

d₂ = CIRCULATING STREAM SSD

→ LINE OF SIGHT

THE CIRCULATORY ROADWAY AND OTHER ENTRANCES CIRCULATORY ROADWAY STOPPING SIGHT DISTANCE IS MEASURED AS A VEHICLE TRAVERSES THE CIRCULATORY ROADWAY STOPPING SIGHT DISTANCE TO CROSSWALK AT EXIT IS MEASURED FROM ENTERING APPROACH STOPPING SIGHT VEHICLE TO CROSSWALK DISTANCE IS MEASURED FROM APPROACHING VEHICLE TO d = STOPPING SIGHT DISTANCE (SSD) YIELD LINE OR CROSSWALK. d₁ = ENTERING STREAM SSD

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MEASUREMENT 5' CURB **OFFSET FASTEST PATH R3** (B) MEASUREMENT FASTEST PATH (B) R1 MEASUREMENT 5' CURB OFFSET (TYP.) **** DISTANCE =

> **MEASUREMENT** DISTANCE = ENTRY WIDTH / 2

*ANGLE MEASURED SHOULD BE DIVIDED BY 2 TO OBTAIN PHI ANGLE

EXIT WIDTH / 2

3' OFFSET FROM

CHANNELIZATION STRIPING (TYP.)

BEGIN FASTEST PATH B-SPLINE CURVE

165' MIN. PRIOR TO YIELD LINE.

ROUNDABOUT DESIGN CHECKS

FASTEST PATH R4

MEASUREMENT

DESIGN STANDARDS FOR SINGLE LANE ROUNDABOUTS

ROUNDABOUT SIGHT DISTANCE (A)

ROUNDADOUTS			
	URBAN	RURAL	NOTES
DESIGN SPEED	20 MPH	25 MPH	SEE FHWA EXHIBIT 6-4
INSCRIBED CIRCLE DIAMETER (H)	100' - 130'	115' - 130'	MEASURED FROM CURB FACE TO CURB FACE
CIRCULATORY ROADWAY WIDTH	1.0 - 1.2 TIMES THE MAXIMUM ENTRY WIDTH	1.0 - 1.2 TIMES THE MAXIMUM ENTRY WIDTH	
ENTRY WIDTH	18' - 22'	18' - 22'	MEASURED FROM CURB FACE TO CURB FACE
ENTRY RADIUS	65' - 90'	65' - 90'	
EXIT WIDTH	SAME AS ENTRY WIDTH	SAME AS ENTRY WIDTH	SAME AS ENTRY WIDTH
EXIT RADIUS	200' - 1000'	200' - 1000'	
APPROACH/DEPARTURE WIDTH	WIDTH OF APPROACHING LANE	WIDTH OF APPROACHING LANE	DOES NOT INCLUDE BIKE LANE OR GUTTER

DESIGN NOTES

- FASTEST PATH CHECKS SHOULD BE COMPLETED PRIOR TO INTERSECTION SIGHT DISTANCE BEING CHECKED. STOPPING SIGHT DISTANCE AND INTERSECTION SIGHT DISTANCE SHOULD BE CHECKED FOR ALL APPROACHES. REFER TO "ROUNDABOUTS; AN INFORMATIONAL GUIDE," FHWA, 2000 AND RD11-SD-1 THRU 7 FOR ADDITIONAL GUIDANCE.
- CONSTRUCT A B-SPLINE (SHOWN AS DASHED LINE) FOR THE THROUGH, LEFT TURN, AND RIGHT TURN MOVEMENTS. B-SPLINE SHOULD TOUCH THE 5' CURB OFFSETS AT THE POINTS INDICATED FOR THE R1, R2, R3, R4 AND R5 MEASUREMENTS. MEASURE THE RADIUS OF THE B-SPLINE AT EACH POINT. MEASUREMENT SHOULD BE BETWEEN 65' AND 85' LONG. FOR THE R1 MEASUREMENT, THE RADIUS SHOULD NOT BE MEASURED THROUGH THE YIELD LINE.
- PROVIDE 6' MINIMUM UNOBSTRUCTED HORIZONTAL CLEARANCE FROM THE VERTICAL CURB TO THE CENTRAL ISLAND LANDSCAPING TO ALLOW FOR CIRCULATORY ROADWAY SIGHT DISTANCE, ACTUAL DISTANCE MAY BE GREATER AND SHOULD BE DETERMINED AFTER SIGHT DISTANCE CHECKS ARE COMPLETE, BUT SHALL NOT BE LESS THAN 6 FEET.
- SPLITTER ISLAND SHOULD BE A RAISED MEDIAN WITH CONCRETE HARDSCAPING (PREFERRED). SPLITTER ISLAND SHOULD EXTEND A MINIMUM OF 50' FROM THE YIELD LINE. SEE STANDARD DRAWING MM-CR-4 FOR ADDITIONAL DETAILS.
- FOR SLOPING CURB BETWEEN CIRCULATORY ROADWAY AND TRUCK APRON, SEE STANDARD DRAWING RP-R-2. FOR VERTICAL CURB BETWEEN TRUCK APRON AND CENTRAL ISLAND, SEE STANDARD DRAWING RP-VC-10.
- SIDEWALK SHALL BE WIDENED TO ACCOMMODATE BICYCLES AND PEDESTRIANS AT ROUNDABOUT (SHARED USE PATH). SEE STANDARD DRAWING MM-TS-3 FOR ADDITIONAL DETAILS.
- SEE STANDARD DRAWINGS MM-PM-1, 2 AND 3 FOR SIGNING AND PAVEMENT MARKINGS FOR SHARED USE PATHS AND **BICYCLE LANES.**
- ASSUMES APPROXIMATELY 90-DEGREE ANGLES BETWEEN ENTRIES AND NO MORE THAN FOUR ENTRIES TO THE ROUNDABOUT.

GENERAL NOTES

FOR SPECIFIC CONDITIONS NOT COVERED ON THIS SHEET, REFERENCE SHOULD BE MADE TO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS", AASHTO, 2011.

DAILY SERVICE VOLUME (WITH CAPACITY ANALYSIS) APPROXIMATELY 25,000 VEH/DAY

- REFERENCE SHOULD BE MADE TO "ROUNDABOUTS: AN INFORMATIONAL GUIDE", FHWA, 2000. REFERENCE SHOULD ALSO BE MADE TO THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011.
- THIS STANDARD DRAWING IS INTENDED TO BE USED AS GUIDANCE FOR THE DESIGN OF SINGLE LANE URBAN AND RURAL ROUNDABOUTS. FOR MULTI-LANE DESIGNS, SEE STANDARD DRAWING RD11-TS-10.
- TRUCK TURNING TEMPLATES SHOULD BE PERFORMED ON ALL TURNING MOVEMENTS WITHIN THE ROUNDABOUT. A WB-62 VEHICLE SHOULD BE USED WHERE APPROPRIATE.
- STANDARD AASHTO GUIDELINES FOR ISLAND DESIGN SHOULD BE FOLLOWED FOR SPLITTER ISLAND DESIGNS, INCLUDING LARGER NOSE RADII AT APPROACH CORNERS AND OFFSETTING CURB LINES AT THE APPROACH ENDS OF THE SPLITTER ISLAND.
- MAXIMUM LONGITUDINAL GRADE IN THE DIRECTION OF TRAVEL THROUGH THE CIRCULATORY ROADWAY SHALL BE 4 PERCENT.

- USE OF A RIGHT-TURN BYPASS LANE MAY BE WARRANTED FROM THE ROUNDABOUT TRAFFIC MODEL.
- ROUNDABOUT APPROACHES WITH SPEEDS OF 45 MPH OR GREATER ARE CONSIDERED HIGH SPEED APPROACHES. REFER TO SECTION 6.5 OF THE "ROUNDABOUTS: AN INFORMATIONAL GUIDE", FHWA, 2000 FOR ADDITIONAL INFORMATION ON DESIGN OF ROUNDABOUTS WITH HIGH SPEED APPROACHES.
- MINI ROUNDABOUTS, TRAFFIC CIRCLES, AND ROTARIES ARE NOT CONSIDERED ROUNDABOUTS AND SHOULD NOT BE DESIGNED TO THE STANDARDS ON THIS DRAWING.
- ROADWAY SHOULDERS AND BICYCLE LANE SHALL END PRIOR TO THE CIRCULATORY ROADWAY.
- (11) FOR ROUNDABOUT CONSTRUCTION DETAILS, SEE STANDARD DRAWING RP-R-2.
- OPTIONAL PEDESTRIAN RAIL SHALL NOT CAUSE A CONFLICT WITH INTERSECTION SIGHT DISTANCE.
- (13) SEE T-M-17 FOR MARKING DETAILS.

- LANDSCAPE STRIP **DEPARTURE** SIDEWALK -WIDTH **EXIT** WIDTH WIDTH PEDESTRIAN REFUGE AREA YIELD LINE **INSCRIBED CIRCLE** DIAMETER (ICD) TRUCK APRON-**EXIT RADIUS ENTRY RADIUS** ** CROSSWALK MARKINGS (G) BEGINNING OF MAY BE OMITTED AT RURAL BICYCLE LANE LOCATIONS WHERE SIDEWALK IS NOT PRESENT.

BICYCLE EXIT RAMP.

SEE STANDARD

DRAWING RP-R-2. **ENTRANCE RAMP**

SIMILAR (TYP.)

SHARED USE

CIRCULATORY

ROADWAY WIDTH

APPROACH

WIDTH

SPLITTER ISLAND

SEE DETAIL ON STD. DWG. RP-R-2.

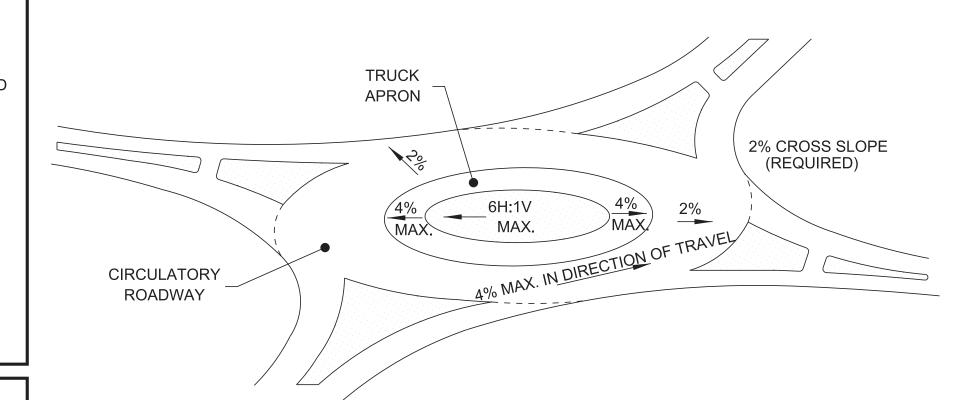
CENTRAL ISLAND

PEDESTRIAN RAIL

(OPTIONAL) (TYP)

TYPICAL PLAN VIEW OF ROUNDABOUT

SEE GENERAL NOTE (11)



CIRCULATORY ROADWAY SLOPES

TRUCK APRON CROSS SLOPE SHOULD MATCH CIRCULATORY ROADWAY CROSS SLOPE OR MAY BE INCREASED UP TO 4 PERCENT MAX.

STATE OF TENNESSEE STANDARD DRAWING **DEPARTMENT OF TRANSPORTATION**

DESIGN STANDARDS SINGLE LANE **URBAN AND RURAL** ROUNDABOUTS

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