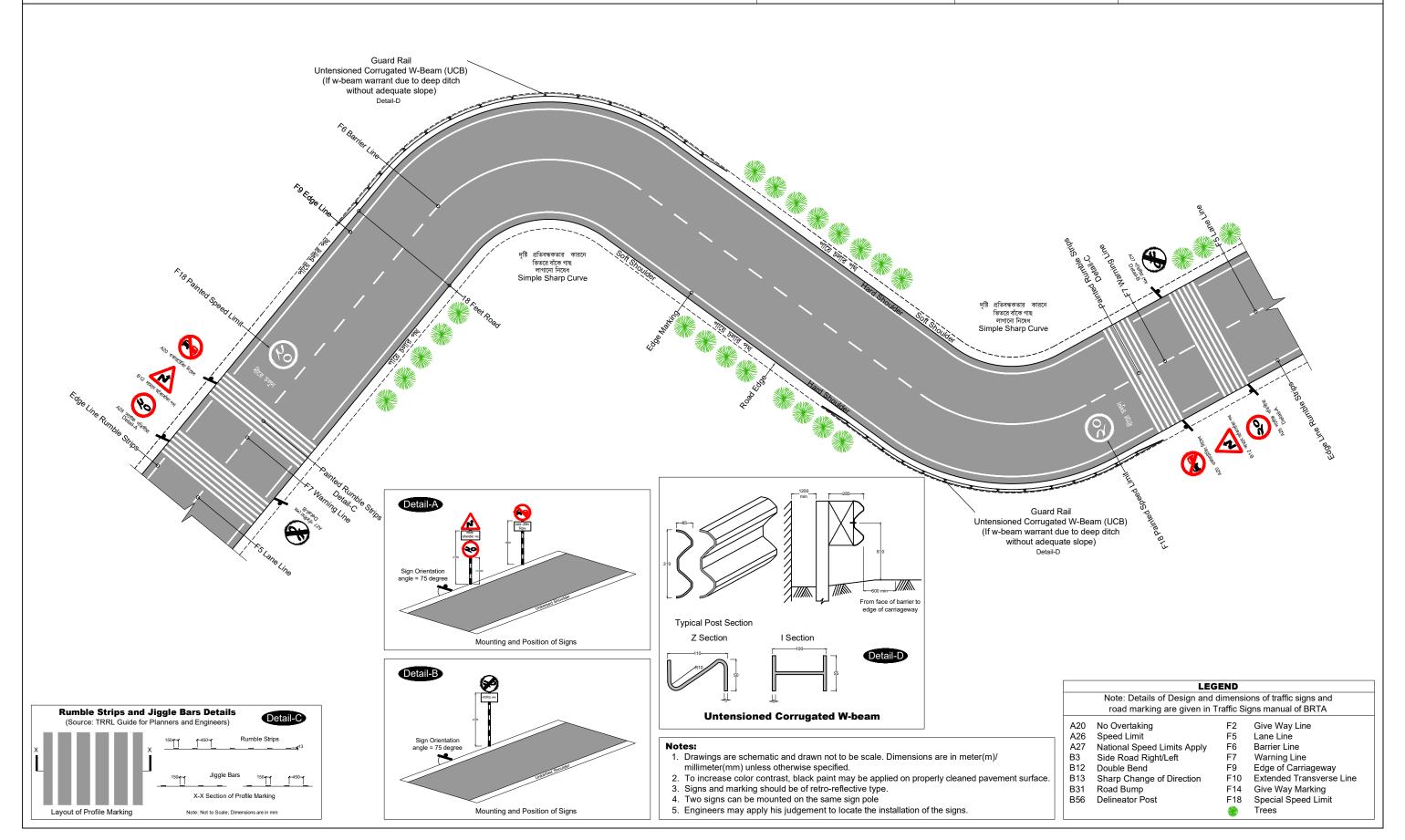
Upazila Road or Road with Design Speed 40 kmph

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04

Template No : I7



Example of layout plan with road safety measures for Typical Cross-Junction

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

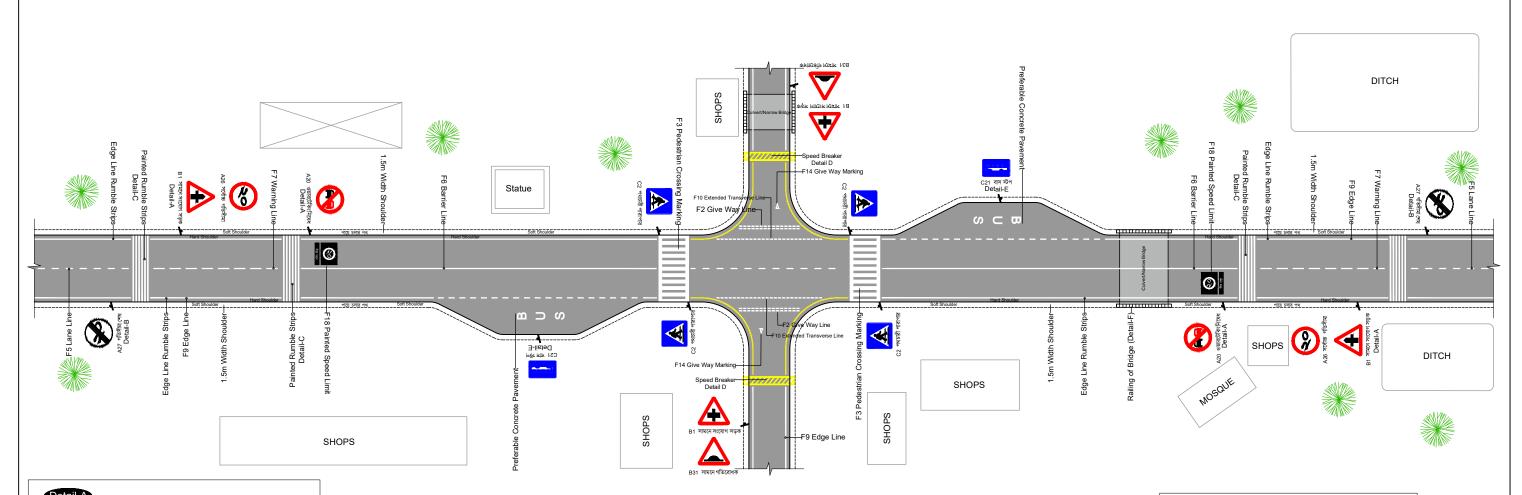
Date: December 2022

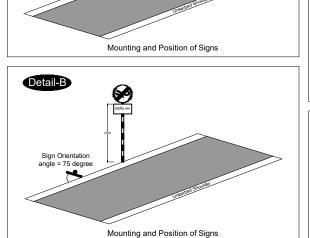
Revision: 04

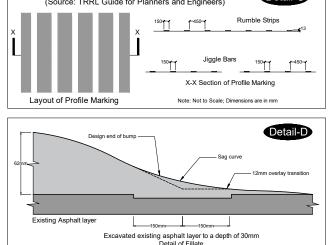
Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

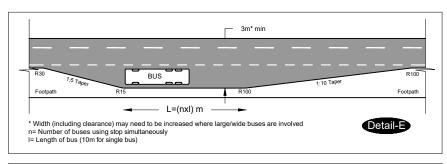
Template No: J1



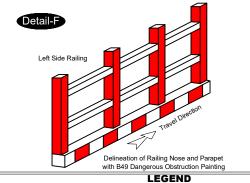




Rumble Strips and Jiggle Bars Details



- 1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
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- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.



Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA

lo Overtaking	C21	Bus Stop
Speed Limit	F2	Give Way Line
lational Speed Limits Apply	F3	Pedestrian Crossing
urn Left	F5	Lane Line
Ceep Left	F6	Barrier Line
roceroade	F7	Warning Line

A20 A26 A27 A32 A33 B1 B2 Major Road Ahead(Crossroads) F9 Edge of Carriageway B9 Roundabout

Pedestrian Crossing

B31 Give Way Marking Road Bump Delineator Post Special Speed Limit

Example of layout plan with road safety measures for Typical Cross-Junction with bus bay and pedestrian crossing

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

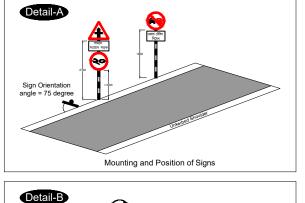
Template No: J2

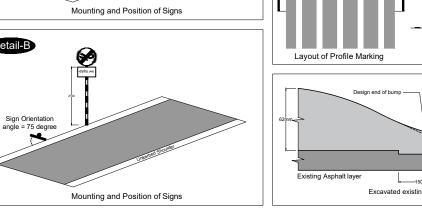
Revision: 04

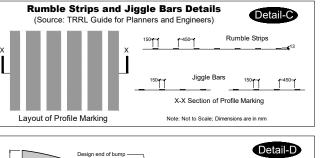
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

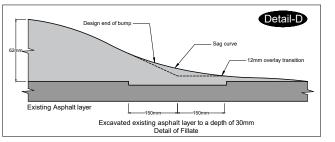
Date: December 2022

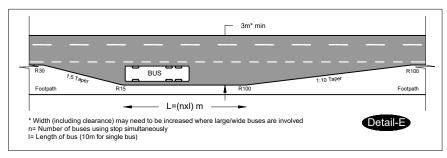
SHOPS **4** 0 4 SHOPS DITCH Filling SHOPS SHOPS











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- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.

	LEGEND						
	Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA						
A20	No Overtaking	C21	Bus Stop				
A26	Speed Limit	F2	Give Way Line				
A27	National Speed Limits Apply	F3	Pedestrian Crossing				
A32	Turn Left	F5	Lane Line				
A33	Keep Left	F6	Barrier Line				
B1	Crossroads	F7	Warning Line				
B2	Major Road Ahead(Crossroads)	F9	Edge of Carriageway				
B9	Roundabout	F10	Extended Transverse Line				
B31	Road Bump	F14	Give Way Marking				
B56	Delineator Post	F18	Special Speed Limit				
C2	Pedestrian Crossing	*	Trees				

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing

Safety Measures for:

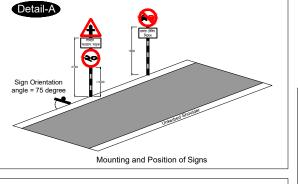
Upazila Road or Road with Design Speed 40 kmph

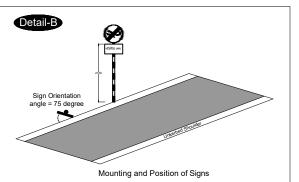
Revision: 04 Template No: J3

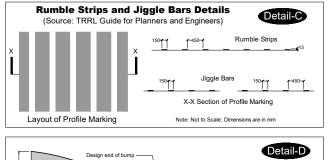
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

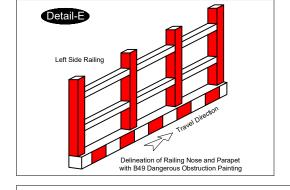
DITCH 0 0 DITCH SHOPS SHOPS







Design en	nd of bump
62mm	Sag curve 12mm overlay transition
Existing Asphalt layer	150mm - 150mm
Ex	cavated existing asphalt layer to a depth of 30mm Detail of Fillate



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- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.

	LEC	END					
	Note: Details of Design and dimensions of traffic signs and						
	road marking are given in	Traffic Si	gns manual of BRTA				
A20	No Overtaking	C21	Bus Stop				
A26	Speed Limit	F2	Give Way Line				
A27	National Speed Limits Apply	F3	Pedestrian Crossing				

A32	Turn Left	F5	Lane Line
A33	Keep Left	F6	Barrier Line
B1	Crossroads	F7	Warning Line
B2	Major Road Ahead(Crossroads)	F9	Edge of Carria
B9	Roundabout	F10	Extended Tran

of Carriageway Road Bump Give Way Marking Delineator Post Special Speed Limit

Pedestrian Crossing

Example of layout plan with road safety measures for Typical Cross-Junction with bus bay, pedestrian crossing and Culvert

Safety Measures for:

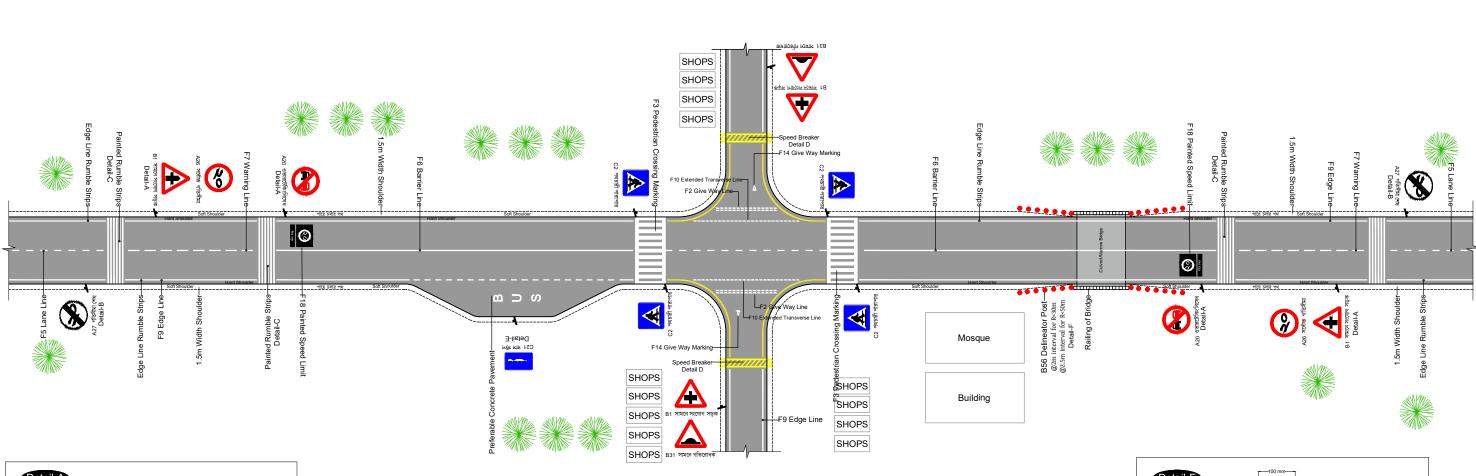
Upazila Road or Road with Design Speed 40 kmph

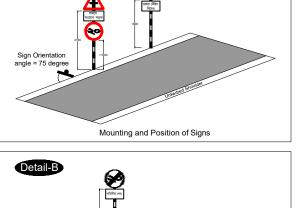
Template No: J4

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

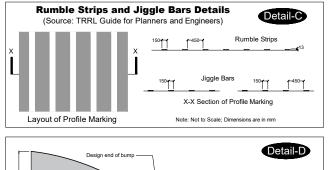
Revision: 04

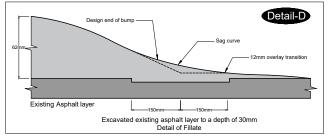


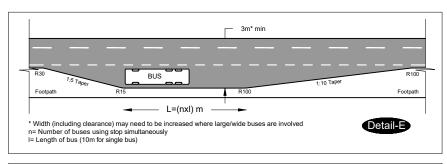


Mounting and Position of Signs

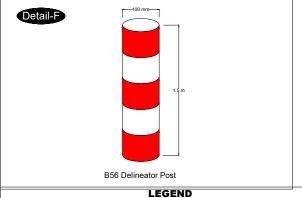
Sign Orientation angle = 75 degree







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- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.



Note: Details of Design and dimensions of traffic signs and	b
road marking are given in Traffic Signs manual of BRTA	

	A20	No Overtaking	C21	Bus Stop
	A26	Speed Limit	F2	Give Way Line
	A27	National Speed Limits Apply	F3	Pedestrian Crossing
	A32	Turn Left	F5	Lane Line
	A33	Keep Left	F6	Barrier Line
	B1	Crossroads	F7	Warning Line
ı	DΩ	Material Devot Alexandron (Conservation)	Ε0	

B2

- **Edge of Carriageway** Major Road Ahead(Crossroads) F9 B9 Roundabout Extended Transverse Line B31 Road Bump Give Way Marking
 - Delineator Post Special Speed Limit Pedestrian Crossing

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing and roundabout

Safety Measures for:

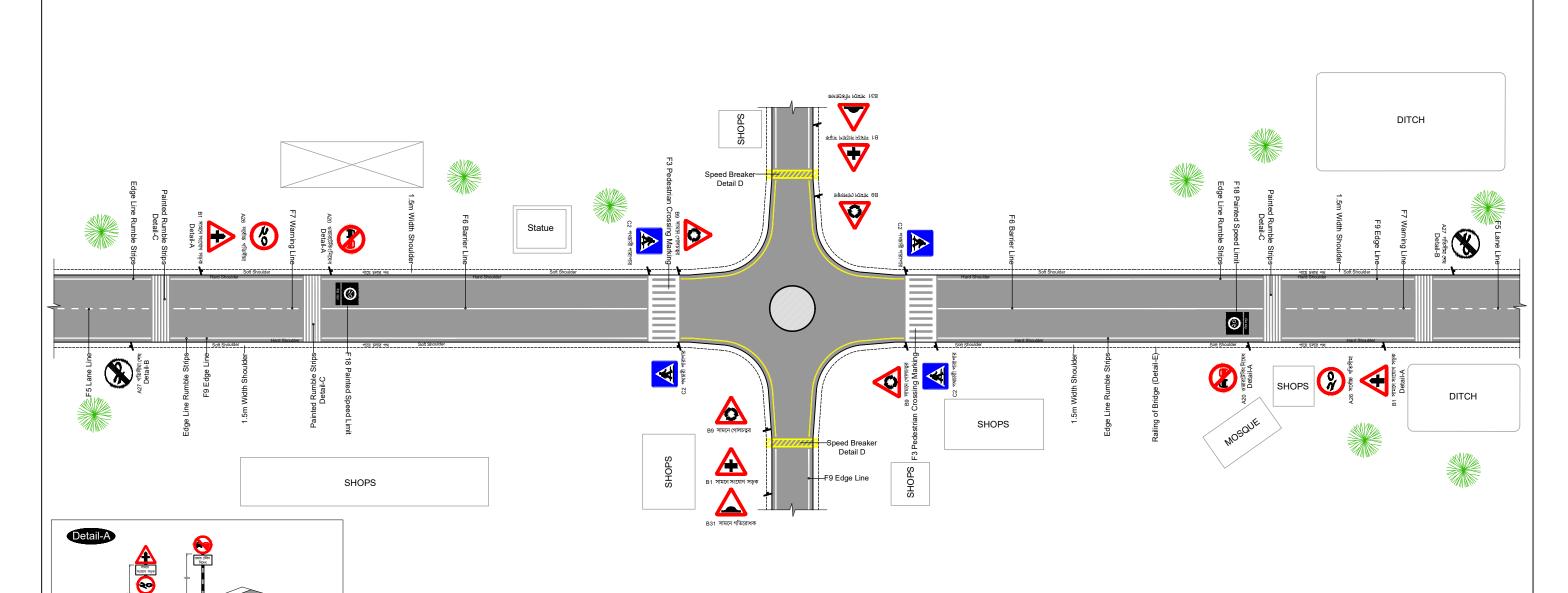
Upazila Road or Road with Design Speed 40 kmph

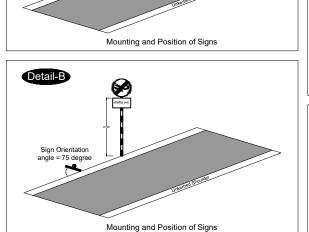
Template No: J5

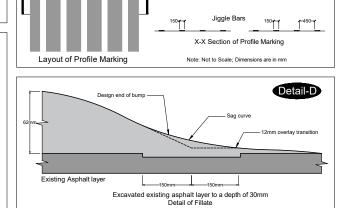
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

Revision: 04







Rumble Strips and Jiggle Bars Details

- 1. Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.

	LEGEND			
	Note: Details of Design and dimensions of traffic signs and road marking are given in Traffic Signs manual of BRTA			
	Todu marking are given in Trailic Signs manual of BKTA			
A20	No Overtaking	C21	Bus Stop	
A26	Speed Limit	F2	Give Way Line	
A27	National Speed Limits Apply	F3	Pedestrian Crossing	

- Speed Limit Give Way Line National Speed Limits Apply Pedestrian Crossing F5 Turn Left Lane Line Keep Left F6 Barrier Line
- A33 В1 Crossroads Warning Line B2 Major Road Ahead(Crossroads) F9

A32

- **Edge of Carriageway** Roundabout Extended Transverse Line Road Bump Give Way Marking
- B31 Delineator Post Special Speed Limit Pedestrian Crossing Trees

Example of layout plan with road safety measures for Typical LGED - RHD cross road intersections

Safety Measures for:

Upazila Road or Road with Design Speed 40 kmph

Delineator Post

Pedestrian Crossing

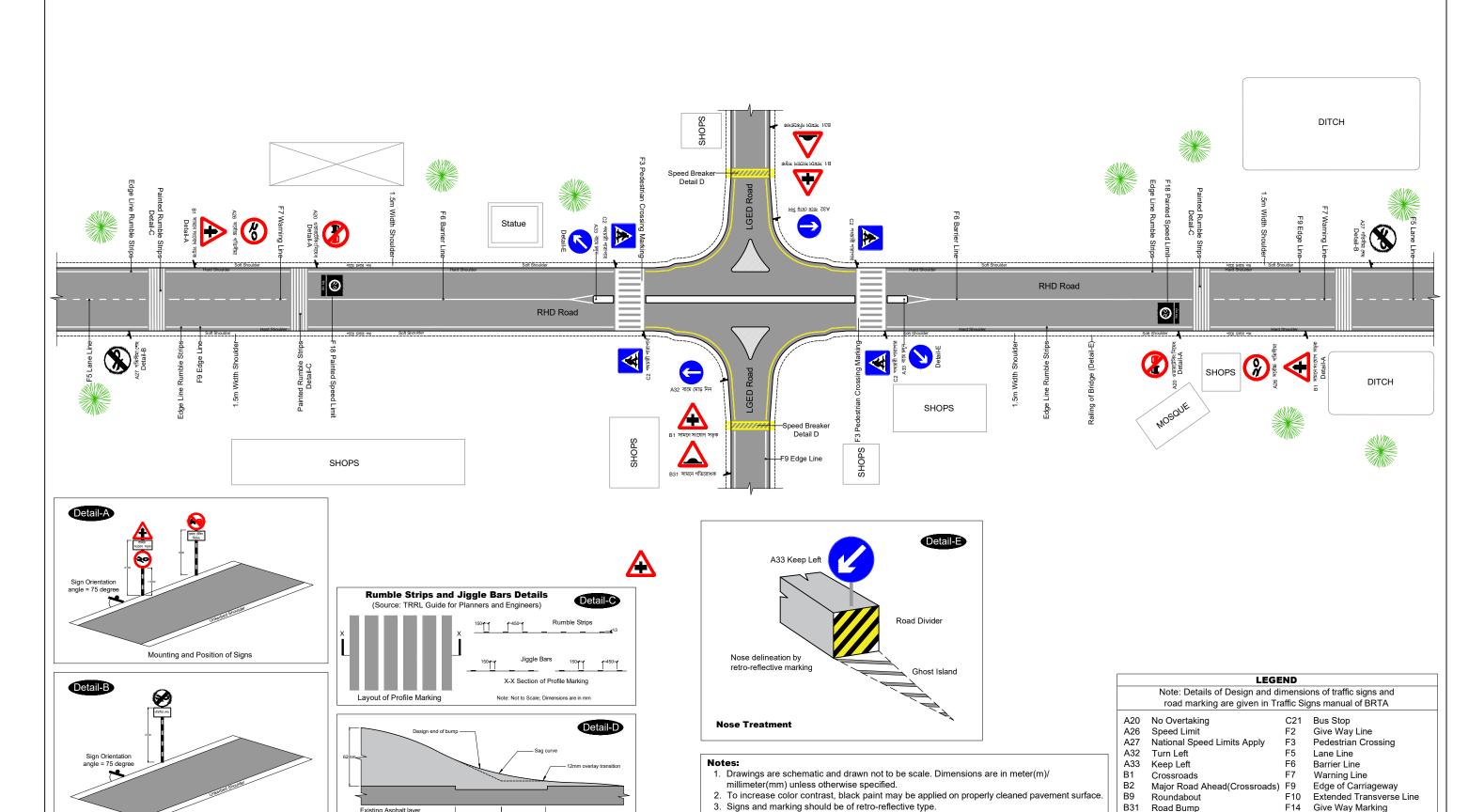
Special Speed Limit

Trees

Date: December 2022 Revision: 04 Template No: J6

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Mounting and Position of Signs



4. Two signs can be mounted on the same sign pole

5. Engineers may apply his judgement to locate the installation of the signs.

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing after curve

Safety Measures for:

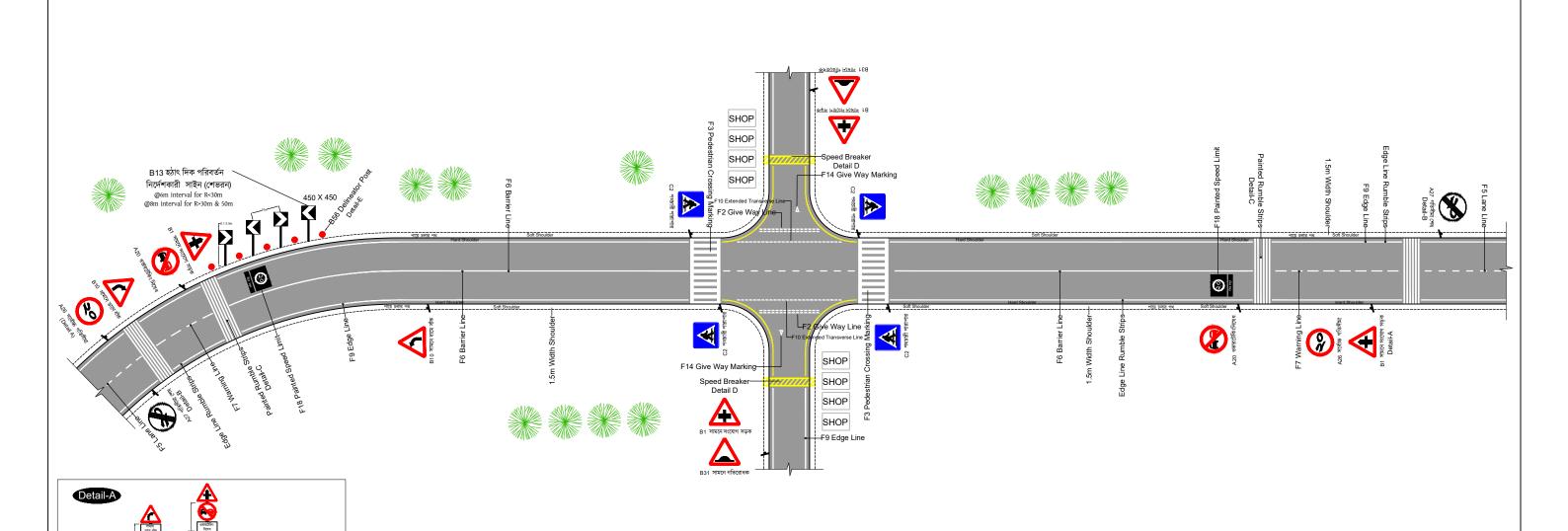
Upazila Road or Road with Design Speed 40 kmph

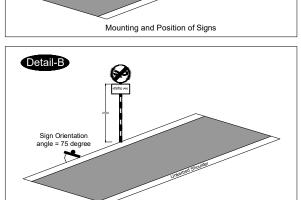
Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

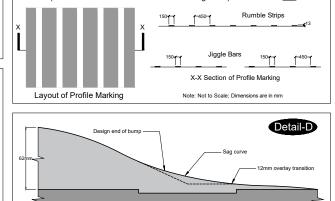
Revision: 04

Template No : K1

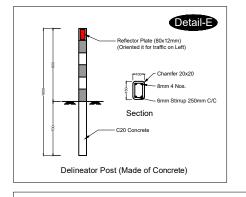




Mounting and Position of Signs



Rumble Strips and Jiggle Bars Details



Notes:

- Drawings are schematic and drawn not to be scale. Dimensions are in meter(m)/ millimeter(mm) unless otherwise specified.
- 2. To increase color contrast, black paint may be applied on properly cleaned pavement surface.
- 3. Signs and marking should be of retro-reflective type.
- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.

	LEGEND				
Note: Details of Design and dimensions of traffic signs and					
		road marking are given in Traffic Signs manual of BRTA			
	A20	No Overtaking	C2	Pedestrian Crossing	
	A26	Speed Limit	C21	Bus Stop	
	A27	National Speed Limits Apply	F2	Give Way Line	
_	B1	Crossroads	F3	Pedestrian Crossing	
	B2	Major Road Ahead(Crossroads)	F5	Lane Line	
	B10	Sharp Bend to the Right/Left	F6	Barrier Line	
	B13	Sharp Change of Direction	F7	Warning Line	
	B31	Road Bump	F9	Edge of Carriageway	
	B56	Delineator Post	F10	Extended Transverse Line	
	(%)	Trees	F14	Give Way Marking	

F18 Special Speed Limit

Example of layout plan with road safety measures for Typical Cross-Junction with pedestrian crossing after curve and bus bay

Safety Measures for:

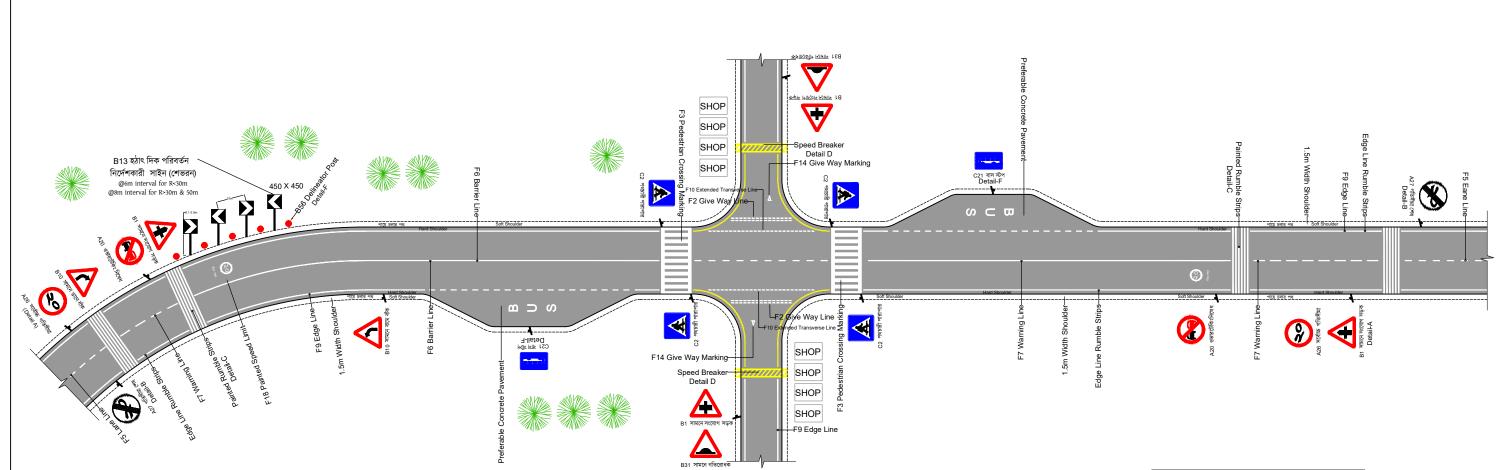
Upazila Road or Road with Design Speed 40 kmph

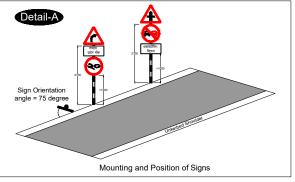
Template No : K2

Revision: 04

Consultant: Accident Research Institute (ARI), Bangladesh University of Engineering and Technology (BUET)

Date: December 2022

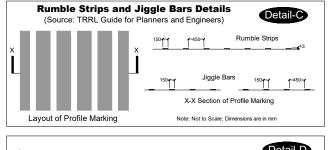


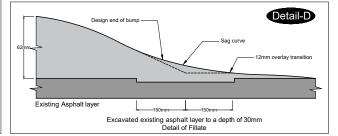


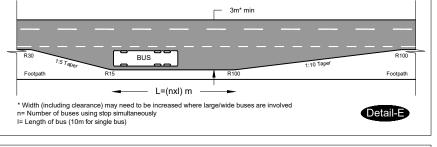
Mounting and Position of Signs

Detail-B

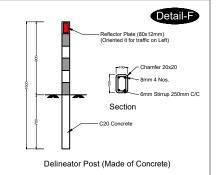
Sign Orientation angle = 75 degree







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- 4. Two signs can be mounted on the same sign pole
- 5. Engineers may apply his judgement to locate the installation of the signs.



LEGEND				
	Note: Details of Design and dimensions of traffic signs and			
road marking are given in Traffic Signs manual of BRTA				
A20	No Overtaking	C2	Pedestrian Crossing	
A26	Speed Limit	C21	Bus Stop	
A27	National Speed Limits Apply	F2	Give Way Line	
B1	Crossroads	F3	Pedestrian Crossing	
B2	Major Road Ahead(Crossroads)	F5	Lane Line	
B10	Sharp Bend to the Right/Left	F6	Barrier Line	
B13	Sharp Change of Direction	F7	Warning Line	
B31	Road Rump	FQ	Edge of Carriageway	

Road Bump Delineator Post Extended Transverse Line Give Way Marking Trees Special Speed Limit