



بَلْوَةِ اَبُو دَهْبَى
GOVERNMENT OF ABU DHABI

STANDARD DRAWING GUIDELINE - PART 1

TR-541-1



Standards Guideline For

**Standard Drawings TR-541
(Part 1)**

Document No.: TR-541
Third Edition
June 2024



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1. Amendment Page

To ensure that each copy of this technical document (Abu Dhabi Guideline) contains a complete record of amendments, the Amendment Page is updated and issued with each set of revised/new pages of the document. This ADG/ISGL is a live document which can be amended when necessary. QCC operates TR-541/1 and 2 Standard Drawings Group which prepared this document and can review stakeholder comments in order to review and amend this document and issue an updated version when necessary.

Edition Number	Year of Approval	Part	Number of pages	Sections Changes	Notes
01	March 2018	Parts 1 and 2	Full set		
02	Jan. 2022	Parts 1 and 2	73		

1 Geometric Details

03	June 2024	Part 1	GM-22	Revised	As marked up on the drawing
			GM-23	Revised	As marked up on the drawing
			GM-24	Revised	As marked up on the drawing



2. About the Abu Dhabi Quality and Conformity Council

Abu Dhabi Quality and Conformity Council (QCC) is an Abu Dhabi government entity established in accordance with Local Law No. (3) of 2009 to raise the quality of Abu Dhabi's exports and products traded locally. QCC consists of a council of regulators and industry with a mandate to ensure provision of quality infrastructure in line with global standards.

o QCC's functions are divided into six key areas:

- Developing standards and specifications
- Capacity building of metrology systems
- Strengthening testing infrastructure
- Launching conformity schemes
- Protecting consumer interests
- Ensuring fair trade

o QCC's key stakeholders include regulatory authorities, consumers, retailers and wholesalers, industry, conformity assessment bodies (CABs) and importers.

QCC supports regulators and government organizations through offering quality and conformity facilities, expertise and resources that allow them to implement products safety and compliance requirements and regulations. Additionally, QCC works towards promoting a culture of quality and protecting the interests of consumers. In doing this, QCC seeks to promote the Emirate's competitiveness to become one of the world's most attractive regions for investments and human capital, and to support the competitiveness of national industries in world markets.



3. Acknowledgement

QCC would like to thank the members of the Working Group listed below.

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1	Khulood Al Marzougi	Department of Municipalities and Transport
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5	Yasmeen Mabkhout Almansoori	
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7	Tarek Ahmed Niazy	
8	Asma Al Nuaimi	
9	Manar Al Nuaimi	Al Dhafrah Municipality
10	Rashed Zayed Al Falahi	
11	Thuraya Al adawi	Integrated Transport Centre
12	Hesham El Degwy	
13	Fatmah Al hantoubi	
14	Irfan Hameed	
15	Mona Rashed Al Alili	Abu Dhabi Quality and Conformity Council



4. Foreword

Several technical circulars were issued for cost saving and updating some standards. All issued technical circulars will be inserted in the amended version of the TR-541/1 and 2 Standard Drawings manual.

5. Working Group

The Professional Working Group was organized by Abu Dhabi Quality and Conformity Council and established in September 2023, which was requested by Integrated Transport Center, to prepare the TR-541/1 Standard Drawings Manual in cooperation with the related stakeholders including representatives from government and private sectors in order to establish operating procedures and technical guidelines for the relevant Authorities, Project Developers, Planners, Engineers etc., a step-by-step guidance on how to prepare the standard drawings aspect of a planning application for new development in the Emirate of Abu Dhabi at the Inception, Planning & Design stages of the Project.

6. Purpose

The purpose of updating this manual is to gather and insert all issued technical circulars into the amended version and to design as per the international best practices with a unified approach for all users.

7. Scope

TR-541 is a compiled set of technical drawings that standardize infrastructure design details in the emirate of Abu Dhabi. The current amendment provides information for the disciplines of Road Geometric Design. The cycle track details previously provided in drawings GM-22, 23 and 24 (Part 1) is updated to add the scooters details.

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Department of Municipalities and Transport

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Abu Dhabi, United Arab Emirates

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3. TRAFFIC CONTROL SYSTEMS (NOT USED)

transferred to the latest version of QCC document TR-529 (Traffic Signals and Electronic Warning Information Systems Manual).

4. WORK ZONE TRAFFIC MANAGEMENT (NOT USED)

transferred to the latest version of QCC document TR-531 (Work Zone Traffic Management Manual)

5. LIGHTING (NOT USED)

transferred to the latest version of QCC document PR-402 (Lighting Manual).

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TITLE			
STANDARD DRAWINGS			
DRAWING TITLE			
LIST OF DRAWINGS			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	P1-G-1

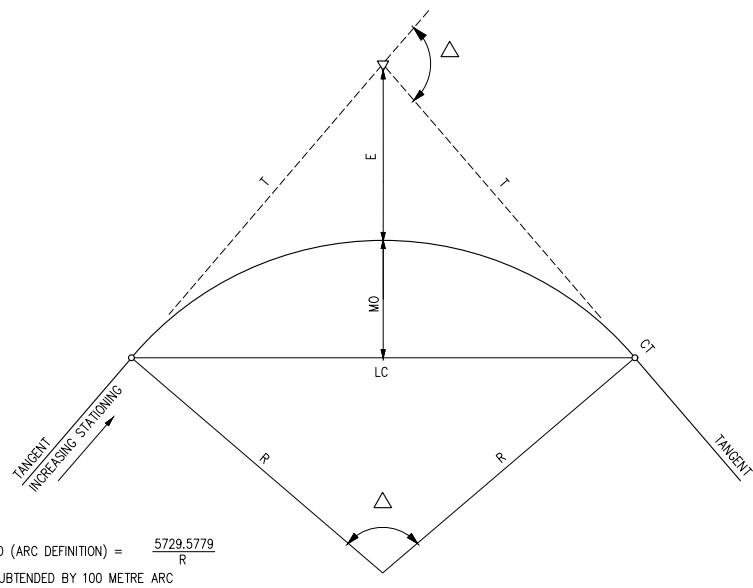
01. GEOMETRIC DETAILS

1 INCLUDED ENTITIES / SUPERCEDED OLD DEPARTMENT NAMES

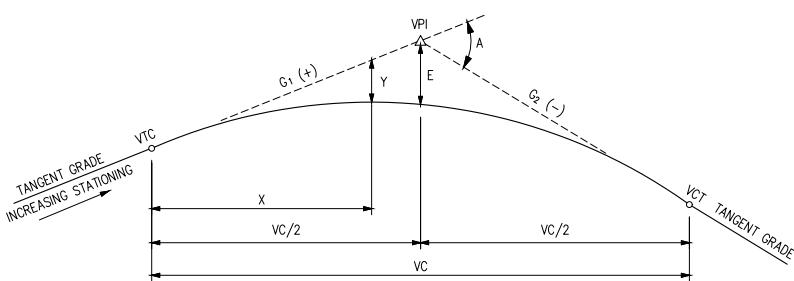
ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE IN GRADES OR AMPERE	H	HEIGHT	R	RADIUS
AAM	AL AIN MUNICIPALITY	HDHC	HARD DRAWN HIGH CONDUCTIVITY	RAL	STANDARD COLOURS FOR PAINT AND COATINGS
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	HEX	HEXAGONAL	REINF	REINFORCEMENT
AC	ASBESTOS CEMENT OR ALTERNATING CURRENT	HRS	HOURS	REV	REVISION
ADD	ABU DHABI DISTRIBUTION COMPANY	HT	HEIGHT	RSU	ADM ROAD SAFETY UNIT
ADM	ABU DHABI CITY MUNICIPALITY	Hz	HERTZ		
ADWEA	ABU DHABI WATER AND ELECTRICITY AUTHORITY	I.E.	THAT IS	S	SOUTH
AF	AMP FRAME	INT	INTERIOR	SC	SHORT CIRCUIT OR SPIRAL TO CURVE POINT
ALUM	ALUMINUM	INT CAP	INTERRUPTING CAPACITY	SHLDR	SHOULDER
APPD	APPROVED	IRI	INTERNAL ROADS AND INFRASTRUCTURE DIRECTORATE	SP	SINGLE PHASE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	IRRIG	IRRIGATION	S/S	SUBSTATION
AT	AMP TRIP	ITC	INTEGRATED TRANSPORT CENTRE	SS	STAINLESS STEEL
B	BLACK	ITS	INTELLIGENT TRANSPORT SYSTEM	ST	SPIRAL TO TANGENT POINT
BC	BOLT CENTRE	JT	JOINT	T	TANGENT LENGTH (CIRCULAR CURVE)
BS	BRITISH STANDARDS			T&B	TOP AND BOTTOM
C	CONDUCTOR OR COEFFICIENT OF VERTICAL CURVE OFFSET	KA	KILO AMPERES	TC	TANGENT TO CURVE POINT
CAP	CAPACITY	KG	KILOGRAM	TCDM	TRAFFIC CONTROL DEVICES MANUAL
CC	CURVE TO CURVE POINT	KM	KILOMETRE	TL	TEST LEVEL
C/C	CENTRE TO CENTRE	KPH	KILOMETRE PER HOUR	TP	THREE PHASE
CG	CENTRE OF GRAVITY	KV	KILOVOLT	TS	TANGENT TO SPIRAL POINT
CIDH	CAST IN DRILLED HOLE	KWH	KILOWATT HOURS	TYP	TYPICAL
CKD	CHECKED				
GKT	CIRCUIT				
CLR	CLEARANCE				
CL	COVER LEVEL	LC	LENGTH OF LONG CHORD	UCDM	UTILITY CORRIDORS DESIGN MANUAL
cm	CENTIMETRE	LED	LIGHT EMITTING DIODE	USDM	URBAN STREET DESIGN MANUAL
CS	CURVE TO SPIRAL POINT	Ith	RATED THERMAL CURRENT	UV	ULTRA-VIOLET
CT	CURVE TO TANGENT POINT	LV	LOW VOLTAGE	V	VOLT
CU	CUBIC OR COPPER	M	METRE	VC	VERTICAL CURVE OR LENGTH OF VERTICAL CURVE
DI	DUCTILE IRON	MAX	MAXIMUM	VCT	VERTICAL CURVE TO TANGENT POINT
DIA	DIAMETER	MASH	MANUAL FOR ASSESSING SAFETY HARDWARE	VPI	VERTICAL POINT OF INTERSECTION
DMT	DEPARTMENT OF MUNICIPALITIES AND TRANSPORT	MCB	MINIATURE CIRCUIT BREAKER	VTC	VERTICAL TANGENT TO CURVE POINT
DN	DOWN	MCCB	MOULDED CASE CIRCUIT BREAKER	W	WEST, WATT, WIDE OR WHITE
DRN	DRAWN	MDD	MAXIMUM DRY DENSITY	WCMP	WALKING AND CYCLING MASTER PLAN
Du	EMIRATES INTEGRATED TELECOMMUNICATIONS COMPANY	MIN	MINIMUM	WWF	WELDED WIRE FABRIC
DWG	DRAWING	mm	MILLIMETRE		
E	EAST, EXTERNAL OR ORDINATE	MO	MIDDLE ORDINATE		
EF	EACH FACE	MQS	MATERIALS QUALITY SECTION		
ELEV	ELEVATION	MW	METRIC WELDED		
EN	EUROPEAN STANDARDS	N	NORTH		
EP	EDGE OF PAVEMENT	N/A	NOT APPLICABLE		
ET	END TAPER	NCHRP	NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM		
ETISALAT	THE EMIRATES TELECOMMUNICATIONS LTD.	Nm	NEWTON METRE		
EXP	EXPANSION	NO.	NUMBER	@	AT
		NS	NATURAL GROUND SURFACE	&	AND
		NTS	NOT TO SCALE	+	ANGLE
FGL	FINISHED GROUND LEVEL	PGL	PROFILE GRADE LINE	%	PERCENT
FDN	FOUNDATION	OD	OUTSIDE DIAMETER	Ø	DIAMETER
FY	YIELD STRENGTH	POI	POINT OF INTERSECTION	△	CENTRAL ANGLE OF CIRCULAR CURVE
		POC	POINT OF CURVE	4"	FOUR INCH
		POT	POINT OF TANGENT	°C	DEGREES CELSIUS
G	GRADE OR GREY	PRFD	PARKS AND RECREATION FACILITIES DIVISION	PT	CENTRE LINE
GALV	GALVANISED	PROJ	PROJECTION		
GI	GALVANISED IRON	PSI	POUNDS PER SQUARE INCH		
GRP	GLASS REINFORCED PLASTIC	PT	POINT		

STANDARD CURVE DATA



HORIZONTAL CURVE



GRADE G_1 , G_2 EXPRESSED AS A PERCENT

RISING GRADE + FALLING GRADE -

$$A = G_2 - G_1$$

$$E = \frac{A \cdot VC}{800}$$

$$K = \frac{VC}{A}$$

X MEASURED FROM VTC OR VCT

$$X \text{ MAX} = \frac{VC}{2}$$

$$\text{WHERE } C = \frac{E}{(0.5VC)^2} = \frac{A}{200 VC}$$

$$G = G_1 - \frac{X \cdot A}{VC}$$

$$X = \frac{G_1 \cdot VC}{A}$$

PARABOLIC VERTICAL CURVE

NOTES:

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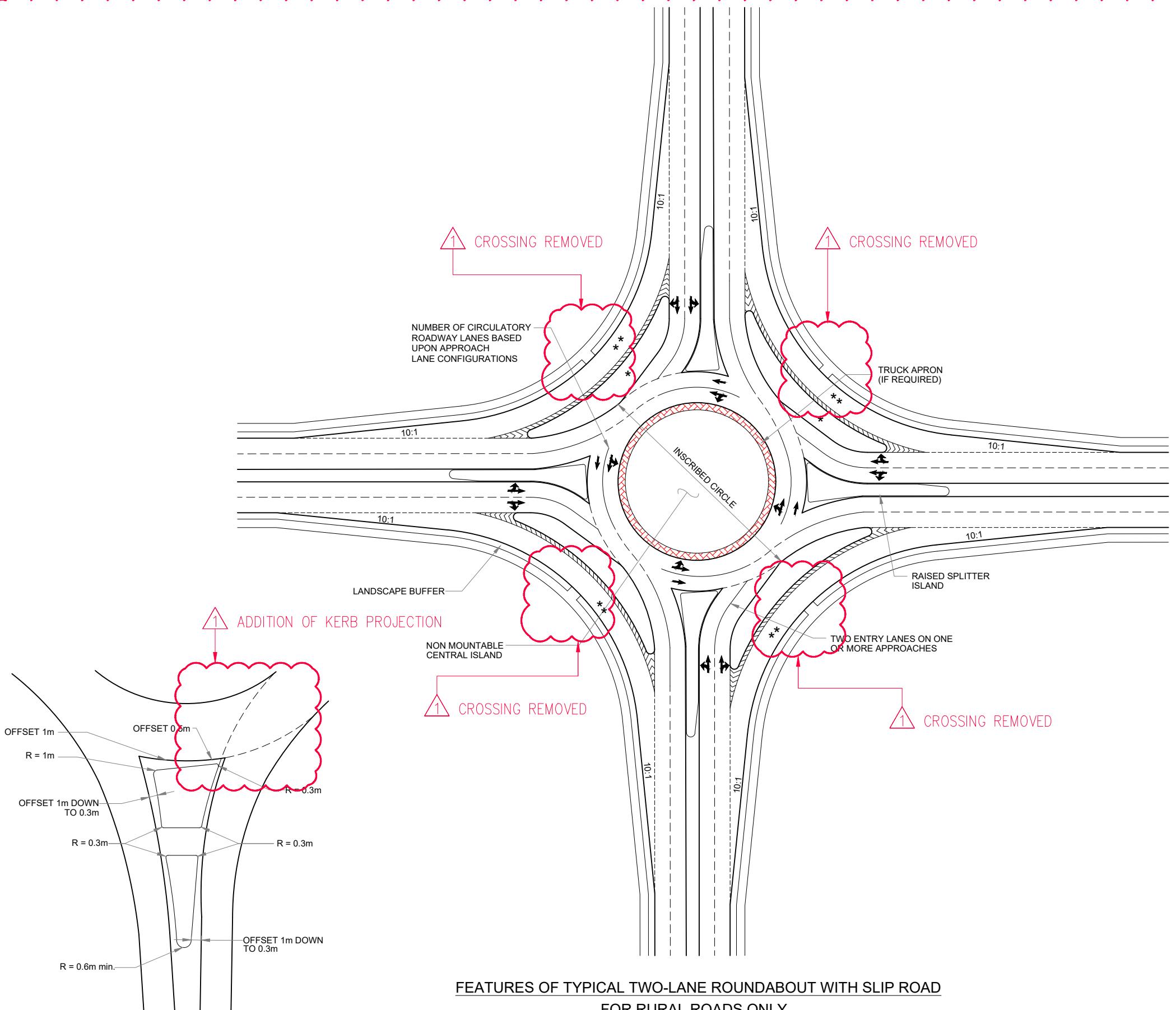
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STANDARD DRAWINGS

DRAWING TITLE
GEOMETRIC DETAILS
ABBREVIATIONS AND
STANDARD CURVE DATA

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-0

⚠ URBAN ROUNDABOUT TRANSFERRED TO GM-1A



NOTES:

1. ROUNDABOUT CRITERIA NEEDS TO MATCH AS PER STANDARDS.
2. FOR UPSTAND & DROP KERB STANDARDS PLEASE REFER TO ROADWAY CURB DETAILS UNDER CHAPTER CIVIL WORKS.
3. FOR URBAN ROUNDABOUTS ENTRY WIDTHS SHALL HAVE LANE WIDTHS WITHIN THE USDM PARAMETERS.
4. BY-PASS RIGHT TURN LANES SHOULD BE AVOIDED, IF PROVIDED RAISED TABLE CROSSINGS SHOULD BE CONSIDERED TO REDUCE TRAFFIC SPEEDS AND INCREASE PEDESTRIAN SAFETY.
5. WHERE THREE (3) OR MORE LANES ARE PROVIDED ENSURE THE DEFLECTION FOR ALL LANES ARE MET.
6. SPLITTER ISLAND KERB PROJECTION SHOULD GUIDE DRIVERS AROUND CENTRAL ISLAND.

* THE TANGENT SECTION IS OPTIONAL, A SINGLE ENTRY/EXIT CURVE CAN BE USED AS PER AUTHORITY REQUIREMENTS (DMT, ITC).

• SLIP ROAD MAY BE ON ONE OR MORE APPROACHES BASED ON TRAFFIC STUDIES.

⚠ REVISED AUTHORITY REFERENCES

⚠ ADDITION OF NOTES 3, 4, 5, 6

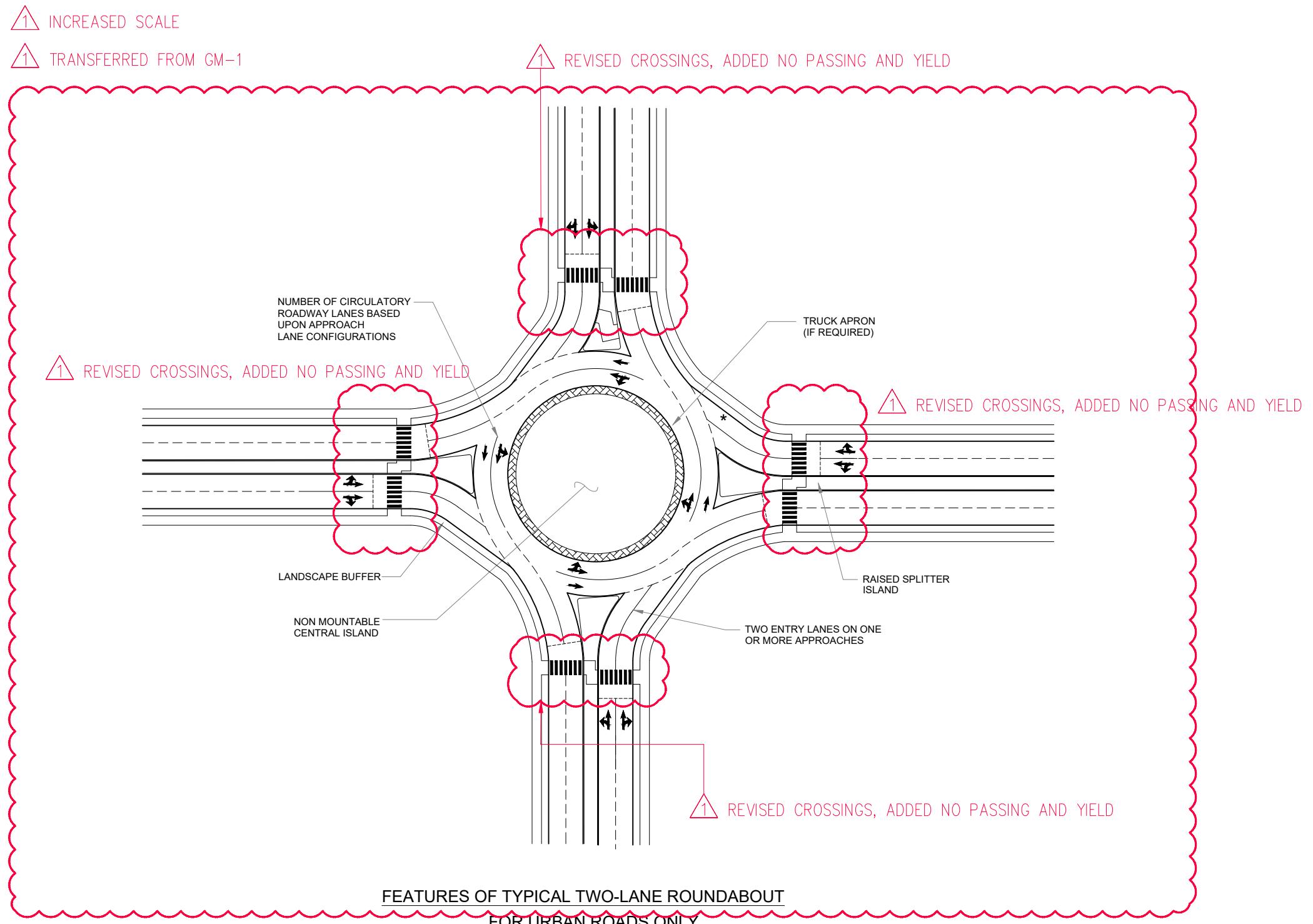
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1	2021 AMENDMENT - FINAL ISSUE	JAN 2022	
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TITLE

STANDARD DRAWINGS

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PROJECT No.	.	DWG. No. GM-1



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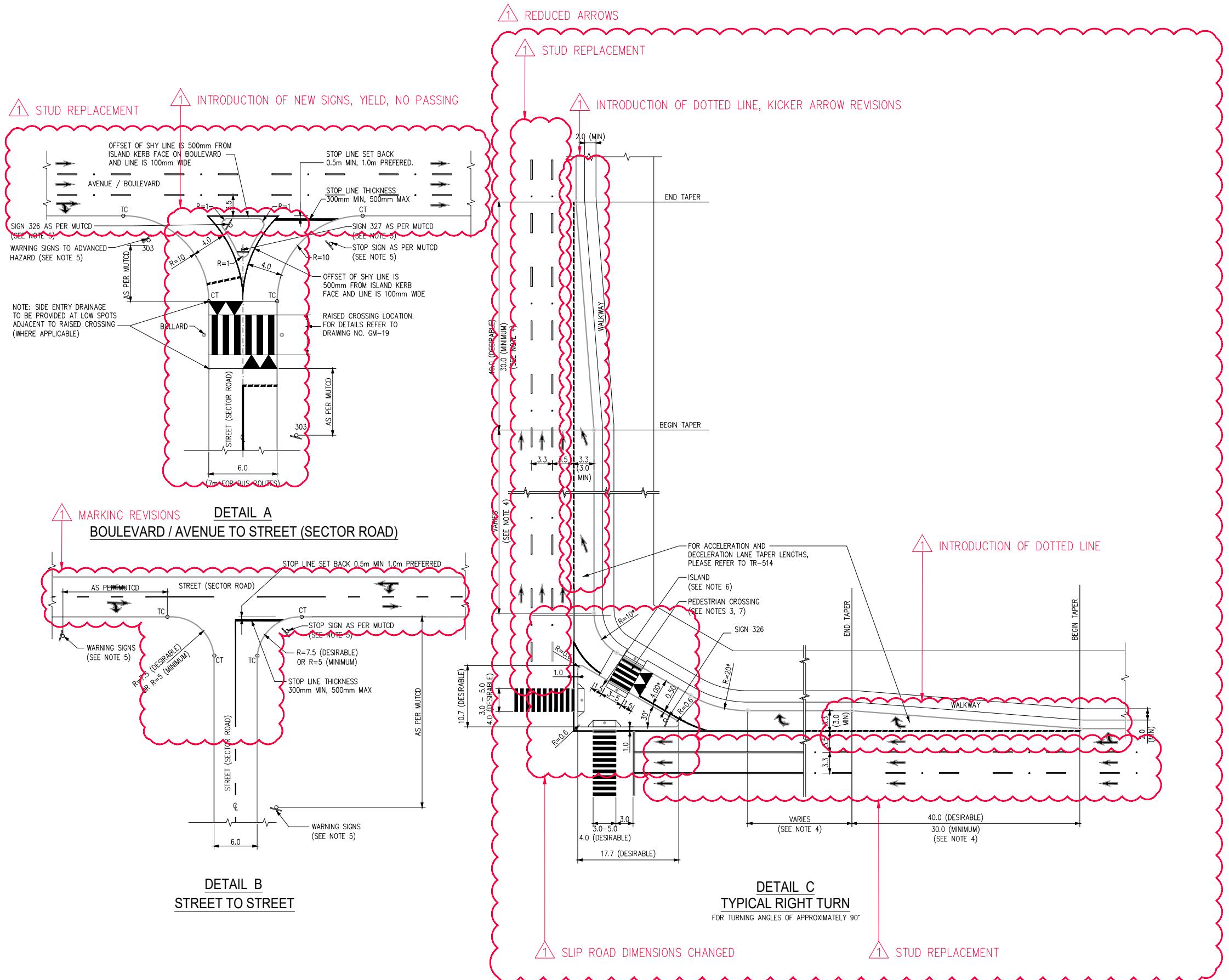
1. ROUNDABOUT CRITERIA NEEDS TO MATCH AS PER STANDARDS.
2. FOR UPSTAND & DROP KERB STANDARDS PLEASE REFER TO ROADWAY CURB DETAILS UNDER CHAPTER CIVIL WORKS.
3. FOR URBAN ROUNDABOUTS ENTRY WIDTHS SHALL HAVE LANE WIDTHS WITHIN THE USDM PARAMETERS.
4. BY-PASS RIGHT TURN LANES SHOULD BE AVOIDED, IF PROVIDED RAISED TABLE CROSSINGS SHOULD BE CONSIDERED TO REDUCE TRAFFIC SPEEDS AND INCREASE PEDESTRIAN SAFETY.
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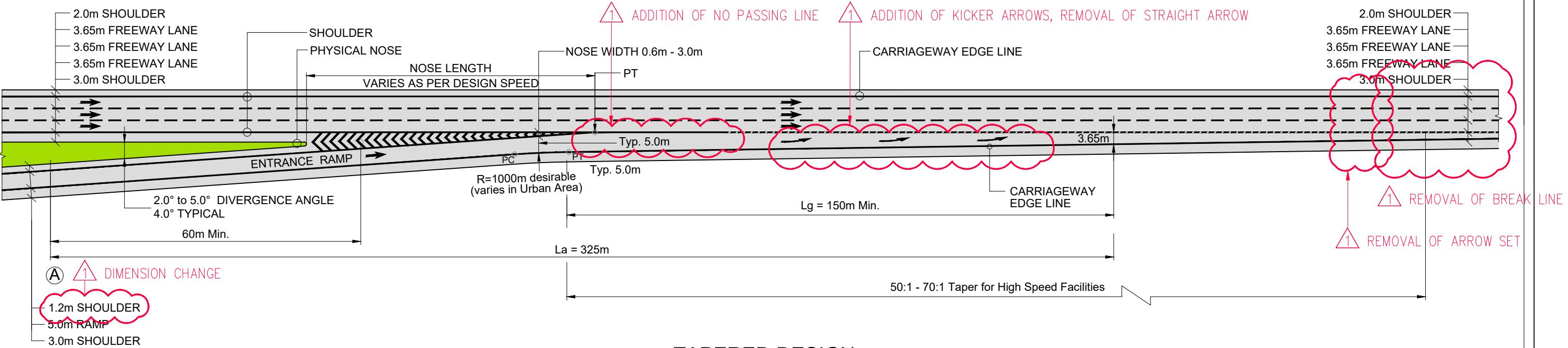
** SLIP ROAD MAY BE ON ONE OR MORE APPROACHES BASED ON TRAFFIC STUDIES.

1 REVISED AUTHORITY REFERENCES

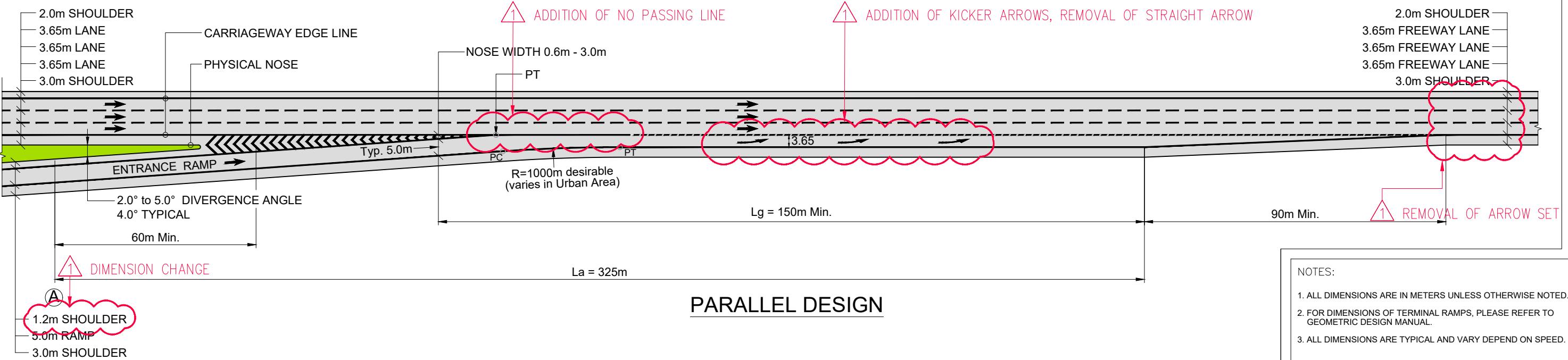
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE GEOMETRIC DETAILS TYPICAL ROUNDABOUT LAYOUT CHARACTERISTIC (URBAN ROADS)		
DRAWN	SCALE	NTS
CHECKED	DATE	
APPROVED	SIZE	A1
PROJECT No.	DWG. No.	GM-1A



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TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
GEOMETRIC DETAILS		
ROADWAY DETAILS		
GEOMETRIC DETAIL - INTERSECTIONS		
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APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-2



TAPERED DESIGN



PARALLEL DESIGN

Notes:

1. La is the required acceleration length as shown in Table 12.13
2. Point A controls speed on the ramp. La should not start back on the curvature of the ramp unless the radius equals 300m or more.
3. Lg is the required gap acceptance length. Lg should be a minimum of 150m to depending on the nose width.
4. The value of La or Lg whichever produces the greater distance downstream from where the nose equals 0.6m, is suggested for use in the design of the ramp distance.

V = Design Speed of Highway (km/h)

V_a = Average Running Speed on Highway (km/h)

V' = Design Speed of Exit Curve (km/h)

V'a = Average Running Speed on Exit Curve (km/h)

* THE TYPICAL RAMPS DESIGNED FOR
FREEWAY = 120 km/h
RAMPS = 70 km/h

PLEASE REFER TABLE 12.10 FOR DIFFERENT SPEEDS

TABLE 12.13 Minimum Acceleration Lengths for Entrance Terminals with Flat Grades of Two Percent or Less

Design Speed of Freeway (km/h)	Speed Reached at End of Full Lane Width (V _a) ^②	L = Lengths for Acceleration Lane Excluding Taper(m) ^① For Design Speed of Ramp (km/h)							
		Stop	20	30	40	50	60	70	80
		For Average Running Speed (km/h) (V')							
		0	20	28	35	42	51	63	0
50	37	60	50	30	--	--	--	--	--
60	45	95	80	65	45	--	--	--	--
70	53	150	130	110	90	65	--	--	--
80	60	200	180	165	145	115	65	--	--
90	67	260	245	225	205	175	125	35	
100	74	345	325	305	185	255	205	110	40
110	81	430	410	390	370	340	290	200	125
	88	545	530	515	490	460	410	245	
130	92	595	580	560	540	510	455	380	305
140	100	705	690	675	655	625	575	510	440

NOTES:

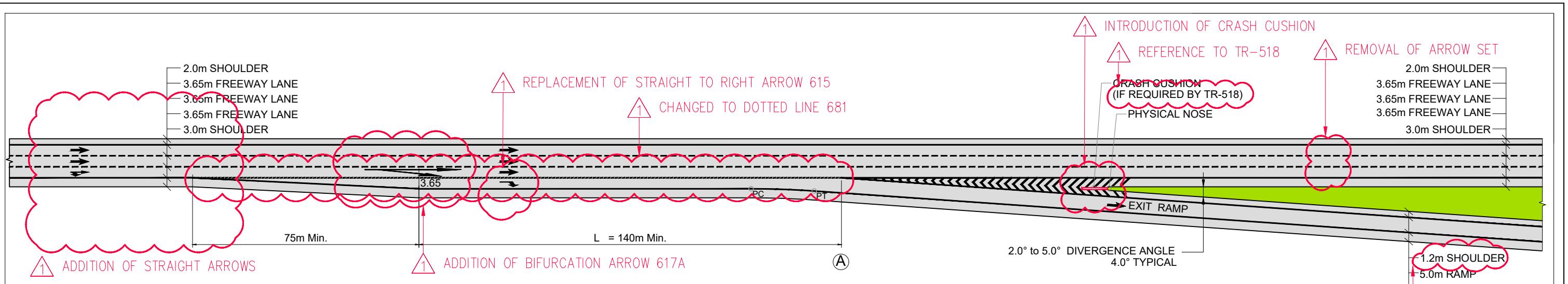
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR DIMENSIONS OF TERMINAL RAMPS, PLEASE REFER TO GEOMETRIC DESIGN MANUAL.
3. ALL DIMENSIONS ARE TYPICAL AND VARY DEPEND ON SPEED.

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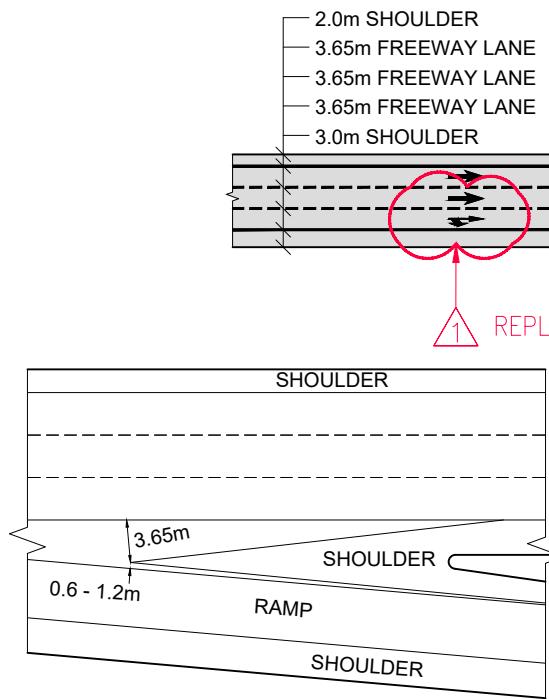
REVISED DRAWING TITLE

STANDARD DRAWINGS

DRAWING TITLE	GEOMETRIC DETAILS
TYPICAL SINGLE - LANE FREE - FLOW ENTRANCE RAMPS (FOR HIGHWAYS, FREEWAYS, AND EXPRESSWAYS)	
DRAWN	SCALE
CHECKED	DATE
APPROVED	SIZE
PROJECT No.	DWG. No.
GM-3	



PARALLEL DESIGN



TYPICAL GORE DETAIL - A

Notes:

1. LD as shown in Table 12.10.
2. Point A controls the speed of the ramp, typically the horizontal curvature.

V = Design Speed of Highway (km/h)

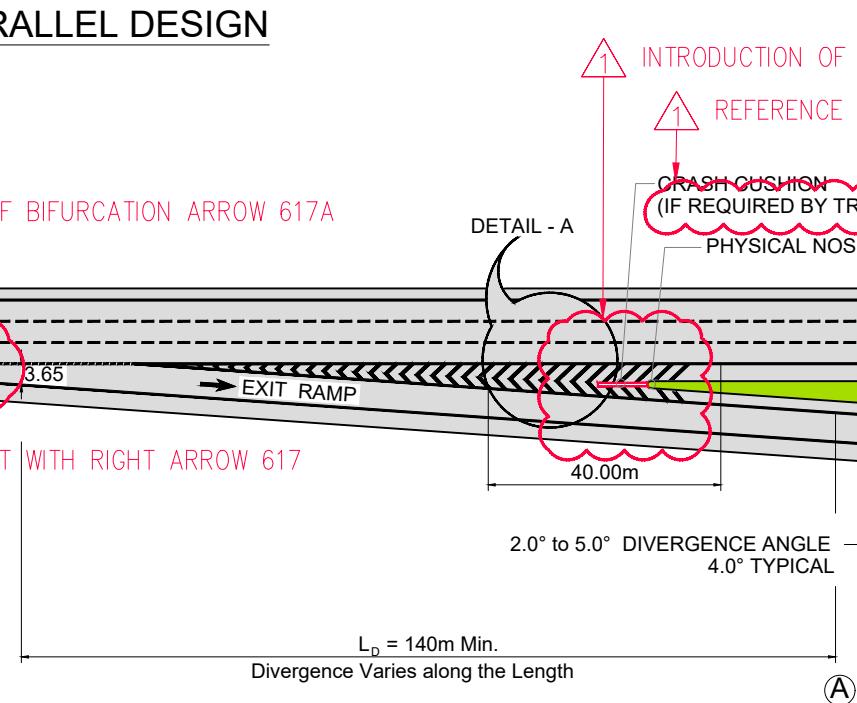
V_a = Average Running Speed on Highway (km/h)

V' = Design Speed of Exit Curve (km/h)

V'a = Average Running Speed on Exit Curve (km/h)

* THE TYPICAL RAMPS DESIGNED FOR
FREEWAY = 120 km/h
RAMP = 70 km/h

PLEASE REFER TABLE 12.10 FOR DIFFERENT SPEEDS



TAPERED DESIGN

TABLE 12.10 Design Lengths for Deceleration Lanes (Passenger Cars)

Design Speed of Roadway (km/h)	Speed Reached at End of Full Lane Width (km/h) (V _a) ⁽²⁾	L = Length of Deceleration Lane Excluding Taper (m) ⁽¹⁾ For Design Speed of Turning Roadway (km/h)							
		Stop	20	30	40	50	60	70	80
		For Average Running Speed of Exit Curve (km/h) (V'a)							
50	47	75	70	60	45	--	--	--	--
60	55	95	90	80	65	55	--	--	--
70	63	110	105	95	85	70	55	--	--
80	70	130	125	115	100	90	80	55	--
90	77	145	140	135	120	110	100	75	60
100	85	170	165	155	145	135	120	100	85
110	91	180	180	170	160	150	140	120	105
	98	200	195	185	175	170	155	120	105
130	102	220	210	200	190	185	170	160	135
140	110	240	225	215	205	195	185	175	150

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR DIMENSIONS OF TERMINAL RAMPS, PLEASE REFER TO GEOMETRIC DESIGN MANUAL.
3. ALL DIMENSIONS ARE TYPICAL AND VARY DEPEND ON SPEED.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		

REVISED DRAWING TITLE

STANDARD DRAWINGS

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-4

GEOMETRIC DETAILS

TYPICAL SINGLE-LANE FREE-EXIT RAMP TERMINALS
(FOR HIGHWAYS, FREEWAYS, AND EXPRESSWAYS)

⚠ DETAILS A & B REMOVED

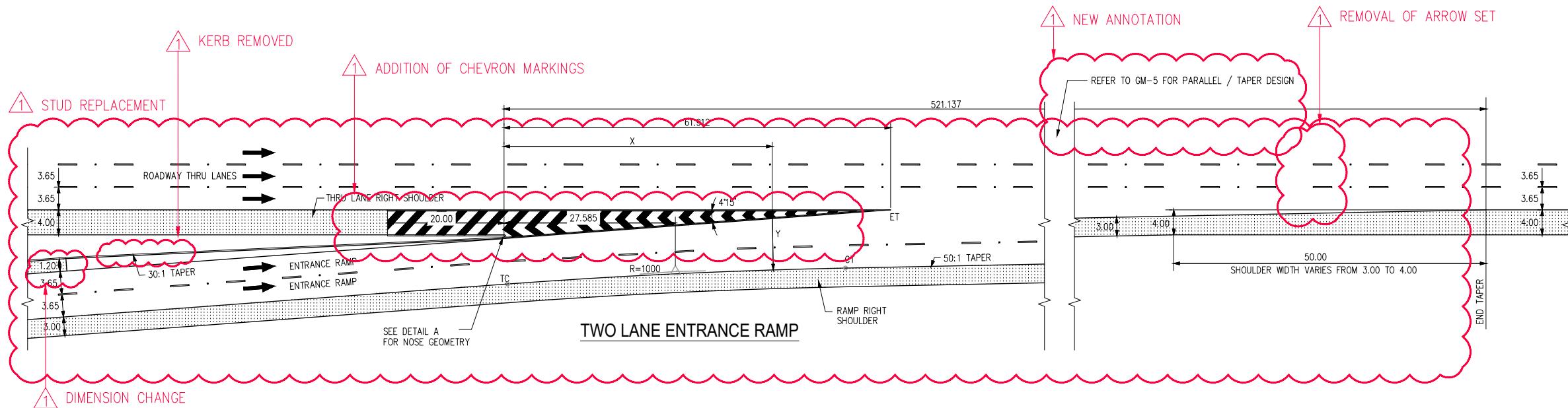
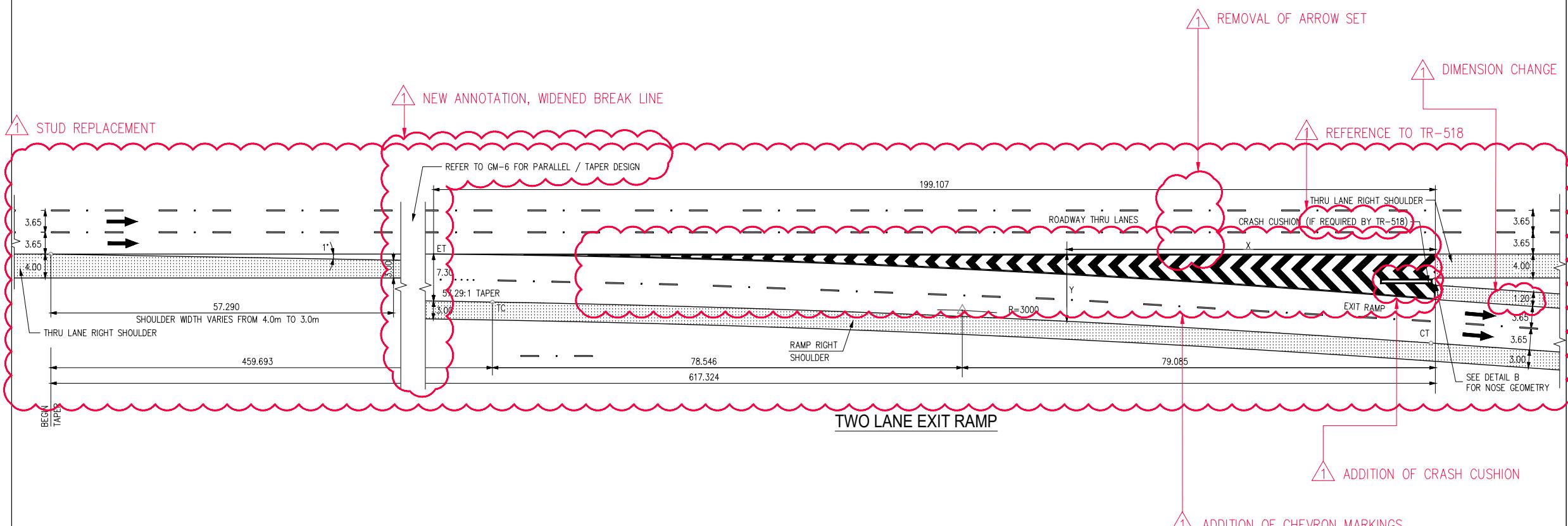


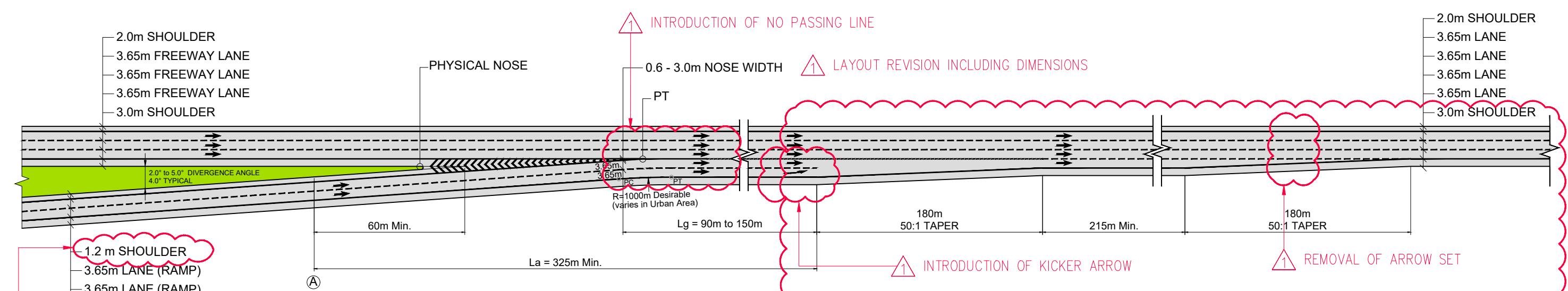
TABLE OF OFFSET DISTANCE FOR TWO LANE ENTRANCE RAMP																													
X	TC 0.563	20	40	CT 54.676	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	END TAPER 521.137
Y	11.879	10.624	9.730	9.329	9.223	8.823	8.423	8.023	7.623	7.223	6.823	6.423	6.023	5.623	5.223	4.823	4.423	4.023	3.623	3.223	2.823	2.423	2.023	1.623	1.223	0.823	0.423	0.023	0



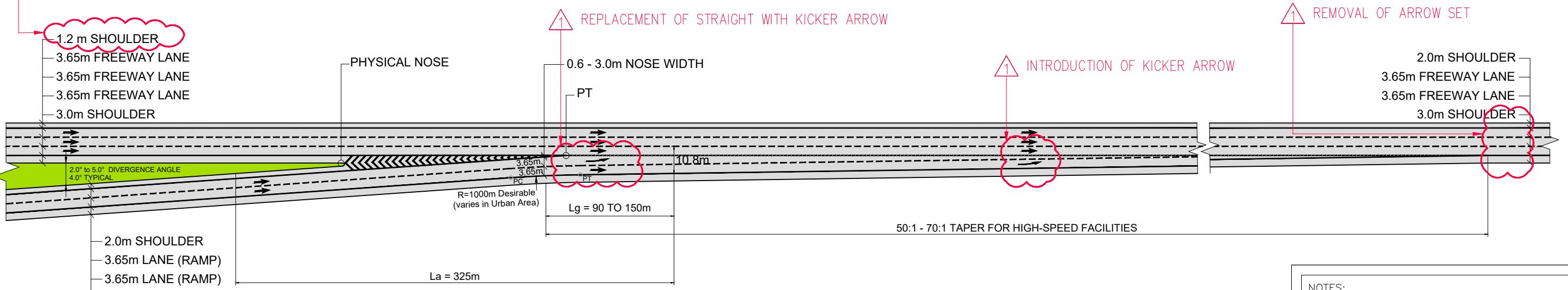
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022	
No.	REVISIONS	APP'D	DATE
CLIENT			
REVISED DRAWING TITLE			
TITLE STANDARD DRAWINGS			
DRAWING TITLE GEOMETRIC DETAILS			
RAMP TERMINALS			
TWO-LANE ENTRANCE AND EXIT RAMPS			
WITH SHOULDERS			
(FOR HIGHWAYS, FREEWAYS, AND EXPRESSWAYS)			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-4A



PARALLEL DESIGN



TAPERED DESIGN

Notes:

1. La is the required acceleration length as shown in Table 12.13
2. Point A controls speed on the ramp. La should not start back on the curvature of the ramp unless the radius equals 300m or more.
3. Lg is the required gap acceptance length. Lg should be a minimum of 90 to 150m to depending on the nose width.
4. The value of La or Lg whichever produces the greater distance downstream from where the nose equals 0.6m, is suggested for use in the design of the ramp distance.

V = Design Speed of Highway (km/h)

V_a = Average Running Speed on Highway (km/h)

V' = Design Speed of Exit Curve (km/h)

V'a = Average Running Speed on Exit Curve (km/h)

* THE TYPICAL RAMPS DESIGNED FOR
FREEWAY = 120 km/h
RAMP = 70 km/h

PLEASE REFER TABLE 12.10 FOR DIFFERENT SPEEDS

TABLE 12.13 Minimum Acceleration Lengths for Entrance Terminals with Flat Grades of Two Percent or Less

Design Speed of Freeway (km/h)	Speed Reached at End of Full Lane Width (km/h) (V _a) ^②	L = Lengths for Acceleration Lane Excluding Taper(m) ^① For Design Speed of Ramp (km/h)							
		For Average Running Speed (km/h) (V')							
		Stop	20	30	40	50	60	70	80
50	37	60	50	30	--	--	--	--	--
60	45	95	80	65	45	--	--	--	--
70	53	150	130	110	90	65	--	--	--
80	60	200	180	165	145	115	65	--	--
90	67	260	245	225	205	175	125	35	
100	74	345	325	305	185	255	205	110	40
110	81	430	410	390	370	340	290	200	125
	88	545	530	515	490	460	410	245	
130	92	595	580	560	540	510	455	380	305
140	100	705	690	675	655	625	575	510	440

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR DIMENSIONS OF TERMINAL RAMPS, PLEASE REFER TO GEOMETRIC DESIGN MANUAL.
3. ALL DIMENSIONS ARE TYPICAL AND VARY DEPEND ON SPEED.

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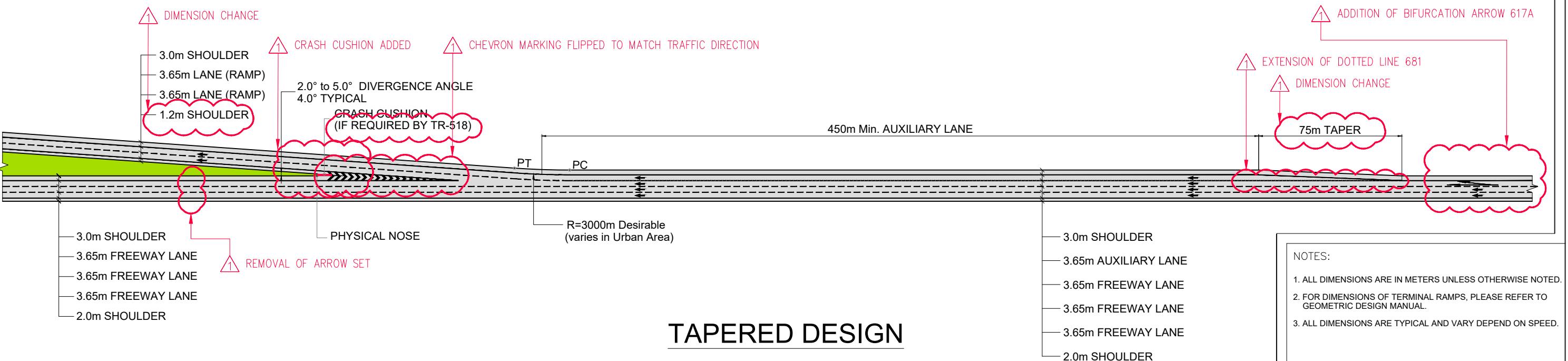
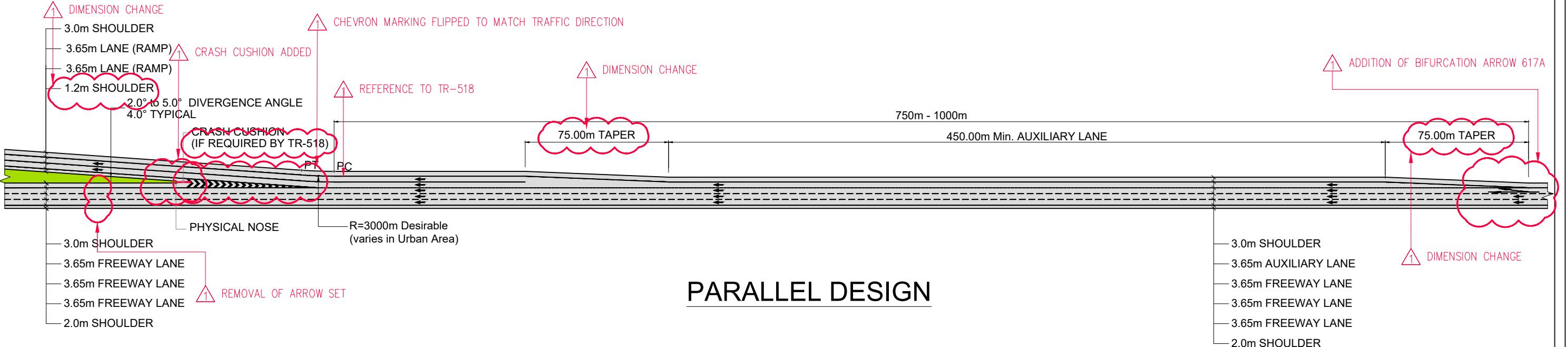
1 REVISIED DRAWING TITLE

TITLE

STANDARD DRAWINGS

DRAWING TITLE

GEOMETRIC DETAILS	
TYPICAL TWO - LANE FREE - FLOW ENTRANCE RAMPS (FOR HIGHWAYS, FREEWAYS, AND EXPRESSWAYS)	
DRAWN	SCALE
CHECKED	DATE
APPROVED	SIZE
PROJECT No.	DWG. No.
GM-5	



NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR DIMENSIONS OF TERMINAL RAMPS, PLEASE REFER TO GEOMETRIC DESIGN MANUAL.
3. ALL DIMENSIONS ARE TYPICAL AND VARY DEPEND ON SPEED.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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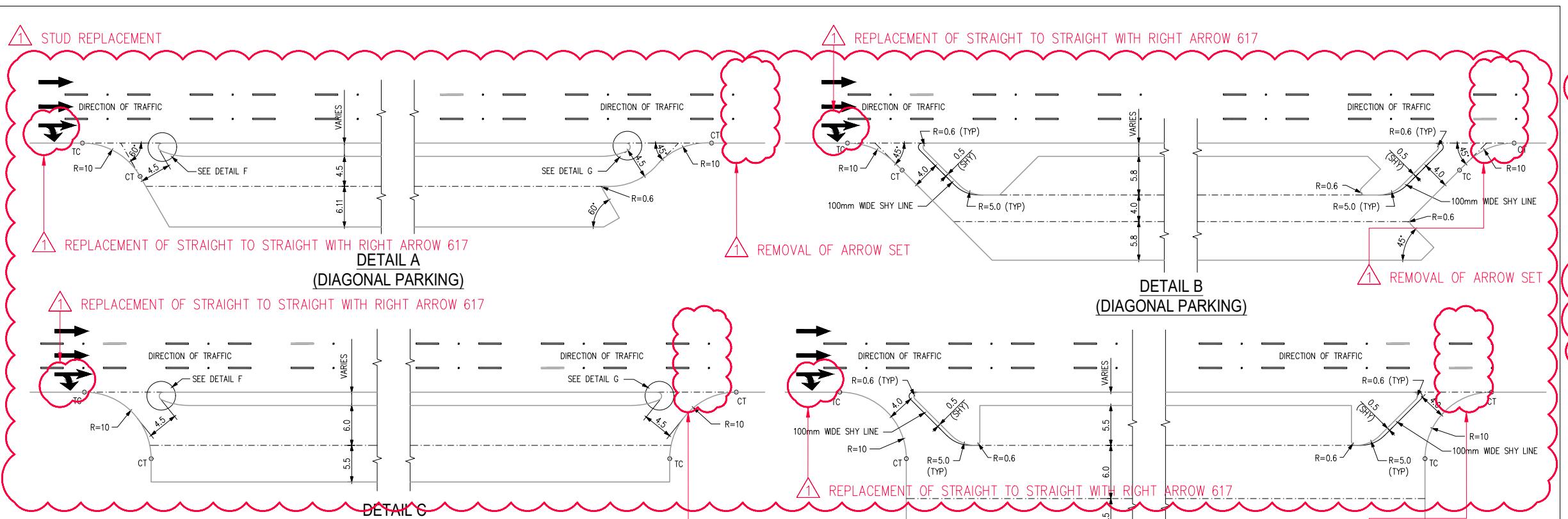
CLIENT

REVISED DRAWING TITLE

TITLE

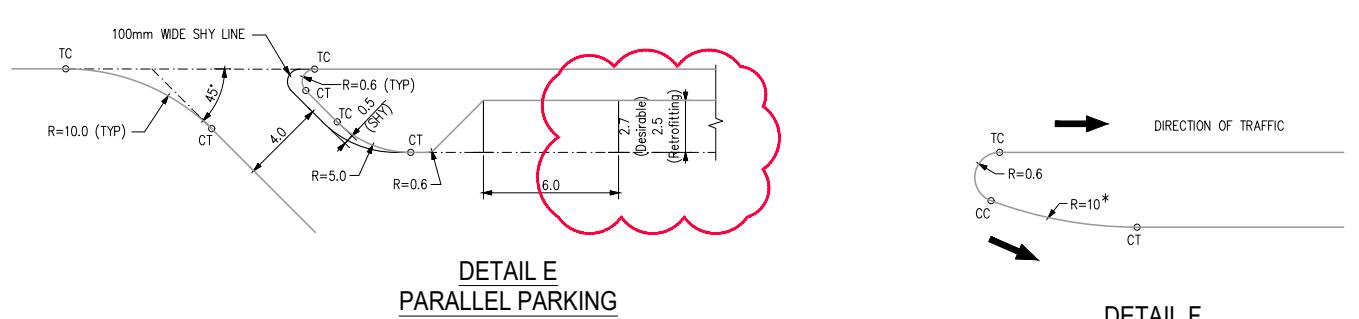
STANDARD DRAWINGS

GEOMETRIC DETAILS			
TYPICAL TWO - LANE FREE - FLOW EXIT RAMPS (FOR HIGHWAYS, FREEWAYS, AND EXPRESSWAYS)			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-6



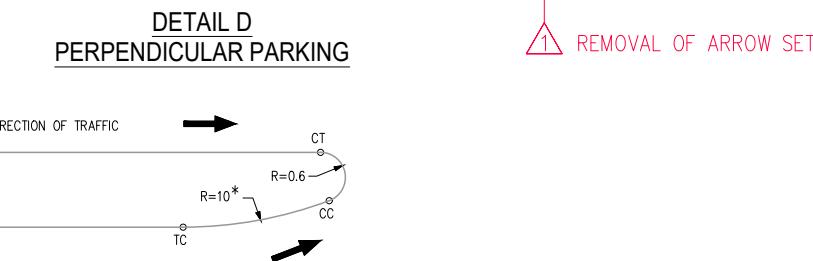
- NOTES:**
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 - ALL PARKING DIMENSIONS SHOWN ARE CONSIDERED ABSOLUTE VALUES. VALUES LESS THAN ABSOLUTE CAN ONLY BE USED AFTER APPROVAL FROM THE RELEVANT AUTHORITY.
 - PEDESTRIAN CONNECTIVITY NEEDS TO BE CATERED FOR BY THE INCLUSION OF SPEED TABLES, PEDESTRIAN RAMPS AND SIDEWALKS THROUGHOUT PARKING AREAS.
 - FOR SPECIFIC DETAILS AND REQUIREMENTS REFER TO ROAD GEOMETRIC DESIGN MANUAL.
 - PROVISION OF PARKING WHEEL STOPS TO BE AGREED WITH RELEVANT AUTHORITY. REFER TO DWG NO. C-1 FOR DETAILS.
 - REFER TO DWG NO. GM-8 FOR DISABLED PARKING DETAILS.
 - SIDE MEDIAN SHALL BE WIDE ENOUGH TO PROVIDE NECESSARY SIGNAGE WITHOUT BEING HIT. WHERE NEXT TO PARKING B & D, MINIMUM WIDTH IS 1.5 AS PER USDM.
 - PARALLEL PARKING WIDTH IS 2.7m FOR NEW STREETS AND 2.5m FOR RETROFITTING PURPOSES WITH A SIDE MEDIAN OF NO LESS THAN 1.5m PLUS SAFE EXIT FOR PASSENGER NEXT TO HIGH SPEED ROAD.
 - ADDITION OF NOTES 7,8; ORIGINAL NOTE 6 REMOVED; PARKING DIMENSION 2.5 FOR RETROFIT CONFIRMED FROM ALL PARTIES

WORDING CHANGE

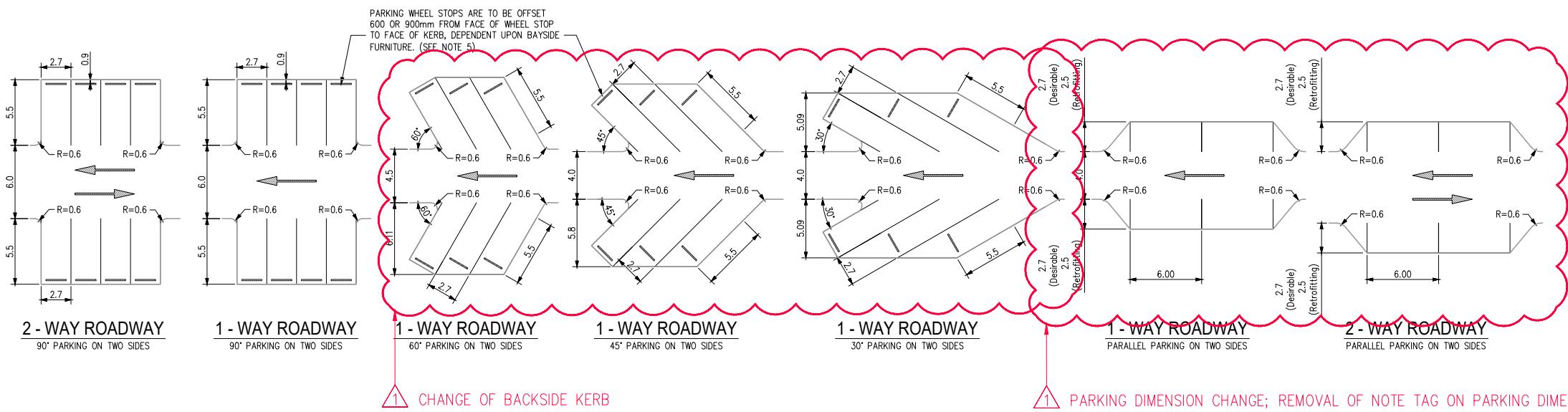


DETAIL F

* WHERE WIDTH IS 1.2 OR LESS, 15.0 / 10.0
RADIUS SHALL BE OMITTED AND A ROUNDING
WITH A DIAMETER EQUAL TO THE WIDTH
SHALL BE APPLIED



DETAIL G



CHANGE OF BACKSIDE KERB

PARKING DIMENSION CHANGE; REMOVAL OF NOTE TAG ON PARKING DIMENSION

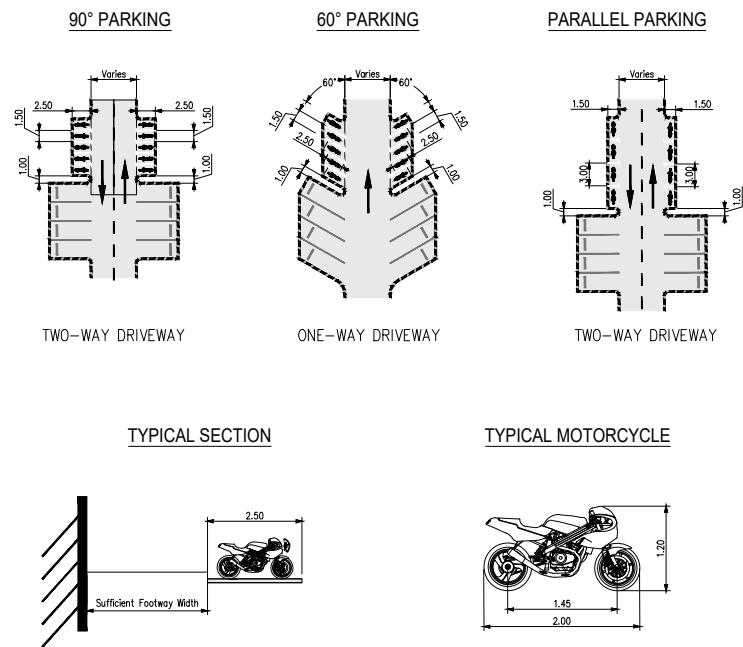
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022	
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CLIENT			
TITLE			
STANDARD DRAWINGS			
DRAWING TITLE			
GEOMETRIC DETAILS ROADWAY DETAILS PARKING DIMENSIONS & ENTRY / EXIT DETAILS			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.		DWG. No.	GM-7

 NEW SHEET (NEW DETAILS)

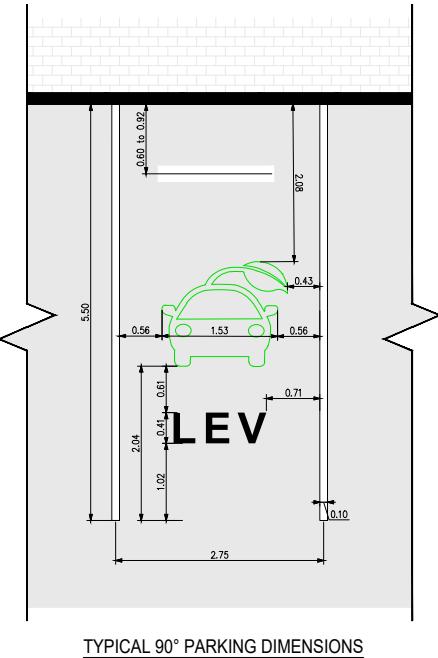
NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR BICYCLE PARKING STANDARDS, PLEASE REFER TO TR-530 – WALKING AND CYCLING MASTER PLAN – END OF RIDE FACILITIES FOR CYCLISTS (SECTION 6.11; PAGES 246–250, 259) AND USDM – CYCLE PARKING (SECTION 5.9.3; PAGE 33).
3. THE REGULATION AND SUPERVISION BUREAU (RSB) HAS ISSUED REGULATIONS AND GUIDELINES RELATED TO LEV AND ALL INSTALLATION OF ELECTRIC VEHICLES CHARGING POINTS REQUESTS SHOULD BE SUBMITTED TO THE CONCERN DEPARTMENT IN ABU DHABI DISTRIBUTION COMPANY. FOR MORE DETAILS, PLEASE REFER TO DMAT CIRCULAR 2017-TMM-0050 DATED 9TH MARCH 2017 ISSUED IN THIS REGARD.

MOTORCYCLE PARKING DESIGN STANDARDS



LOW EMISSION VEHICLE (LEV) PARKING STANDARDS

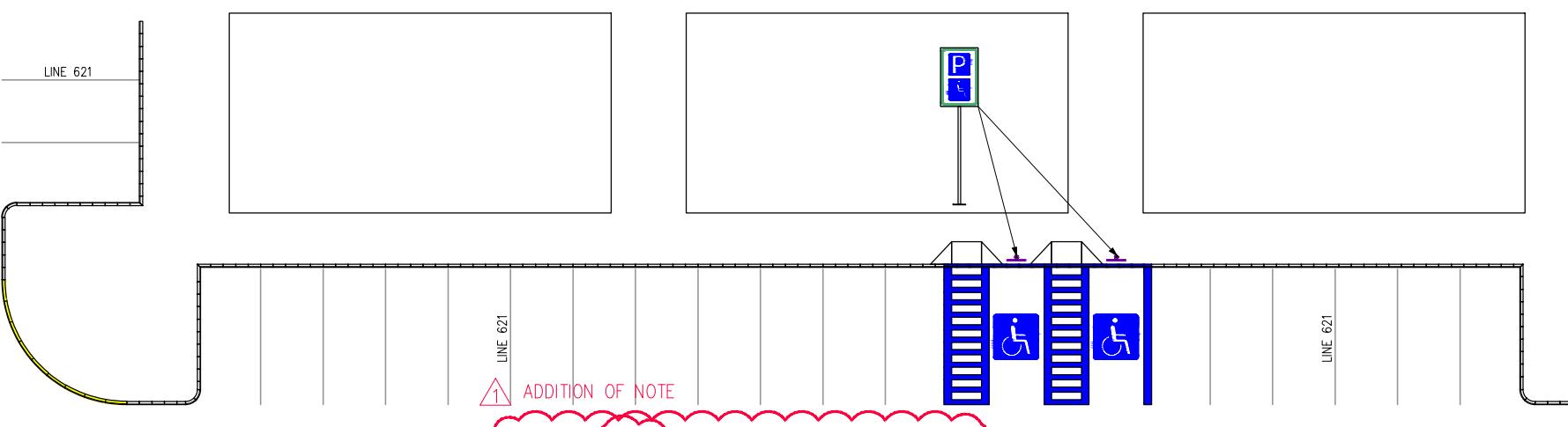


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No.	REVISIONS	APP'D	DATE
CLIENT			
TITLE			
STANDARD DRAWINGS			
DRAWING TITLE			
GEOMETRIC DETAILS			
MOTORCYCLE AND LEV PARKING DESIGN STANDARDS			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-7A

NOTES:

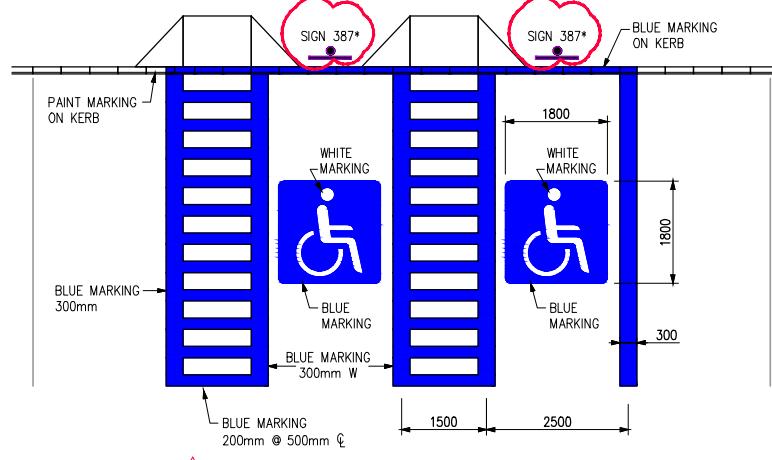
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. IN CASES WHERE THERE IS NOT ADEQUATE SIDEWALK WIDTH FOR A DROP KERB RAMP, THEN A RAMP IS TO BE PROVIDED TO THE SIDEWALK ON THE BLUE HATCHED AREA AS SHOWN.
3. *MULTIPLE DISABLED PARKING SIGNS TO BE CONSOLIDATED; USE SUPPLEMENTAL PLATES WITH ARROW (REFER TO TR-511 MUTCD).

ADDITION OF NOTE 3



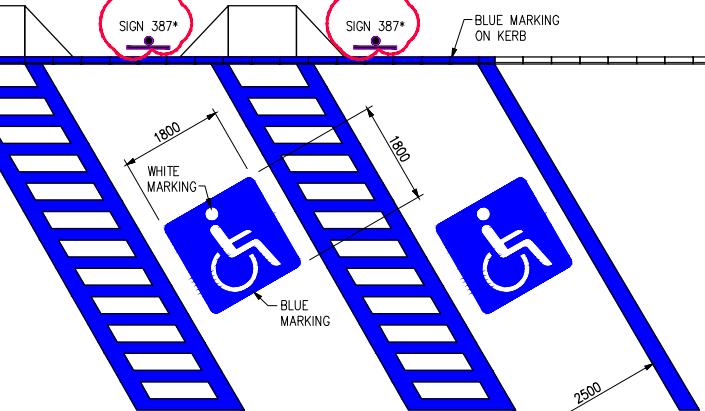
SIGN 387* - TYPICAL LOCATION PLAN

NOTE: PROVISION OF RAMPS AS PER LAYOUT SHOWN
SUBJECT TO ADEQUATE EDGE ZONE WIDTH BEING PROVIDED



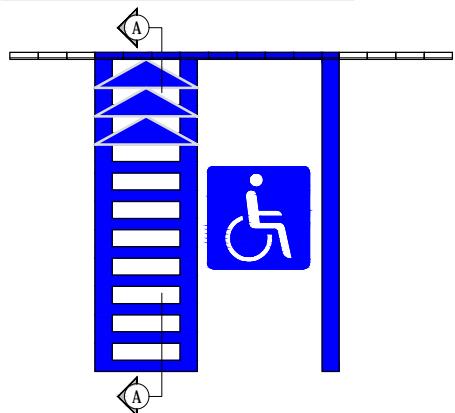
TWO DISABLED PARKING BAYS - 90°

NOTE: RAMPS ONLY TO BE PROVIDED IF EDGE ZONE IS 1.5M OR MORE.



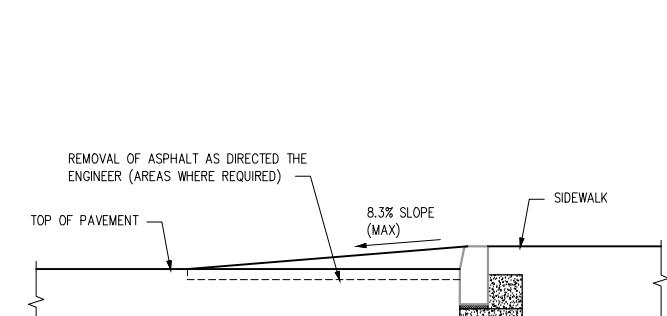
TWO DISABLED PARKING BAYS - 60° / 45°

NOTE: RAMPS AS SHOWN ONLY TO BE PROVIDED IF EDGE ZONE IS 1.5M OR MORE.



ACCESS RAMP TO TOP OF SIDEWALK KERB

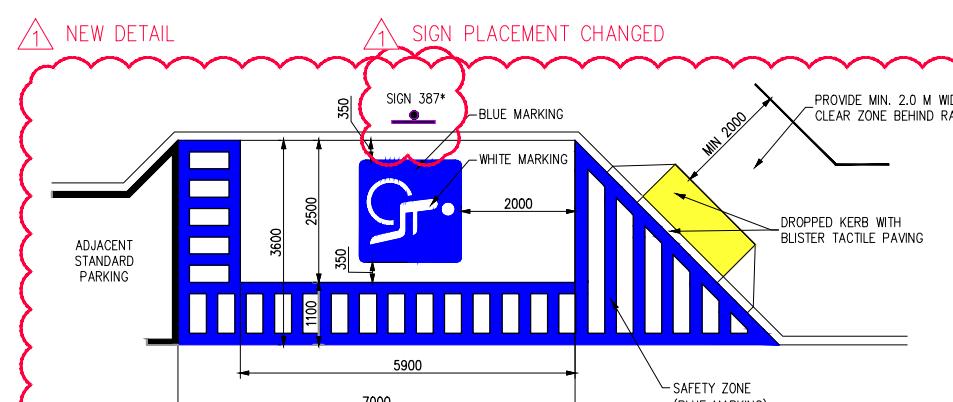
NOTE: RAMP AS SHOWN ONLY TO BE USED WHERE NO EDGE ZONE IS PROVIDED



SECTION A-A

NOTE: WHERE THE PEDESTRIAN REALM IS RESTRICTED,
ACCESS RAMP TO TOP OF SIDEWALK KERB SHOULD BE USED.

ADDITION OF NOTE



PARALLEL DISABLED PARKING BAY

SIGN PLACEMENT CHANGED

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STANDARD DRAWINGS

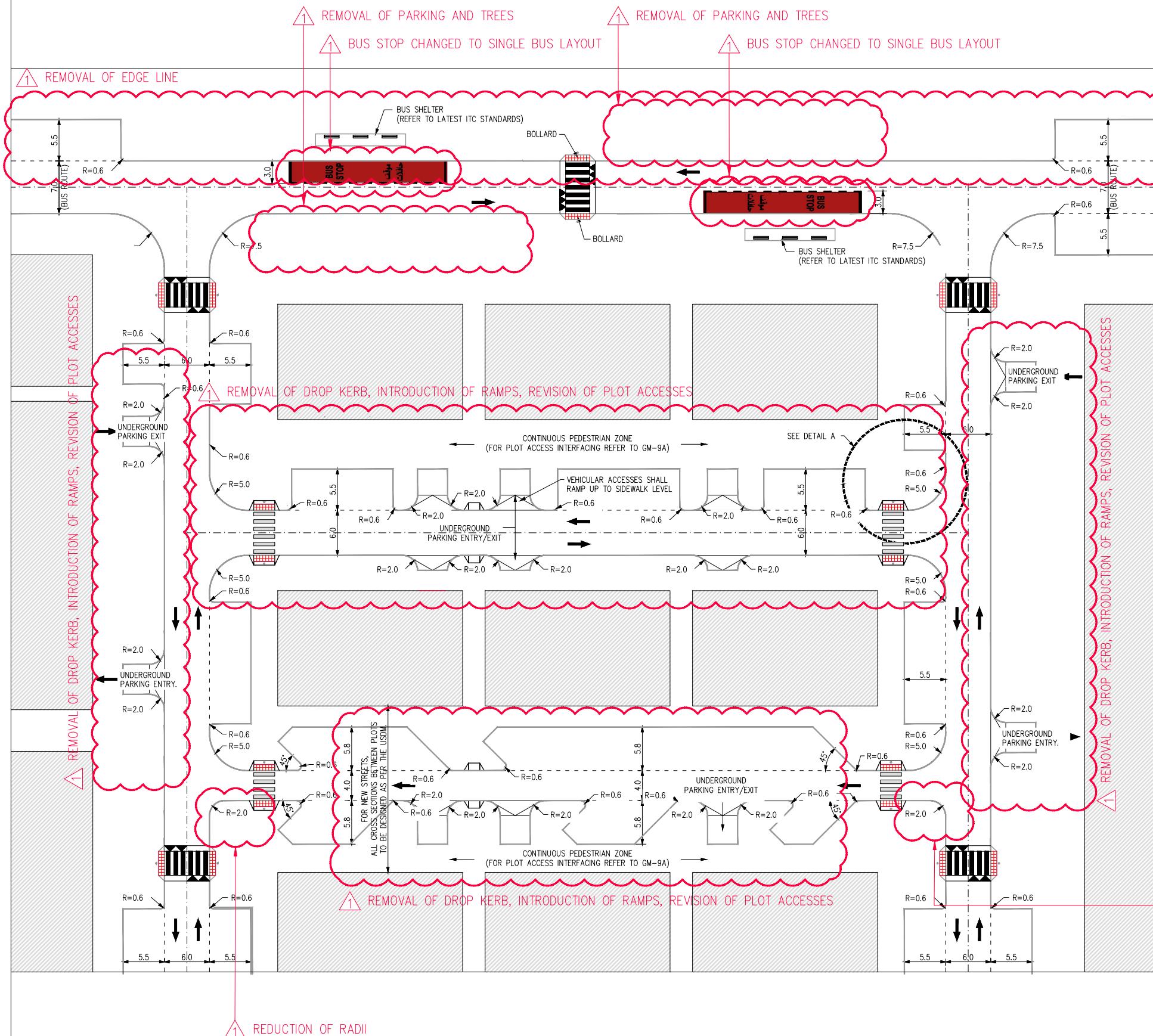
DRAWING TITLE GEOMETRIC DETAILS

ROADWAY DETAILS TYPICAL DISABLED PARKING DETAILS

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.		DWG. No.	GM-8

△ BOLLARDS SHIFTED TO BACK OF TACTILE

△ ADJUSTMENT AND REMOVAL OF ARROW MARKINGS; PARKING SLOTS ACROSS EXIT RAMPS REMOVED



NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. ALL RADII AT INTERSECTIONS WITHIN THE SECTORS TO BE 7.5m UNLESS OTHERWISE SPECIFIED. REFER ALSO TO DRAWING GM-2.
3. PARKING BAYS SHOULD BE TERMINATED TO PROVIDE A MINIMUM CLEARANCE OF 2.0m FROM FACE OF BUILDINGS TO BACK OF PARKING BAY UNLESS OTHERWISE SPECIFIED.
4. PARKING BAYS SHOULD BE TERMINATED NO CLOSER TO AN INTERSECTION THAN THE TANGENT POINT OF THE KERB RETURN.
5. WHERE PARKING BAYS OCCUR PERPENDICULAR TO ONE ANOTHER, PARKING BAYS SHOULD BE TERMINATED TO PROVIDE MINIMUM CLEARANCE AS SHOWN ON DETAIL A.
6. PARKING BAY TERMINALS ON EITHER SIDE OF AN AISLE SHOULD BE TERMINATED TO ALIGN WITH ONE ANOTHER, ALL WITHOUT VIOLATING ANY OF ITEMS 3, 4 OR 5 ABOVE.
7. DROPPED KERB TYPE D TO BE PROVIDED AT PRIVATE DRIVEWAY LOCATIONS, SEE DRAWING C-1 FOR DETAILS. IF DRIVEWAY IS IN PROPOSED PARKING BAY, DELETE PAINTED PARKING SPACE AT THAT LOCATION.
8. PRIORITY TO BE GIVEN TO MAJOR IDENTIFIED FLOWS BY MEANS OF STOP LINES AND SIGNS.
9. FOR SPECIFIC GEOMETRY AND PARKING REQUIREMENTS, REFER TO ROAD SCHEME DESIGN MANUAL.
10. PEDESTRIAN RAMPS AND OR RAISED TABLE CROSSINGS SHOULD BE PROVIDED ON ALL STREETS/ROADS WHERE PEDESTRIAN DESIRE ROUTES CROSS.
11. PEDESTRIANS SHALL CROSS PLOT ACCESSES WITH PRIORITY AT A LEVEL GRADE TO THE EXISTING SIDEWALK. USE OF DROP KERBS AND PEDESTRIAN RAMPS SHALL ONLY BE USED FOR RETROFITTING SCENARIOS WHERE DRIVEWAYS/ PLOT ACCESSES CANNOT BE RAISED TO THE SIDEWALK LEVEL. (REFER TO TYPICAL DRIVEWAY / PLOT ACCESS INTERFACE DETAILS GM-9A)
12. ALL NEW AND RETROFITTED STREETS SHALL BE DESIGNED AS PER USDM REQUIREMENTS ACCORDING TO THEIR RELEVANT CONTEXT, INCLUDING ALL ZONAL DIVISIONS OF THE STREET CROSS SECTIONS (EDGE ZONE, PEDESTRIAN THROUGH ZONE, FURNISHING ZONE, CYCLE TRACKS (AS REQUIRED), AND FRONTEAGE ZONE). NEW STREETS SHALL START WITH THE TYPICAL REQUIREMENTS FOR EACH STREET TYPE AND CONTEXT.
13. FOR CROSS SECTIONS OF ALL STREETS WITH AND WITHOUT PARKING AND/OR CYCLE TRACKS (IF APPLICABLE), THE EDGE ZONE SHALL BE 1.5M (MINIMUM) IN ALIGNMENT WITH THE USDM. ONLY IN A RETROFITTING SCENARIO ON A CASE BY CASE BASIS CAN A REDUCTION BE APPLIED AND SUBJECT TO A ROAD SAFETY AUDIT (RSA).
14. BUS STOPS AND BUS SHELTER LOCATIONS TO BE DESIGNED AS PER TR-520 - BUS STOP DESIGN STANDARD DRAWINGS.
15. USE OF TRAFFIC CALMING AIDS ARE RECOMMENDED TO REDUCE VEHICULAR SPEEDS.
16. PEDESTRIAN RAISED TABLES ARE PREFERRED OVER SPEED HUMPS. SPEED HUMPS SHALL ONLY BE INSERTED IN LINE WITH THE DMT SPEED HUMP BOOKLET REQUIREMENTS.

△ ADDITION OF NOTES 10 to 16

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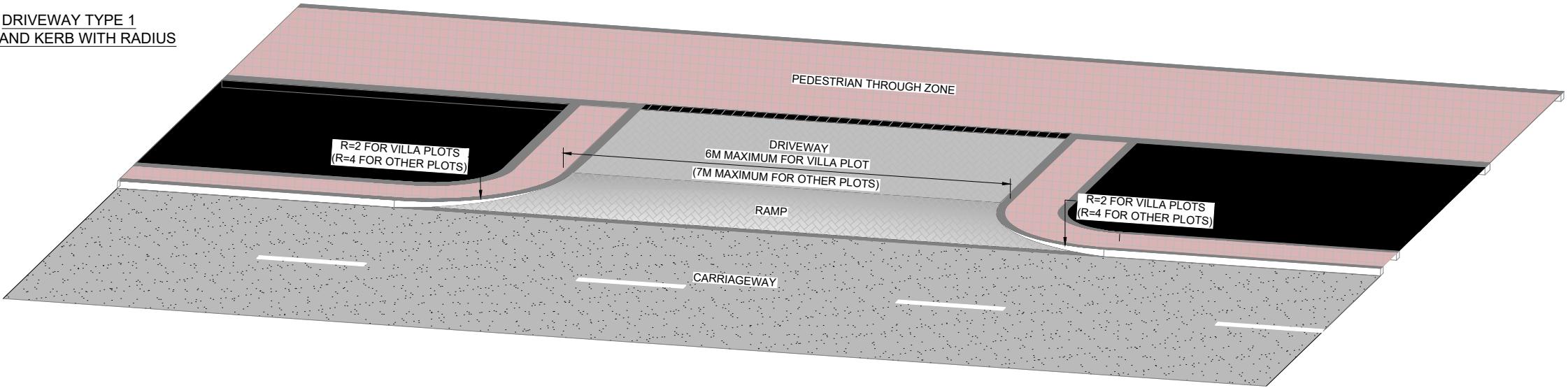
TITLE
STANDARD DRAWINGS

DRAWING TITLE
**GEOMETRIC DETAILS
ROADWAY DETAILS
TYPICAL SECTOR
GEOMETRIC AND PARKING LAYOUT**

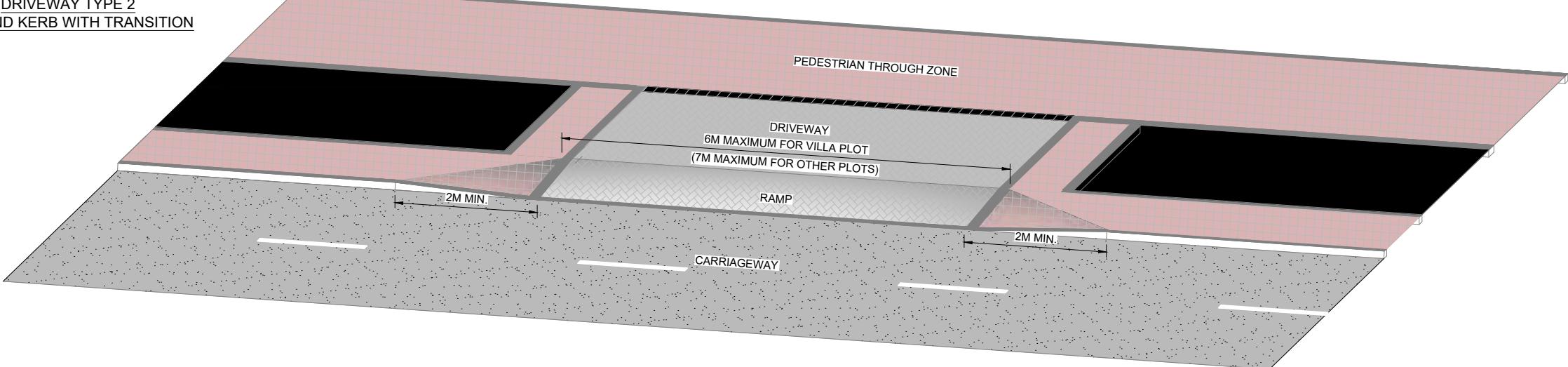
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.		DWG. No.	GM-9

TYPICAL DRIVEWAY DETAILS (NEW SHEET)

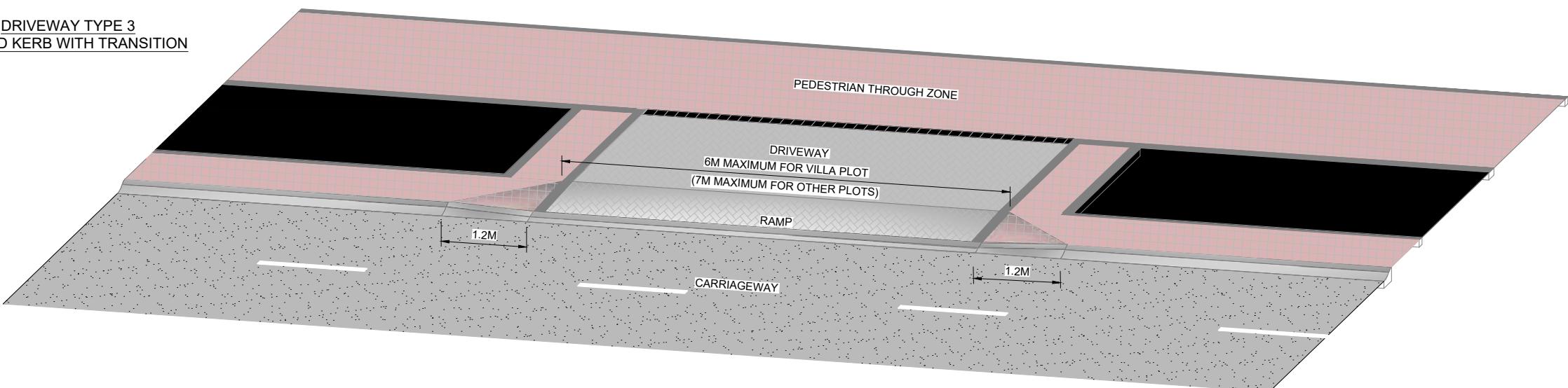
**DRIVEWAY TYPE 1
UPSTAND KERB WITH RADIUS**



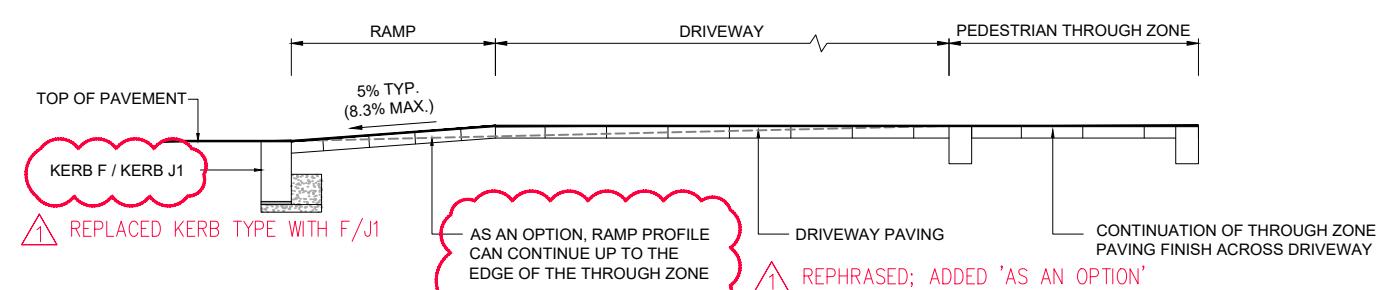
**DRIVEWAY TYPE 2
UPSTAND KERB WITH TRANSITION**



**DRIVEWAY TYPE 3
ROLLED KERB WITH TRANSITION**



TYPICAL SECTION



NOTES:

1. THESE PLANS AND DRAWINGS REPRESENT THEMES TO BE REFINED IN FURTHER PLANNING AND DESIGN. LAND USES, STREET PATTERNS AND EXACT ALIGNMENTS IN ALL AREAS ARE CONCEPTUAL AND TO BE SUBJECTED TO DETAILED EVALUATION AND CONFIRMATION. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS AND DRAWINGS BE CONSTRUED AS FINAL DIRECTIVES FOR SPECIFIC SITES OR AREAS.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT

STANDARD DRAWINGS

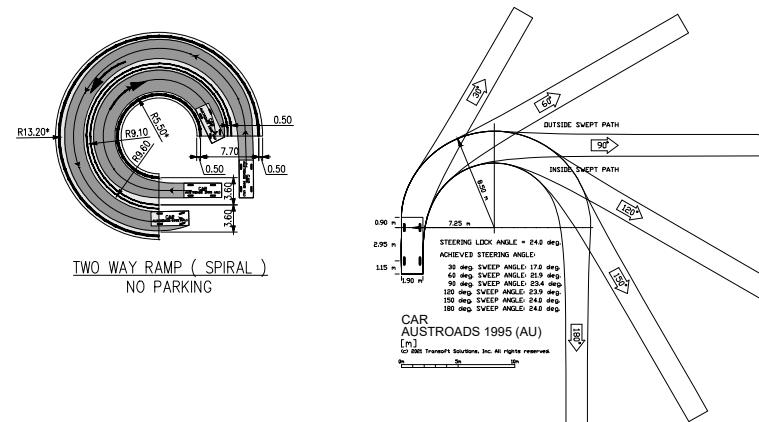
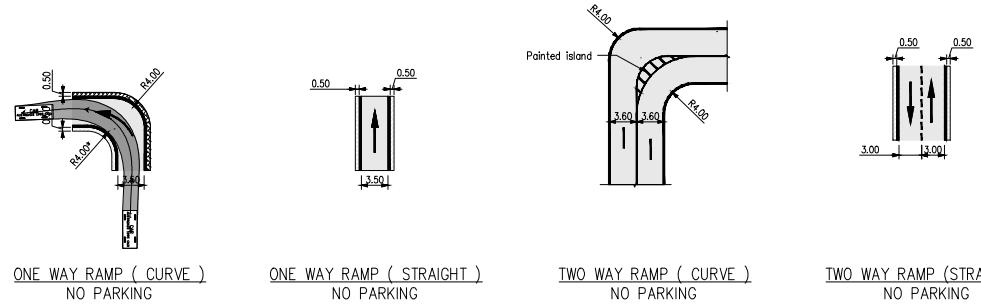
**DRAWING TITLE
GEOMETRIC DETAILS**

**TYPICAL DRIVEWAY /
PLOT ACCESS INTERFACE DETAILS**

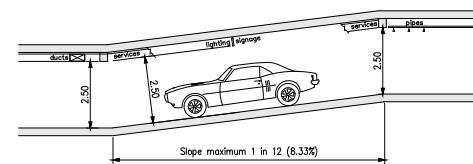
DRAWN	SCALE	NTS
CHECKED	DATE	.
APPROVED	SIZE	A1
PROJECT No.	DWG. No.	GM-9A

 NEW SHEET (NEW DETAILS)

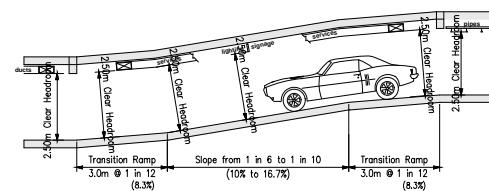
PARKING RAMP



PROFILE

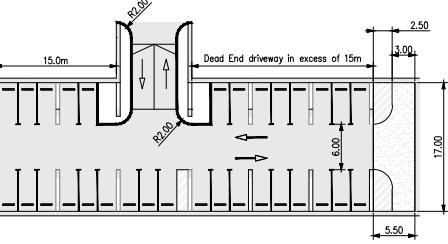


PROFILE WITHOUT TRANSITION RAMP

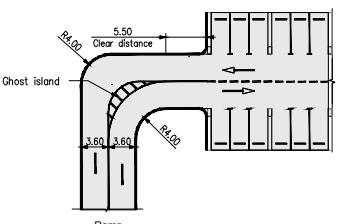
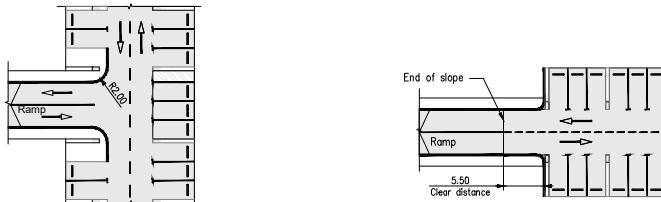


PROFILE WITH TRANSITION RAMP

DEAD END DRIVEWAY



RAMP PARKING CLEARANCE



PARKING AFTER RAMP - CURVE

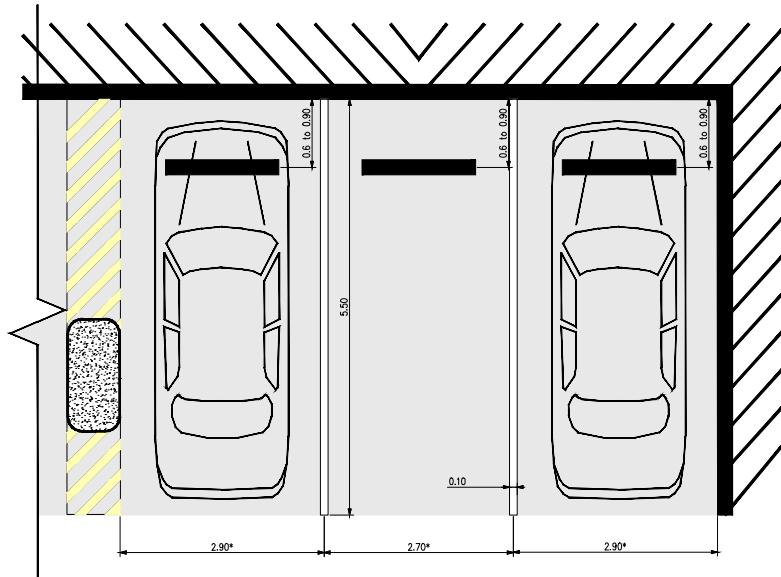
CAR meters
Width : 1.90
Track : 1.55
Lock to Lock Time : 6.0
Steering Angle : 24.0

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. *CURVE RADIUS WILL VARY AS PER THE DESIGN VEHICLE.
3. THE RECOMMENDED WIDTH FOR PARKING SPACES IS 2.7M, PLUS ADDITIONAL 0.2M FOR SPACES NEXT TO OBSTRUCTION. THIS CAN BE REDUCED TO AN ABSOLUTE MINIMUM OF 2.5M (PLUS ADDITIONAL 0.2M FOR SPACES NEXT TO OBSTRUCTION). CONSULTANT TO PRESENT JUSTIFICATIONS AND OBTAIN APPROVAL NOCs FROM ALL RELEVANT AUTHORITIES BEFORE PROCEEDING WITH ANY WIDTH REDUCTIONS

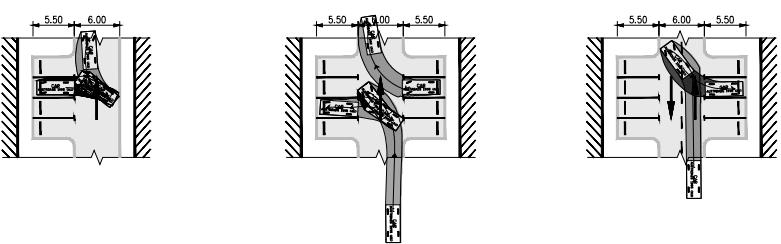
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE GEOMETRIC DETAILS BASEMENT PARKING DESIGN STANDARDS (1000 SQ.M. OR MORE)		
Sheet 1 of 2		
DRAWN .	SCALE NTS	NTS
CHECKED .	DATE .	.
APPROVED .	SIZE A1	A1
PROJECT No.	DWG. No.	GM-10

 NEW SHEET (NEW DETAILS)



TYPICAL 90° PARKING DIMENSIONS
PARKING NEXT TO PHYSICAL OBSTRUCTION

90° PARKING

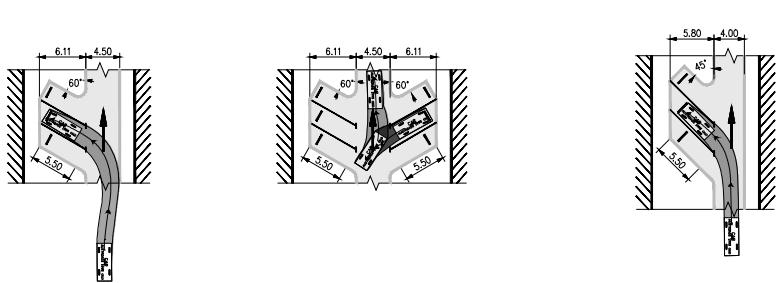


ONE WAY MAIN CIRCULATORY PARKING ON ONE SIDE

ONE WAY MAIN CIRCULATORY PARKING ON BOTH SIDES

TWO WAY MAIN CIRCULATORY PARKING ON BOTH SIDES

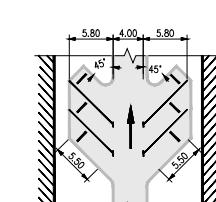
60° PARKING



ONE WAY MAIN CIRCULATORY PARKING ON ONE SIDE

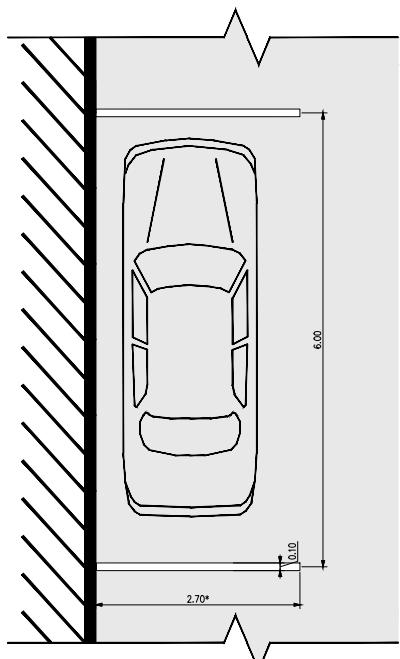
ONE WAY MAIN CIRCULATORY PARKING ON BOTH SIDES

45° PARKING



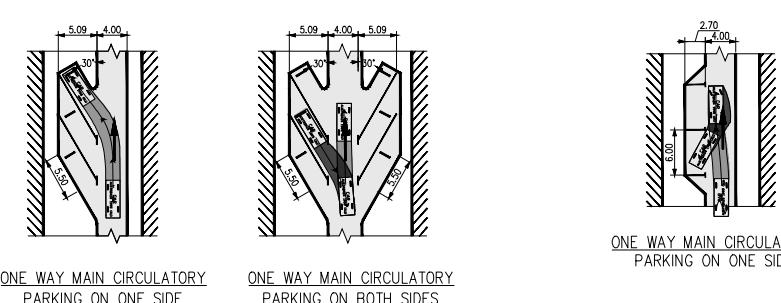
ONE WAY MAIN CIRCULATORY PARKING ON ONE SIDE

ONE WAY MAIN CIRCULATORY PARKING ON BOTH SIDES

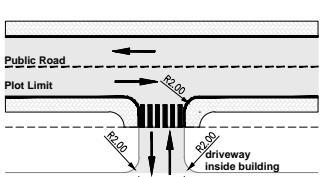


TYPICAL PARALLEL PARKING DIMENSIONS

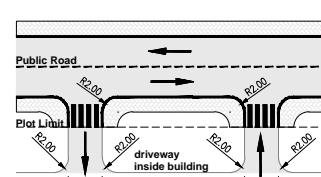
30° PARKING



ACCESS TO MAIN ROADS



TWO WAY DRIVEWAY (STRAIGHT)
NO PARKING



ONE WAY DRIVEWAY (STRAIGHT)
NO PARKING

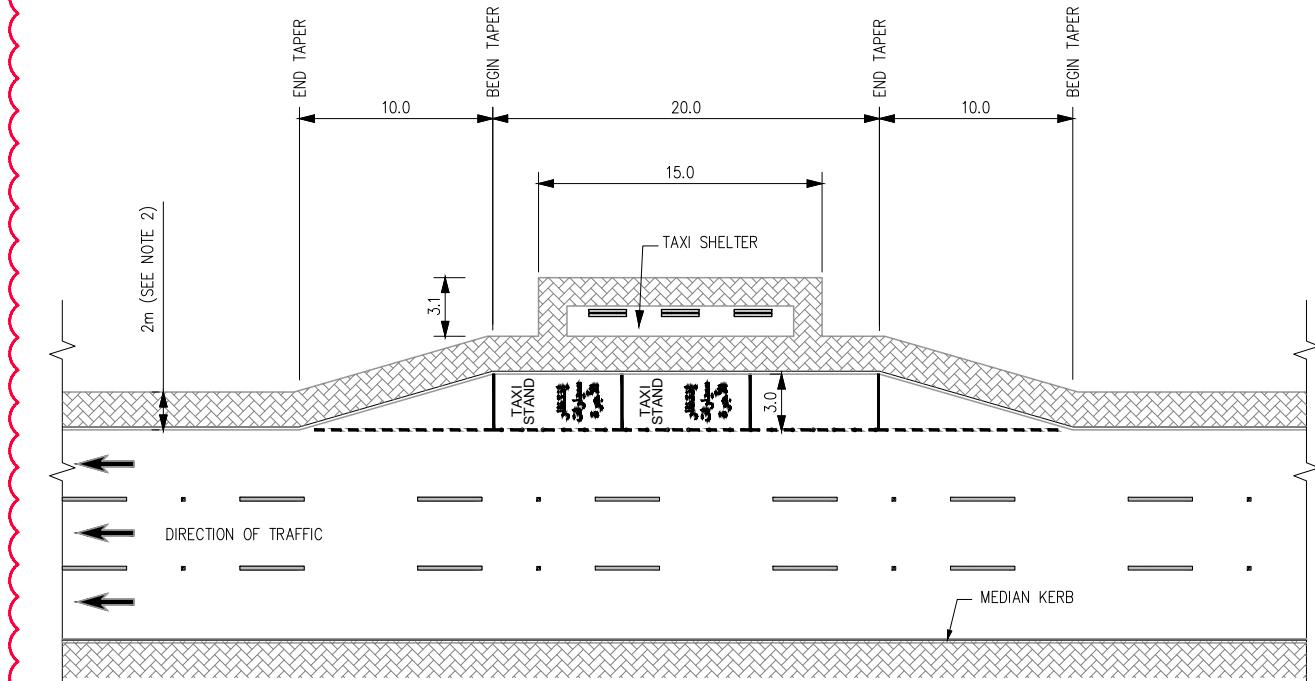
NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR BICYCLE PARKING STANDARDS, PLEASE REFER TO TR-530 – WALKING AND CYCLING MASTER PLAN – END OF RIDE FACILITIES FOR CYCLISTS (SECTION 6.1; PAGES 246–250, 259) AND USDM – CYCLE PARKING (SECTION 5.9.3; PAGE 33).
3. THE REGULATION AND SUPERVISION BUREAU (RSB) HAS ISSUED REGULATIONS AND GUIDELINES RELATED TO LEV AND ALL INSTALLATION OF ELECTRIC VEHICLES CHARGING POINTS REQUESTS SHOULD BE SUBMITTED TO THE CONCERN DEPARTMENT IN ABU DHABI DISTRIBUTION COMPANY. FOR MORE DETAILS, PLEASE REFER TO DMAT CIRCULAR 2017-TMM-0050 DATED 9TH MARCH 2017 ISSUED IN THIS REGARD.
4. *THE RECOMMENDED WIDTH FOR PARKING SPACES IS 2.7M, PLUS ADDITIONAL 0.2M FOR SPACES NEXT TO OBSTRUCTION. THIS CAN BE REDUCED TO AN ABSOLUTE MINIMUM OF 2.5M (PLUS ADDITIONAL 0.2M FOR SPACES NEXT TO OBSTRUCTION). CONSULTANT TO PRESENT JUSTIFICATIONS AND OBTAIN APPROVAL NOCs FROM ALL RELEVANT AUTHORITIES BEFORE PROCEEDING WITH ANY WIDTH REDUCTIONS.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE GEOMETRIC DETAILS BASEMENT PARKING DESIGN STANDARDS (1000 SQ.M. OR MORE)		
Sheet 2 of 2		
DRAWN	.	SCALE NTS
CHECKED	.	DATE .
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-10A

 1 REMOVAL OF BUS STOP DETAILS

 CENTERED AND INCREASED IN SCALE



DETAIL - TAXI STOP WITH LAYBY

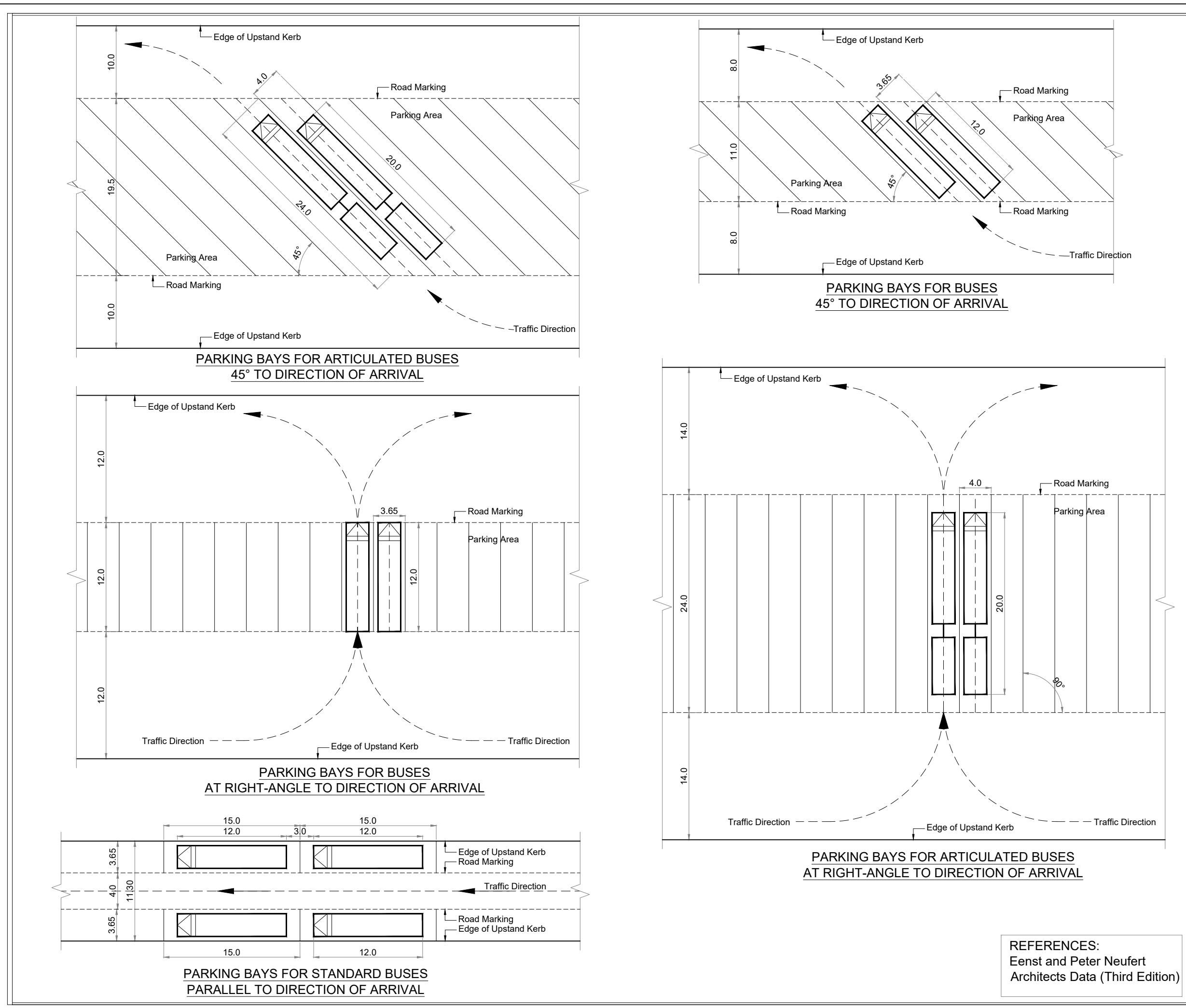
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. SIDEWALK WIDTHS SUBJECT TO DMT STREET FURNISHING REQUIREMENTS (REFER TO THE USDM).
3. *FOR BUS STOP STANDARD DETAILS REFER TO THE LATEST TR-520 BUS STOP DESIGN STANDARDS.

 ADDITION OF NOTE 3

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
GEOMETRIC DETAILS		
ROADWAY DETAILS GEOMETRIC DETAIL - BUS* / TAXI STOPS		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-11

 DRAWING TITLE REVISION



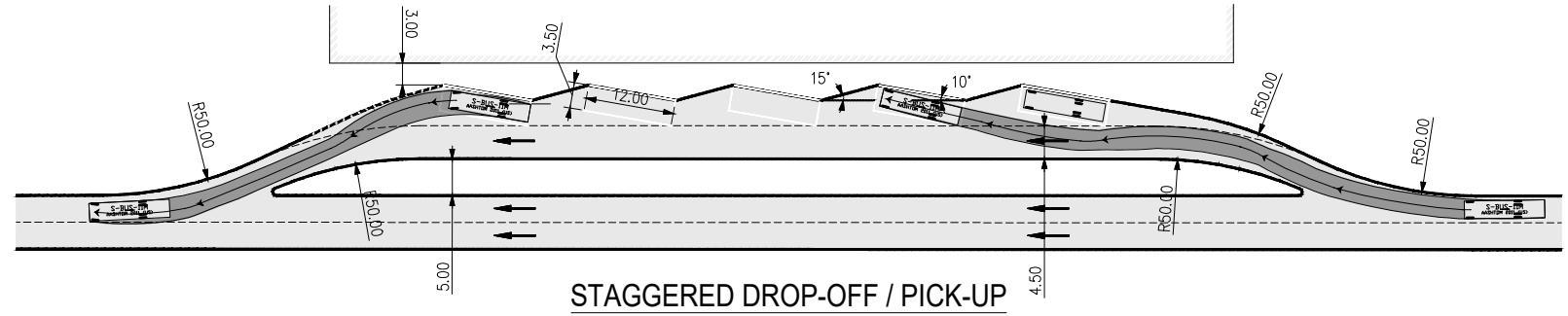
NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. THE LATEST PARKING DESIGN STANDARD OF THE AUTHORITIES SHALL APPLY.

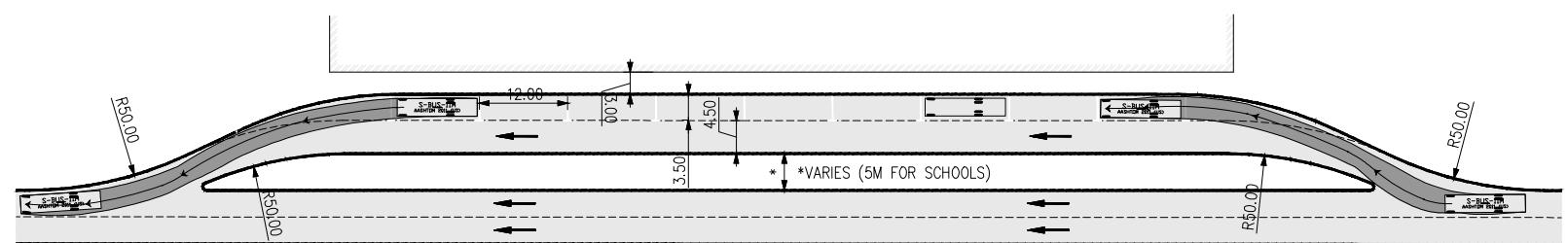
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
STANDARD DRAWINGS		
DRAWING TITLE		
GEOMETRIC DETAILS		
BUS PARKING DESIGN STANDARDS		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-12

REFERENCES:
Eenst and Peter Neufert
Architects Data (Third Edition)

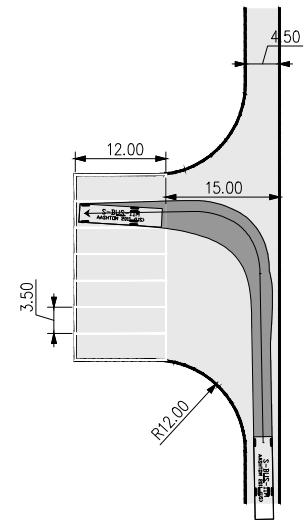
 NEW SHEET (NEW DETAILS)



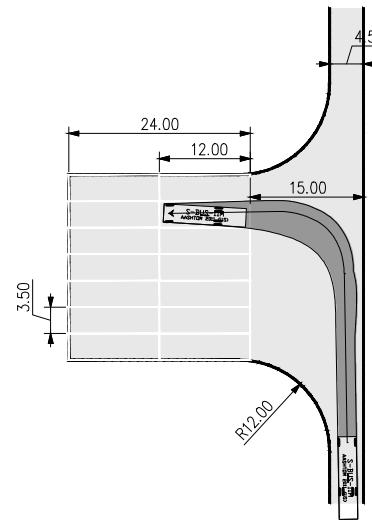
STAGGERED DROP-OFF / PICK-UP



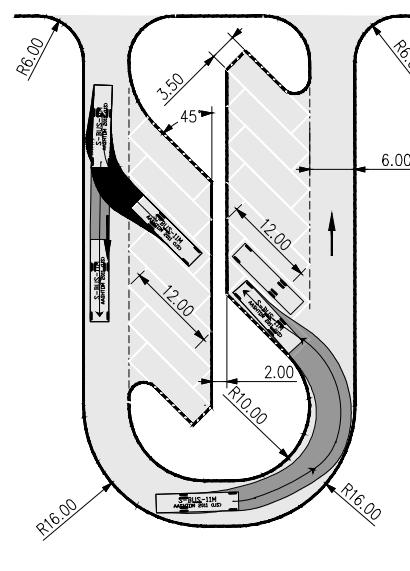
PARALLEL DROP-OFF / PICK-UP



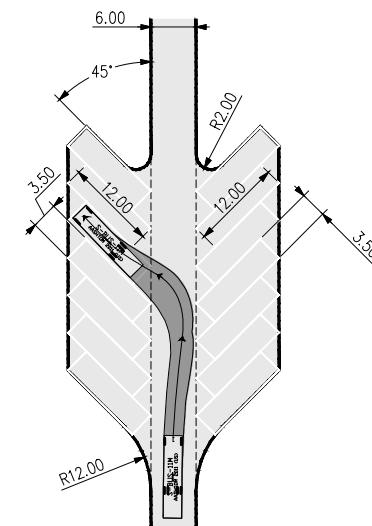
PERPENDICULAR BUS PARKING



TANDEM BUS PARKING

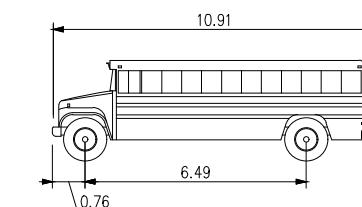


ONE WAY DRIVEWAY
45° BUS PARKING



ONE WAY DRIVEWAY
45° BUS PARKING TWO SITES

TYPICAL LARGE SCHOOL BUS



S-BUS-11M meters
 Width : 2.44
 Track : 2.44
 Lock to Lock Time : 6.0
 Steering Angle : 37.6

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. VEHICLE TYPE AND SIZE TO BE DETERMINED BY THE PREDICTED SCHOOL BUS FLEET.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT		

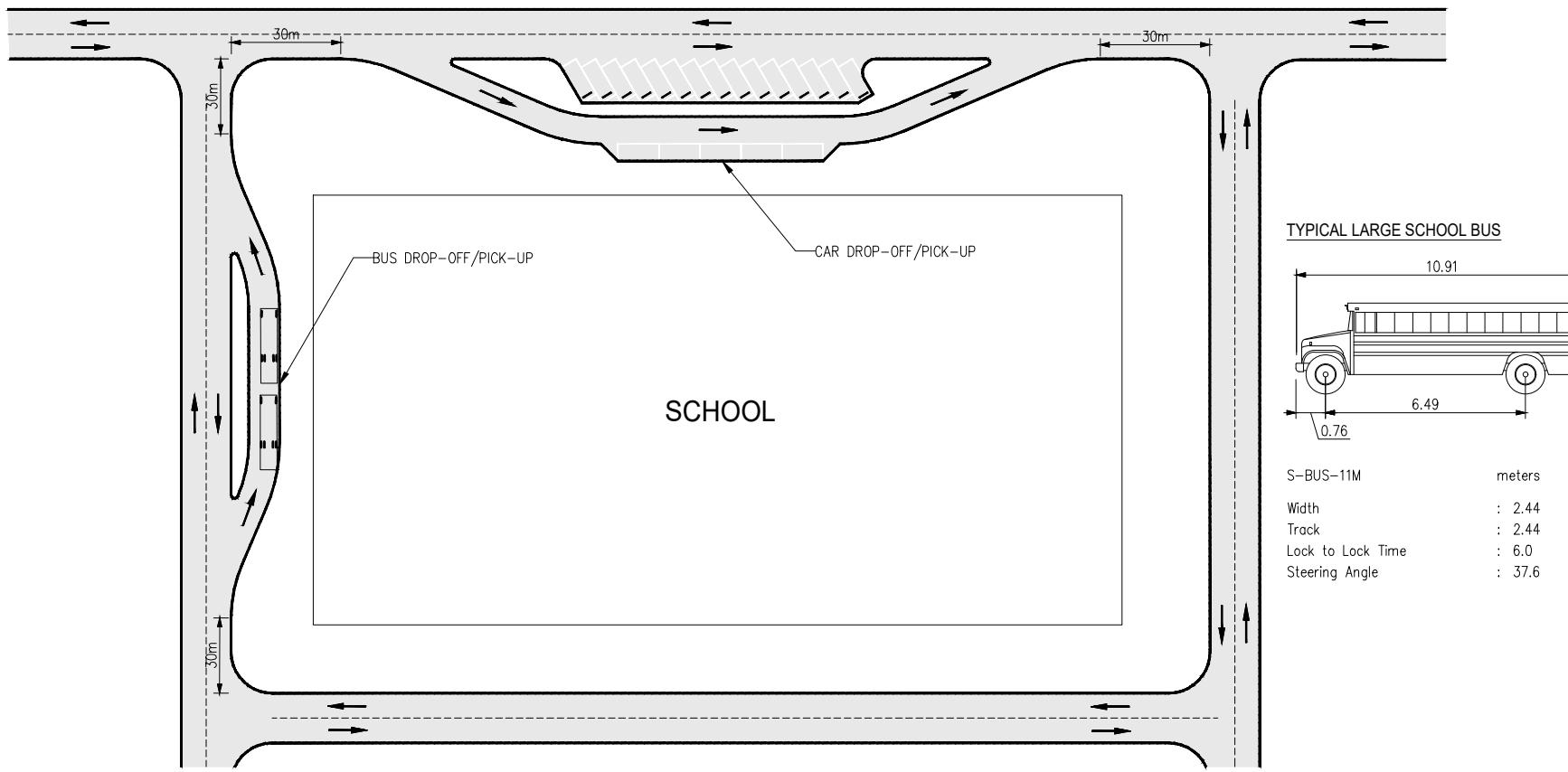
TITLE STANDARD DRAWINGS

DRAWING TITLE
GEOMETRIC DETAILS
SCHOOL BUS DROP-OFF / PICK-UP
AND PARKING DESIGN STANDARDS
(LARGE SCHOOL BUSES)

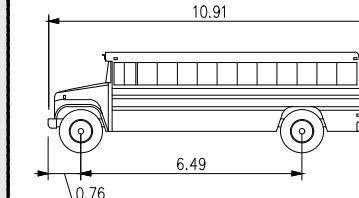
Sheet 1 of 2

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-12A

 NEW SHEET (NEW DETAILS)



TYPICAL LARGE SCHOOL BUS



S-BUS-11M meters

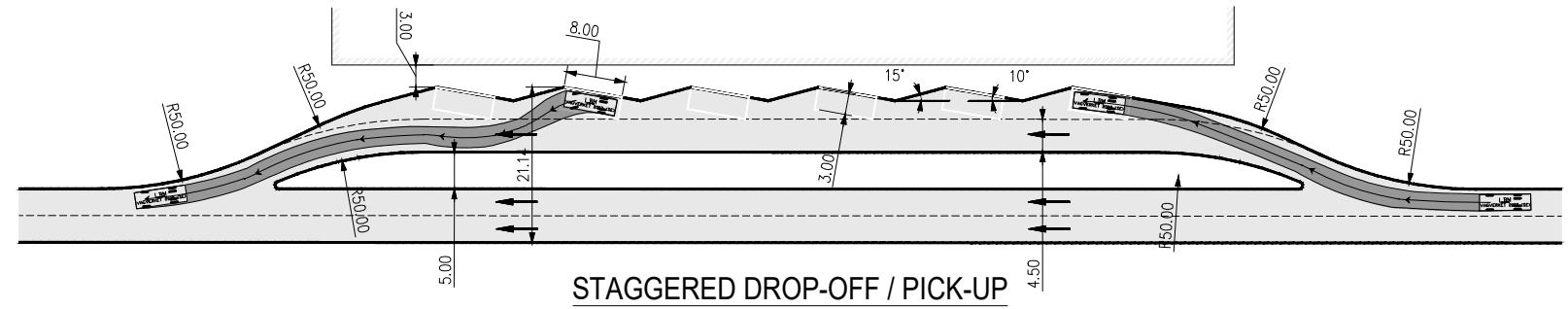
Width : 2.44
Track : 2.44
Lock to Lock Time : 6.0
Steering Angle : 37.6

NOTES:

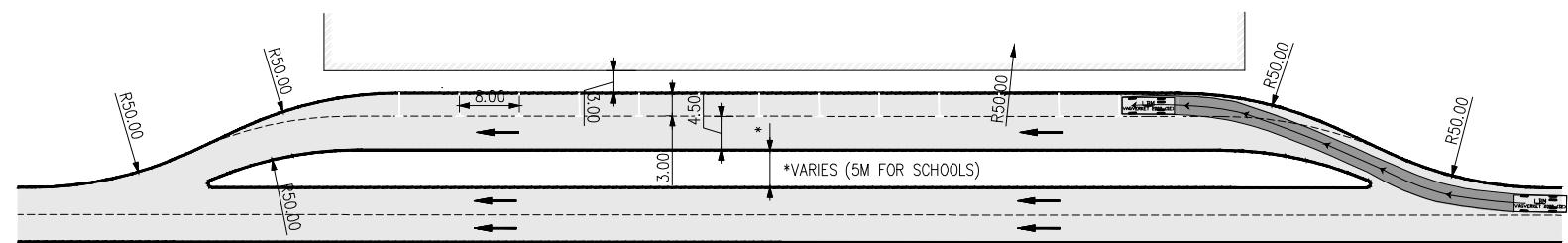
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED
2. THIS DRAWING IS CONCEPTUAL AND MAY BE ADOPTED FOR RETRO-FITTING EXISTING SCHOOLS. FOR NEW SCHOOLS ALL PARKING AND DROP-OFF AREAS SHALL BE ACCOMMODATED WITHIN THE PLOT BOUNDARY.
3. VEHICLE TYPE AND SIZE TO BE DETERMINED BY THE PREDICTED SCHOOL BUS FLEET.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE GEOMETRIC DETAILS SCHOOL BUS DROP-OFF / PICK-UP AND PARKING DESIGN STANDARDS (LARGE SCHOOL BUSES)		
Sheet 2 of 2		
DRAWN	.	SCALE NTS
CHECKED	.	DATE .
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-12B

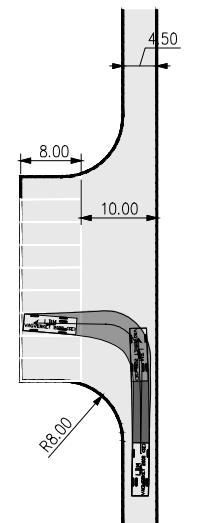
NEW SHEET (NEW DETAILS)



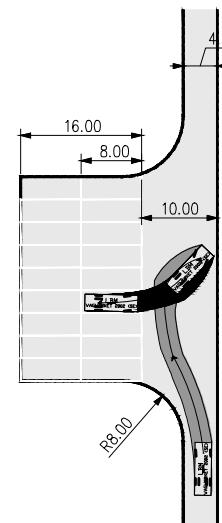
STAGGERED DROP-OFF / PICK-UP



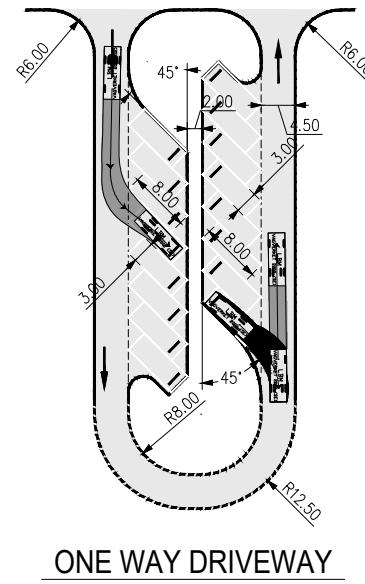
PARALLEL DROP-OFF / PICK-UP



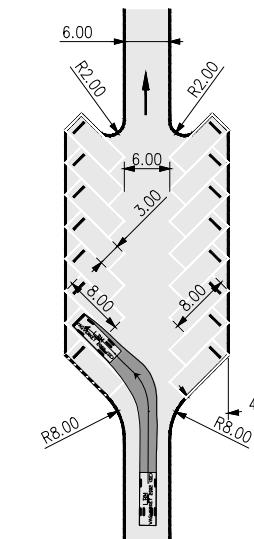
PERPENDICULAR BUS PARKING



TANDEM BUS PARKING



ONE WAY DRIVEWAY



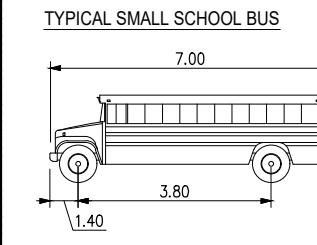
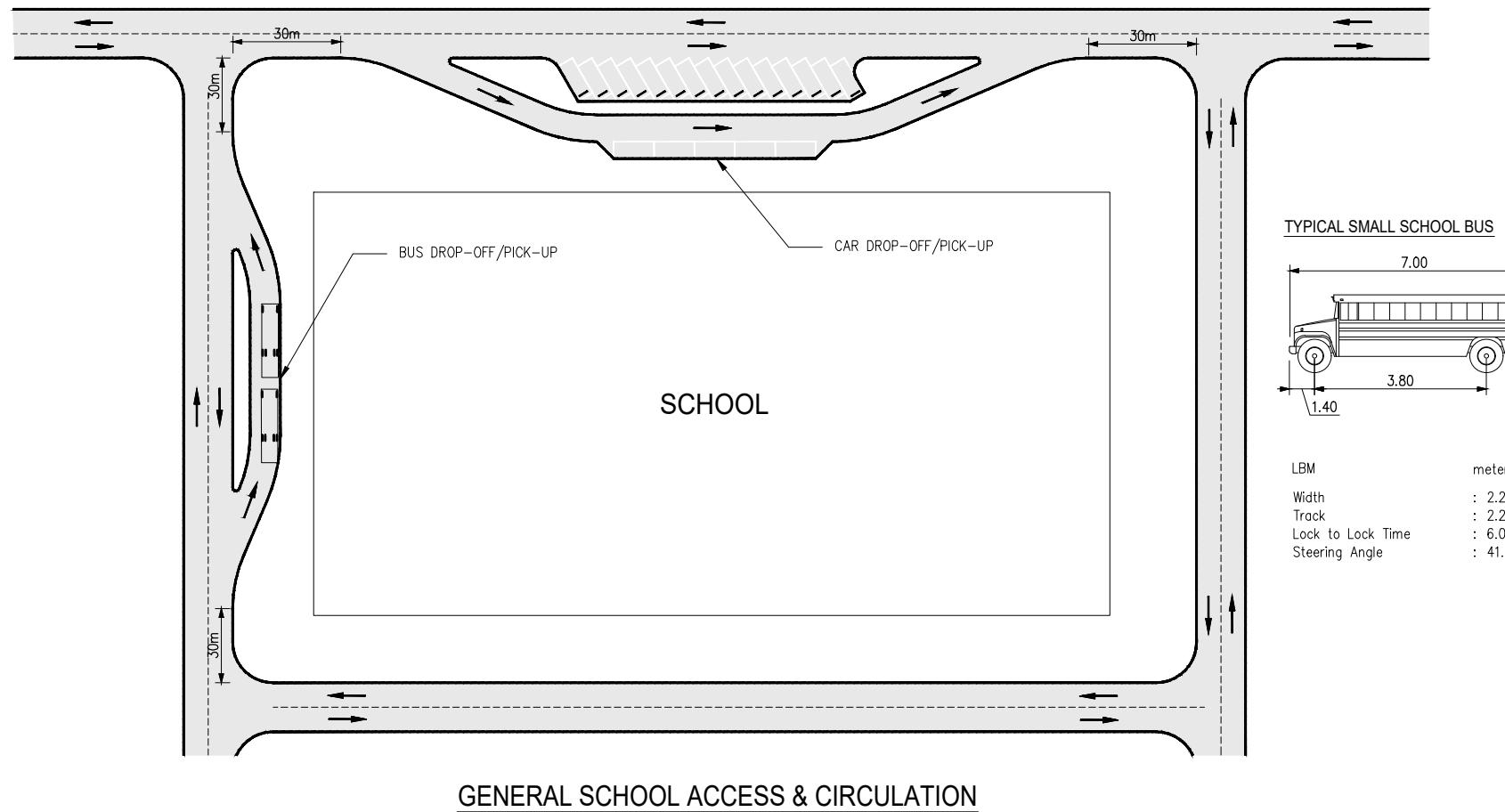
ONE WAY DRIVEWAY

NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 2. VEHICLE TYPE AND SIZE TO BE DETERMINED BY THE PREDICTED SCHOOL BUS FLEET.

	2021 AMENDMENT - FINAL ISSUE		JAN 2022
No.	REVISIONS	APP'D	DATE
CLIENT			
TITLE			
STANDARD DRAWINGS			
DRAWING TITLE			
GEOMETRIC DETAILS SCHOOL BUS DROP-OFF / PICK-UP AND PARKING DESIGN STANDARDS (SMALL SCHOOL BUSES)			
Sheet 1 of 2			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-12C

 NEW SHEET (NEW DETAILS)



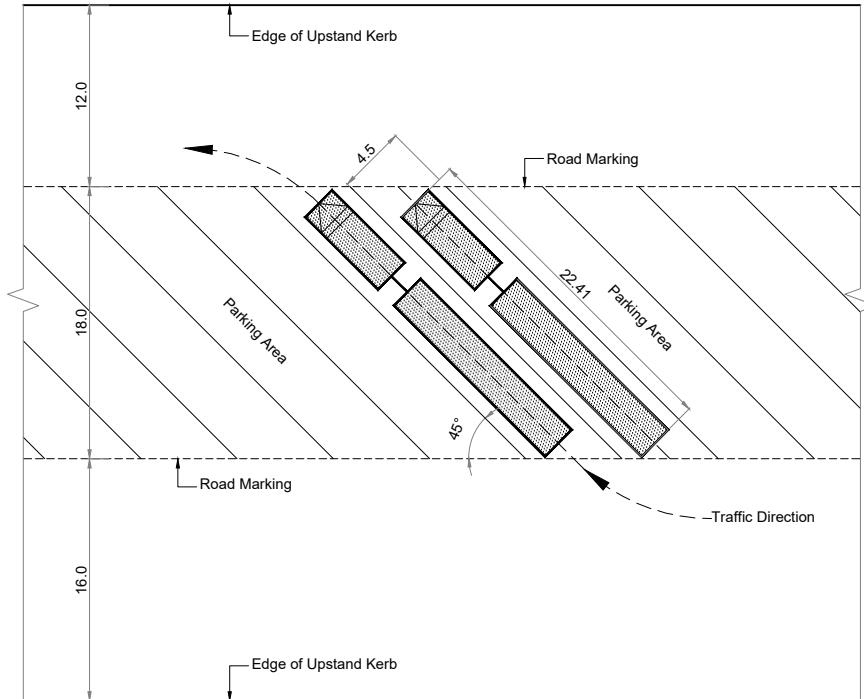
LBM	meters
Width	: 2.20
Track	: 2.20
Lock to Lock Time	: 6.0
Steering Angle	: 41.6

NOTES:

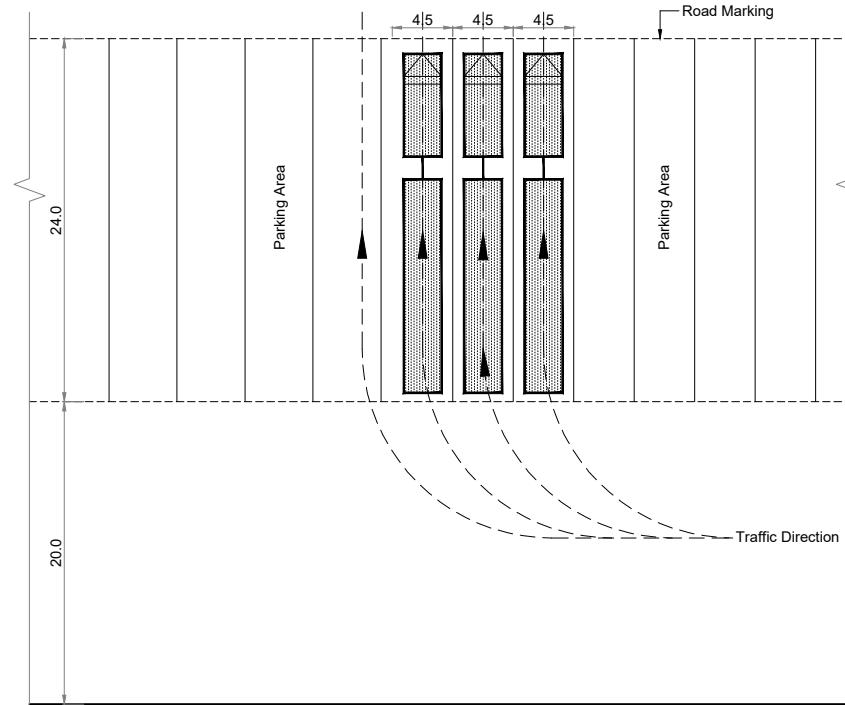
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED
2. THIS DRAWING IS CONCEPTUAL AND MAY BE ADOPTED FOR RETRO-FITTING EXISTING SCHOOLS. FOR NEW SCHOOLS ALL PARKING AND DROP-OFF AREAS SHALL BE ACCOMMODATED WITHIN THE PLOT BOUNDARY.
3. VEHICLE TYPE AND SIZE TO BE DETERMINED BY THE PREDICTED SCHOOL BUS FLEET.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
GEOMETRIC DETAILS SCHOOL BUS DROP-OFF / PICK-UP AND PARKING DESIGN STANDARDS (SMALL SCHOOL BUSES)		
Sheet 2 of 2		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. GM-12D

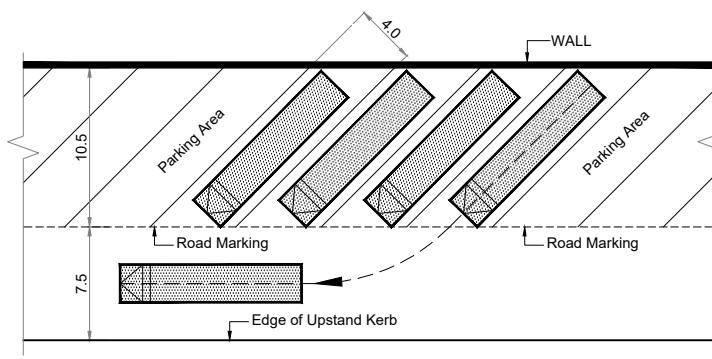
1 SHEET REARRANGED TO ACCOMMODATE NEW DETAILS



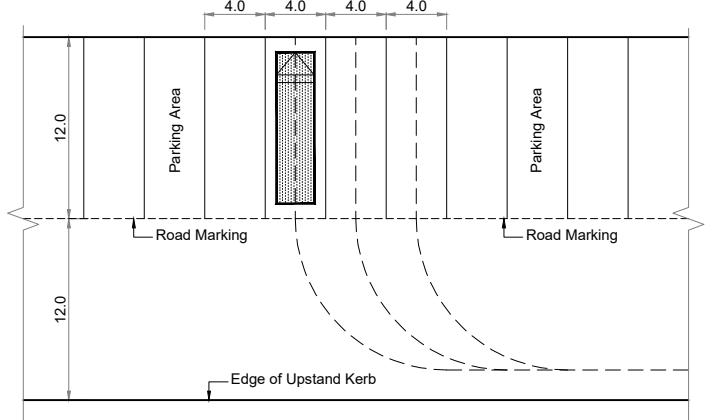
PARKING BAYS FOR TRUCK WITH TRAILER (WB-20)
45° TO DIRECTION OF ARRIVAL



PARKING BAYS FOR TRUCK WITH TRAILER (WB-20)
AT RIGHT-ANGLE TO DIRECTION OF ARRIVAL

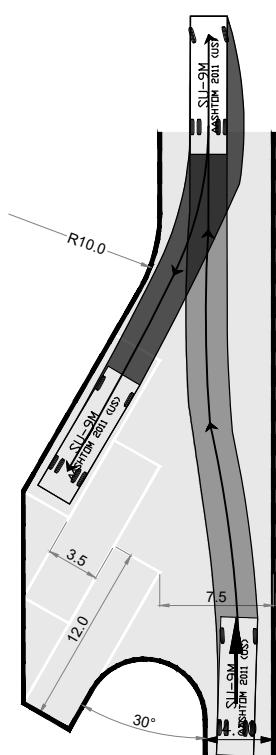


PARKING BAYS FOR SINGLE TRUCK AT 45°

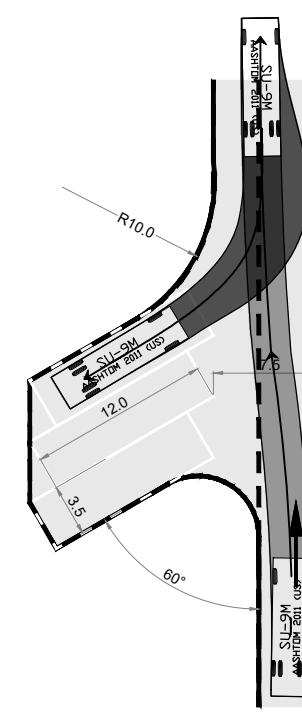


PARKING BAYS FOR SINGLE TRUCK AT 90°

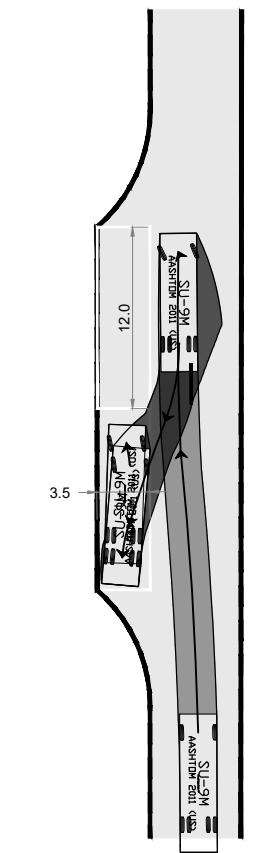
1 ADDITION OF 30 DEGREE, 60 DEGREE AND PARALLEL PARKING DETAILS FROM ITC



ONE WAY DRIVEWAY
30° PARKING ON ONE SIDE



ONE WAY DRIVEWAY
60° PARKING ON ONE SIDE PARKING



ONE / TWO WAY DRIVEWAY
PARALLEL PARKING ON ONE SIDE

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. THE LATEST PARKING DESIGN STANDARD OF THE AUTHORITIES SHALL APPLY.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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STANDARD DRAWINGS

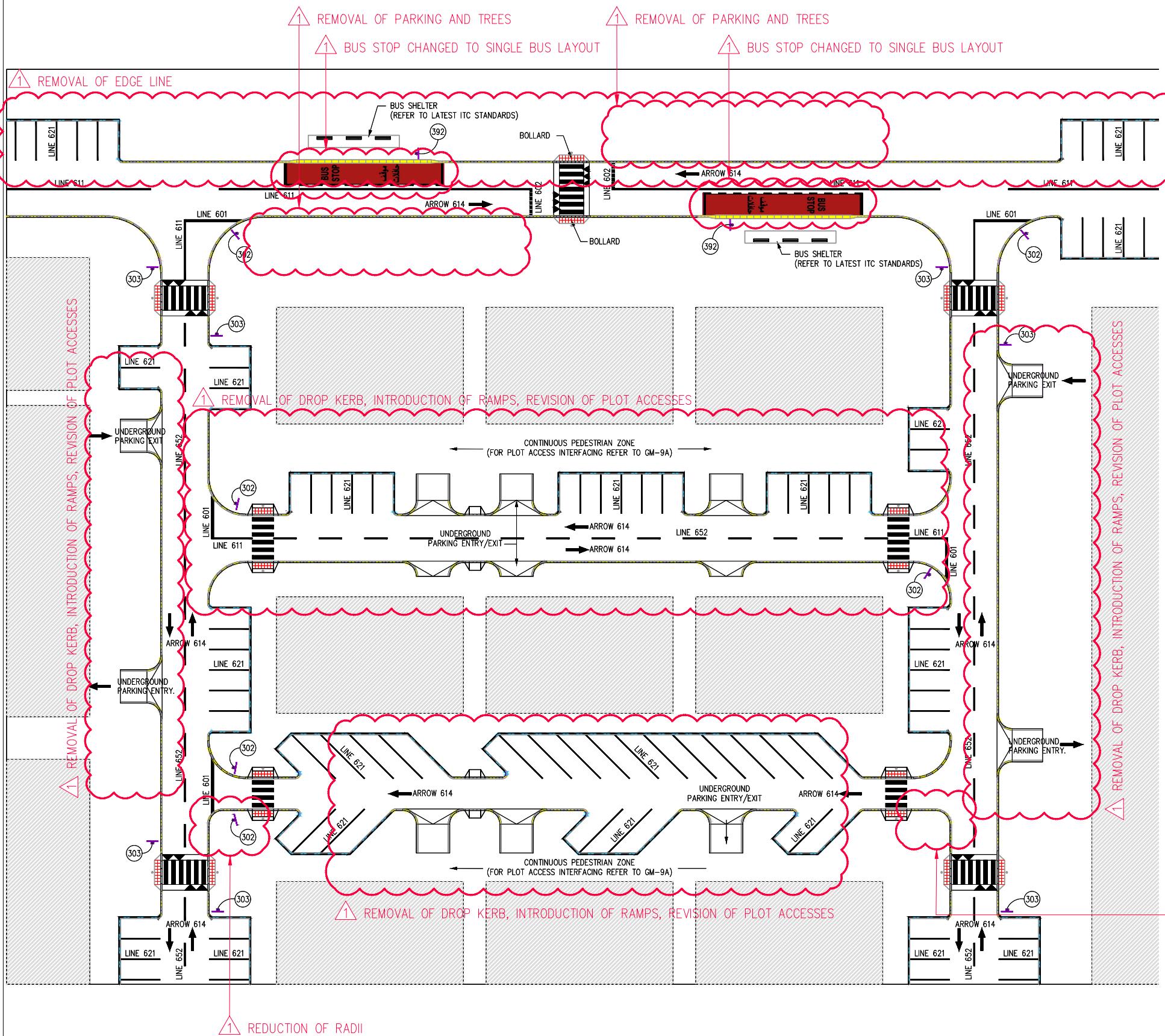
**DRAWING TITLE
GEOMETRIC DETAILS**

TRUCK PARKING DESIGN STANDARDS

DRAWN	.	SCALE	1:400
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-13

⚠ BOLLARDS SHIFTED TO BACK OF TACTILE

⚠ ADJUSTMENT OF ARROW MARKINGS; PARKING SLOTS ACROSS EXIT RAMPS REMOVED



NOTES:

1. BOLLARD TO BE PROVIDED ON EITHER SIDE OF PEDESTRIAN CROSSINGS.
2. WHERE FIRE HYDRANTS ARE LOCATED ADJACENT TO PARKING SPACES, PARKING WILL BE ALLOWED IN THE MAJORITY OF CASES. ALL PROPOSED PARKING ADJACENT TO FIRE HYDRANTS IS TO BE SUBMITTED TO THE MINISTRY OF INTERIOR, CIVIL DEFENSE GHQ, FOR REVIEW AND APPROVAL.
3. DISABLED PARKING TO BE PROVIDED IN ACCORDANCE WITH RELEVANT AUTHORITY REQUIREMENTS.
4. PEDESTRIAN RAMPS AND OR RAISED TABLE CROSSINGS SHOULD BE PROVIDED ON ALL STREETS/ROADS WHERE PEDESTRIAN DESIRE ROUTES CROSS.
5. PEDESTRIANS SHALL CROSS PLOT ACCESSES WITH PRIORITY AT A LEVEL GRADE TO THE EXISTING SIDEWALK. USE OF DROP KERBS AND PEDESTRIAN RAMPS SHALL ONLY BE USED FOR RETROFITTING SCENARIOS WHERE DRIVEWAYS/ PLOT ACCESSES CANNOT BE RAISED TO THE SIDEWALK LEVEL (REFER TO TYPICAL DRIVEWAY / PLOT ACCESS INTERFACE DETAILS GM-9A)
6. ALL NEW AND RETROFITTED STREETS SHALL BE DESIGNED AS PER USDM REQUIREMENTS ACCORDING TO THEIR RELEVANT CONTEXT, INCLUDING ALL ZONAL DIVISIONS OF THE STREET CROSS SECTIONS (EDGE ZONE, PEDESTRIAN THROUGH ZONE, FURNISHING ZONE, CYCLE TRACKS (AS REQUIRED), AND FRONTAGE ZONE). NEW STREETS SHALL START WITH THE TYPICAL REQUIREMENTS FOR EACH STREET TYPE AND CONTEXT.
7. FOR CROSS SECTIONS OF ALL STREETS WITH AND WITHOUT PARKING AND/OR CYCLE TRACKS (IF APPLICABLE), THE EDGE ZONE SHALL BE 1.5M (MINIMUM) IN ALIGNMENT WITH THE USDM. ONLY IN A RETROFITTING SCENARIO ON A CASE BY CASE BASIS CAN A REDUCTION BE APPLIED AND SUBJECT TO A ROAD SAFETY AUDIT (RSA).
8. BUS STOPS AND BUS SHELTER LOCATIONS TO BE DESIGNED AS PER TR-520 - BUS STOP DESIGN STANDARD DRAWINGS.
9. USE OF TRAFFIC CALMING AIDS ARE RECOMMENDED TO REDUCE VEHICULAR SPEEDS.
10. PEDESTRIAN RAISED TABLES ARE PREFERRED OVER SPEED HUMPS. SPEED HUMPS SHALL ONLY BE INSERTED IN LINE WITH THE DMT SPEED HUMP BOOKLET REQUIREMENTS.

⚠ ADDITION OF NOTES 4 to 10

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT

TITLE

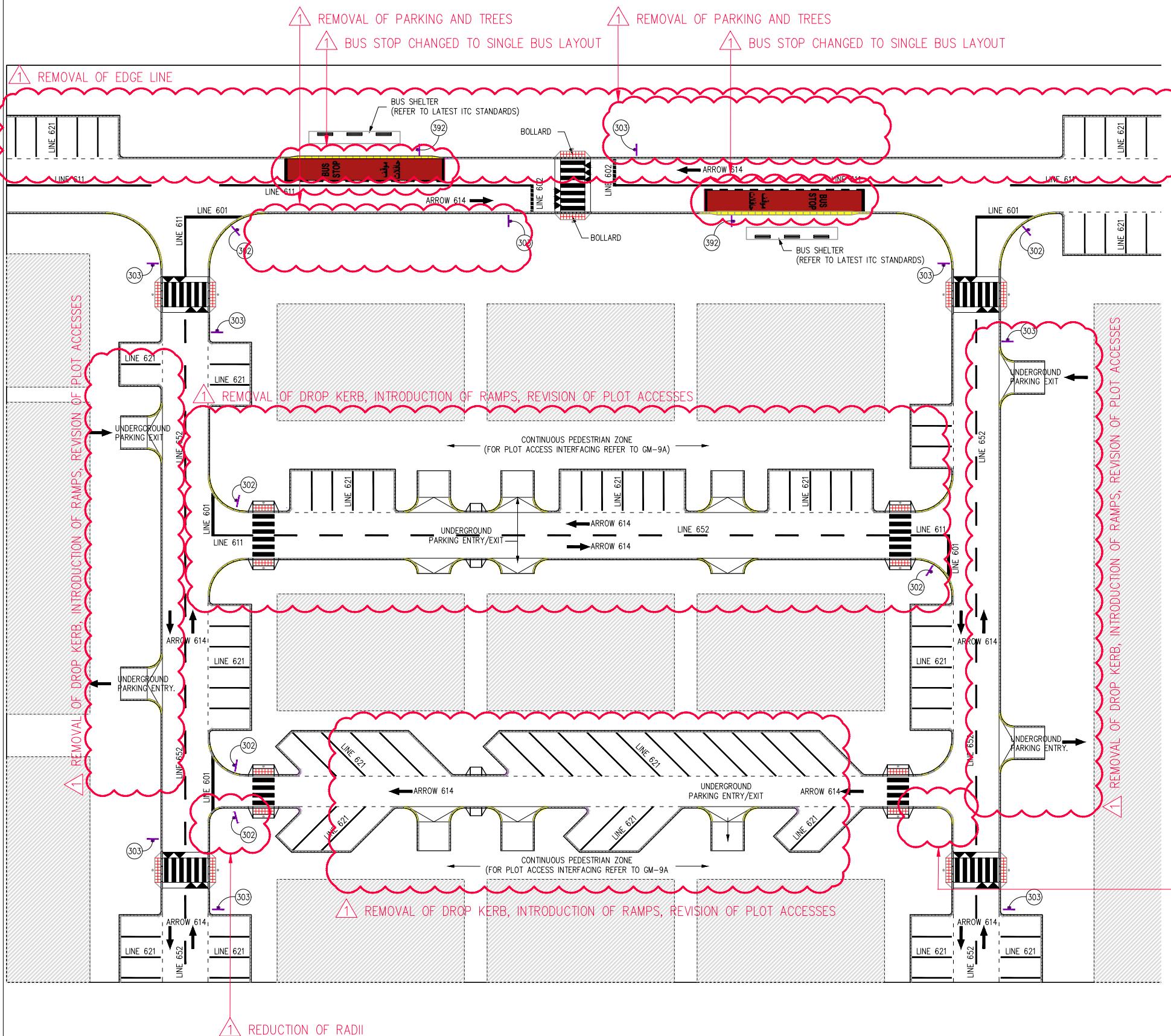
STANDARD DRAWINGS

DRAWING TITLE
GEOMETRIC DETAILS
TYPICAL SECTOR WITH PAID PARKING
KERBS, PAVEMENT MARKINGS,
AND SIGNS LAYOUT

DRAWN	.	SCALE	1:400
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-14

⚠ BOLLARDS SHIFTED TO BACK OF TACTILE

⚠ ADJUSTMENT AND REMOVAL OF ARROW MARKINGS; PARKING SLOTS ACROSS EXIT RAMPS REMOVED



NOTES:

1. BOLLARD TO BE PROVIDED ON EITHER SIDE OF PEDESTRIAN CROSSINGS.
2. WHERE FIRE HYDRANTS ARE LOCATED ADJACENT TO PARKING SPACES, PARKING WILL BE ALLOWED IN THE MAJORITY OF CASES. ALL PROPOSED PARKING ADJACENT TO FIRE HYDRANTS IS TO BE SUBMITTED TO THE MINISTRY OF INTERIOR, CIVIL DEFENSE GHQ, FOR REVIEW AND APPROVAL.
3. DISABLED PARKING TO BE PROVIDED IN ACCORDANCE WITH RELEVANT AUTHORITY REQUIREMENTS.
4. PEDESTRIAN RAMPS AND OR RAISED TABLE CROSSINGS SHOULD BE PROVIDED ON ALL STREETS/ROADS WHERE PEDESTRIAN DESIRE ROUTES CROSS.
5. PEDESTRIANS SHALL CROSS PLOT ACCESSES WITH PRIORITY AT A LEVEL GRADE TO THE EXISTING SIDEWALK. USE OF DROP KERBS AND PEDESTRIAN RAMPS SHALL ONLY BE USED FOR RETROFITTING SCENARIOS WHERE DRIVEWAYS/PLOT ACCESSES CANNOT BE RAISED TO THE SIDEWALK LEVEL. (REFER TO TYPICAL DRIVEWAY / PLOT ACCESS INTERFACE DETAILS GM-9A)
6. ALL NEW AND RETROFITTED STREETS SHALL BE DESIGNED AS PER USDM REQUIREMENTS ACCORDING TO THEIR RELEVANT CONTEXT, INCLUDING ALL ZONAL DIVISIONS OF THE STREET CROSS SECTIONS (EDGE ZONE, PEDESTRIAN THROUGH ZONE, FURNISHING ZONE, CYCLE TRACKS (AS REQUIRED), AND FRONTEAGE ZONE). NEW STREETS SHALL START WITH THE TYPICAL REQUIREMENTS FOR EACH STREET TYPE AND CONTEXT.
7. FOR CROSS SECTIONS OF ALL STREETS WITH AND WITHOUT PARKING AND/OR CYCLE TRACKS (IF APPLICABLE), THE EDGE ZONE SHALL BE 1.5M (MINIMUM) IN ALIGNMENT WITH THE USDM. ONLY IN A RETROFITTING SCENARIO ON A CASE BY CASE BASIS CAN A REDUCTION BE APPLIED AND SUBJECT TO A ROAD SAFETY AUDIT (RSA).
8. BUS STOPS AND BUS SHELTER LOCATIONS TO BE DESIGNED AS PER TR-520 - BUS STOP DESIGN STANDARD DRAWINGS.
9. USE OF TRAFFIC CALMING AIDS ARE RECOMMENDED TO REDUCE VEHICULAR SPEEDS.
10. PEDESTRIAN RAISED TABLES ARE PREFERRED OVER SPEED HUMPS. SPEED HUMPS SHALL ONLY BE INSERTED IN LINE WITH THE DMT SPEED HUMP BOOKLET REQUIREMENTS.

⚠ ADDITION OF NOTES 4 to 10

LEGEND:

KERBS (NOT PAINTED)

VISIBILITY PAINTING

302
SIGN LOCATION AND REFERENCE NUMBER

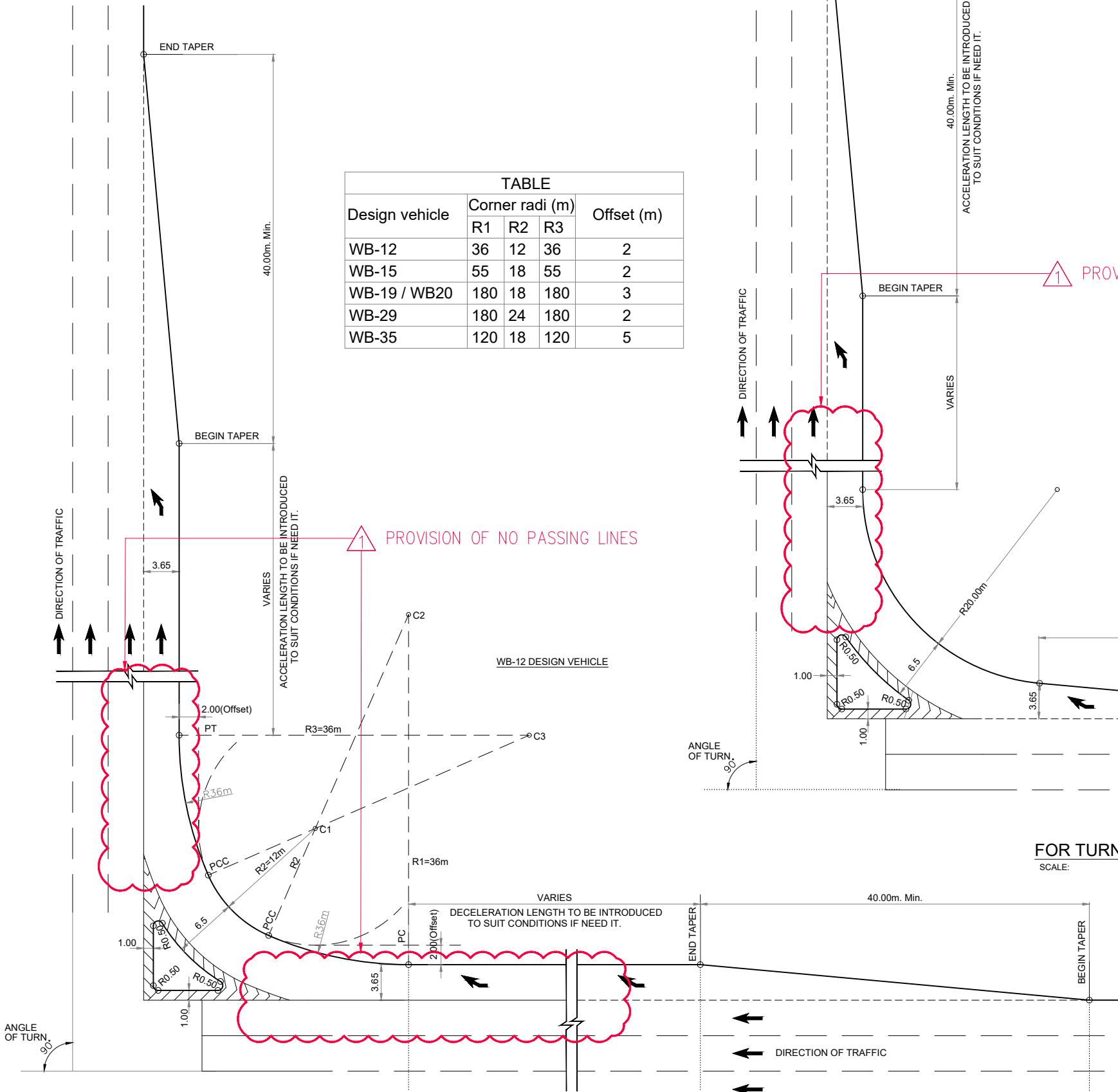
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE

TITLE
STANDARD DRAWINGS

DRAWING TITLE			
GEOMETRIC DETAILS TYPICAL SECTOR WITH NON-PAID PARKING KERBS, PAVEMENT MARKINGS, AND SIGNS LAYOUT			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-15

NOTES:

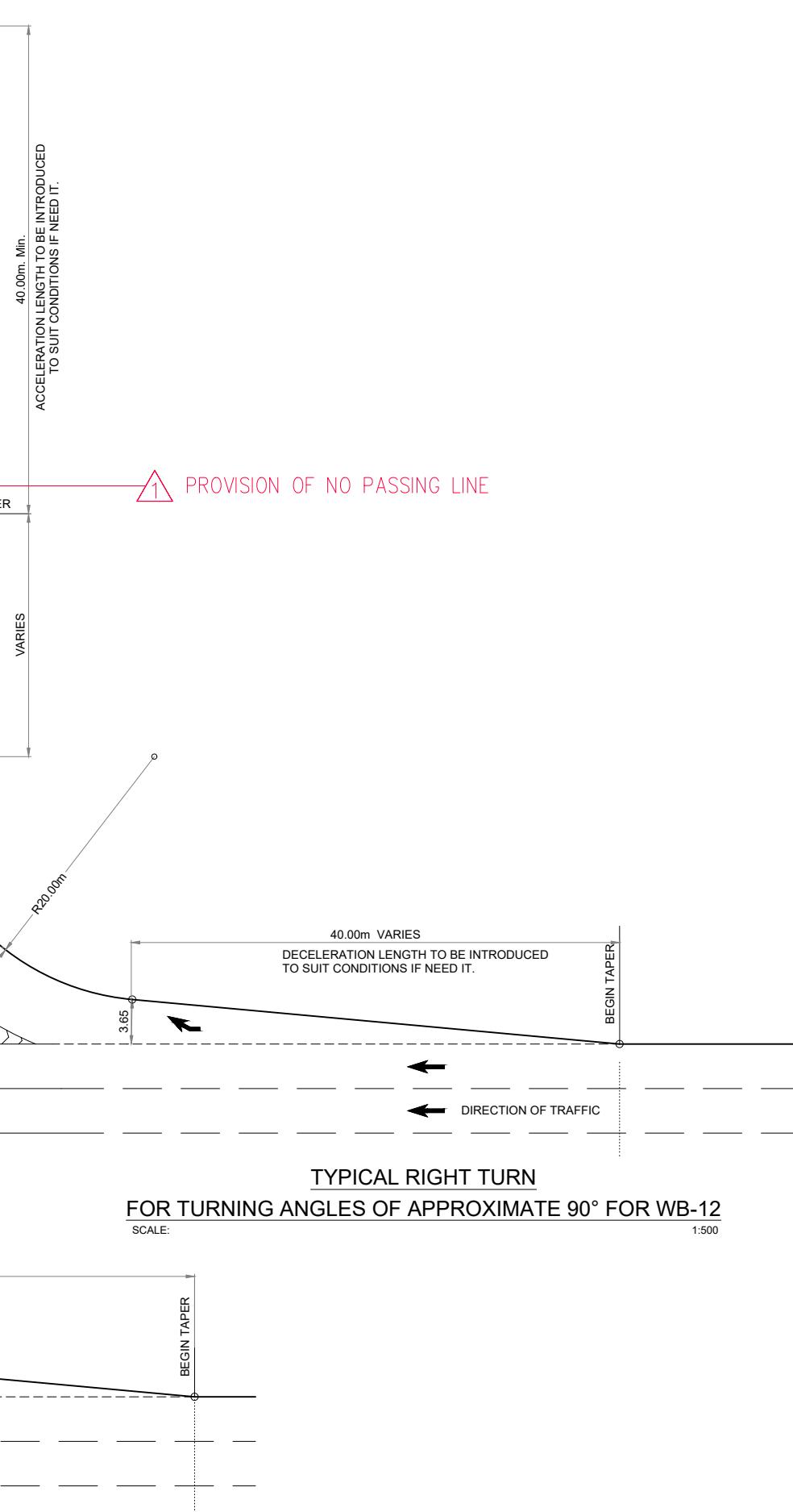
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
2. FOR FURTHER DETAILS REFER TO A9 - ROAD GEOMETRIC DESIGN MANUAL AND LATEST STANDARDS.
3. WIDTH OF RIGHT TURNING ROADWAYS SHOULD BE ENSURED WITH SWETHPATH ANALYSIS.



**TYPICAL RIGHT TURN
FOR TURNING ANGLES OF APPROXIMATE 90° FOR WB-12**

SCALE:

1:500

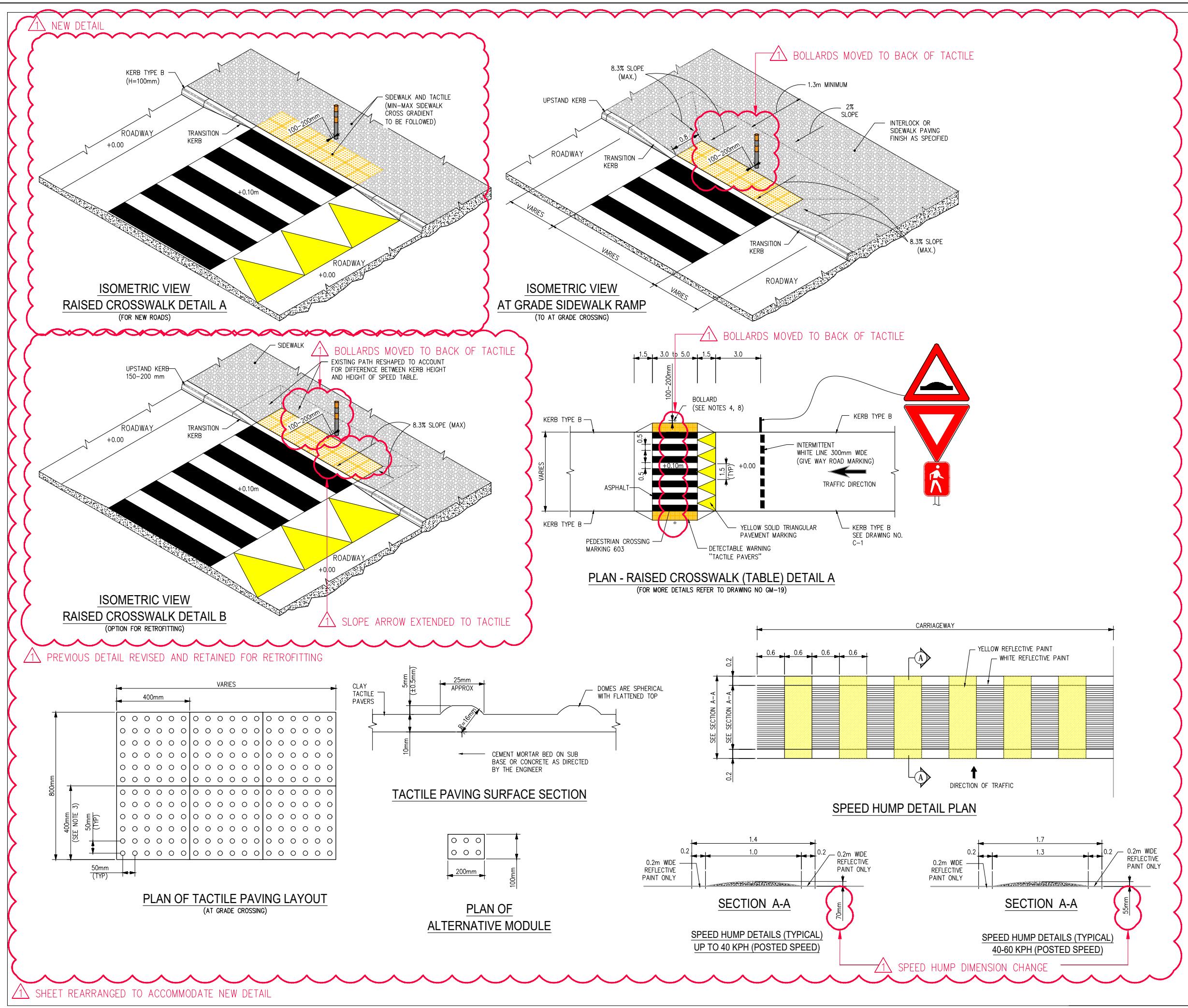


1	2021 AMENDMENT - FINAL ISSUE	JAN 2022	
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CLIENT			

STANDARD DRAWINGS

DRAWING TITLE
GEOMETRIC DETAILS
FREE RIGHT TURN DETAILS
(FOR RURAL ROADS)

DRAWN	.	SCALE	1:500
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-16



1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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STANDARD DRAWINGS		
DRAWING TITLE		
GEOMETRIC DETAILS RAISED PEDESTRIAN CROSSING, PEDESTRIAN RAMP, SPEED HUMP DETAILS AND TACTILE PAVING		
DRAWN	.	SCALE NTS
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 PROVISION OF TACTILE SPECIFICATIONS (NEW SHEET)

TYPE OF TACTILE (MATERIAL)	APPLICABLE STANDARDS (OR EQUIVALENT)
CLAY (PORCELAIN)	BS DD CEN/TS 15209, BS 7997:2003, BS EN 1344 MODULUS OF RUPTURE: 35NMM (BS EN 10545) BREAKING LOAD: 130N (BS EN 10545) WATER ABSORPTION: 0.5% (BS EN 10545) DENSITY: > 2200KG/M ³ (BS EN 10545) HARDNESS, MOHS SCALE: 8 - TOPAZ COEFFICIENT OF FRICTION DRY: 90 (ASTMC1028-06), WET: 70 (ASTMC1028-06)
	INSTALLATION IN ACCORDANCE WITH BS 7533-3, BS 7533-4 OR BS 7533-6.
PRECAST CONCRETE	BS DD CEN/TS 15209, BS 7997:2003, BS 6717, BS 7263-1 OR BS 7263-3, AS APPROPRIATE; SLIP RESISTANCE ASTM C1028 WET/DRY MINIMUM 0.67, INSTALLATION IN ACCORDANCE WITH BS 7533-3, BS 7533-4 OR BS 7533-6.
NATURAL STONE	BS DD CEN/TS 15209, BS 7997:2003, BS EN 1341, BS EN 1342 OR BS EN 1343, AS APPROPRIATE; SLIP RESISTANCE ASTM C1028 WET/DRY MINIMUM 0.67, INSTALLATION IN ACCORDANCE WITH BS 7533-3, BS 7533-4 OR BS 7533-6.
STAINLESS STEEL (STUDS OR PLATES)	AS 1428.4, SLIP RESISTANCE REQUIREMENTS AS DETAILED IN HB 198;
	TEST WET PENDULUM TEST- AS 4586 APPENDIX A
	FOUR S 96 SLIDER = 95 CLASS = P5
	TRL 55 SLIDER = 74 CLASS = P5
	TEST WET/BAREFOOT RAMP TEST- AS 4586 APPENDIX C
	MEAN ANGLE OF INCLINATION = 27 CLASS = C
	TEST OIL/WET RAMP TEST- AS 4586 APPENDIX D
	CORRECTED MEAN OVERALL ACCEPTANCE ANGLE = 29 CLASS = R12
VITRIFIED POLYMER COMPOSITE	INSTALLATION USING EPOXY ADHESIVE (E-BOND, USA OR EQUIVALENT)
	ASTM D 695 COMPRESSIVE STRENGTH NOT LESS THAN 170 MPa
	ASTM D 790 FLEXURAL STRENGTH NOT LESS THAN 200 MPa
	ASTM D 570 WATER ABSORPTION 0.05%
	ASTM C 1028 SLIP RESISTANCE 0.8 WET/DRY
	ASTM B 117 SALT SPRAY NO CHANGE (300 HOURS)
	ASTM 1308 CHEMICAL STAIN NO EFFECT
	ASTM C 501 ABRASION RESISTANCE LW>500
	ASTM G 155 ACCELERATED WEATHERING DELTA E<5 (3,000 HOURS)
	ASTM D 638 TENSILE STRENGTH 85 MPa
	AASHTO-H20 LOAD BEARING AT 16,000 LBS. NO CRACKING, DELAMINATION OR DEFORMATION
	ASTM C 1026 FREEZE/THAW/HEAT NO CHIPPING, CRACKING OR PEELING
	INSTALLATION USING CAST IN-SITU CONCRETE.

NOTES:

1. REFER TO SHEET GM-17 FOR TACTILE PAVING DETAILS ON CROSSINGS.
2. REFER TO DOCUMENT TR-520 BUS STOP GUIDELINES FOR TACTILE PAVING PLACEMENTS ON BUS STOPS.
3. REFER TO SHEET GM-24 FOR USE OF LADDER AND TRAMLINE TACTILE PAVING FOR CYCLE TRACKS.

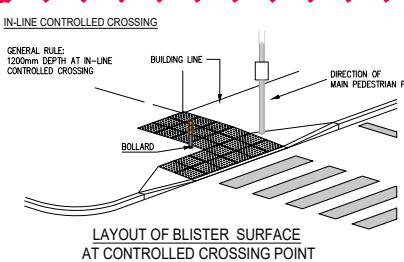
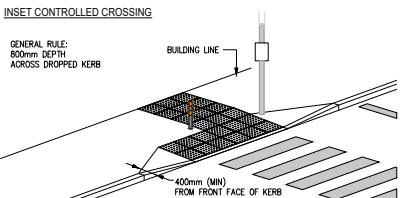
 ADDITIONAL NOTES

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STANDARD DRAWINGS		
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TACTILE PAVING SPECIFICATIONS		
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PROJECT No.	.	DWG. No. GM-17A

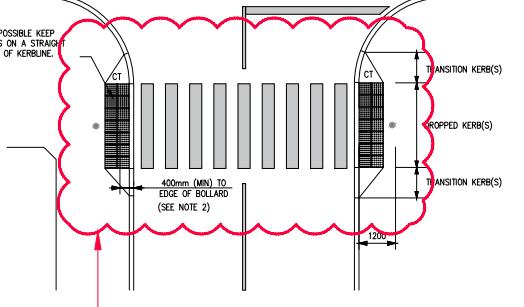
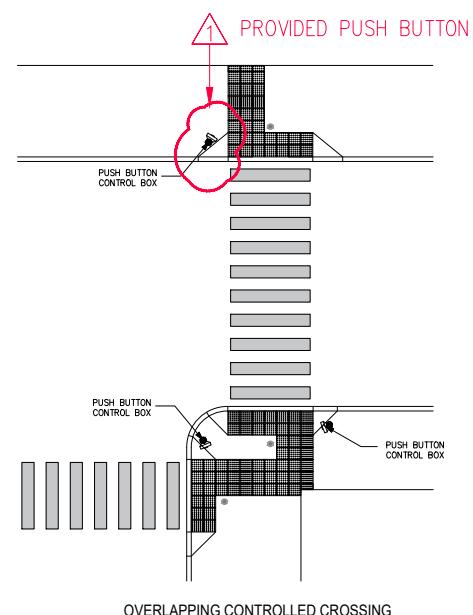
- NOTES:**
1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
 2. FOR BOLLARD DETAILS REFER TO DRAWING NO. C-2, C-3 & C-4.
 3. AT JUNCTIONS AND CROSSING LOCATIONS, IT IS RECOMMENDED TO USE VISI-RAIL TYPE FENCES. (REFER TO C-43)
 4. EVERY DESIGNATED CROSSING TO HAVE YIELD LINE, YIELD SIGNS AND NO PASSING LINE.
 5. PROVISION OF SPEED TABLES VERSUS DROPPED KERB CROSSINGS (INCLUDING SPEED HUMPS) SHALL BE UP TO THE ENGINEER'S DISCRETION AND DECIDED IN COORDINATION WITH THE ADM ROAD SAFETY AUDIT DEPARTMENT.
 6. PUSH BUTTONS TO BE LOCATED SUCH THAT PEDESTRIANS FACE ONCOMING TRAFFIC GM-18.
 7. MULTIPLE BOLLARDS AT 2M SPACING MAY BE REQUIRED TO ENSURE VEHICLES CANNOT ACCESS THE FOOTWAY.

1 REMOVED ORIGINAL NOTE 2
1 ADDITION OF NOTES 3, 4, 5, 6, 7

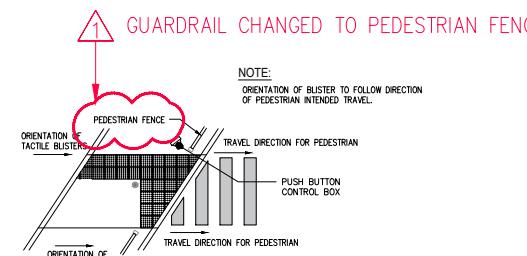
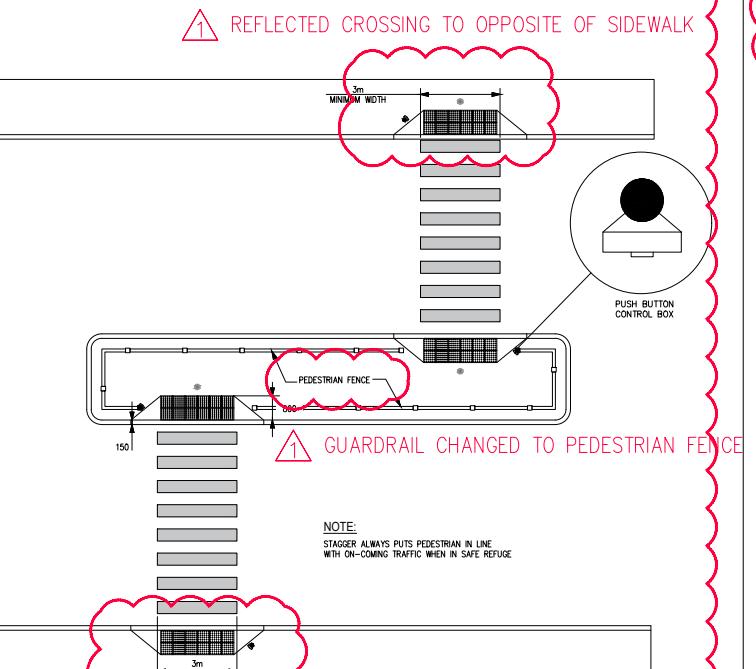
1 BOLLARD LOCATIONS SHIFTED TO BACK OF TACTILE; TACTILE LAYOUTS AND PUSH BUTTON PLACEMENTS ADJUSTED TO REFLECT UAE DIRECTION; PROVIDED DROPPED KERBS ON ALL DETAILS



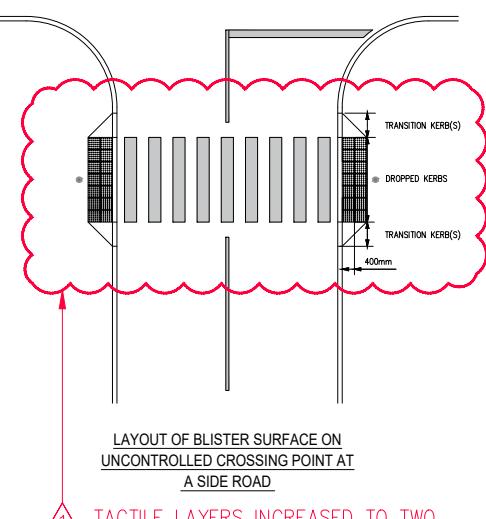
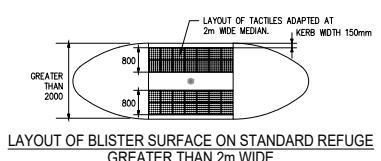
1 TACTILE LAYERS REDUCED TO TWO



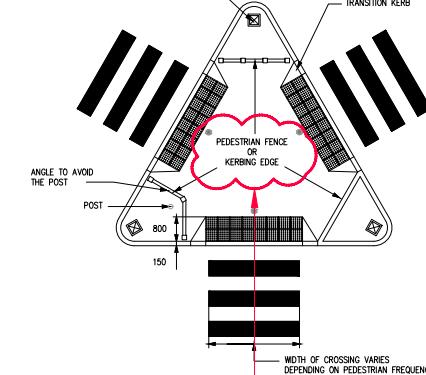
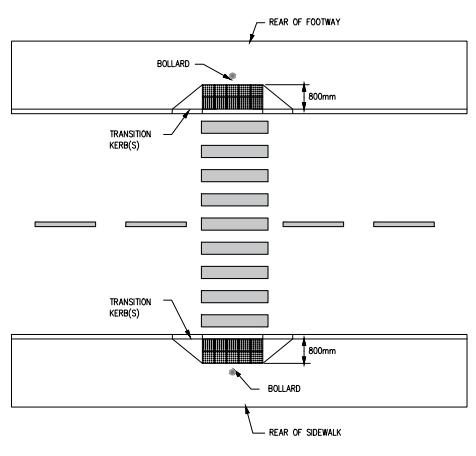
1 TACTILE LAYERS REDUCED TO TWO



LAYOUT OF BLISTER SURFACE AT CONTROLLED CROSSING WHERE THE BACK EDGE OF THE TACTILE IS NOT PARALLEL TO THE KERB



1 TACTILE LAYERS INCREASED TO TWO



1 GUARDRAIL CHANGED TO PEDESTRIAN FENCE

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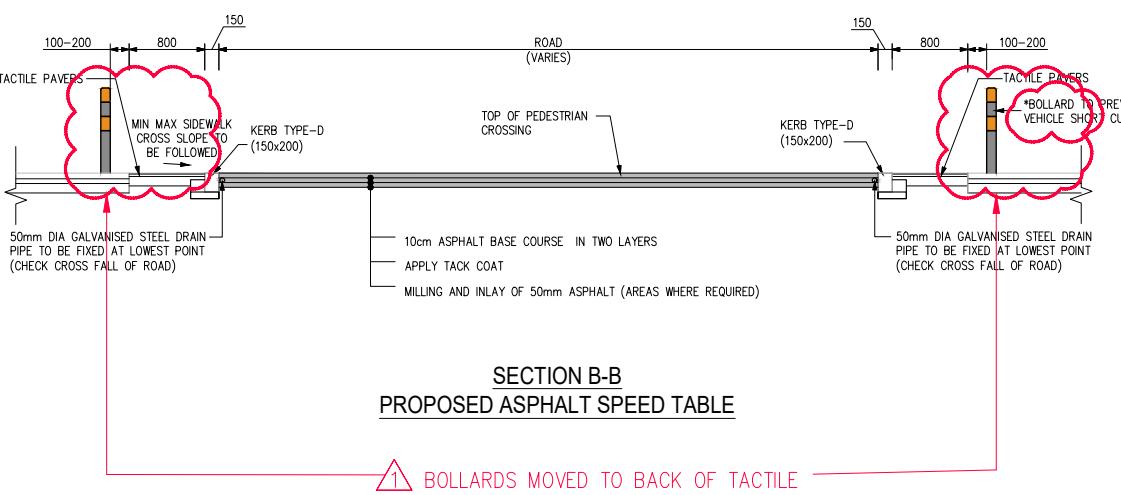
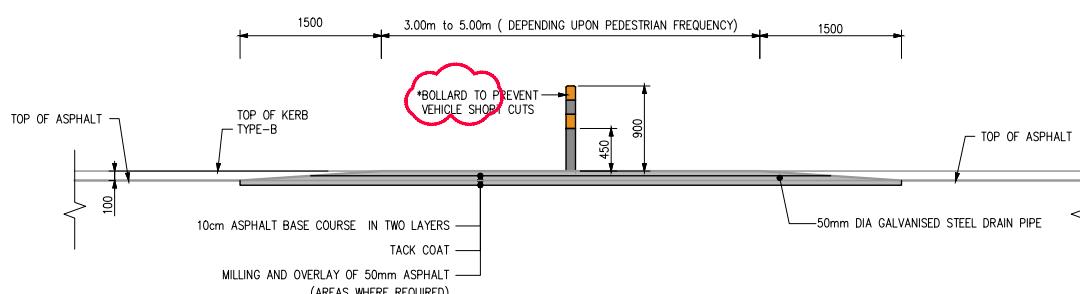
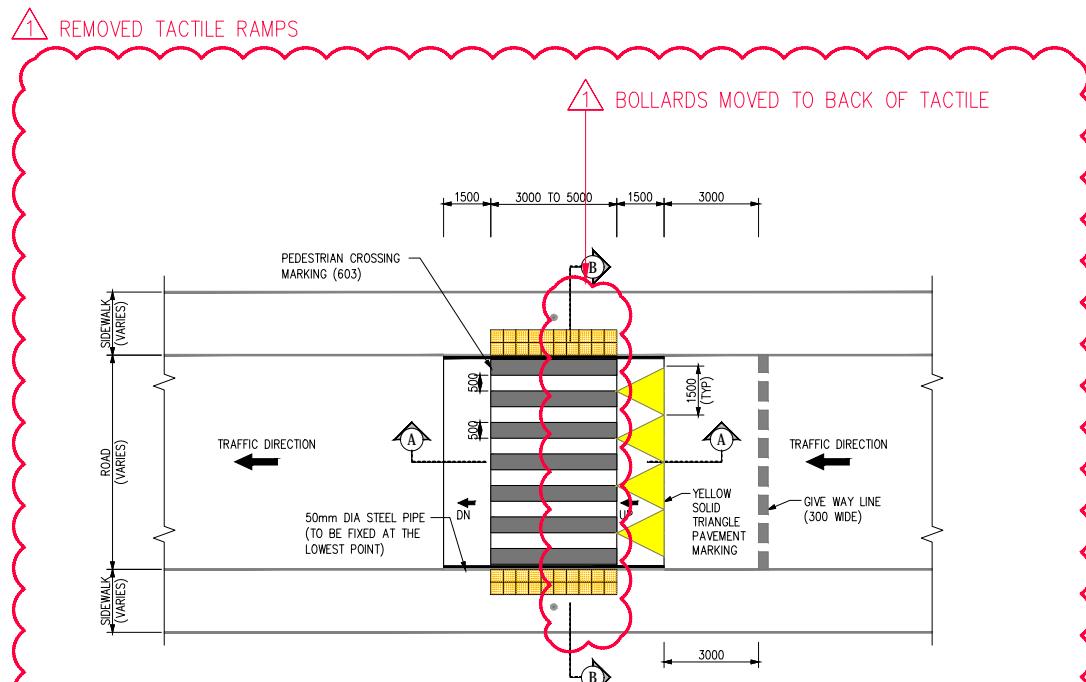
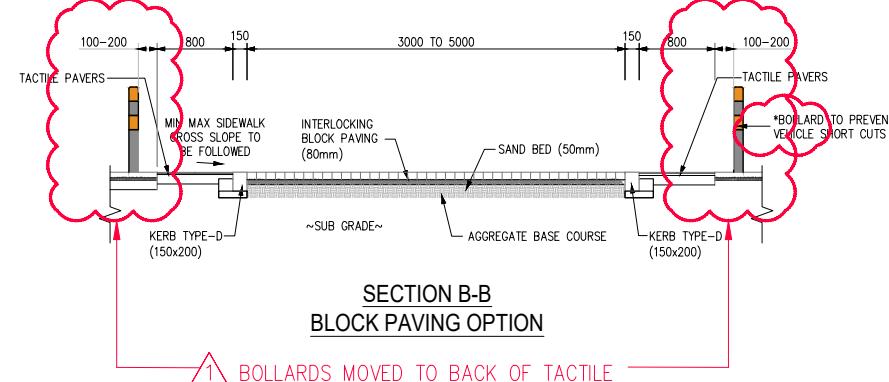
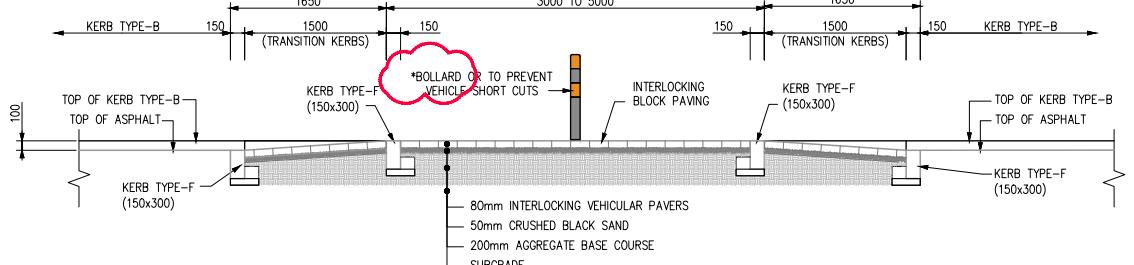
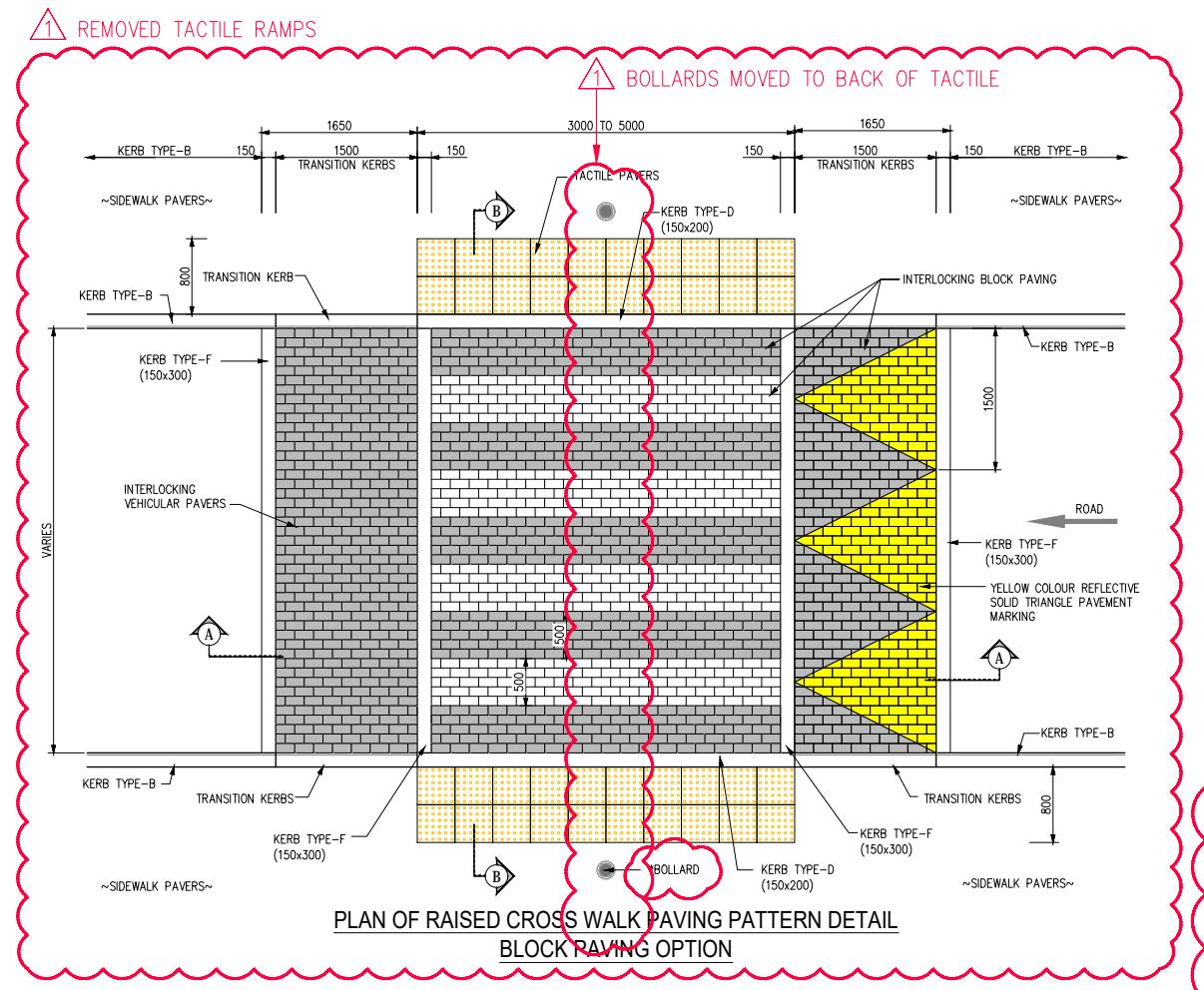
STANDARD DRAWINGS

DRAWING TITLE
GEOMETRIC DETAILS

PEDESTRIAN CROSSINGS
AND TACTILE PAVING

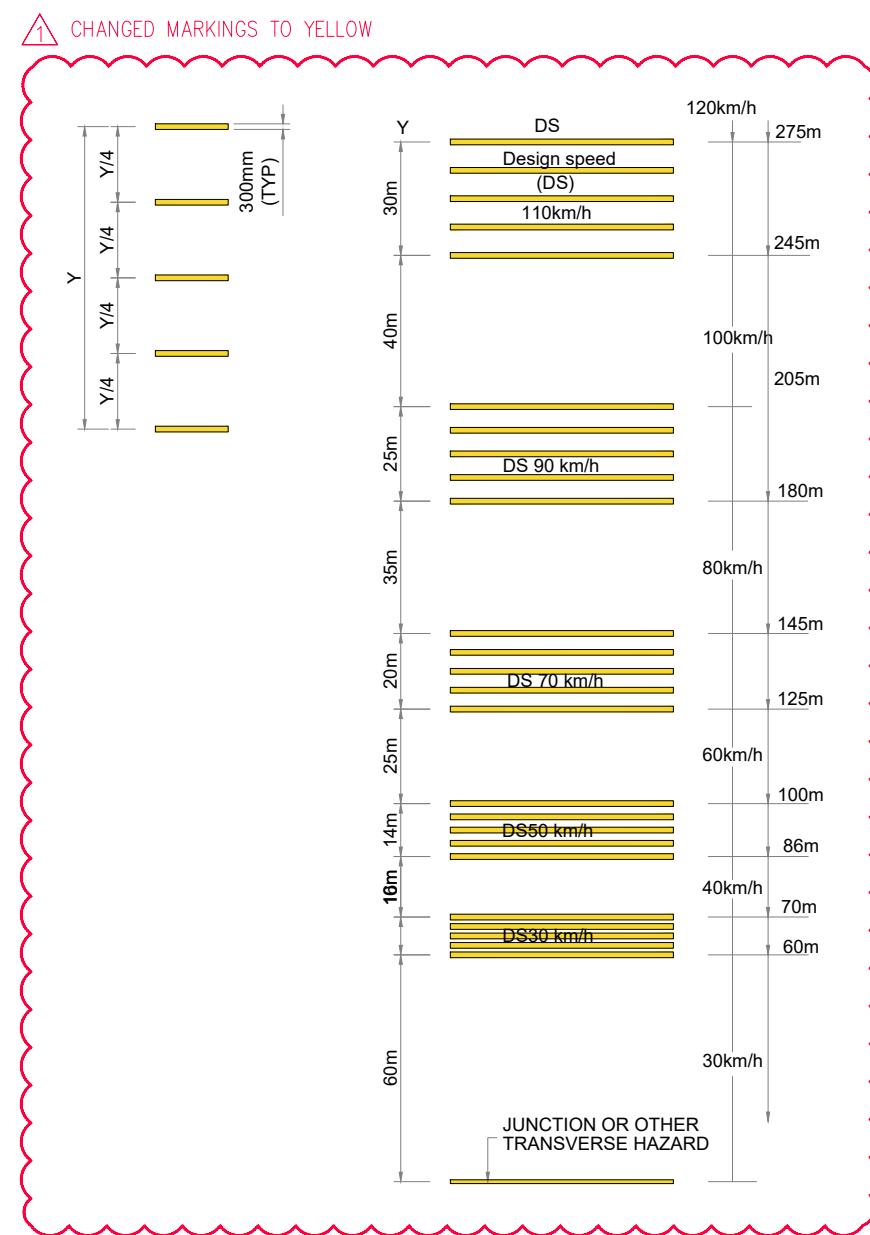
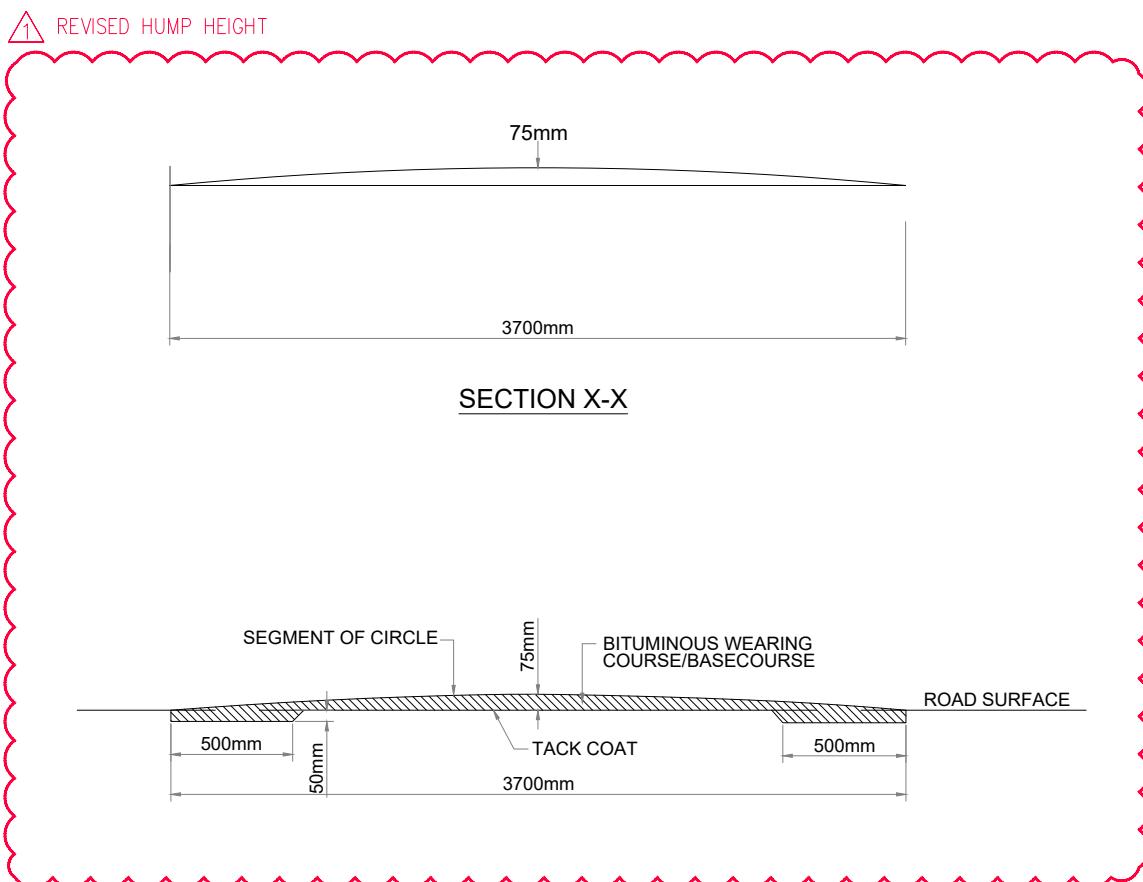
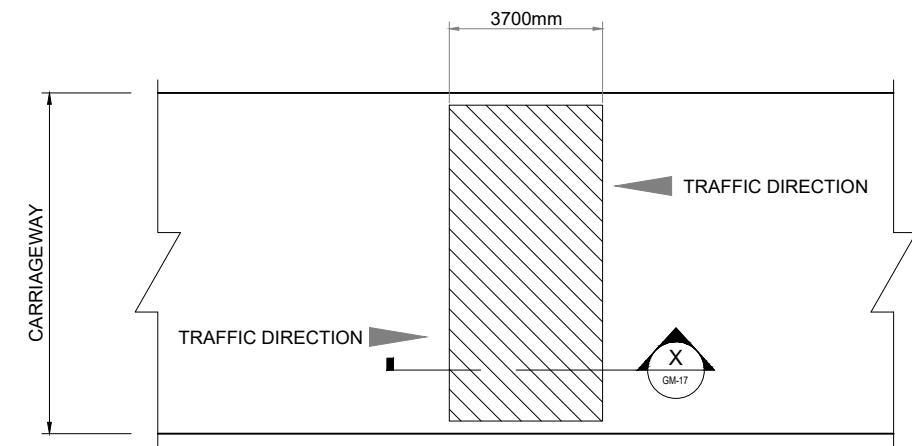
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APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-18

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 2. IN THE CASE THAT THERE IS EXISTING KERBSTONE ON BOTH SIDES OF THE CARRIAGeway A DRAIN PIPE OF NOT LESS THAN 50mm DIA. SHALL BE PROVIDED ON THE LOW SIDE OF THE CARRIAGeway.
 3. AS DIRECTED BY THE ENGINEER, IF THE LOW POINT IS PASSING THOUGH THE PEDESTRIAN CROSSING AND THERE IS A DRAINAGE INLET BEFORE THE CROSSING, NO DRAIN PIPE IS REQUIRED.
 4. TYPE 1, 2 AND 3 BOLLARDS TO BE LOCATED 100-200mm FROM EDGE OF TACTILE TO EDGE OF BOLLARD. FOR BOLLARD DETAILS REFER TO DRAWING NO. C-2, C-3, & C-4.
 5. SPEED TABLES/RAISED PEDESTRIAN CROSSING TO BE SHOWN IN STAGGERED ON DUAL ROAD WITH PEDESTRIAN FACING ONCOMING TRAFFIC.
 6. EVERY DESIGNATED CROSSING TO HAVE YIELD LINE, YIELD SIGNS AND NO PASSING LINE.
 7. *MULTIPLE BOLLARDS AT 2M SPACING MAY BE REQUIRED TO ENSURE VEHICLES CANNOT ACCESS THE FOOTWAY.
- ADDITION OF NOTE 5, 6, 7**
REVISION OF NOTE 4



REvised ALL CROSSINGS TO BE LEVEL WITH SIDEWALK (100 MM HT)

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RAISED PEDESTRIAN CROSSING, PEDESTRIAN RAMP AND SPEED HUMP DETAILS			
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Design Speed	Y	Y/4
110	30	7.50
90	25	6.25
70	20	5.00
50	14	3.50
30	10	2.50

RUMBLE STRIP FOR SPEED REDUCTION
SCALE: NTS

- NOTES:**
- MANUFACTURED FROM TOUGH RECYCLED THERMOPLASTIC MATERIAL.
 - BOLT DOWN HOLES FOR PERMANENT FIXING.
 - EASY TO INSTALL USING 12MM BOLTS.
 - CHEQUERED PATTERN FOR EXTRA GRIP
 - 500MM SECTIONS IN ALTERNATIVE BLACK / YELLOW
 - INTEGRAL REFLECTOR IN WHITE OR RED TO ORDER.
 - END SECTIONS AVAILABLE.
 - CAN BE INSTALLED USING TEMPORARY ADHESIVE PADS.
 - ALL DIMENSION ARE IN MILLIMETERS UNLESS OTHERWISE NOTED
 - NO PASSING LINE TO BE PROVIDED IN ADVANCE OF SPEED HUMPS.
- ADDITION OF NOTE 10**

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DRAWING TITLE			
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TRAFFIC CALMING MEASURES (FOR RURAL ROADS)			
Sheet 1 of 2			
DRAWN	.	SCALE	NTS
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APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	GM-20

 1 REMOVAL OF ALL DETAILS

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PLEASE REFER TO
TR-528 TRAFFIC CALMING GUIDELINES

- NOTES:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 2. FOR MORE DETAILS, PLEASE REFER TO ABU DHABI URBAN STREET MANUAL.
 3. TRAFFIC SIGNS & MARKING AS PER STANDARDS.

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STANDARD DRAWINGS

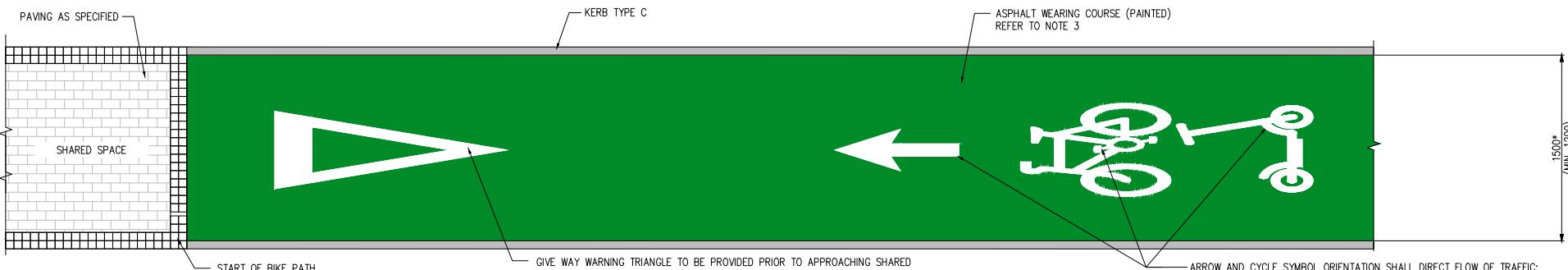
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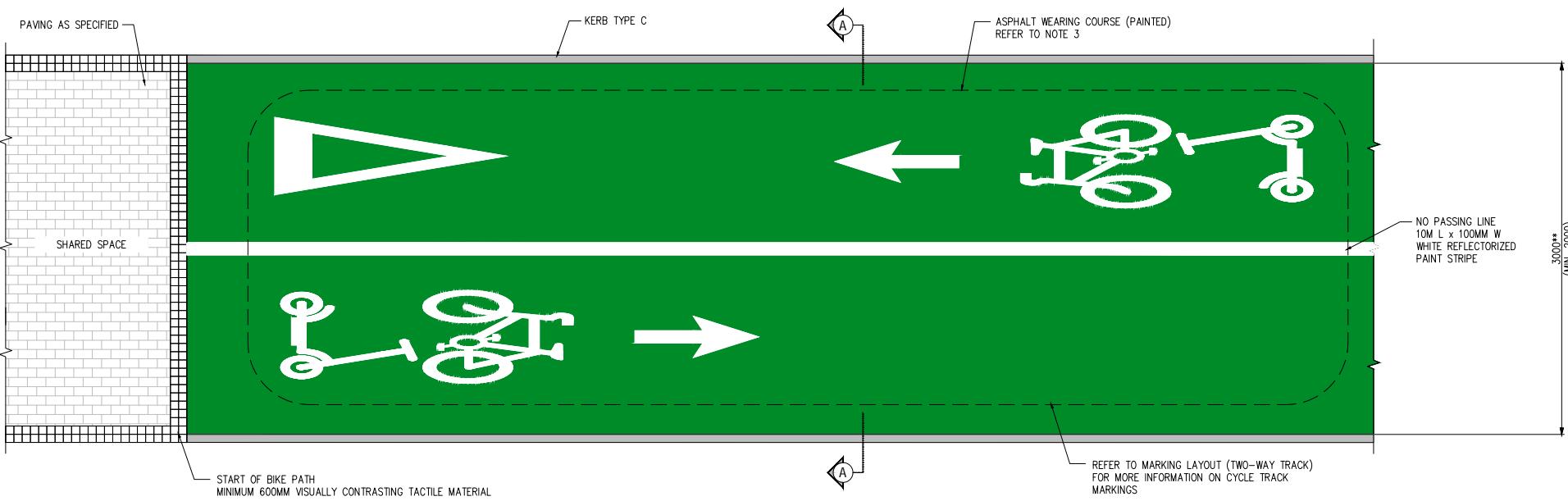
**TRAFFIC CALMING MEASURES
(FOR RURAL ROADS)**

Sheet 2 of 2

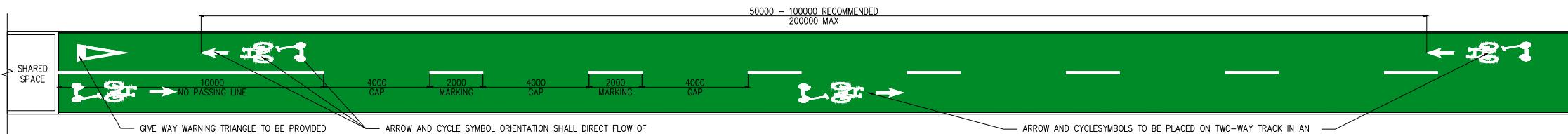
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PROJECT No.	.	DWG. No.	GM-21



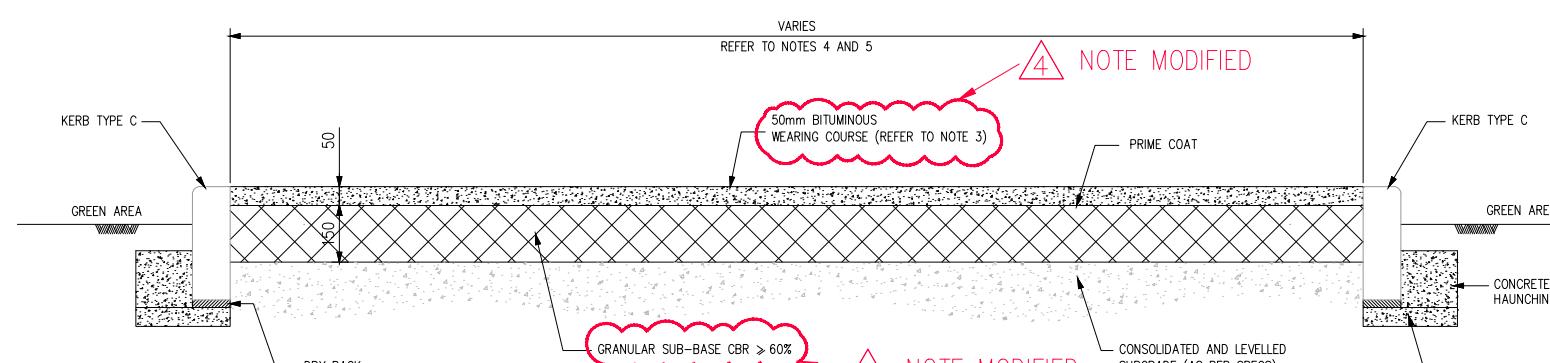
CYCLE TRACK (OFF-ROAD) - ONE-WAY



CYCLE TRACK (OFF-ROAD) - TWO-WAY



MARKING LAYOUT - TWO-WAY TRACK



SECTION A-A

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 - TWO-WAY DIRECTION TRACKS ARE TYPICAL FOR BOULEVARDS & AVENUES (ARTERIAL & COLLECTORS). REFER TO THE WALKING AND CYCLING MASTER PLAN FOR MORE DETAILS.
 - CYCLE TRACKS SHOULD BE FINISHED TO A SMOOTH UNJOINED SURFACE SUCH AS ASPHALT, AND PAINTED GREEN IF POSSIBLE.
 - *1.5M DIMENSION FOR A ONE-WAY CYCLE TRACK APPLIES. WIDTH COULD BE REDUCED ON A CASE BY CASE BASIS TO AN ABSOLUTE MINIMUM OF 1.2 METRES FOR A RETROFITTING SCENARIO. CONSULTANT TO PRESENT JUSTIFICATIONS AND OBTAIN APPROVAL NOCs FROM ALL RELEVANT AUTHORITIES BEFORE PROCEEDING WITH ANY WIDTH REDUCTIONS.
 - **3.0M DIMENSION FOR A TWO-WAY CYCLE TRACK APPLIES. WIDTH COULD BE REDUCED ON A CASE BY CASE BASIS TO AN ABSOLUTE MINIMUM OF 2.0 METRES FOR A RETROFITTING SCENARIO. CONSULTANT TO PRESENT JUSTIFICATIONS AND OBTAIN APPROVAL NOCs FROM ALL RELEVANT AUTHORITIES BEFORE PROCEEDING WITH ANY WIDTH REDUCTIONS.
 - ***IN ADDITION TO THE WARNING TRIANGLE, GIVE WAY DASHED MARKING TO BE PROVIDED IF THERE IS NO DIFFERENTIATION BETWEEN CYCLE TRACK AND SHARED AREA MATERIAL. REFER TO WCMP FOR MORE INFORMATION.
 - DIRECTIONAL ARROWS ARE TO BE USED IN CYCLE TRACKS (OFF-ROAD FACILITIES), WHEREAS SHARROWS ARE ONLY TO BE USED IN CYCLE LANES (ON-ROAD FACILITIES).

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STANDARD DRAWINGS

DRAWING TITLE GEOMETRIC DETAILS GEOMETRIC & PAVEMENT DETAILS FOR CYCLE TRACK

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EXAMPLES OF TYPICAL CARRIAGeway, CYCLE AND PEDESTRIAN INTERFACE

EXAMPLE NO.1 (KERBSIDE BUS STOP SCENARIO)

NOTES:

- RACKS SHOULD BE PLACED IN CLOSE PROXIMITY TO THE BUS SHELTERS, AND WITHOUT CONFLICTING WITH PEDESTRIAN DESIRED PATHS. REFER TO THE WCMP FOR MORE DETAILS ON RACK DESIGN AND REQUIRED PARKING SPACES.
- TAPERS TO BACK OF BUS STOP AND TERMINATES PRIOR TO SHARED SPACE; 1:8 MAX TAPER (RADIUS DEPENDENT ON LENGTH OF BUS STOP)
- MEASURED FROM BACK EDGE OF BUS STOP TO THE CYCLE TRACK TO ALLOW FOR MOVEMENT OF PEDESTRIANS AND UTILITY ACCESS TO BUS SHELTER
- FOR MORE DETAILS REGARDING BUS SHELTER PLACEMENT, REFER TO TR-520.
- REFER TO USDM FOR IDENTIFYING APPROPRIATE DIMENSIONS WITH RESPECT TO CONTEXT.

EXAMPLE NO.2 (LAY-BY BUS STOP SCENARIO)

NOTES:

- RACKS SHOULD BE PLACED IN CLOSE PROXIMITY TO THE BUS SHELTERS, AND WITHOUT CONFLICTING WITH PEDESTRIAN DESIRED PATHS. REFER TO THE WCMP FOR MORE DETAILS ON RACK DESIGN AND REQUIRED PARKING SPACES.
- TAPERS TO BACK OF BUS STOP AND TERMINATES PRIOR TO SHARED SPACE; 1:8 MAX TAPER (RADIUS DEPENDENT ON LENGTH OF BUS STOP)
- MEASURED FROM BACK EDGE OF BUS SHELTER TO THE CYCLE TRACK TO ALLOW FOR MOVEMENT OF PEDESTRIANS AND UTILITY ACCESS TO BUS SHELTER
- FOR MORE DETAILS REGARDING BUS SHELTER PLACEMENT, REFER TO TR-520.
- REFER TO USDM FOR IDENTIFYING APPROPRIATE DIMENSIONS WITH RESPECT TO CONTEXT.

TYPICAL PEDESTRIAN PUBLIC REALM ZONES

CYCLE TRACK AND THROUGH ZONE INTERFACING ON JUNCTIONS

CYCLE TRACKS AND PEDESTRIAN PATHS ON GREENWAYS

KEY PRINCIPLES FOR MIXED TRAFFIC FACILITIES

- CYCLISTS SHARE ROAD WITH OTHER USERS, WITH NO DEMARCACTION FOR DIFFERENT MODES.
- GENERALLY USED ON LOCAL ROADS THAT ARE NOT WIDE ENOUGH TO ACCOMMODATE CYCLE LANES AND HAVE LOW TRAFFIC VOLUMES AND SPEED LIMITS (40 KPH OR LESS)
- PRESENCE OF SHARED LANE IS REINFORCED WITH ADDITIONAL ROAD MARKINGS SHOWING A CYCLE AND DIRECTION OF TRAVEL.
- A CONTINUOUS 100MM WIDE WHITE LINE CAN BE USED AS A MEANS OF SEGREGATION IF THERE IS NO GREEN COLOUR (RAL CODE 6037) TO BE USED FOR THE CYCLE TRACK.
- SHARED WAITING SPACE FOR CYCLIST AND PEDESTRIAN AT JUNCTION

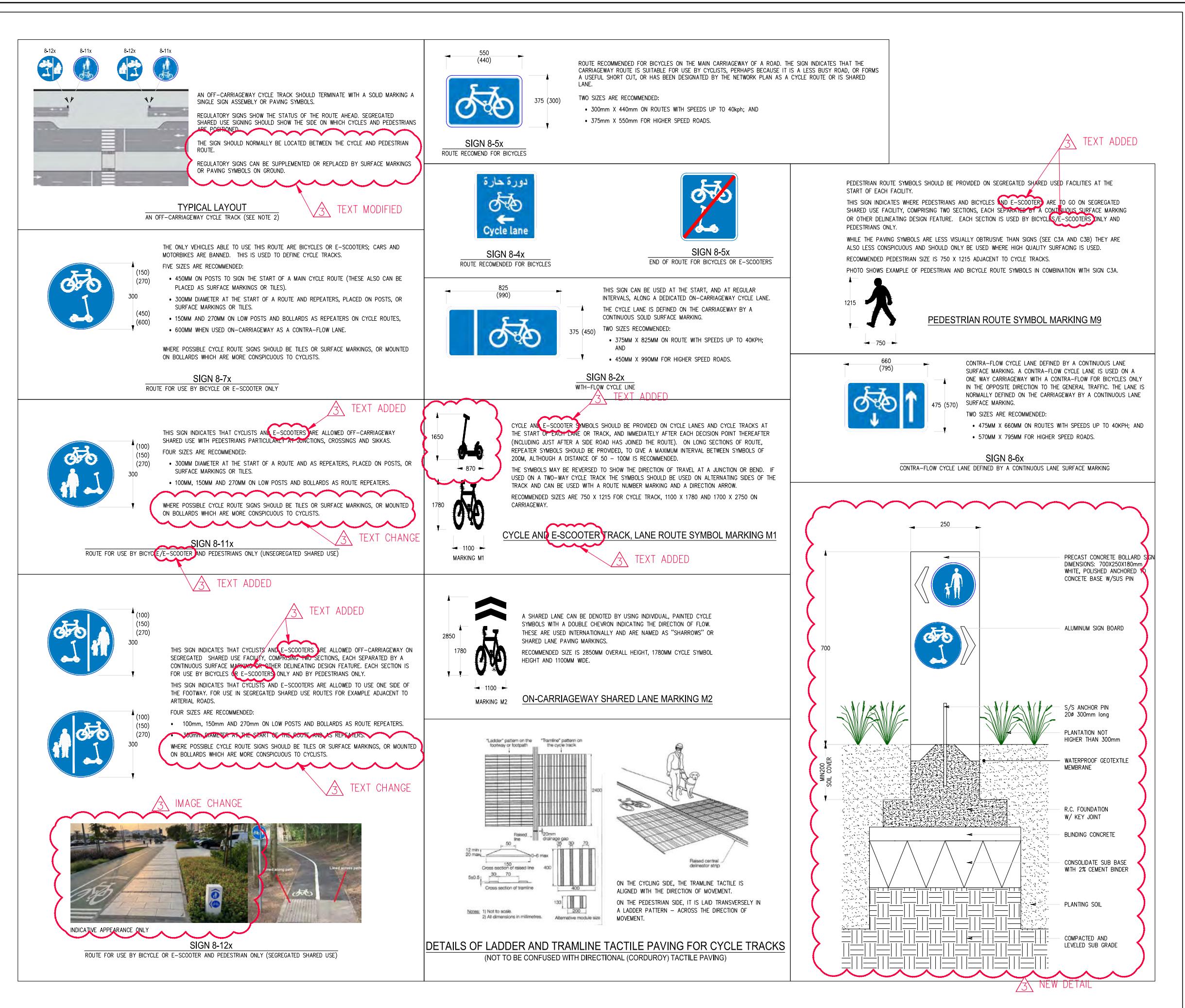
KEY PRINCIPLES FOR SHARED CYCLE AND PEDESTRIAN PATHS

- SEPARATED FROM TRAFFICKED ROADS, OFF THE RIGHT OF WAY.
- COHERENT, CLEAR AND LEGIBLE DESIGN TO PROMOTE CONSISTENT AND CONSIDERATE BEHAVIOR FROM ALL USERS AT ALL TIMES.
- SEGREGATED PATHS SHOULD HAVE MINIMUM DIMENSION OF: 2 METRES FOR CYCLE TRACK AND 1.8 METRES FOR PEDESTRIAN FOOTWAY.
- SHARED USED FACILITY SHOULD BE A MINIMUM WIDTH OF 3 METRES WITH SIGNAGE TO DESIGNATED SHARED USED AREA.
- PEDESTRIAN FOOTWAY SEPARATED FROM CYCLE TRACK BY 300MM WIDTH (MINIMUM 100MM) VISUALLY CONTRASTING STRIP, PREFERABLY IN A TACTILE MATERIAL.

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- TWO-WAY DIRECTION TRACKS ARE TYPICAL FOR BOULEVARDS & AVENUES (ARTERIAL & COLLECTORS). REFER TO THE WALKING AND CYCLING MASTER PLAN FOR MORE DETAILS.
- CYCLE TRACKS SHOULD BE FINISHED TO A SMOOTH, UNJOINED SURFACE SUCH AS ASPHALT, AND PAINTED GREEN IF POSSIBLE.
- *REFER TO GM-22 FOR CYCLE TRACK DETAILS.
- IF THE CYCLE TRACK IS TO BE PROVIDED ON A SIDE MEDIAN, A MINIMUM OF 6.0M SIDE MEDIAN ISLAND WIDTH IS REQUIRED.
- TO AVOID CONFLICTS WITH PEDESTRIANS, PEDESTRIAN CROSSINGS ON CYCLE ROUTES SHOULD BE A MINIMUM OF 4M IN WIDTH.
- WHERE A RAISED CROSSING IS NOT PROPOSED, A DROPPED KERB SHOULD BE PROVIDED AND THE LAYOUT SHOULD BE USDM COMPLIANT.

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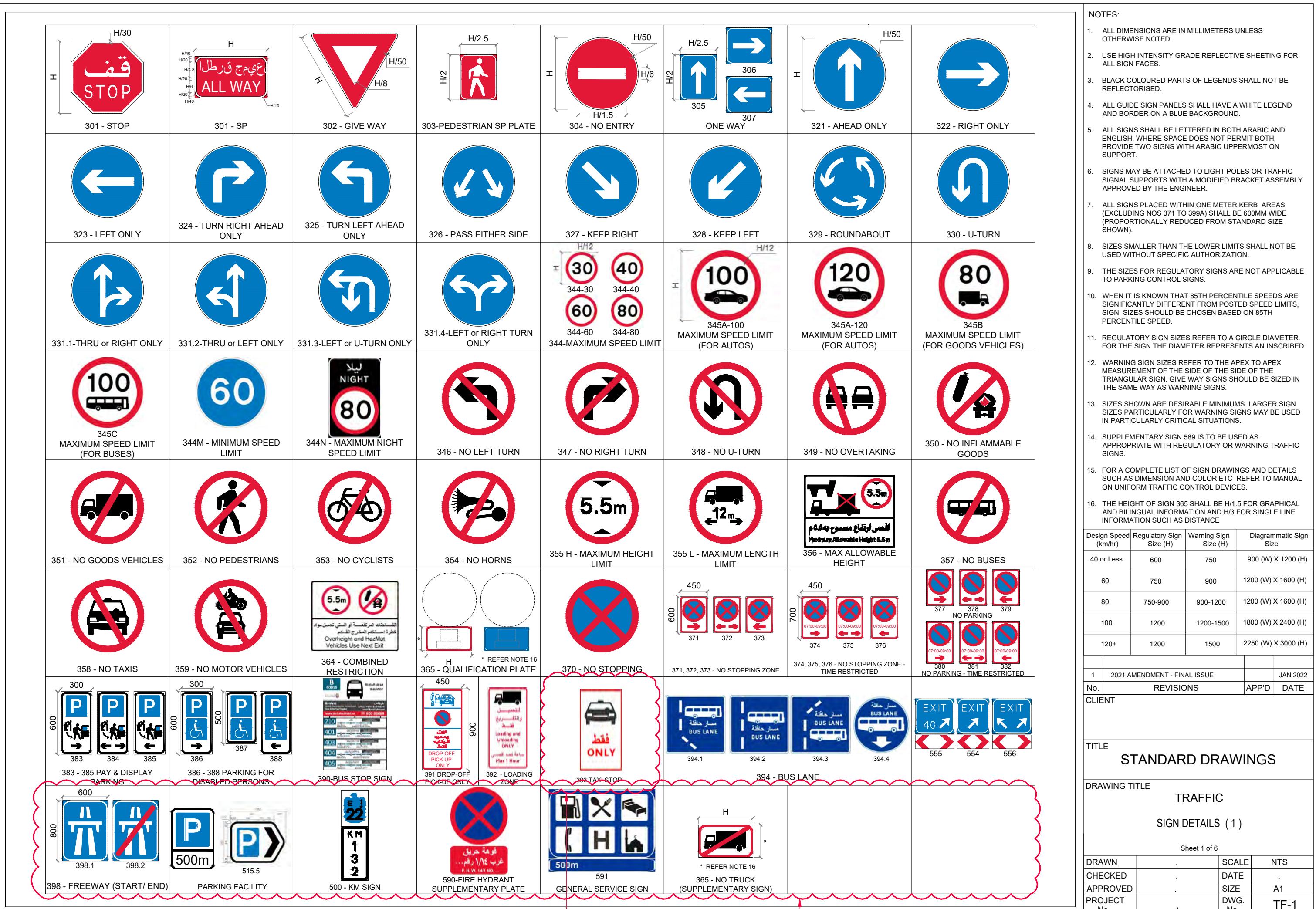


NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 2. SHOULD BE READ IN CONJUNCTION WITH THE ABU DHABI WALKING AND CYCLING MASTER PLAN: NETWORK DESIGN CHAPTER, EXECUTIVE SUMMARY AND SECTION 2 USER INFORMATION AND WAYFINDING, WHICH PROVIDES ADDITIONAL EXPLANATORY NOTES AND EXAMPLES FOR SIGNS AND SURFACE MARKINGS

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02. TRAFFIC



- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. USE HIGH INTENSITY GRADE REFLECTIVE SHEETING FOR ALL SIGN FACES.
 3. BLACK COLOURED PARTS OF LEGENDS SHALL NOT BE REFLECTORISED.
 4. ALL GUIDE SIGN PANELS SHALL HAVE A WHITE LEGEND AND BORDER ON A BLUE BACKGROUND.
 5. ALL SIGNS SHALL BE LETTERED IN BOTH ARABIC AND ENGLISH. WHERE SPACE DOES NOT PERMIT BOTH, PROVIDE TWO SIGNS WITH ARABIC UPPERMOST ON SUPPORT.
 6. SIGNS MAY BE ATTACHED TO LIGHT POLES OR TRAFFIC SIGNAL SUPPORTS WITH A MODIFIED BRACKET ASSEMBLY APPROVED BY THE ENGINEER.
 7. ALL SIGNS PLACED WITHIN ONE METER KERB AREAS (EXCLUDING NOS 371 TO 399A) SHALL BE 600MM WIDE (PROPORTIONALLY REDUCED FROM STANDARD SIZE SHOWN).
 8. SIZES SMALLER THAN THE LOWER LIMITS SHALL NOT BE USED WITHOUT SPECIFIC AUTHORIZATION.
 9. THE SIZES FOR REGULATORY SIGNS ARE NOT APPLICABLE TO PARKING CONTROL SIGNS.
 10. WHEN IT IS KNOWN THAT 85TH PERCENTILE SPEEDS ARE SIGNIFICANTLY DIFFERENT FROM POSTED SPEED LIMITS, SIGN SIZES SHOULD BE CHOSEN BASED ON 85TH PERCENTILE SPEED.
 11. REGULATORY SIGN SIZES REFER TO A CIRCLE DIAMETER. FOR THE SIGN THE DIAMETER REPRESENTS AN INSCRIBED
 12. WARNING SIGN SIZES REFER TO THE APEX TO APEX MEASUREMENT OF THE SIDE OF THE SIDE OF THE TRIANGULAR SIGN. GIVE WAY SIGNS SHOULD BE SIZED IN THE SAME WAY AS WARNING SIGNS.
 13. SIZES SHOWN ARE DESIRABLE MINIMUMS. LARGER SIGN SIZES PARTICULARLY FOR WARNING SIGNS MAY BE USED IN PARTICULARLY CRITICAL SITUATIONS.
 14. SUPPLEMENTARY SIGN 589 IS TO BE USED AS APPROPRIATE WITH REGULATORY OR WARNING TRAFFIC SIGNS.
 15. FOR A COMPLETE LIST OF SIGN DRAWINGS AND DETAILS SUCH AS DIMENSION AND COLOR ETC REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 16. THE HEIGHT OF SIGN 365 SHALL BE H/1.5 FOR GRAPHICAL AND BILINGUAL INFORMATION AND H/3 FOR SINGLE LINE INFORMATION SUCH AS DISTANCE

Design Speed (km/hr)	Regulatory Sign Size (H)	Warning Sign Size (H)	Diagrammatic Sign Size
40 or Less	600	750	900 (W) X 1200 (H)
60	750	900	1200 (W) X 1600 (H)
80	750-900	900-1200	1200 (W) X 1600 (H)
100	1200	1200-1500	1800 (W) X 2400 (H)
120+	1200	1500	2250 (W) X 3000 (H)

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STANDARD DRAWINGS

DRAWING TITLE
TRAFFIC
SIGN DETAILS (1)

Sheet 1 of 6

DRAWN	SCALE	NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-1

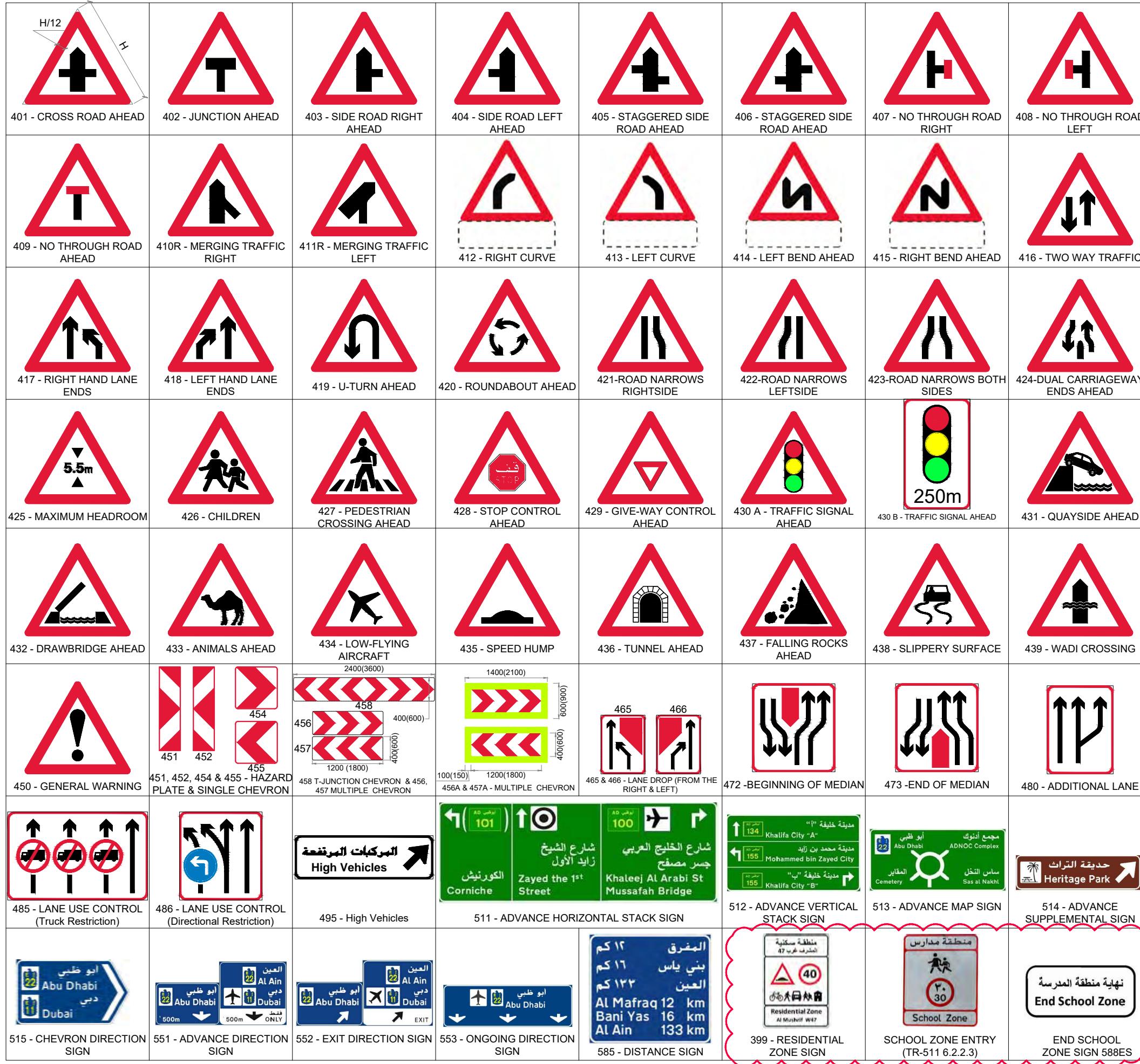
UPDATED 393 SIGN

REMOVAL OF CYCLE SIGN AND NEIGHBORHOOD SIGN

NOTES:
1. PLEASE REFER TO TR-511 (MUTCD) FOR MORE INFORMATION REGARDING THE USE OF TRAFFIC SIGNS.

NEW SHEET FOR CYCLE SIGNS

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CLIENT		
TITLE STANDARD DRAWINGS		
DRAWING TITLE TRAFFIC		
SIGN DETAILS (1A)		
Sheet 2 of 6		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-1A



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- USE HIGH INTENSITY GRADE REFLECTIVE SHEETING FOR ALL SIGN FACES.
- BLACK COLOURED PARTS OF LEGENDS SHALL NOT BE REFLECTORISED.
- ALL GUIDE SIGN PANELS SHALL HAVE A WHITE LEGEND AND BORDER ON A BLUE BACKGROUND.
- ALL SIGNS SHALL BE LETTERED IN BOTH ARABIC AND ENGLISH. WHERE SPACE DOES NOT PERMIT BOTH, PROVIDE TWO SIGNS WITH ARABIC UPPERMOST ON SUPPORT.
- SIGNS MAY BE ATTACHED TO LIGHT POLES OR TRAFFIC SIGNAL SUPPORTS WITH A MODIFIED BRACKET ASSEMBLY APPROVED BY THE ENGINEER.
- ALL SIGNS PLACED WITHIN ONE METER KERB AREAS (EXCLUDING NOS 371 TO 399A) SHALL BE 600MM WIDE (PROPORTIONALLY REDUCED FROM STANDARD SIZE SHOWN).
- SIZES SMALLER THAN THE LOWER LIMITS SHALL NOT BE USED WITHOUT SPECIFIC AUTHORIZATION.
- THE SIZES FOR REGULATORY SIGNS ARE NOT APPLICABLE TO PARKING CONTROL SIGNS.
- WHEN IT IS KNOWN THAT 85TH PERCENTILE SPEEDS ARE SIGNIFICANTLY DIFFERENT FROM POSTED SPEED LIMITS, SIGN SIZES SHOULD BE CHOSEN BASED ON 85TH PERCENTILE SPEED.
- REGULATORY SIGN SIZES REFER TO A CIRCLE DIAMETER. FOR THE SIGN THE DIAMETER REPRESENTS AN INSCRIBED
- WARNING SIGN SIZES REFER TO THE APEX TO APEX MEASUREMENT OF THE SIDE OF THE SIDE OF THE TRIANGULAR SIGN. GIVE WAY SIGNS SHOULD BE SIZED IN THE SAME WAY AS WARNING SIGNS.
- SIZES SHOWN ARE DESIRABLE MINIMUMS. LARGER SIGN SIZES PARTICULARLY FOR WARNING SIGNS MAY BE USED IN PARTICULARLY CRITICAL SITUATIONS.
- SUPPLEMENTARY SIGN 589 IS TO BE USED AS APPROPRIATE WITH REGULATORY OR WARNING TRAFFIC SIGNS.
- FOR A COMPLETE LIST OF SIGN DRAWINGS AND DETAILS SUCH AS DIMENSION AND COLOR ETC REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

Design Speed (km/hr)	Regulatory Sign Size (H)	Warning Sign Size (H)	Diagrammatic Sign Size
40 or Less	600	750	900 (W) X 1200 (H)
60	750	900	1200 (W) X 1600 (H)
80	750-900	900-1200	1200 (W) X 1600 (H)
100	1200	1200-1500	1800 (W) X 2400 (H)
120+	1200	1500	2250 (W) X 3000 (H)

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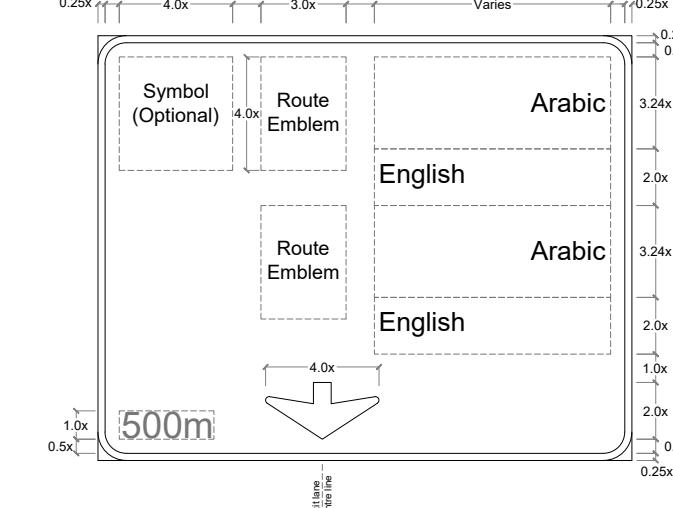
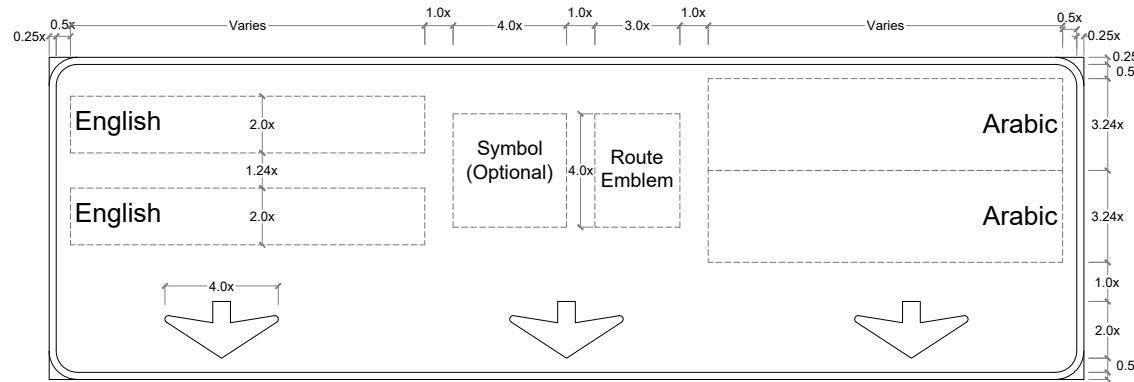
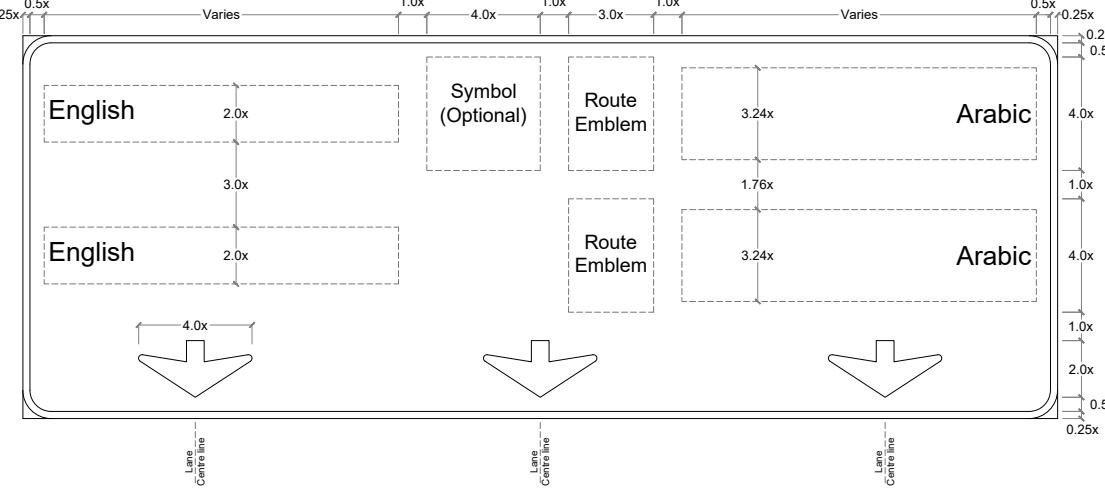
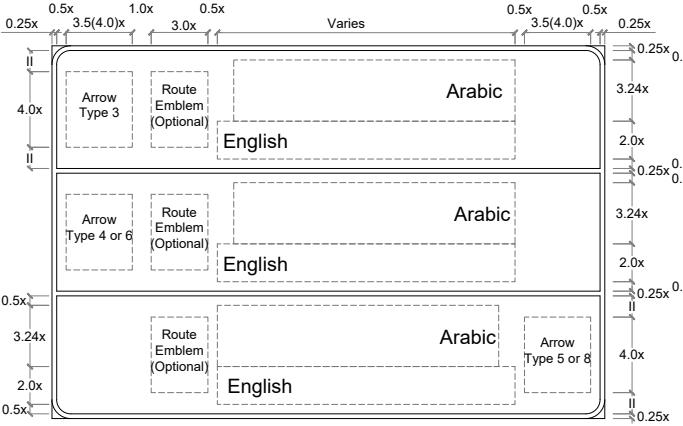
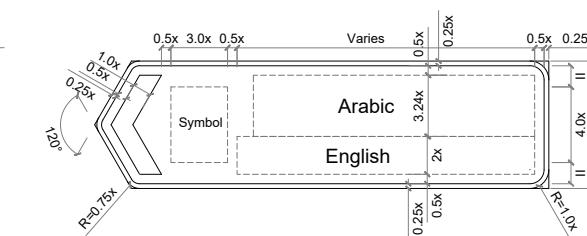
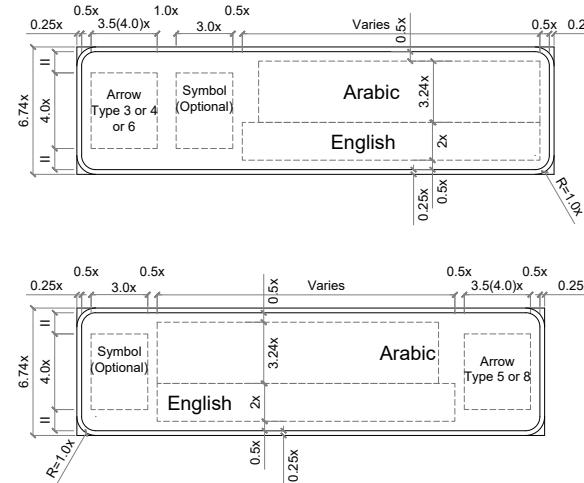
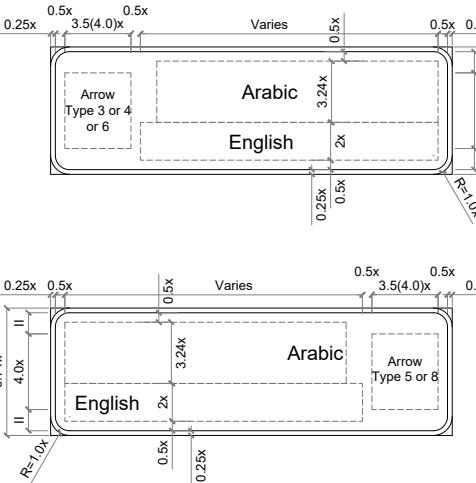
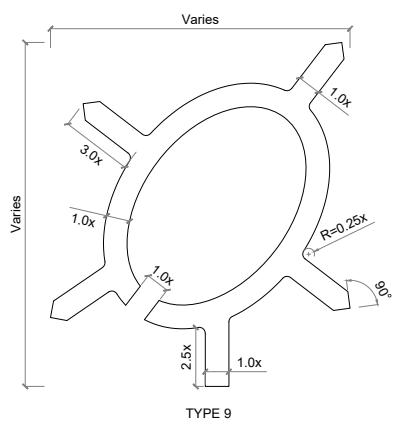
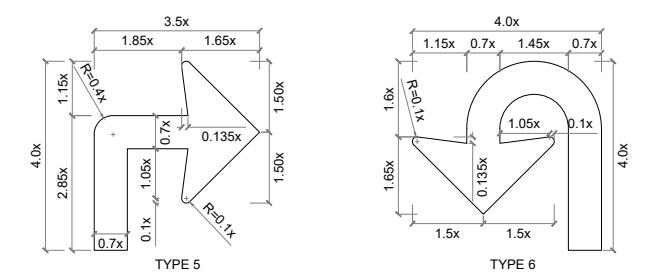
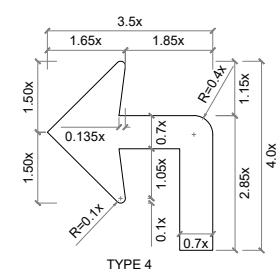
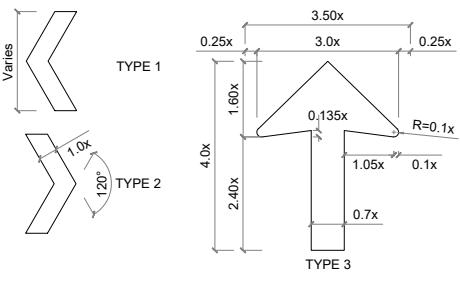
CLIENT

STANDARD DRAWINGS

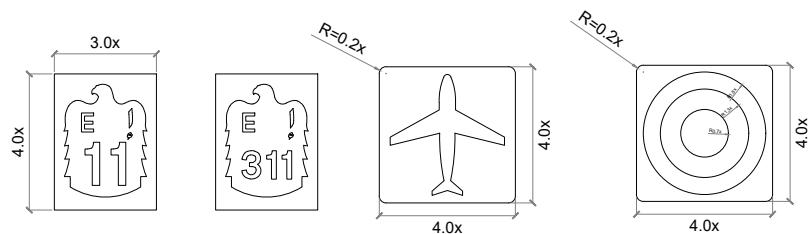
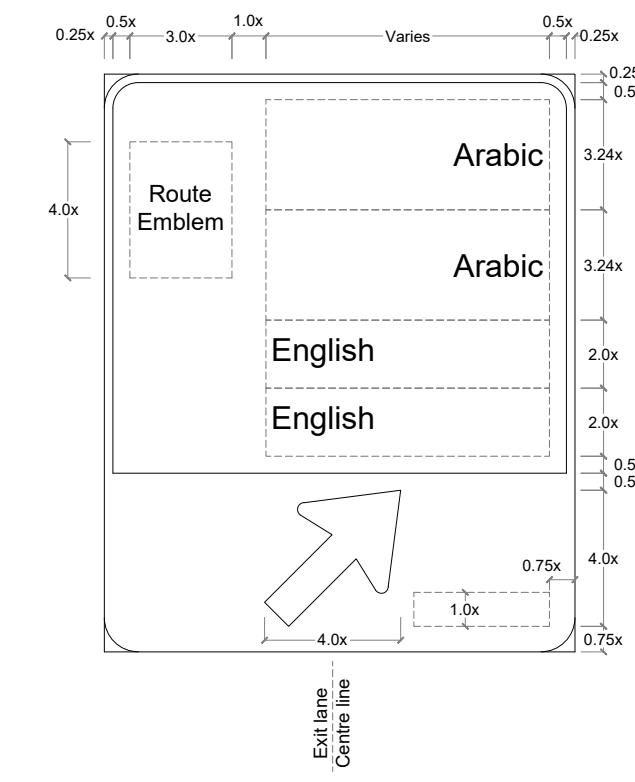
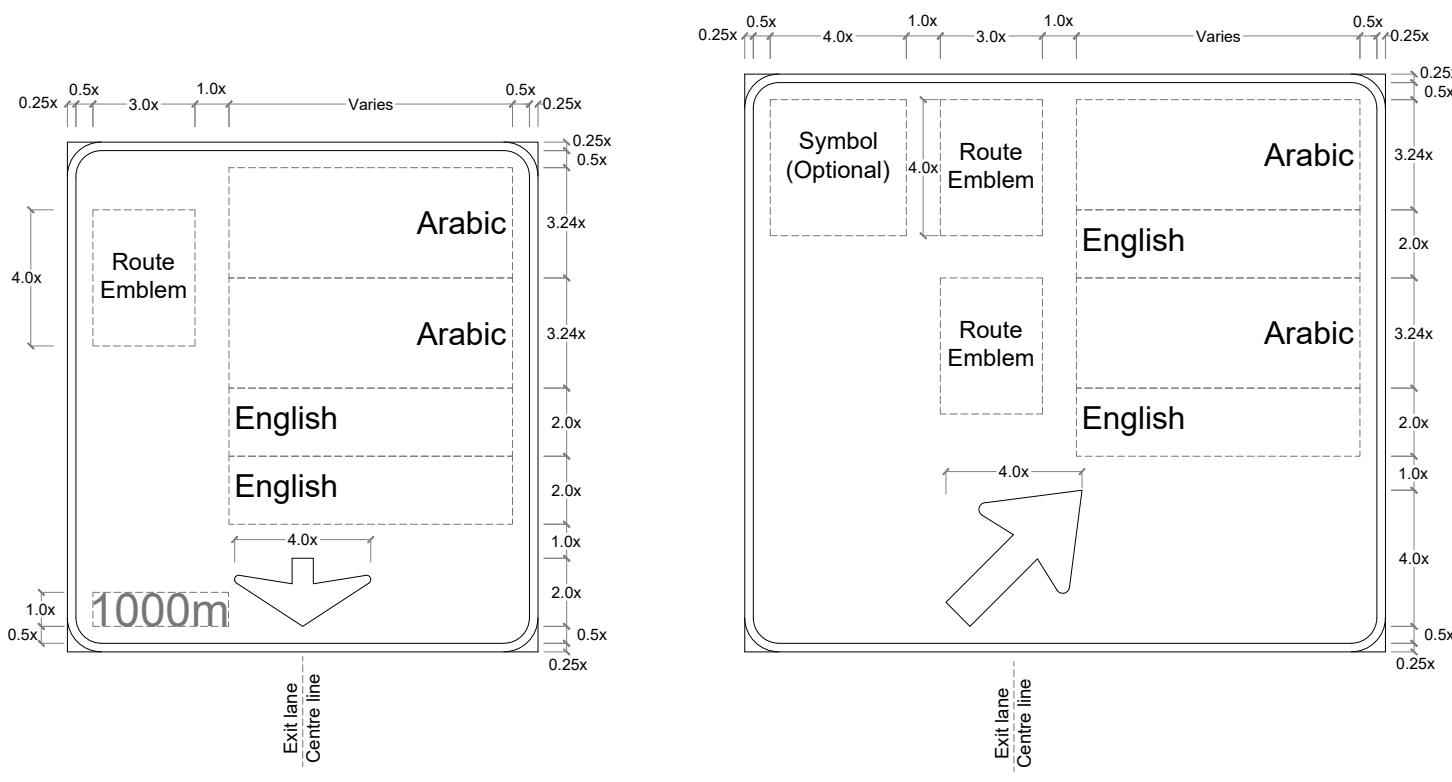
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TRAFFIC SIGN DETAILS (2)			
Sheet 3 of 6			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-2

1 ADDITIONAL SIGNS

NOTES:

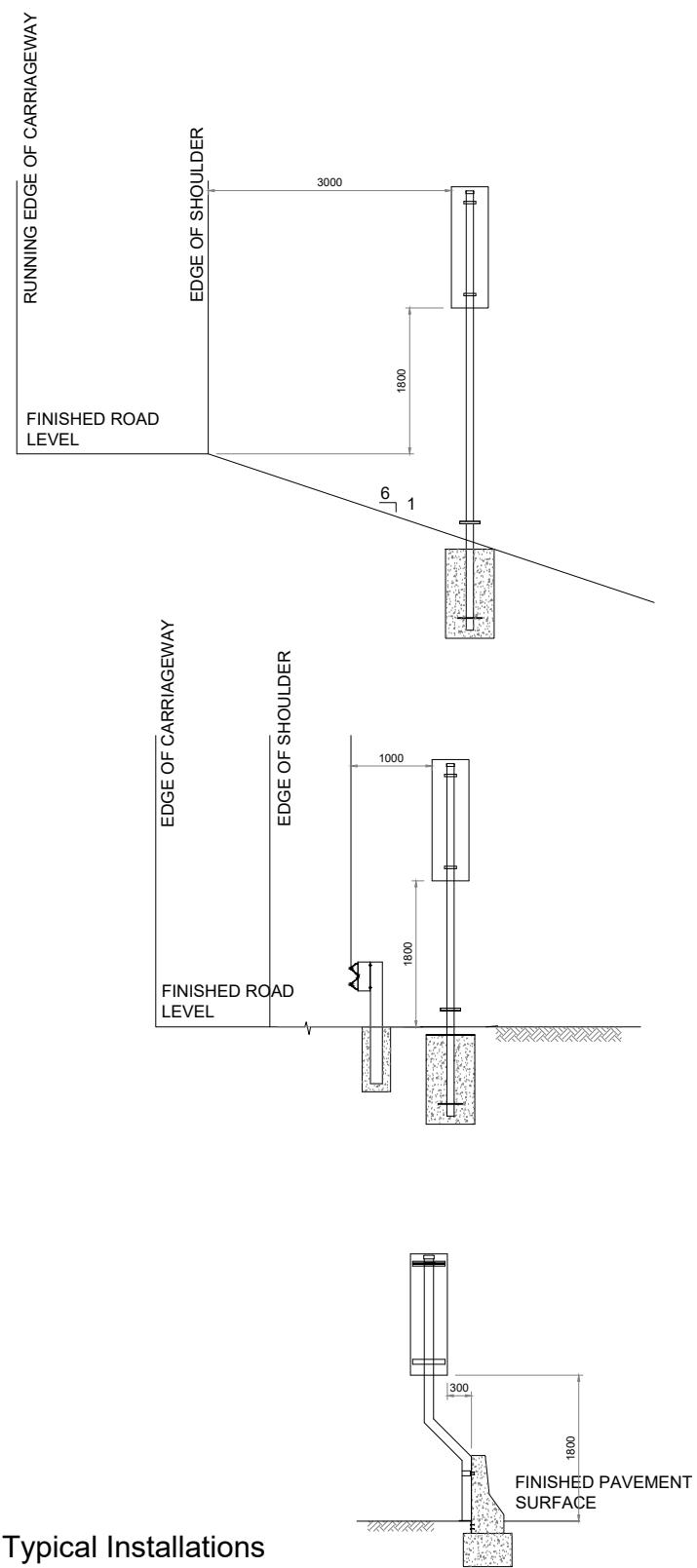
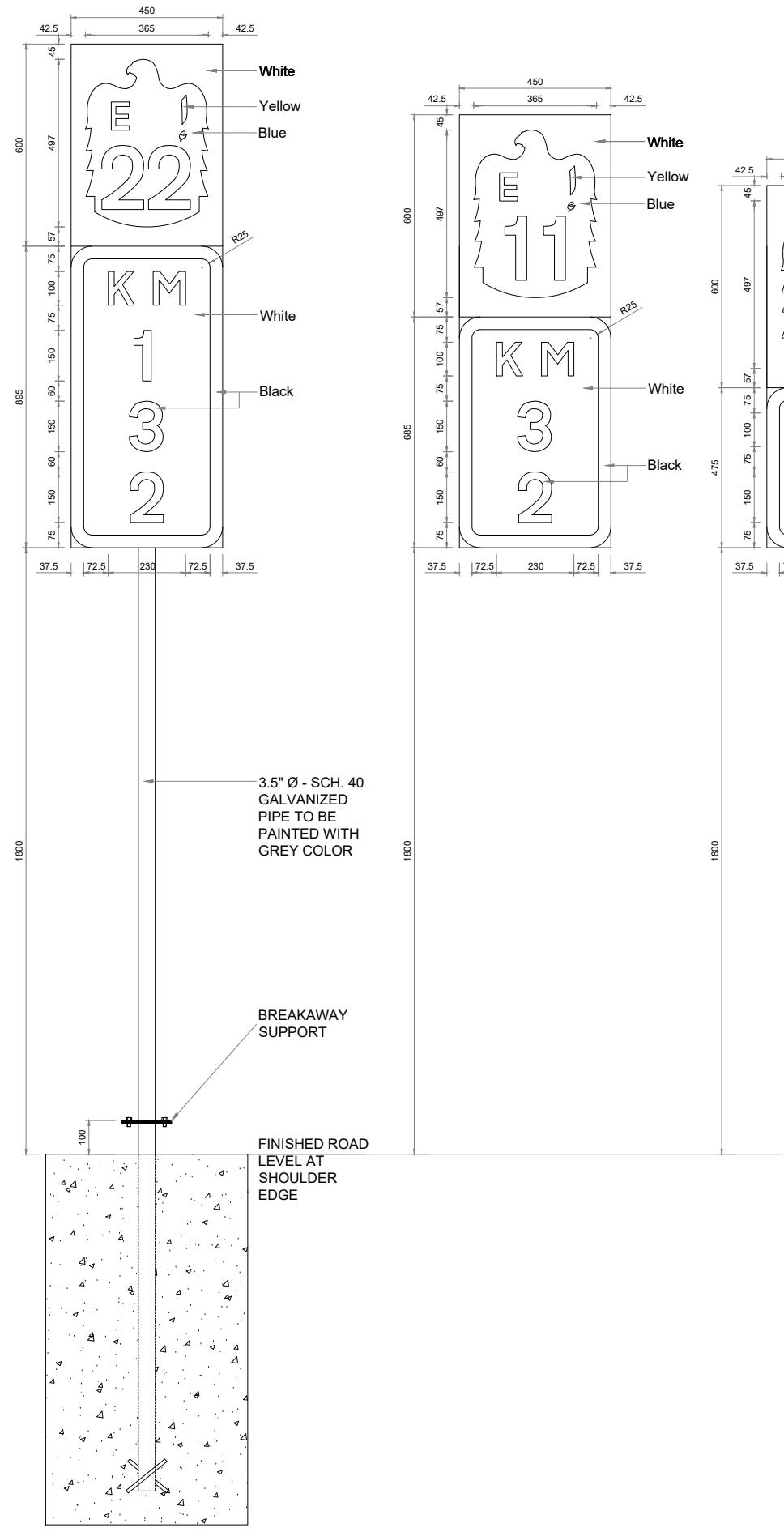


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STANDARD DRAWINGS			
DRAWING TITLE			
TRAFFIC			
SIGN DETAILS (3)			
Sheet 4 of 6			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
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NOTES:

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STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
SIGN DETAILS (4)		
Sheet 5 of 6		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-4



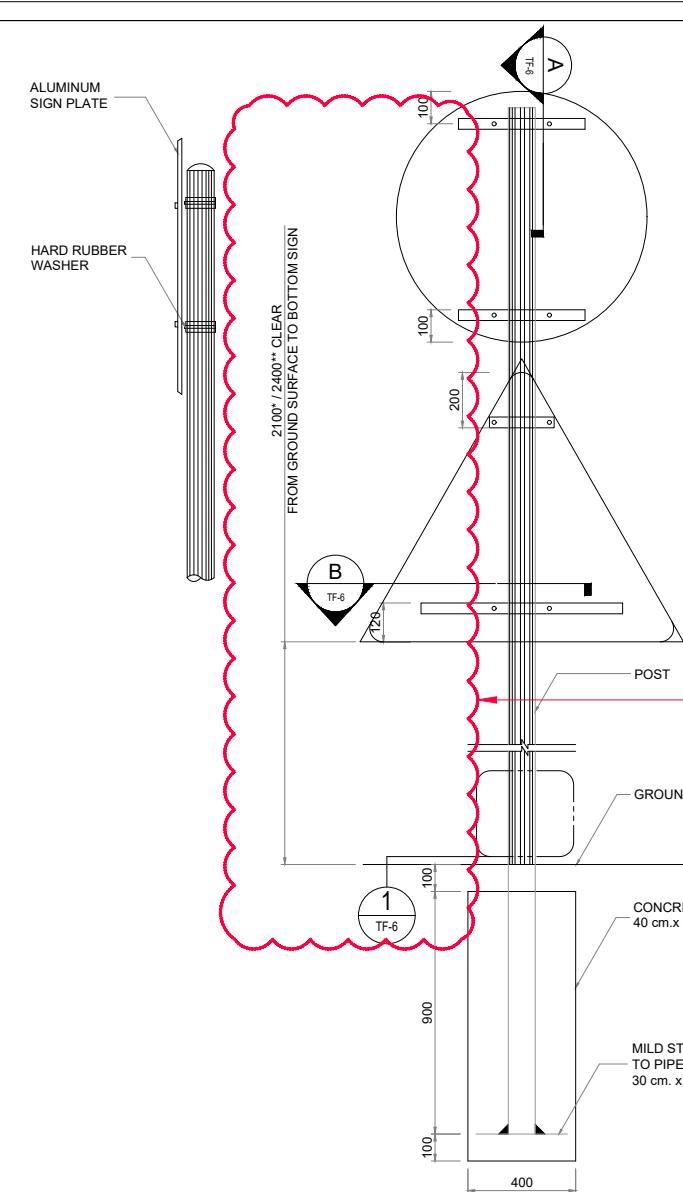
Typical Installations

Sign No. 500 - Kilometer Marker Sign

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. THE ROUTE NUMBER ON THE EMBLEM SHALL BE HORIZONTALLY CENTERED WITH UNIFORM SPACING.
 3. FOUNDATION SHOWN ABOVE IS FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL DIMENSIONS OF FOUNDATION IS SUBJECT TO CONTRACTUAL REQUIREMENTS AND APPROVALS.
 4. LATERAL CLEARANCE FOR THE SIDE SLOPE SCENARIO WITHOUT GUARDRAIL PROTECTION IS 3.0m FROM THE RIGHT EDGE OF SHOULDER.
 5. LATERAL CLEARANCE FOR THE SCENARIO WITH GUARDRAIL PROTECTION IS 1.0m FROM THE LEFT EDGE FACE OF GUARDRAIL.
 6. ALL LATERAL CLEARANCE TO BE IN COMPLIANCE OF TR-518.

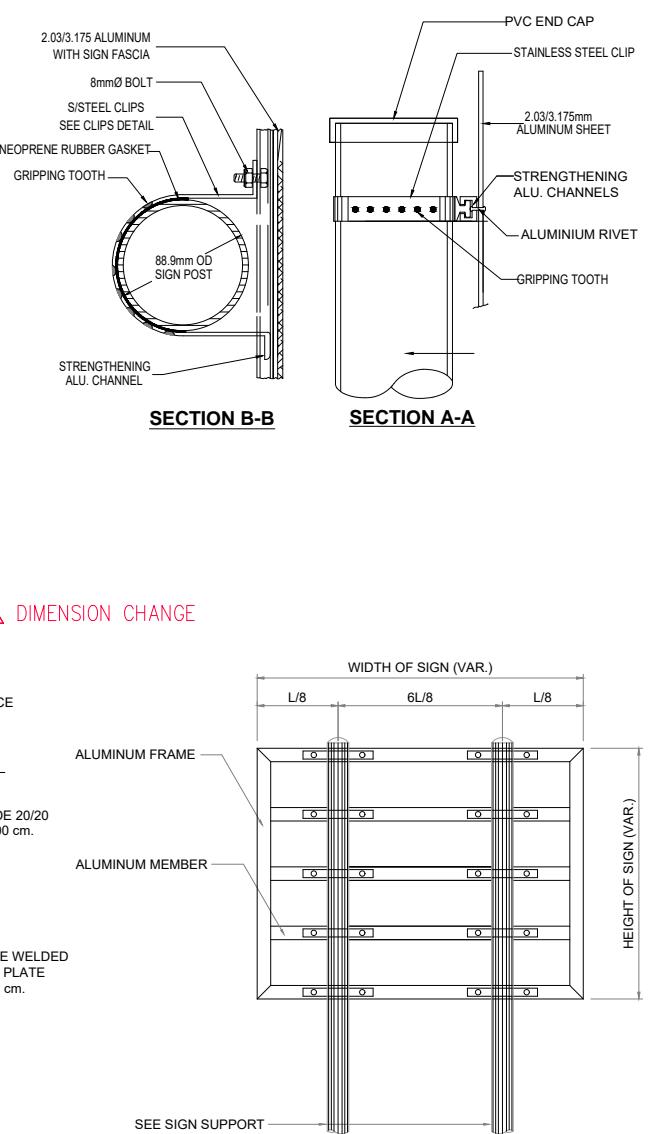
⚠ ADDITION OF NOTE 6

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
SIGN DETAILS (5)		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-5



WARNING AND REGULATORY SIGN
(SINGLE AND DOUBLE SIGN POST)

SCALE: NTS

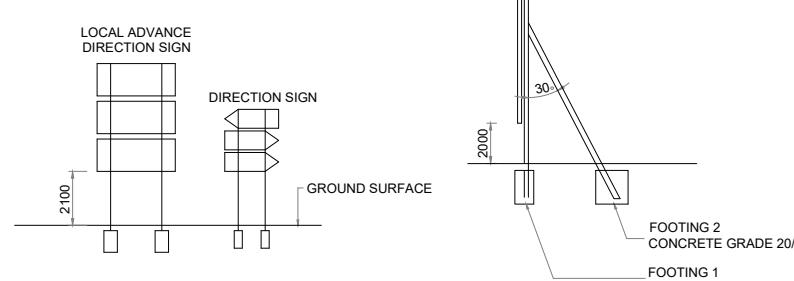


ADVANCED LOCAL DIRECTION SIGN

SCALE: NTS



STAINLESS STEEL CLIPS



SIDE VIEW
SIGN SUPPORT
SCALE: NTS

BREAKAWAY CONNECTION DETAIL

FOR TYPE 'A' PIPE POST

DIRECTION SIGN
ON TWO SUPPORTS

DIRECTION SIGN
ON ONE SUPPORT
SCALE: NTS

TYPICAL SIGN
POST SUPPORT

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2. EXACT SIGN DIMENSION TO BE APPROVED BY RELATED CLIENT / AUTHORITIES DEPARTMENT.
3. SIGN POSTS WITH BREAKAWAY CONNECTIONS SHALL BE PROVIDED ON ROADWAYS WITH SPEED LIMITS GREATER THAN 60 KPH.
4. *FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR PEDESTRIAN USE.
5. **FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR CYCLIST USE.

ADDITION OF NOTES 4, 5

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CLIENT			

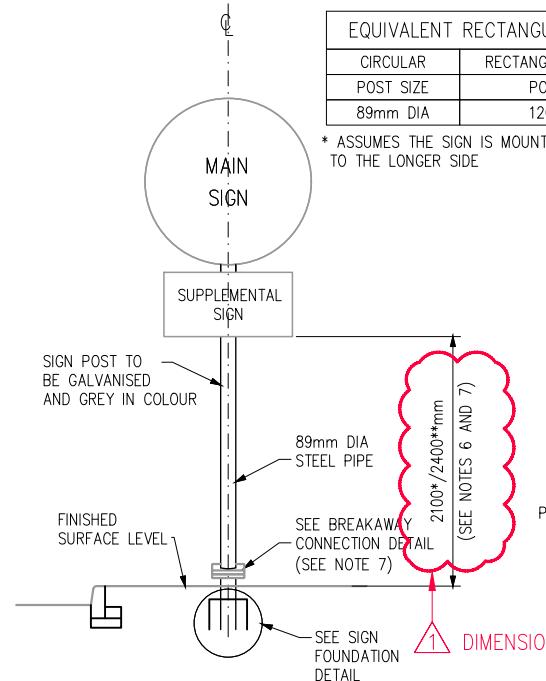
STANDARD DRAWINGS

DRAWING TITLE

GROUND SIGN MOUNTING DETAILS (1)

Sheet 1 - 68

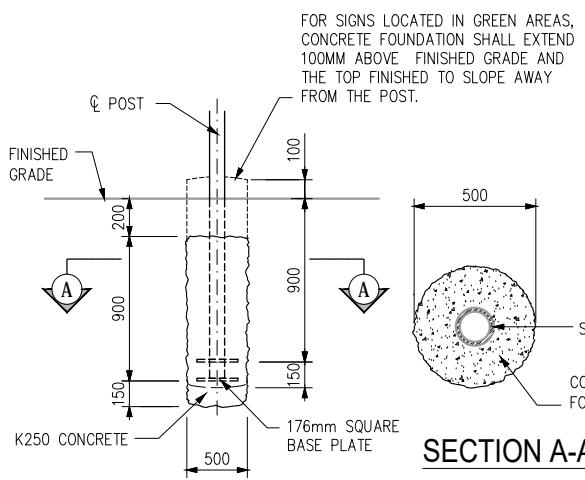
Sheet 1 of 8



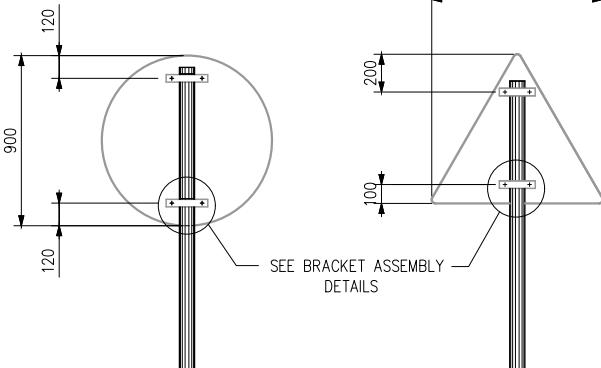
SIGN HEIGHT AND LATERAL POSITION

SECTION B-B

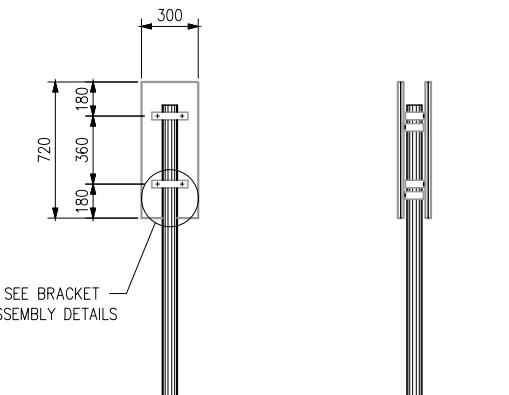
SECTIONS SHOWN ARE FOR INSTALLATIONS IN RIGHT SHOULDER.
PLATE SLOT BEVELS ARE OPPOSITE HAND FOR INSTALLATIONS IN
LEFT SHOULDER. SLOTS ARE TYPICAL FOR TOP & BOTTOM PLATES.



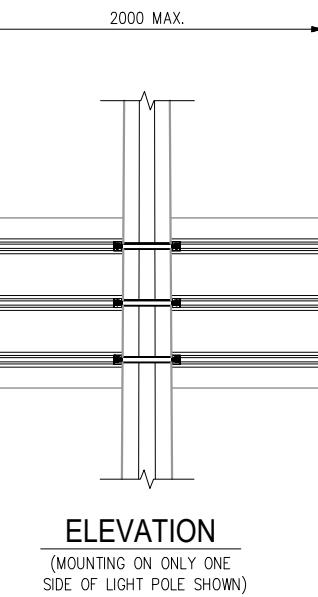
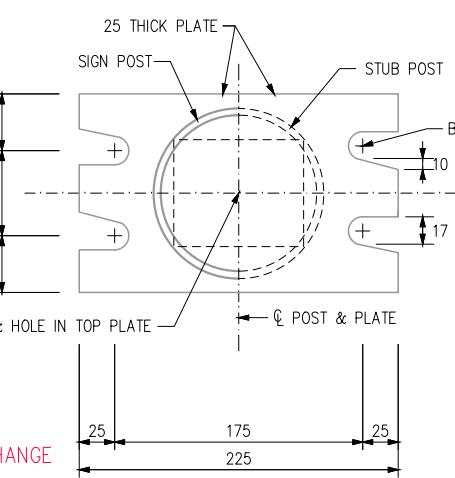
SIGN FOUNDATION DETAIL



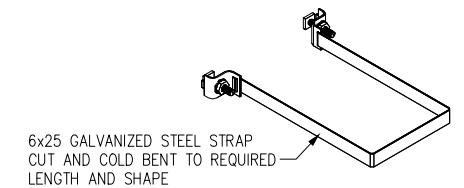
BRACKET LOCATION



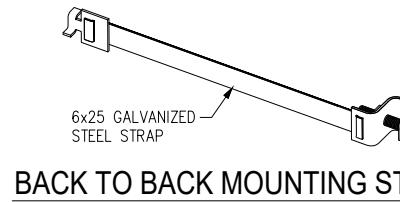
BACK TO BACK ON SAME POST



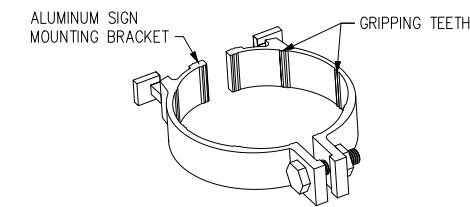
RECTANGULAR POST MOUNTING DETAIL (LIGHT POLE STRAP SIMILAR)



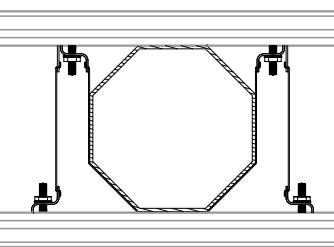
RECTANGULAR MOUNTING STRAP



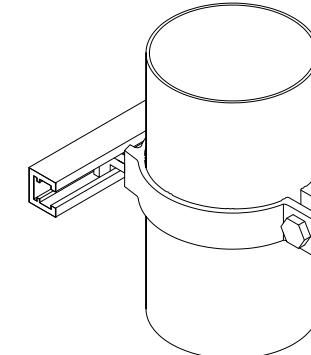
BACK TO BACK MOUNTING STRAP



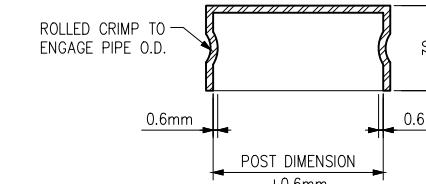
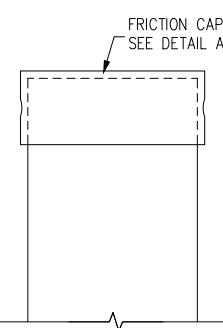
CIRCULAR MOUNTING STRAP



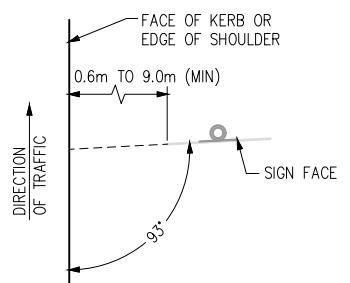
BACK TO BACK MOUNTING DETAIL STREET NAME SIGN MOUNTED ON LIGHT POLE



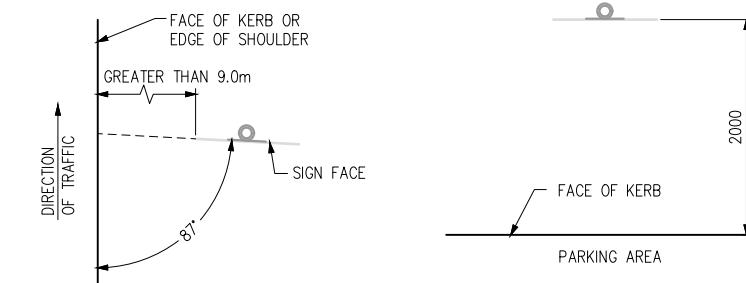
CIRCULAR POST MOUNTING DETAIL



DETAIL A



ORIENTATION OF SIGN FACE IN MOVING VEHICLE AREAS



ORIENTATION OF SIGN FACE IN PARKED VEHICLE AREAS

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
- WARNING SIGNS MAY BE ATTACHED TO LIGHT POLE OR TRAFFIC SIGNAL SUPPORT WITH A MODIFIED BRACKET ASSEMBLY APPROVED BY THE ENGINEER.
- FOUNDATION POST HOLES SHALL BE BACKFILLED WITH K250 CONCRETE ONLY.
- ALL SIGN DETAILS REPRESENT TYPICAL CONDITIONS. OTHER DETAILS MAY BE REQUIRED OR APPROVED BY THE ENGINEER FOR VARIOUS SITE CONDITIONS.
- FOR SPECIFIC DETAILS AND REQUIREMENTS REFER TO ADM ROADWAY DESIGN MANUAL AND ADM TRAFFIC CONTROL DEVICES MANUAL.
- *FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR PEDESTRIAN USE, THE REQUIRED PAVEMENT TO SIGN CLEARANCE IS 2100. DISTANCE TO BE MEASURED FROM GROUND SURFACE TO THE BOTTOM SIGN.
- **FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR CYCLIST USE, THE REQUIRED PAVEMENT TO SIGN CLEARANCE IS 2400. DISTANCE TO BE MEASURED FROM GROUND SURFACE TO THE BOTTOM SIGN.
- SIGN POSTS WITH BREAKAWAY CONNECTIONS SHALL BE PROVIDED ON ROADWAYS WITH SPEED LIMITS GREATER THAN 60 KPH.
- ASSEMBLE POST TO STUB WITH BOLTS AND ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
- SHIM AS REQUIRED TO PLUMB POST.
- TIGHTEN BOLTS IN A SYSTEMATIC ORDER TO TORQUE LOAD. DO NOT OVERTIGHTEN.
- LOOSEN EACH BOLT AND RETIGHTEN TO PRESCRIBED TORQUE IN THE SAME ORDER AS INITIAL TIGHTENING.
- AFTER INSPECTION OF BOLT TORQUE, BURR THREADS AT JUNCTION WITH CENTRE PUNCH TO PREVENT NUT LOOSENING.

DIMENSION CHANGE / ADDITIONAL NOTES

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STANDARD DRAWINGS

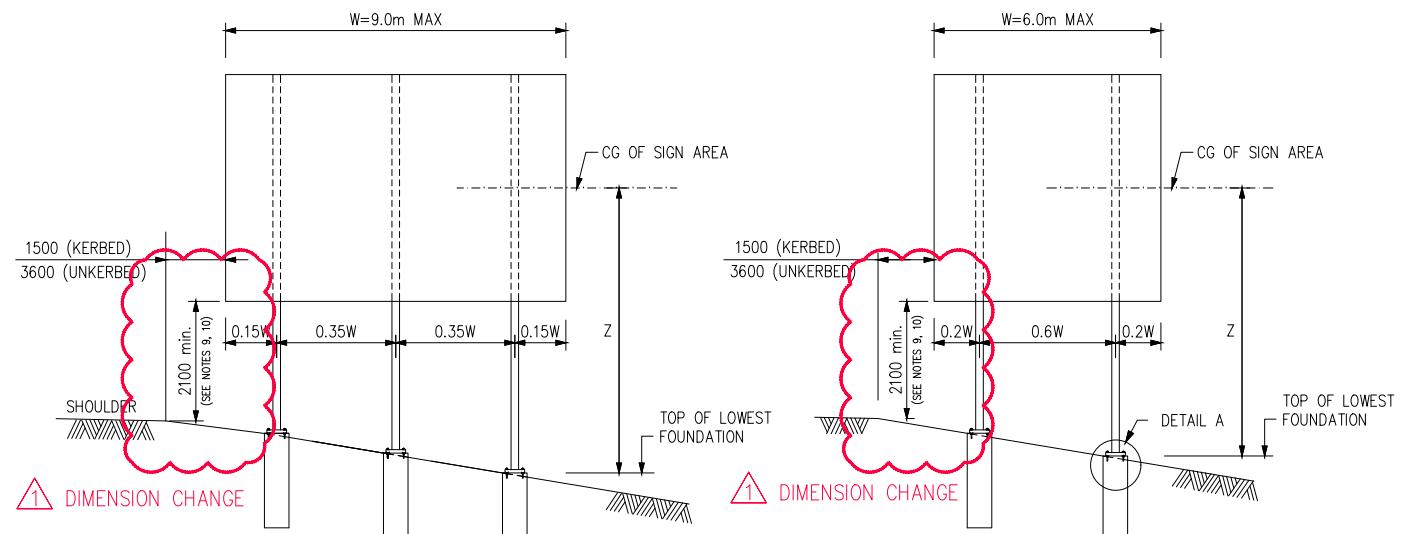
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TRAFFIC

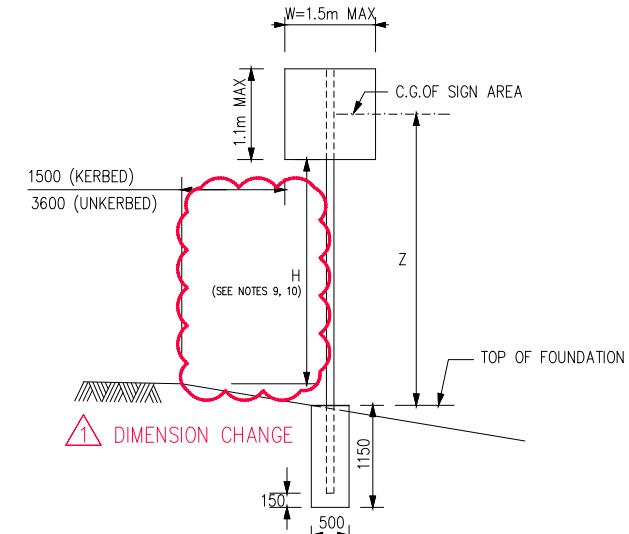
GROUND SIGN MOUNTING DETAILS (2)

Sheet 2 of 8

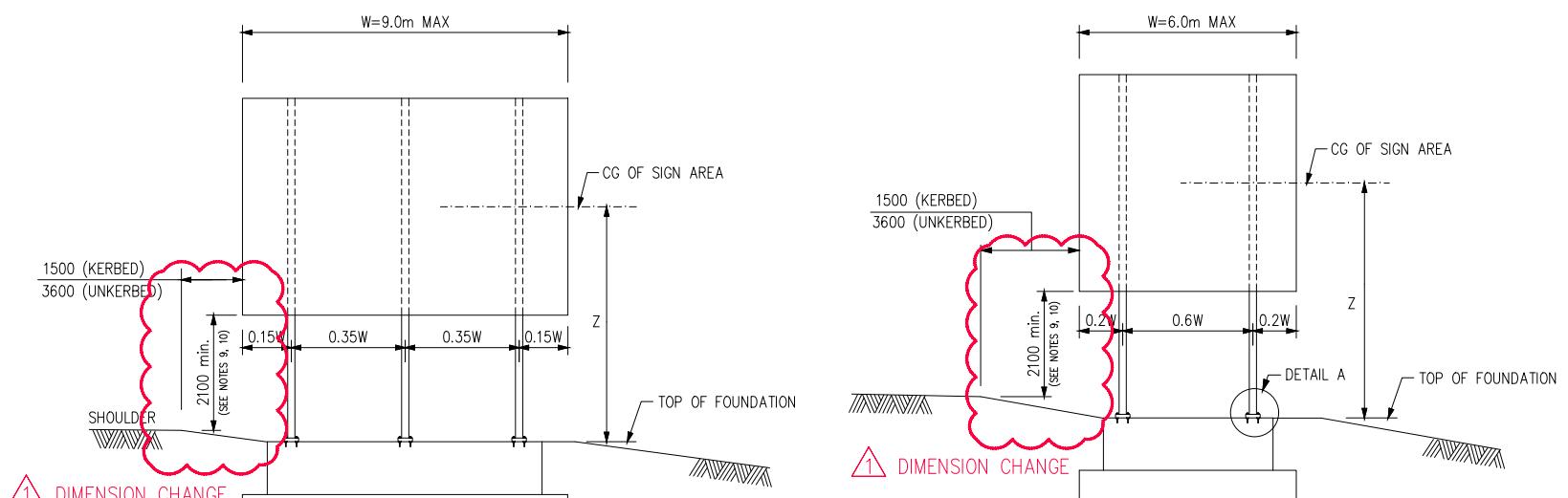
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APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-7



**CIDH FOUNDATION ALTERNATIVE
(PREFERRED)**

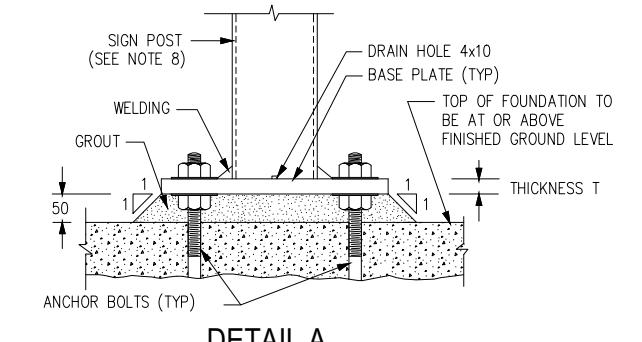


SINGLE POST
(SEE NOTE 8)

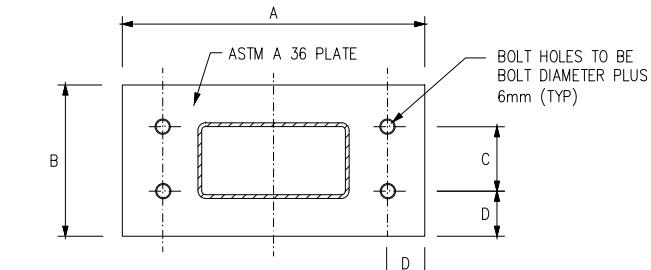


**SPREAD FOOTING FOUNDATION ALTERNATIVE
(OPTIONAL IF APPROVED)**

MULTI-POST



DETAIL A



BASE PLATE DETAILS
(SEE NOTE 3)

BASE PLATE AND BOLT DATA								
POST TYPE	BASE PLATE				BOLTS			
	A	B	C	D	THICKNESS T	DIAMETER	NUMBER	L

**EXAMPLE OF BASEPLATE AND BOLT DATA SCHEDULE SHEET
TO BE SUBMITTED FOR APPROVAL AT DESIGN STAGE**

SIGN SCHEDULE						
PANEL NO.	SIGN PANEL SIZE		POST TYPE/ NO. OF POSTS	FOOTING SIZE		
	WIDTH W, cm	DEPTH H, cm		DEPTH D, cm	LENGTH L, cm	WIDTH B, cm

**EXAMPLE OF SIGN SCHEDULE SHEET TO BE SUBMITTED
FOR APPROVAL AT DESIGN STAGE**

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOED.
 - SIGN STRUCTURES TO BE DESIGNED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, LATEST EDITION.
 - SIGN STRUCTURES TO BE DESIGNED TO RESIST WIND SPEED OF 160 KPH, WITH GUST FACTOR OF 1.14.
 - SIGN STRUCTURE CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
- CONCRETE : MINIMUM STRENGTH 35 MPa
STEEL PLATE : GRADE A36
ANCHOR BOLTS : ASTM F1554 RODS.
(BASE PLATES)
- H = 220MM MIN. (UNKERBED)
H = 220MM MIN. FROM TOP OF KERB (KERBED)
 - SIGN OFFSETS TO BE CONFIRMED BASED ON SITE CONDITIONS.
 - FOR SPECIFIC DETAILS AND REQUIREMENTS REFER TO ROAD GEOMETRIC DESIGN MANUAL AND MUTCD.
 - FOR ROADWAYS WITH SPEED LIMITS GREATER THAN 80 KPH, SIGN POSTS SHALL BE PROVIDED WITH BREAKAWAY CONNECTIONS. HOWEVER, IF THE SIGN POSTS ARE LOCATED WITHIN 9.0 METERS OF THE FACE OF KERB OR EDGE OF SHOULDER, BARRIER PROTECTION SHALL BE INSTALLED IN LIEU OF BREAKAWAYS, ALL AS REVIEWED AND APPROVED BY THE RELEVANT ROAD AUTHORITY AND IN ACCORDANCE WITH ROADSIDE DESIGN MANUAL.
 - FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR PEDESTRIAN USE, THE REQUIRED PAVEMENT TO SIGN CLEARANCE IS 2100. DISTANCE TO BE MEASURED FROM GROUND SURFACE TO THE BOTTOM SIGN.
 - FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR CYCLIST USE, THE REQUIRED PAVEMENT TO SIGN CLEARANCE IS 2400. DISTANCE TO BE MEASURED FROM GROUND SURFACE TO THE BOTTOM SIGN.

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STANDARD DRAWINGS

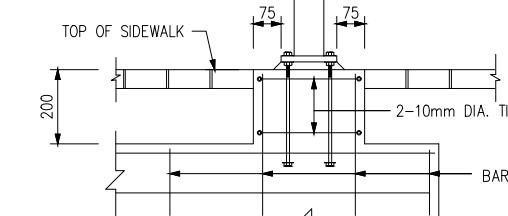
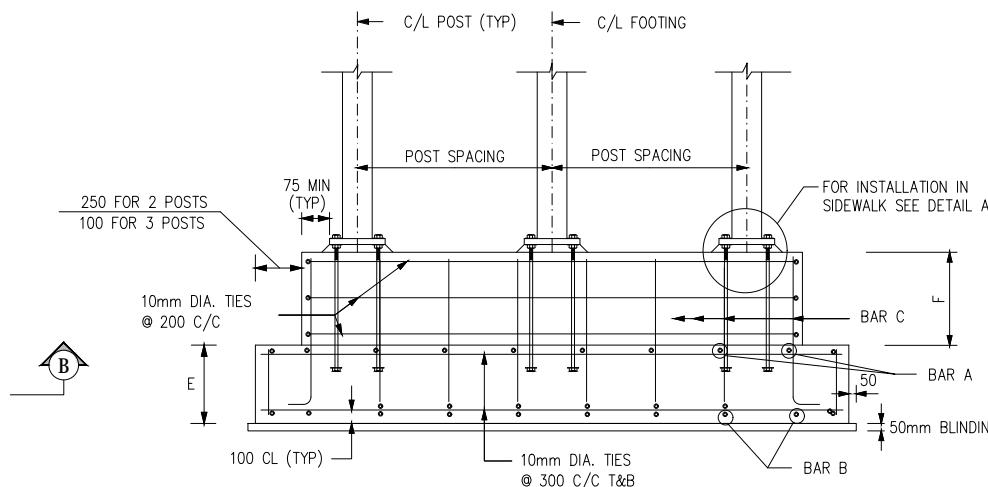
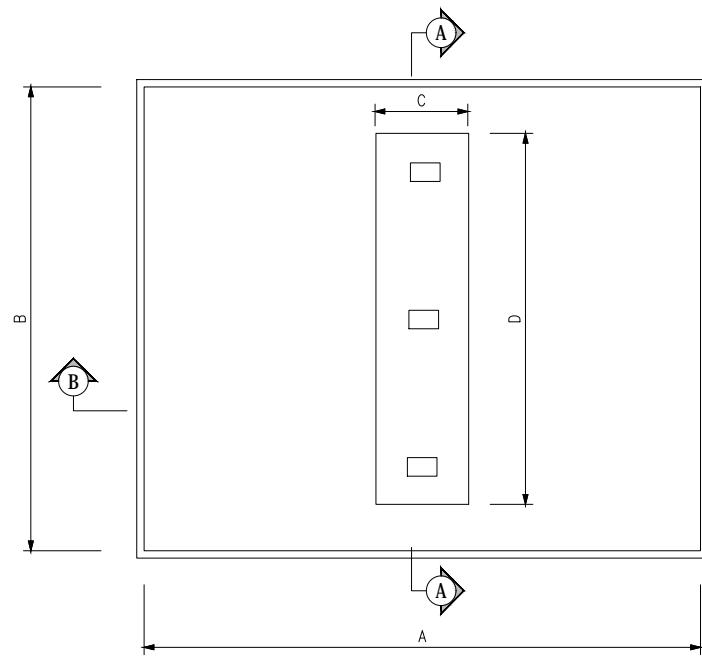
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TRAFFIC

GROUND SIGN MOUNTING DETAILS (3)

Sheet 3 of 8

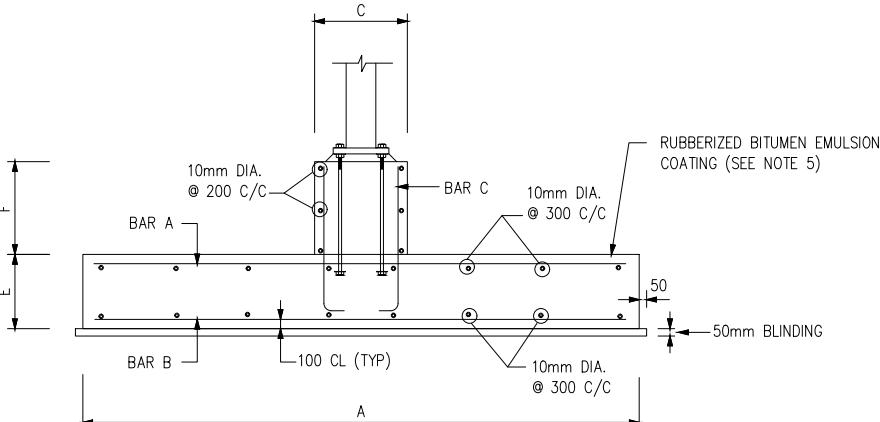
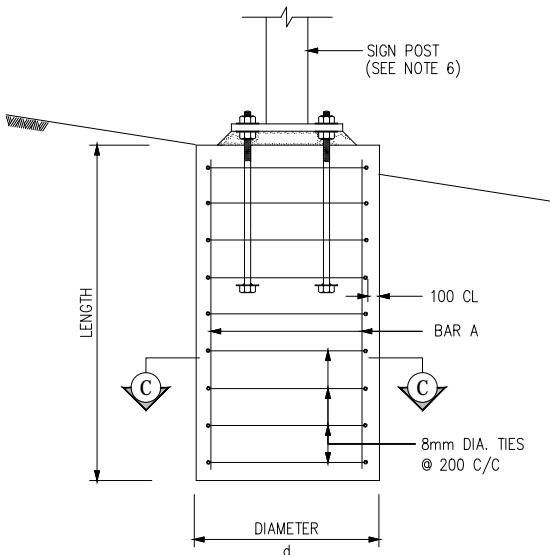
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-8



DETAIL A
(SEE NOTE 2)

SECTION A-A
(SEE NOTE 2)

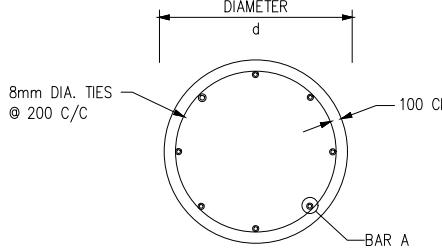
SPREAD FOOTING FOUNDATION
(SEE NOTE 2)



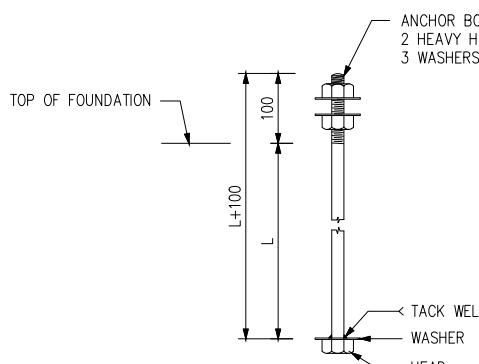
EXAMPLE OF FOUNDATION CIDH SCHEDULE SHEET
TO BE SUBMITTED FOR APPROVAL AT DESIGN STAGE

FOUNDATION CIDH DATA			
POST TYPE	d	MINIMUM LENGTH	BAR A

CIDH FOUNDATION
(SEE NOTE 2)



SECTION C - C
(SEE NOTE 2)



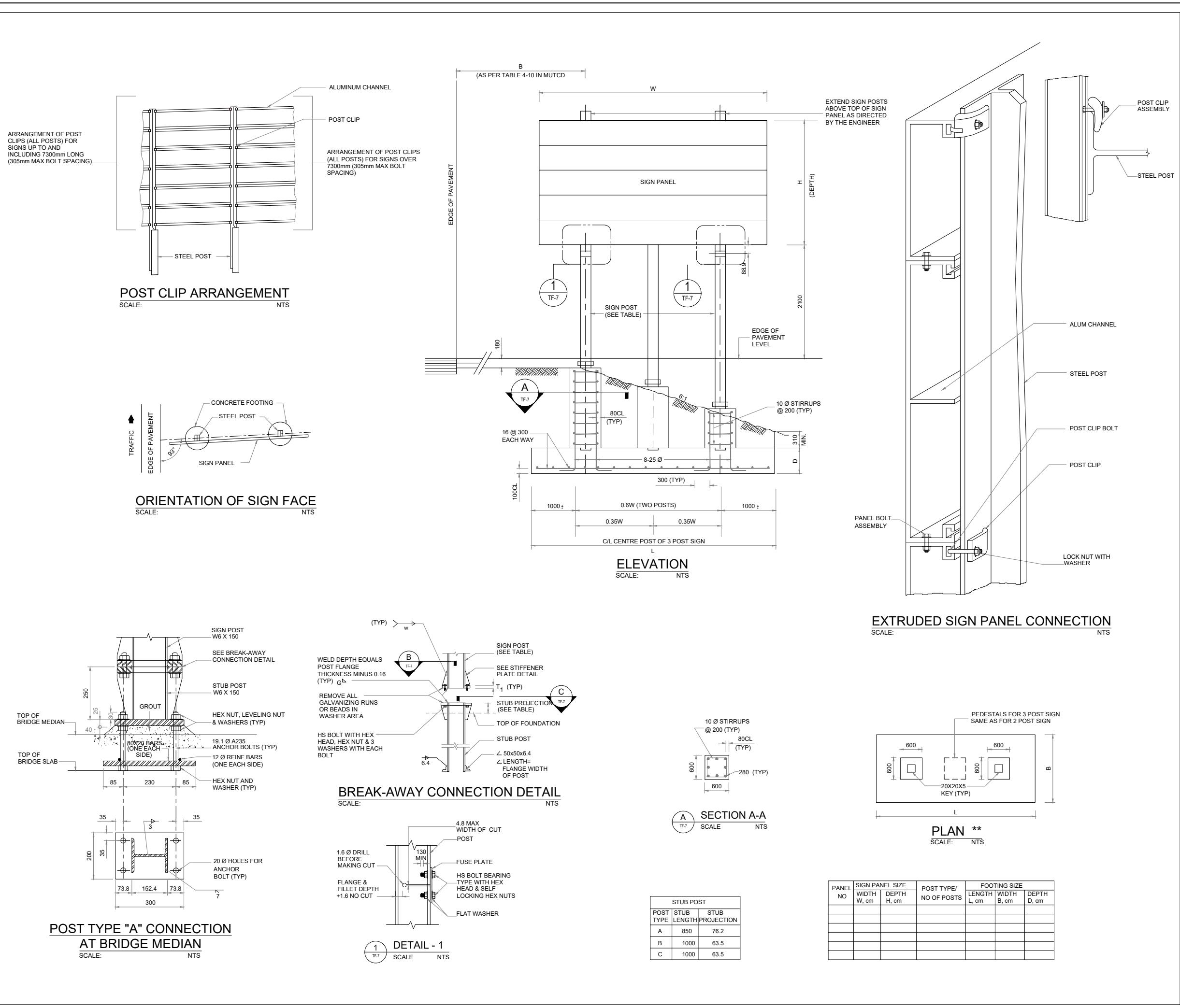
ANCHOR BOLT DETAIL
(SEE NOTE 2)

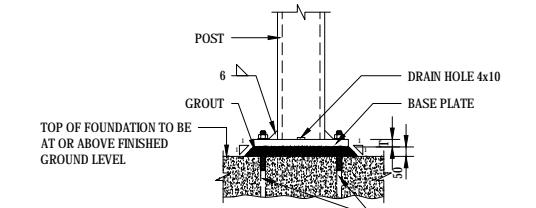
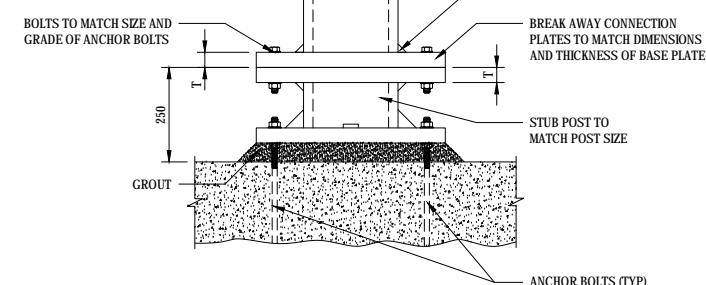
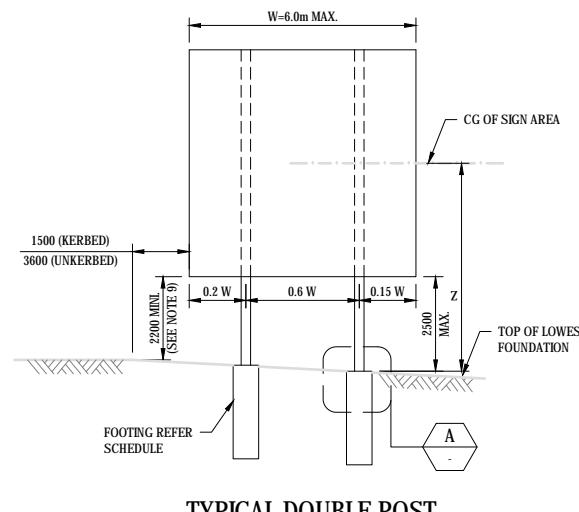
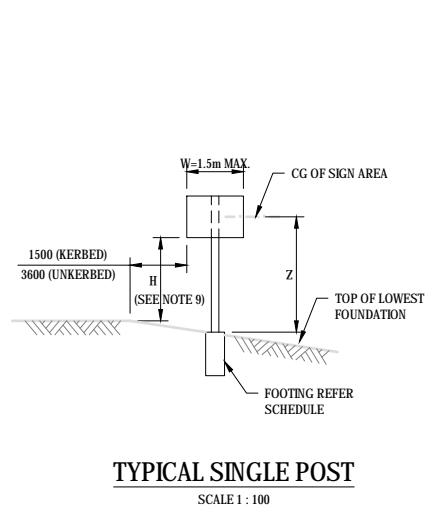
NUMBER & SIZE OF POST	MINIMUM SPREAD FOOTING						REINFORCING STEEL BAR MARK		
	A	B	C	D	E	F	A	B	C

EXAMPLE OF SPREAD FOOTING FOUNDATION SCHEDULE SHEET
TO BE SUBMITTED FOR APPROVAL AT DESIGN STAGE

- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. FOUNDATIONS TO BE DESIGNED TO RESIST WIND SPEED OF 160KPH, WITH GUST FACTOR OF 1.14.
 3. ALL POSTS LOCATED LESS THAN 9M FROM THE EDGE OF CARRIAGeway SHALL BE BARRIER PROTECTED WHEN POSTED SPEED EXCEEDS 60 KPH.
 4. BOLT TEMPLATE SHALL BE PROVIDED DURING INSTALLATION OF ANCHOR BOLTS.
 5. ALL BURIED PORTIONS OF THE FOOTING SHALL BE COATED WITH RUBBERIZED BITUMEN EMULSION UP TO A LEVEL 50MM BELOW FINISHED GROUND.
 6. FOR ROADWAYS WITH SPEED LIMITS GREATER THAN 80 KPH, SIGN POSTS SHALL BE PROVIDED WITH BREAKAWAY CONNECTIONS. HOWEVER, IF THE SIGN POSTS ARE LOCATED WITHIN 9.0 METERS OF THE FACE OF KERB OR EDGE OF SHOULDER, BARRIER PROTECTION SHALL BE INSTALLED IN LIEU OF BREAKAWAYS, ALL AS REVIEWED AND APPROVED BY THE RELEVANT ROAD AUTHORITY AND IN ACCORDANCE WITH ROADSIDE DESIGN MANUAL.

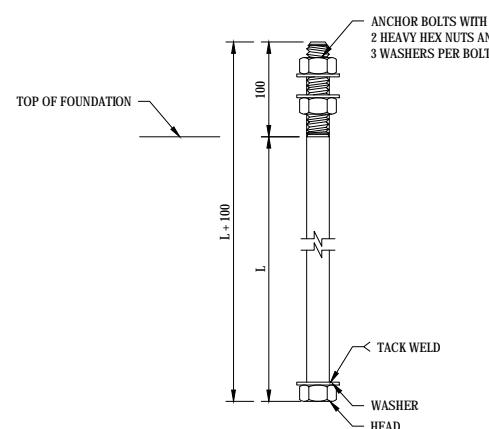
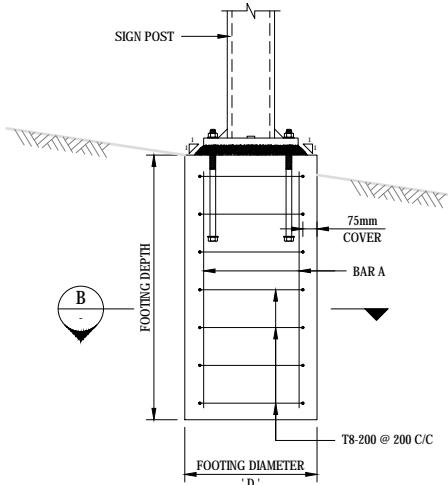
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
GROUND SIGN MOUNTING DETAILS (4)		
Sheet 4 of 8		
DRAWN	.	SCALE NTS
CHECKED	.	DATE .
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-9





NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS U.N.O.
- ALL LEVELS ARE IN METERS.
- CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS AND LEVELS PRIOR TO COMMENCING WORKS.



CROLL	NUMBER OF POSTS	MAX SIGN AREA(m ²)	MAX SIGN HEIGHT(m)	MAX CLEARANCE HEIGHT(m)	PC'S DESIGNATION	ANCHOR BOLT DESIGNATION	FOOTING DESIGNATION
					W ₁ (m MAX)	Z(m)	W ₂ (m)
1	1	1.65	2.2	2.75	P1	E1	F1
2	1	1.65	2.2	3.65	P2	E2	F2
3	2	2	1.25	2.2	P3	S3	F3
4	2	2	1.25	2.5	P4	S4	F4
5	2	4	2.2	2.2	P5	E5	F5
6	2	4	2.2	3.6	P6	E6	F6
7	2	5	3.5	2.2	P7	E7	F7
8	2	5	3.5	2.5	P8	E8	F8
9	2	8	3.7	2.2	P9	E9	F9
10	2	8	3.7	4.34	P10	E10	F10
11	2	10	3.85	2.2	P11	E11	F11
12	2	10	3.85	4.43	P12	E12	F12
13	2	12	4.25	2.2	P13	E13	F13
14	2	12	4.25	4.52	P14	E14	F14
15	2	14	4.5	2.2	P15	E15	F15
16	2	14	4.5	4.59	P16	E16	F16
17	2	15	3.7	2.2	P17	E17	F17
18	2	15	3.7	4.63	P18	E18	F18

SIGN POST DESIGNATION

BASE PLATE / ANCHOR BOLT DESIGNATION	BASE PLATE					ANCHOR BOLTS		
	A(mm)	B(mm)	C(mm)	D(mm)	T(mm)	DIAMETER (mm)	NUMBER OF BOLTS	EMBEDMENT LENGTH, L (mm)
B1	290	150	50	50	20	16	4	250
BII	320	180	80	50	16	12	4	250
BIII	320	180	80	50	25	16	4	250
BIV	350	200	100	50	25	20	4	275
BV	400	200	100	50	30	24	4	350
BVI	400	200	100	50	35	24	4	350
BVII	450	250	150	50	40	30	4	450

BASE PLATE + ANCHOR BOLT DESIGNATION

POST DESIGNATION	SECTION SIZE
P1	R-45x30x3.5
PII	R-45x120x8x5
P III	R-45x160x100x5
P IV	R-45x230x100x5
P V	R-45x250x150x6

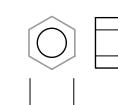
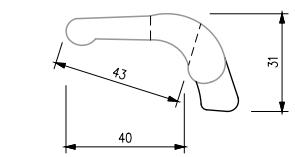
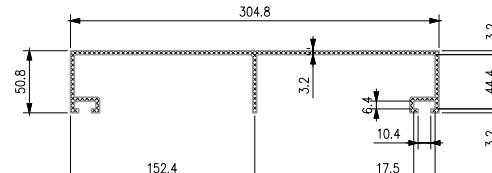
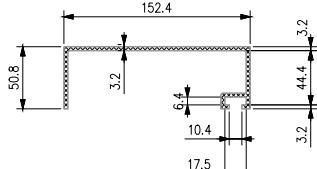
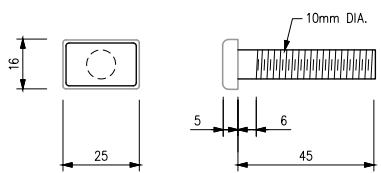
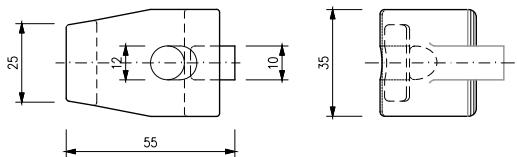
POST DESIGNATION

FOOTING DESIGNATION	POST DESIGNATION	POST DIAMETER D	POST LENGTH L	POST BASE PLATE	POST TIE PLATE
F1	P1	45	150	E1	E1
FII	PII	45	180	E1	E1
FIII	P III	45	200	E1	E1
FIV	P IV	45	230	E1	E1
FV	P V	45	250	E1	E1

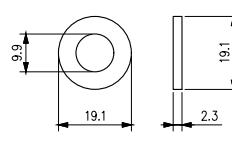
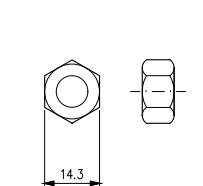
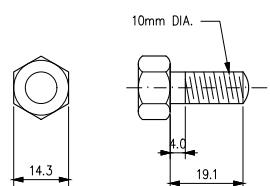
FOOTING DESIGNATION

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
TRAFFIC SIGN MOUNTING DETAILS (6)		
Sheet 6 of 8		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-11

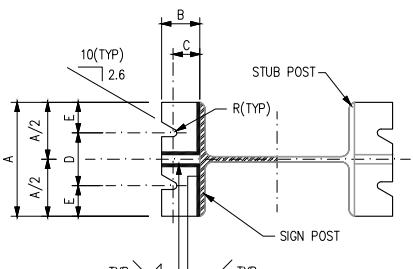
NOTES:

POST CLIP DETAIL
(ALUM ALLOY NO 356-T6)NUT DETAIL
(ALUM ALLOY NO 2017-T4)WASHER DETAIL
(ALUM ALLOY NO 2024-T4)

POST CLIP BOLT ASSEMBLY

PANEL BOLT DETAIL
(ALUM ALLOY NO 2024-T4)NUT DETAIL
(ALUM ALLOY NO 6262-T9)WASHER DETAIL
(ALUM ALLOY NO 2024-T4)

PANEL BOLT ASSEMBLY

FURNISH 2-0.3±
THICK & 2-0.8±
THICK SHIMS PER POSTSHIM PLATE
DETAIL

SECTION B-B

SECTION C-C

STUB POST		
POST TYPE	STUB LENGTH	STUB PROJECTION
A	850	76.2
B	1000	63.5
C	1000	63.5

PANEL NO.	SIGN PANEL SIZE		POST TYPE/ NO. OF POSTS	FOOTING SIZE			G&H DIMENSION TABLE
	WIDTH W, cm	DEPTH H, cm		LENGTH L, cm	WIDTH B, cm	DEPTH D, cm	

G&H DIMENSION TABLE		
BOLT DIA	G	H
12.7	50.8	28.6
15.9	57.2	31.8
19.1	63.5	34.9
22.2	69.9	38.1
25.4	76.2	41.3

FUSE PLATE DATA TABLE				FUSE PLATE BOLT SIZE TABLE							
POST TYPE	J	K	L	SIGN DEPTH (UPPERMOST SIZE IN RANGE SHOWN)							
				1220	1520	1830	2130	2440	2740	3050	3350
A	152.4	88.9	31.8	9.5	12.7 Ø x44.5	12.7 Ø x44.5	15.9 Ø x50.8	15.9 Ø x50.8	19.1 Ø x50.8	19.1 Ø x50.8	19.1 Ø x50.8
B	146.1	69.9	38.1	12.7	12.7 Ø x50.8	12.7 Ø x50.8	12.7 Ø x50.8	15.9 Ø x50.8	15.9 Ø x50.8	19.1 Ø x57.2	19.1 Ø x57.2
C	171.5	88.9	41.3	12.7	12.7 Ø x50.8	12.7 Ø x50.8	12.7 Ø x50.8	12.7 Ø x50.8	15.9 Ø x50.8	15.9 Ø x57.2	19.1 Ø x57.2

BASE CONNECTION DATA TABLE											
POST TYPE	BOLT SIZE	TORQUE m/Kg	A	B	C	D	E	T ₁	T ₂	W	R
A	15.9 DIA 82.6 LONG	51.9	152.4	57.2	31.8	88.9	31.8	19.1	12.7	6.4	8.7
B	19.1 DIA 95.3 LONG	86.5	152.4	63.5	34.9	82.6	34.9	25.4	12.7	7.9	10.3
C	22.2 DIA 101.6 LONG	109.6	177.8	69.9	38.1	101.6	38.1	25.4	19.1	9.5	11.9

POST DATA									
POST TYPE	AISC DESIGNATION	Kg/m	d	b	t _f	t _w	SHAPE		
A	W6x15	223.2	152.4	152.4	6.4	6.4			
B	W10x22	327.3	257.2	146.1	9.5	6.4			
C	W14x26	386.9	352.4	127.6	11.1	6.4			

TITLE STANDARD DRAWINGS

DRAWING TITLE TRAFFIC

GROUND MOUNTED SIGN STRUCTURES
GUIDE SIGN MOUNTING DETAILS (7)

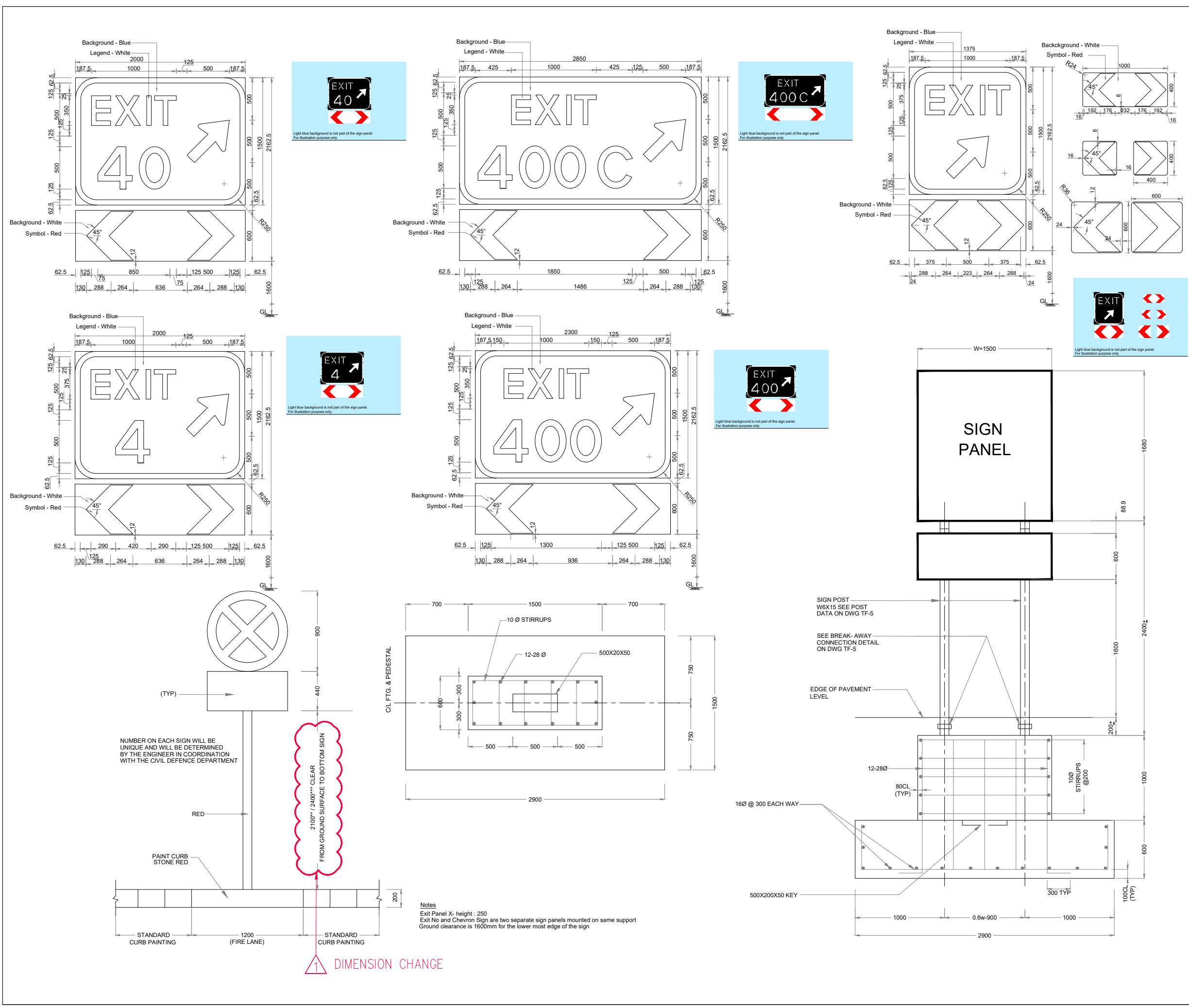
Sheet 7 of 8

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-12

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED
- NO PARKING SIGNS AT FIRE HYDRANT LOCATIONS TO BE INSTALLED AT ALL FIRE HYDRANT LOCATIONS AS DIRECTED BY THE ENGINEER.
- * THIS SIGN IS TO BE MOUNTED IN A VERTICAL POSITION DIRECTLY TO THE FLAT SIDE OF THE SIGNAL FOUNDATION SUCH THAT IT WILL BE VISIBLE FROM THE LEFT TURN LANE. THE MOUNTING METHOD SHALL BE APPROVED BY THE ENGINEER.
- EXIT SIGN ARROW IS A DIAGONAL ARROW SLANTED AT 30° TO THE HORIZONTAL. FOR DIMENSION SEE AT 30° TO THE HORIZONTAL. FOR DIMENSION SEE DETAIL FOR DIAGONAL ARROW, 30CM ARABIC LETTERING HEIGHT.
- ALL CURBS SHALL BE PAINTED BLACK AND WHITE EXCEPT AS SHOWN WITH DOUBLE LINE AND / OR NOTE.
- SOLID WHITE LINE LENGTHS AND SPACINGS ARE NOMINAL DIMENSIONS.
- SEE DWG. TF-19 FOR PAVEMENT MARKING DETAILS
- SEE DWG. TF-1 , TF-2 AND TF-3 FOR SIGN DETAILS
- **FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR PEDESTRIAN USE
- ***FOR SIGNS ADJACENT TO PATHWAYS INTENDED FOR CYCLIST USE.

ADDITION OF NOTES 9, 10



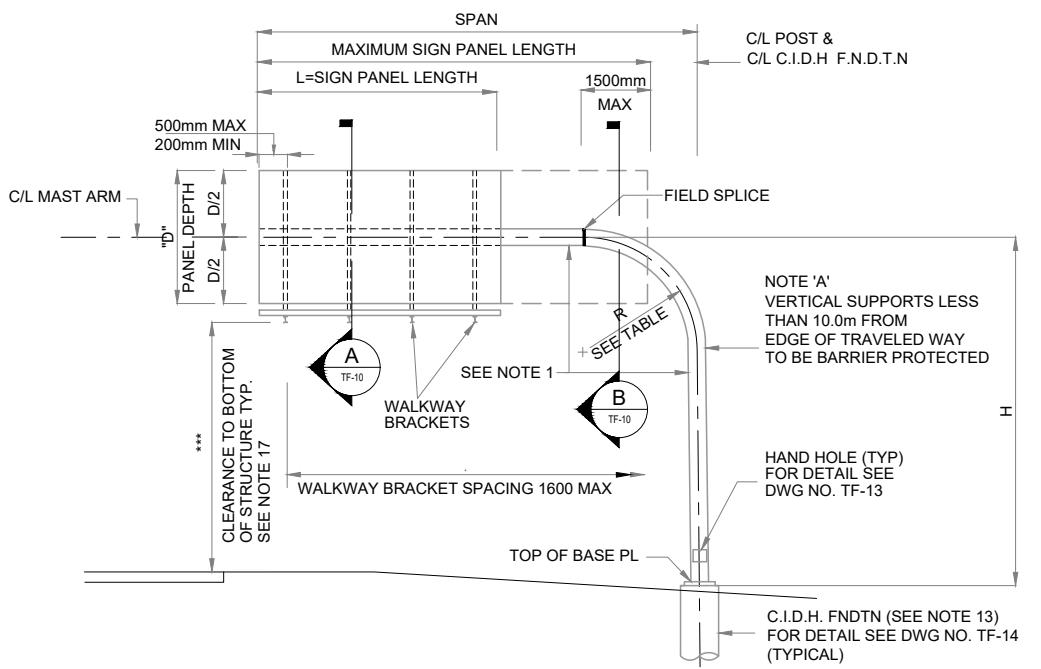
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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STANDARD DRAWINGS

DRAWING TITLE
TRAFFIC
GROUND MOUNTING EXIT SIGN (8)

sheet 8 of 8

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-13



VERTICAL SINGLE POST-TYPE IA

SCALE: NTS

GENERAL NOTES

DESIGN SPECIFICATIONS

AASTHO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS" 2013 INTERIM SUPPLEMENT
THE STANDARD SPECIFICATIONS.

CONSTRUCTION SPECIFICATIONS

SECTION IX-2 TRAFFIC SIGNS OF THE SPECIFICATIONS.

WIND LOADING

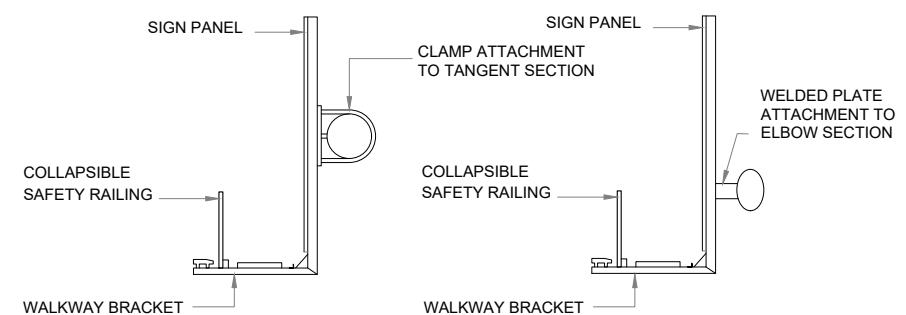
WIND VELOCITY, 160 KILOMETERS PER HOUR WITH GUST FACTOR OF 1.14

DRILLED PIERS ARE DESIGNED FOR SITE CONDITIONS WITH A SOIL MODULUS OF 128 METRIC TONS PER CUBIC METRE.

MAST DIAMETER SAME AS POST
TYPE 1A-M1 AND 1A-M2 ARE IDENTICAL TO TYPE 1A EXCEPT
AS SHOWN
6.5' FOR HIGHWAYS

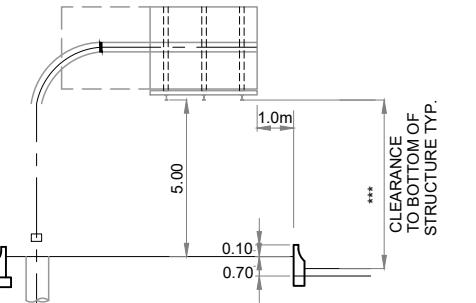
- ALL POSTS BETWEEN BASE PLATE AND FIELD SPLICE ARE EXTRA STRONG PIPE, ALL MAST ARMS MUST BE STANDARD PIPE PER ASTM A53.
 - BEFORE ANY PORTION OF THE SIGN FRAMES ARE ASSEMBLED IN THEIR FINAL POSITION, THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER BY PRE-ASSEMBLY OR OTHER APPROVED METHODS THAT THE SPAN LENGTHS OF THE FRAMES IN THE NO LOAD CONDITION MATCH WITHIN ± 10 mm THE FIELD MEASURED SPAN LENGTHS.
 - IF THE SIGN FRAMES ARE ERECTED AS ONE UNIT, THEY SHALL BE ADEQUATELY SUSPENDED TO AVOID DISTORTION OR CHANGES IN SPAN LENGTH.
 - DURING SINGLE POST SIGN ERECTION, THE NUT SUPPORTING TUBULAR BASE PLATE SHALL BE ADJUSTED AS NECESSARY TO BRING THE POST TO A TRUE VERTICAL PLANE AND SIGN PANEL LEVEL. AT FINAL POSITION OF POST, ALL TOP AND BOTTOM ANCHOR BOLT NUTS SHALL BE WRENCH TIGHTENED AGAINST BASE PLATE.
 - WHEN SEVERAL SIGN PANELS ARE TO BE INSTALLED WITH SPACES BETWEEN THE PANELS, THE TOTAL SIGN PANEL LENGTH IS THE SUM BETWEEN THE PANELS, THE TOTAL SIGN PANEL LENGTH IS THE SUM OF THE INDIVIDUAL SIGN PANEL LENGTH ONLY.
 - ALL WELDING SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED.
 - WALKWAY BRACKET MAXIMUM SPACING SHALL BE 1600mm AND MINIMUM CLEAR DISTANCE FROM FIELD SPLICE SHALL BE 300 mm, SEE DETAILS ON DRAWING NO. TF-16
 - WALKWAY SHALL EXTEND THE FULL LENGTH OF SIGNS, BE CONTINUOUS BETWEEN SIGNS AND EXTEND TO THE EDGE OF ROADWAY IF REQUIRED. THE SAFETY RAILING SHALL PROTECT THE ENTIRE WALKWAY AND SHALL BE CONTINUOUS FOR NOT MORE THAN 3200 mm IN ONE UNIT. FOR DETAILS. SEE DRAWING NO.TF-16 AND TF-17
 - FOR TUBULAR FRAME DETAILS, SEE DRAWING NO. TF-16 AND TF-17.
 - FOR BASE PLATE DETAILS, SEE DRAWING NO. TF-18.
 - PRIOR TO FABRICATION OF TUBULAR FRAMES, ALL DIMENSIONS OF STRUCTURAL FRAMES, AND PLACEMENT OF FOUNDATIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
 - C.I.D.H DENOTES CAST-IN DRILLED HOLE AND F.N.D.T.N DENOTES FOUNDATION.
 - THE CONTRACTOR SHALL OBTAIN AND SUBMIT, SOIL BORINGS FOR EACH OVERHEAD SIGN LOCATION, AS REQUIRED BY THE SPECIFICATIONS.
 - THE MAXIMUM SIGN PANEL OVERLAP ONTO ELBOW SHALL NOT EXCEED 1500 mm FROM THE FIELD SPLICE.
 - MAXIMUM DEPTH OF SIGN PANEL D=4300mm
 - VERTICAL CLEARANCE MEASURED FROM HIGH POINT OF ROADWAY CROWN TO UndERSIDE OF SIGN OR FROM THE LOWEST POINT OF SIGN TO PAVEMENT HIGHEST LEVEL.
 - ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 - FOR ELECTRICAL WIRING, PLEASE REFER TO DWG. NO. TF-24
 - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, DOCUMENTS, DETAILING SIGN LOCATION, FABRICATION AND ERECTION DETAILS AND OTHER INFORMATION AS REQUIRED BY THE ENGINEER.
 - RAMPED CONCRETE BARRIER END TREATMENTS TO BE IN COMPLIANCE WITH TR-518.

ADDITION OF NOTE 21

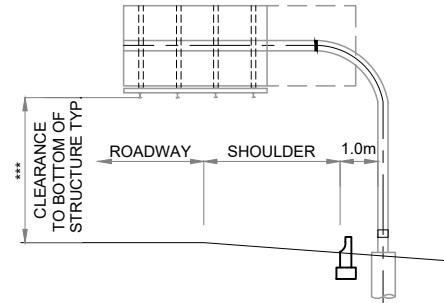


A SECTION A-A
TF-10 SCALE NTS

SECTION B-B



VERTICAL SINGLE POST-TYPE IA-M2 **

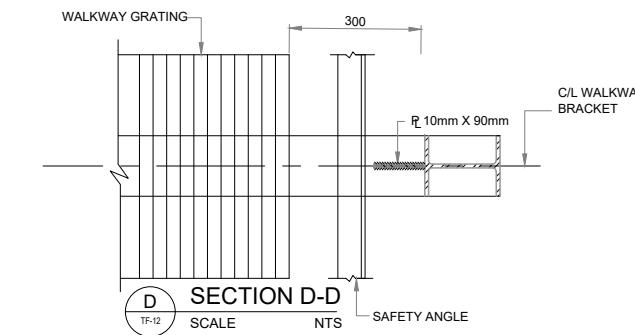
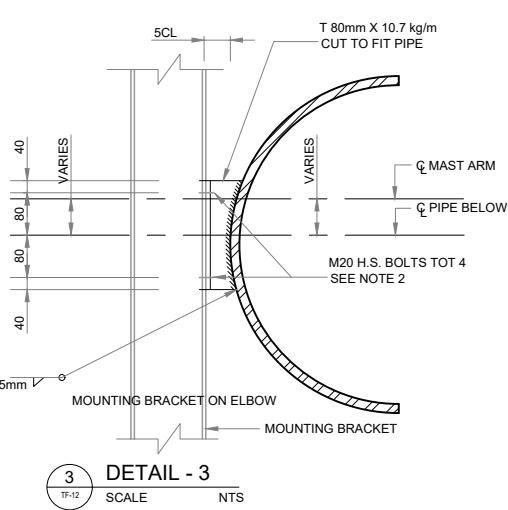
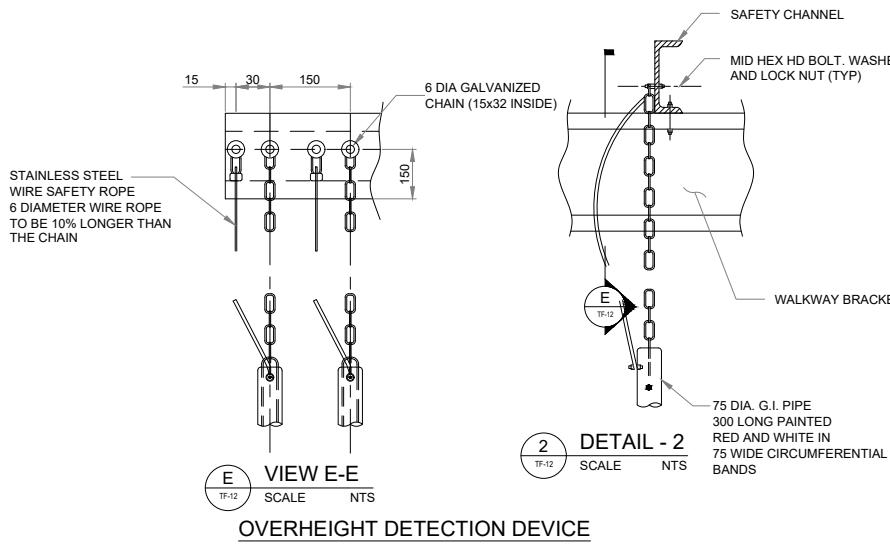
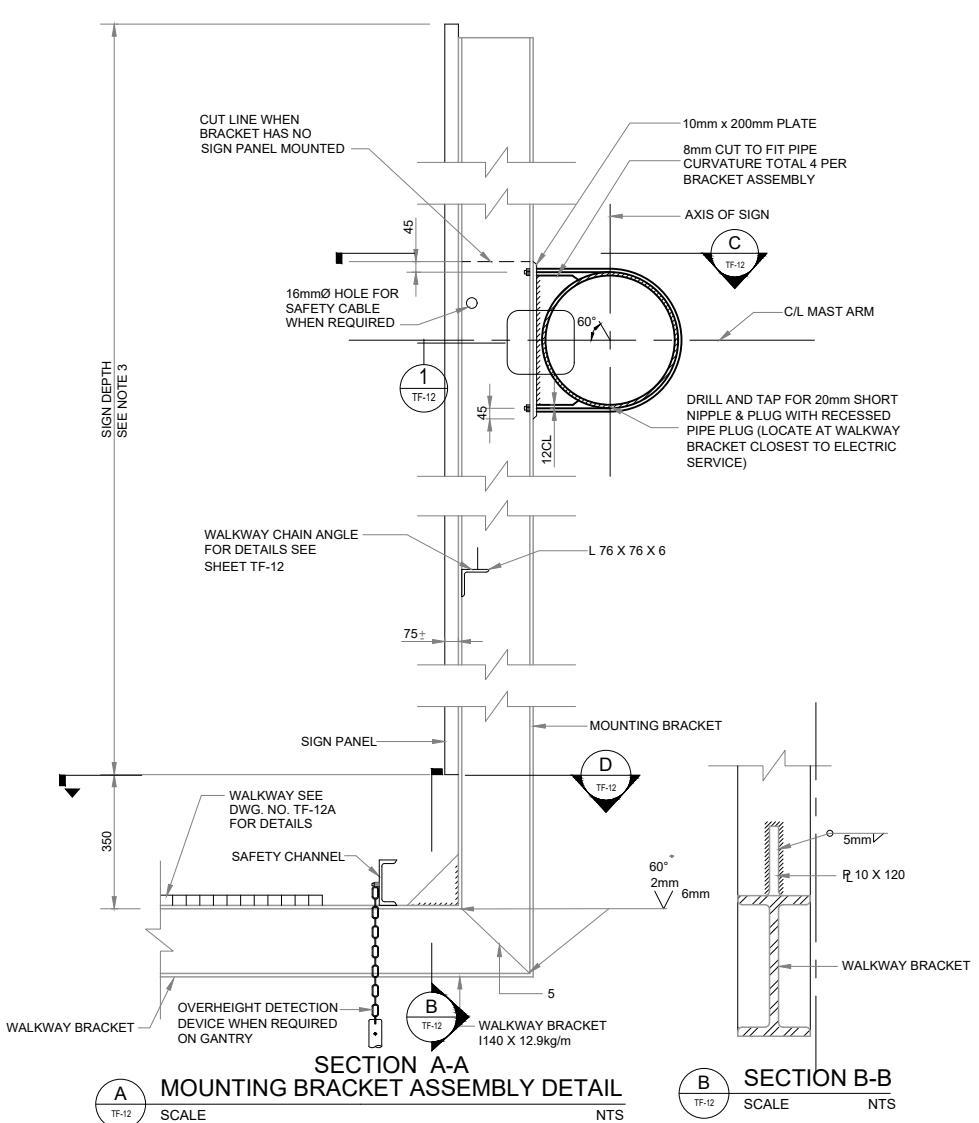
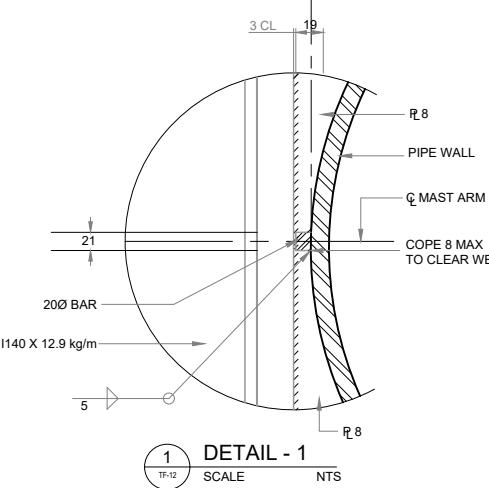
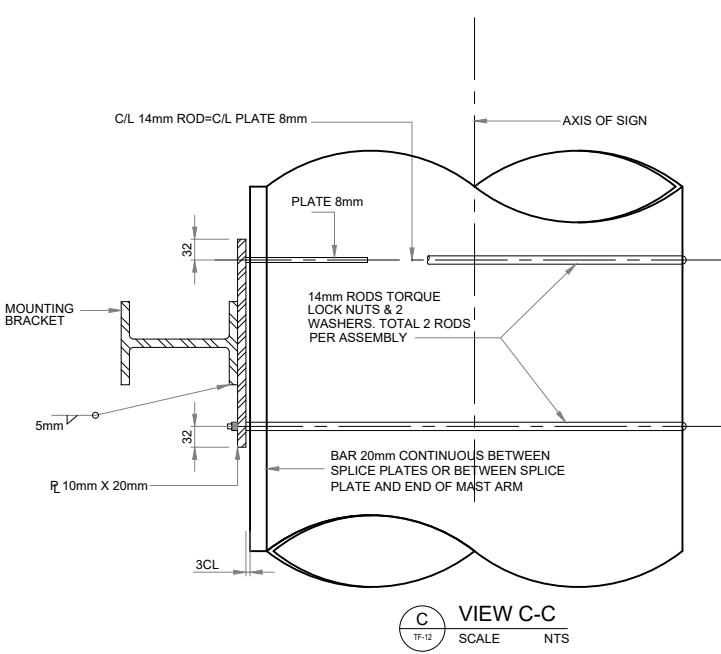
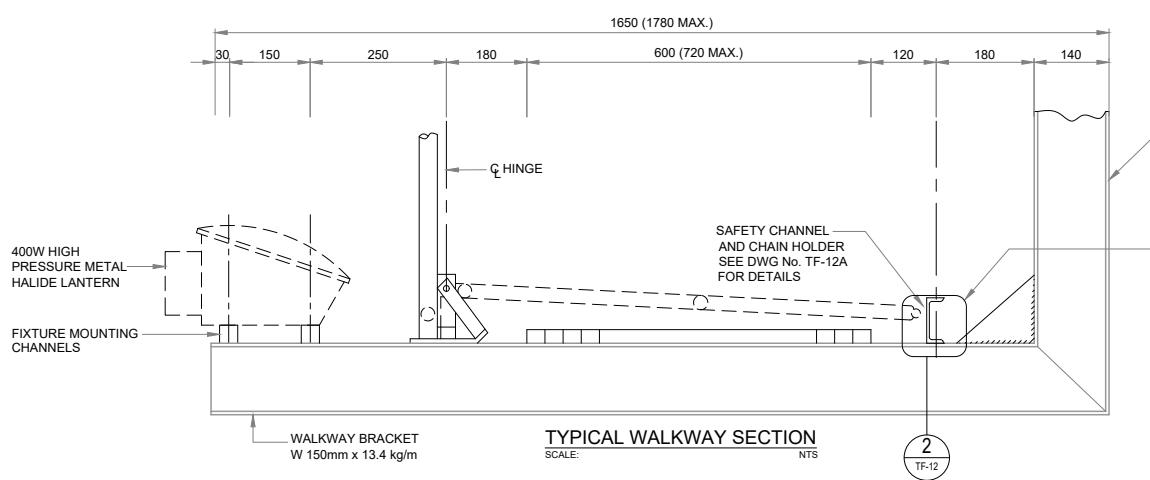


VERTICAL SINGLE POST-TYPE IA-M1 **

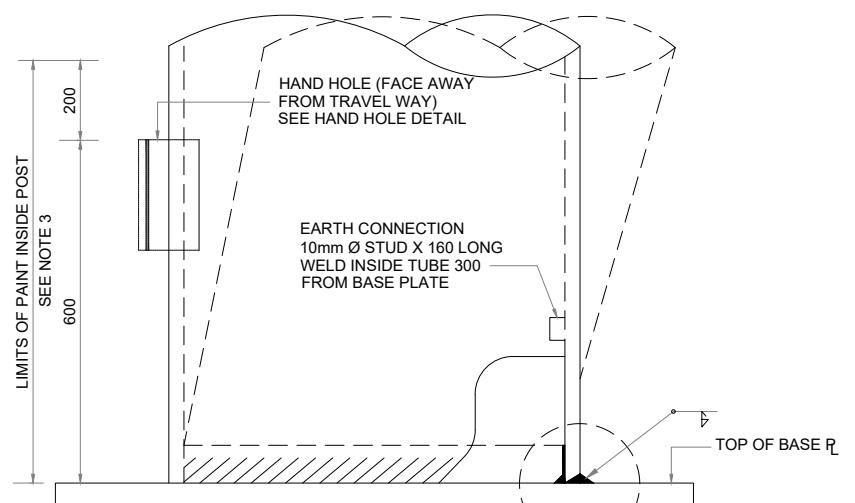
(SAMPLE OF OVERHEAD SIGN SUPPORT SCHEDULE)

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TRAFFIC			
ROAD SIGN GANTRY DETAILS			
SINGLE POST TYPE IA AND IB			
Sheet 1 of 7			
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No	.	DWG. No	TF-14

- NOTES:
1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. FOR H.S. BOLT TENSION, SEE "SECTION H-H" ON DWG NO. TF-17. ON DWG NO. TF-18
 3. FOR SIGN PANEL MOUNTING DETAILS SEE DWGS NOS. TF-12 AND TF-13.

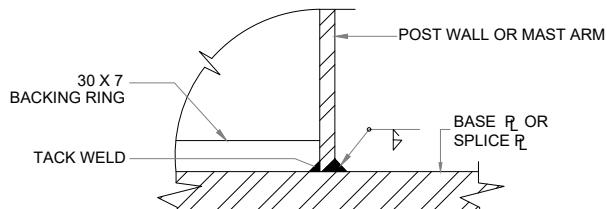


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STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
ROAD SIGN GANTRY DETAILS		
Sheet 3 of 7		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-16



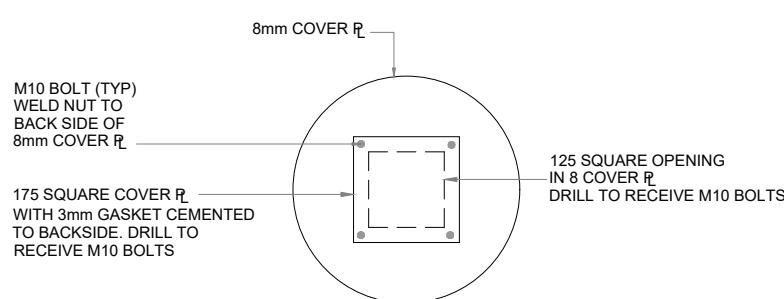
POST BASE ELEVATION

SCALE: NTS
(FOR BASE PLATE DETAILS SEE C.I.D.H FOUNDATION DETAIL DWG NO. TF-11)



WELD DETAILS

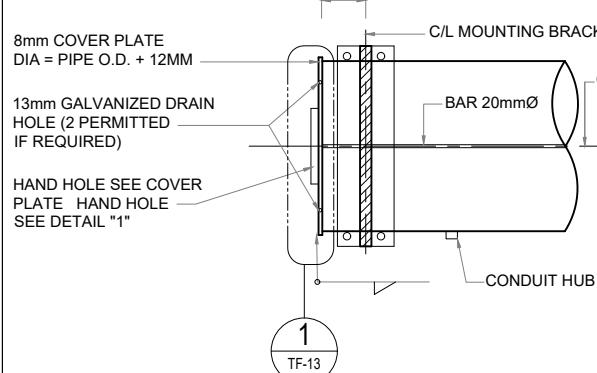
SCALE: NTS



COVER R HAND HOLE DETAIL - 1

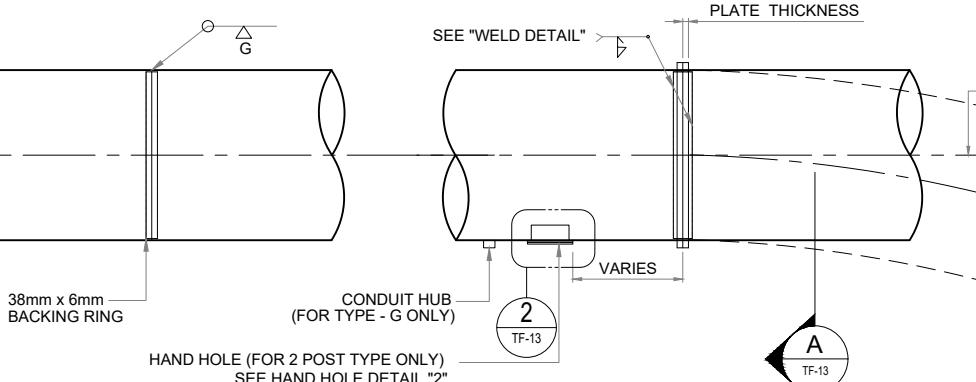
SCALE NTS

FIELD SPLICE				
PIPE DIAMETER	R THICKNESS	H.S. BOLTS	B.C. DIAMETER	R O.D.
200	29	13-M16	282	346
250	32	20-M16	336	400
300	32	17-M20	388	450
350	32	19-M20	420	482
400	32	22-M20	470	534
450	35	26-M20	520	584
500	35	29-M20	572	635
600	38	26-M24	686	762



MAST ARM END DETAIL

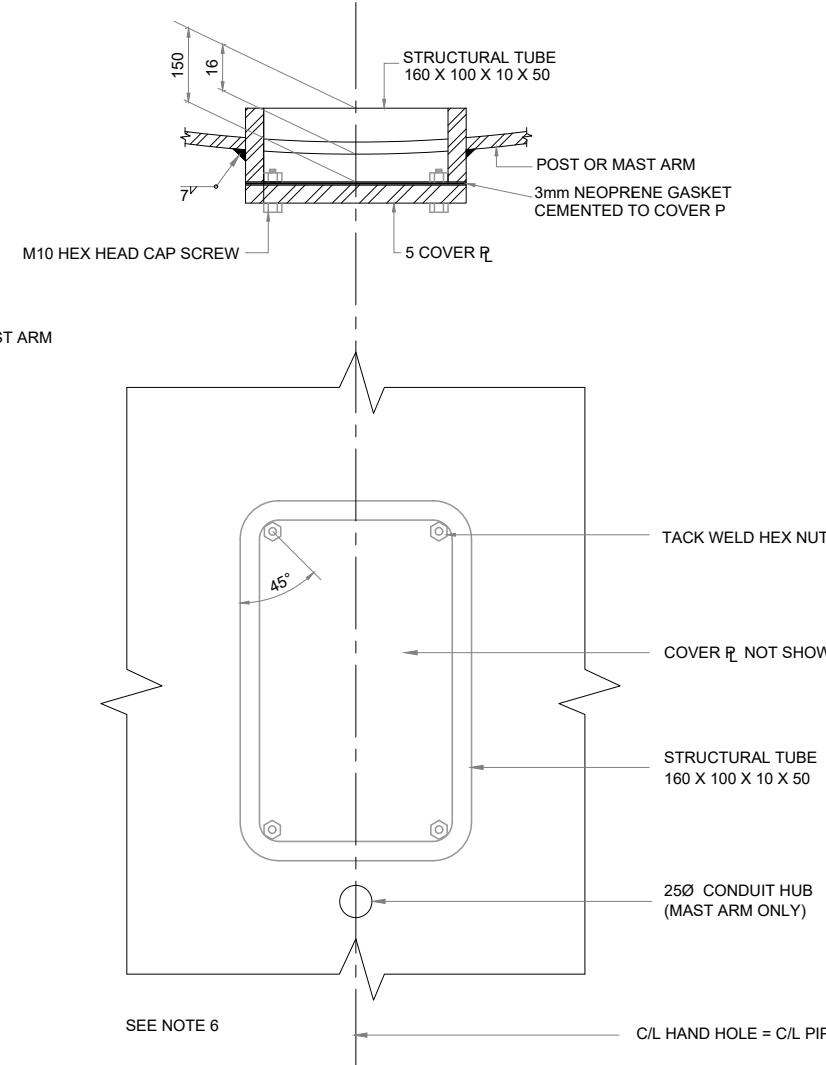
SCALE: NTS
(FOR "SINGLE POST TYPE" ONLY)



SHOP SLICE

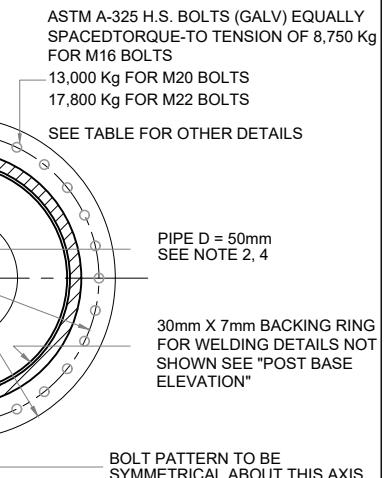
SCALE: NTS

FIELD SPLICE
SCALE: NTS
* LOCATE HAND HOLE AT NEAREST HANGER ON MAST ARM



HAND HOLE DETAIL - 2

SCALE NTS
(MAST ARM AND POST)

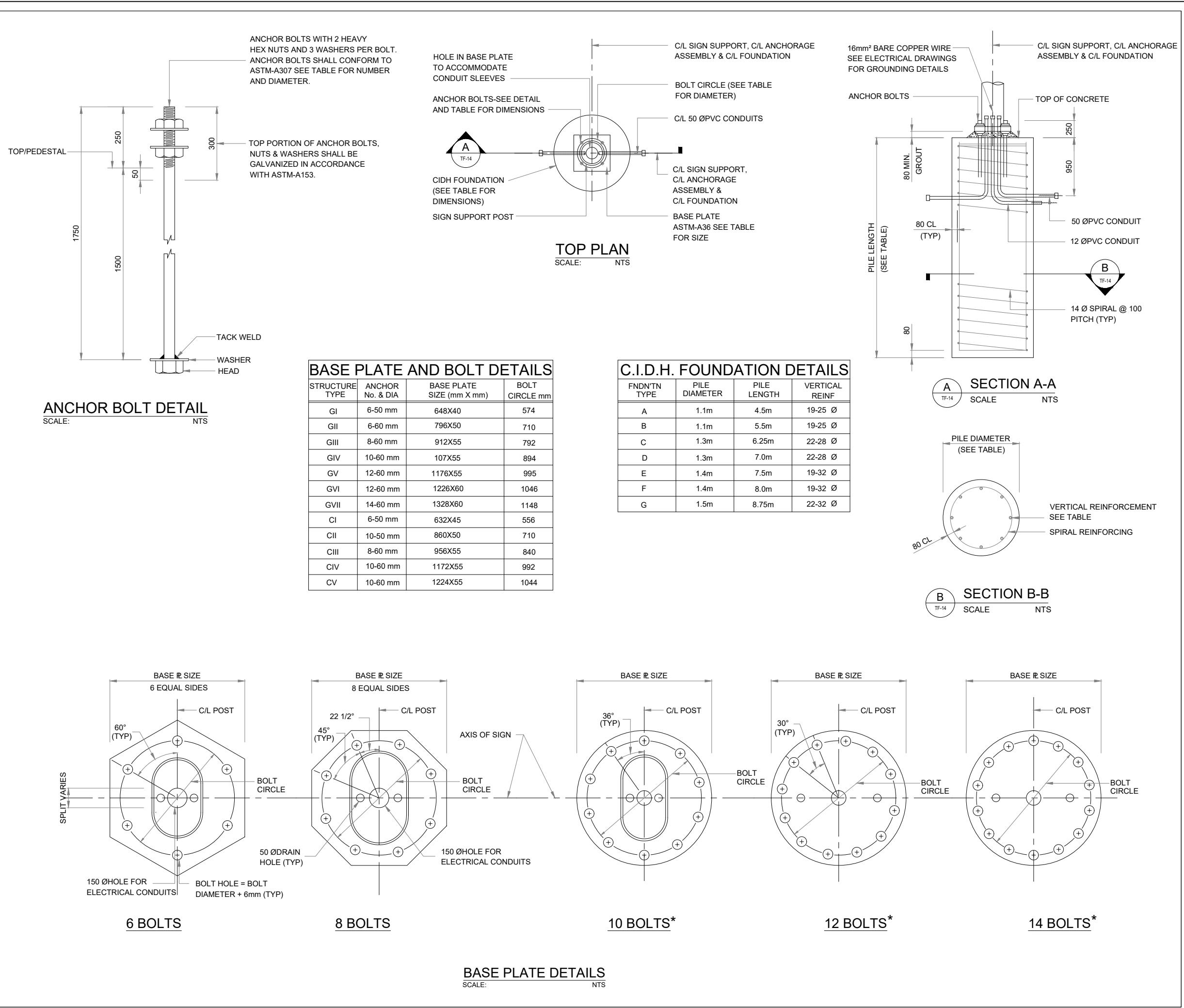


SECTION A-A

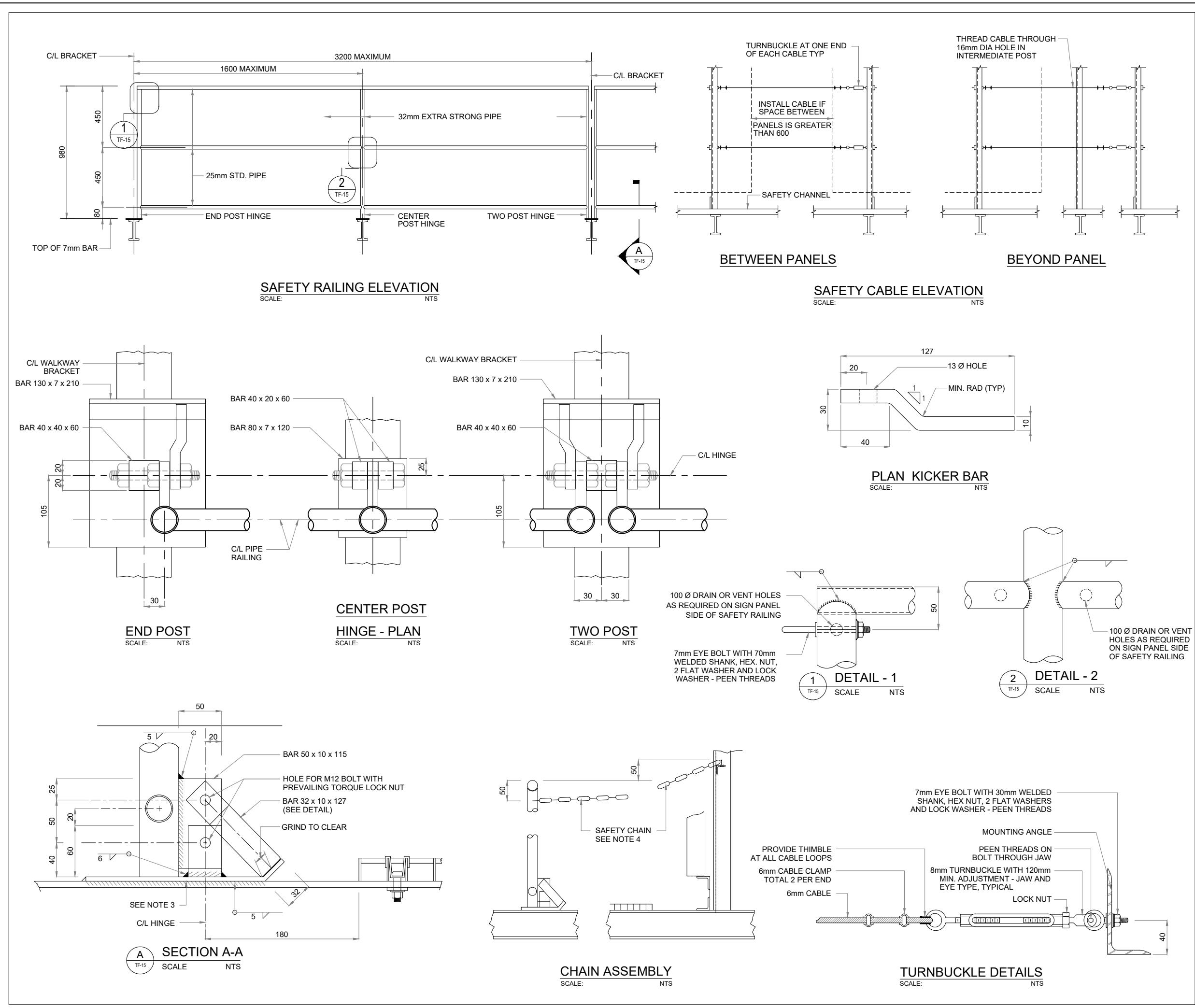
SCALE NTS

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 - PLACE SINGLE THIN BEAD OF SILICONE CAULKING COMPOUND AROUND HOLE PRIOR TO BOLTING. CAULKING NOT TO INTERFERE WITH FRICTION BETWEEN PLATES IN BOLTED AREA.
 - PRIME AND PAINT POST INTERIOR FROM BASE PLATE TO 200mm ABOVE LOWER HAND HOLE - UNLESS POST IS GALVANIZED.
 - "D" IS INSIDE DIAMETER OF "EXTRA STRONG PIPE"
 - DESIGN BASED ON CAPACITY OF STANDARD PIPE.
 - PLACE HAND HOLE AND CONDUIT HUB PERPENDICULAR TO AXIS OF SIGN AND AWAY FROM APPROACHING TRAFFIC. DRILL AND TAP FOR 25mm.DIA. CONDUIT HUB ADJACENT TO MAST ARM HAND HOLES ONLY.

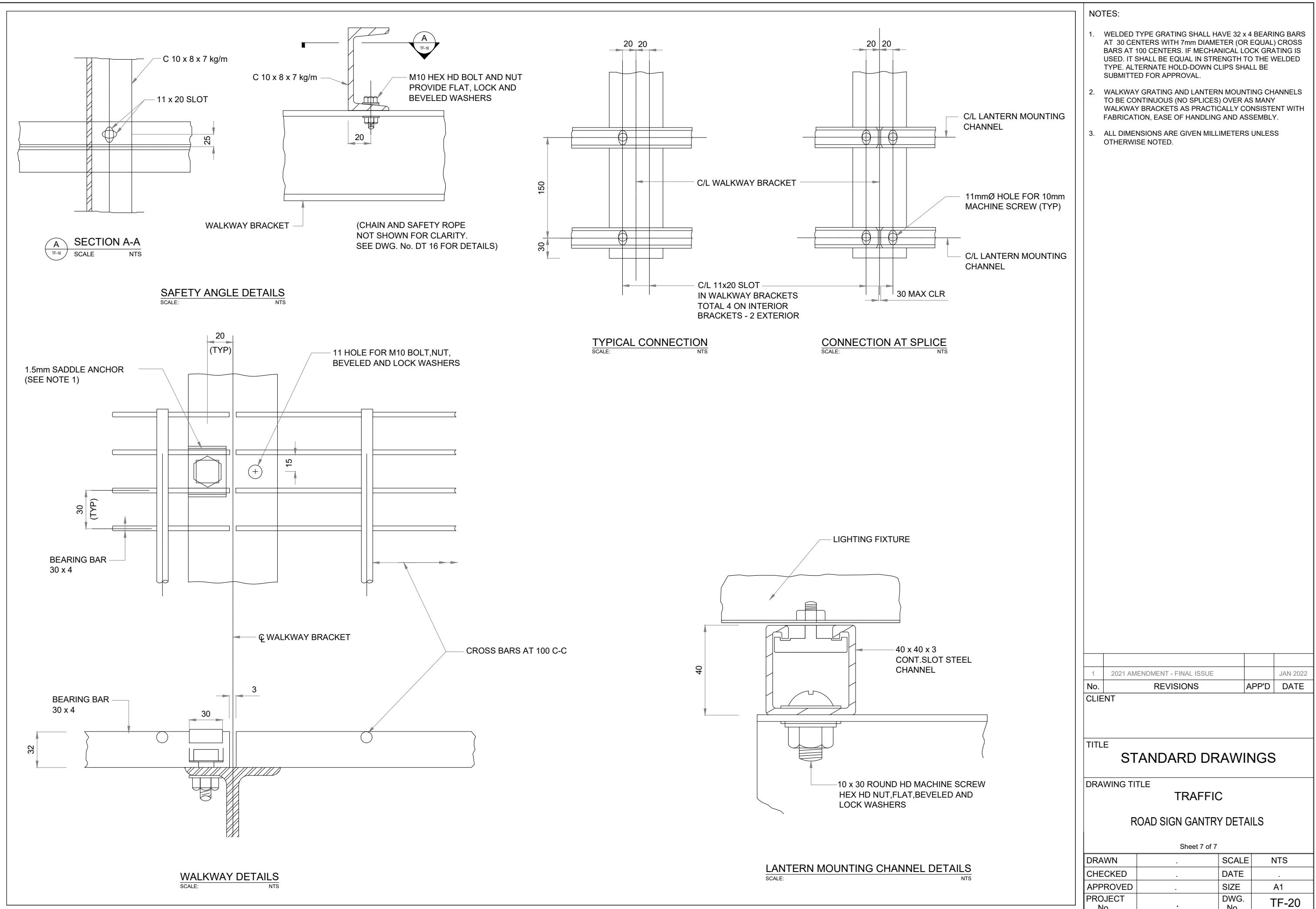
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
ROAD SIGN GANTRY DETAILS		
Sheet 4 of 7		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-17



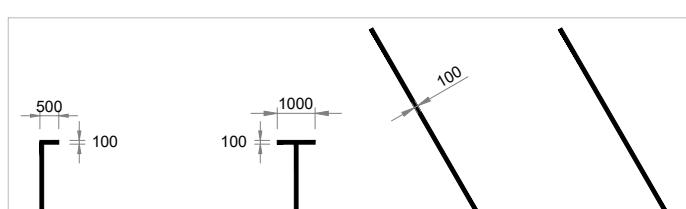
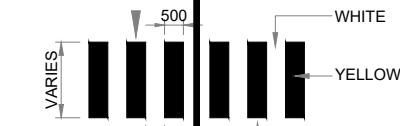
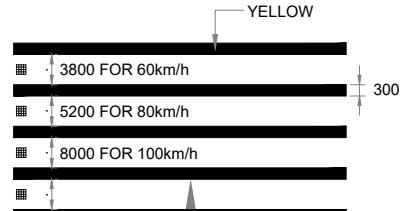
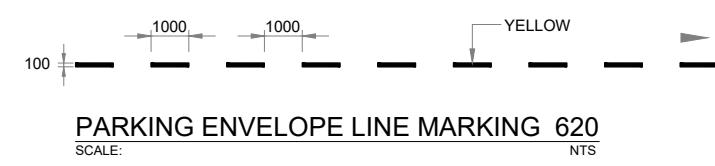
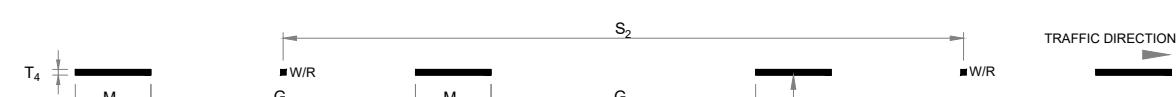
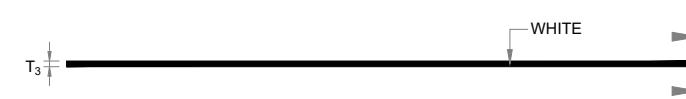
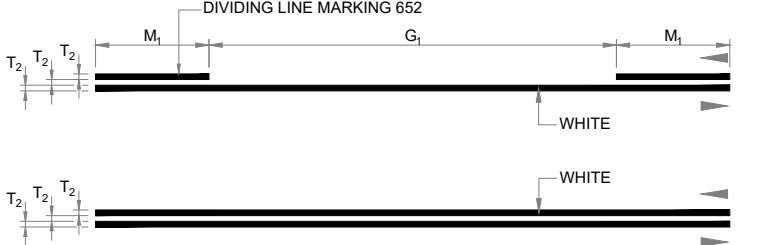
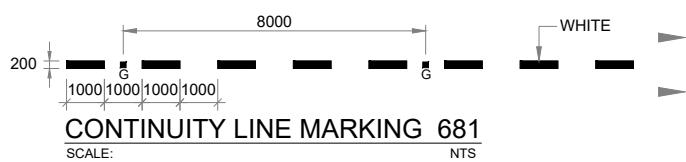
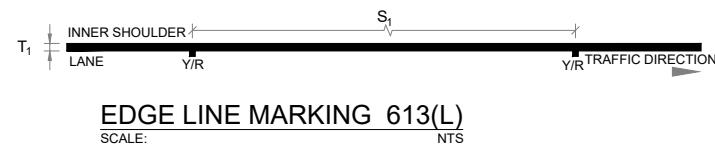
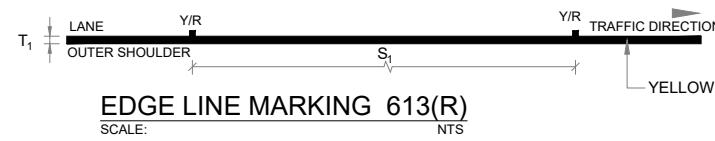
1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE
CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
ROAD SIGN GANTRY DETAILS		
Sheet 5 of 7		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-18



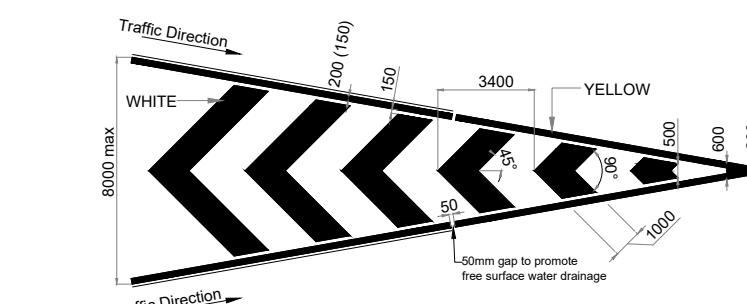
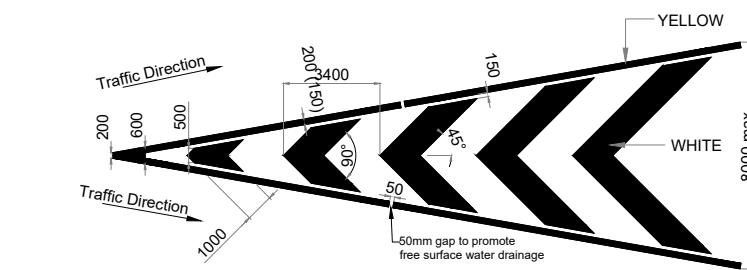
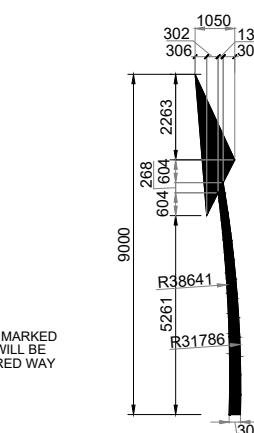
CLIENT	2021 AMENDMENT - FINAL ISSUE	JAN 2022
REVISIONS	APP'D	DATE
STANDARD DRAWINGS		
DRAWING TITLE	TRAFFIC	
ROAD SIGN GANTRY DETAILS		
Sheet 6 of 7		
DRAWN	.	SCALE
CHECKED	.	DATE
APPROVED	.	SIZE
PROJECT No.	.	DWG. No.
		TF-19



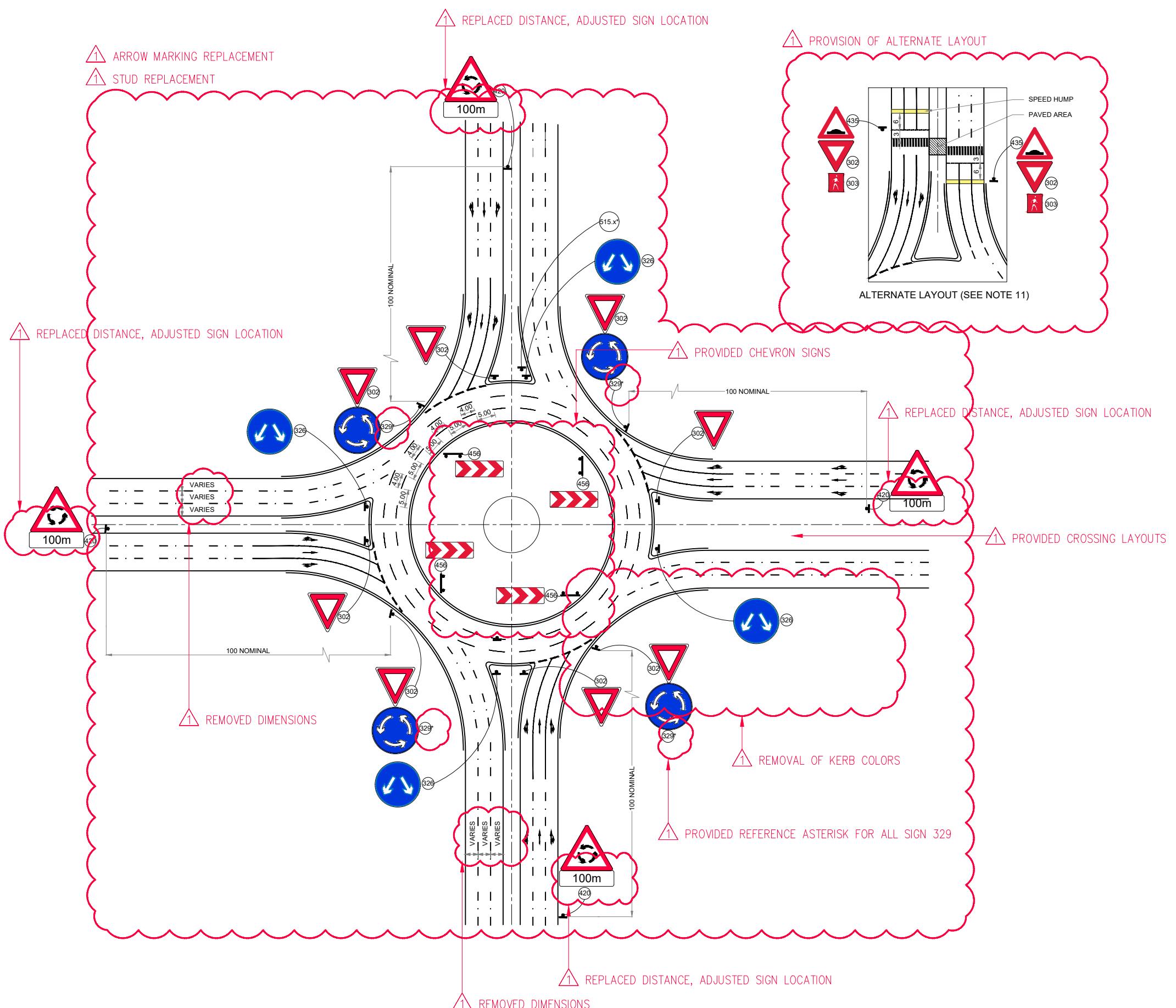
- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. THIS DRAWING SHOULD BE READ ALONG WITH THE ABU DHABI MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CHAPTER 5 - PAVEMENT MARKINGS TABLE 5-31).



	TRAVEL SPEED km/h			
	< 60	60 TO < 80	80 TO < 100	100 & ABOVE
T ₁	150mm	200mm	200mm	200mm
T ₂	100mm	150mm	150mm	150mm
T ₃	100-150mm	200mm	200mm	200mm
T ₄	100-150mm	150mm	200mm	200mm
T ₅	100-150mm	150mm	150mm	150mm
S ₁	6m	6m	9m	18m
S ₂	12m	18m	36m	36m
S ₃	12m	18m	36m	36m
M ₁	2m	3m	6m	6m
M ₂	2m	3m	6m	6m
M ₃	2m	3m	6m	6m
G ₁	4m	6m	12m	12m
G ₂	4m	6m	12m	12m
G ₃	4m	6m	12m	12m



1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
TYPICAL PAVEMENT MARKING DETAILS FOR HIGHWAY		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-21



- NOTES:
1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 2. ALL CURBS SHALL BE PAINTED BLACK AND WHITE EXCEPT AS SHOWN WITH DOUBLE LINE AND / OR NOTE.
 3. SOLID WHITE LINE LENGTHS AND SPACING ARE NOMINAL DIMENSIONS.
 4. SEE DWG. TF-23 FOR PAVEMENT MARKING DETAILS
 5. SEE DWG. TF-1 AND TF-2 FOR SIGN DETAILS
 6. FOR GIVEWAY SIGN SHOULD BE ABOUT 1M BEFORE GIVE WAY LINE.
 7. FOR 3 LANE GIVEWAY SIGN SHALL BE PROVIDED BOTH SIDE OF CARRIAGeway.
 8. SIGN 329 SHOULD ONLY BE USED WHEN JUNCTION IS NOT OBVIOUS THAT IT IS A ROUNDABOUT AS PER MUTCD.
 9. EVERY DESIGNATED CROSSING TO HAVE YIELD LINE, YIELD SIGNS AND NO PASSING LINE.
 10. PROVISION OF SPEED TABLES VERSUS DROPPED KERB CROSSINGS (INCLUDING SPEED HUMPS) SHALL BE UP TO THE ENGINEER'S DISCRETION AND DECIDED IN COORDINATION WITH THE RELEVANT ROAD AND TRAFFIC SAFETY AUTHORITY.
 11. ZEBRA CROSSINGS SHOULD NOT BE USED ON CARRIAGeways WITH 3 OR MORE LANES. HOWEVER IN EXCEPTIONAL CIRCUMSTANCES, AND WITH MUNICIPALITY TRAFFIC AND ROAD SAFETY APPROVAL, THIS LAYOUT MAY BE CONSIDERED.
 12. *REFER TO TR-511 MUTCD FOR MORE INFORMATION ON TYPES AND PLACEMENT OF 515 SIGNS.

ADDITION OF NOTES 8, 9, 10, 11, 12

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
No.	REVISIONS	APP'D DATE

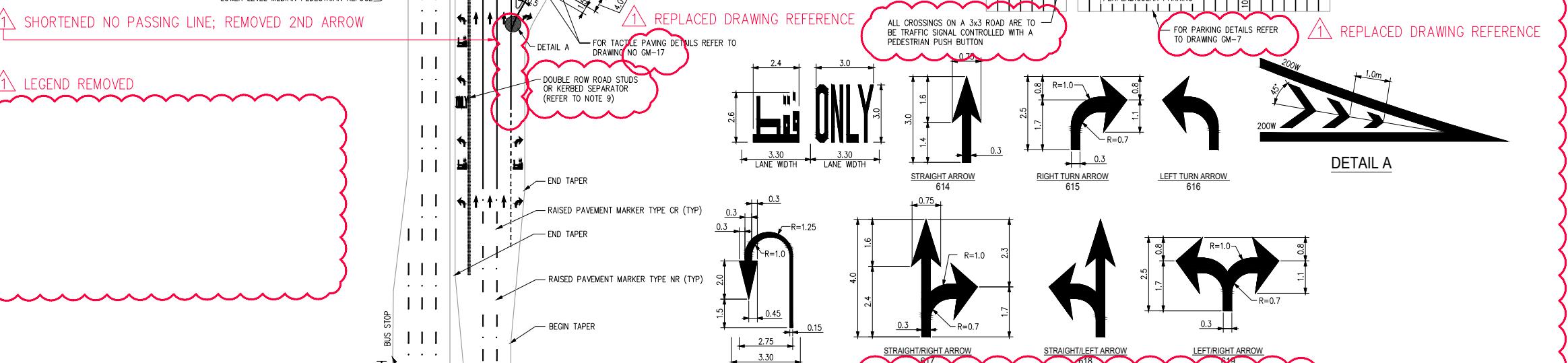
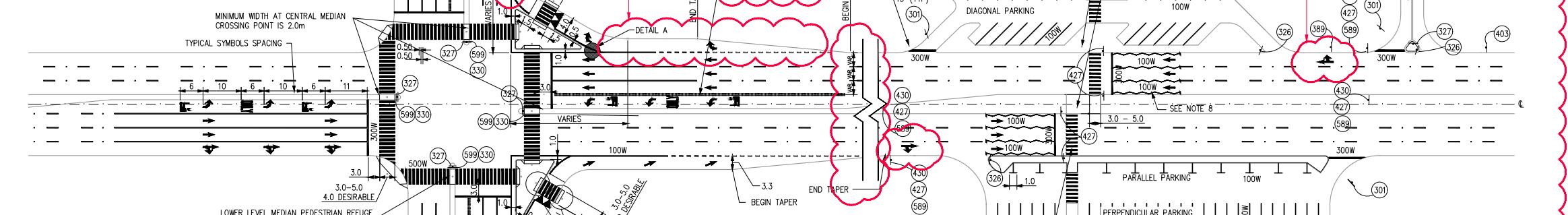
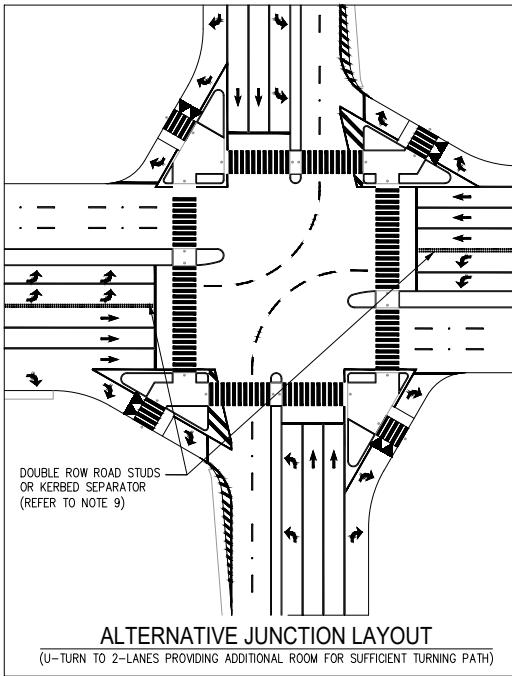
CLIENT

STANDARD DRAWINGS

DRAWING TITLE
TRAFFIC
TYPICAL ROUNDABOUT MARKING DETAILS
URBAN ROADS

DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-22

⚠ REMOVED ALL OUTDATED DRAWING REFERENCES (DETAIL B/C, RSSD, ETC); ADJUSTED BOLLARD PLACEMENTS TO BACK OF TACTILE; REPLACED STUDS WITH LINE MARKINGS

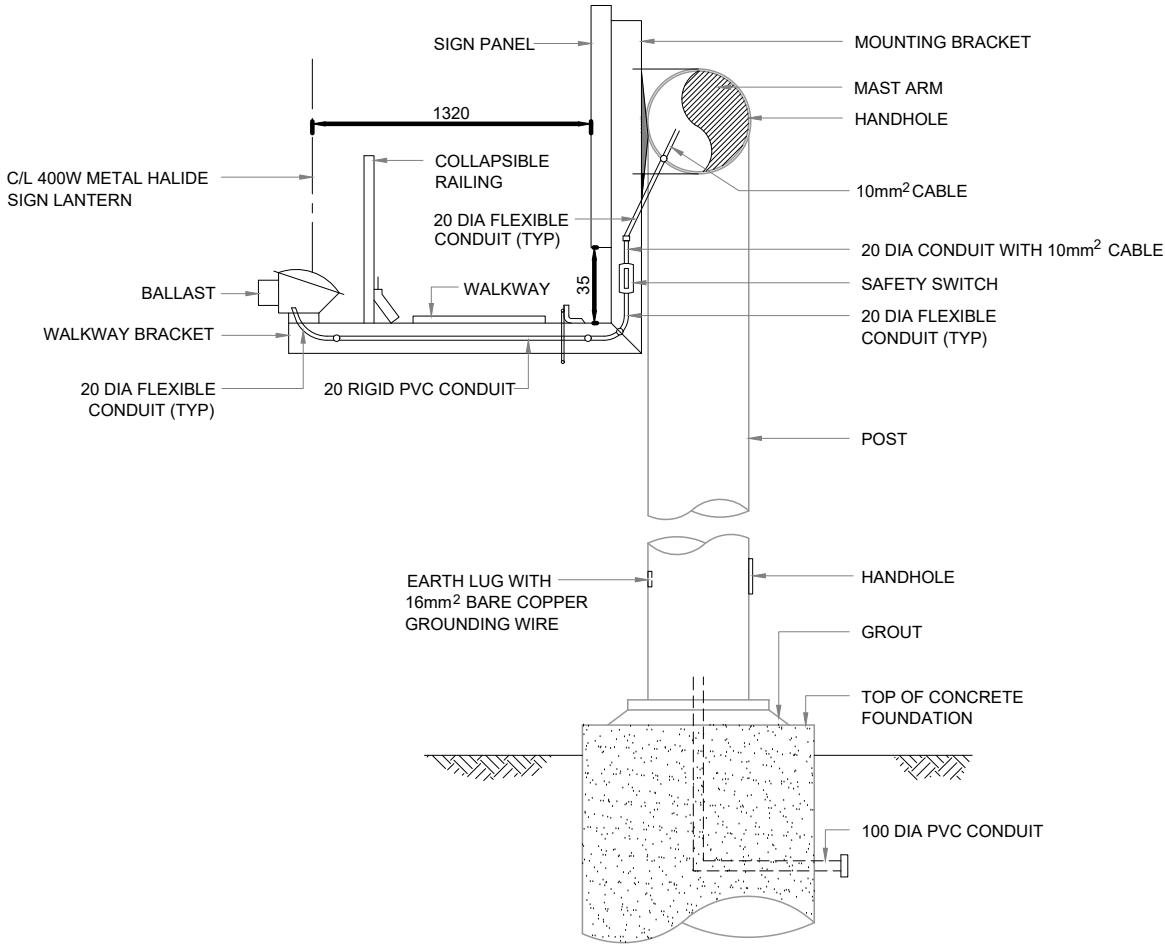
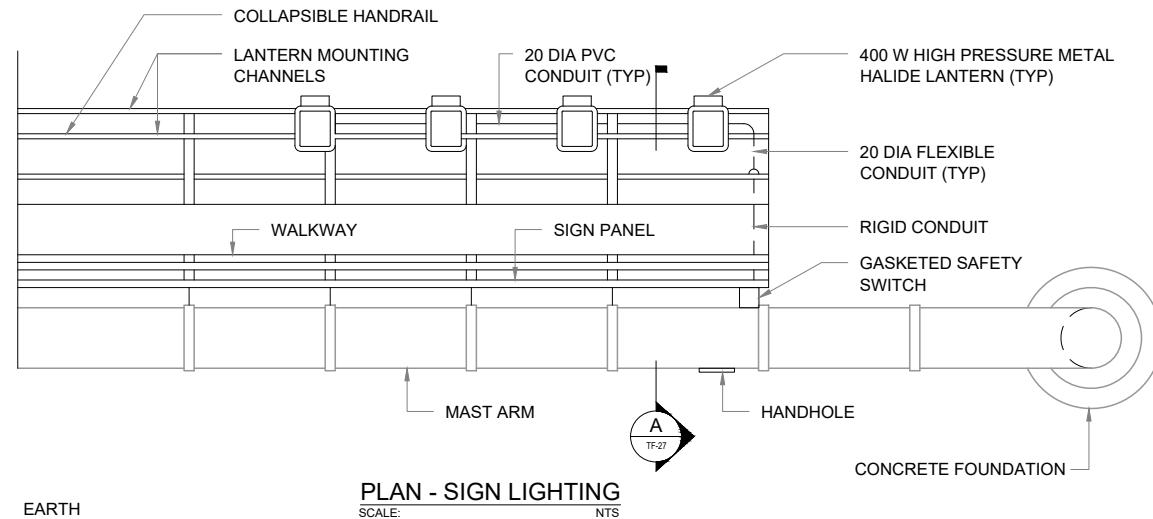
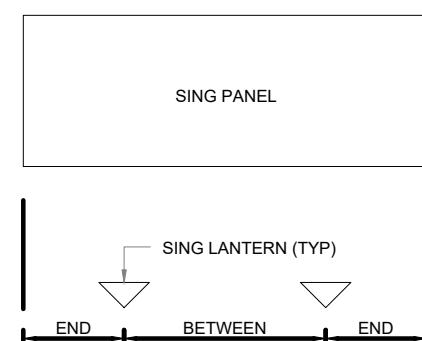
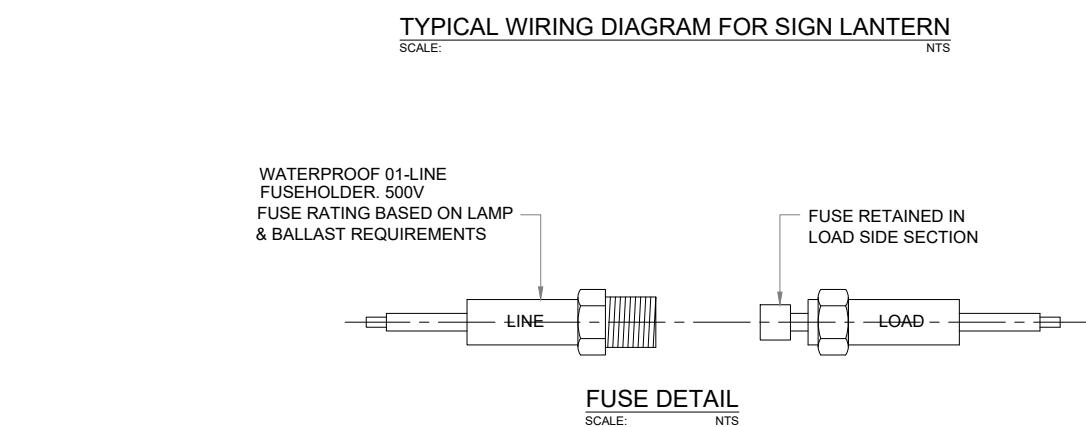
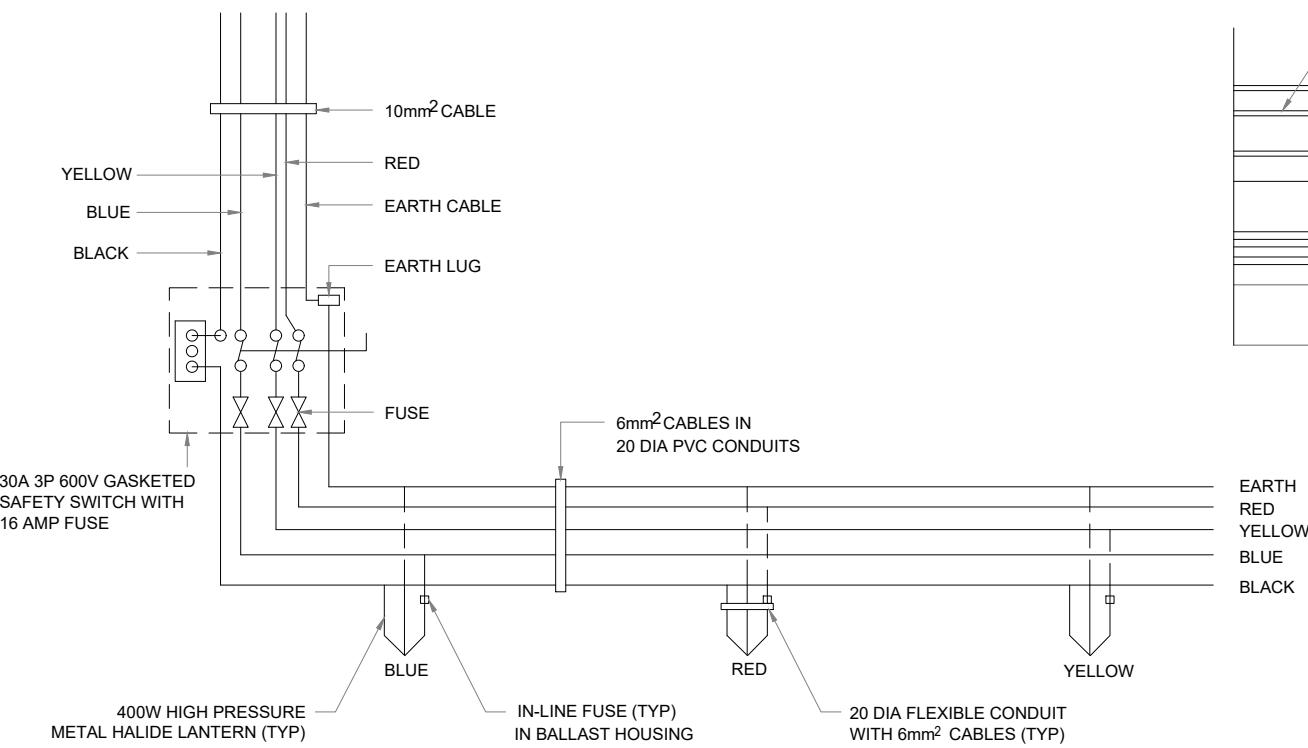


NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 2. REFER TO DRAWING C-1 FOR KERB DETAILS.
 3. PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED AS PER MUTCD (TR-511). OTHER SUPPLEMENTAL SIGNS ARE SHOWN ON PROPOSED PLANS.
 4. FOR SPECIFIC CROSSWALK LOCATIONS SEE PROPOSED PLANS.
 5. STOP SIGN FACES SHALL BE ORIENTED AS APPROVED BY THE ENGINEER TO SUIT SITE CONFIGURATION.
 6. ALL SIGN LOCATIONS AND ROAD MARKINGS SHOULD BE LOCATED AS SPECIFIED IN MUTCD (TR-511).
 7. FOR DETAILS OF FREE RIGHT TURN AND CROSSING DETAILS REFER TO DRAWING GM-2.
 8. FOR DETAILS OF ZIG ZAG MARKINGS AT PEDESTRIAN CROSSINGS REFER TO MUTCD (TR-511).
 9. FOR NEW JUNCTIONS WHICH OPERATE IN LEAD LAG, SEPARATION ISLAND BETWEEN THROUGH AND LEFT-TURN LANES TO BE KERBED WITH MINIMUM WIDTH OF 1.5 METERS.
- ⚠ ADDED DOC. CODE REFERENCE TO MUTCD (TR-511)
- ⚠ ADDITION OF NOTE 9

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CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC TYPICAL DETAILS INTERSECTION PAVEMENT MARKINGS AND SIGNS		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-23

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.



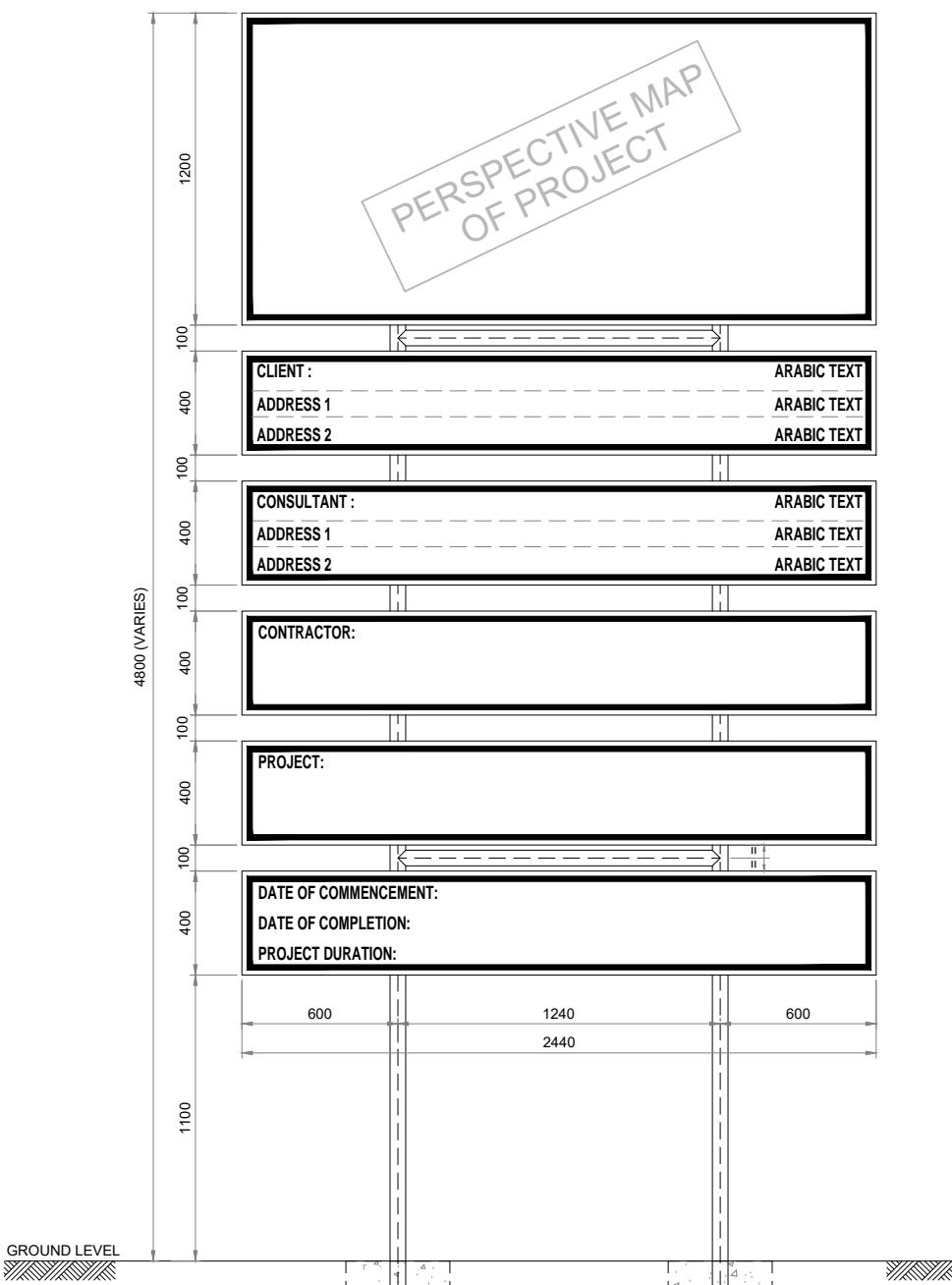
1	2021 AMENDMENT - FINAL ISSUE		JAN 2022
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CLIENT

STANDARD DRAWINGS

DRAWING TITLE
TRAFFIC
GANTRY SIGN LIGHTING DETAILS
(Electrical)

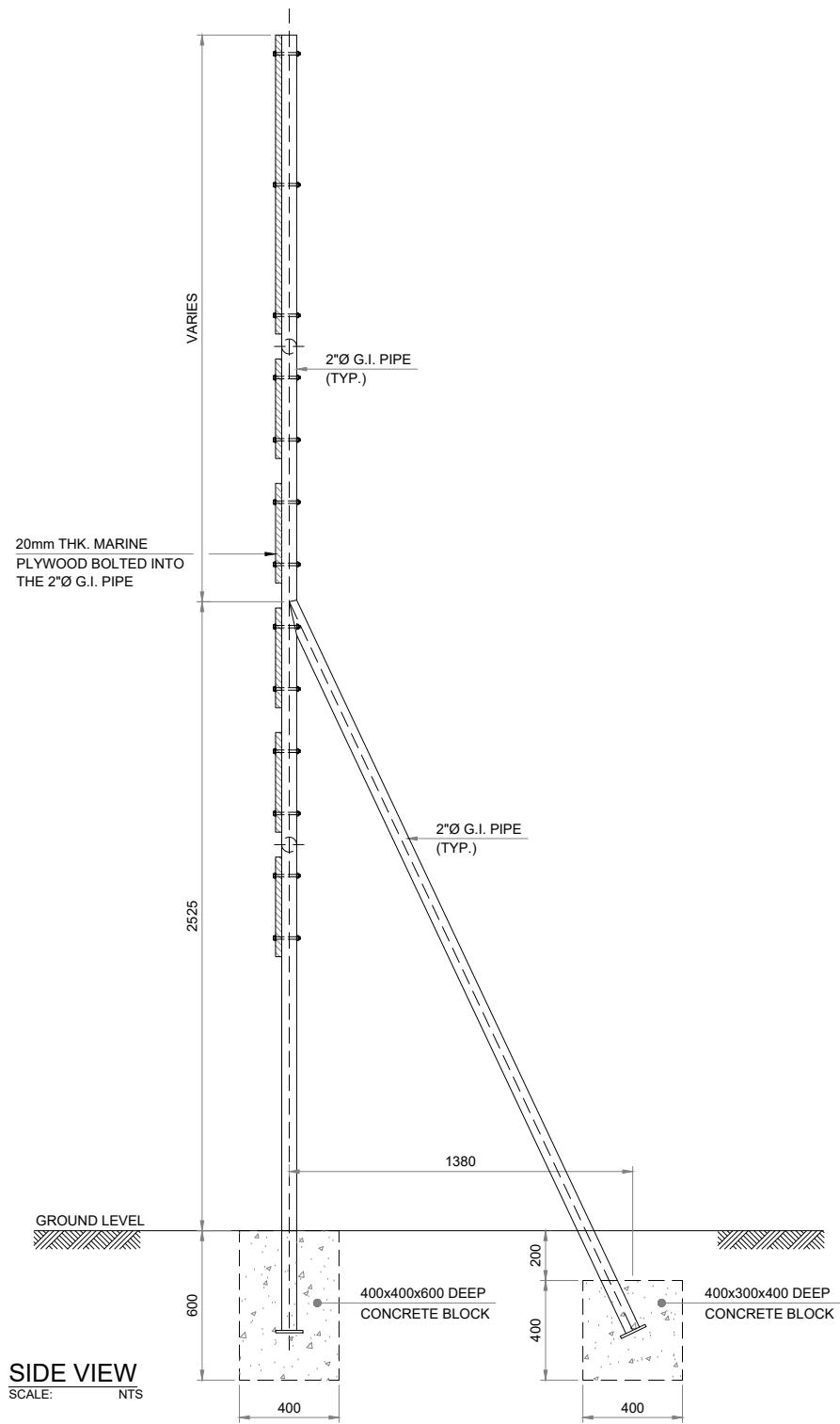
DRAWN	.	SCALE	NTS
CHECKED	.	DATE	.
APPROVED	.	SIZE	A1
PROJECT No.	.	DWG. No.	TF-24



CLIENT :
ADDRESS 1
ADDRESS 2

ARABIC TEXT
ARABIC TEXT
ARABIC TEXT

TYP. INFORMATION SIGN DETAIL
SCALE: NTS



- NOTES:
- ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
 - THE SIGN FRAME SUPPORT SYSTEM AND FACE PLATES SHALL BE DESIGNED BY THE CONTRACTOR.
 - SIGN FRAME SUPPORT COLOUR SHALL BE GREY. ALL LETTERING SHALL BE BLACK. FRAME COLOUR OF EACH PLATE SHALL BE RED.
 - SIGNS SHALL BE MOUNTED WITH THE BOTTOM EDGE 600mm ABOVE GROUND.
 - LOCATIONS OF THE CONSTRUCTION IDENTIFICATION SIGNS SHALL BE AS DIRECTED BY SUPERVISING ENGINEER
 - DETAILS OF PROJECT INFORMATION BOARDS SHALL BE SUBJECT TO APPROVAL OF CONCERNED AUTHORITIES AND ENGINEER PRIOR TO FABRICATION.
 - PROJECT INFORMATION BOARD SHOWN ON THIS DRAWING IS ONLY INDICATIVE. DETAILS SHALL BE VERIFIED AND APPROVED BY ENGINEER PRIOR TO FABRICATION OF BOARD.

1	2021 AMENDMENT - FINAL ISSUE	JAN 2022
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CLIENT		
TITLE		
STANDARD DRAWINGS		
DRAWING TITLE		
TRAFFIC		
CONSTRUCTION IDENTIFICATION SIGNS		
DRAWN	.	SCALE NTS
CHECKED	.	DATE
APPROVED	.	SIZE A1
PROJECT No.	.	DWG. No. TF-25