SECTION 200

CURBS, MEDIANS &

ENTRANCE GUTTERS

	STANDARD			
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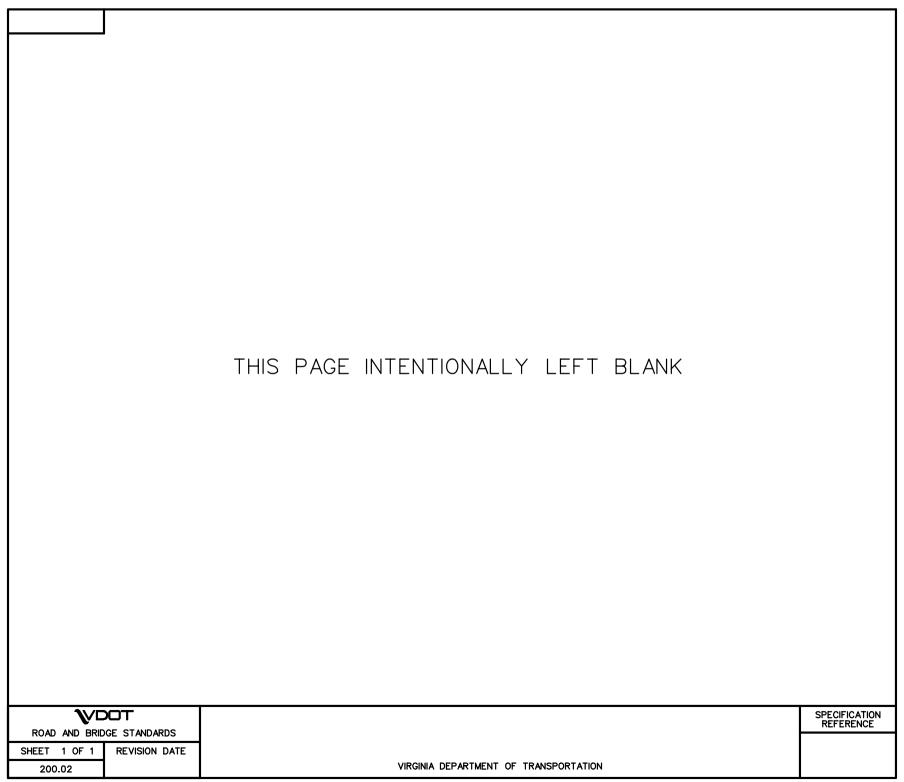
VIRGINIA DEPARTMENT OF TRANSPORTATION

ROAD AND BRIDGE STANDARDS

REVISION DATE

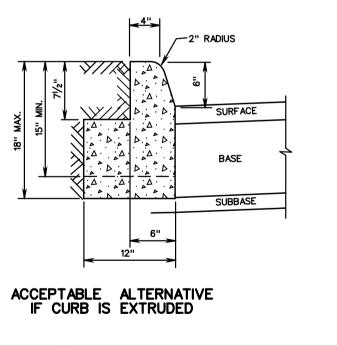
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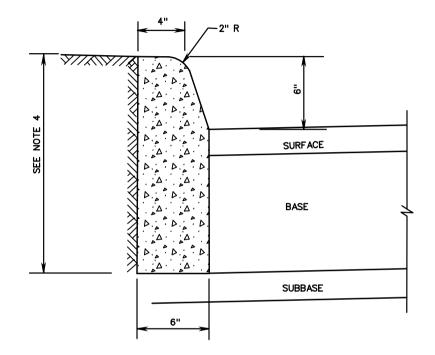
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NOTES:

- 1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
- 3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
- 4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (15" DEPTH) OR INCREASED AS MUCH AS 3" (21" DEPTH) IN ORDER THAT THE BOTTOM OF CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 18" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
- 5. CG-2 IS TO BE USED ON ROADWAYS MEETING
 THE REQUIREMENTS FOR CG-6 AS SHOWN IN
 APPENDIX A OF THE VDOT ROAD DESIGN MANUAL,
 IN THE SECTION ON GS URBAN STANDARDS.





SPECIFICATION REFERENCE STANDARI

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STANDARD 6" CURB

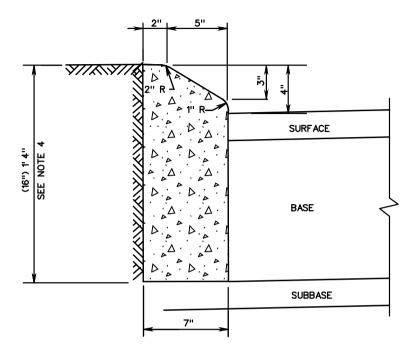
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ROAD AND BRIDGE STANDARDS

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CG-3



NOTES:

- 1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- 2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
- 3. CURB HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) WILL BE PAID FOR AS RADIAL CURB.
- 4. THE DEPTH OF CURB MAY BE REDUCED AS MUCH AS 3" (13" DEPTH) OR INCREASED AS MUCH AS 3" (19" DEPTH) IN ORDER THAT THE BOTTOM OF THE CURB WILL COINCIDE WITH THE TOP OF A COURSE OF THE PAVEMENT SUBSTRUCTURE. OTHERWISE, THE DEPTH IS TO BE 16" AS SHOWN. NO ADJUSTMENT IN THE PRICE BID IS TO BE MADE FOR A DECREASE OR AN INCREASE IN DEPTH.
- CG-3 IS TO BE USED ON ROADWAYS MEETING THE REQUIREMENTS FOR CG-7 AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL IN THE SECTION ON GS URBAN STANDARDS.
- 6. WHEN THIS STANDARD IS TO BE TIED INTO EXISTING BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10' OR THE CHANGE IN STANDARDS CAN BE MADE AT REGULAR OPENINGS.

ROAD AND BRIDGE STANDARDS

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STANDARD 4" CURB

VIRGINIA DEPARTMENT OF TRANSPORTATION

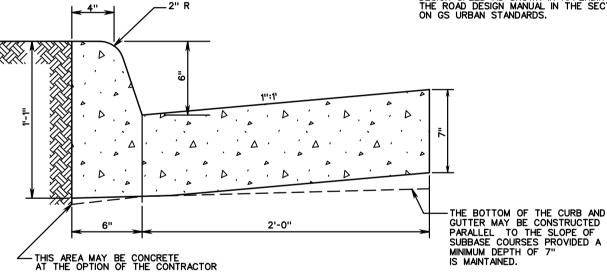
SPECIFICATION REFERENCE

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CG-6

NOTES:

- 1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- 2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
- 3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
- 4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & CUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
- 5. ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL IN THE SECTION ON GS URBAN STANDARDS.



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COMBINATION 6" CURB AND GUTTER

VIRGINIA DEPARTMENT OF TRANSPORTATION

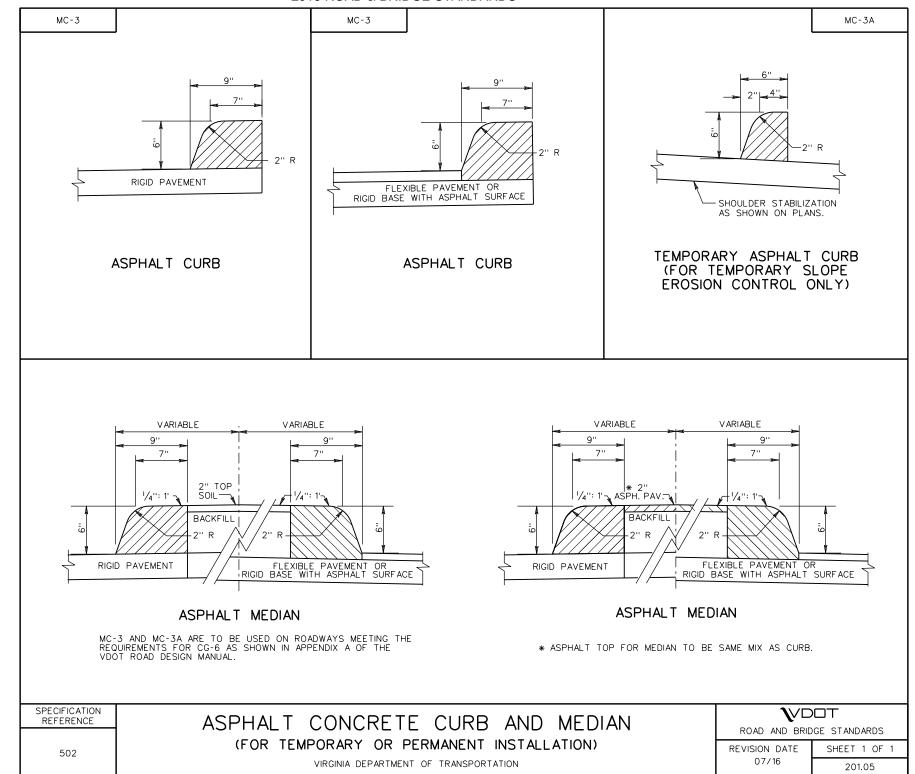
WDOT

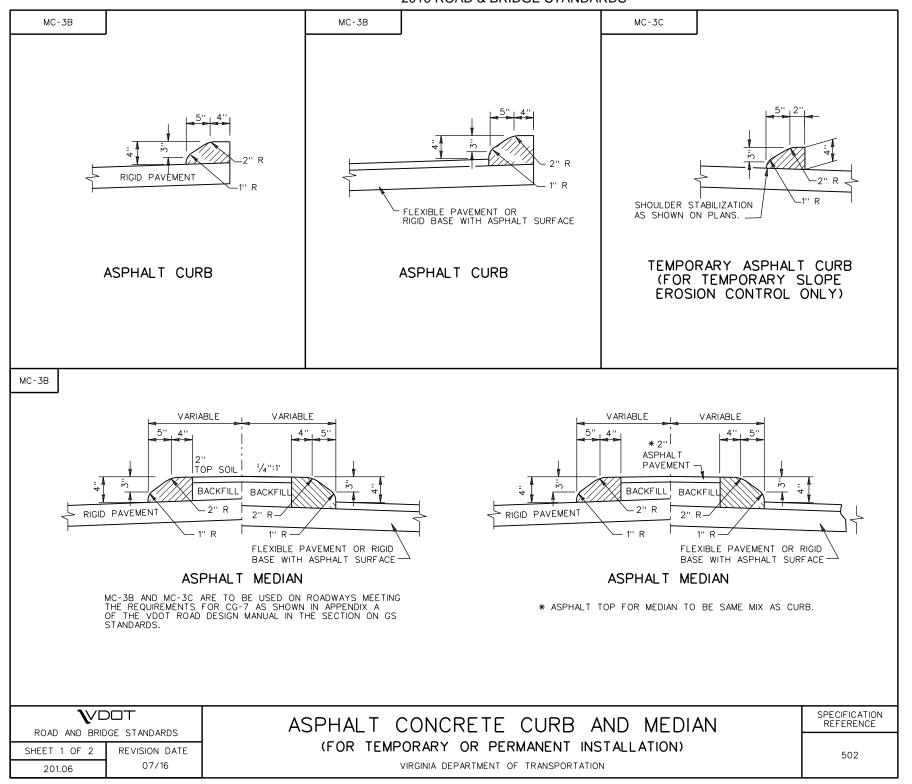
ROAD AND BRIDGE STANDARDS

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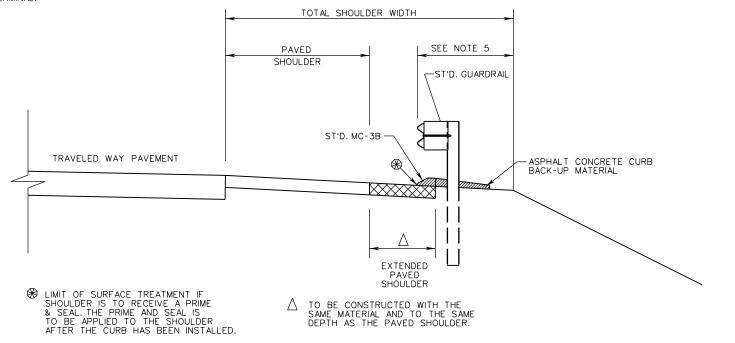
CG-7 NOTES: 1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE. 2. CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST. 3. COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & 4. FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT. 5. ALLOWABLE CRITERIA FOR THE USE OF CG-7 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE VDOT ROAD DESIGN MANUAL IN THE SECTION ON URBAN GS STANDARDS. 6. WHEN THIS STANDARD IS TO BE TIED INTO EXISTING BARRIER CURB, THE TRANSITION IS TO BE MADE WITHIN 10' OR THE CHANGE IN STANDARDS CAN BE MADE AT REGULAR OPENINGS. 7. WHEN COMBINATION MOUNTABLE CURB AND GUTTER IS USED, THE STANDARD ENTRANCE GUTTERS OR STANDARD CONNECTION FOR STREET INTERSECTIONS ARE TO HAVE THE MOUNTABLE CURB CONFIGURATION INCORPORATED. THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES PROVIDED A MIN. DEPTH OF 7" IS MAINTAINED 2'-0" THIS AREA MAY BE CONCRETE AT THE OPTION OF THE CONTRACTOR ****VDOT SPECIFICATION COMBINATION 4" CURB AND GUTTER REFERENCE ROAD AND BRIDGE STANDARDS 105 SHEET 1 OF 1 REVISION DATE VIRGINIA DEPARTMENT OF TRANSPORTATION 502 201.04





NOTES MC-3B

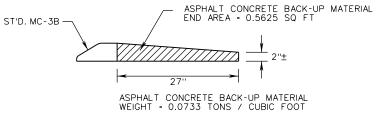
- STANDARD MC-3B REQUIRES THE PAVED SHOULDER TO EXTEND TO THE BACK OF CURB.
- PAVED SHOULDER WIDTHS TO BE IN ACCORDANCE WITH THE PLANS, VDOT POLICY, OR AS DIRECTED BY THE ENGINEER.
- THE PAVED SHOULDER AND THE EXTENDED PAVED SHOULDER SHALL BE PLACED SIMULTANEOUSLY.
- 4. FACE OF GUARDRAIL SHALL BE ALIGNED WITH FACE OF THE CURB.
- 5. DISTANCE FROM THE FACE OF RAIL TO THE HINGE POINT IN ACCORDANCE WITH THE GUARDRAIL STANDARD USED.
- MC-3B CURB NOT PERMITTED WITHIN THE LIMITS OF ANY GUARDRAIL TERMINAL.



STANDARD GUARDRAIL & MC-3B ASPHALT CURB INSTALLATION

TO CALCULATE THE ASPHALT BACKUP MATERIAL

- 1. MULTIPLY THE LENGTH OF MC-3B BY THE END AREA WHICH RESULTS IN CUBIC FEET.
- MULTIPLY CUBIC FEET BY 0.0733 TONS / CUBIC FOOT WHICH RESULTS IN TONS OF ASPHALT CONCRETE BACKUP MATERIAL.



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SPECIFICATION REFERENCE

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

ASPHALT CONCRETE CURB

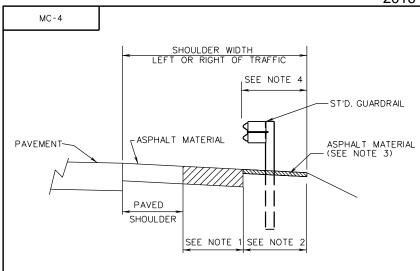
(ASPHALT BACKUP MATERIAL INSTALLATION)

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ASPHALT PAVING UNDER GUARDRAIL

(FOR USE WHERE ASPHALT CURB IS NOT REQUIRED)

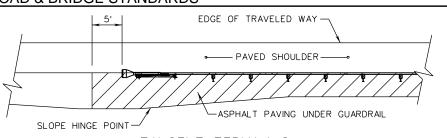
NOTES:

- CONSTRUCTED WITH THE SAME MATERIAL AND TO THE SAME DEPTH AS THE ROADWAY PAVED SHOULDER.
- CONSTRUCTED WITH THE SAME ASPHALT MATERIALS AS THE PAVED SHOULDER FROM THE FACE OF RAIL TO THE SHOULDER HINGE POINT AT FOLLOWING DEPTHS:

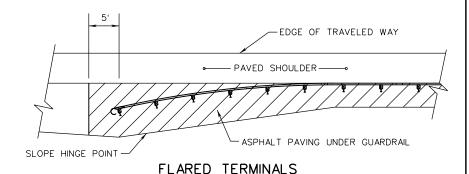
ALLOWABLE DEPTHS OF ASPHALT MATERIAL

SM-9.5A OR SM-12.5D 1.5" OR IM-19.0A OR IM-19.0D 2"

- MAXIMUM ALLOWABLE DEPTH FOR PAVING UNDER GUARDRAIL IS 2 INCHES.
- 4. DISTANCE FROM THE FACE OF RAIL TO THE HINGE POINT IN ACCORDANCE WITH THE GUARDRAIL STANDARD USED.
- 5. SEE GUARDRAIL OR GUARDRAIL TERMINAL STANDARD FOR INSTALLATION AND SITE PREPARATION REQUIREMENTS.



TANGENT TERMINALS



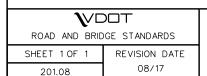
ASPHALT PAVING UNDER GUARDRAIL

PAVED SHOULDER

SLOPE HINGE POINT

BURIED IN BACKSLOPE TERMINAL

METHODS FOR BEGINNING & ENDING ASPHALT PAVING UNDER GUARDRAIL AND GUARDRAIL TERMINALS.



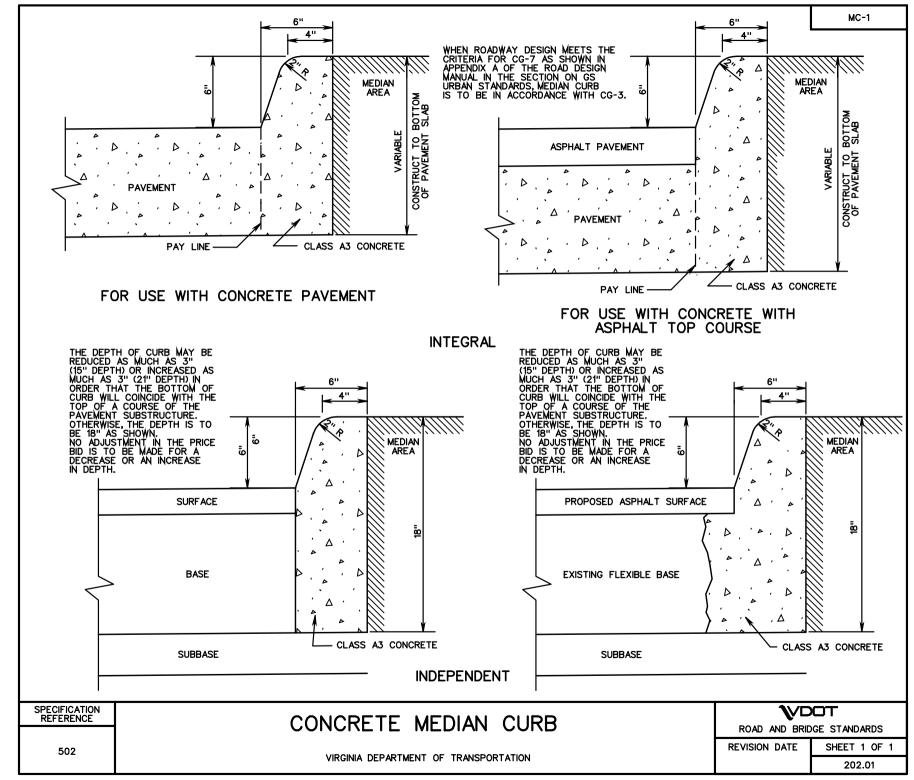
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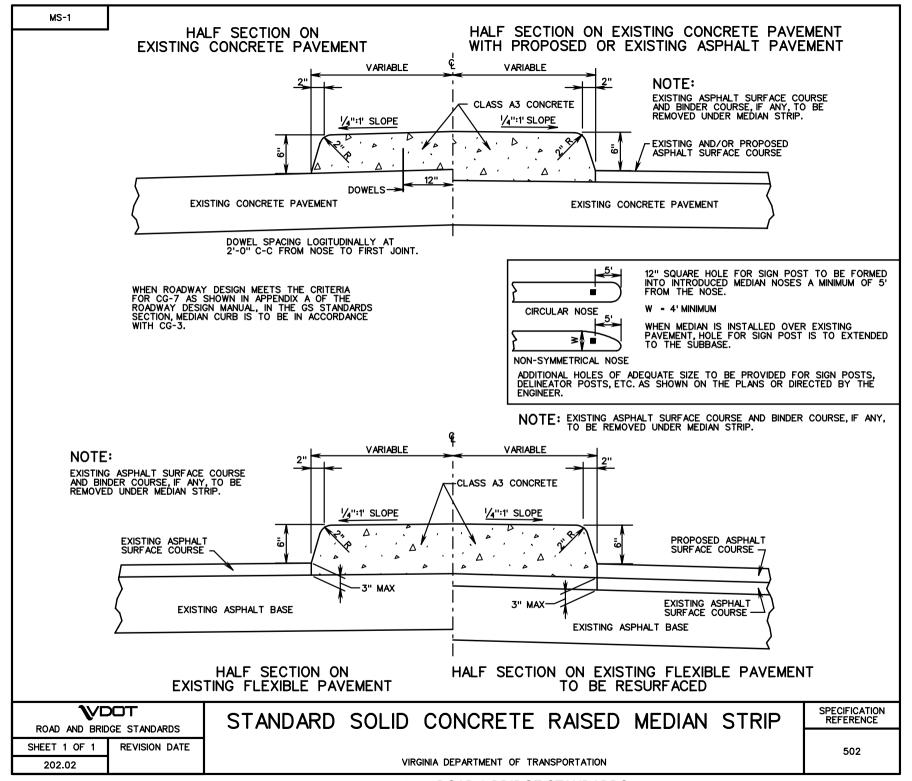
ASPHALT PAVING UNDER GUARDRAIL

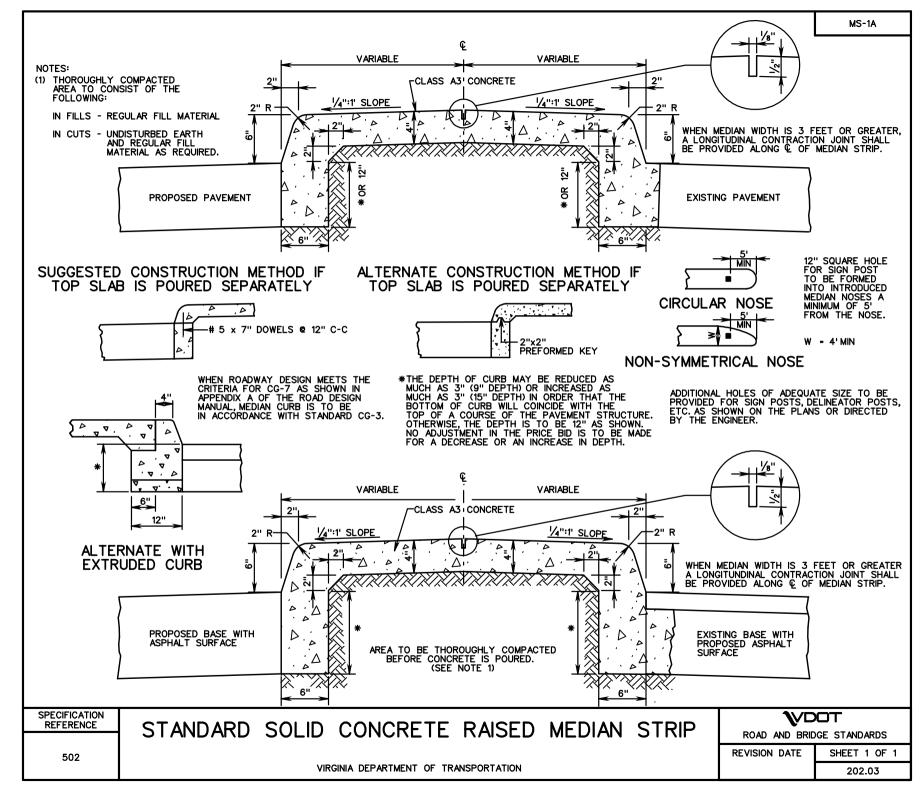
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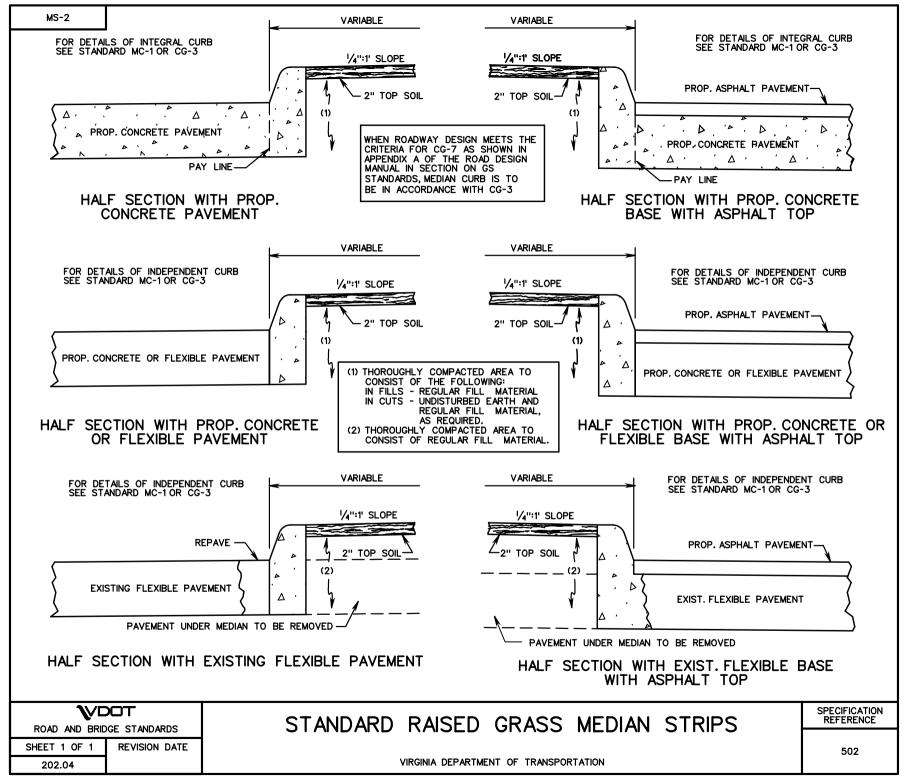
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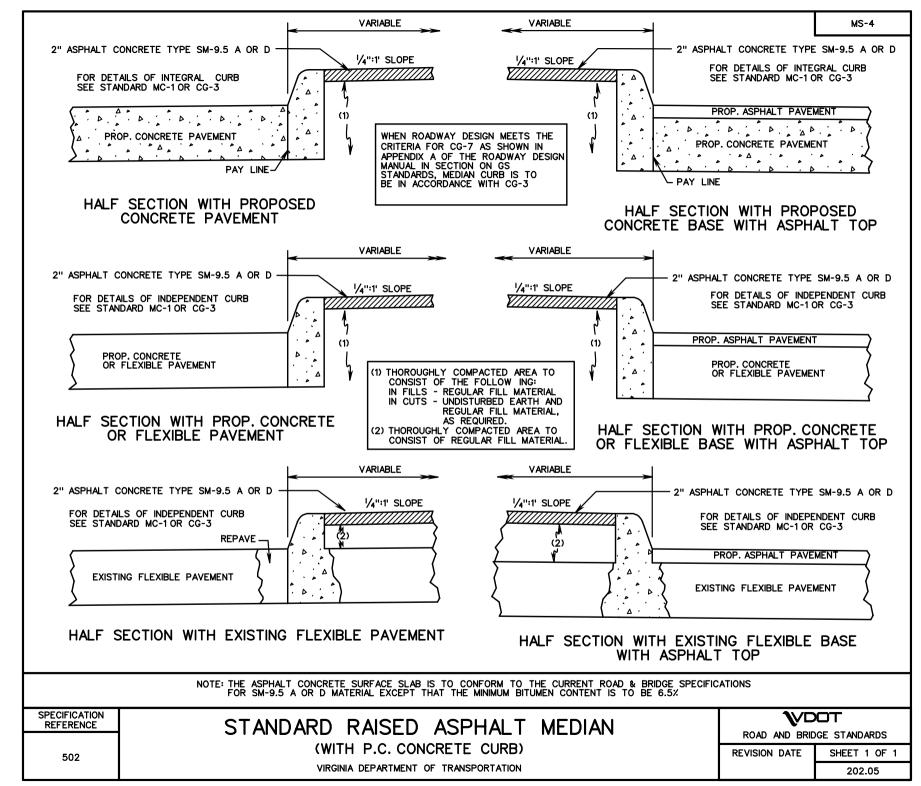
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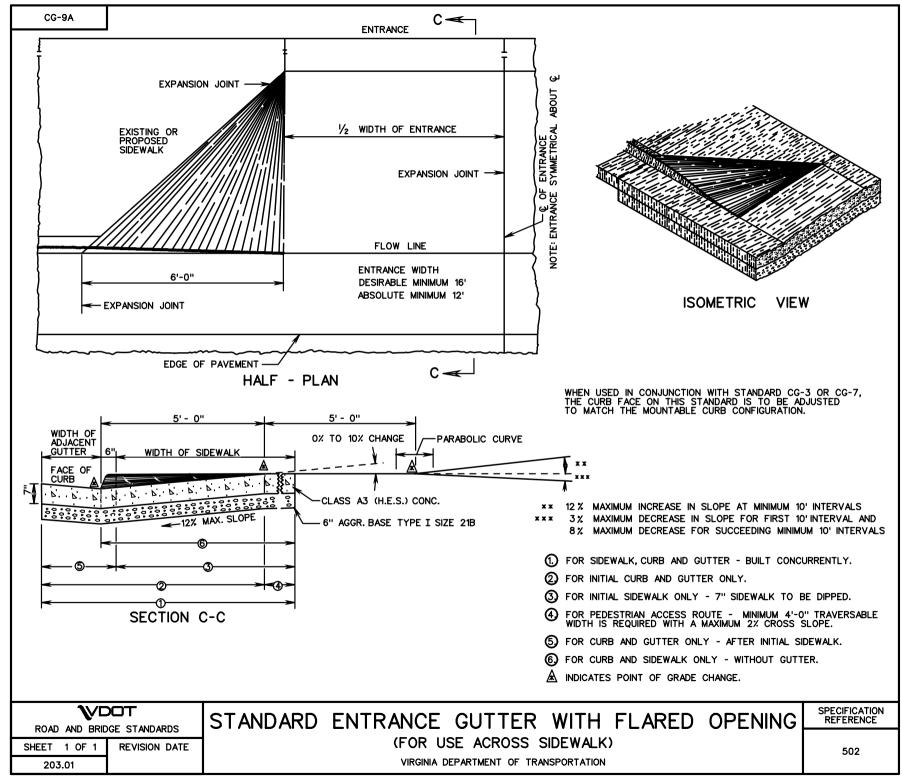


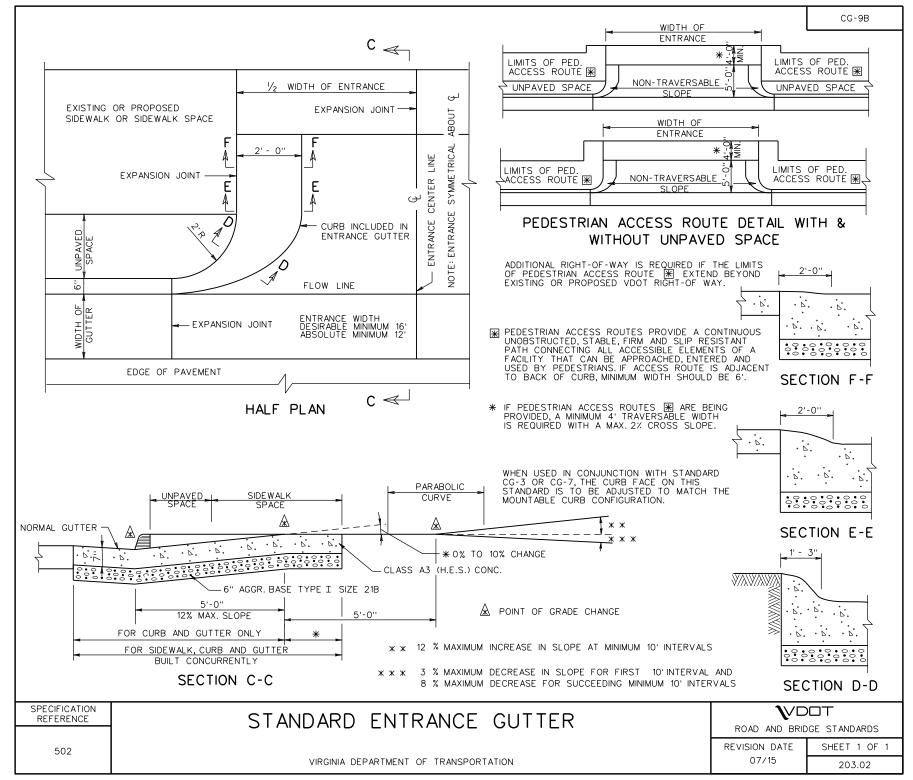


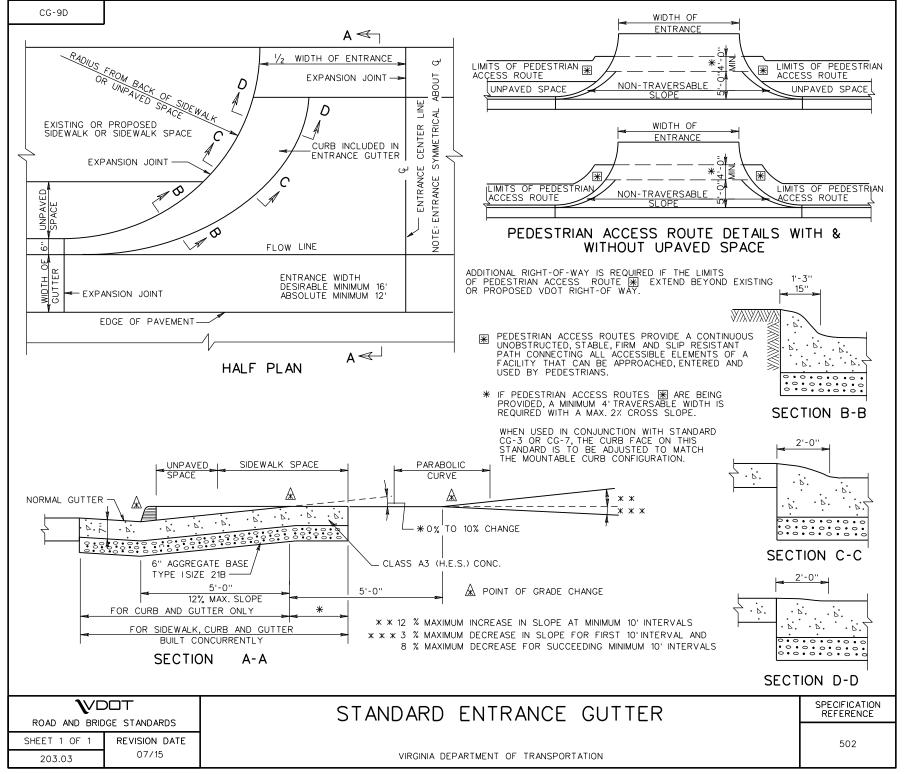


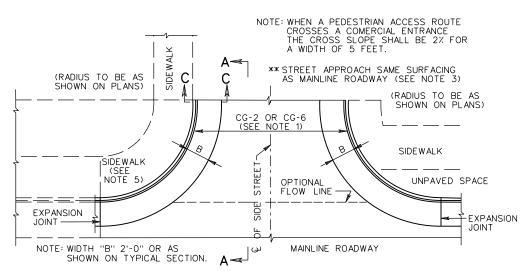




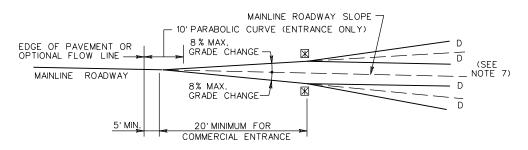






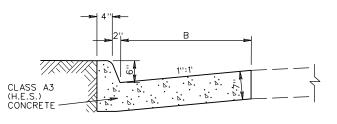


PLAN VIEW



M CONSTRUCT GRADE CHANGES WITH A PARABOLIC CURVE.

SECTION A - A



SECTION C-C

GENERAL NOTES

- WHEN USED IN CONJUNCTION WITH STANDARD CG-3 OR CG-7, THE CURB FACE ON THIS STANDARD IS TO BE ADJUSTED TO MATCH THE MOUNTABLE CURB CONFIGURATION.
- 2. SEE STANDARD CG-12 FOR CURB RAMP DESIGN TO BE USED WITH THIS STANDARD.
- 3. MAINLINE PAVEMENT SHALL BE CONSTRUCTED TO THE R/W LINE (EXCEPT ANY SUBGRADE STABILIZATION REQUIRED FOR MAINLINE PAVEMENT WHICH CAN BE OMITTED IN THE ENTRANCE.)
- 4. RADIAL CURB OR COMBINATION CURB AND GUTTER SHALL NOT BE CONSTRUCTED BEYOND THE R/W LINE EXCEPT FOR REPLACEMENT PURPOSES.

ENTRANCE NOTES

- 5. WHEN THE ENTRANCE RADII CANNOT ACCOMMODATE THE TURNING REQUIREMENTS OF ANTICIPATED HEAVY TRUCK TRAFFIC, THE DEPTH FOR SIDEWALK & CURB RAMPS WITHIN THE LIMITS OF THE RADII SHOULD BE INCREASED TO 7". (SEE CG-13)
- 6. PLANS ARE TO INDICATE WHEN CONSTRUCTION OF A FLOW LINE IS REQUIRED TO PROVIDE POSITIVE DRAINAGE ACROSS THE ENTRANCE.
- THE DESIRABLE AND MAXIMUM ENTRANCE GRADE CHANGES "D" ARE LISTED IN THE ALLOWABLE ENTRANCE GRADE TABLE. THESE VALUES ARE NOT APPLICABLE TO STREET CONNECTIONS.

INTERSECTION NOTES

- 8. WHEN CG-11 IS USED FOR STREET CONNECTIONS, THE CONNECTION MUST BE DESIGNED IN ACCORDANCE WITH AASHTO POLICY AND THE APPLICABLE REQUIREMENTS OF THE VDOT ROAD DESIGN MANUAL, INCLUDING STOPPING SIGHT DISTANCE AND K VALUE REQUIREMENTS.
- OPTIONAL FLOWLINE MAY REQUIRE WARPING OF A PORTION OF GUTTER TO PROVIDE POSITIVE DRAINAGE ACROSS THE INTERSECTION.

ALLOWABLE ENTRANCE GRADE CHANGES

E	NTRANCE VOLUME	GRADE CHANGE "D"	
		DESIRABLE	MAXIMUM
HIGH	MORE THAN 1500 VPD	0 %	3 %
MEDIUM	500-1500 VPD	≤ 3 %	6 %
LOW	LESS THAN 500 VPD	≤ 6 %	8 %

NOTE: ALLOWABLE ENTRANCE GRADE TABLE IS NOT APPLICABLE TO STREET CONNECTIONS

SPECIFICATION REFERENCE

METHOD OF TREATMENT

(CONNECTION FOR STREET INTERSECTIONS AND COMMERCIAL ENTRANCES)

VIRGINIA DEPARTMENT OF TRANSPORTATION

ROAD AND BRIDGE STANDARDS

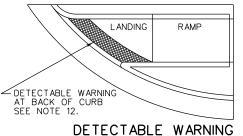
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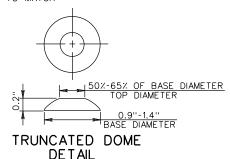
CG-12

GENERAL NOTES:

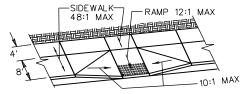
- THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
- DETECTABLE WARNING SHALL BE FROM THE MATERIALS APPROVED LIST FOR DETECTABLE WARNING SUFACES. PRODUCTS NOT LISTED SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISION FOR CG-12 DETECTABLE WARNING SURFACE AND SHALL BE SUBMITTED TO THE STANDARDS AND SPECIAL DESIGN SECTION FOR APPROVAL.
- SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
- IF RAMP FLOOR IS PRECAST, HOLES MUST BE PROVIDED FOR DOWEL BARS SO THAT ADJOINING FLARED SIDES CAN BE CAST IN PLACE AFTER PLACEMENT OF PRECAST RAMP FLOOR. PRECAST CONCRETE SHALL BE CLASS A-4.
- REQUIRED BARS ARE TO BE NO.5 X 8" PLACED 1'CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 11/2".
- CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
- CURB RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THEY ARE TO BE PROVIDED AT INTERSECTIONS WHEREVER AN ACCESSIBLE ROUTE WITHIN THE RIGHT OF WAY OF A HIGHWAY FACILITY CROSSES A CURB REGARDLESS OF WHETHER SIDEWALK IS EXISTING PROPOSED. OR NONEXISTENT. THEY MUST BE LOCATED WITHIN PEDESTRIAN CRÓSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER, AND SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. ACCESSIBLE ROUTES PROVIDE A CONTINUOUS UNOBSTRUCTED, STABLE, FIRM AND SLIP RESISTANT PATH CONNECTING ALL ACCESSIBLE ELÉMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PEDESTRIANS.
- RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
- TYPICAL CONCRETE SIDEWALK IS 4" THICK. WHEN THE ENTRANCE RADII CANNOT ACCOMMODATE THE TURNING REQUIREMENTS OF ANTICIPATED HEAVY TRUCK TRAFFIC, REFER TO STANDARD CG-13, COMMERCIAL ENTRANCE (HEAVY TRUCK TRAFFIC) FOR CONCRETE DEPTH.
- WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
- WHEN ONLY ONE CURB RAMP IS PROVIDED FOR TWO CROSSINGS (DIAGONAL), A 4'x 4'LANDING AREA SHALL BE PROVIDED TO MANEUVER A WHEELCHAIR INTO THE CROSSWALK WITHOUT GOING INTO THE TRAVELWAY. THIS 4' x 4 LANDING AREA MAY INCLUDE THE GUTTER PAN.
- ALL CASES WHERE CURB RAMPS INTERSECT A RADIAL SECTION OF CURB AT ENTRANCES OR STREET CONNECTIONS THE DETECTABLE WARNING SURFACE SHALL HAVE A FACTORY RADIUS OR BE FIELD -MODIFIED AS RECOMMENDED BY THE MANUFACTURER TO MATCH THE BACK OF CURB.



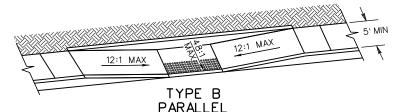
DETECTABLE WARNING INSTALLED ON A RADIUS

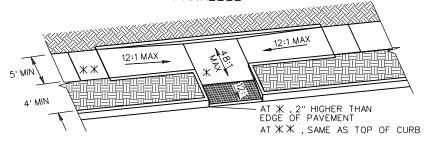


NOTE: COMPONENTS OF CURB RAMPS CONSIST OF THE FOLLOWING: HYDRAULIC CEMENT SIDEWALK (DEPTH IN INCHES, AREA IN SQUARE YARDS) CURB WHEN REQUIRED (CG-2 OR CG-3 IN LINEAR FEET)
DETECTABLE WARNING SURFACE (AREA IN SQUARE YARDS)
EACH OF THE ABOVE ITEMS IS A SEPARATE PAY ITEM AND SHOULD BE SUMMARIZED FOR EACH CURB CUT RAMP.

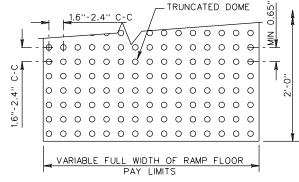


TYPE A **PERPENDICUL AR**





TYPE C PARALLEL & PERPENDICULAR



DETECTABLE WARNING DFTAIL

 \mathbb{V} DOT

ROAD AND BRIDGE STANDARDS

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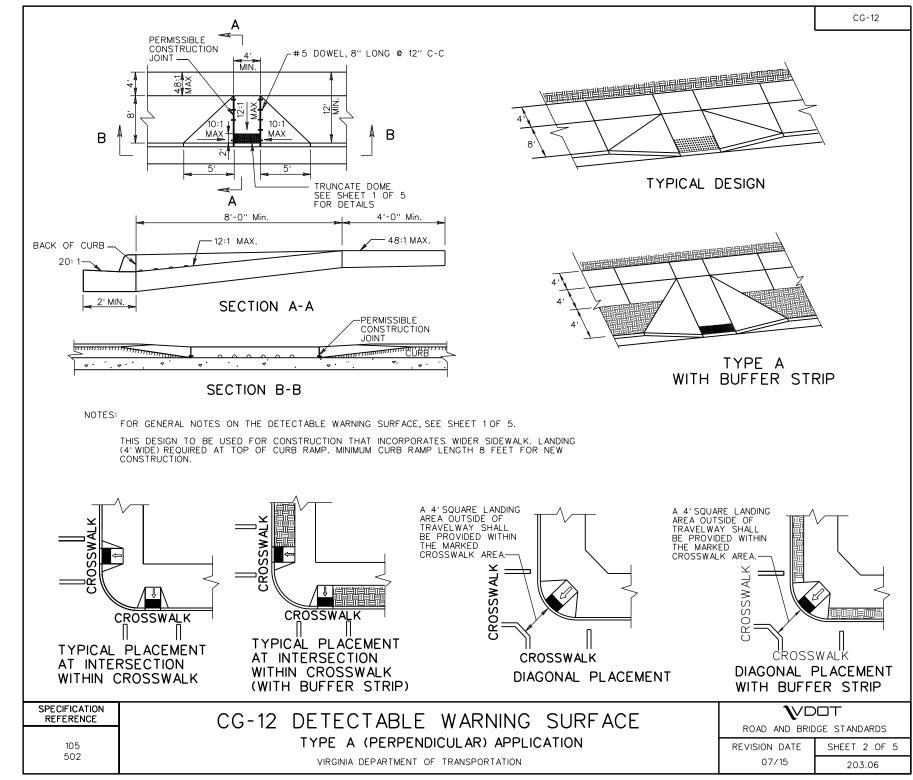
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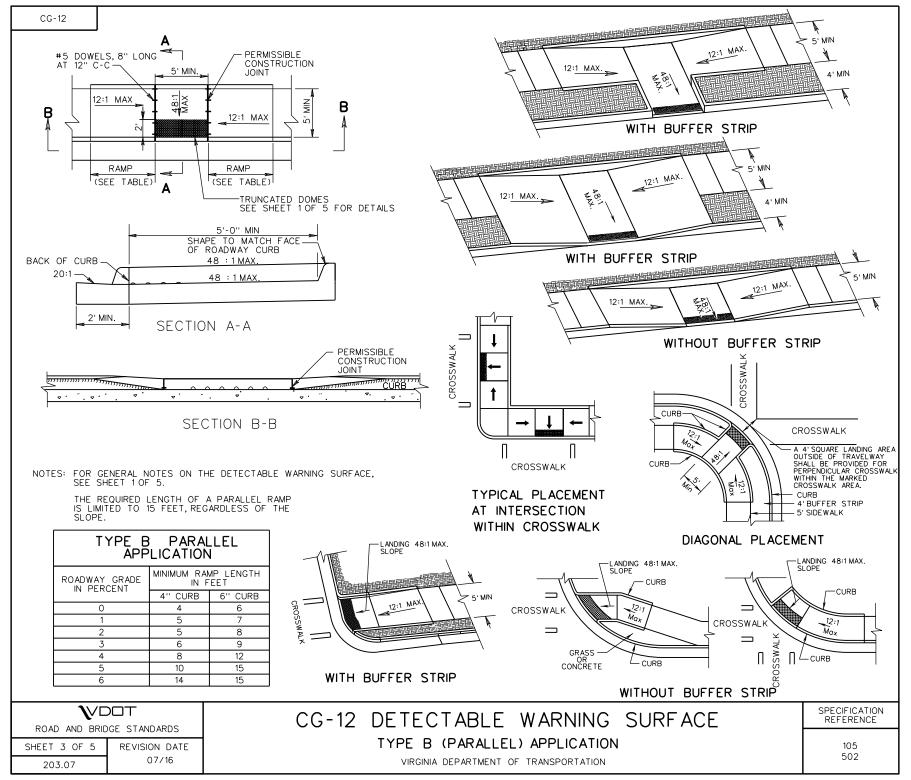
CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES)

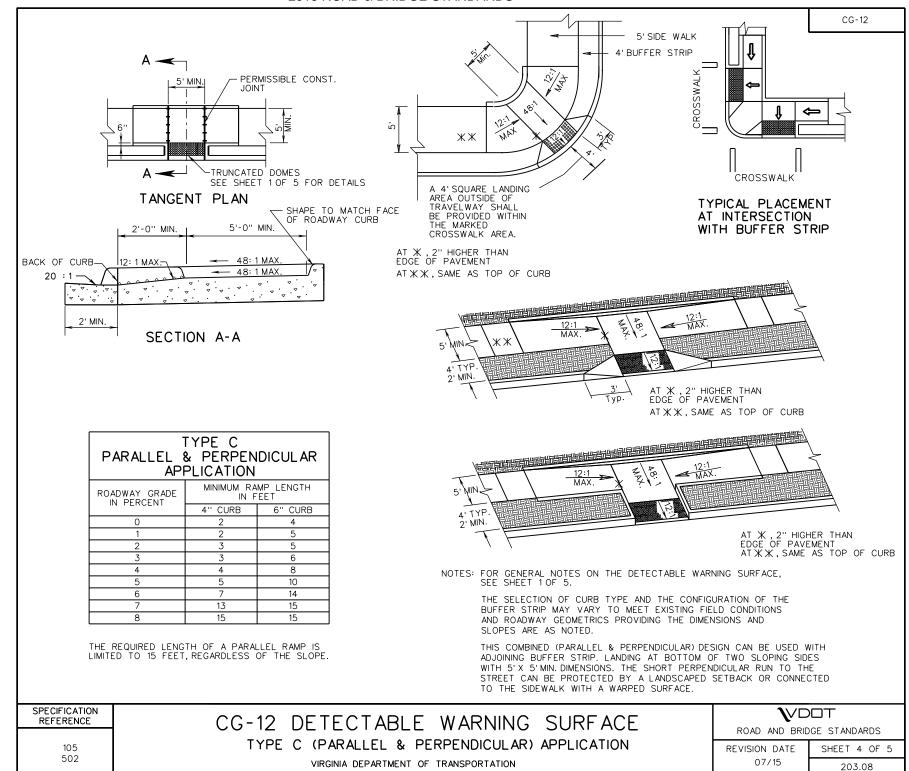
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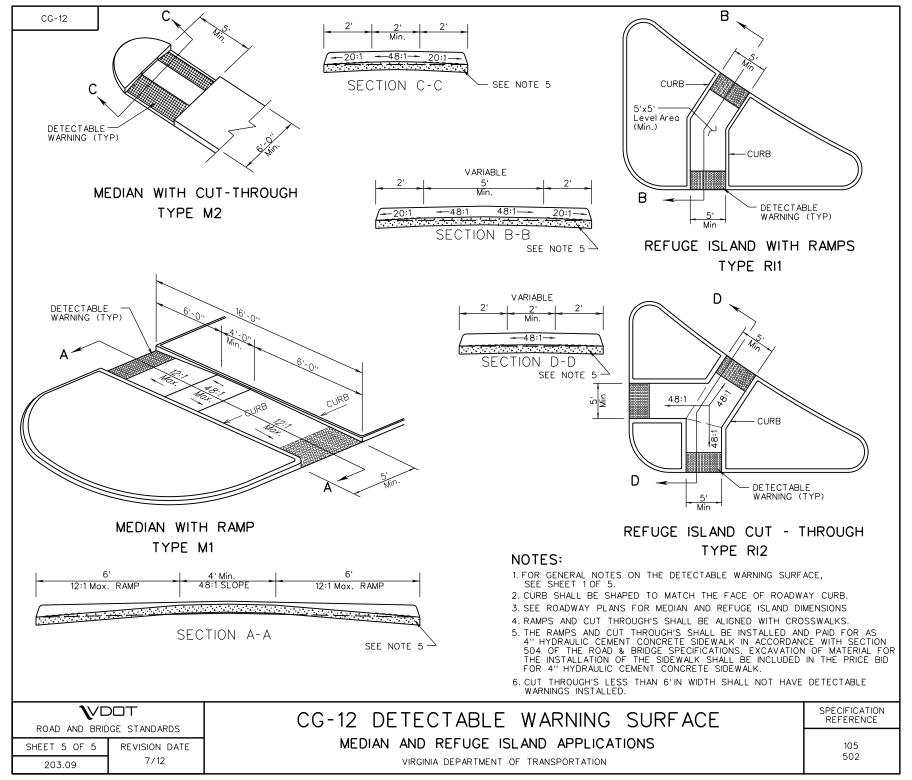
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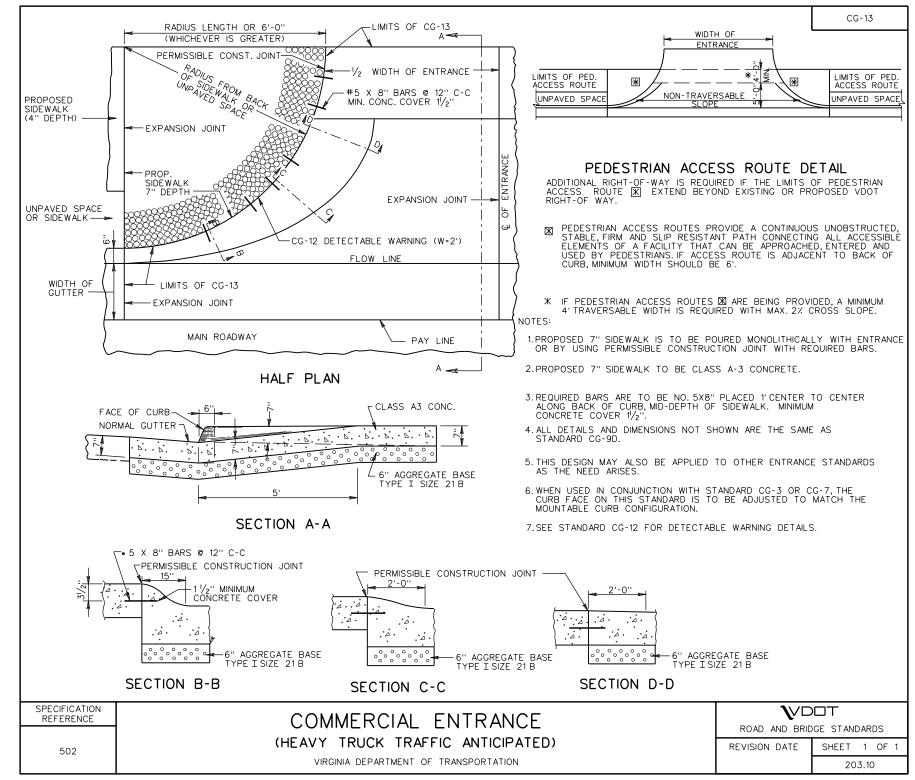
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