

TYPE 1

ELEVATION

- CONCRETE DEPRESSED

— DETECTABLE WARNING SURFACE FULL WIDTH OF RAMP

CURB ROUNDED EDGE (TYP)

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CURB RAMP-

(SEE NOTE 14)

RAMP CROSS SLOPE

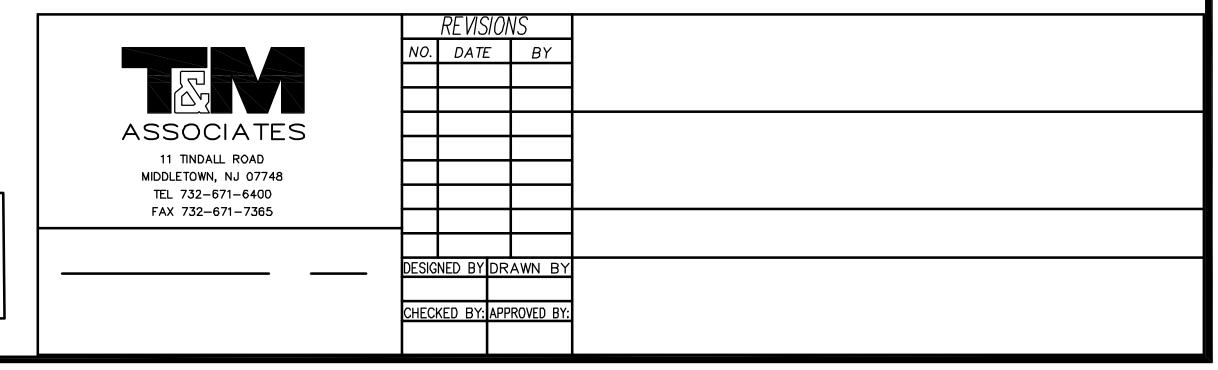
PERCENT SLOPE	EQUIVALENT SLOPE	4
10.00%	10:1 (1:10)	
8.33%	12:1 (1:12)	2
7.14%	14:1 (1:14)	
5.00%	20:1 (1:20)	
2.00%	50:1 (1:50)	
1.00%	100:1 (1:100)	

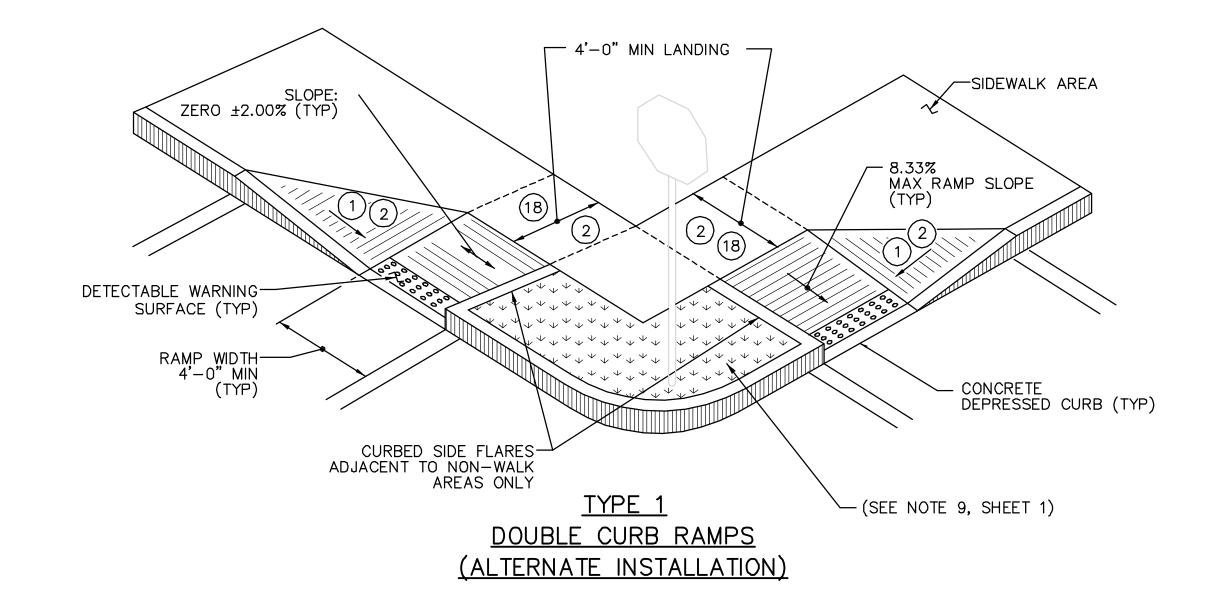
EQUIVALENT SLOPES

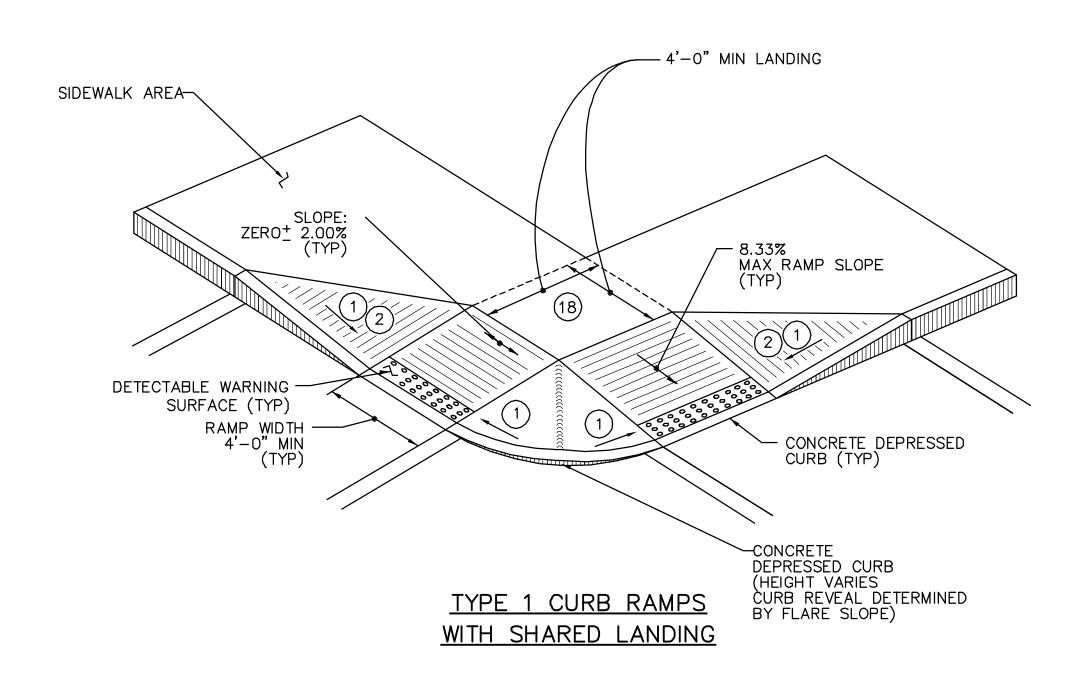
SHEET NUMBERS IN NOTES
REFER TO NUMBER DESIGNATION
OF CURB RAMP AND SIDEWALK
DETAIL SHEET

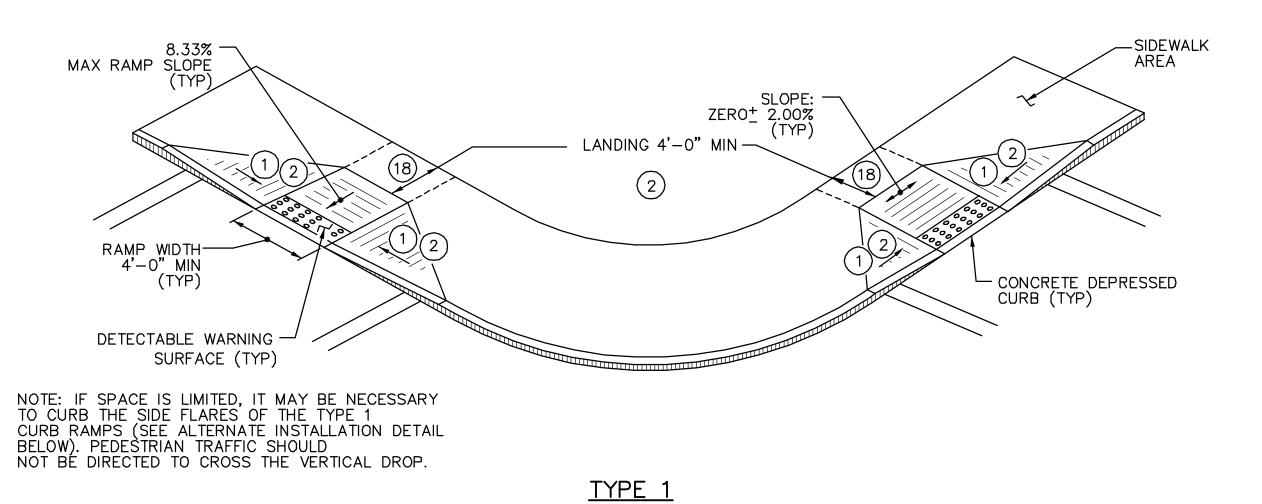
<u>NO </u>

- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF NJDOT STANDARD SPECIFICATIONS.
- 2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
- 3. CONSTRUCT CURB RAMPS WITH A MINIMUM 4'-0" X 4'-0" CLEAR SPACE BEYOND THE CURB FACE, WITHIN THE WIDTH OF THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. SEE SHEET 7 FOR CROSSWALK DETAILS.
- 4. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
- 5. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
- 6. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB HEIGHTS WHERE THE CURB DIFFERS FROM THE STANDARD 4" HEIGHT.
- 7. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
- 8. TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB, RAMP LENGTH NOT TO EXCEED 15'-0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FEASIBLE.
- 9. NON-WALK AREA IS AN OBSTRUCTED OR GRASS/NON-PAVED AREA ADJACENT TO THE PEDESTRIAN ACCESS ROUTE THAT IS NOT USED BY THE PEDESTRIAN FOR ACCESS.
- 10. THE DETAILS DEPICT PEDESTRIAN PUSHBUTTON POLES TO ILLUSTRATE THE RECOMMENDED PLACEMENT OF PEDESTRIAN PUSHBUTTONS. FOR ALTERATION PROJECTS, PROVIDE ACCESS TO EXISTING PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT FEASIBLE. INSTALL PEDESTRIAN PUSHBUTTON STUB POLES, WHERE APPLICABLE, SO AS NOT TO CREATE PEDESTRIAN OBSTRUCTIONS.
- 11. ALL DIMENSIONS ARE IN U.S. CUSTOMARY UNITS.
- 12. ALIGN DETECTABLE WARNING SURFACE TRUNCATED DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
- 13. PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT—ON—DARK OR DARK—ON—LIGHT FOR THE FULL WIDTH OF RAMP.
- 14. FOR NEW CONSTRUCTION, DO NOT EXCEED 2.00% CROSS SLOPE ON THE CURB RAMP OR PEDESTRIAN ACCESSIBLE ROUTE.
- 15. FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. SLOPES THAT EXCEED THOSE INDICATED IN THE DETAILS, OR CONTRACT DOCUMENTS AS APPLICABLE, WILL NOT BE ACCEPTED AND WILL BE RECONSTRUCTED.
- 16. CONSTRUCT SIDEWALKS AT A LONGITUDINAL SLOPE NOT TO EXCEED 5.00%.
 FOR ROADWAY PROFILE SLOPES THAT EXCEED 5.00%, CONSTRUCT PARALLEL SIDEWALKS ADJACENT TO ROADWAY AT A LONGITUDINAL SLOPE NOT TO EXCEED ROADWAY PROFILE
- 17. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE IS NOT TO EXCEED AN ALGEBRAIC DIFFERENCE OF 11.00%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, LANDING OR BLENDED TRANSITION IS NOT TO EXCEED 5.00%. SEE SHEET 8 FOR DETAILS.
- 18. THE CONSTRUCTION STANDARDS DEPICTED ARE MOST APPROPRIATE FOR NEW CONSTRUCTION.
 ALL CONSTRUCTION MUST MEET THE STANDARDS CONTAINED HEREIN UNLESS OTHERWISE
 NOTED OR DIRECTED.
- 19. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP IS NOT SOLELY DEPENDANT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 6" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 6'-0" FOR A 12:1 (1:12) SLOPE.
- 20. SIDEWALK WIDTH MAY BE REDUCED TO 4'-0", WHEN PASSING AREAS 5'-0" X 5'-0" ARE PROVIDED EVERY 200'.
- 21. THE TRAVEL LANE IS DEFINED BY THE OUTSIDE EDGE OF THE WHITE PAVEMENT MARKING LINE. IF A WHITE PAVEMENT MARKING LINE DOES NOT EXIST, THE TRAVEL LANE IS DEFINED BY THE CONTRACT DOCUMENTS.
- 22. CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT ROADWAY. GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL LANDINGS BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.
- 23. CHEEK WALLS ARE PERMITTED WHEN ADJACENT TO NON-WALK AREAS OR ELEVATION DIFFERENCES CANNOT BE ACCOMMODATED BY FLARES OR GRADING. GRADE GRASS AREAS OR OTHER NON-WALK AREAS AT 3:1 (1:3) MAXIMUM. DO NOT INSTALL CHEEK WALLS THAT INTERSECT THE PEDESTRIAN ACCESS ROUTE.
- 24. CONSTRUCT TOP OF CONCRETE DEPRESSED CURB TO BE FLUSH WITH ADJACENT SURFACES (RAMPS, SIDEWALKS, FLARES).
- 25. FOR CURB RAMPS THAT LEAD TO A SINGLE CROSSWALK, THE RAMP (EXCLUDING FLARES) TO BE FULLY INSIDE OF MARKED CROSSWALK LINES. SEE SHEET 7 FOR DETAILS.
- 26. A 4'-0" MAXIMUM DIGITAL DISPLAY LEVEL WILL BE USED TO VERIFY THE SLOPES OF CURB RAMPS AND SIDEWALKS.









DOUBLE CURB RAMPS
(PREFERRED INSTALLATION)

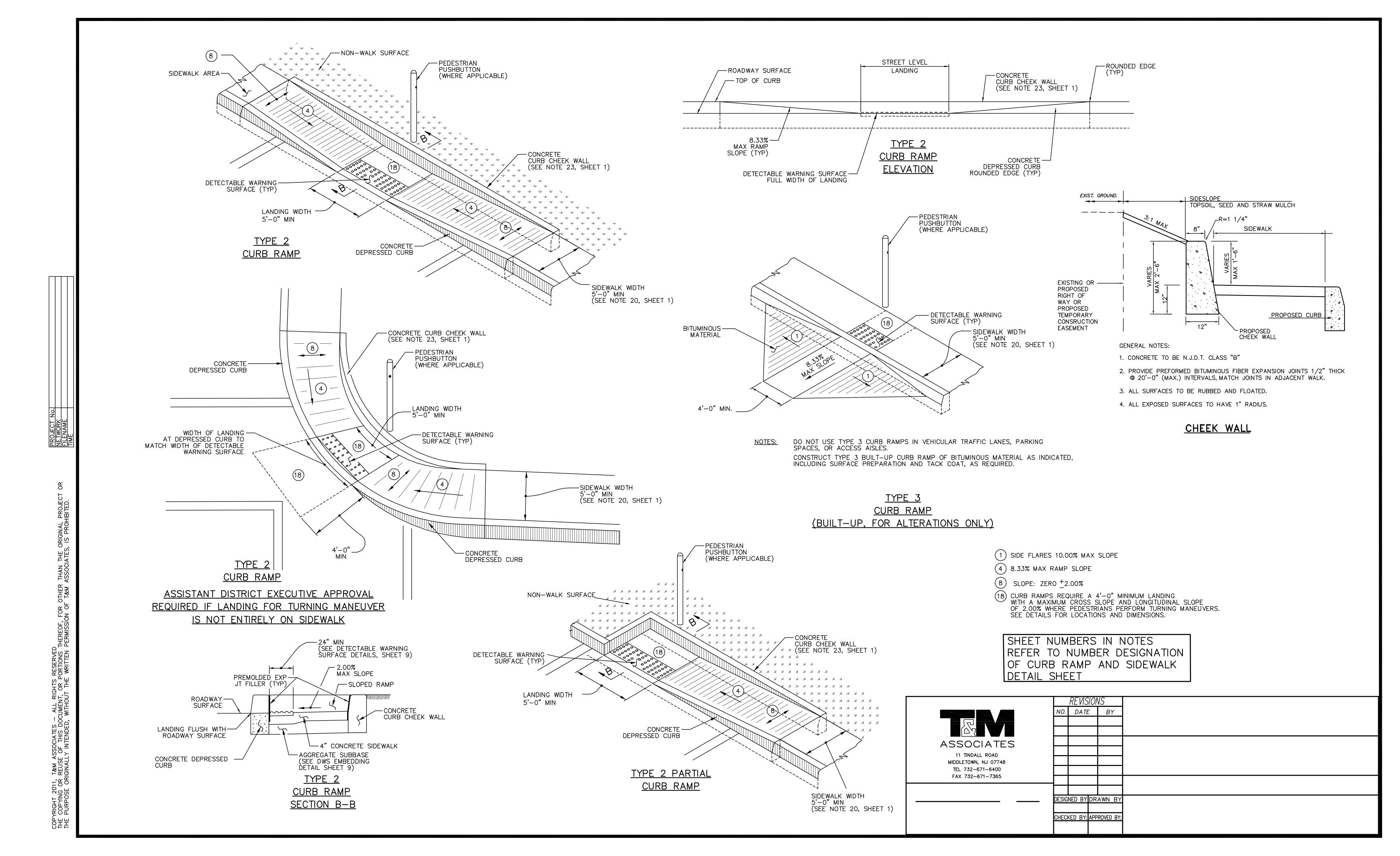
SHEET NUMBERS IN NOTES
REFER TO NUMBER DESIGNATION
OF CURB RAMP AND SIDEWALK
DETAIL SHEET

(1)SIDE FLARES 10.00% MAX SLOPE

2) IF THE LANDING IS INDICATED TO BE LESS THAN 4'-0", CONSTRUCT SIDE FLARES 8.33% MAX SLOPE.

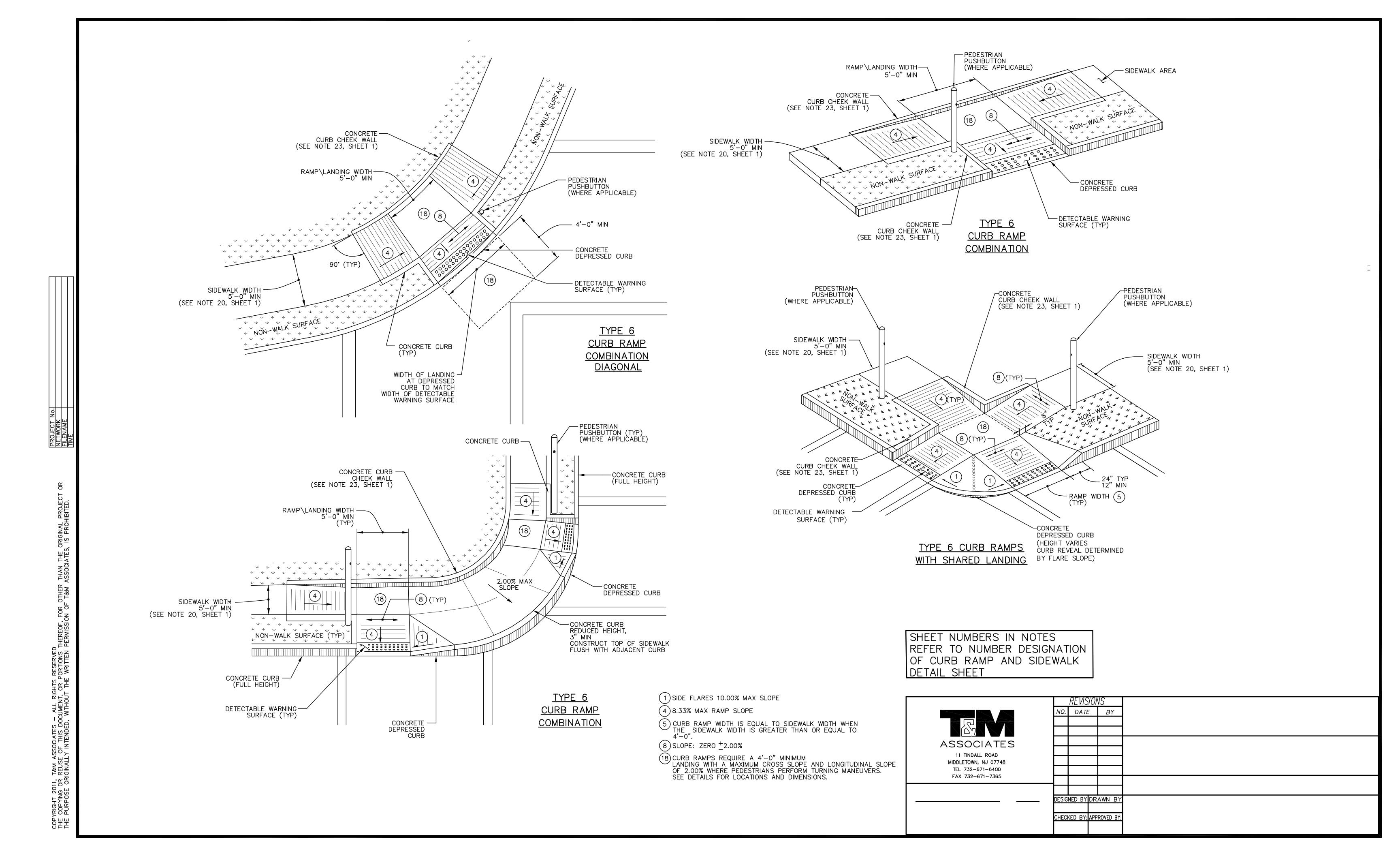
(18) CURB RAMPS REQUIRE A 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

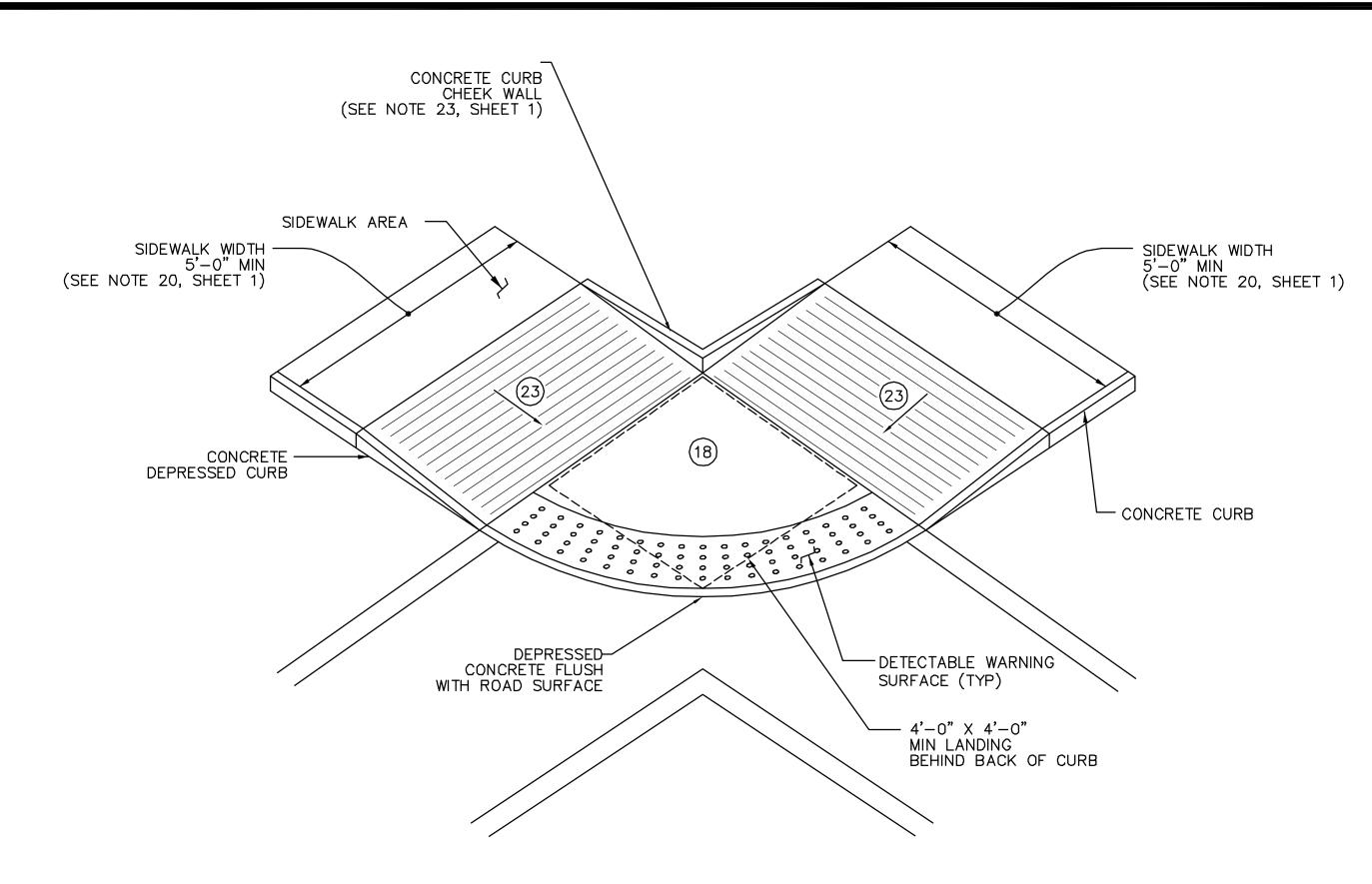
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NOTE: DO NOT INSTALL GRATINGS, ACCESS COVERS AND OTHER APPURTENANCES ON THE BLENDED TRANSITION SURFACE WITHIN THE PEDESTRIAN ACCESS ROUTE.

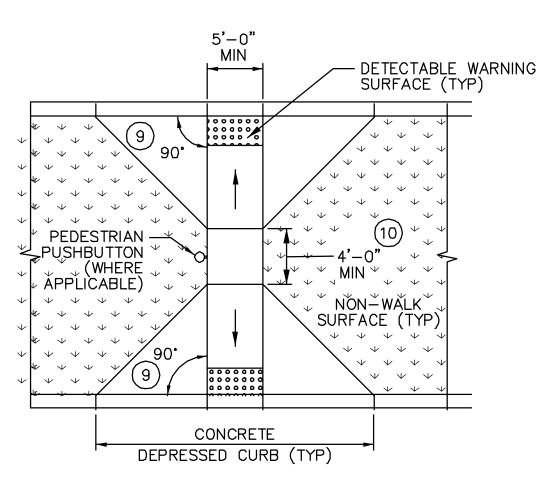
EXISTING UTILITY COVERS IN THE PATH OF TRAVEL ARE ACCEPTABLE

IF THE TOP SURFACE IS FLUSH [LESS THAN 1/4" IN ELEVATION DIFFERENCE],

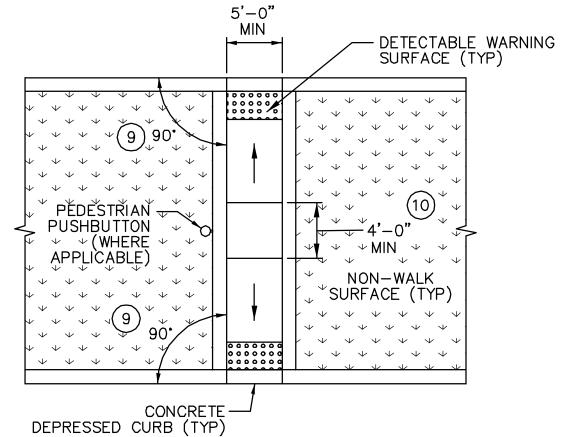
FIRM, STABLE AND SLIP RESISTANT. INLET GRATES MUST HAVE OPENINGS NO

GREATER THAN 1/2" IN DIRECTION OF TRAVEL.

BLENDED TRANSITION



RAMPED MEDIAN OR ISLAND ACCESS OPENING (TYPE 1 DOUBLE CURB RAMPS)

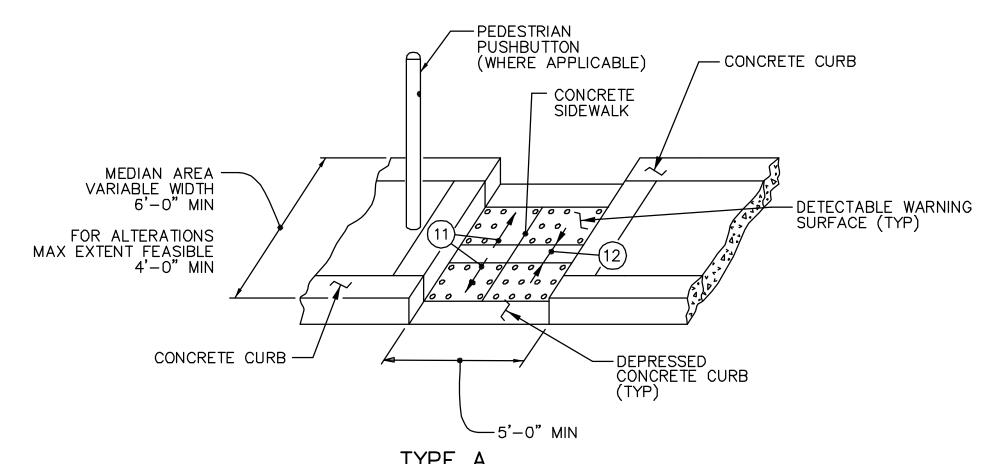


RAMPED MEDIAN OR ISLAND **ACCESS OPENING** (TYPE A DOUBLE CURB RAMPS)

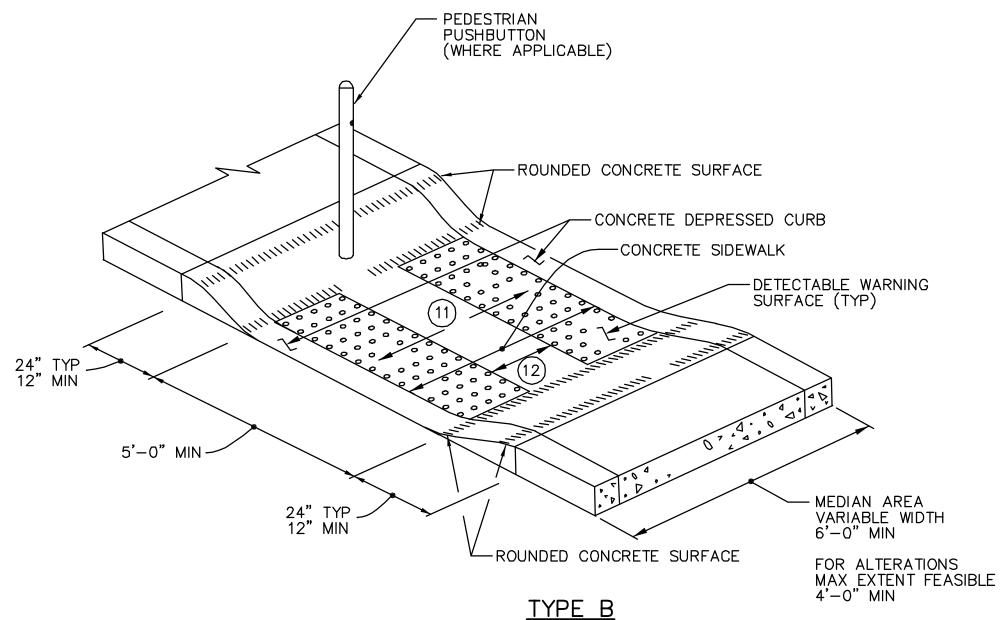
- 9 90 DESIRABLE
- 11) PROVIDE ADEQUATE SLOPE FOR DRAINAGE (5.00% MAX)
 - NO SEPARATION BETWEEN DETECTABLE WARNING SURFACES FOR MEDIANS WITH LESS THAN 4'-0" BETWEEN BACK OF CURBS.

(10) LANDINGS ARE NOT REQUIRED FOR LONGITUDINAL SLOPES 5.00% OR LESS

- CURB RAMPS REQUIRE A 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.
- 5.00% MAX RUNNING SLOPE FOR BLENDED TRANSITION. FOR SLOPES GREATER THAN 5.00% SEE TYPE 2 CURB RAMPS ON SHEET 3 FOR ADDITIONAL DETAILS.

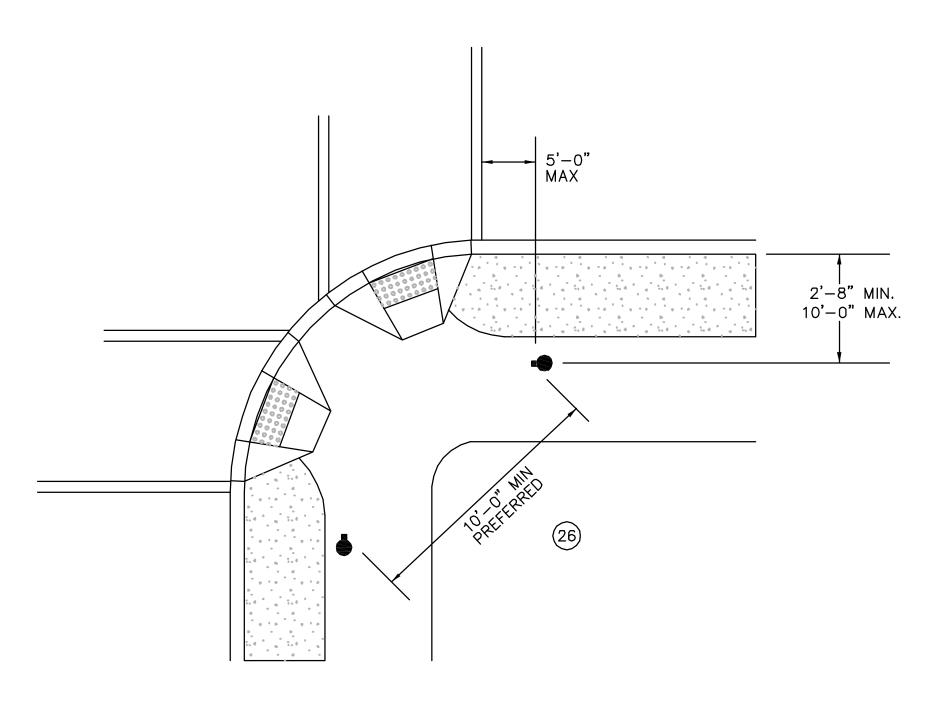


TYPE A TYPICAL MEDIAN OR ISLAND **ACCESS OPENING** WITH CURB SIDES (NARROW MEDIANS)

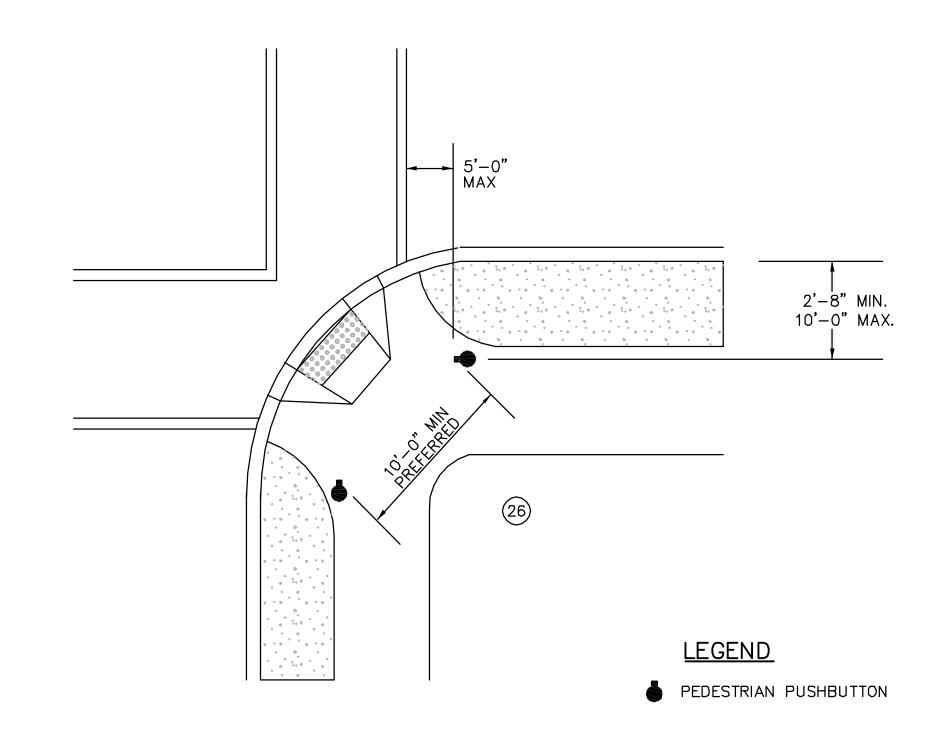


TYPICAL MEDIAN OR ISLAND **ACCESS OPENING** WITH FLARED SIDES (NARROW MEDIANS)

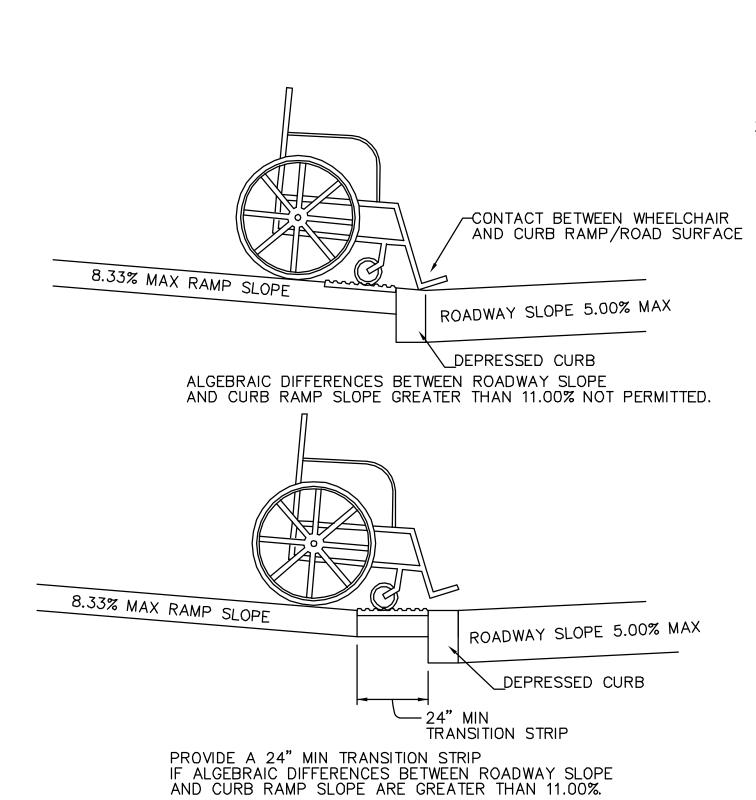
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RECOMMENDED PUSHBUTTON LOCATIONS



RECOMMENDED PUSHBUTTON LOCATIONS



TRANSITION STRIP SLOPE NOT TO EXCEED 2.00%

CHANGE OF GRADE

LIMITATIONS

PEDESTRIAN—PUSHBUTTON (WHERE APPLICABLE) - VARIABLE SIDEWALK WIDTH — 5'-0" MIN (SEE NOTE 20, SHEET 1) CONCRETE CURB (TYP) (SEE NOTE 23, SHEET 1) — SLOPE: ZERO <u>+</u>2.00% DETECTABLE WARNING-SURFACE (TYP) CONCRETE – DEPRESSED CURB GRADE BREAK 5 RAMP WIDT 5'-0" MAX — (SEE SHEET 9) TRIANGULAR LANDING— 2.00% MAX CROSS AND LONGITUDINAL SLOPE

TRIANGULAR LANDING FOR DIRECTIONAL RAMPS

ON CURB RETURNS

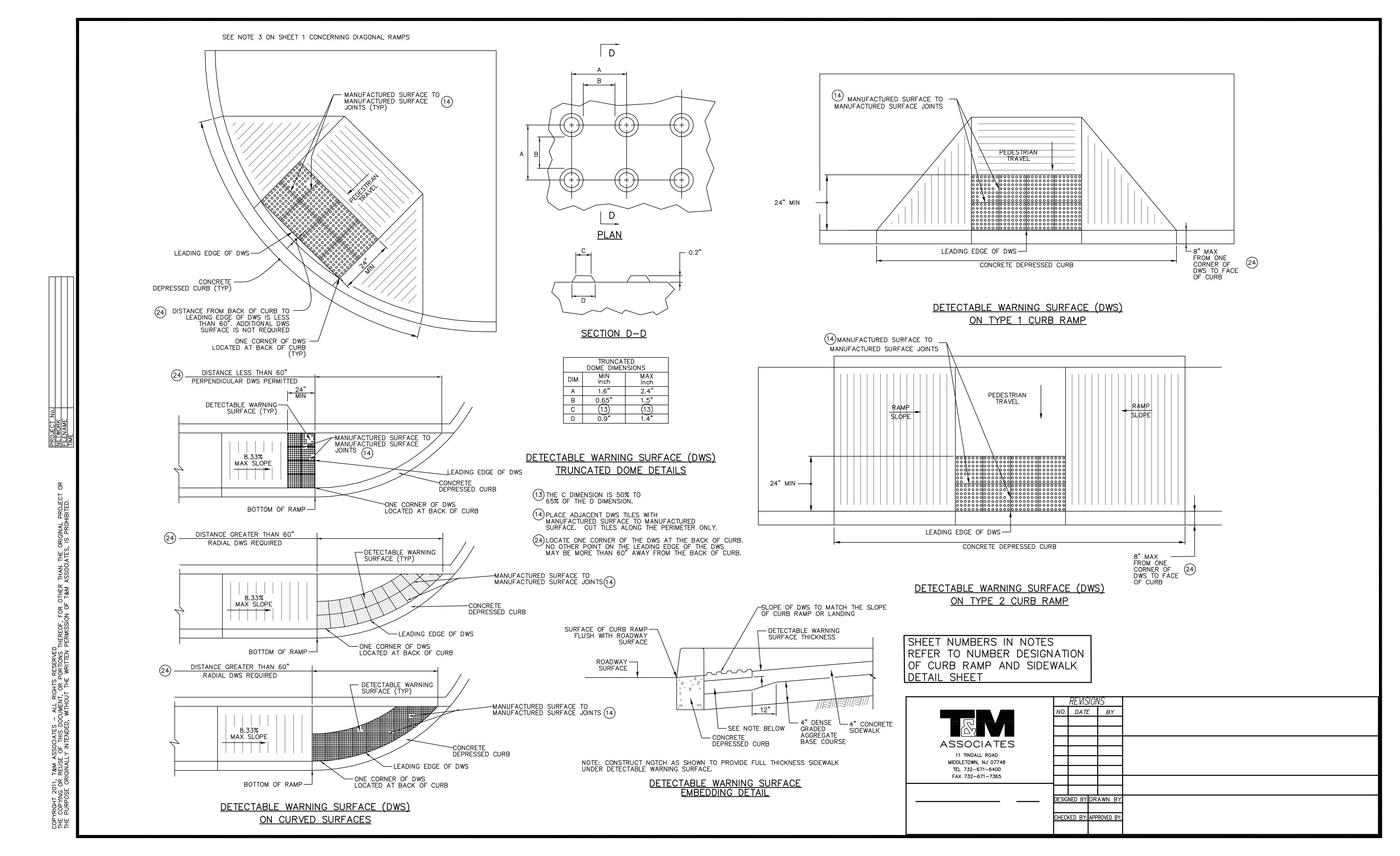
PROVIDE A LEVEL TRIANGULAR LANDING WHEN DIRECTIONAL RAMPS ARE INSTALLED ON A CURB RETURN TO TRANSITION THE GRADE BREAK.

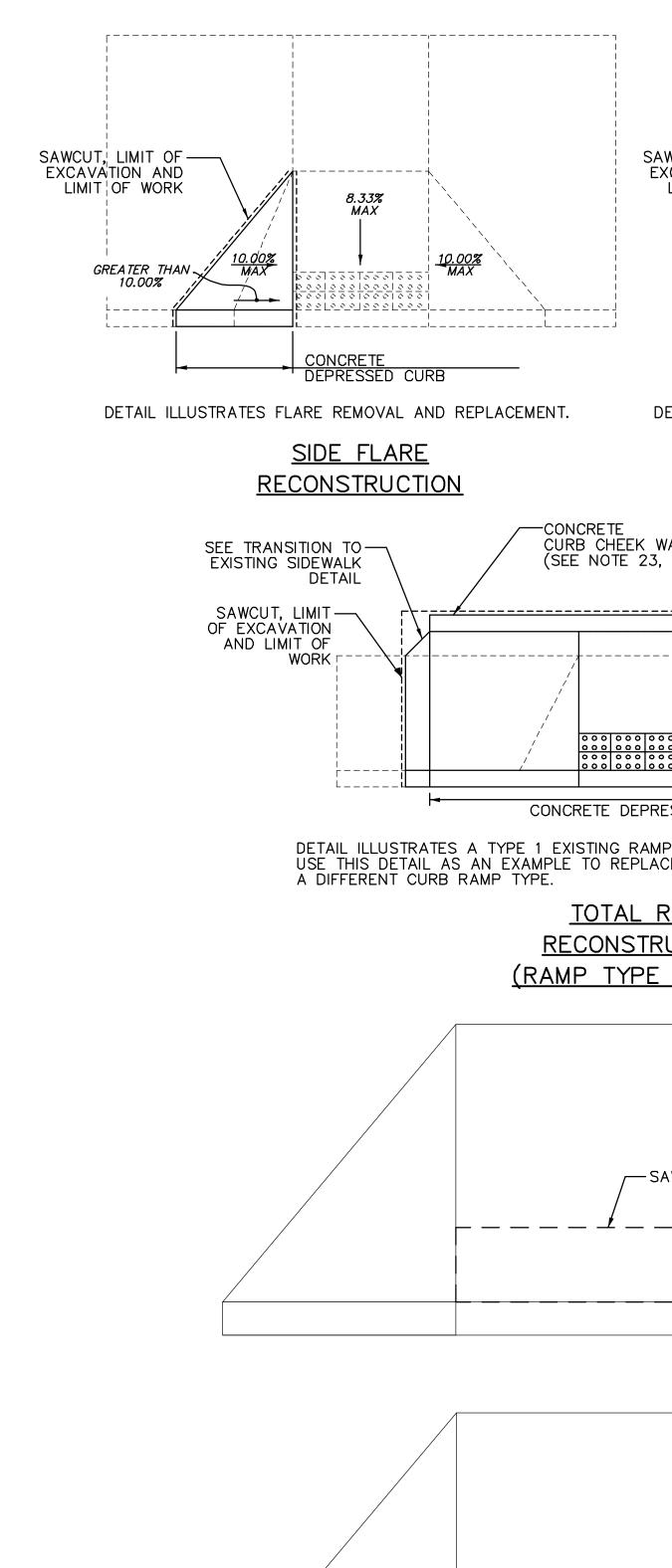
- 5 CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'-0".
- CURB RAMPS REQUIRE A 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.
- 26 LOCATE PEDESTRIAN PUSHBUTTONS AS FOLLOWS:
 - ADJACENT TO A LEVEL NON-SLIP SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS A NON-SLIP WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
 - WITHIN 5'-0" OF THE CROSSWALK EXTENDED.

- PARALLEL TO THE CROSSWALK TO BE USED.

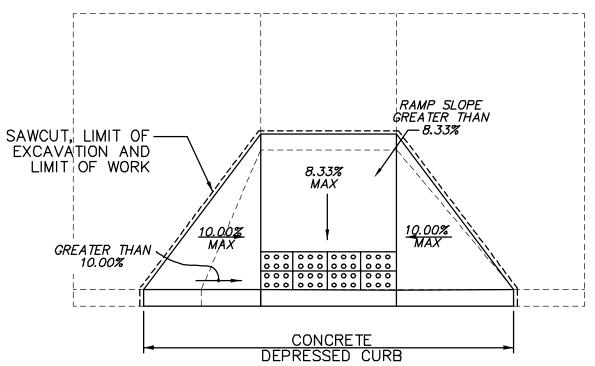
- BETWEEN 2'-8" AND 10'-0" OF THE EDGE OF CURB, SHOULDER OR PAVEMENT.

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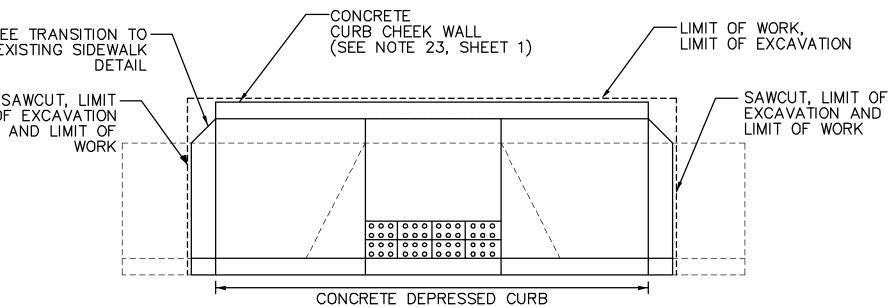


DETECTABLE WARNING SURFACE (DWS) **INSTALLATION DETAIL**



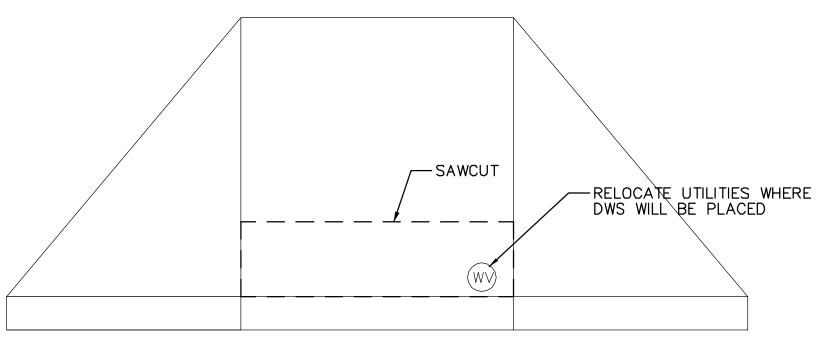
DETAIL ILLUSTRATES CURB RAMP (INCLUDING FLARES) REPLACEMENT.

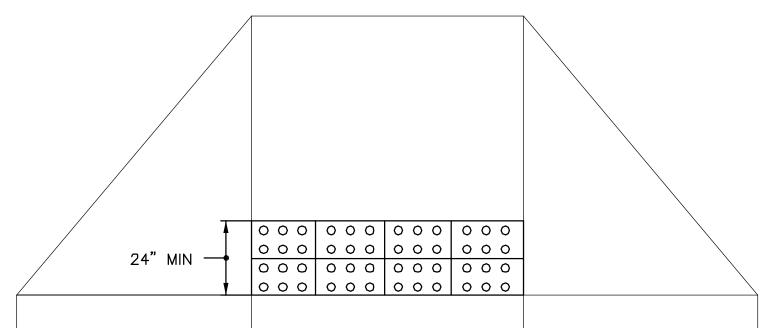
TOTAL RAMP **RECONSTRUCTION**

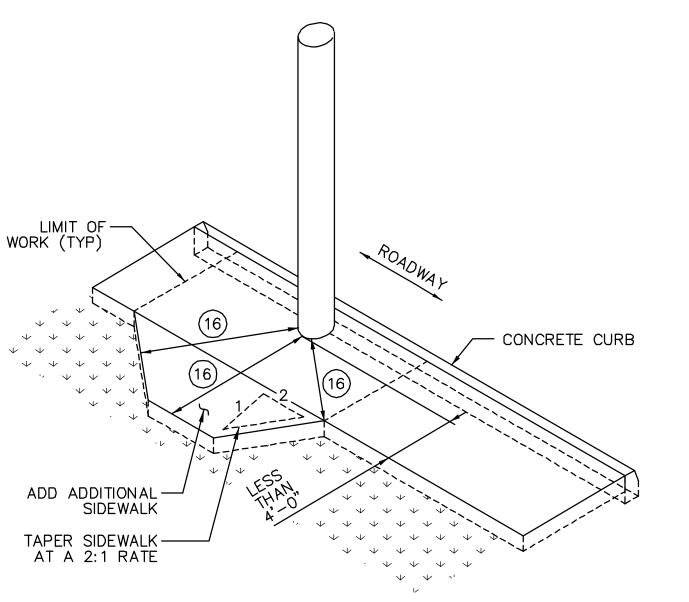


DETAIL ILLUSTRATES A TYPE 1 EXISTING RAMP REPLACED WITH A TYPE 2 RAMP. USE THIS DETAIL AS AN EXAMPLE TO REPLACE ANY RAMP WITH

TOTAL RAMP **RECONSTRUCTION** (RAMP TYPE CHANGE)







CURB RAMP

LANDING INSTALLATION

- ADD ADDITIONAL

SIDEWALK

SIDEWALK ADDITION DUE TO **OBSTRUCTIONS**

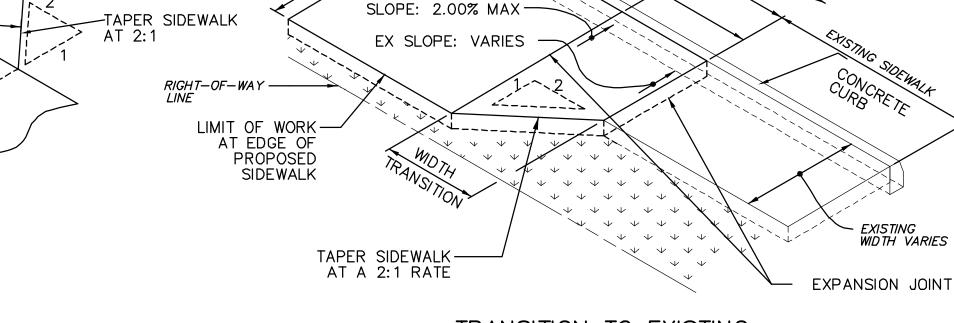
DETECTABLE WARNING SURFACE (DWS) **INSTALLATION INSTRUCTIONS**

1. SAW CUT EXISTING CURB RAMP SURFACE WHERE THE DWS WILL BE PLACED.

LIMIT OF -

WORK (TYP)

- REMOVE EXISTING CONCRETE FROM THIS AREA.
- REPLACE AND COMPACT ANY DISTURBED AGGREGATE
- 4. PLACE NEW CEMENT CONCRETE AND LEVEL TO A 4 INCH DEPTH SO THAT THE TOP OF THE CONCRETE IS LOWER THAN THE ADJOINING SIDEWALK, EQUIVALENT TO THE EMBEDDING DEPTH OF THE DWS MATERIAL.
- 5. LAY OUT AND PROPERLY FIT EACH UNIT PRIOR TO SETTING IN WET CONCRETE.
- 6. CUT UNITS AS NECESSARY ALONG PERIMETER OF DETECTABLE WARNING SURFACE.
- 7. PLACE UNITS ACROSS THE ENTIRE WIDTH OF THE CURB RAMP SURFACE AND/OR WHERE THE CURB IS FLUSH.
- PRESS UNITS INTO FULL CONTACT WITH THE FRESH CONCRETE.
- 9. ADJUST HEIGHT OF EACH UNIT EDGE TO BE LEVEL WITH ADJACENT RAMP SURFACES.
- 10. ONLY TRUNCATED DOMES SHOULD BE ABOVE THE ADJACENT FINISHED CONCRETE.
- 11. FILL ANY SAW CUT GAPS WITH APPROVED JOINT SEALANT MATERIAL.



SIDEWALK WIDTH -

(SEE NOTE 20, SHEET 1)

5'-0" MIN

TRANSITION TO EXISTING SIDEWALK DETAIL

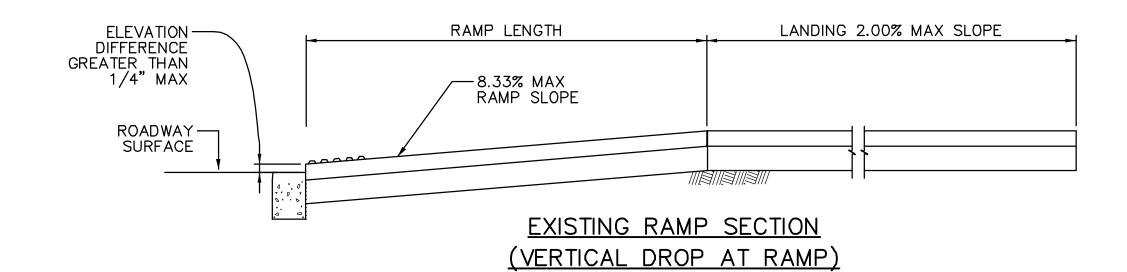
- * MINIMUM SLOPE TRANSITION LENGTH BASED ON THE DIFFERENCE OF PROPOSED SIDEWALK CROSS SLOPE AND EXISTING SIDEWALK CROSS SLOPE AT THE LOCATION OF TIE IN. THIS MINIMUM LENGTH TO BE DETERMINED BY THE FOLLOWING FORMULA: DELTA % SLOPE X 0.5'.
- THE MINIMUM WIDTH TRANSITION SHALL BE CALCULATED USING THE FOLLOWING FORMULA: CHANGE IN WIDTH X (2).
- DEPENDING ON WHICH IS LONGEST, EITHER THE SLOPE TRANSITION OR WIDTH TRANSITION WILL CONTROL THE LENGTH OF SIDEWALK TRANSITION.
- TRANSITION AREAS SERVE AS TEMPORARY CONNECTIONS OF THE PEDESTRIAN ACCESS ROUTE. FUTURE IMPROVEMENTS TO THE REMAINING PORTION OF EXISTING SIDEWALK SHALL INCLUDE REMOVING THE TRANSITION AREA AND CONSTRUCTING A FULLY COMPLIANT SIDEWALK.

(15) SIDE FLARES 10.00% MAX FOR RAMPS WITH LANDINGS 4'-0" OR GREATER. SIDE FLARES 8.33% MAX FOR RAMPS WITH LANDINGS LESS THAN 4'-0".

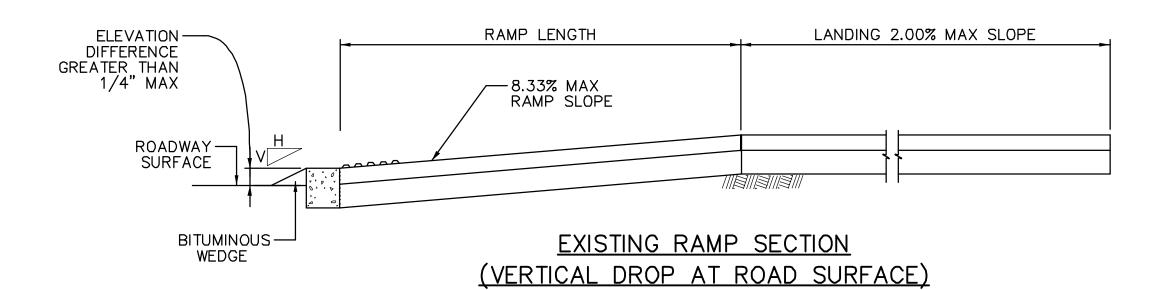
(16) 4'-0" MIN ACCESSIBLE PATH WIDTH

(18) CURB RAMPS REQUIRE A 4'-0" MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.

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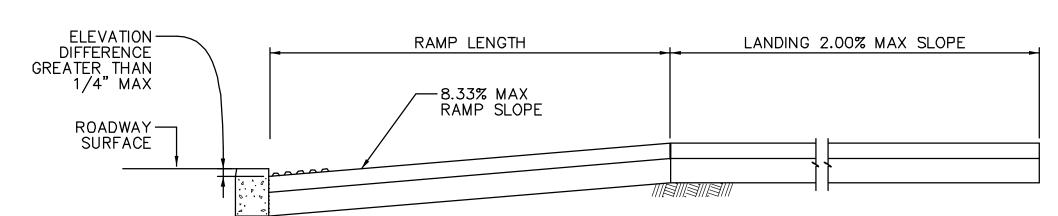
RECOMMENDED CORRECTION: RECONSTRUCT THE ENTIRE (OR PORTIONS OF) RAMP, LANDINGS AND FLARES WHERE APPLICABLE (SEE RAMP RECONSTRUCTION DETAIL ON SHEET 10)



RECOMMENDED CORRECTION:
ELEVATION DIFFERENCE GREATER THAN 1/4" AND LESS THAN OR EQUAL TO 1/2":
PLACE BITUMINOUS MATERIAL AT FACE OF CURB TO BEVEL TRANSITION
AT A 2:1 (HORZ: VERT) RATE AS SHOWN

ELEVATION DIFFERENCE GREATER THAN 1/2", USE 8.33% MAX: PLACE BITUMINOUS MATERIAL AT FACE OF CURB TO BEVEL TRANSITION AT A SLOPE EQUAL TO THE RAMP SLOPE OR LANDING SLOPE

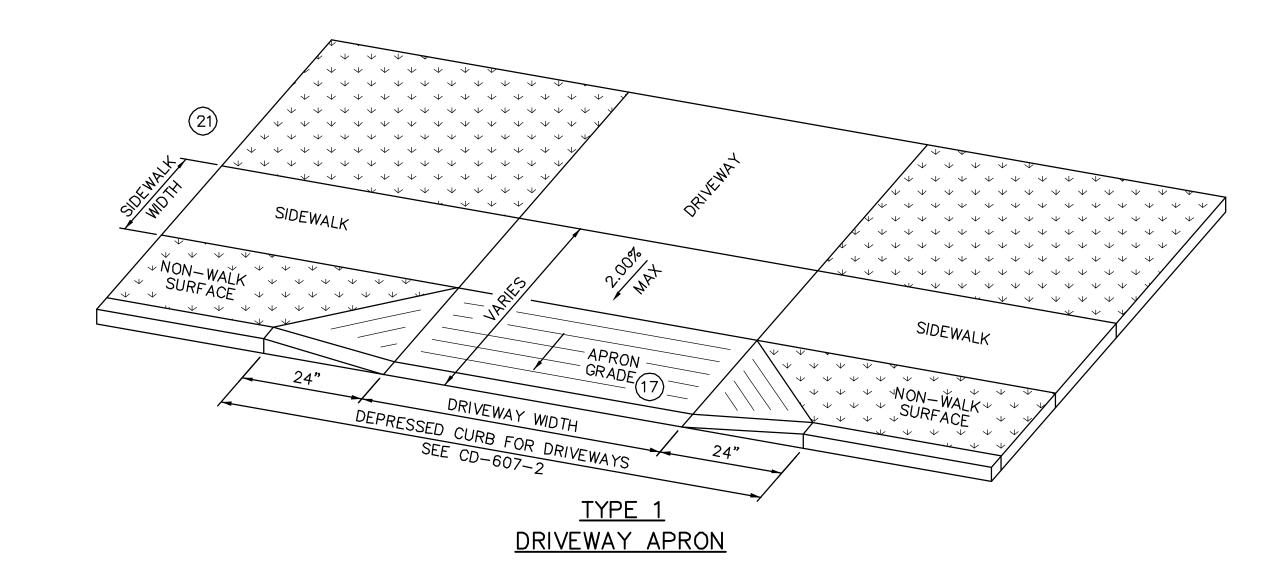
GRINDING THE CURB TO PROVIDE A MAX SLOPE OF 8.33% IS ACCEPTABLE FINISHED SURFACE MUST NOT HAVE ELEVATION DIFFERENCES GREATER THAN 1/4"

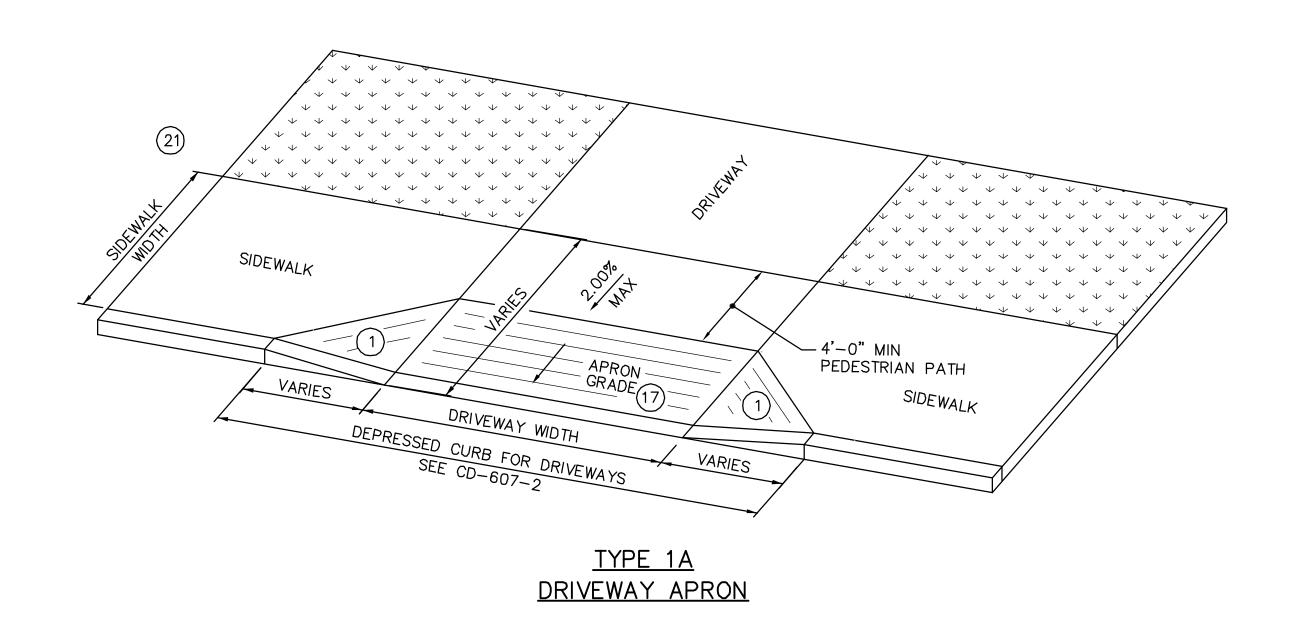


EXISTING RAMP SECTION (RAMP SETTLEMENT)

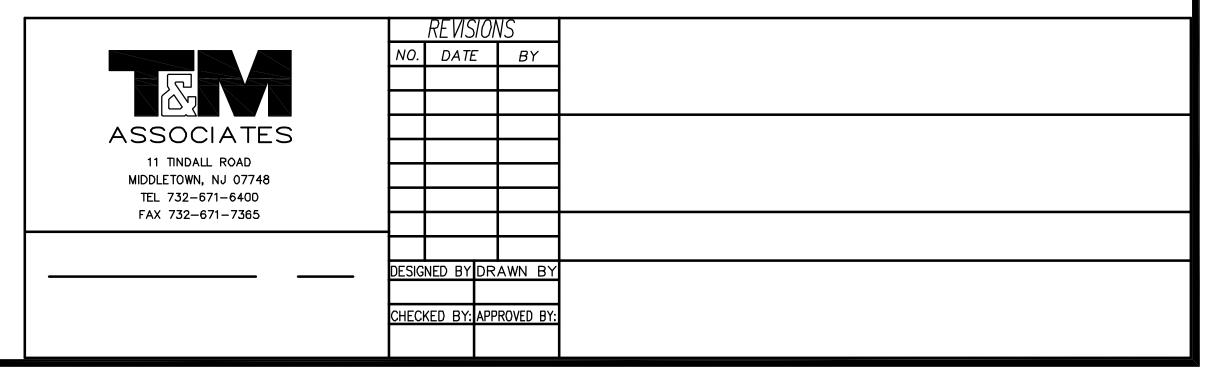
RECOMMENDED CORRECTION: RECONSTRUCT THE ENTIRE (OR PORTIONS OF) RAMP, LANDINGS AND FLARES WHERE APPLICABLE (SEE RAMP RECONSTRUCTION DETAIL ON SHEET 10)

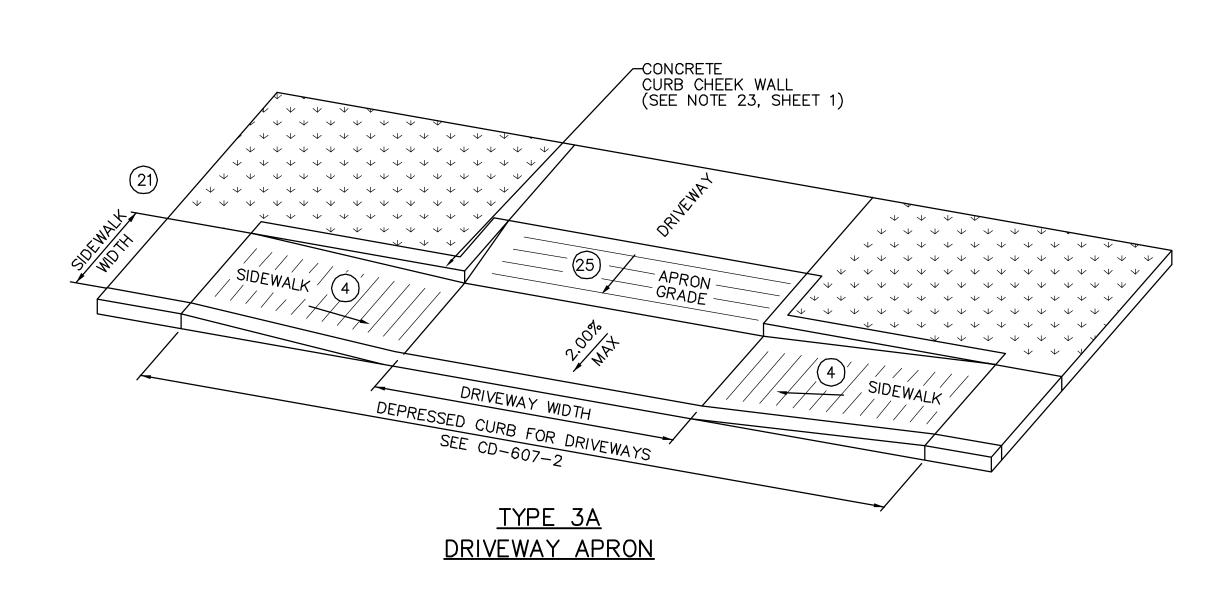
ALTERATION DETAILS

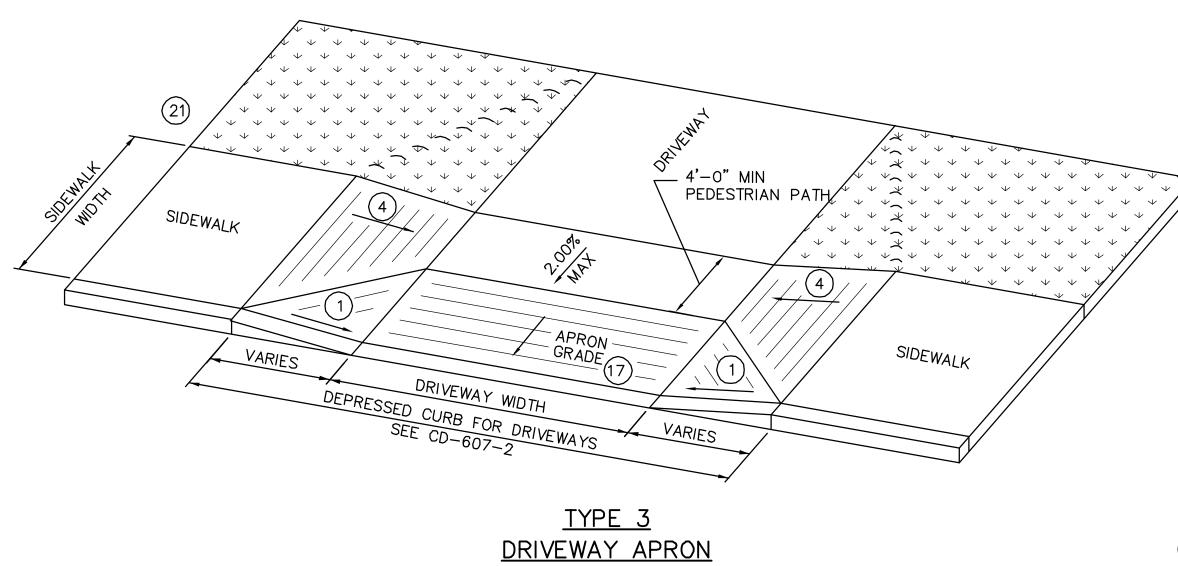




- 1) SIDE FLARES 10.00% MAX SLOPE
- 17) 8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY
- 21)MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 20, SHEET 1)







1) SIDE FLARES 10.00% MAX SLOPE

(4) 8.33% MAX RAMP SLOPE

8.00% MAX CHANGE IN GRADE BETWEEN ROAD SURFACE AND DRIVEWAY

21) MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 20, SHEET 1)

25) 12.00% MAX CHANGE IN GRADE BETWEEN DRIVEWAY SURFACE AND SIDEWALK

