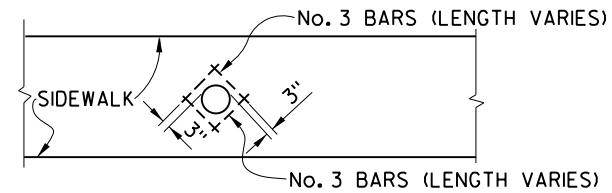
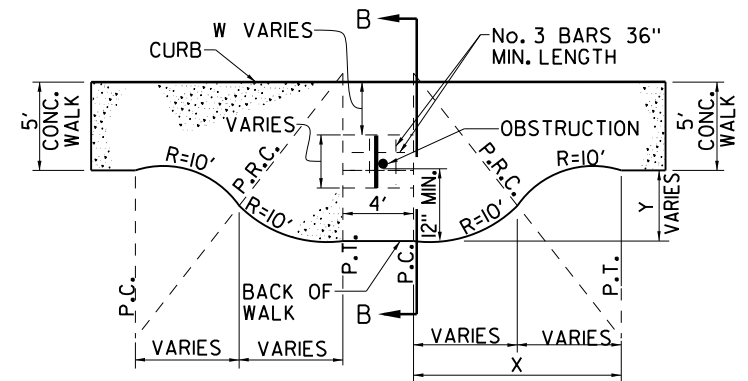


**PLAN**  
**REINFORCED CONCRETE SIDEWALK**

NOTE:  
No. 3 BARS @ 24" O.C. (E. W.) & 4 No. 3  
BARS DIAGONAL @ METER  
(IN ACCORDANCE WITH CURRENT DWU STANDARDS)



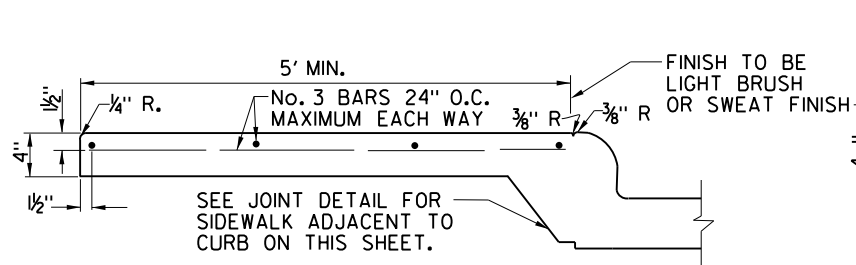
**REINFORCING DETAIL AT WATER METERS IN SIDEWALK**



\* EXPANSION MATERIAL MUST BE PLACED ADJACENT TO THE BUILDING, STRUCTURE, WALL OR POLE WHEN SIDEWALK IS POURED ADJACENT TO THESE ITEMS.

- NOTES:  
1. IF "W" > MEETS ADA NO WIDENING NECESSARY EXCEPT POSSIBLY TO OBTAIN MINIMUM DISTANCE OF 1' TO EDGE OF SIDEWALK.  
2. SAME WIDENING PLAN WILL BE USED FOR WALK NOT ABUTTING CURB.

Y=1'	X= 6.24'
Y=2'	X= 8.72'
Y=3'	X= 10.54'
Y=4'	X= 12.00'
Y=5'	X= 13.23'

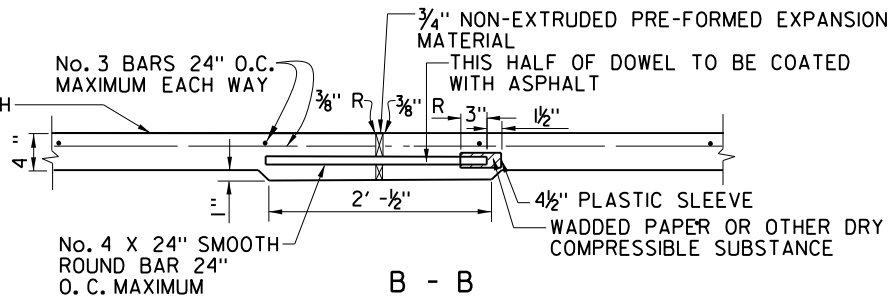


**A - A**  
**TYPICAL SECTION**

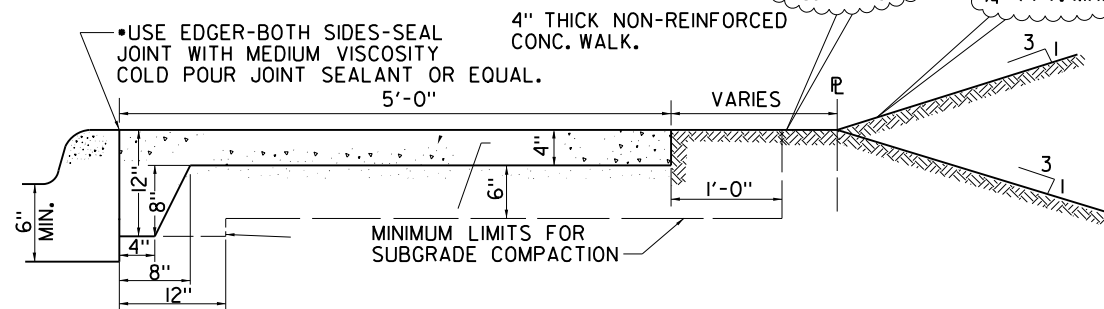
MINIMUM CONCRETE STRENGTH FOR SIDEWALK IS 3000 PSI

NOTES:

1. ALL HONEYCOMB IN BACK OF CURB TO BE TROWEL- PLASTERED BEFORE POURING SIDEWALK.
2. FOR SIDEWALKS AGAINST EXISTING CURB, KEYWAY SHALL BE REPLACED WITH 12" LONG NO. 3 DEFORMED BARS DRILLED 4" INTO EXISTING BACK CURB AND EPOXY GROUTED ON 24" CENTERS.
3. PAYMENT FOR KEYWAY SUBSIDIARY TO SIDEWALK LUG PAY ITEM.
4. PAYMENT FOR EXCAVATION, BORROW AND COMPACTION IS SUBSIDIARY TO CONCRETE SIDEWALK PAY ITEM.
5. ALL BACKFILL SHALL BE COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES TO 95% DENSITY WITH A MOISTURE WITHIN -2% TO -4% OF OPTIMUM MOISTURE.
6. 3/4" EXPANSION JOINTS SHALL BE PROVIDED AT STREET EXPANSION JOINTS AND AT A MAXIMUM 40 FOOT SPACING IN LINE WITH STREET SAW JOINTS; A TOOL MARKED GROOVE SHALL BE PROVIDED IN LINE WITH INTERMEDIATE STREET SAW JOINTS.
7. FOR SIDEWALK WIDTH, REFER TO CITY OF DALLAS STREET DESIGN MANUAL.
8. MINIMUM CONCRETE STRENGTH FOR SIDEWALK IS 3000 PSI.



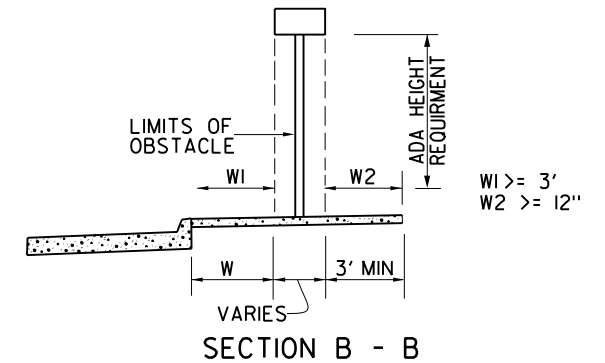
**B - B**  
**EXPANSION JOINT DETAIL**



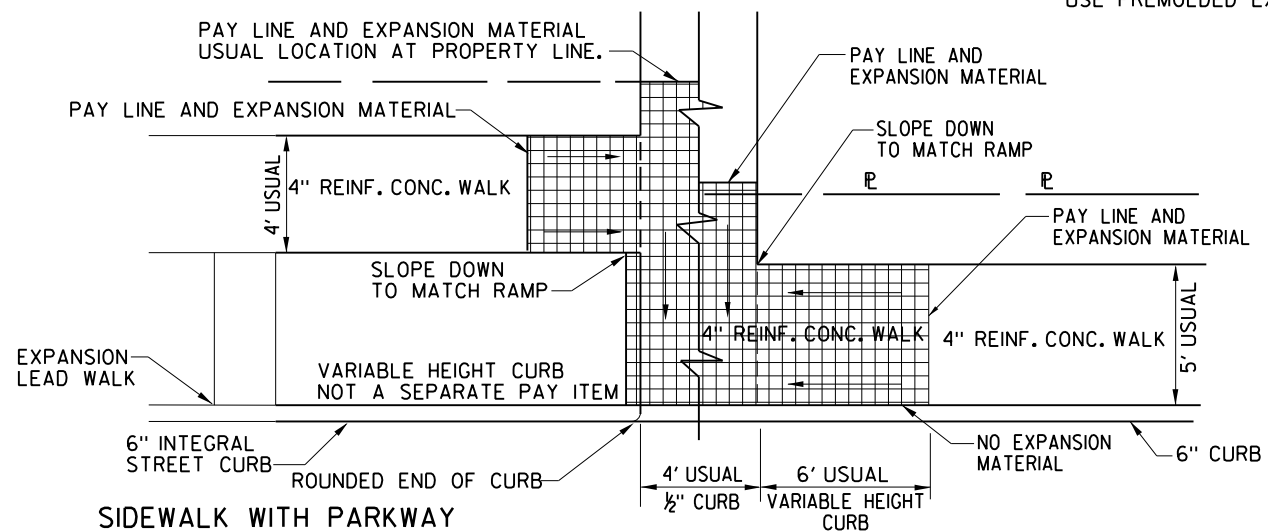
**JOINT DETAIL FOR SIDEWALK ADJACENT TO CURB**

SAME DETAIL FOR MEDIAN PAVEMENT-  
USE PREMOLDED EXPANSION JOINT

**SIDEWALK WIDENING REQUIRED AROUND OBSTACLES IN SIDEWALK**



**BARRIER FREE RAMPS AT LEAD WALKS**

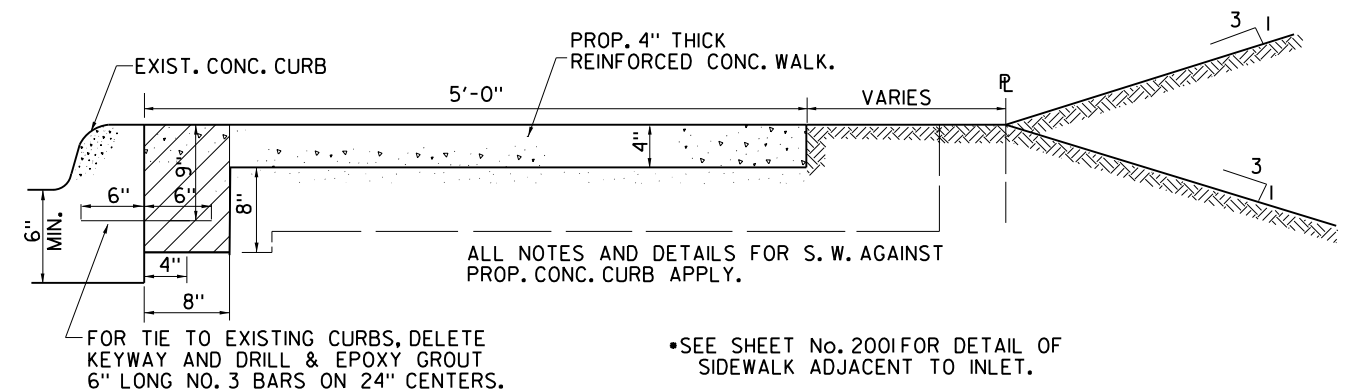


**SIDEWALK WITH PARKWAY**

**SIDEWALK ABUTTING CURB**

NOTES:

1. NO SLOPE TO EXCEED 1" PER 1'
2. ACTUAL LOCATIONS OF RAMP LIMITS WILL BE DETERMINED BY SLOPE OF RAMP AND GRADE OF STREET.
3. WALK REINFORCEMENT WILL BE No. 3 BARS SPACED 24" O.C. MAX. EACH WAY
4. BROOM FINISH NEEDED.



**SIDEWALKS AGAINST EXIST. CONC. CURB**

NOTE:  
FOR ANY SPECIAL RAMP FOR EXISTING CONDITION DESIGN ENGINEER MUST INCLUDE DESIGN OF RAMP

\*SEE SHEET No. 2001 FOR DETAIL OF SIDEWALK ADJACENT TO INLET.

**PAVING DETAILS**

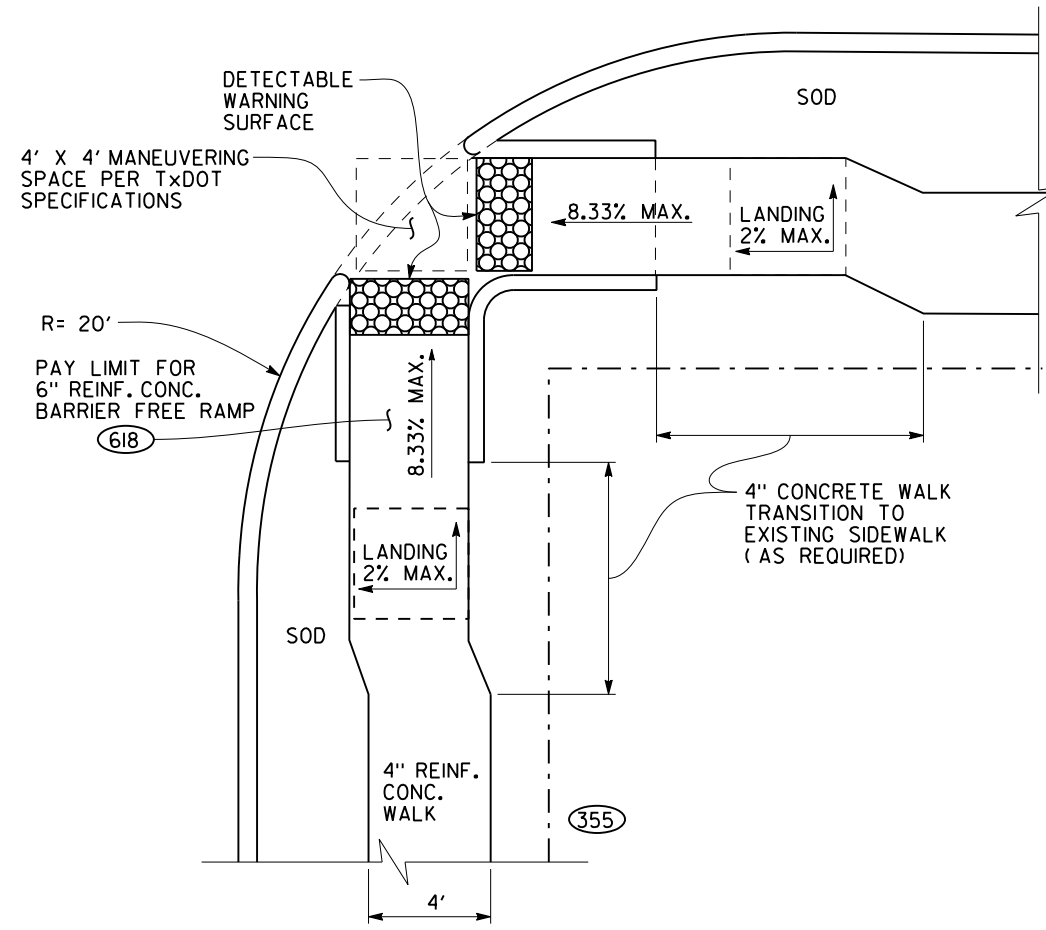
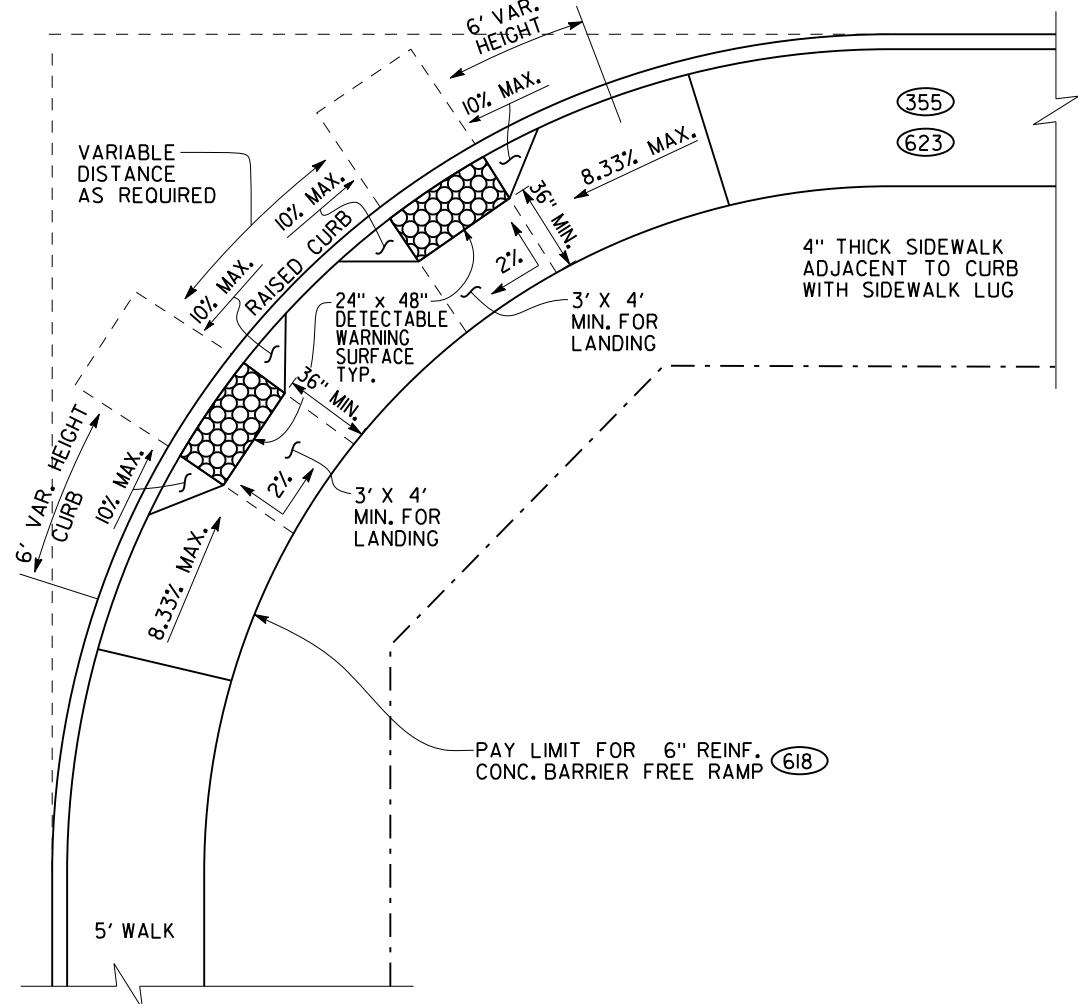
**REINFORCED SIDEWALKS**



DEPARTMENT OF PUBLIC WORKS  
CITY OF DALLAS, TEXAS

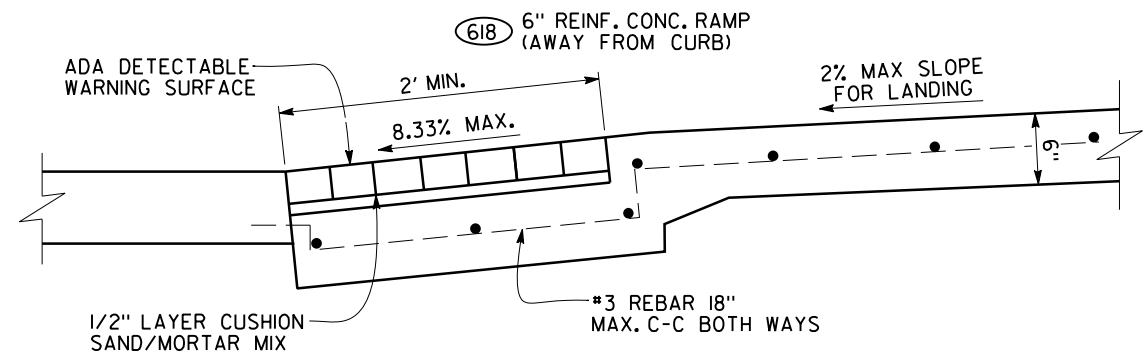
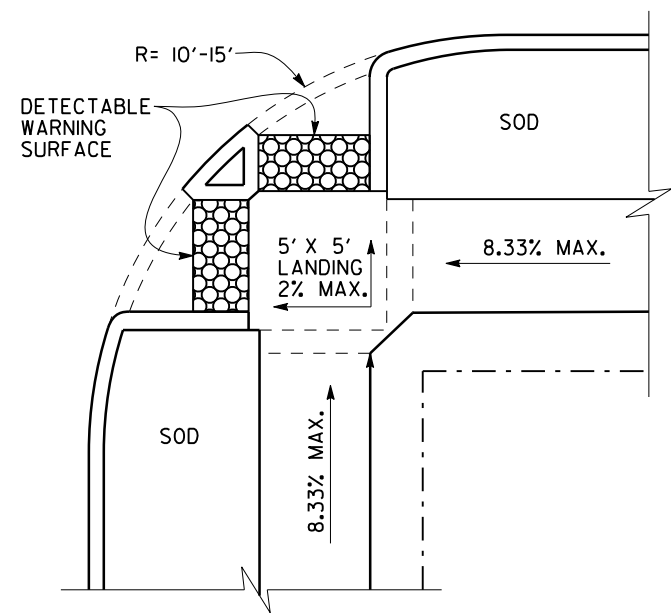
DRAWINGS NOT TO SCALE  
REVISED: DECEMBER 2021

SHEET No.  
1015



**NOTES:**

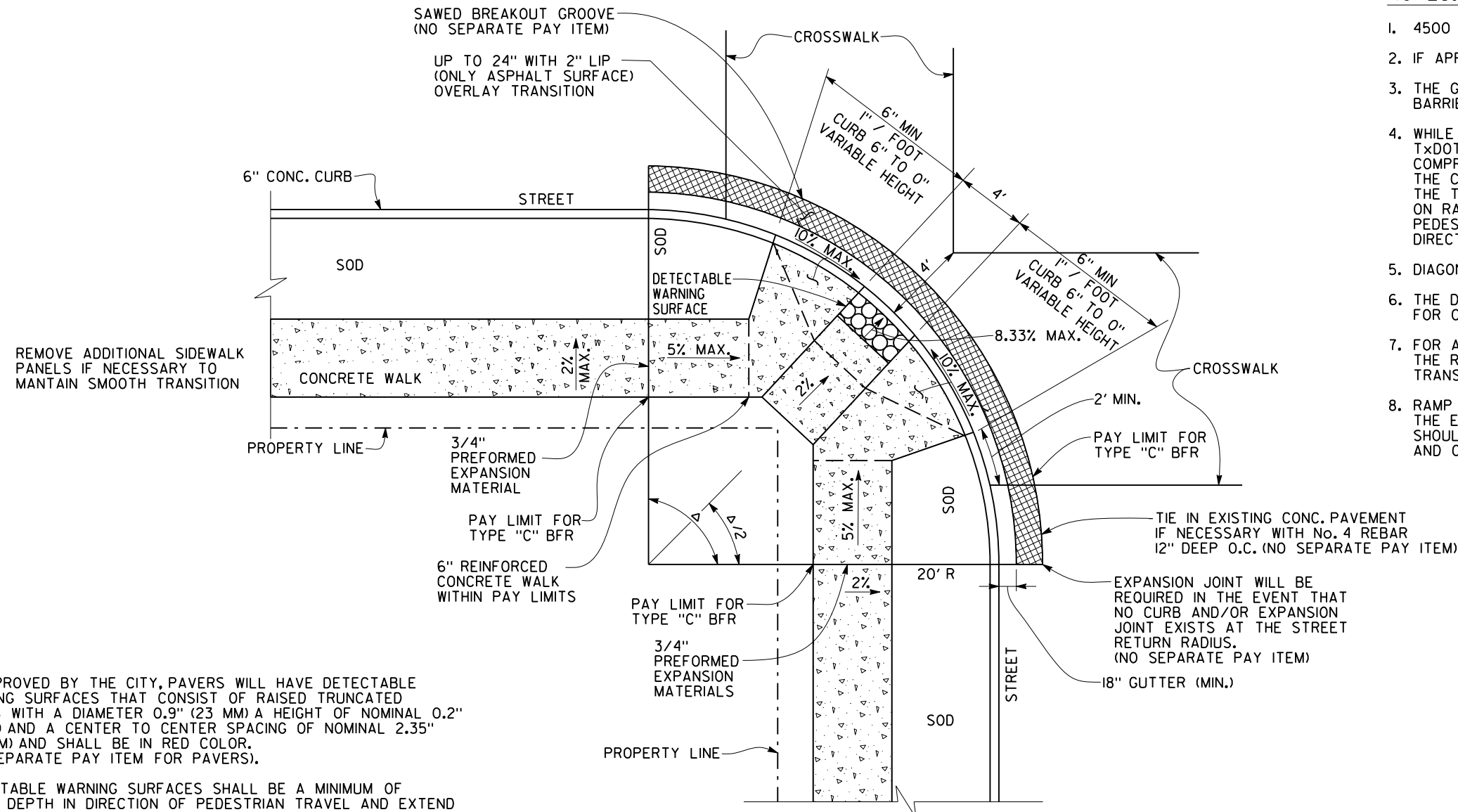
1. DETECTABLE WARNING SURFACE IS REQUIRED ON ALL RAMPS AND MUST MEET THE REQUIREMENTS OF SECTION 705 OF T&S
2. THE MAXIMUM CROSS SLOPE ON ALL SIDEWALKS AND LANDINGS IS 2%.
3. SIDEWALK LUG IS NOT INCLUDED WITH 6" BFR CONSTRUCTION
4. THE 6" BFR SHALL BE DOWELED TO THE ADJACENT PAVEMENT IN ACCORDANCE WITH CONSTRUCTION STANDARDS MANUAL (25ID-1SHEET 1020)
5. WHILE IT IS ACCEPTABLE TO USE BARRIER FREE RAMPS FROM T&S SPECIFICATION, THE CONCRETE DETAIL (I.E. THICKNESS, COMPRESSIVE STRENGTH, AND REINFORCEMENT) SHALL FOLLOW THE CITY OF DALLAS SPECIFICATION. THE T&S RAMPS DETAILS SHOULD PROVIDE GENERAL GUIDANCE ON RAMPS CONFIGURATIONS ONLY. HOWEVER, INSTALLATION OF PEDESTRIAN PUSH BUTTONS MAY NEED TO BE MODIFIED AS DIRECTED BY TRANSPORTATION DEPARTMENT
6. THE DESIRABLE MAX. SLOPE FOR THE RAMP IS 7.1% TO ALLOW FOR CONSTRUCTION TOLERANCE
7. FOR ANY SIGNALIZED INTERSECTION THE CONFIGURATION OF THE RAMP SHOULD BE VERIFIED AND APPROVED BY THE TRANSPORTATION DEPARTMENT
8. RAMP CONFIGURATIONS SHOULD AT A MINIMUM CONSIDER THE ELEVATION OF EXISTING SIGNAL INFRASTRUCTURE AND SHOULD ALLOW FOR A LEVEL LANDING AREA ADJACENT TO AND CENTERED BY TRAFFIC SIGNAL POLE INFRASTRUCTURE



**BARRIER FREE RAMP PAVER DETAIL**  
IF APPROVED BY THE CITY

**BARRIER FREE RAMPS**

<b>PAVING DETAILS</b>	
BARRIER FREE RAMPS	
DETAILS	
DEPARTMENT OF PUBLIC WORKS CITY OF DALLAS, TEXAS	
DRAWINGS NOT TO SCALE REVISED: DECEMBER 2021	SHEET No. 1016



**NOTES:**


1. 4500 PSI AT 28 DAYS INSIDE THE PAY LIMIT.
2. IF APPROVED BY THE CITY, NO SEPARATE ITEM FOR PAVERS.
3. THE GUTTER GRADE SHALL BE RESTORED THRU A NEW BARRIER FREE RAMP APPROACH TO INSURE THE PROPER DRAINAGE.
4. WHILE IT IS ACCEPTABLE TO USE BARRIER FREE RAMPS FROM TxDOT SPECIFICATION, THE CONCRETE DETAIL (I.E. THICKNESS, COMPRESSIVE STRENGTH, AND REINFORCEMENT) SHALL FOLLOW THE CITY OF DALLAS SPECIFICATION. THE TxDOT RAMPS DETAILS SHOULD PROVIDE GENERAL GUIDANCE ON RAMPS CONFIGURATIONS ONLY. HOWEVER, INSTALLATION OF PEDESTRIAN PUSH BUTTONS MAY NEED TO BE MODIFIED AS DIRECTED BY TRANSPORTATION DEPARTMENT
5. DIAGONAL RAMPS ARE SUBJECT TO APPROVAL BY THE CITY.
6. THE DESIRABLE MAX. SLOPE FOR THE RAMP IS 7.1% TO ALLOW FOR CONSTRUCTION TOLERANCE
7. FOR ANY SIGNALIZED INTERSECTION THE CONFIGURATION OF THE RAMP SHOULD BE VERIFIED AND APPROVED BY THE TRANSPORTATION DEPARTMENT
8. RAMP CONFIGURATIONS SHOULD AT A MINIMUM CONSIDER THE ELEVATION OF EXISTING SIGNAL INFRASTRUCTURE AND SHOULD ALLOW FOR A LEVEL LANDING AREA ADJACENT TO AND CENTERED BY TRAFFIC SIGNAL POLE INFRASTRUCTURE

**NOTES:**

1. IF APPROVED BY THE CITY, PAVERS WILL HAVE DETECTABLE WARNING SURFACES THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER 0.9" (23 MM) A HEIGHT OF NOMINAL 0.2" (5 MM) AND A CENTER TO CENTER SPACING OF NOMINAL 2.35" (60 MM) AND SHALL BE IN RED COLOR. (NO SEPARATE PAY ITEM FOR PAVERS).
2. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.

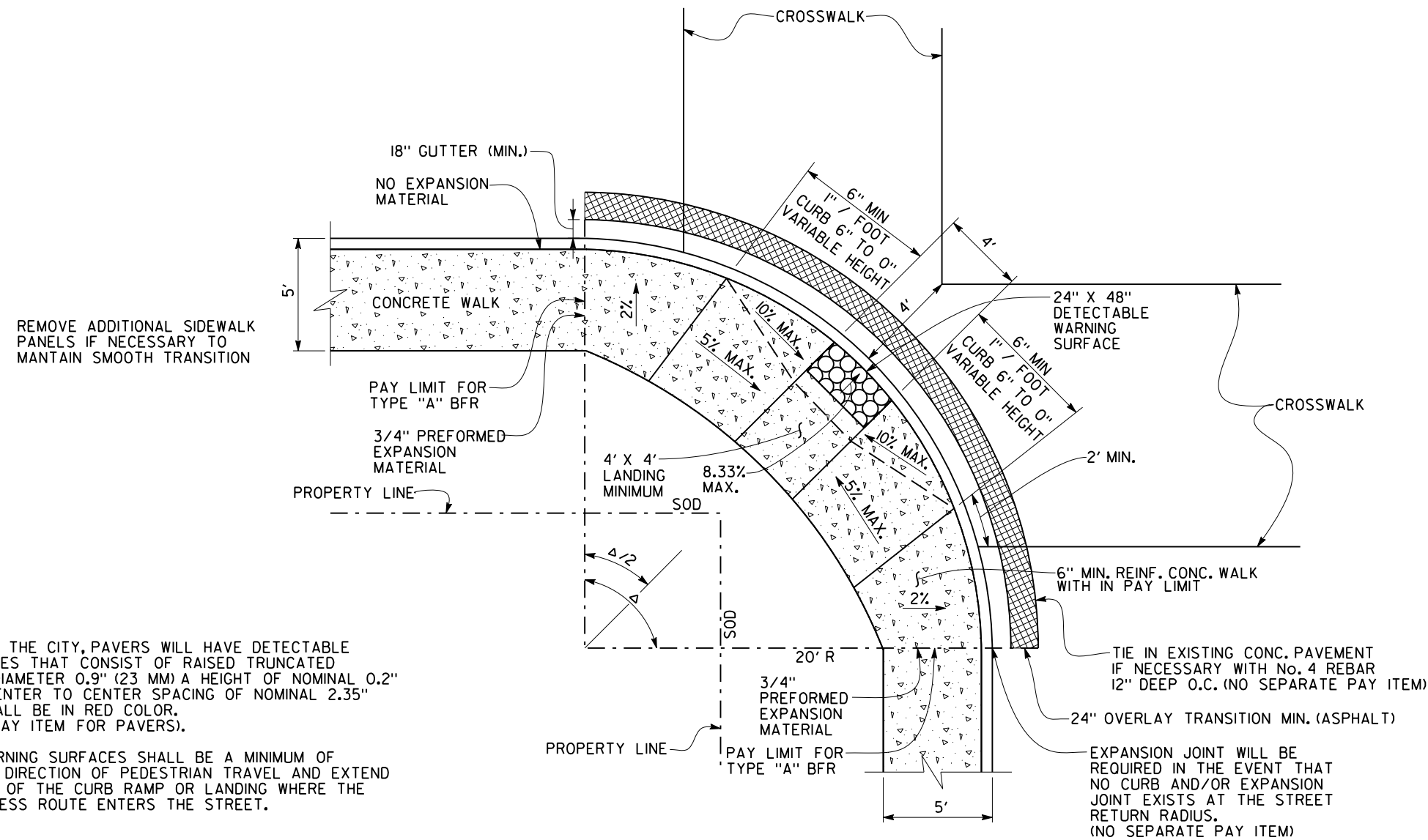
REMOVE AND REPLACE BARRIER FREE RAMP

DETAIL AT INTERSECTING STREET  
(WALK AWAY FROM CURB)  
TYPE "C" BFR

<b>PAVING DETAILS</b>	
BARRIER FREE RAMPS	
TYPE "C" BFR	
 DEPARTMENT OF PUBLIC WORKS CITY OF DALLAS, TEXAS	
DRAWINGS NOT TO SCALE REVISED: DECEMBER 2021	SHEET No. 1017

**NOTES:**

1. 4500 PSI AT 28 DAYS INSIDE THE PAY LIMIT.
2. IF APPROVED BY THE CITY, NO SEPARATE ITEM FOR PAVERS.
3. THE GUTTER GRADE SHALL BE RESTORED THRU A NEW BARRIER FREE RAMP APPROACH TO INSURE THE PROPER DRAINAGE.
4. WHILE IT IS ACCEPTABLE TO USE BARRIER FREE RAMPS FROM TxDOT SPECIFICATION, THE CONCRETE DETAIL (I.E. THICKNESS, COMPRESSIVE STRENGTH, AND REINFORCEMENT) SHALL FOLLOW THE CITY OF DALLAS SPECIFICATION. THE TxDOT RAMPS DETAILS SHOULD PROVIDE GENERAL GUIDANCE ON RAMPS CONFIGURATIONS ONLY. HOWEVER, INSTALLATION OF PEDESTRIAN PUSH BUTTONS MAY NEED TO BE MODIFIED AS DIRECTED BY TRANSPORTATION DEPARTMENT
5. DIAGONAL RAMPS ARE SUBJECT TO APPROVAL BY THE CITY.
6. THE DESIRABLE MAX. SLOPE FOR THE RAMP IS 7.1% TO ALLOW FOR CONSTRUCTION TOLERANCE
7. FOR ANY SIGNALIZED INTERSECTION THE CONFIGURATION OF THE RAMP SHOULD BE VERIFIED AND APPROVED BY THE TRANSPORTATION DEPARTMENT
8. RAMP CONFIGURATIONS SHOULD AT A MINIMUM CONSIDER THE ELEVATION OF EXISTING SIGNAL INFRASTRUCTURE AND SHOULD ALLOW FOR A LEVEL LANDING AREA ADJACENT TO AND CENTERED BY TRAFFIC SIGNAL POLE INFRASTRUCTURE




**NOTES:**

1. IF APPROVED BY THE CITY, PAVERS WILL HAVE DETECTABLE WARNING SURFACES THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER 0.9" (23 MM) A HEIGHT OF NOMINAL 0.2" (5 MM) AND A CENTER TO CENTER SPACING OF NOMINAL 2.35" (60 MM) AND SHALL BE IN RED COLOR. (NO SEPARATE PAY ITEM FOR PAVERS).
2. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.

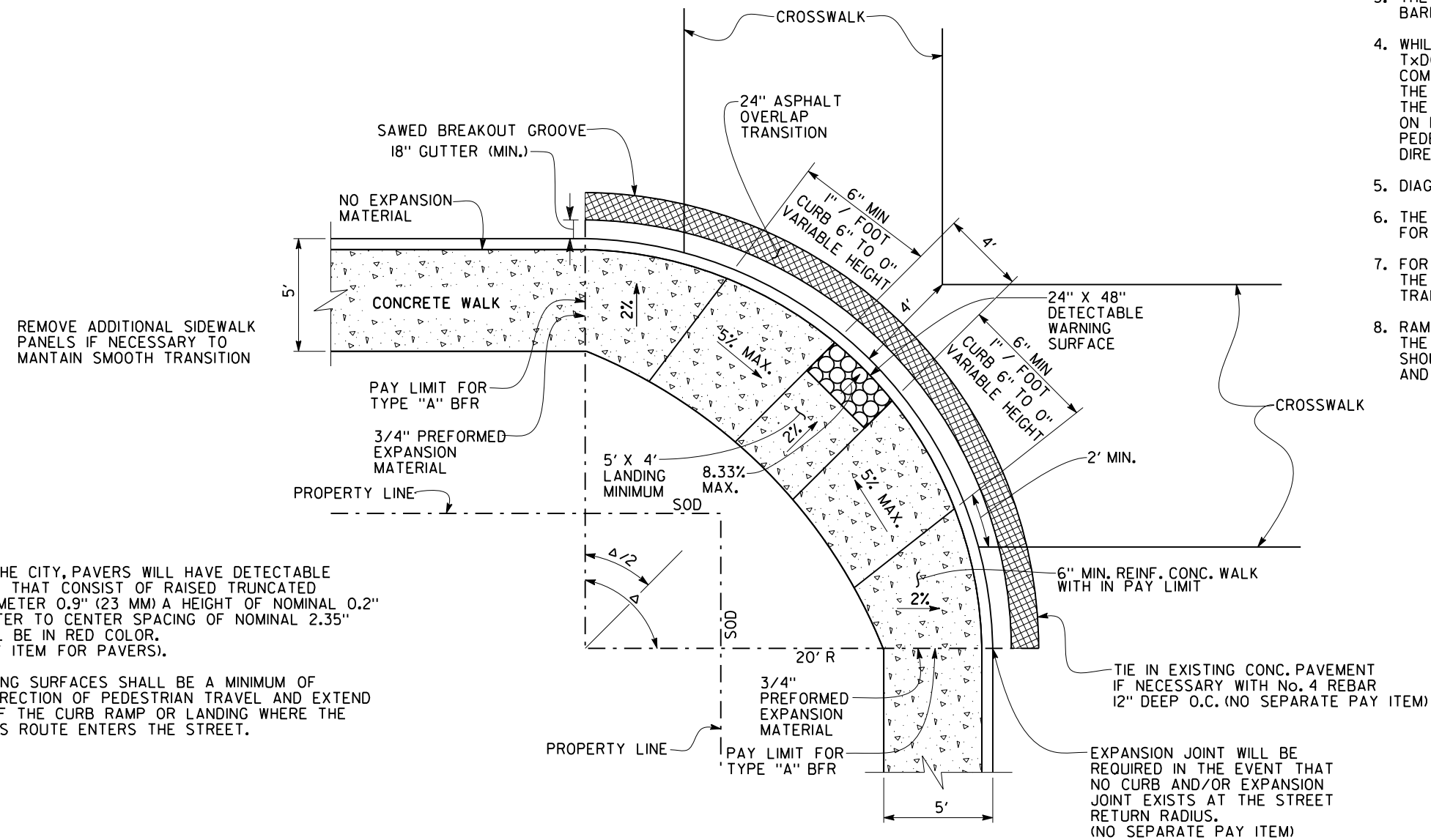
**REMOVE AND REPLACE BARRIER FREE RAMP**

**DETAIL AT INTERSECTING STREET**  
(WALK ABUTTING CURB)  
**TYPE "A" BFR**

<b>PAVING DETAILS</b>	
BARRIER FREE RAMPS	
TYPE "A" BFR	
 DEPARTMENT OF PUBLIC WORKS CITY OF DALLAS, TEXAS	
DRAWINGS NOT TO SCALE REVISED: DECEMBER 2021	SHEET No. 1018

**NOTES:**

- 4500 PSI AT 28 DAYS INSIDE THE PAY LIMIT.
- IF APPROVED BY THE CITY, NO SEPARATE ITEM FOR PAVERS.
- THE GUTTER GRADE SHALL BE RESTORED THRU A NEW BARRIER FREE RAMP APPROACH TO INSURE THE PROPER DRAINAGE.
- WHILE IT IS ACCEPTABLE TO USE BARRIER FREE RAMPS FROM TxDOT SPECIFICATION, THE CONCRETE DETAIL (I.E. THICKNESS, COMPRESSIVE STRENGTH, AND REINFORCEMENT) SHALL FOLLOW THE CITY OF DALLAS SPECIFICATION. THE TxDOT RAMPS DETAILS SHOULD PROVIDE GENERAL GUIDANCE ON RAMPS CONFIGURATIONS ONLY. HOWEVER, INSTALLATION OF PEDESTRIAN PUSH BUTTONS MAY NEED TO BE MODIFIED AS DIRECTED BY TRANSPORTATION DEPARTMENT
- DIAGONAL RAMPS ARE SUBJECT TO APPROVAL BY THE CITY.
- THE DESIRABLE MAX. SLOPE FOR THE RAMP IS 7.1% TO ALLOW FOR CONSTRUCTION TOLERANCE
- FOR ANY SIGNALIZED INTERSECTION THE CONFIGURATION OF THE RAMP SHOULD BE VERIFIED AND APPROVED BY THE TRANSPORTATION DEPARTMENT
- RAMPS CONFIGURATIONS SHOULD AT A MINIMUM CONSIDER THE ELEVATION OF EXISTING SIGNAL INFRASTRUCTURE AND SHOULD ALLOW FOR A LEVEL LANDING AREA ADJACENT TO AND CENTERED BY TRAFFIC SIGNAL POLE INFRASTRUCTURE



**NOTES:**

- IF APPROVED BY THE CITY, PAVERS WILL HAVE DETECTABLE WARNING SURFACES THAT CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER 0.9" (23 MM) A HEIGHT OF NOMINAL 0.2" (5 MM) AND A CENTER TO CENTER SPACING OF NOMINAL 2.35" (60 MM) AND SHALL BE IN RED COLOR. (NO SEPARATE PAY ITEM FOR PAVERS).
- DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.

REMOVE ADDITIONAL SIDEWALK PANELS IF NECESSARY TO MAINTAIN SMOOTH TRANSITION

REMOVE AND REPLACE BARRIER FREE RAMP

DETAIL AT INTERSECTING STREET

(WALK ABUTTING CURB)

TYPE "A" BFR WITH LIMITED RIGHT OF WAY

**PAVING DETAILS**

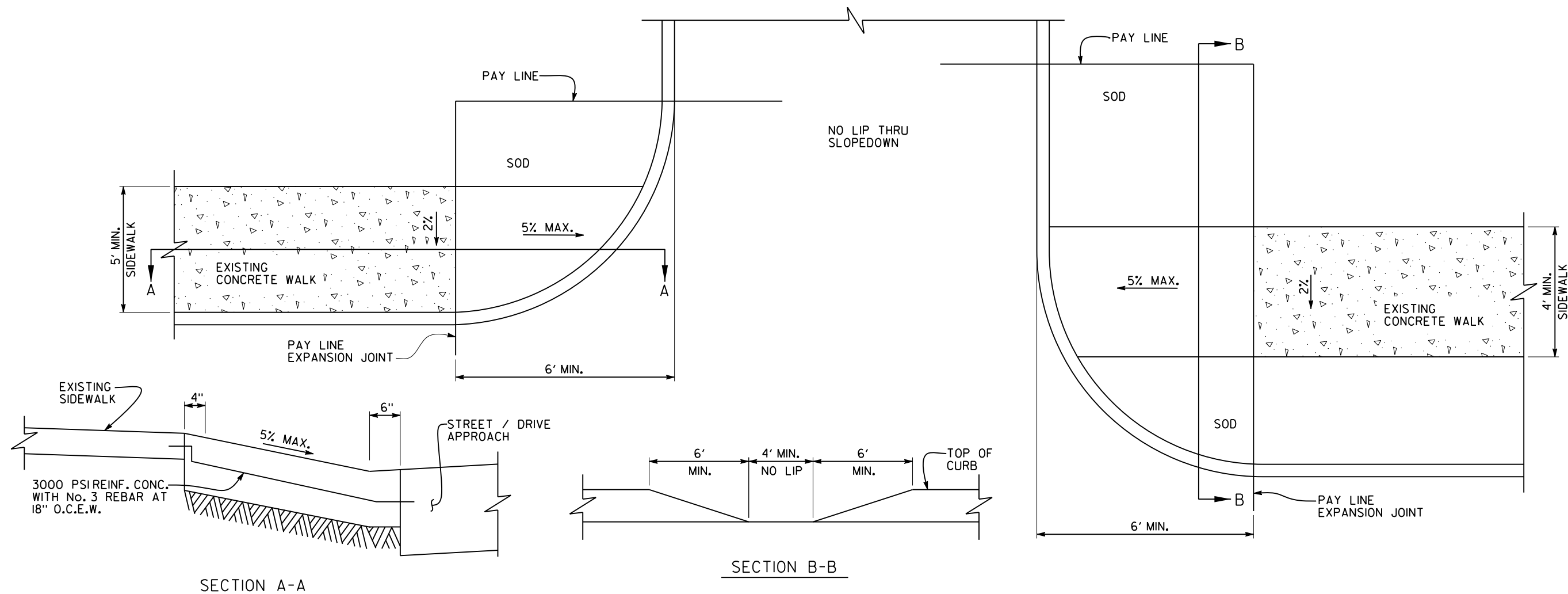
BARRIER FREE RAMPS

TYPE "A" BFR WITH LIMITED RIGHT OF WAY

DEPARTMENT OF PUBLIC WORKS  
CITY OF DALLAS, TEXAS

DRAWINGS NOT TO SCALE  
REVISED: DECEMBER 2021

SHEET No.  
1019



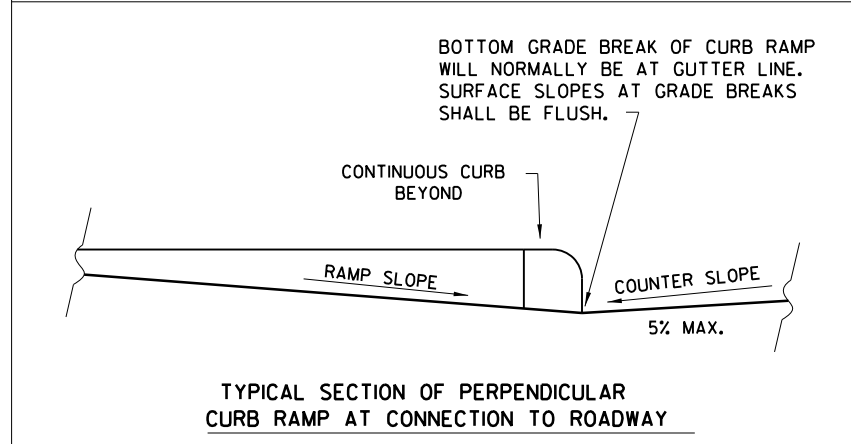
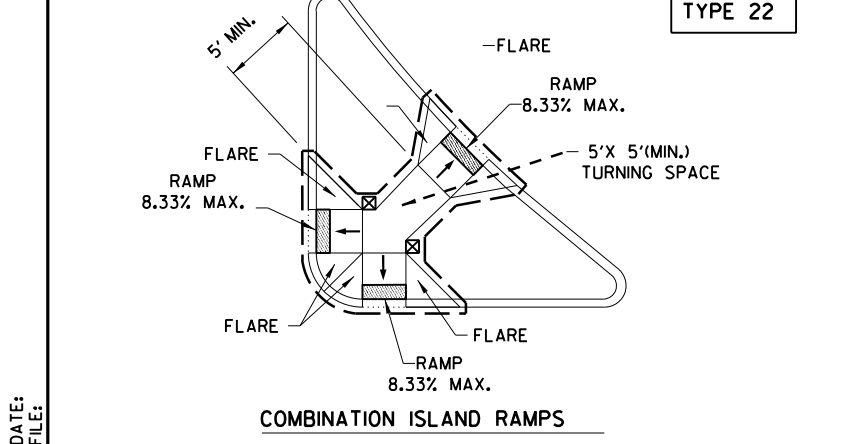
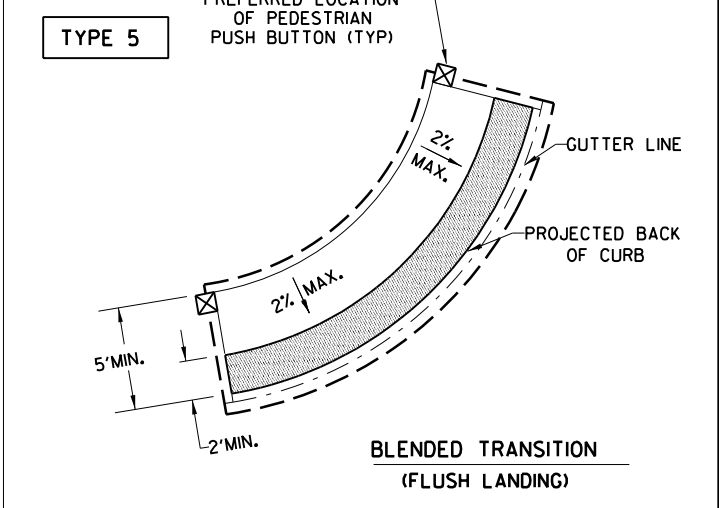
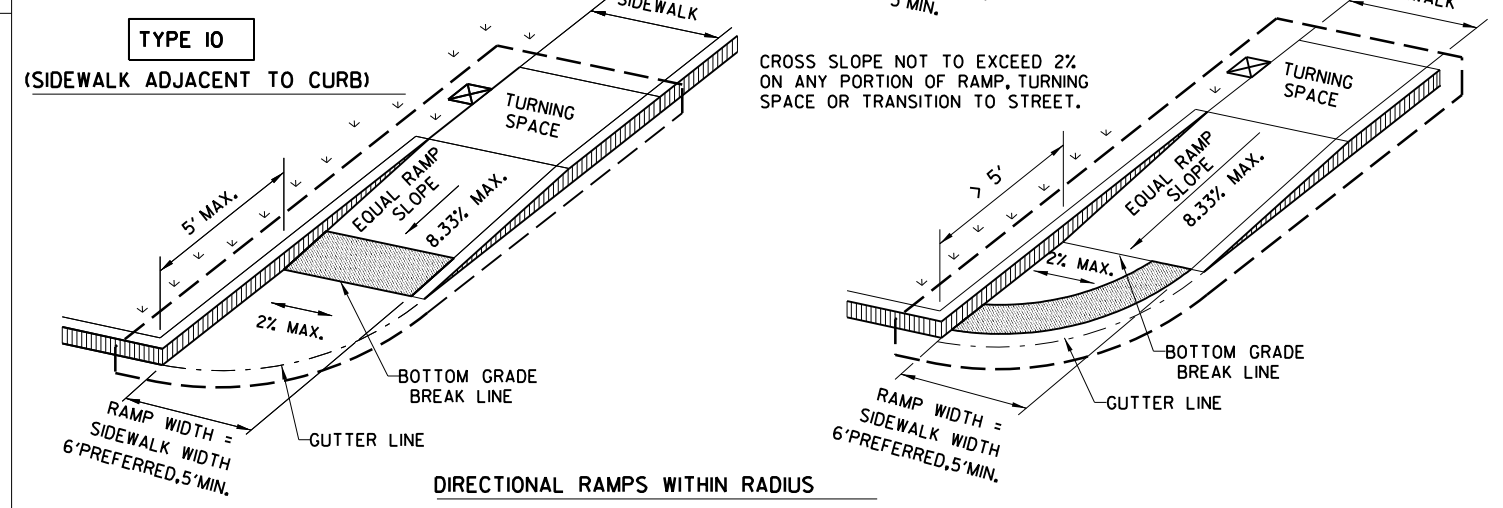
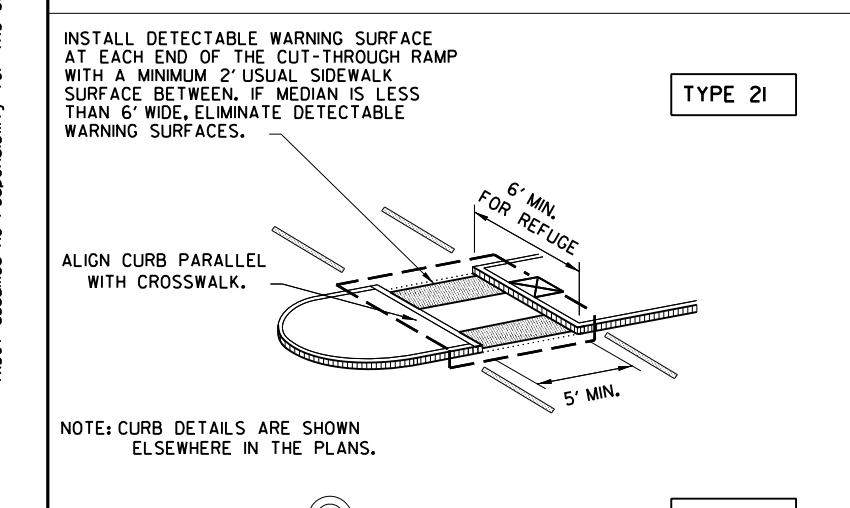
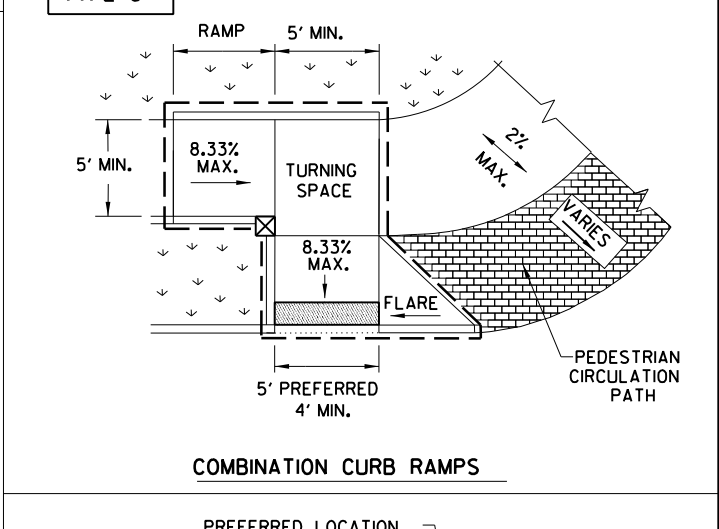
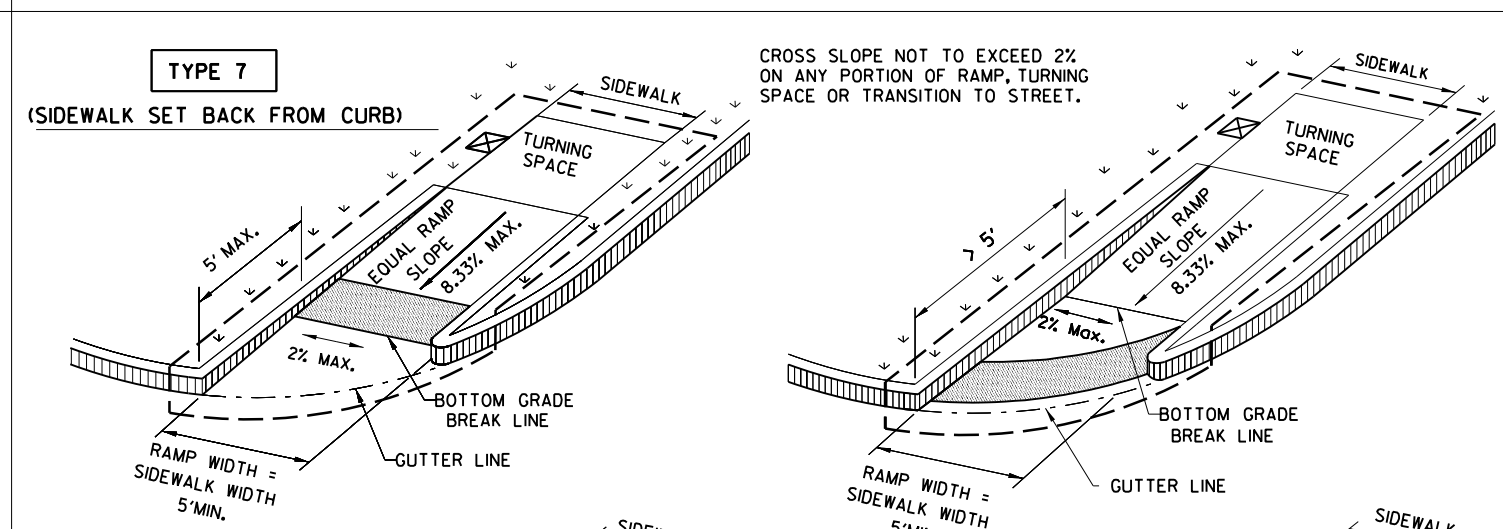
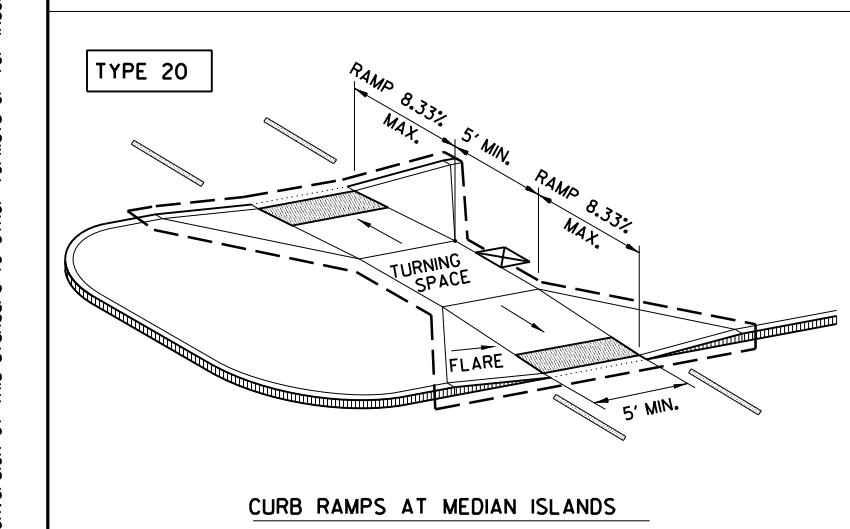
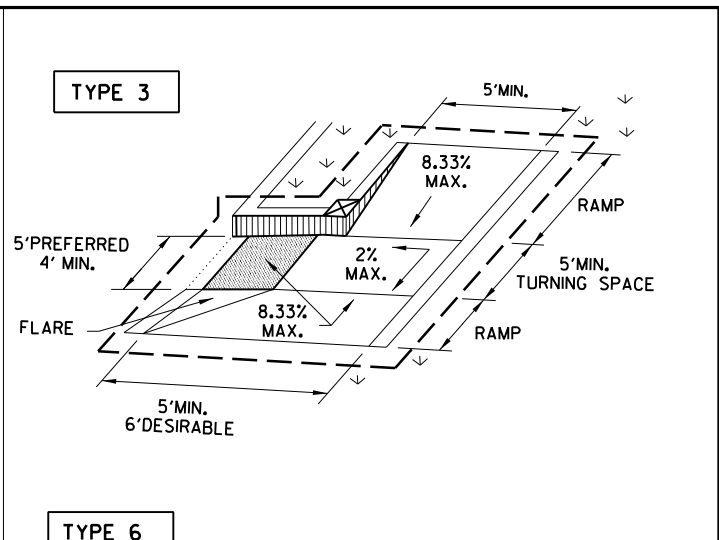
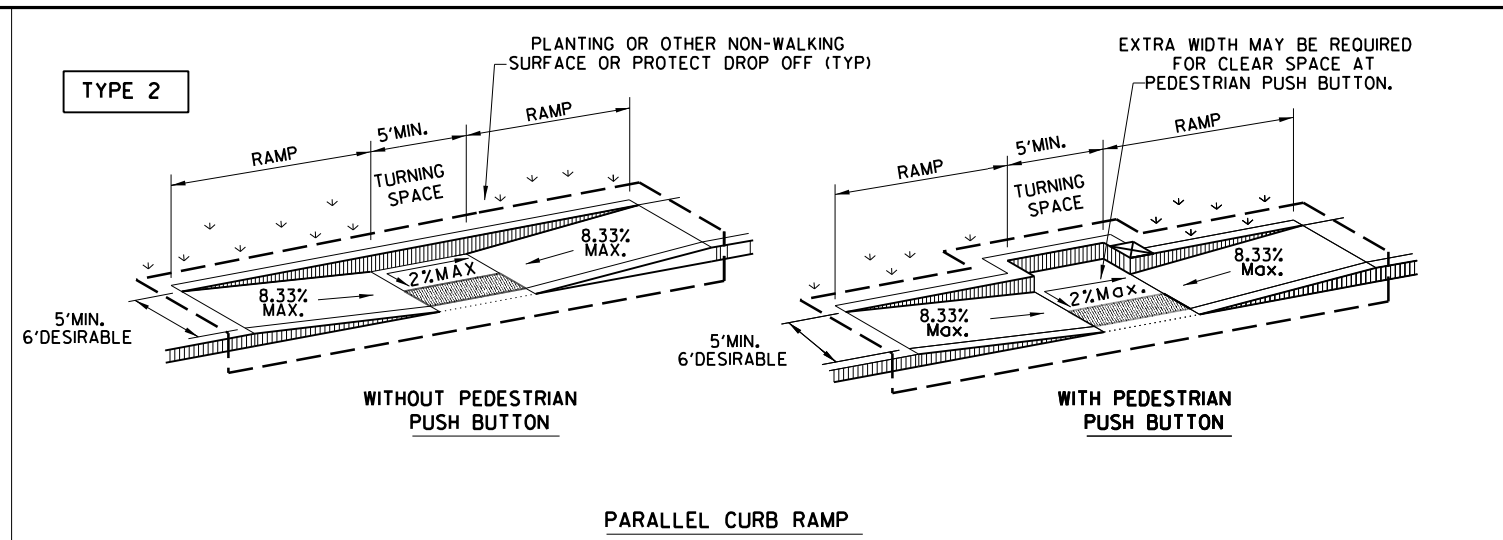
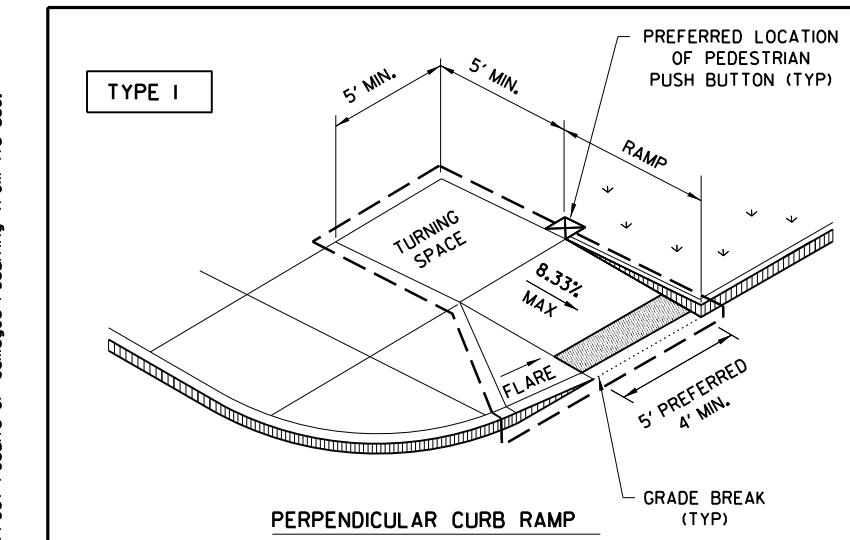
**NOTES:**

1. THIS PAY ITEM INCLUDES ALL WORK REQUIRE, WITHIN THE PAY LIMITS AS SHOWN, INCLUDING BUT NOT LIMITED TO EXCAVATION, SAWED BREAKOUT GROOVE, LUGS, DOWEL BARS, REMOVAL / REPLACEMENT OF REINFORCE CONCRETE, ASPHALT CONCRETE, EXPANSION JOINT MATERIAL PLACEMENT OF SODDING, CURB & GUTTER, PAVERS OR OTHER INCIDENTAL WORK. THE LIMIT OF WORK INCLUDED IN THIS ITEM IS FROM CURB RETURN TO CURB RETURN. SLOPEDOWNS SHALL ONLY BE INSTALLED AT DRIVEWAYS OR AT NON-PUBLIC INTERSECTING STREETS.
2. DESIGNS SHOWN ARE FOR 6' CURBS. DIMENSIONS MUST BE INCREASED PROPORTIONATELY FOR CURBS WITH HEIGHT GREATER THAN 6'.
3. THE GUTTER GRADE SHALL BE RESTORED THROUGH THE RAMP APPROACH TO ENSURE PROPER STORM WATER DRAINAGE.
4. NEW CURB & GUTTER WORK OUTSIDE THE PAY LIMITS WILL BE PAID FOR AS ITEM 407 REGARDLESS OF THE TYPE OF CURB & GUTTER. THIS PAY ITEM INCLUDES ALL WORK REQUIRED, INCLUDING BUT NOT LIMITED TO EXCAVATION, SAWED BREAKOUT GROOVE, LUGS, DOWEL BARS, REMOVAL / REPLACEMENT OF REINFORCE CONCRETE, ANY ASPHALT WORK AND ANY INCIDENTAL WORK REQUIRED. THE CURB & GUTTER SHALL BE CONSTRUCTED TO THE SIZE, SHAPE, LINES AND GRADE AS CALLED FOR IN FILE 25ID-I. VARIATIONS IN SIZE AND SHAPE MAY BE MADE TO FIT INDIVIDUAL FIELD CONDITIONS. NO EXTRA PAYMENT WILL BE MADE FOR ANY VARIATIONS IN WIDTH AND HEIGHT OF THE CURB & GUTTER.
5. ANY RETAINING WALLS INSIDE THE SLOPEDOWN PAY LIMITS SHALL ONLY BE PAID FOR THE VERTICAL PORTION OF THE WALL AND WILL NOT INCLUDE THE TOE OR FOOTING, WHICH SHALL BE SUBSIDIARY TO THE SLOPEDOWN. RETAINING WALLS OUTSIDE THE SLOPEDOWN PAY LIMITS SHALL BE PAID FOR AS DESCRIBED IN THE FILE 25ID-I.
6. ALL WORK NECESSARY TO INSTALL ADDITIONAL SIDEWALK PANELS PAST SLOPEDOWN PAY LIMITS IN ORDER TO MEET TEXAS ACCESSIBILITY STANDARDS (T.A.S.) REQUIREMENTS WILL BE PAID FOR PER SQUARE FOOT OF SIDEWALK. THIS PAY ITEM INCLUDES BUT IS NOT LIMITED TO REINFORCE CONCRETE SIDEWALK REMOVAL / REPLACEMENT, LUGS, DOWEL BARS, PLACEMENT OF GRASS BLOCK/SPOT SOD, SAWED BREAKOUT GROOVE, EXCAVATION OR OTHER INCIDENTAL WORK.
7. CONCRETE SHALL BE POURED SEPARATELY, FIRST FOR THE CURB AND GUTTER, THEN FOR THE BARRIER- FREE RAMP AND/OR SIDEWALK. THIS SEPARATION IS NECESSARY TO SATISFY THE REQUIREMENTS FOR KEYWAY OR KEYWAY REPLACEMENT AND THE DIFFERENT STRENGTHS OF CONCRETE REQUIRED FOR EACH AS SHOWN IN SHEETS 1015-1019. IN HIGH-TRAFFIC SITUATIONS, CURING TIME BETWEEN PLACEMENT OF CURB AND GUTTER AND PLACEMENT OF SLOPEDOWN AND/OR SIDEWALK CAN BE REDUCED TO ONE HOUR, BUT ONLY WITH THE EXPRESS WRITTEN APPROVAL OF THE ENGINEER, AND MUST BE PLACED USING 4,500 PSI CONCRETE (28-DAY STRENGTH).

AT DRIVEWAY OR INTERSECTING PRIVATE STREET  
(WALK MAY/MAY NOT DIRECTLY ABUT CURB)

<b>PAVING DETAILS</b>	
SLOPEDOWN AT DRIVEWAY OR INTERSECTING PRIVATE STREET	
DEPARTMENT OF PUBLIC WORKS CITY OF DALLAS, TEXAS	
DRAWINGS NOT TO SCALE REVISED: DECEMBER 2021	SHEET No. 1020

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**NOTES / LEGEND:**

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

DETECTABLE WARNING SURFACE

GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

SHEET 1 OF 4

Texas Department of Transportation  
Design Division Standard

**PEDESTRIAN FACILITIES  
CURB RAMPS  
PED-18**

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISED 08/2005	REVISIONS			
REVISED 06/2002				
REVISED 02/2008				
DIST	COUNTY			SHEET NO.

DATE: FILE:

**GENERAL NOTES**

**CURB RAMPS**

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5' x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steelbars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

**DETECTABLE WARNING MATERIAL**

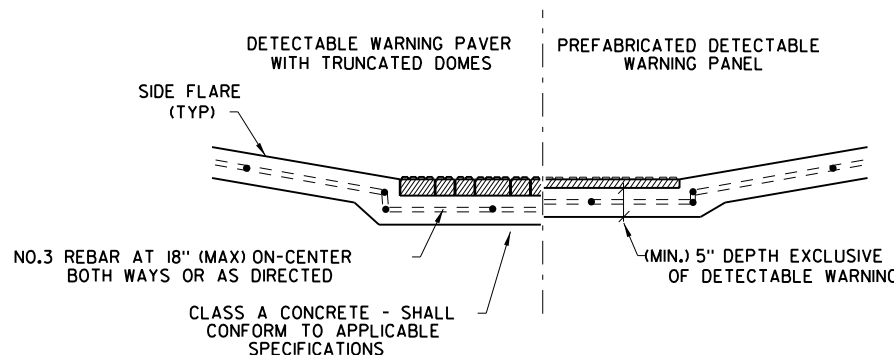
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the fullwidth of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

**DETECTABLE WARNING PAVERS (IF USED)**

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

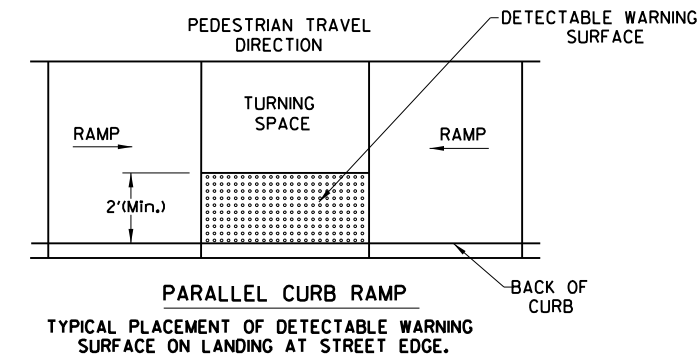
**SIDEWALKS**

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

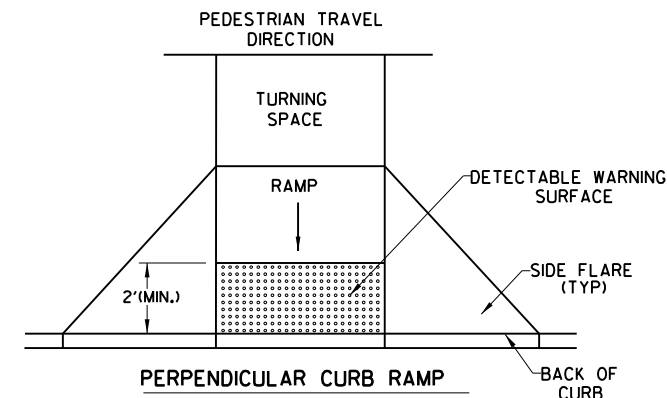


**SECTION VIEW DETAIL  
CURB RAMP AT DETECTIBLE WARNINGS**

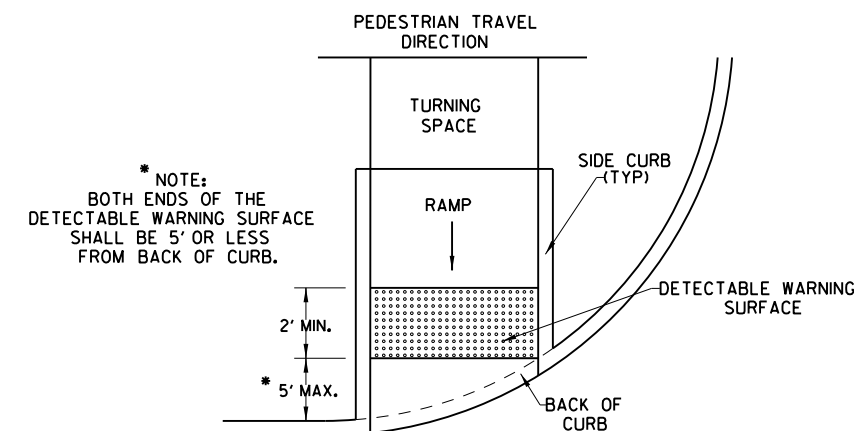
**DETECTABLE WARNING SURFACE DETAILS**



**TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.**



**PERPENDICULAR CURB RAMP  
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.**



\* NOTE:  
BOTH ENDS OF THE  
DETECTABLE WARNING SURFACE  
SHALL BE 5' OR LESS  
FROM BACK OF CURB.

**DIRECTIONAL CURB RAMP  
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.**

SHEET 2 OF 4

		<b>Design Division Standard</b>	
<b>PEDESTRIAN FACILITIES CURB RAMPS</b>			
<b>PED-18</b>			
FILE: ped18	DN: TxDOT	DW: VP	CK: KM
© TxDOT: MARCH, 2002	CONT	SECT	JOB
REVISED 08, 2005	REVISIONS		HIGHWAY
REVISED 06, 2012	DIST	COUNTY	SHEET NO.
REVISED 02, 2018			

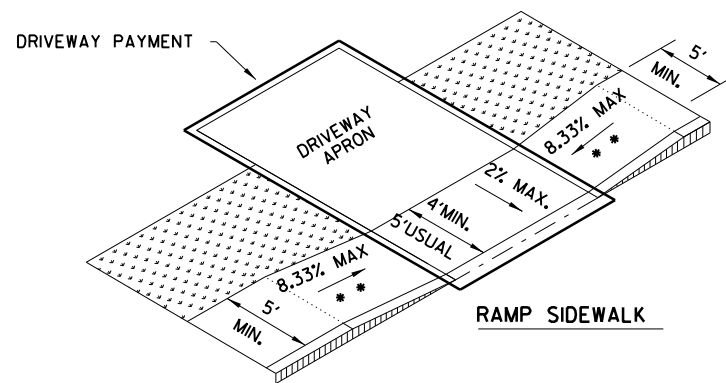
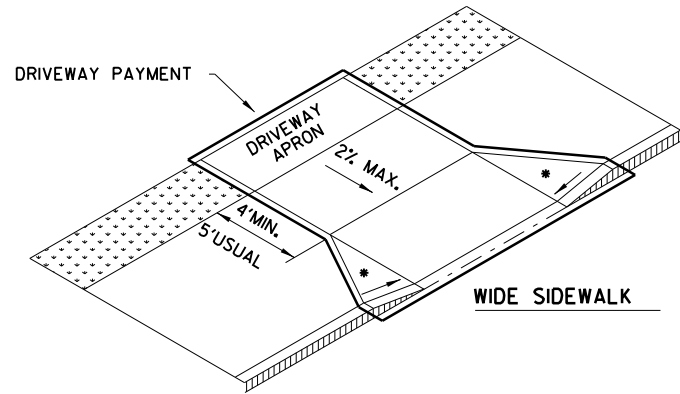
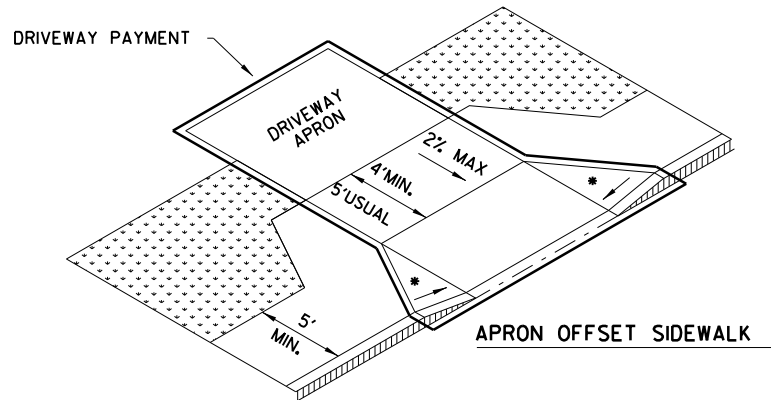
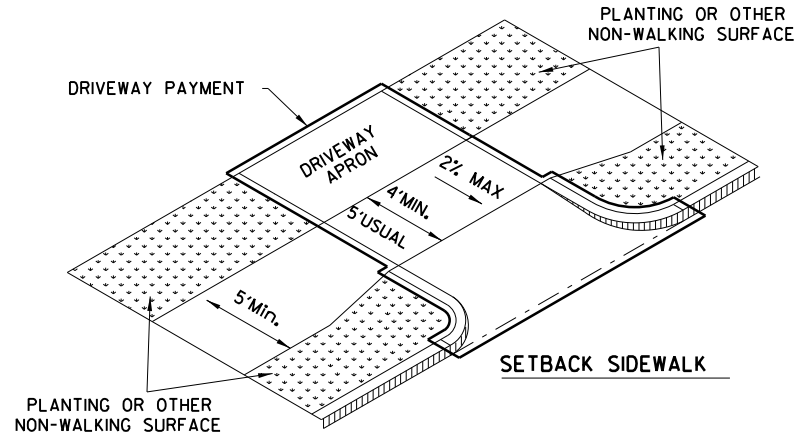
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DATE:  
FILE:



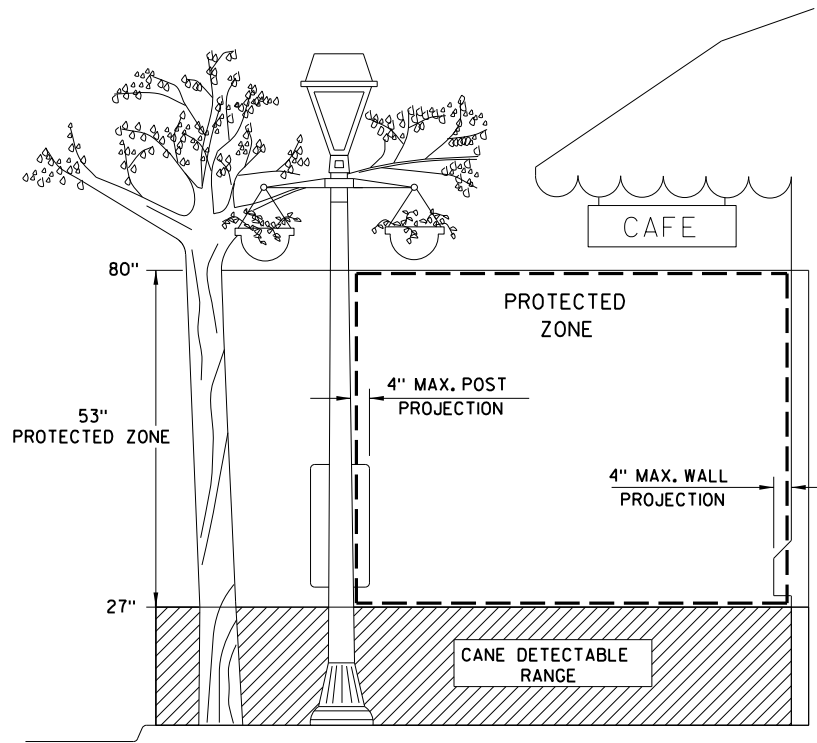
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**SIDEWALK TREATMENT AT DRIVEWAYS**



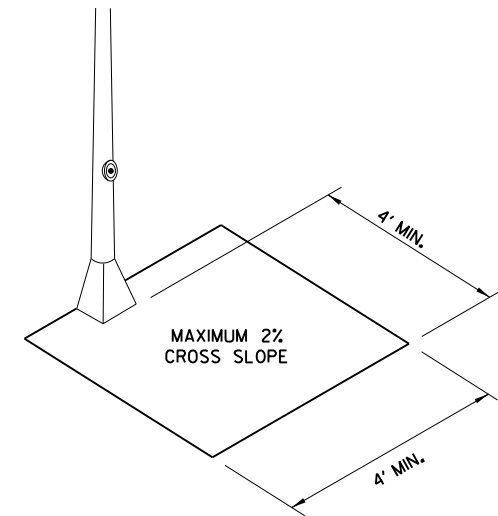
**NOTES:**

- \* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.
- \*\* IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.

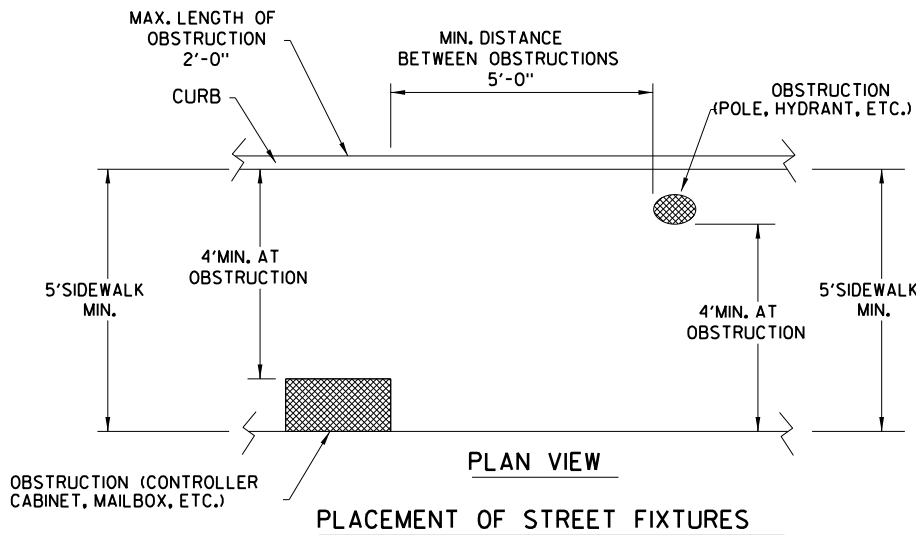


**PROTECTED ZONE**

NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.

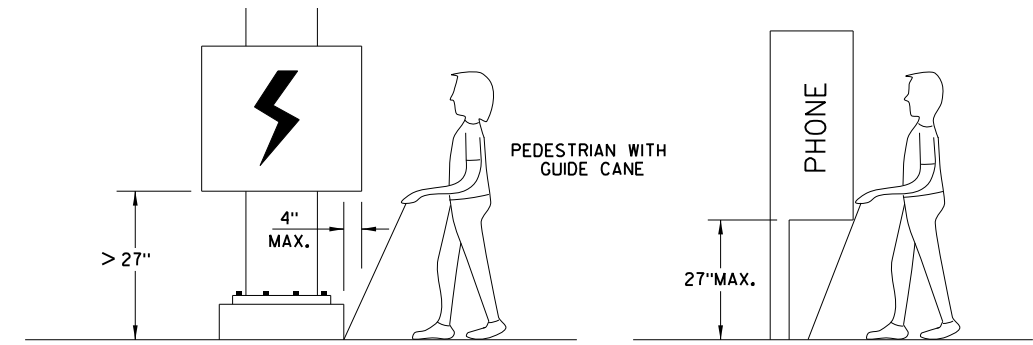


**CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON**



**PLAN VIEW**

NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



**DETECTION BARRIER FOR VERTICAL CLEARANCE 80"**

WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.

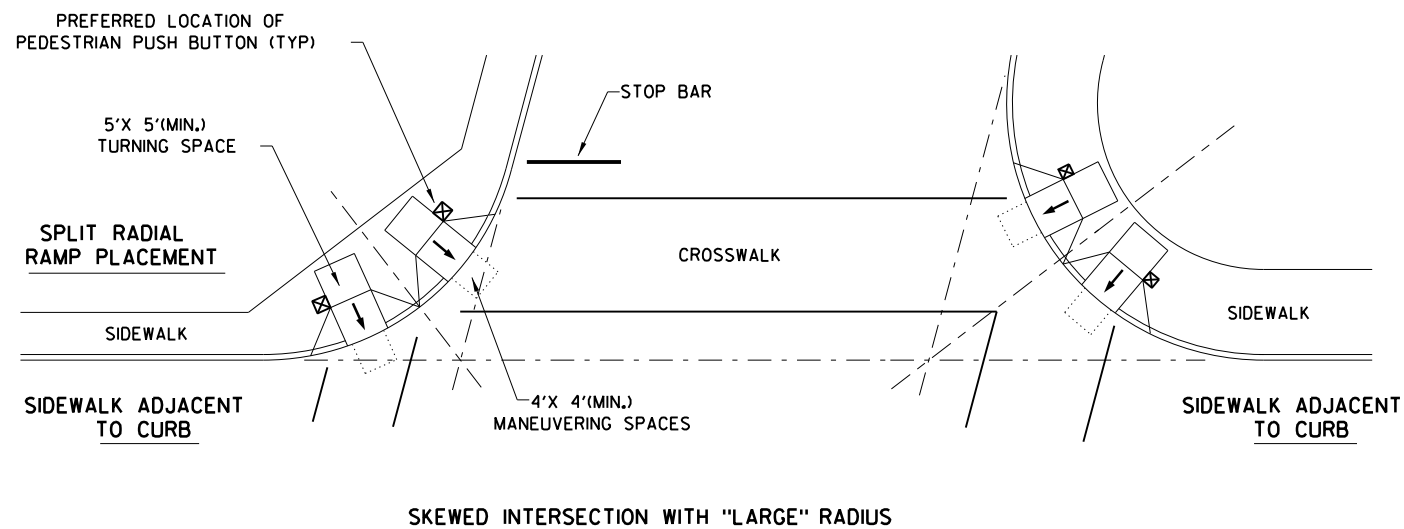
PROTRUDING OBJECTS OF A HEIGHT 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

SHEET 3 OF 4

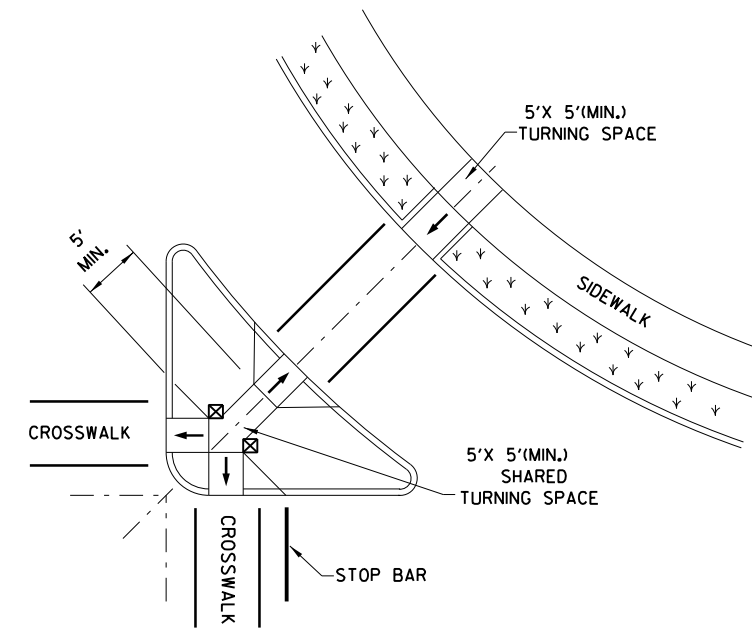
		Design Division Standard	
<b>PEDESTRIAN FACILITIES</b> <b>CURB RAMPS</b> <b>PED-18</b>			
FILE: ped18	DN: TxDOT	DW: VP	CK: KM
© TxDOT: MARCH, 2002	CONT	SECT	JOB
REVISIONS	DIST		COUNTY
REVISED 08/2005	SHEET NO.		
REVISED 06/2002			
REVISED 02/2008			

DATE: FILE:

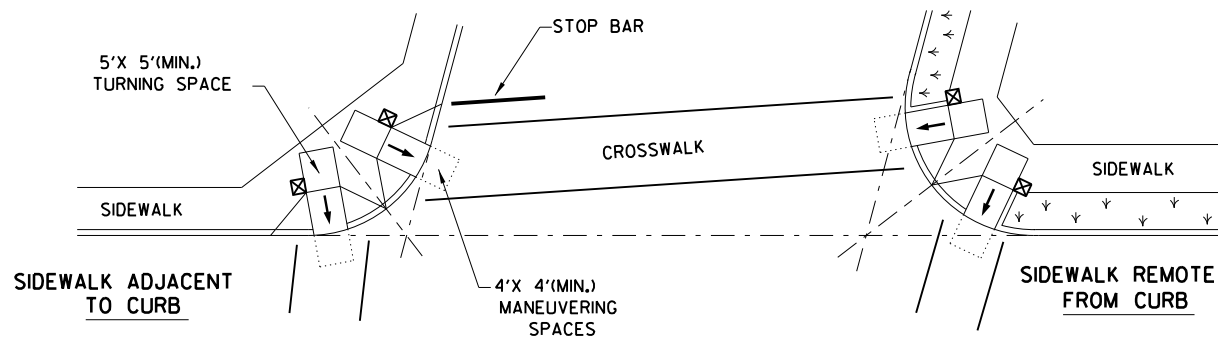
TYPICAL CROSSING LAYOUTS  
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



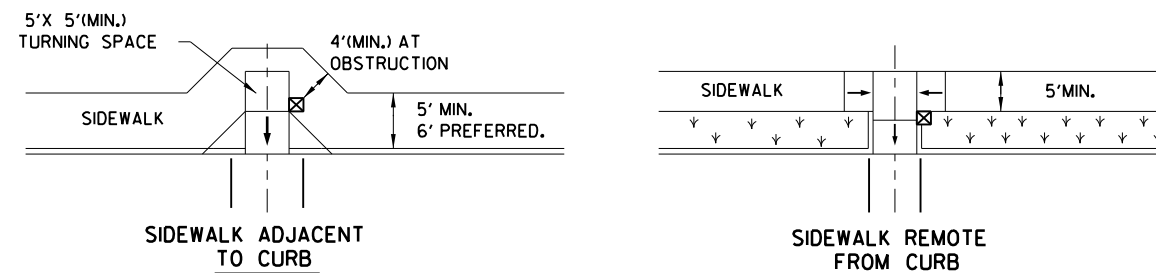
SKewed INTERSECTION WITH "LARGE" RADIUS



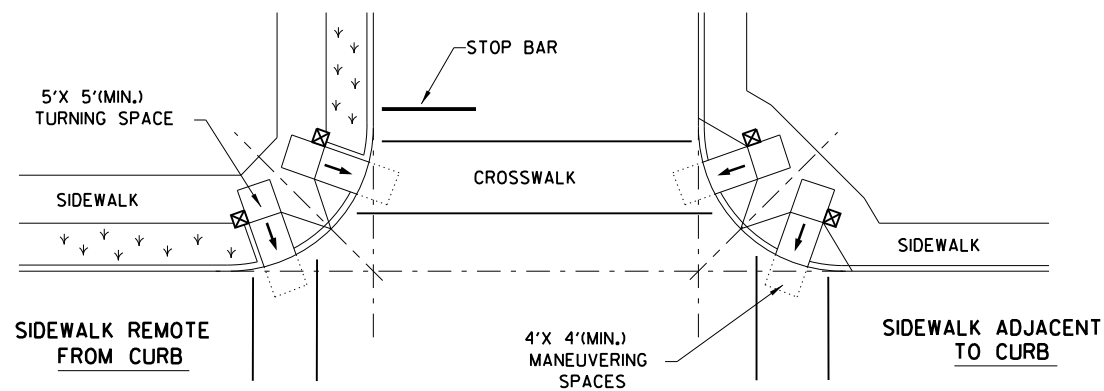
AT INTERSECTION  
W/FREE RIGHT TURN & ISLAND



SKewed INTERSECTION WITH "SMALL" RADIUS



MID-BLOCK PLACEMENT  
PERPENDICULAR RAMPS



NORMAL INTERSECTION WITH "SMALL" RADIUS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ☒

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH. ↙ ↘ ↙ ↘ ↙ ↘

SHEET 4 OF 4



PEDESTRIAN FACILITIES  
CURB RAMPS  
PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
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REVISIONS				
REVISED 08/2005				
REVISED 06/2012				
REVISED 01/2018				
	DIST	COUNTY		SHEET NO.

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