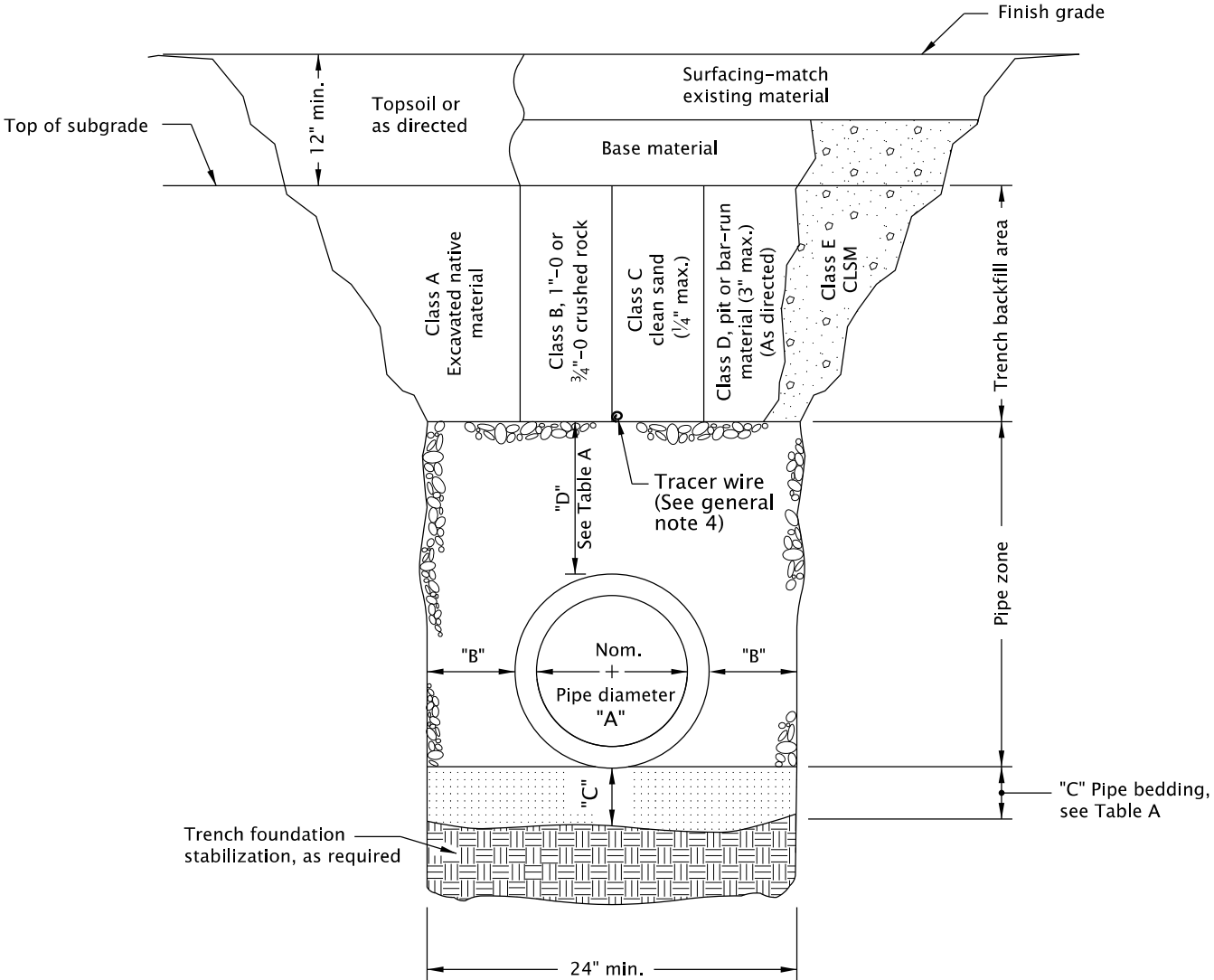


TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter,  
see general note 3.



MULTIPLE INSTALLATIONS	
DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (1/2) dia. of pipe

- GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:
1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
  2. For pipe installation in embankment areas where the trench method will not be used and the pipe is  $\geq 36$ " diameter, increase dimension "B" to nominal pipe diameter.
  3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
  4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO.   N/A   SDR DATE   14-JUL-2014  

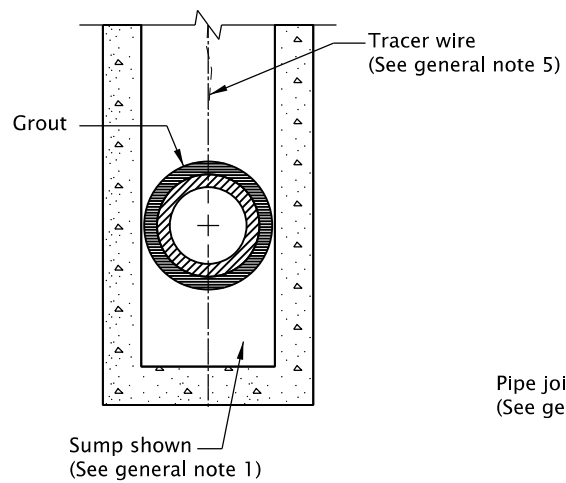
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS	
TRENCH BACKFILL, BEDDING, PIPE ZONE AND MULTIPLE INSTALLATIONS	
2021	
DATE	REVISION DESCRIPTION

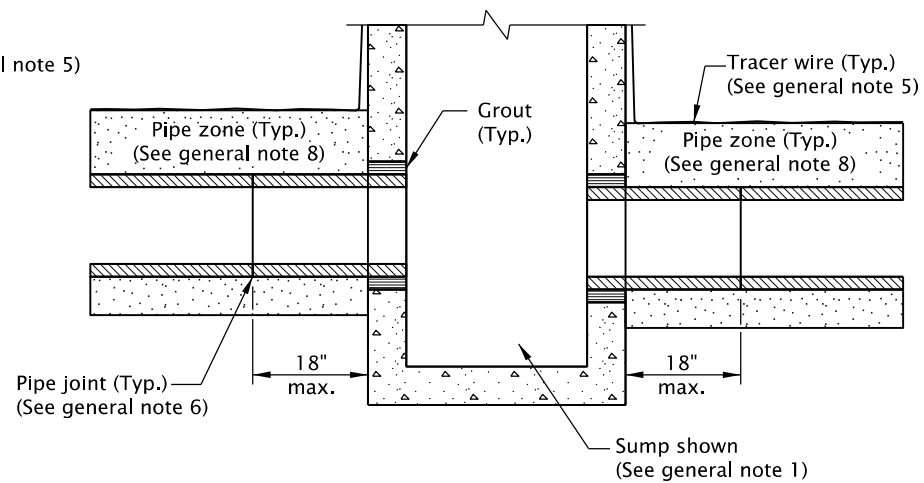
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

rd339.dgn 19-JUL-2021

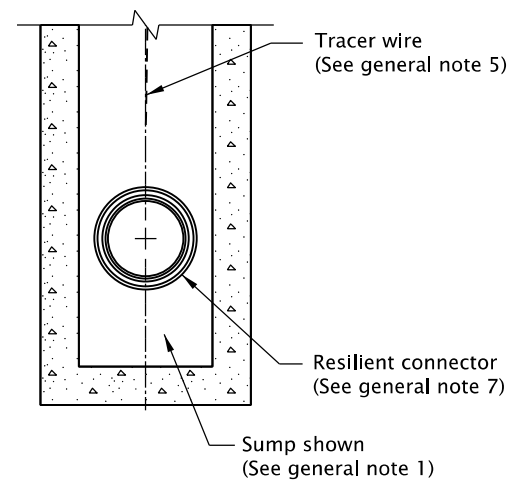
RD339



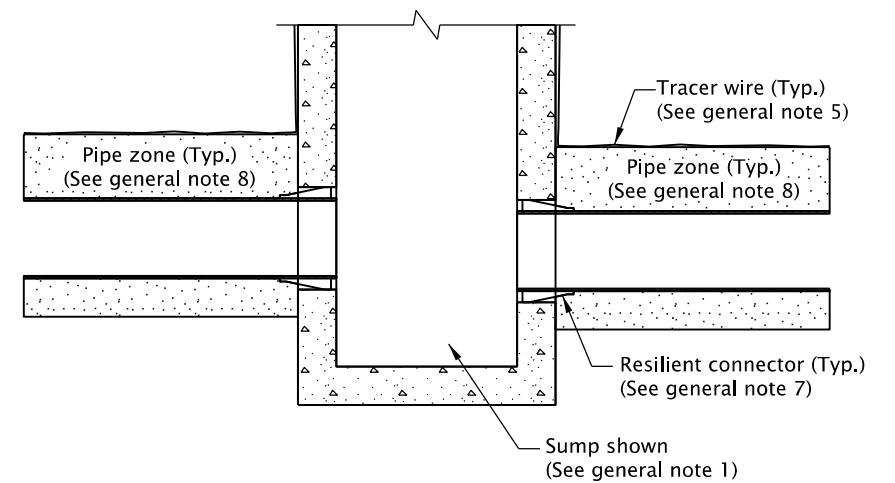
SECTION B-B



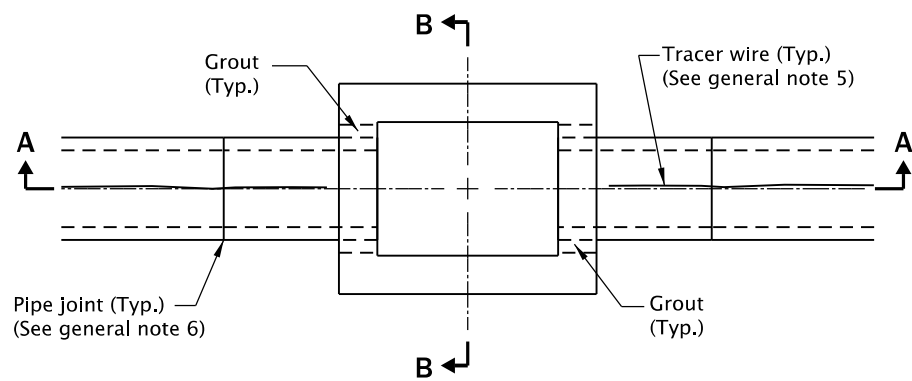
SECTION A-A



SECTION D-D

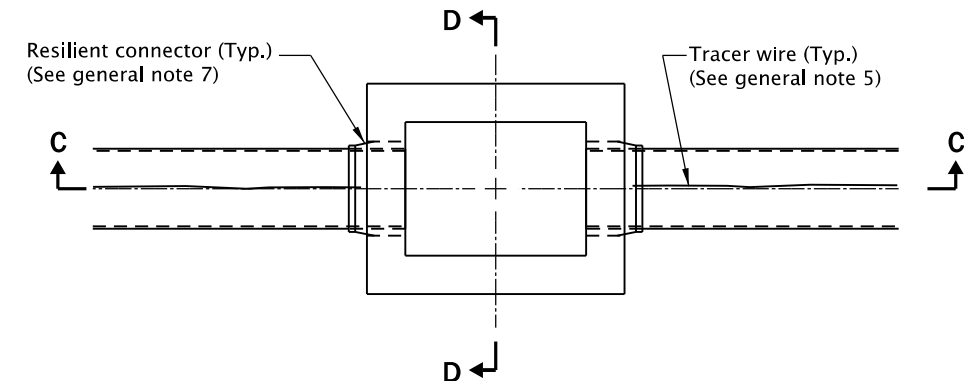


SECTION C-C



PLAN

CONNECTION OF RIGID PIPE TO STRUCTURE



PLAN

CONNECTION OF FLEXIBLE PIPE TO STRUCTURE

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. See Std. Dwgs. RD364, RD365, and RD366 for inlet details not shown.
2. See appropriate standard drawings or special project details for other similar structures.
3. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
4. Maximum pipe diameter varies with pipe material.
5. All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
6. When rigid pipe is used, the connecting pipe shall have a flexible, gasketted and unrestrained joint within 18" of structure wall. Joint type varies with manufacturer.
7. When flexible pipe is used, install resilient connectors conforming to requirements of ASTM C923.
8. Pipe zone varies, see Std. Dwg. RD300.

CALC. BOOK NO. N/A

SDR DATE 19-JUL-2021

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

PIPE TO STRUCTURE CONNECTIONS

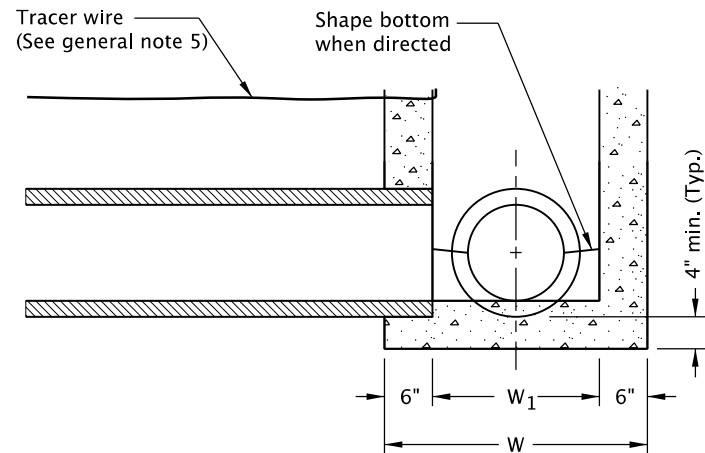
2021

DATE	REVISION	DESCRIPTION
07-2021	REVISED NOTES	

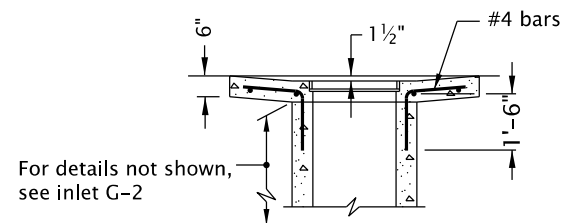
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

Effective Date: June 1, 2022 – November 30, 2022

RD339



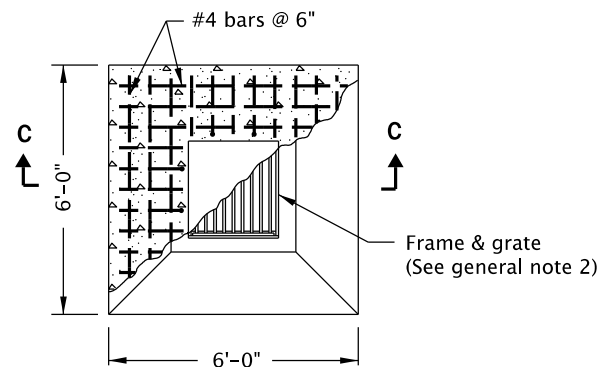
DETAIL A  
WITHOUT SUMP



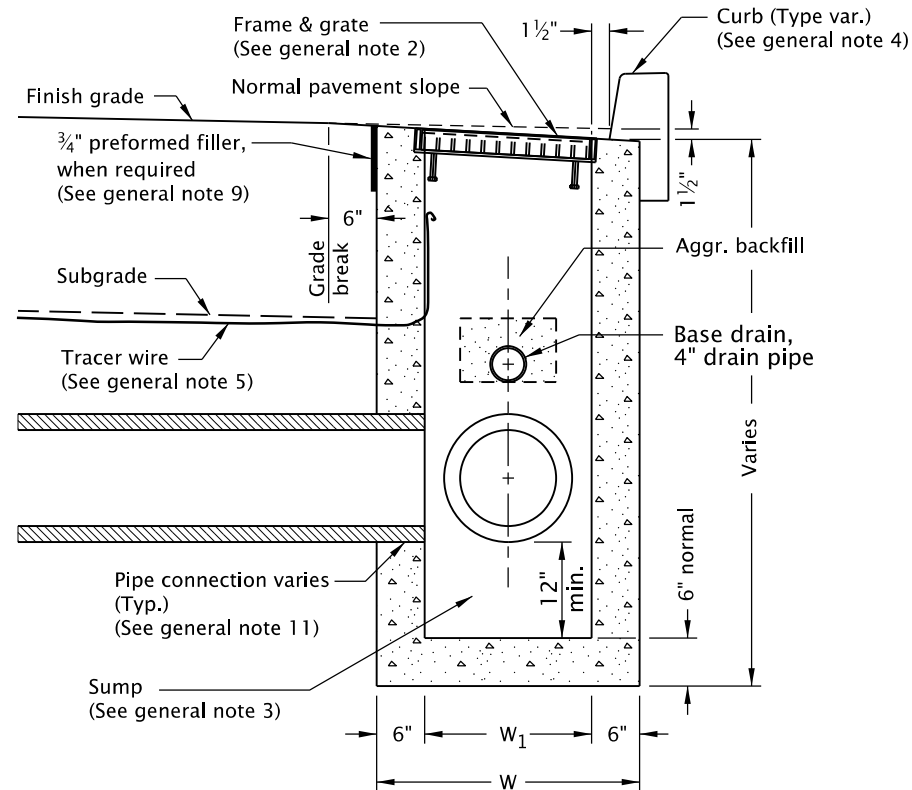
SECTION C-C

NOTE:

All reinforcement to be placed 2" clear of nearest face of concrete unless shown or noted otherwise



PLAN  
TYPE G-2MA

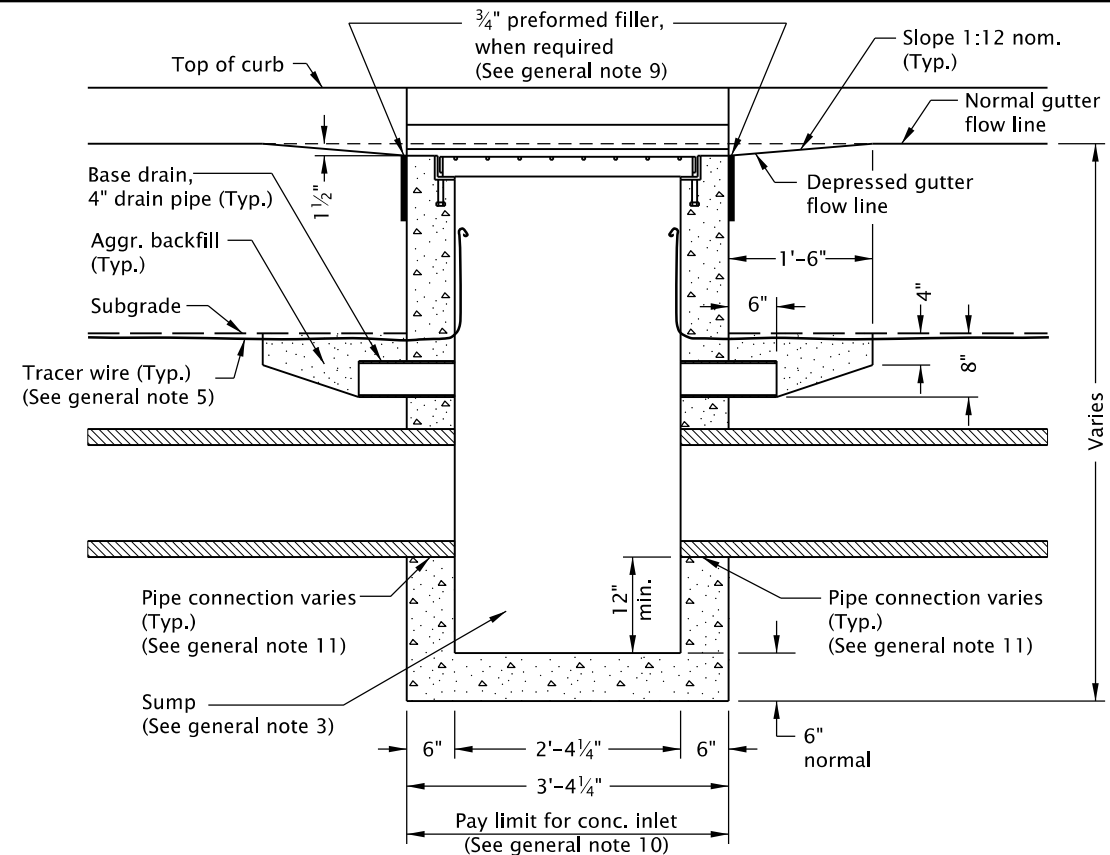


SECTION B - B

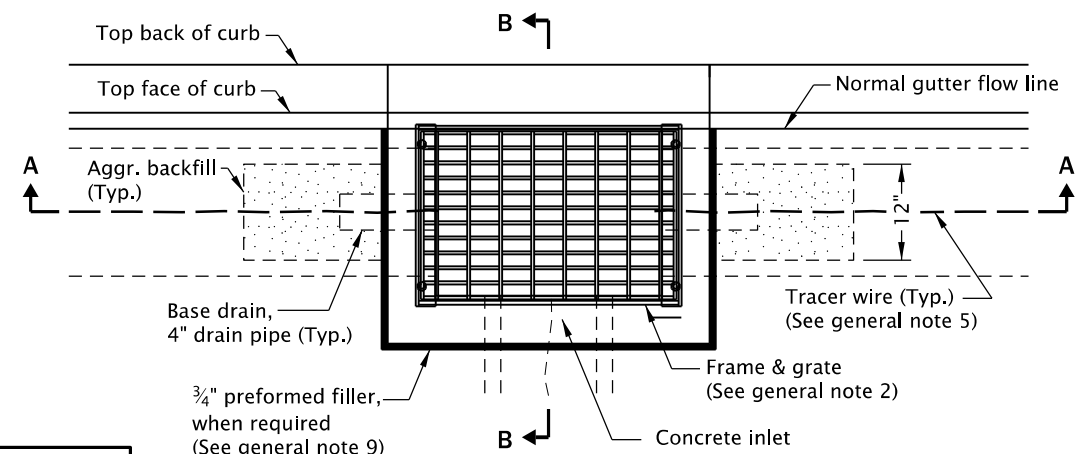
TABLE A		
INLET TYPE	W	W <sub>1</sub>
G-1	2'-8 7/8"	1'-8 7/8"
G-2, G-2M, G-2MA	3'-3 3/8"	2'-3 3/8"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or 1/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
- Graphics show G-1 inlet with Type 2 grate. See Table A for inlet dimensions.  
Type 1 grate allowed only in locations not subject to bicycle or pedestrian use.  
For frame and grate details, see Std. Dwg. RD365.
- Provide sump only where shown on plans, and allowed by jurisdiction. See Detail A for inlet without sump.
- For curb details, see Std. Dwgs. RD700 & RD701.
- See Std. Dwg. RD336 for tracer wire details, or approved alternate.
- Max. pipe diameter varies with pipe material.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
- All concrete shall be commercial grade concrete.
- 3/4" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
- See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
- See Std. Dwg. RD339 for pipe to structure connections.



SECTION A - A



PLAN  
TYPE G-1, G-2, G-2M

CALC. BOOK NO. N/A

SDR DATE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

CONCRETE INLETS  
TYPE G-1, G-2, G-2M, & G-2MA

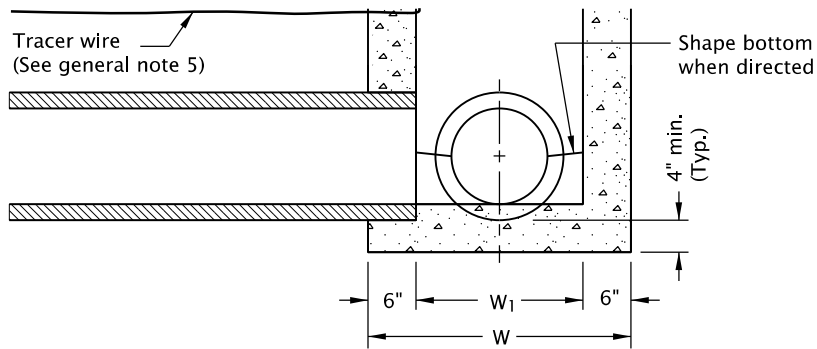
2021

DATE	REVISION	DESCRIPTION

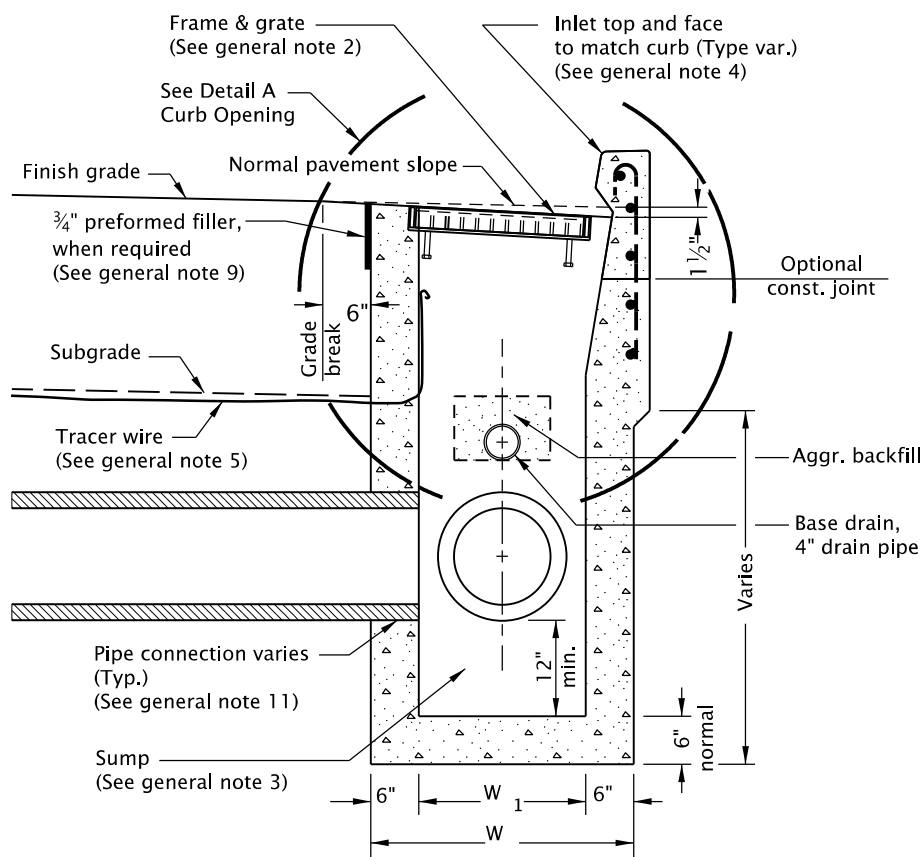
rd366.dgn 20-JUL-2020

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

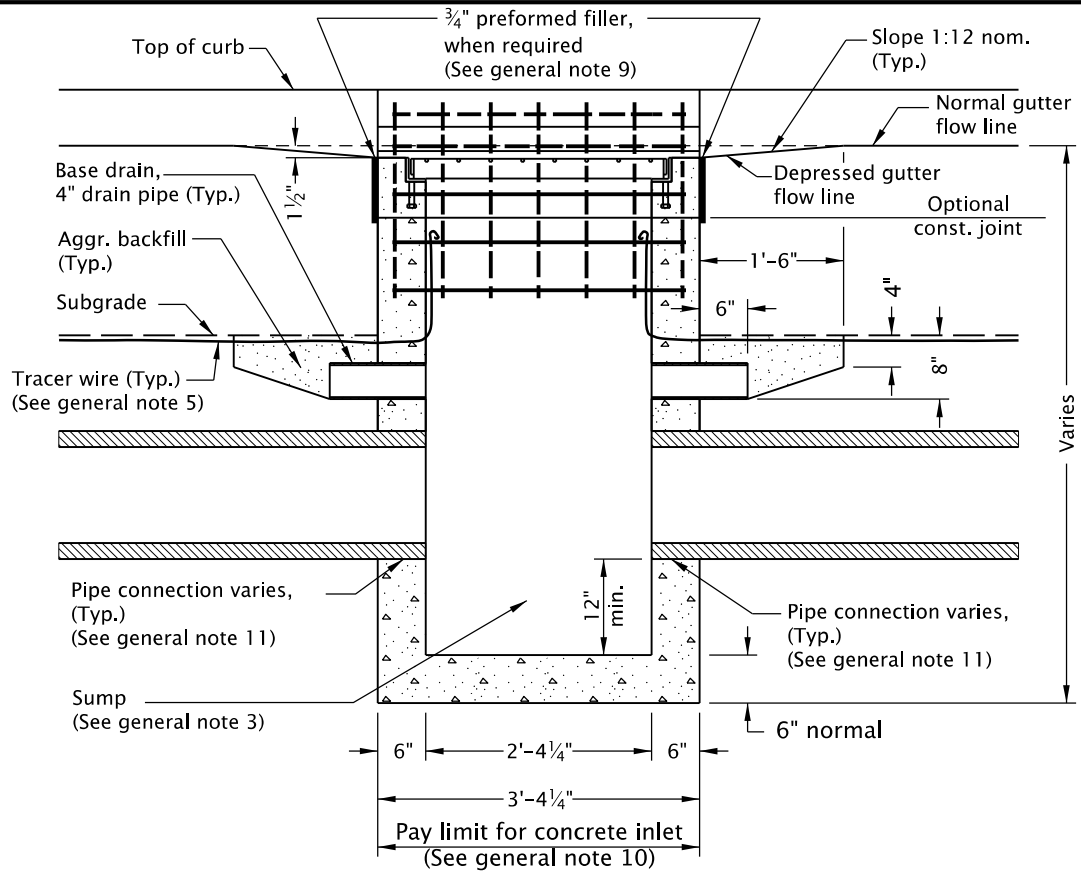
1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show CG-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Dwg. RD365.
3. Provide sump only where shown on plans, and allowed by jurisdiction. See Detail B for inlet without sump.
4. For curb details, see Std. Dwg. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ¾" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required.
11. See Std. Dwg. RD339 for pipe to structure connections.



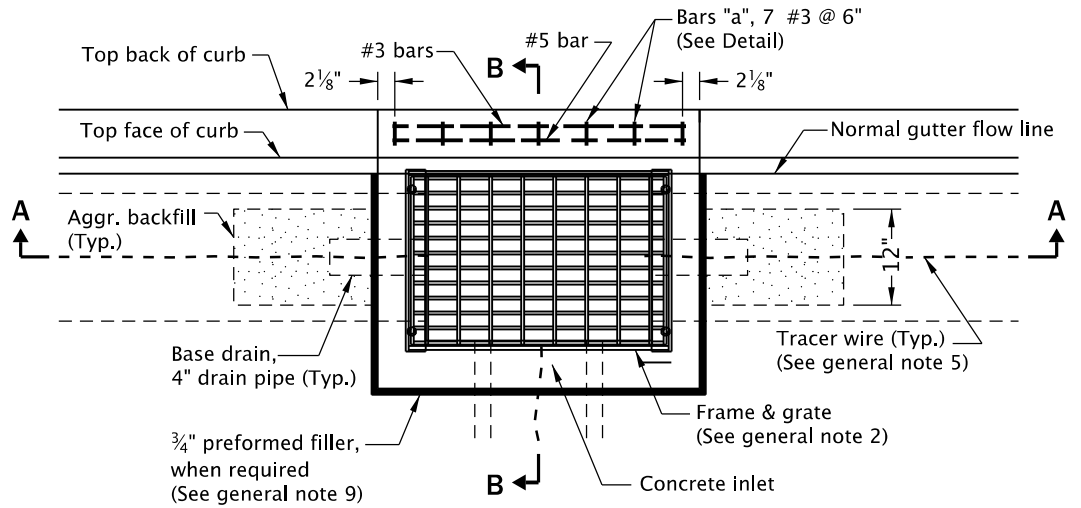
DETAIL B WITH-OUT SUMP



SECTION B - B



SECTION A - A



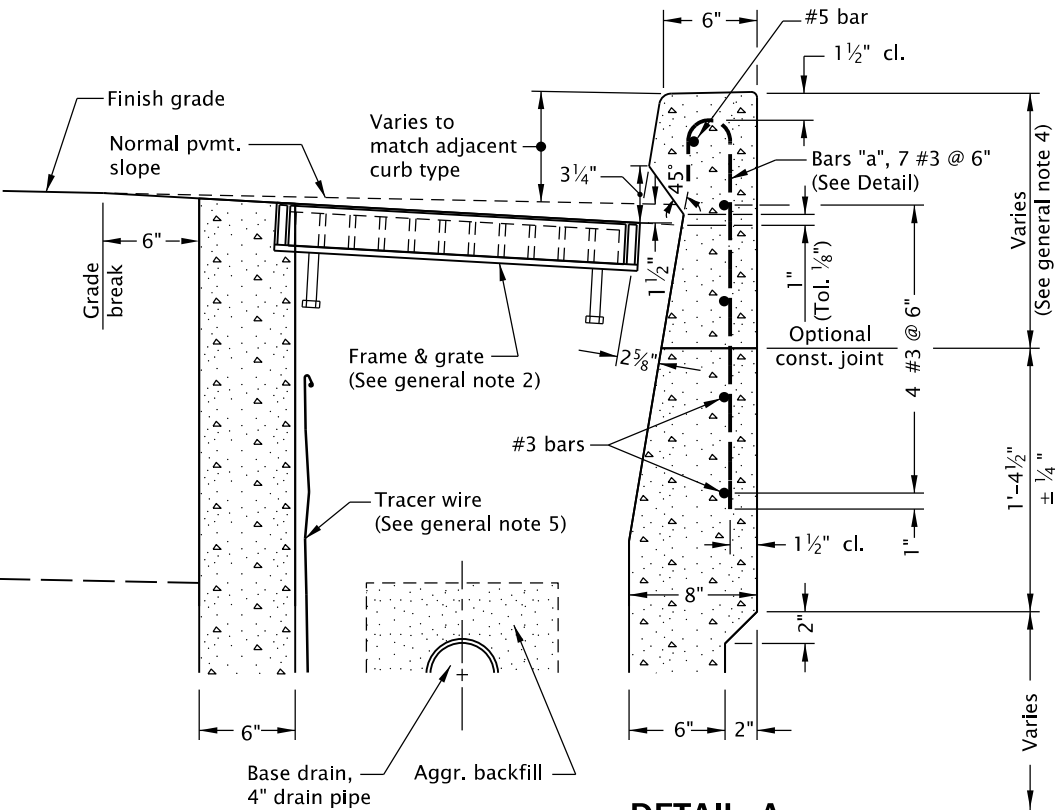
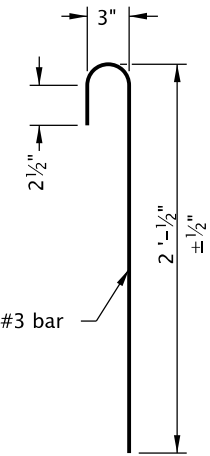
PLAN

TABLE A		
INLET TYPE	W	W <sub>1</sub>
CG-1	2'-8 5/8"	1'-8 5/8"
CG-2	3'-3 3/8"	2'-3 3/8"

NOTES:

1. #3 "a" bars to be placed during curb construction.
2. All bars to be placed 1 ½" clear of nearest face of concrete unless shown or noted otherwise.
3. All bars shall be full length.

BAR "a" DETAILS



DETAIL A CURB OPENING

NOTE:  
Use details shown on Std. Dwg. RD367 when curb inlet channels are used.

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

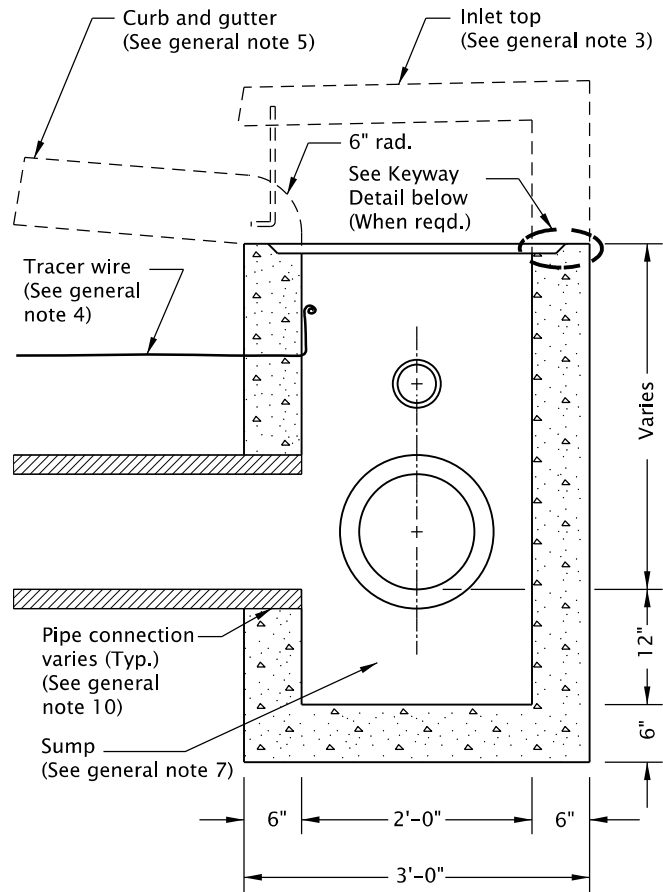
CONCRETE INLETS  
TYPE CG-1, CG-2

2021

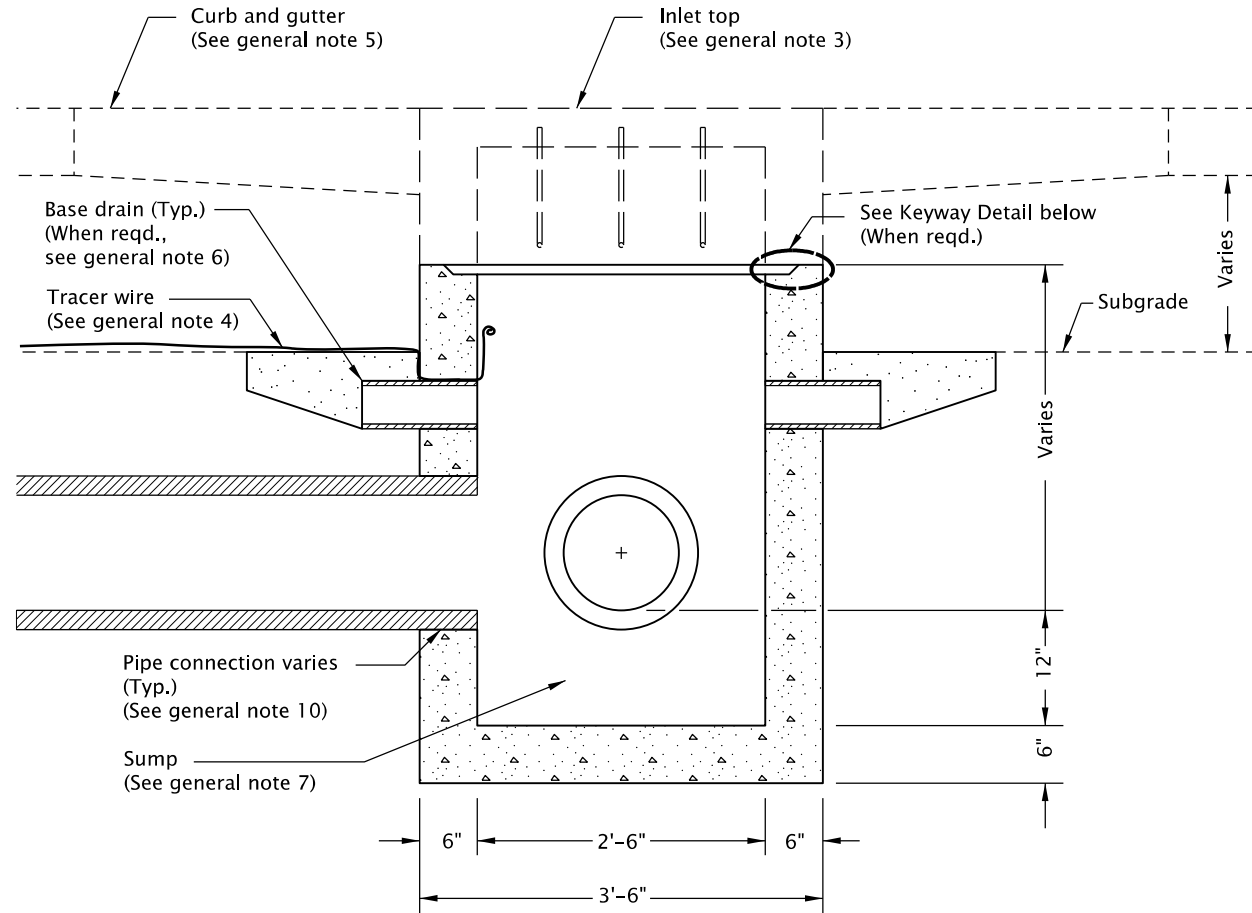
DATE	REVISION	DESCRIPTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

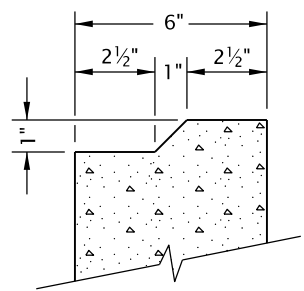
RD366



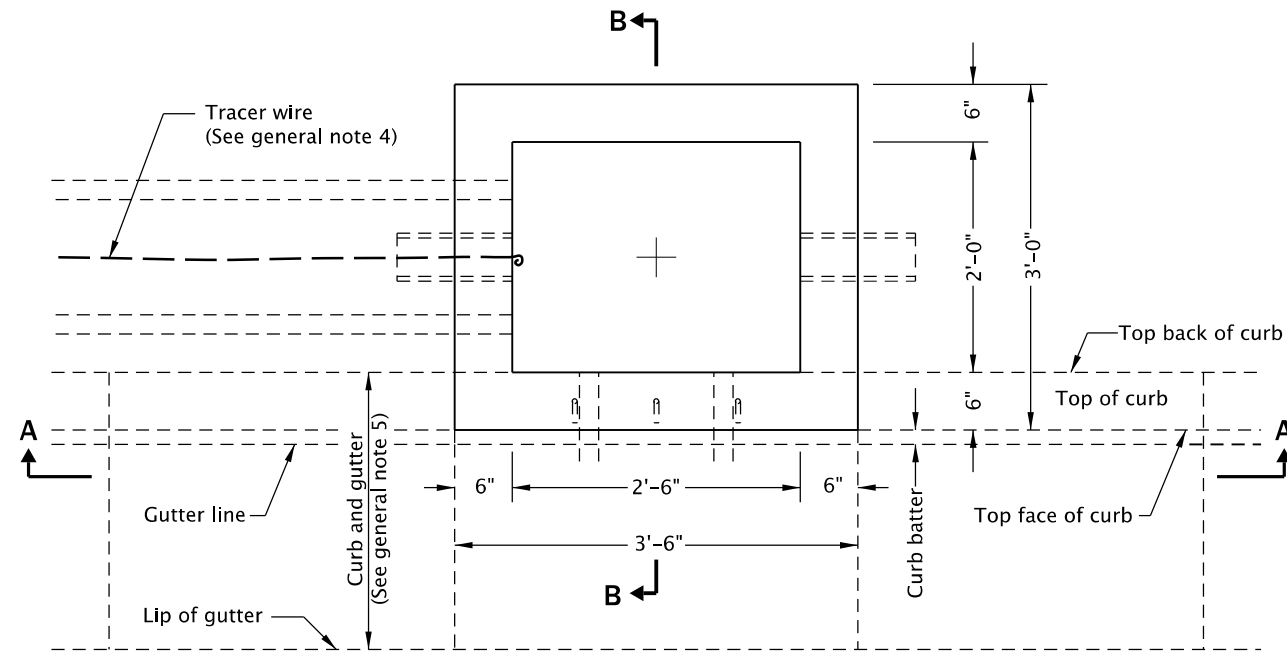
SECTION B - B



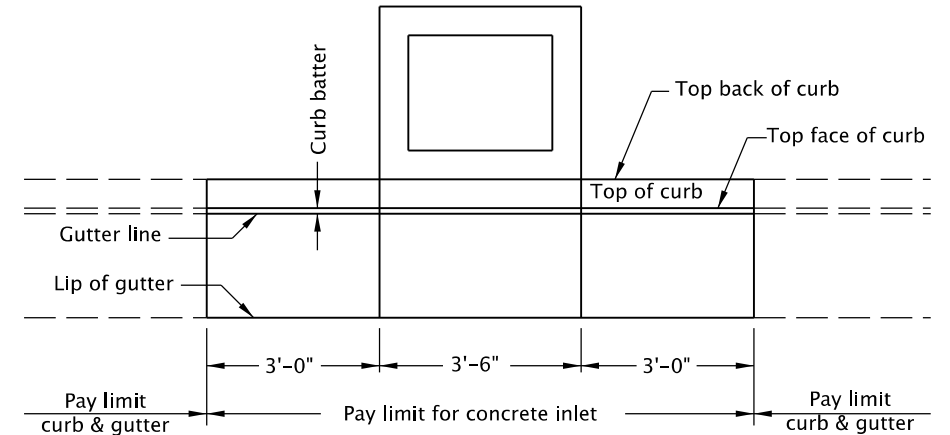
SECTION A - A



KEYWAY DETAIL



PLAN

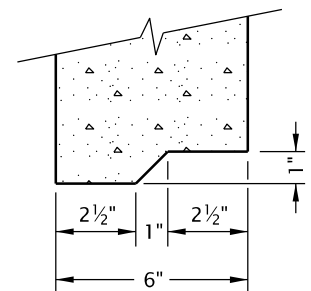
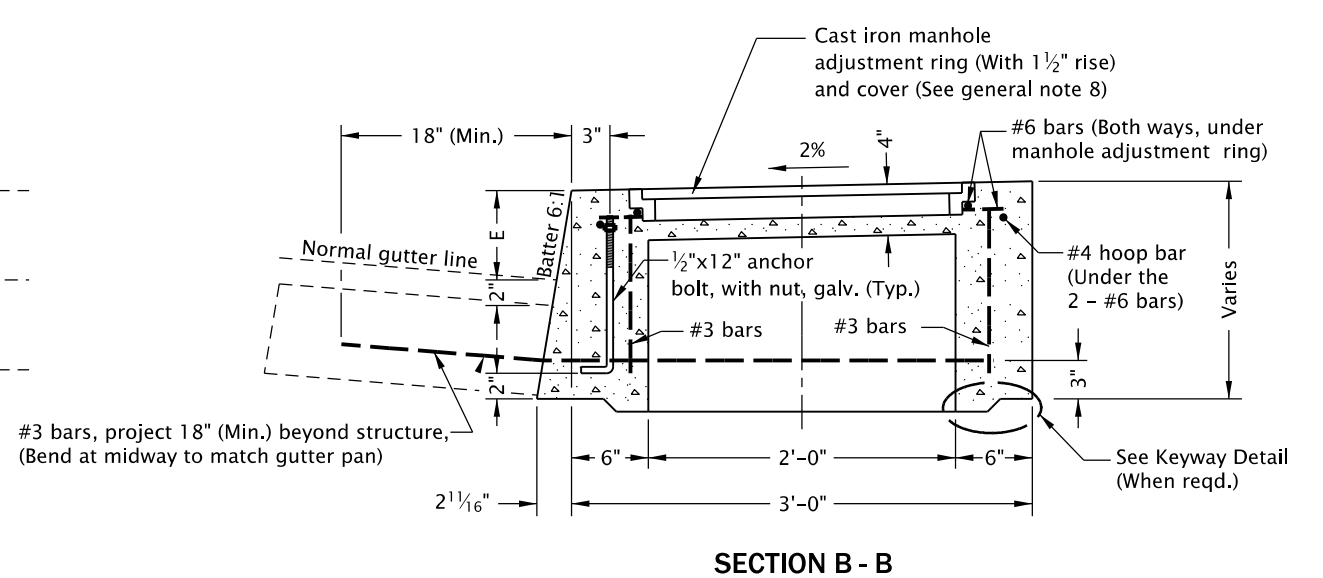
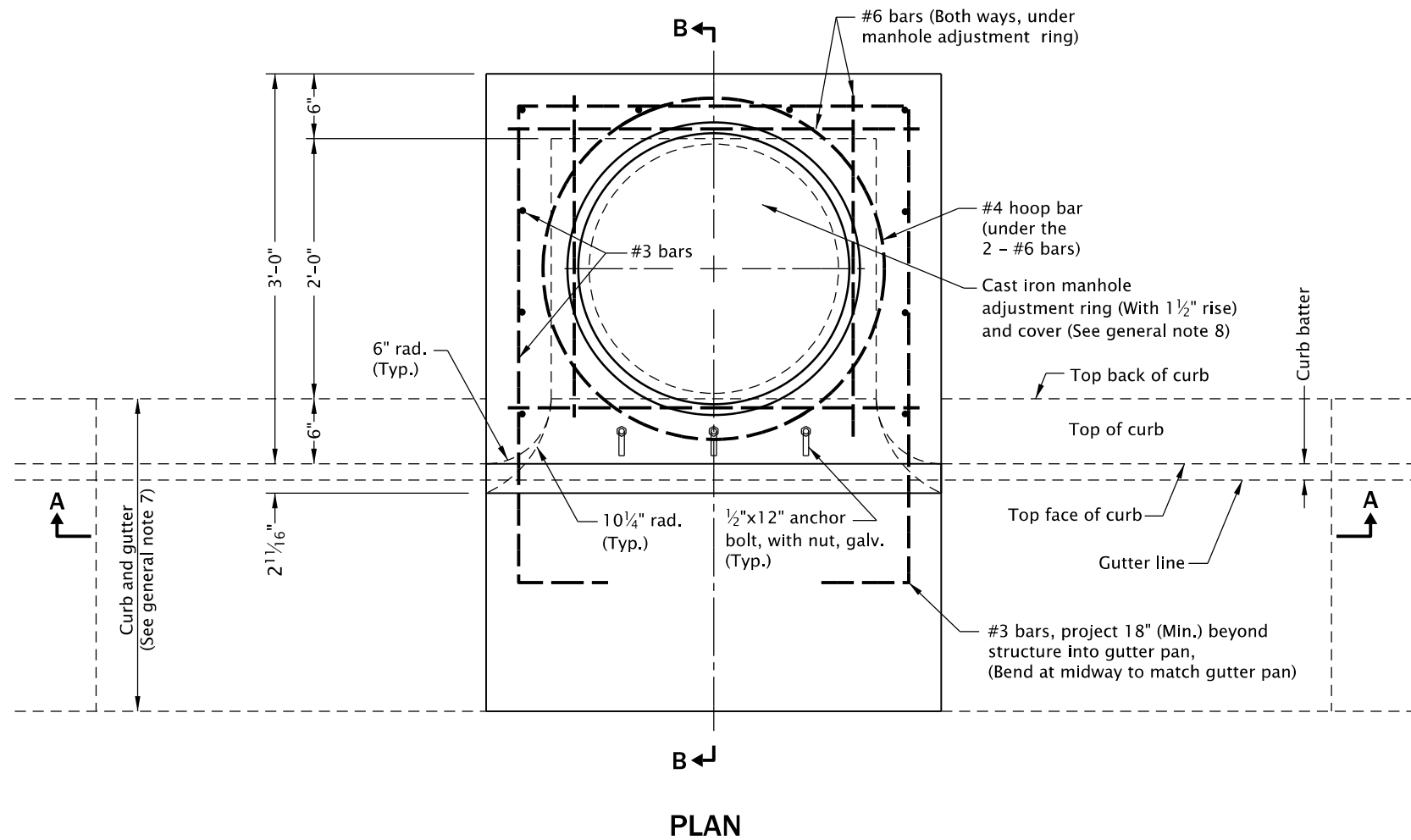
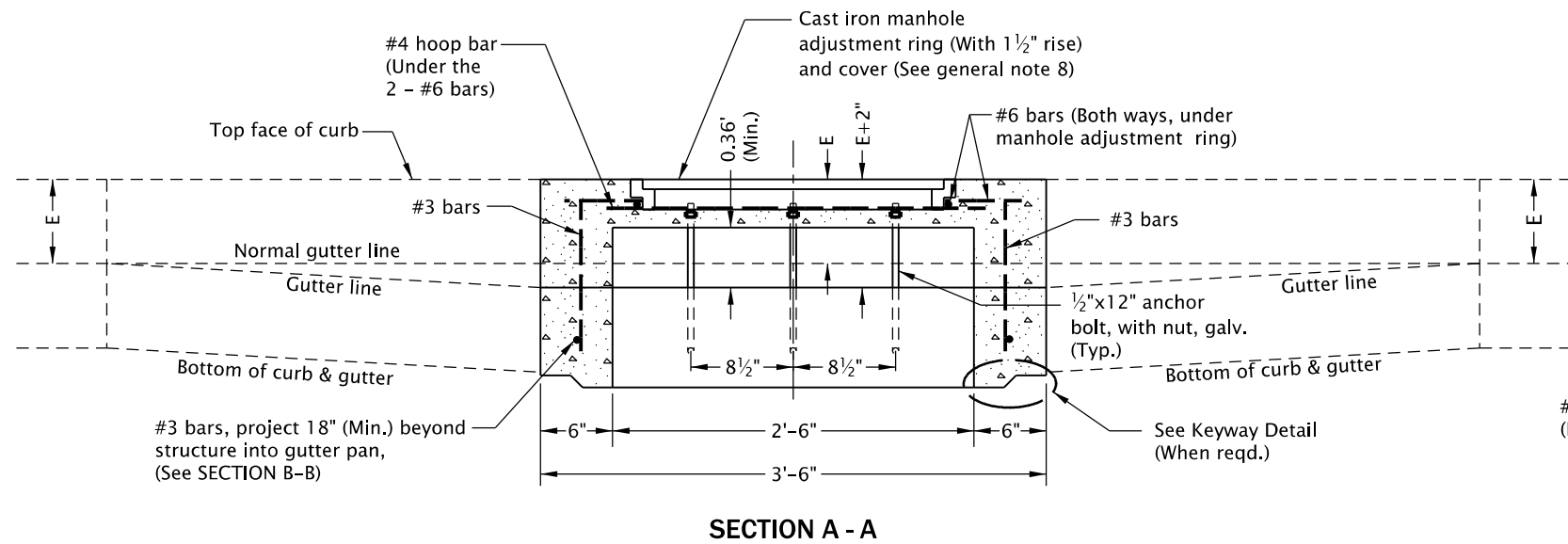


PLAN  
PAY LIMIT

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or 1/4"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
3. See Std. Dwgs. RD372 & RD373 for inlet top details.
4. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
5. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
6. See Std. Dwg. RD364 for base drain details.
7. Provide sump only where shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
8. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
9. Max. pipe diameter varies with pipe material.
10. See Std. Dwg. RD339 for pipe to structure connections.

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>21-JUL-2015</u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>CONCRETE INLET BASE</b>	
		<b>TYPE CG-3</b>	
		2021	
	DATE	REVISION DESCRIPTION	



GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. All concrete shall be commercial grade concrete.
2. Inlet top may be cast-in-place or precast. All precast inlets shall conform to requirements of ASTM C913.
3. All reinforcement shall be 2" clear of nearest face of conc., unless otherwise shown.
4. Vary anchor bolt length and reinforcing bar placement as required by curb exposure E (See note 7 below).
5. See Std. Dwg. RD371 for inlet base details.
6. See Std. Dwg. RD371 for inlet pay limit.
7. See Std. Dwgs. RD700 & RD701 for curb and gutter details.
8. See Std. Dwg. RD356 for cast iron manhole adjustment ring and cover.

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>16-JAN-2019</u>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>CONCRETE INLET TOP, OPTION 1</b>	
		<b>TYPE CG-3</b>	
		2021	
	DATE	REVISION DESCRIPTION	



Vary slope as reqd. for drainage.  
Vary where shown on plans, and  
allowed by jurisdiction.

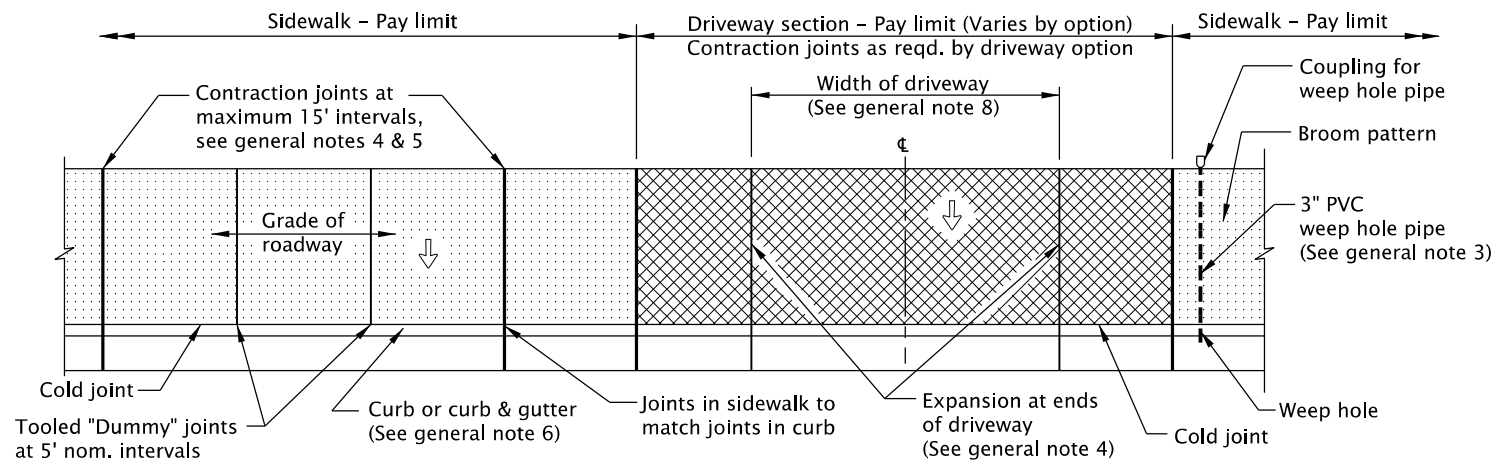


5. Tops of all curbs shall slope toward the roadway at 1.5% max. (Max. 2.0% finished surface slope), unless otherwise shown, or as directed.
6. Dimensions are nominal, vary to conform with curb machine approved by the engineer.
7. Dimensions adjacent to radii are measured to the point of intersection of curb surfaces.
8. For sidewalk details, and monolithic curb & sidewalk, see Std. Dwgs. RD720 & RD721.
9. For drainage curbs, see Std. Dwg. RD701.
10. For curb ramp details, see Std. Dwgs. RD900 series.
11. On or along state highways, curb and gutter is required at curb ramp.

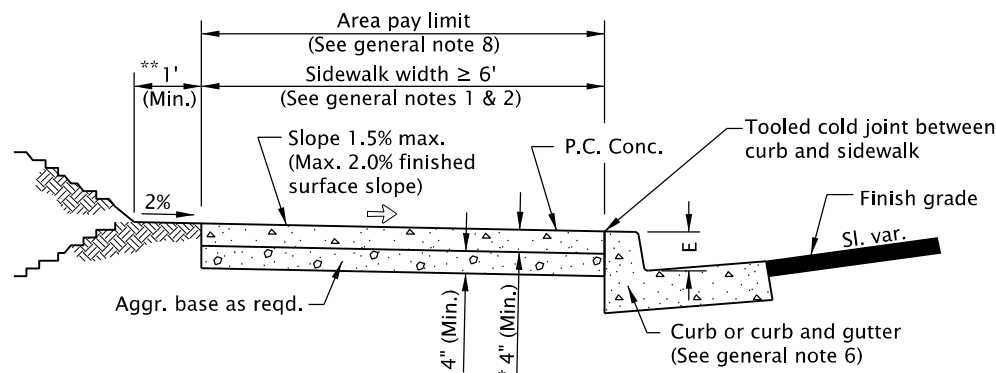
DATE	REVISION DESCRIPTION

rd720.dgn 20-JUL-2020

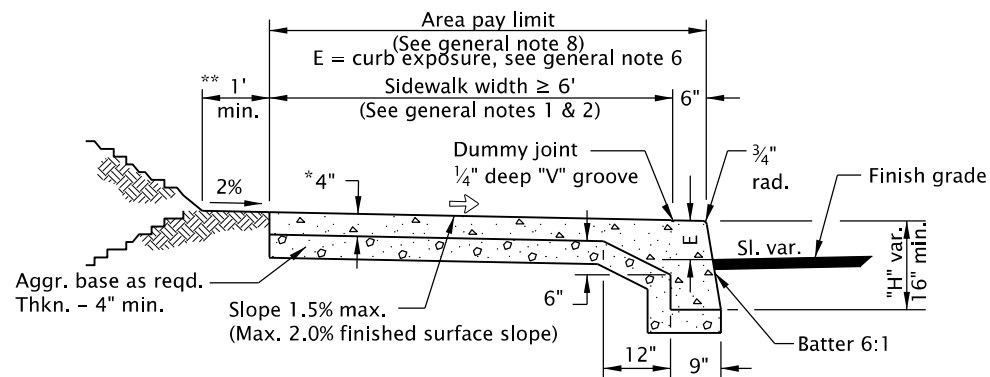
RD720



TYPICAL PLAN VIEW - CURB LINE SIDEWALK



TYPICAL CURB SIDEWALK CROSS SECTION



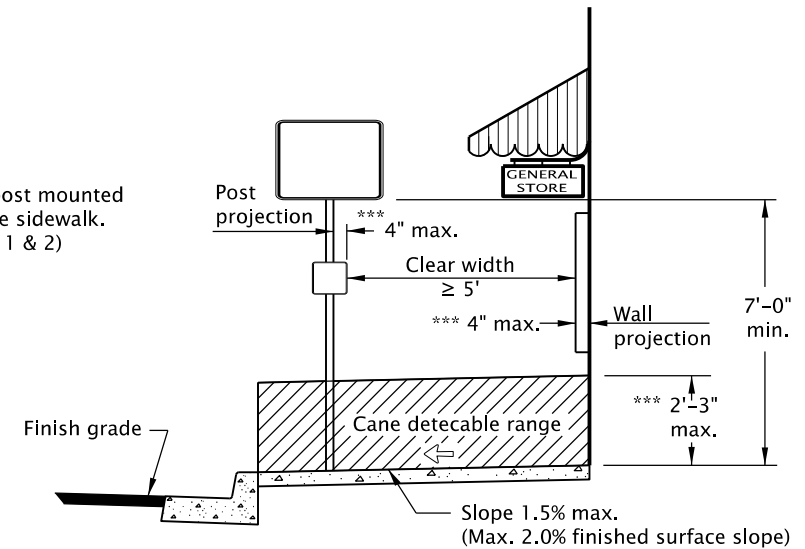
TYPICAL MONOLITHIC CURB & SIDEWALK CROSS SECTION

E = curb exposure, see general note 6

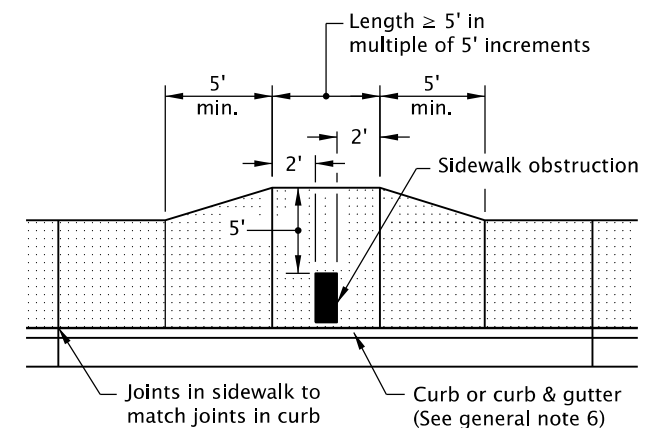
- \* Min. 4" or as specified in plans. A thickness  $\geq 6"$  if sidewalk is intended as portion of a driveway or mountable curb is used.
- \*\* Provide compacted backfill adjacent to curb and sidewalk

\*\*\* Objects with base below 2'-3" may protrude any distance as long as the 5' circulation path is maintained. When an object with a base higher than 2'-3" protrudes further than 4" provide a detection below protrusion to delineate edge.

Building, wall, or post mounted obstruction outside sidewalk. (See general notes 1 & 2)



CLEAR CIRCULATION PATH



REQUIRED SIDEWALK WIDENING AROUND OBSTRUCTIONS

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Include additional paved or unpaved 2' shy distance to vertical faces higher than 5' such as retaining walls, sound walls, fences and buildings.
2. Curb type and sidewalk width as shown on plans or as directed. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint.
3. Install 3" pvc weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See Std. Dwg. RD700 for weep hole details.
4. Provide expansion joints around poles, posts, boxes, at ends of each driveway, and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb & sidewalk, const. expansion joints at 45' maximum spacing. See Std. Dwg. RD722 for expansion joints details.
5. Const. contraction joints at 15' maximum spacing, and at ends of each curb ramp. See Std. Dwg. RD722 for contraction joints details.
6. For curb details, see Std. Dwgs. RD700 & RD701. ODOT standard E=7".

7. Sidewalk details are based on applicable ODOT standards.
8. Fully lowered sidewalk shown; see project plans for the driveway design specified. For driveway details not shown, see Std. Dwgs. RD725, RD730, RD735, RD740, RD745 & RD750.
9. See project plans for details not shown.

LEGEND

- Sidewalk pay limit.
- Driveway pay limit, varies by option, (See general note 8).
- Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)

CALC. BOOK NO. N/A

SDR DATE 21-JUN-2019

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

CURB LINE SIDEWALKS

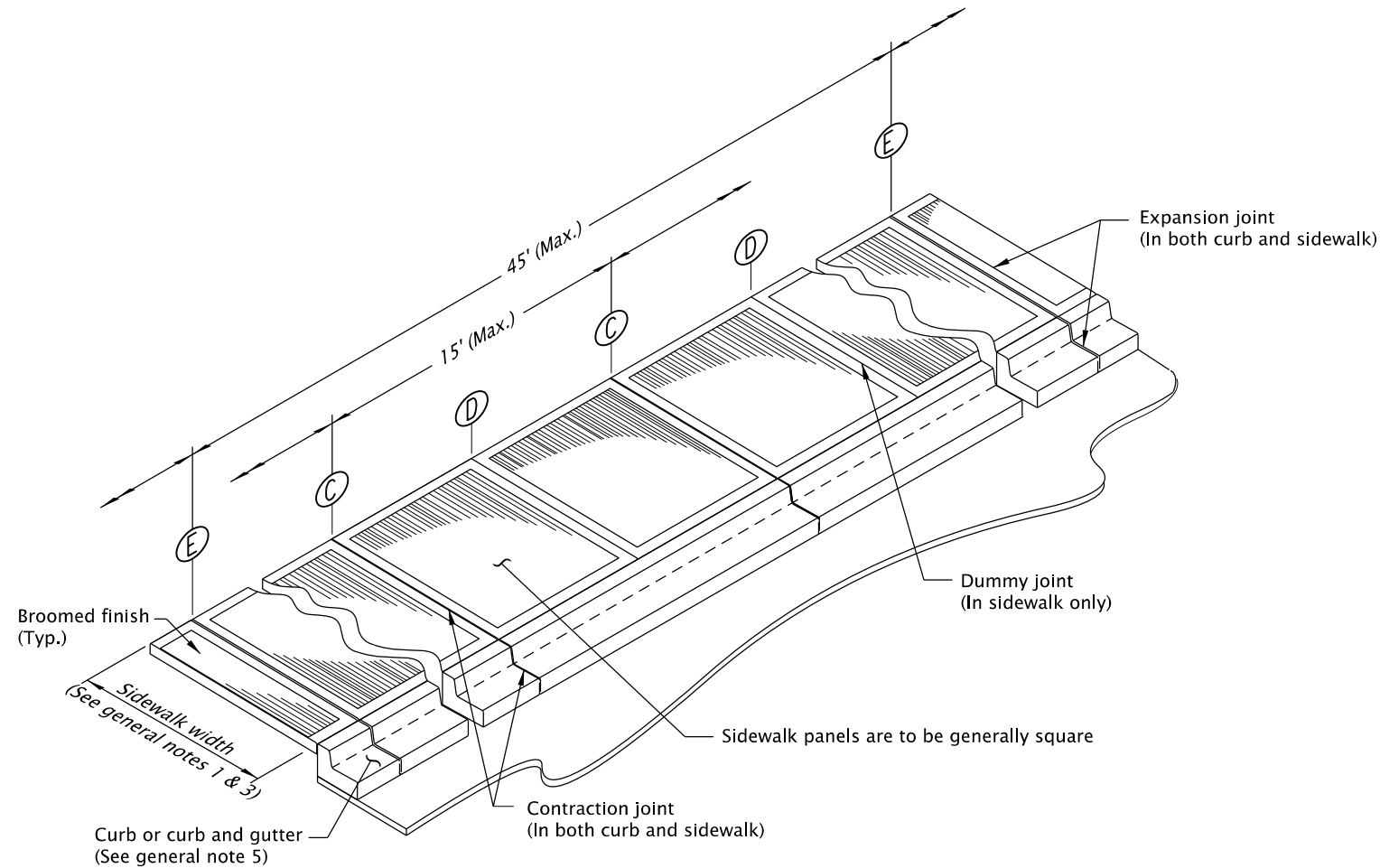
2021

DATE	REVISION	DESCRIPTION

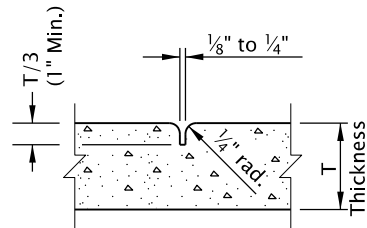
Effective Date: December 1, 2021 - May 31, 2022

RD720

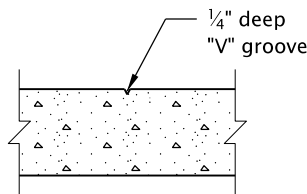




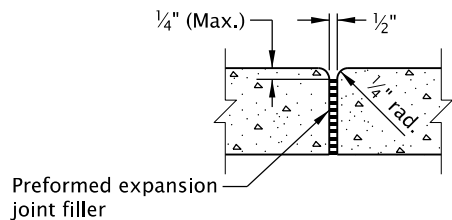
**JOINT DETAIL**  
(Curb line sidewalk with curb and gutter shown)



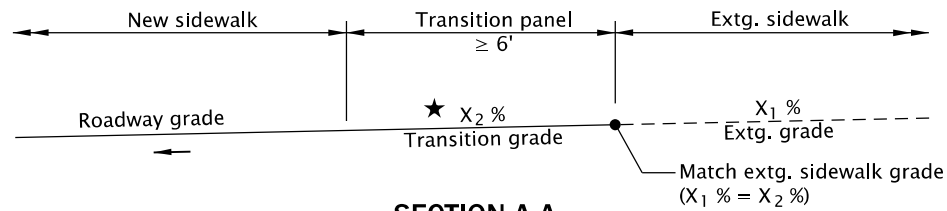
**© CONTRACTION JOINT**  
(See general note 6)



**© DUMMY JOINT**

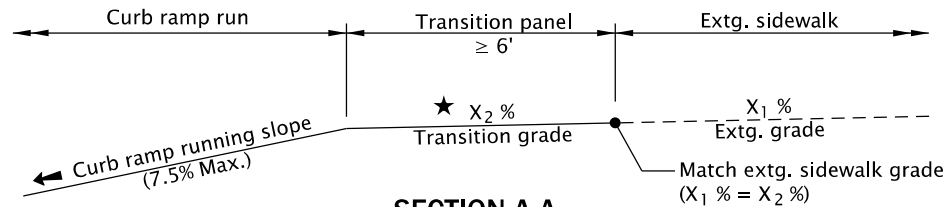


**© EXPANSION JOINT**  
(See general notes 2 & 5)

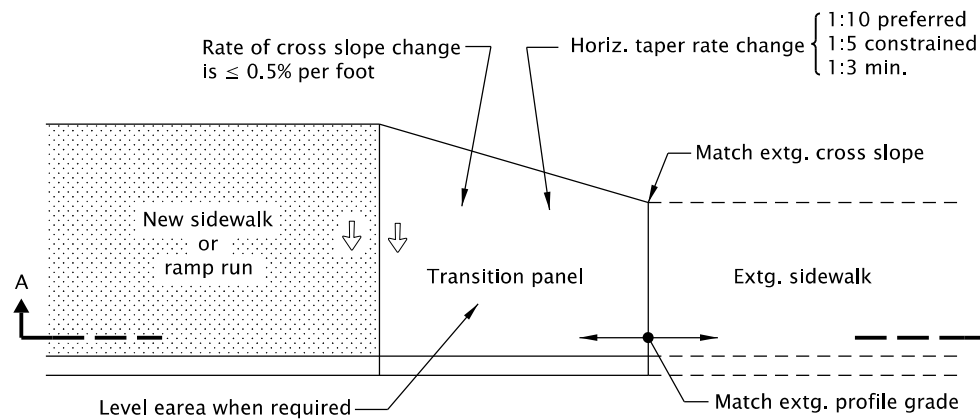


**SECTION A-A**  
(SIDEWALK TRANSITION PANEL SHOWN)

★ Project the existing sidewalk profile grade through transition panel to new sidewalk or curb ramp run.



**SECTION A-A**  
(CURB RAMP TRANSITION PANEL SHOWN)



**PLAN**

**SIDEWALK AND CURB RAMP TRANSITION PANELS**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. See Std. Dwgs. RD720 & RD721 for concrete sidewalk details. See project plans for sidewalk width, placement and design specified.
2. Provide expansion joints around poles, boxes, at ends of each driveway and other fixtures which protrude through or against the structures. For sidewalk, monolithic curb and sidewalk, construction expansion joints at 45' max. spacing.
3. On sidewalks 8' and wider, provide a longitudinal joint at the midpoint of sidewalk panel.
4. See Std. Dwgs. RD700 & RD701 for concrete curb details. See project plans for the curb design specified.
5. For curb ramps, do not place expansion joints within the limits of curb ramps and between separate concrete pours.
6. Const. contraction joints at 15' max. spacing, and at each curb ramp, driveway, sidewalk and curb.

**LEGEND:**

- New sidewalk or ramp run
- Slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
- Slope 7.5% max.  
(Max. 8.3% finished surface slope)
- Zero exposure

CALC. BOOK NO. N/A

SDR DATE 20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications




**OREGON STANDARD DRAWINGS**  
**SIDEWALK JOINTS AND TRANSITION PANELS**


2021	
DATE	REVISION DESCRIPTION


CURB RAMP INDEX


STD. DWG. NO.	STD. DWG. TITLE
RD900	Curb Ramp Components And Legend
RD901	Curb Ramp Legend And Corner Identification
RD902	Detectable Warning Surface Details
RD904	Detectable Warning Surface Placement For Curb Ramps
RD905	Detectable Warning Surface Placement For Directional Curbs
RD906	Detectable Warning Surface Placement For Accessible Route Island
RD908	Detectable Warning Surface Placement
RD910, RD912	Perpendicular Curb Ramp
RD913	Perpendicular Curb Ramp With Closure
RD916	Perpendicular Curb Ramp Single Ramp
RD920	Parallel Curb Ramp
RD922	Parallel Curb Ramp Single Ramp
RD930, RD932 & RD936	Combination Curb Ramp
RD938	Combination Curb Ramp Single Ramp
RD940	Blended Transition Curb Ramp Single Ramp
RD950 & RD952	End Of Walk Curb Ramp
RD960	Unique Curb Ramp


LEGEND:


- 
-  Sidewalk or other traversable surface
- 


Detectable warning surface (DWS)
- 


Level area (Turning space/landing)
- 


Cross slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
- 

Running slope 4.0% max.  
(Max. 4.9% finished surface slope)
- 

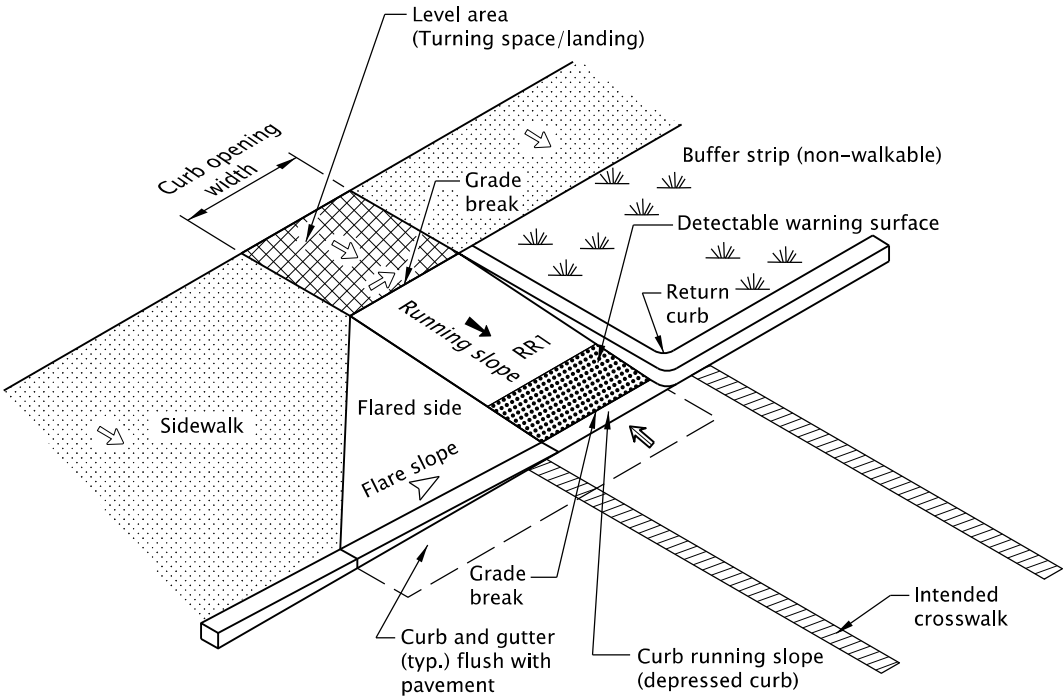
Running slope 7.5% max.  
(Max. 8.3% finished surface slope)
- 

Counter slope 4.0% max, ascending or descending  
(Max. 5.0% finished surface slope)  
Slope as required for drainage
- 

Flare slope  
(Max. 10.0% finished surface slope)
- 

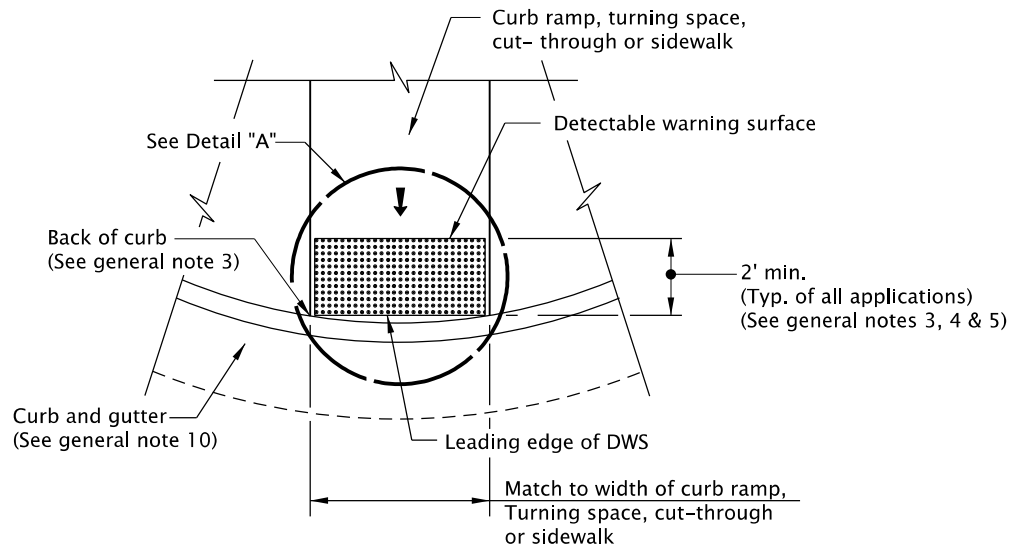
4'x4' clear space
- 

Ramp Run Position 1



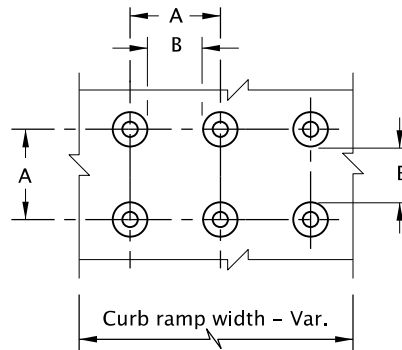
TYPICAL CURB RAMP SYSTEM COMPONENTS  
(PERPENDICULAR TYPE SHOWN)

CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>19-JUL-2021</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>CURB RAMP COMPONENTS AND LEGEND</b>	
		2021	
		DATE	REVISION DESCRIPTION
		07-2020	DRAWING CREATED
		07-2021	REVISED DETAILS AND NOTES

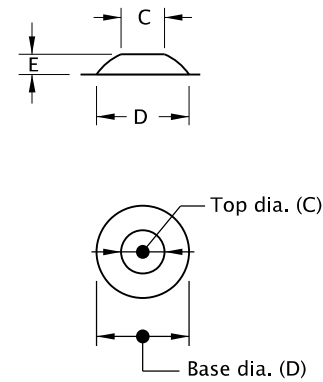


DETECTABLE WARNING SURFACE DETAIL

	A	B	C	D	E
MIN.	1.60"	0.65"	0.45"	0.90"	0.20"
MAX.	2.40"	--	0.91"	1.40"	0.20"

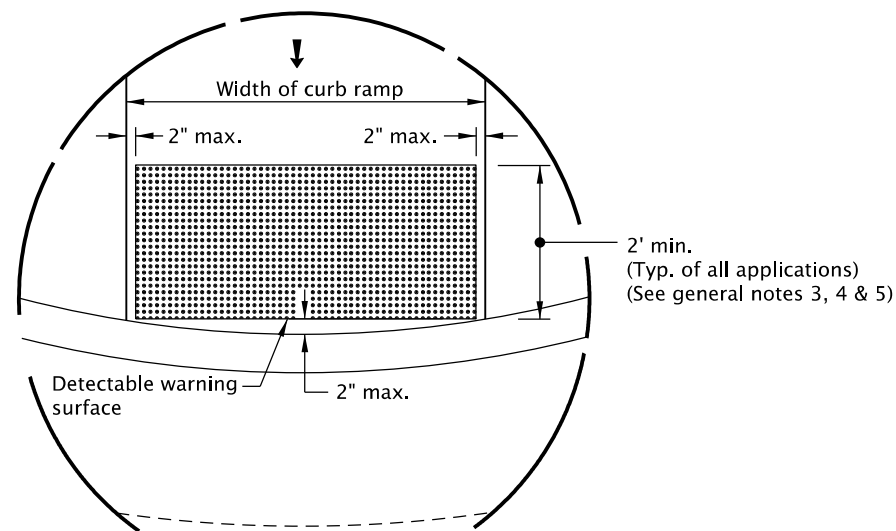


TRUNCATED DOME SPACING



TRUNCATED DOME

TRUNCATED DOME DETAILS






DETAIL "A"

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwgs. RD700 & RD701 for curbs.
3. The detectable warning surface shall extend the full width of the curb ramp opening, shared use path, blended transition, turning space, or other roadway entrance as applicable. A gap of up to 2 inches on each side of the detectable warning surface is permitted (measured at the leading edge of the detectable warning surface panel as shown in Detail "A").
4. Detectable warning surface shall be placed at the back of curb for a minimum depth of 2 ft. in the direction of pedestrian travel at curb ramps that are adjacent to traffic. Detectable warning surface may be radial or rectangular, but must comply with the truncated dome size and spacing standards. Detectable warning surface may be cut to meet necessary shape as shown in plans. Detectable warning surface across a grade break is prohibited. Place abutting panels within 1/4 inch of each other and install anchors, as specified by manufacturers, along cut edge.
5. Color to be safety yellow if no color specified in construction note. Alternative colors require a design exception on or along state highways.
6. Detectable warning surface shall be used in the following locations:
  - a) Curb ramps at street crossings.
  - b) Crossing islands (Accessible Route Islands).
  - c) Rail crossings.
7. Where public transportation stations (rail, bus, etc.) use platform boarding, detectable warning surface shall be placed along the full edge length of the station, when not protected by platform screens or guards, (see Std. Dwg. RD908).
8. Detectable warning surface shall not be used on the following locations:
  - a) End of sidewalk transitions that are not at a crosswalk, (see Std. Dwgs. RD950, RD952 and RD960).
  - b) Driveways, unless constructed with curb return or are signalized.
  - c) Parking lots, access aisles and passenger loading zones where curb ramp does not lead to vehicular way.
9. Where no curb is present, the detectable warning surface shall be placed at the edge of the roadway.
10. On or along state highways, curb and gutter is required at curb ramps.

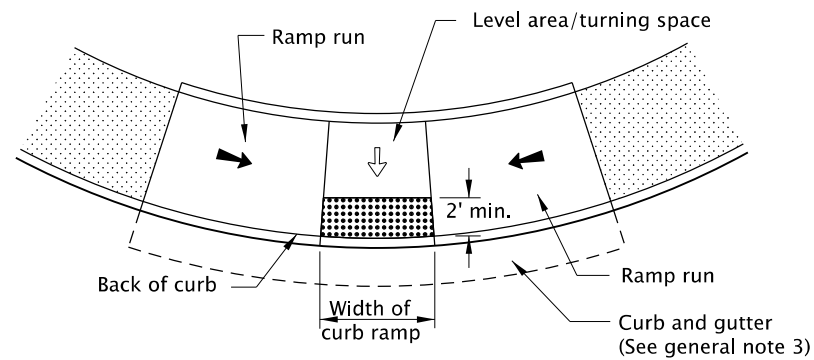
LEGEND:

-  Detectable warning surface
-  Cross slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
-  Running slope 7.5% max.  
(Max. 8.3% finished surface slope)

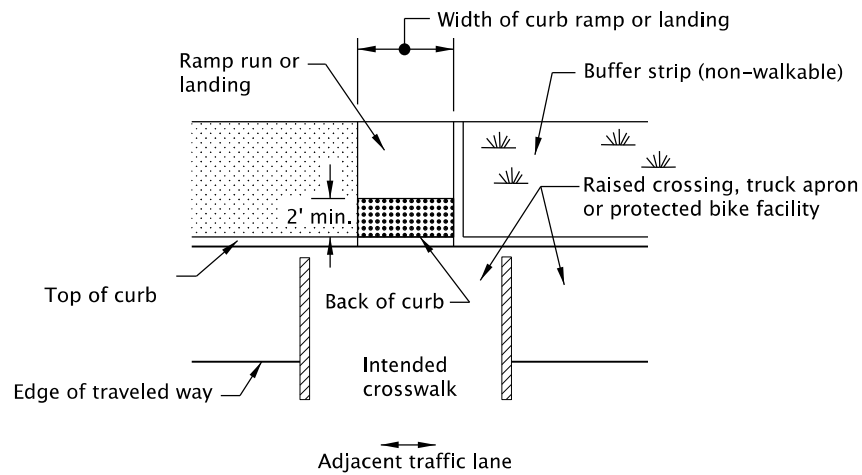
CALC. BOOK NO. N/A	SDR DATE 19-JUL-2021
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	OREGON STANDARD DRAWINGS
	DETECTABLE WARNING SURFACE DETAILS
	2021
	DATE REVISION DESCRIPTION
	07-2020 DRAWING CREATED
07-2021 REVISED DETAIL AND NOTES	

rd904.dgn 20-JUL-2020

RD904



PARALLEL CURB RAMP



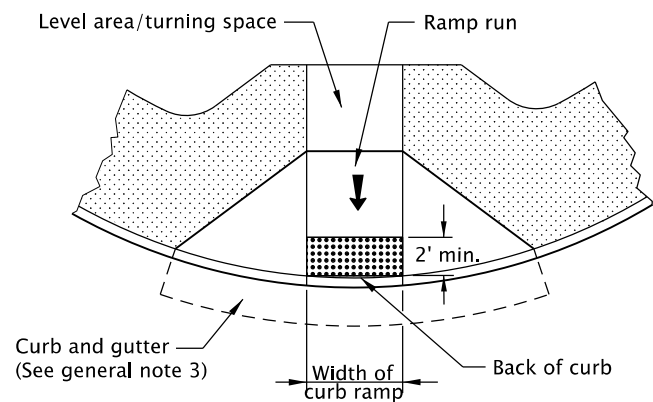
RAISED CROSSING, TRUCK APRON  
OR PROTECTED BIKE FACILITY

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

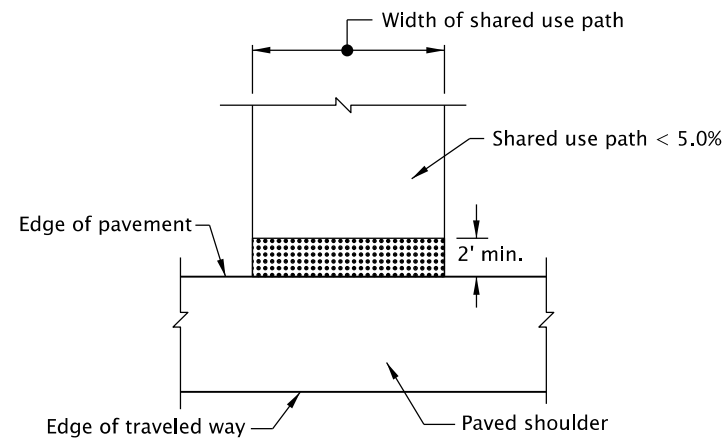
1. Detectable warning surface details & locations are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwgs. RD700 & RD701 for curbs.  
See Std. Dwg. RD902 for detectable warning surface installation details.
3. On or along state highways, curb and gutter is required at curb ramps.
4. Detectable warning surface placement for perpendicular ramps vary as shown.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Cross slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
- Running slope 7.5% max.  
(Max. 8.3% finished surface slope)



PERPENDICULAR CURB RAMP  
GRADE BREAK IN FRONT OF CURB



SHARED-USE PATH CONNECTION

CALC. BOOK NO. N/A

SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

DETECTABLE WARNING SURFACE  
PLACEMENT FOR CURB RAMPS

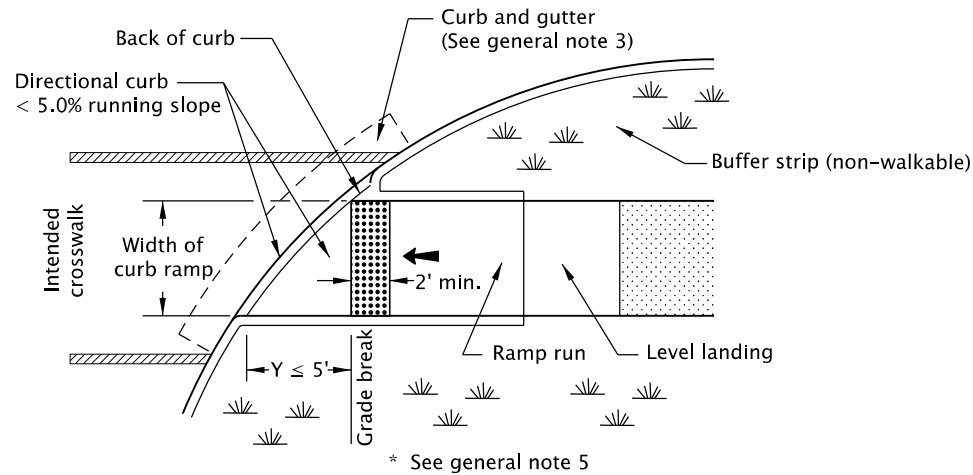
2021

DATE	REVISION	DESCRIPTION
07-2020	DRAWING CREATED	

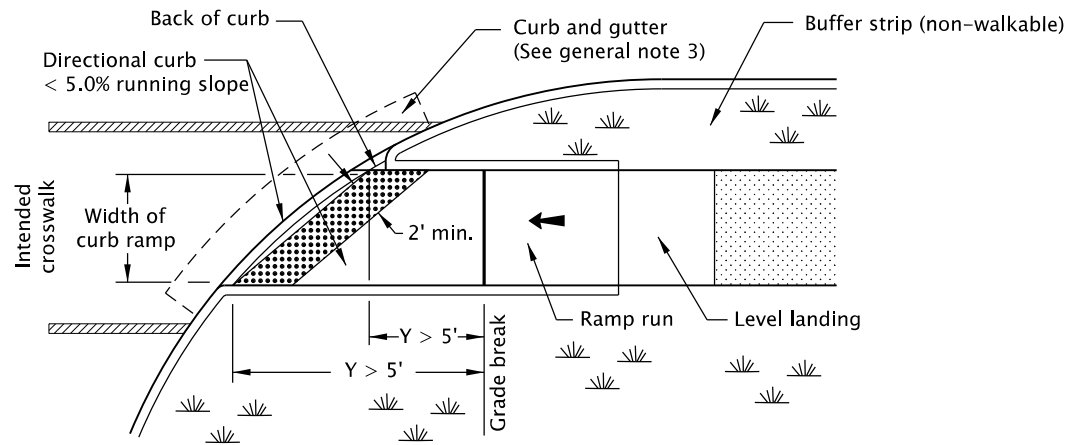
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

rd905.dgn 20-JUL-2020

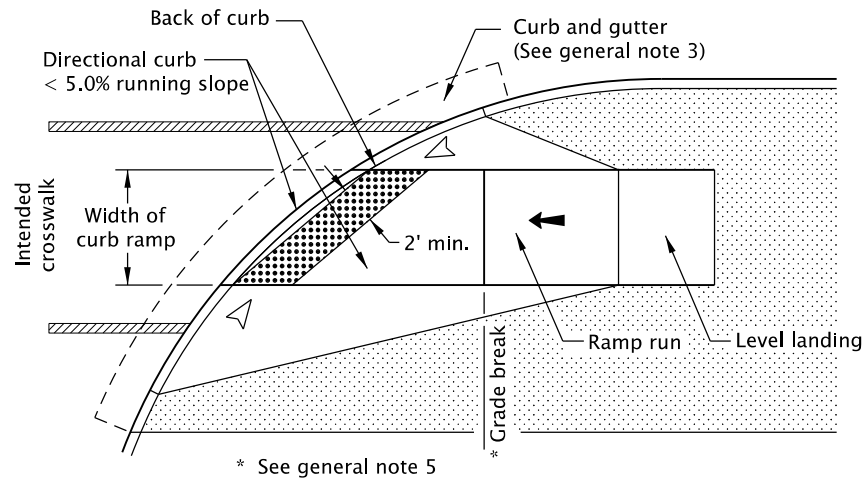
RD905



**CURB RAMP CROSSING**  
**GRADE BREAK ≤ 5 FT. FROM BACK OF CURB**



**CURB RAMP CROSSING**  
**GRADE BREAK > 5 FT. FROM BACK OF CURB**



**CURB RAMP CROSSING**  
**DIRECTIONAL CURB WITH FLARED CONSTRUCTION**

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Detectable warning surface details & locations are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwgs. RD700 & RD701 for curbs.  
See Std. Dwg. RD902 for detectable warning surface installation details.
3. On or along state highways, curb and gutter is required at curb ramps.
4. Detectable warning surface placement for perpendicular ramps vary as shown.
5. Detectable warning surface placement across the grade break is prohibited.

LEGEND:

- Marked or intended crossing location
- Sidewalk
- Detectable warning surface
- Running slope 7.5% max.  
(Max. 8.3% finished surface slope)
- Flare slope  
(Max. 10.0% finished surface slope)

CALC. BOOK NO.       N/A      

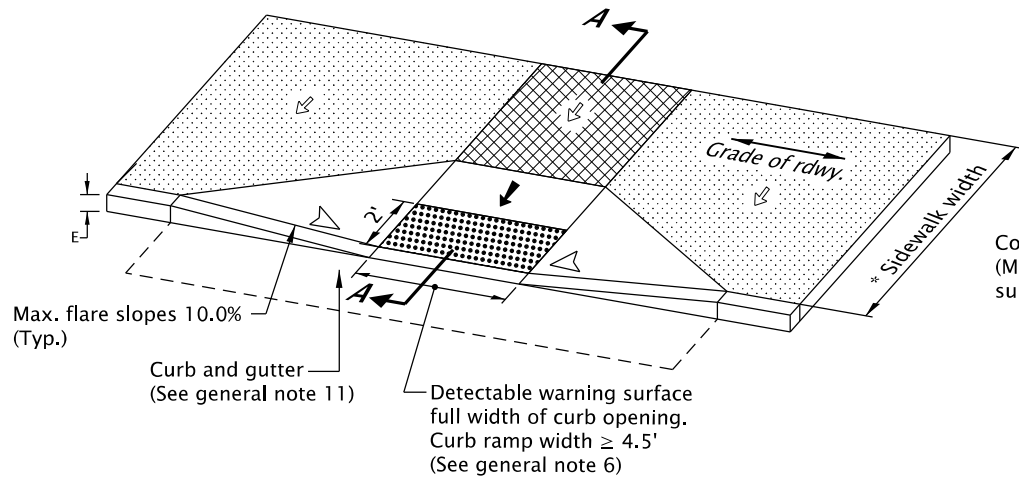
SDR DATE       20-JULY-2020      

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

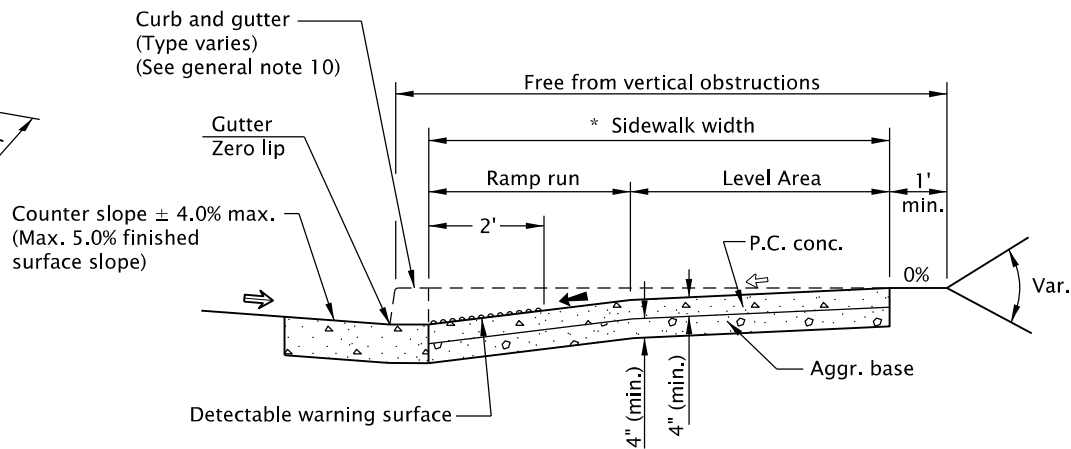
**OREGON STANDARD DRAWINGS**  
**DETECTABLE WARNING SURFACE**  
**PLACEMENT FOR**  
**DIRECTIONAL CURBS**

2021	
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED



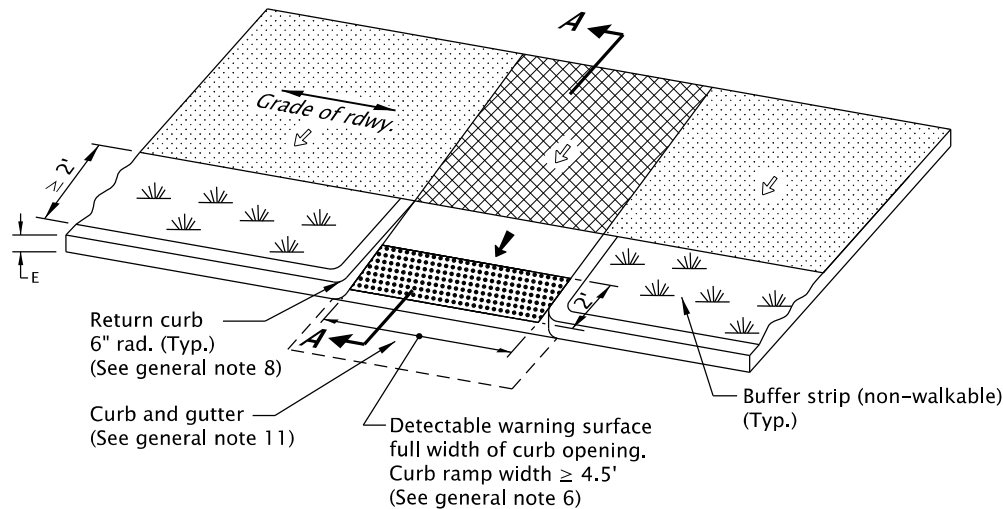
### PERPENDICULAR CURB RAMP DETAIL

(Use "Parallel Curb Ramp Detail" or "Combination Curb Ramp Detail" when reqd. turning space cannot be obtained)

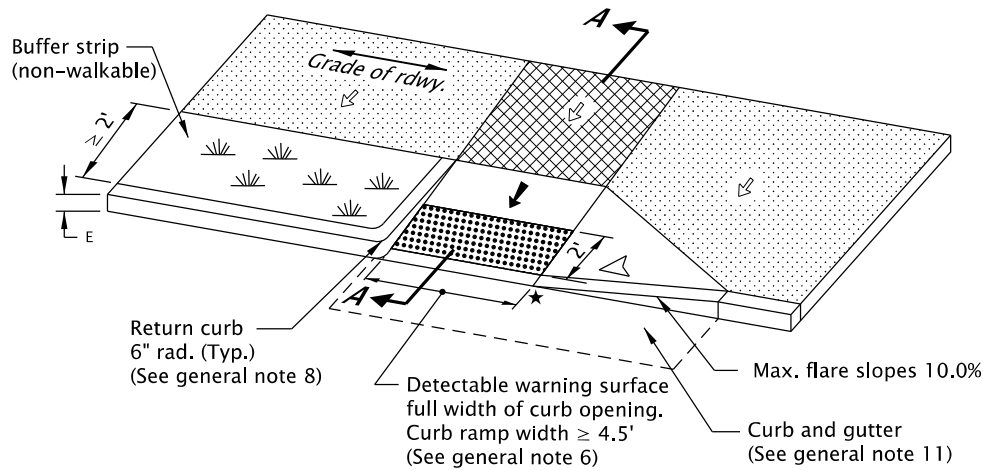


### SECTION A-A

\* NOTE: Minimum width of 14.25 feet sidewalk for E=7"



### THROUGH BUFFER STRIP



### WITH SINGLE FLARE

#### GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See Std. Dwg. RD700 & RD701 for curbs.  
See Std. Dwg. RD720 & RD721 for sidewalks.  
See Std. Dwg. RD902 through RD908 for detectable warning surface installation details.  
See Std. Dwg. RD912 through RD916 for curb ramp placement options.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
8. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be  $\geq 8'$  wide.
10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
11. On or along state highways, curb and gutter is required at curb ramps.

#### LEGEND:

- Sidewalk
- Detectable warning surface
- Level area (Turning space/landing)  
Unobstructed 4.5' x 4.5'  
With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).  
For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- Cross slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
- Running slope 7.5% max.  
(Max. 8.3% finished surface slope)
- Counter slope 4.0% max. ascending or descending,  
(Max. 5.0% finished surface slope)  
Slope as required for drainage
- Flare slope  
(Max. 10% finished surface slope)

CALC. BOOK NO. N/A SDR DATE 20-JULY-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

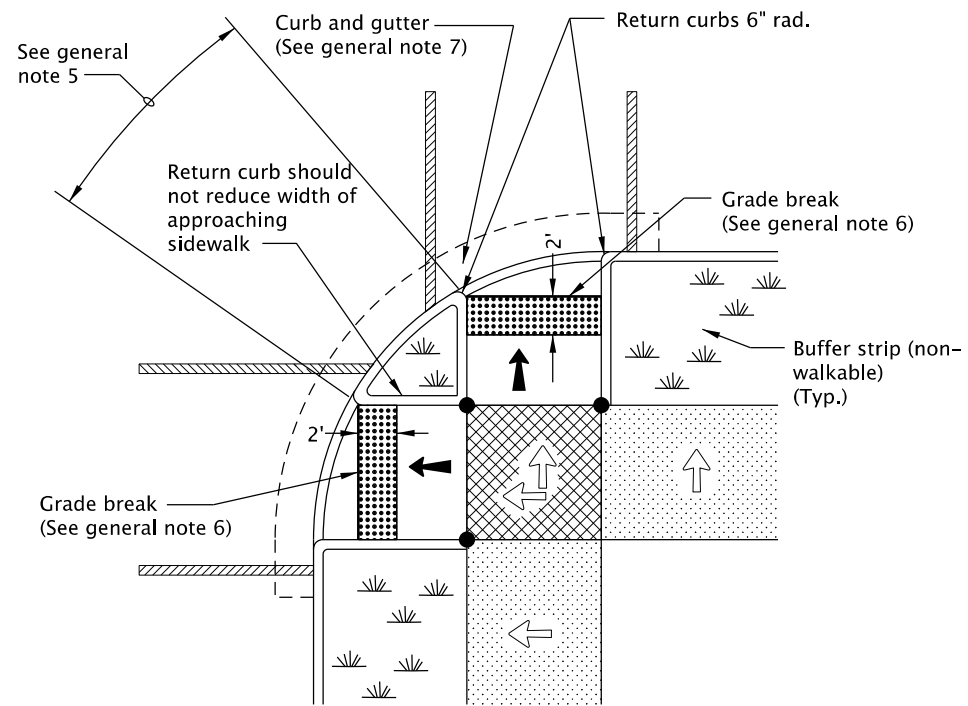
### OREGON STANDARD DRAWINGS

### PERPENDICULAR CURB RAMP

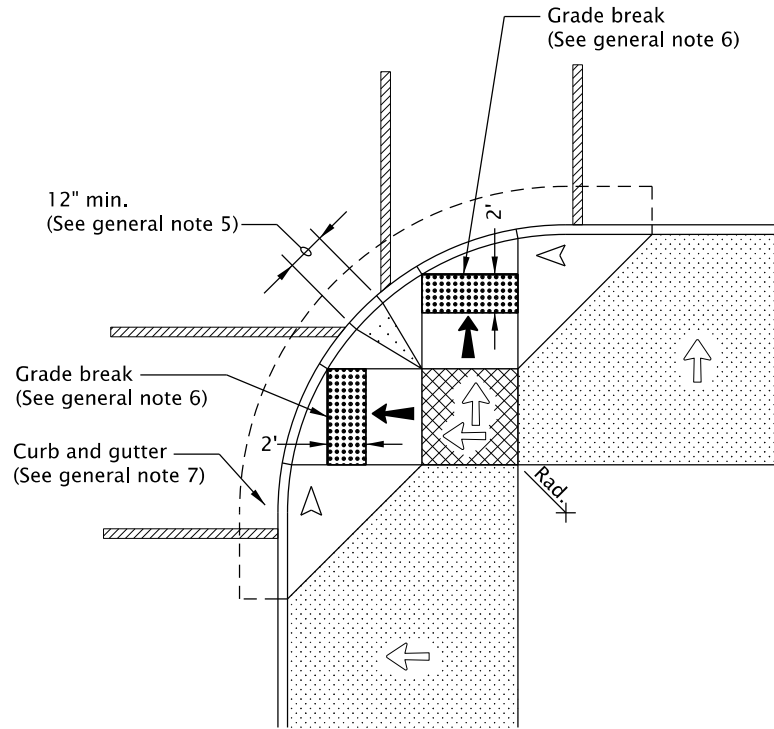
2021

DATE	REVISION	DESCRIPTION
07-2020	DRAWING CREATED	

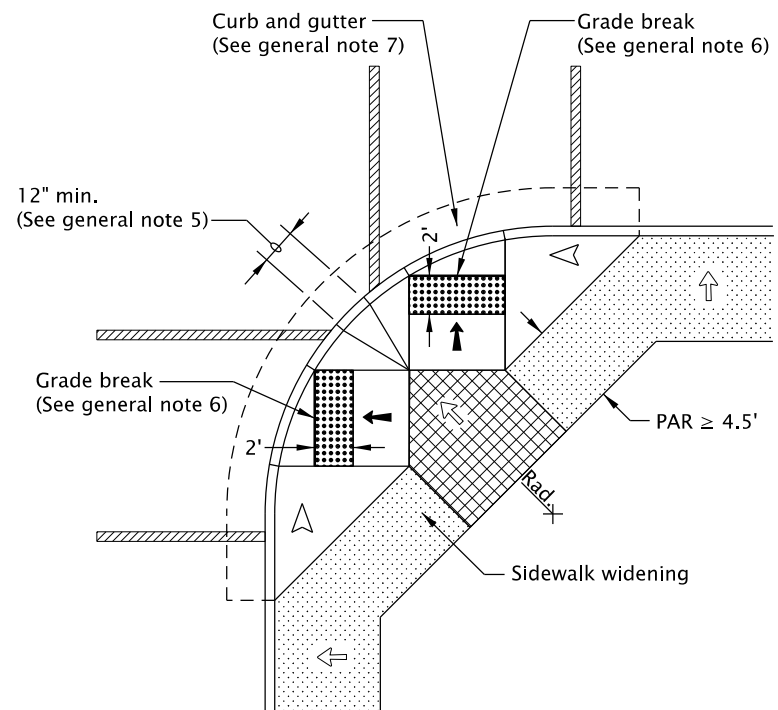
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*



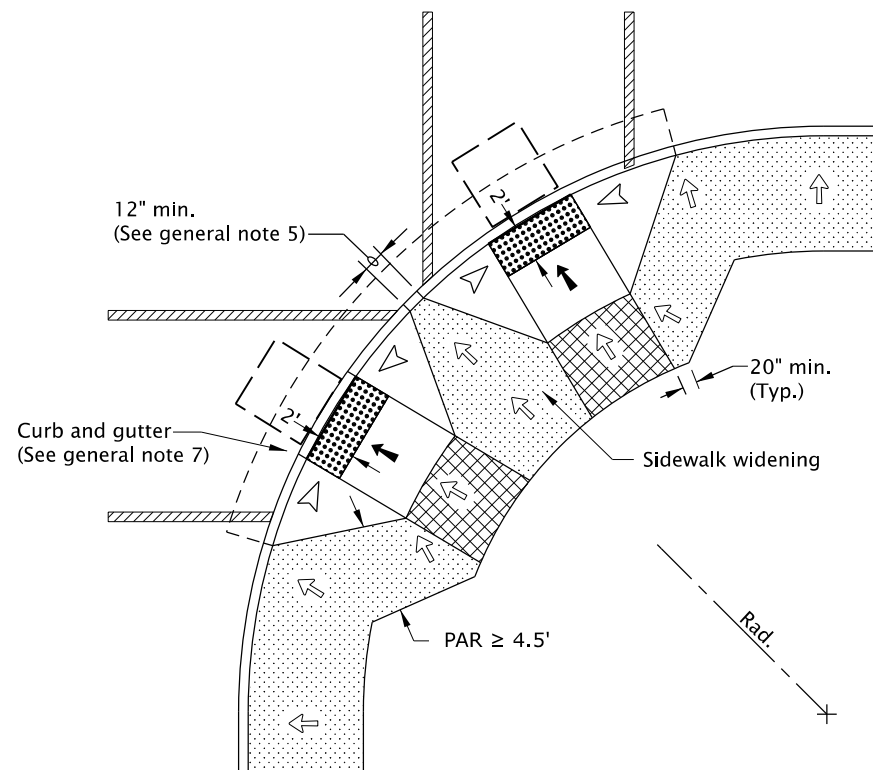
**WITH LANDSCAPED BUFFER STRIP  
OPTION "PR-1"**



**FOR WIDE SIDEWALKS  
OPTION "PR-2"**



**FOR NARROW SIDEWALKS  
OPTION "PR-3"**












**FOR NARROW SIDEWALKS  
OPTION "PR-4"**

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwgs. RD700 & RD701 for curbs.  
See Std. Dwgs. RD720 & RD721 for sidewalks.  
See Std. Dwg. RD910 for perpendicular curb ramp details.  
See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. When 2 curb ramps are immediately adjacent, the curb exposure (E) between the adjacent side flares may range between 3" and full design exposure.
6. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
7. On or along state highways, curb and gutter is required at curb ramps.

LEGEND:

- |   |   |
|---|---|
|  | Marked or intended crossing location  |
|  | Sidewalk  |
|  | Detectable warning surface  |
|  | Level area (Turning space/landing)<br>Unobstructed 4.5' x 4.5'<br>With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing). |
- For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.

- |   |  |
|---|--|
|  | Cross slope 1.5% max.<br>(Max. 2.0% finished surface slope)<br>(Normal sidewalk cross slope) |
|  | Running slope 7.5% max.<br>(Max. 8.3% finished surface slope)                                |
|  | Flare slope<br>(Max. 10% finished surface slope)   |
|  | Zero curb exposure   |
|  | 4' x 4' clear space  |
| PAR   | Pedestrian Access Route  |

CALC. BOOK NO. \_\_\_\_\_ **N/A**SDR DATE 19-JUL-2021

**NOTE:** All material and workmanship shall be in accordance with the current Oregon Standard Specifications

## OREGON STANDARD DRAWINGS

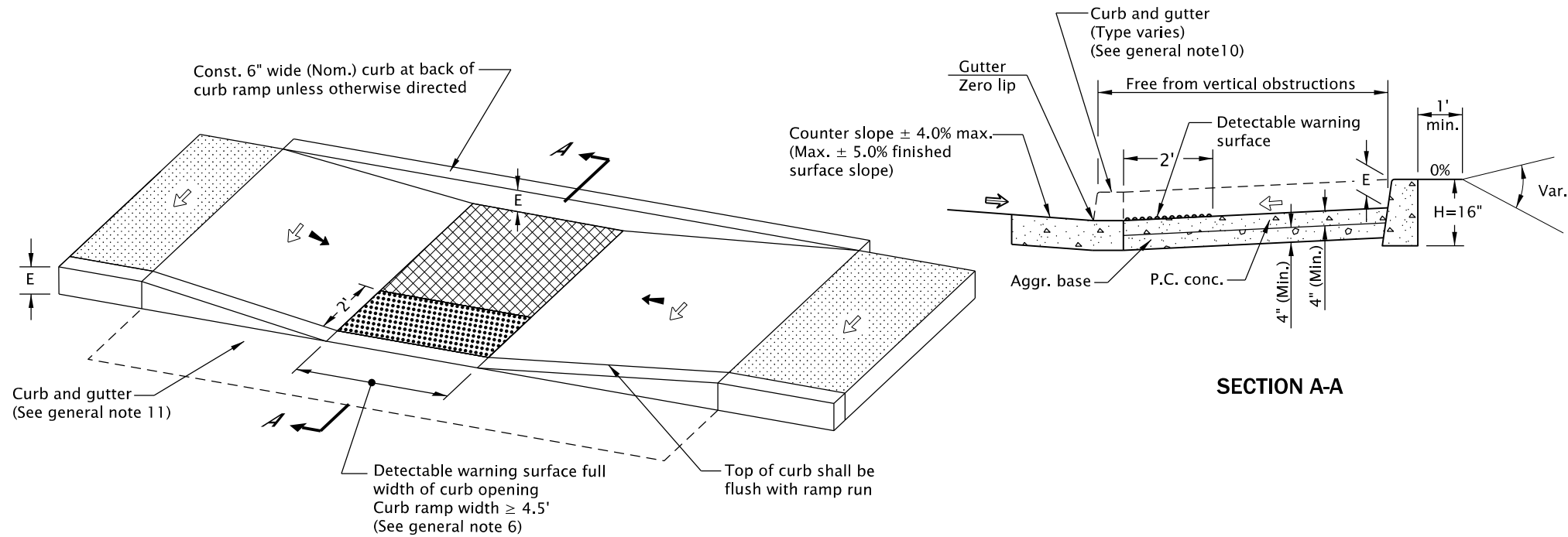
### PERPENDICULAR CURB RAMP

2021

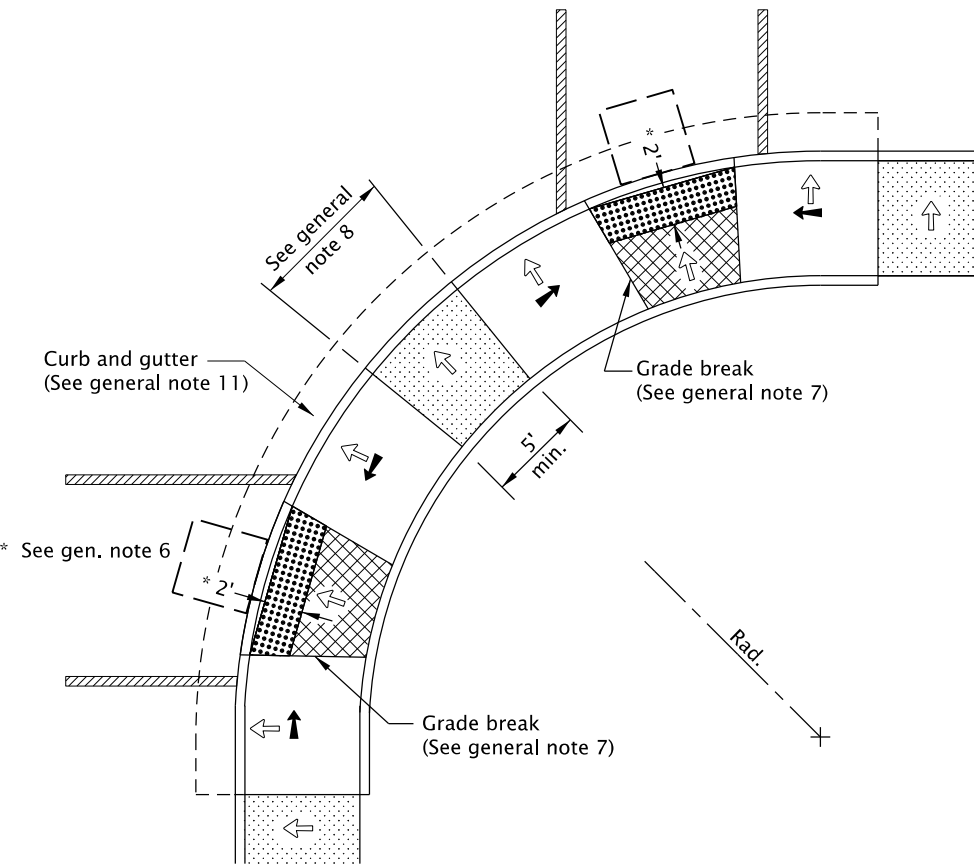
DATE	REVISION DESCRIPTION
07-2020	DRAWING CREATED
07-2021	REVISED DETAIL AND NOTES

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

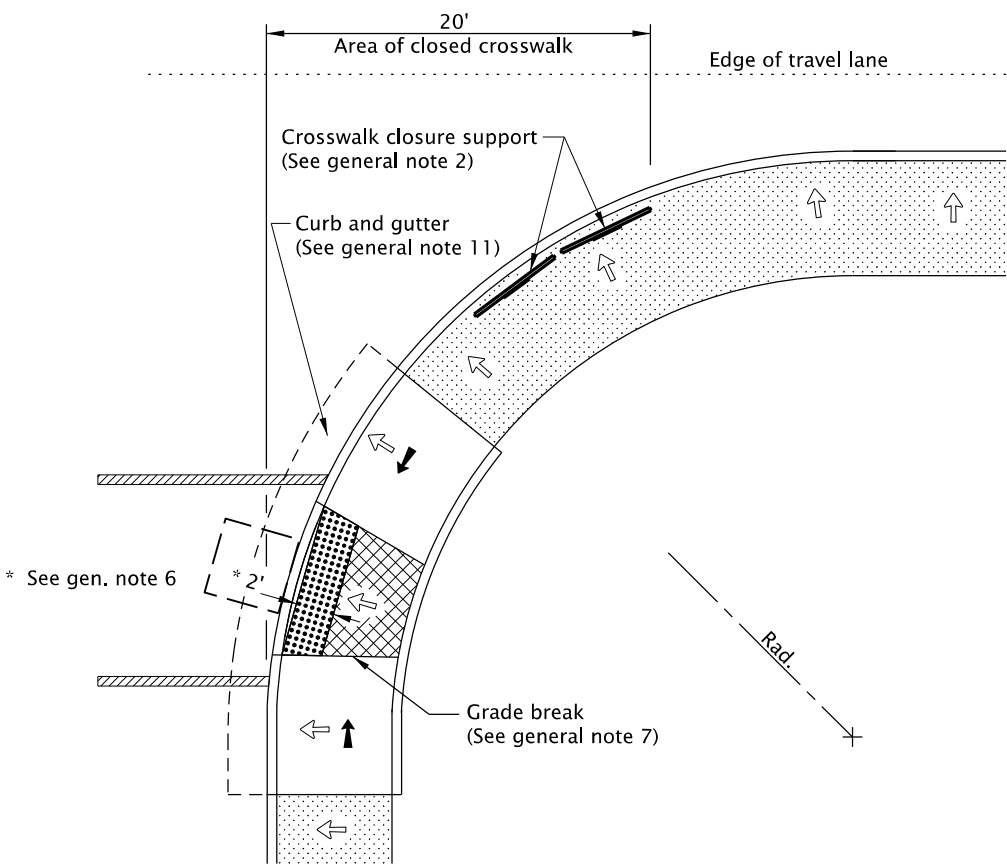
rd920.dgn 19-JUL-2021



PARALLEL CURB RAMP DETAIL



PARALLEL CURB RAMPS  
OPTION "PL-1"



PARALLEL CURB RAMP WITH CROSSWALK CLOSURE  
OPTION "PL-2"

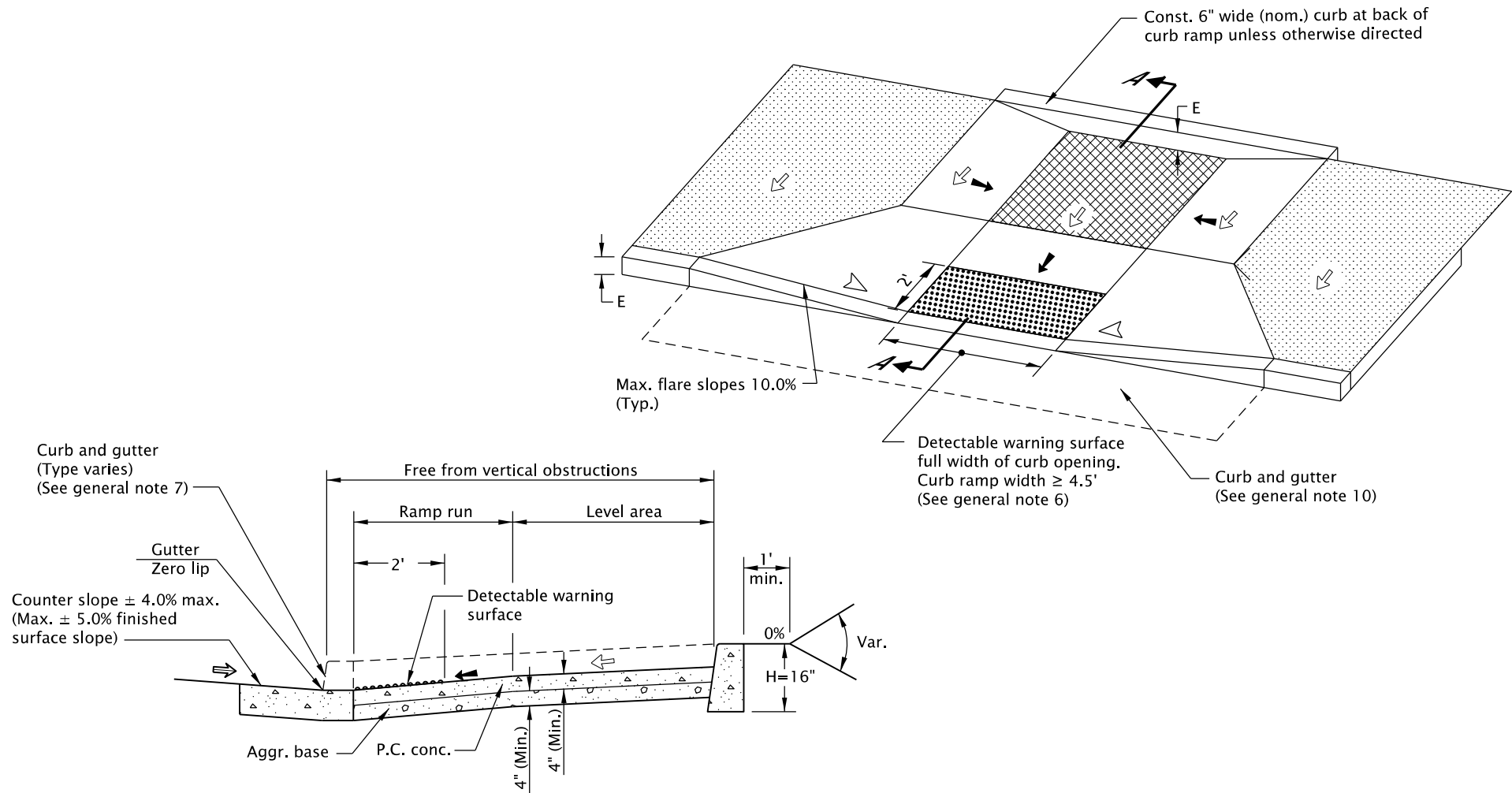
- GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:
1. Curb ramp details are based on applicable ODOT Standards.
  2. See Std. Dwgs. RD700 & RD701 for curbs.  
See Std. Dwgs. RD720 & RD721 for sidewalks.  
See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.  
See Std. Dwg. TM240 for crosswalk closure detail.
  3. Site conditions normally require a project specific design. See project plans for details not shown.
  4. Tooled dummy joints are required at all curb ramp grade break lines, (see Std. Dwg. RD722).
  5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
  6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
  7. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.
  8. When 2 ramp runs are immediately adjacent, the curb exposure (E) between the adjacent side may range between 3" and full design exposure.
  9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be ≥ 8' wide.
  10. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
  11. On or along state highways, curb and gutter is required at curb ramps.

LEGEND:

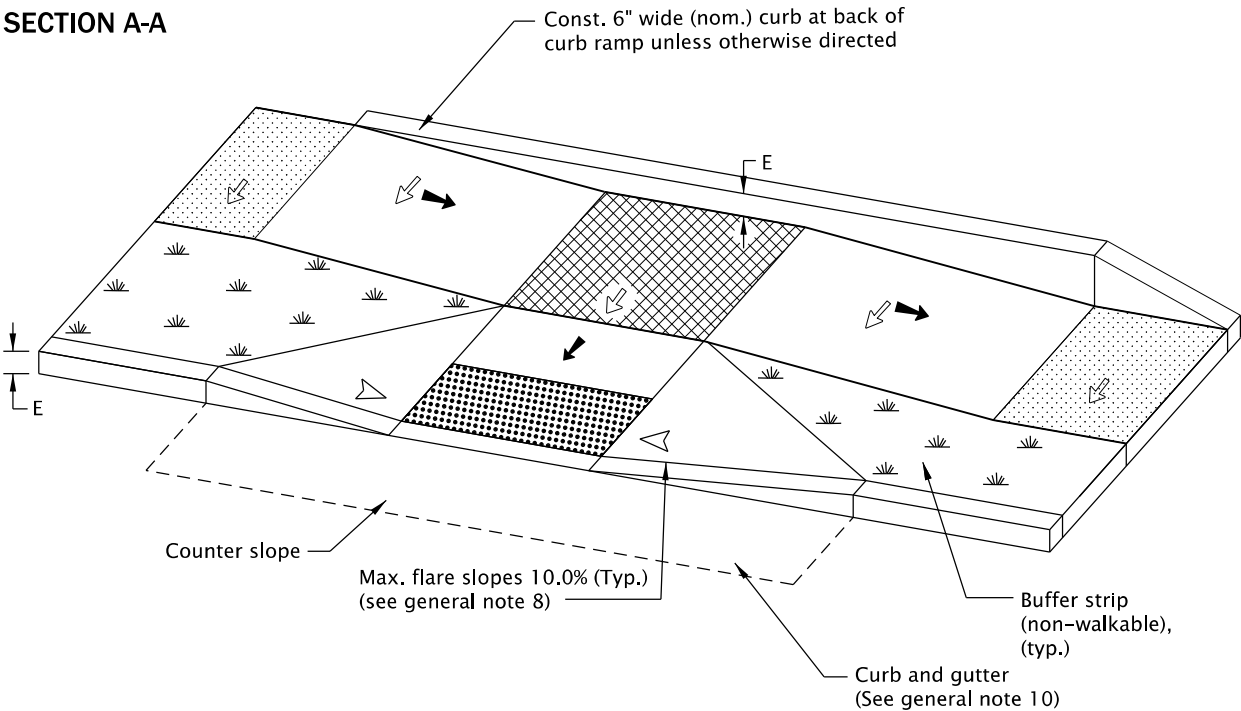
	Sidewalk
	Detectable warning surface
	Level area (Turning space/landing) Unobstructed 4.5' x 4.5' With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing). For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
	Cross slope 1.5% max. (Max. 2.0% finished surface slope) (Normal sidewalk cross slope)
	Running slope 7.5% max. (Max. 8.3% finished surface slope)
	Counter slope 4.0% max. ascending or descending, (Max. 5.0% finished surface slope) Slope as required for drainage
	4'x4' clear space

CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>19-JUL-2021</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>PARALLEL CURB RAMP</b>	
		2021	
		DATE	REVISION DESCRIPTION
		07-2020	DRAWING CREATED
		07-2021	REVISED DETAIL AND NOTES





SECTION A-A



COMBINATION CURB RAMP DETAIL

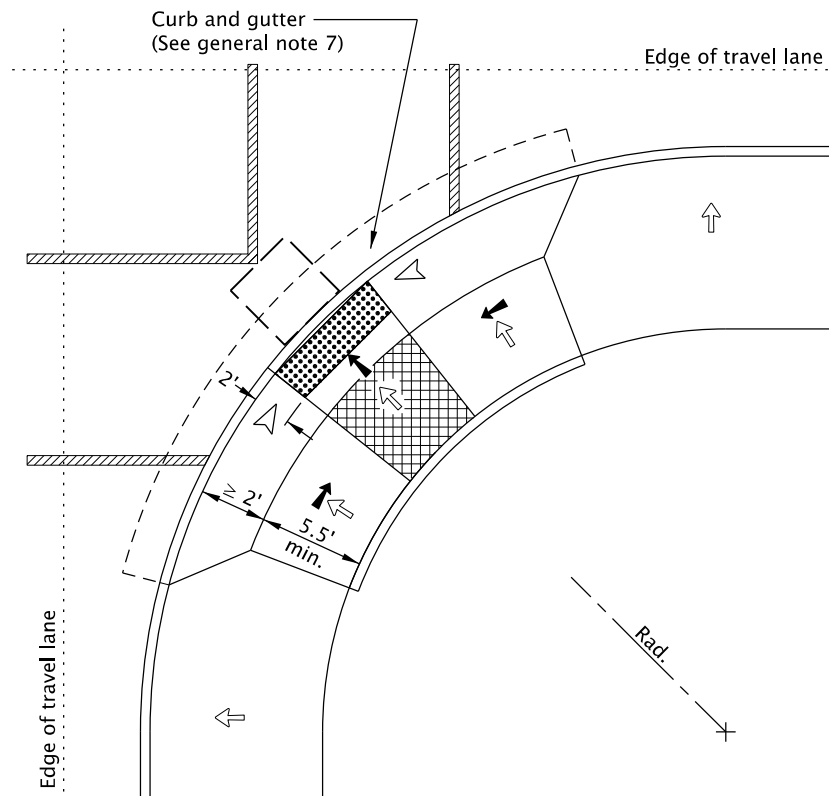
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwgs. RD700 & RD701 for curbs.  
See Std. Dwgs. RD720 & RD721 for sidewalks.  
See Std. Dwgs. RD902 through RD908 for detectable warning surface installation details.
3. Site conditions normally require a project specific design. See project plans for details not shown.
4. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).
5. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
6. Place detectable warning surface at the back of curb for a minimum depth of 2' in the direction of pedestrian travel full width of curb ramp opening that is adjacent to traffic.
7. Place an inlet at upstream side of curb ramp or perform other approved design mitigation. Check the gutter flow depth at curb ramp locations to assure that the design flood does not overtop the back of sidewalk.
8. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, see Std. Dwg. RD721. Return curb shall not reduce width of approaching sidewalk.
9. Curb ramps for shared use paths intersecting a roadway shall be full width of path, excluding flares. When a curb ramp is used to provide bicycle access from a roadway to a sidewalk, the curb ramp opening will be  $\geq 8'$  wide.
10. On or along state highways, curb and gutter is required at curb ramps.
11. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

LEGEND:

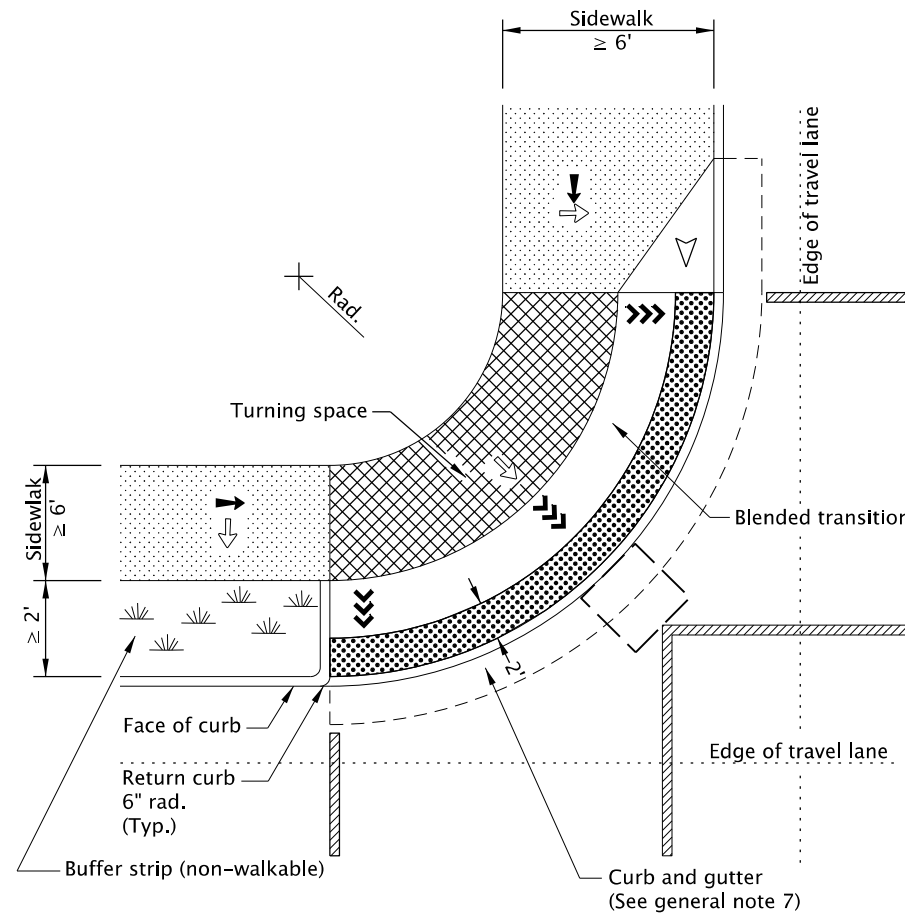
- |  |  |
|--|--|
|  | Marked or intended crossing location   |
|  | Sidewalk   |
|  | Detectable warning surface   |
|  | Level area (Turning space/landing)<br>Unobstructed 4.5' x 4.5'<br>With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).<br>For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level. |
|  | Cross slope 1.5% max.<br>(Max. 2.0% finished surface slope)<br>(Normal sidewalk cross slope)   |
|  | Running slope 7.5% max.<br>(Max. 8.3% finished surface slope)  |
|  | Counter slope 4.0% max. ascending or descending,<br>(Max. 5.0% finished surface slope)<br>Slope as required for drainage   |
|  | Flare slope<br>(Max. 10% finished surface slope)   |

CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>19-JUL-2021</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>COMBINATION CURB RAMP</b>	
		2021	
		DATE	REVISION DESCRIPTION
		07-2020	DRAWING CREATED
		07-2021	REVISED DETAILS AND NOTES



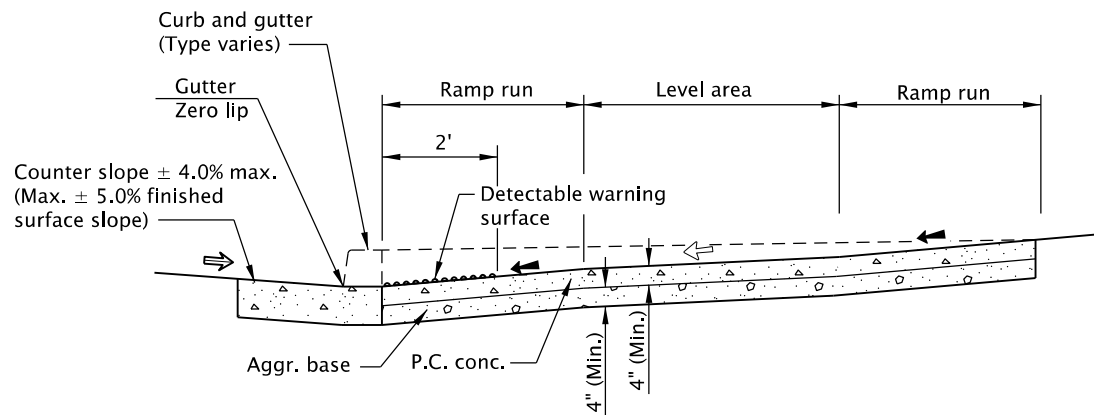
### DIAGONAL COMBINATION CURB RAMP OPTION "CC-10"

(Use only when site constraints prohibit installing two curb ramps)

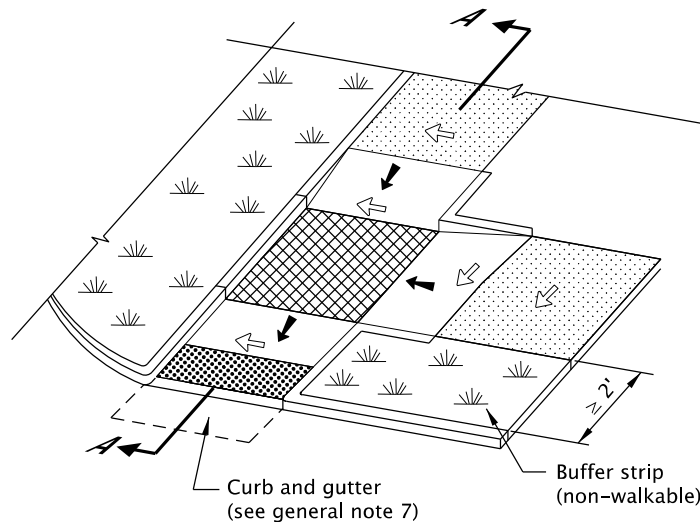


### BLENDED TRANSITION COMBINATION CURB RAMP OPTION "CC-11"

(Use only when site constraints prohibit installing two curb ramps)












### DIRECTIONAL COMBINATION CURB RAMP OPTION "CC-12"



#### GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Curb ramp details are based on applicable ODOT Standards.
2. See project plans for details not shown.  
See Std. Dwg. RD700 & RD701 for curbs.  
See Std. Dwg. RD720 & RD721 for sidewalks.  
See Std. Dwg. RD902 through RD908 for detectable warning surface installation details.  
See Std. Dwg. RD930 for combination curb ramp details.
3. Tooled dummy joints are required at all curb ramp slope break lines, (see Std. Dwg. RD722).
4. Curb ramp slopes shown are relative to the true level horizon (zero bubble).
5. Return curb may be provided in lieu of flared slope only if protected from traverse travel by landscaping, (see Std. Dwg. RD721). Return curb shall not reduce width of approaching sidewalk .
6. Only use curb ramp options allowed by jurisdiction. Single ramps require design exceptions on or along state highways.
7. On or along state highways, curb and gutter is required at curb ramps.
8. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush.

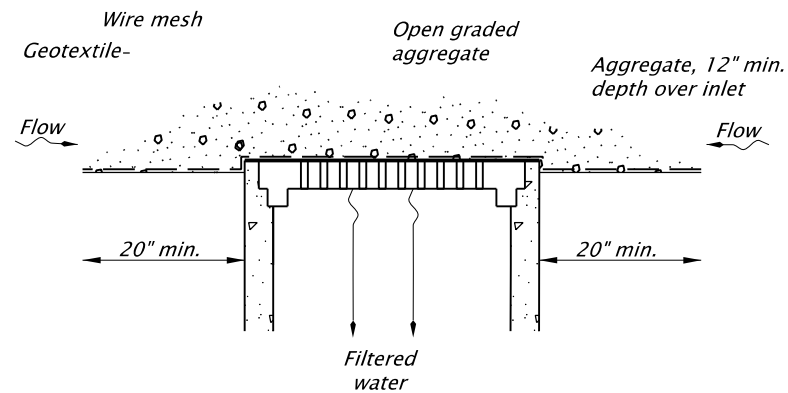
#### LEGEND:

-  Marked or intended crossing location
-  Sidewalk
-  Detectable warning surface
-  Level area (Turning space/landing)  
Unobstructed 4.5' x 4.5'  
With obstruction 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing).  
For the purposes of this application, a max. 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
-  Cross slope 1.5% max.  
(Max. 2.0% finished surface slope)  
(Normal sidewalk cross slope)
-  Running slope 7.5% max.  
(Max. 8.3% finished surface slope)
-  Running slope 4.0% max.  
(Max. 4.9% finished surface slope)
-  Flare slope  
(Max. 10% finished surface slope)
-  4'x4' clear space

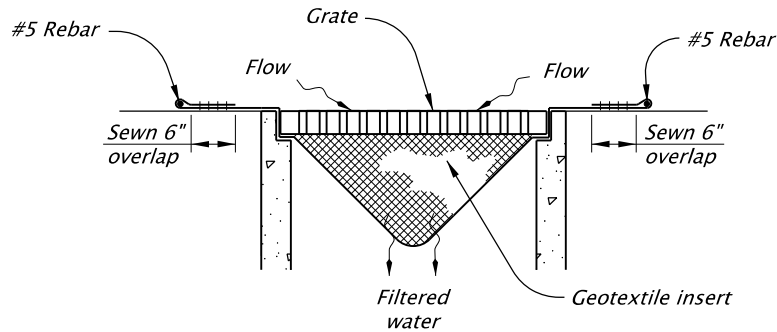
CALC. BOOK NO. <b>N/A</b>		SDR DATE <b>19-JUL-2021</b>	
<i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i>		NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
		<b>OREGON STANDARD DRAWINGS</b>	
		<b>COMBINATION CURB RAMP SINGLE RAMP</b>	
		2021	
		DATE	REVISION DESCRIPTION
		07-2020	DRAWING CREATED
		01-2021	REVISED DETAIL & NOTES
		07-2021	REVISED DETAIL & NOTES

rd1010.dgn 01-20-2021

RD1010

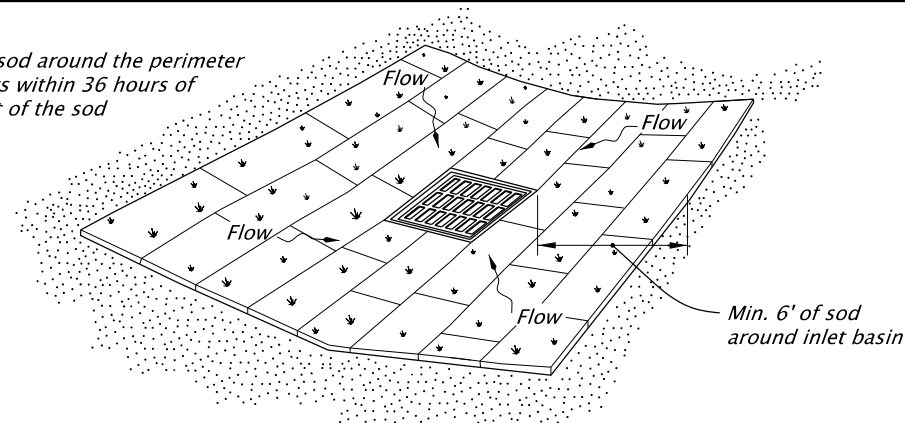


**GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2**  
NOT TO SCALE

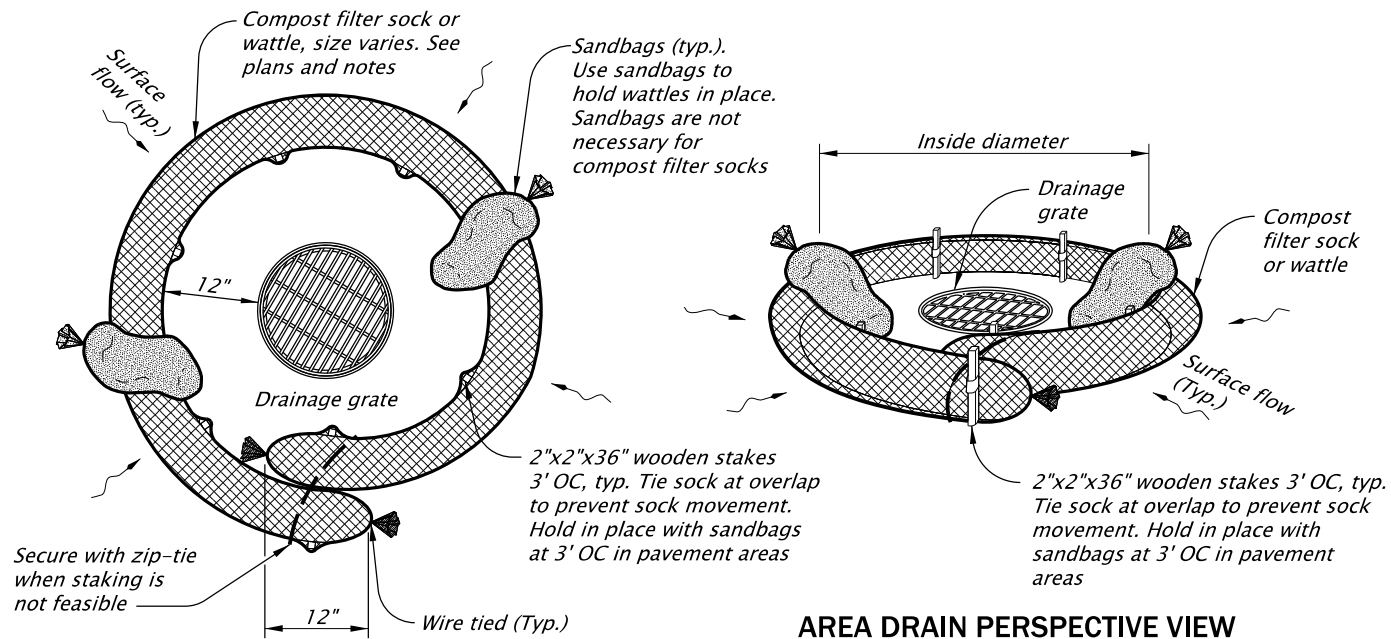


**PREFABRICATED FILTER INSERT - TYPE 3**  
NOT TO SCALE

NOTE:  
Install sod around the perimeter  
of inlets within 36 hours of  
harvest of the sod

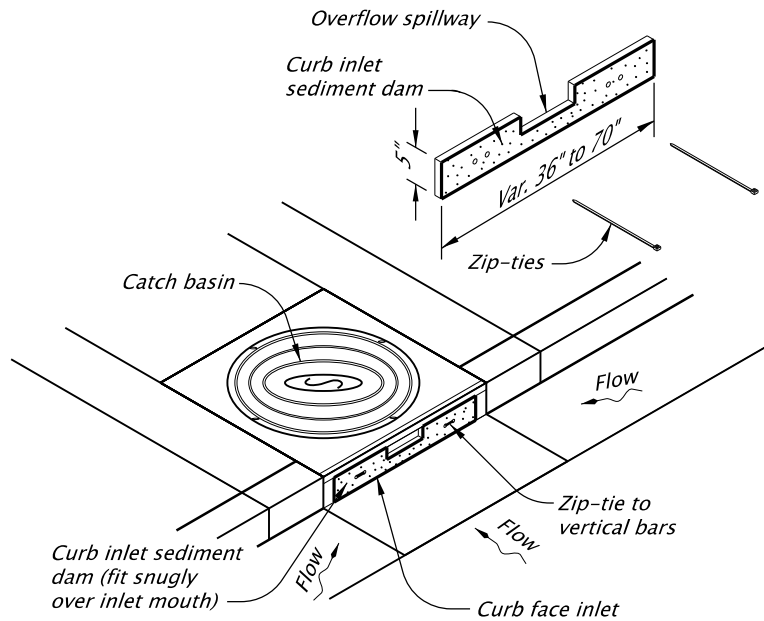


**SOD PROTECTION - TYPE 6**  
NOT TO SCALE

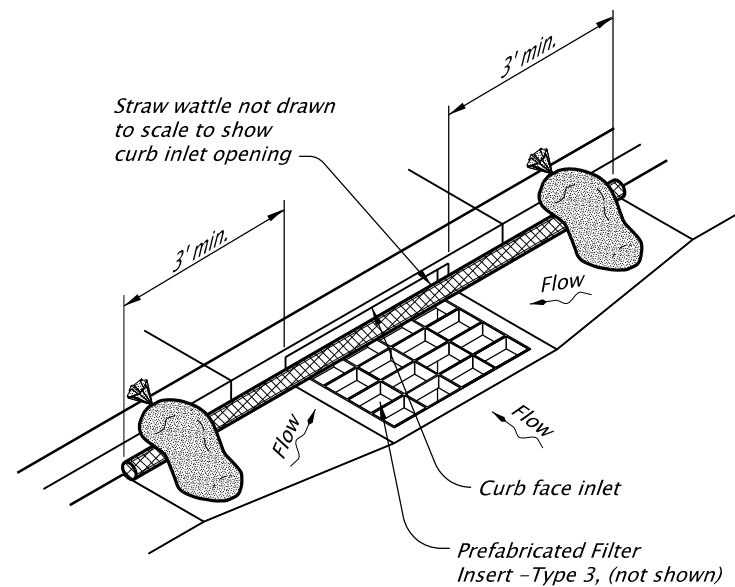


**AREA DRAIN PLAN**

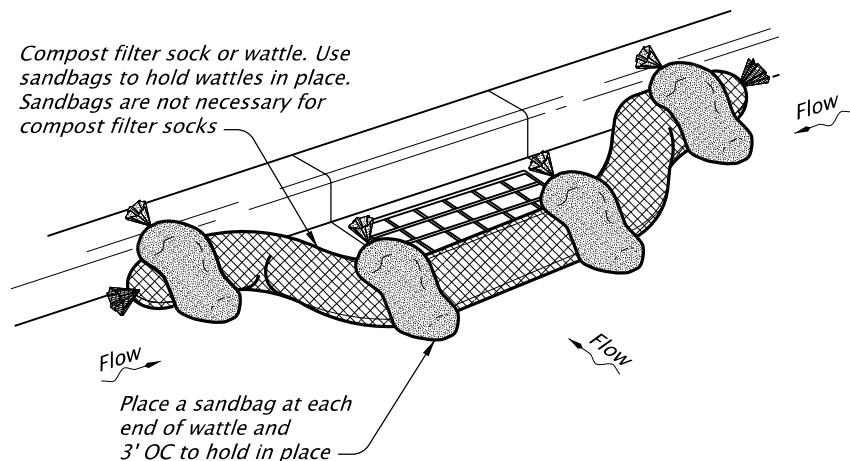
**AREA DRAIN PERSPECTIVE VIEW**



**CURB INLET SEDIMENT DAM - TYPE 10**  
NOT TO SCALE



**WATTLE BARRIER WITH FILTER INSERT - TYPE 11**  
NOT TO SCALE



**CURB INLET PERSPECTIVE VIEW**

**COMPOST FILTER SOCK OR WATTLE - TYPE 7**  
NOT TO SCALE

NOTES:  
Type 2 - Geotextile/wire mesh/aggregate  
Place the wire mesh over the grate.  
Place sediment fence geotextile over the  
wire mesh and perimeter area around  
structure.  
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts  
Install prefabricated filter inserts according  
to the plans, special provisions, and  
manufacturer recommendations.  
Prefabricated inserts with provisions for  
overflow are allowed only when  
accompanied by additional BMP's to  
prevent the potential of sediments  
entering project storm systems.  
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock  
Drive 2"x2" wood stakes a minimum of  
6" into ground and flush with the top  
of the sock.  
Overlap ends of sock per manufacturers  
recommendations (12" min., 36" max.).  
Use 8" to 12" dia sock on curbside in traffic  
areas.

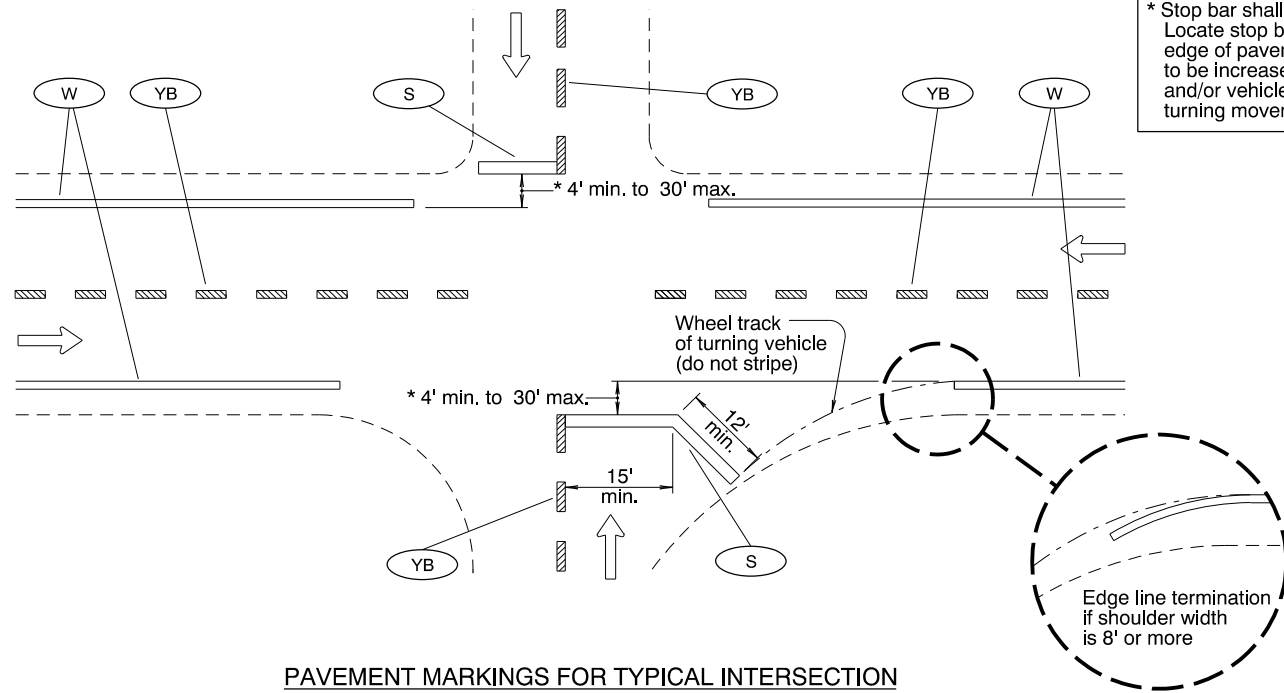
(Type 7 cont.)  
Use 12" to 18" dia sock in non-traffic areas  
or areas where the larger socks can be  
used safely.  
use synthetic mesh socks for temporary  
installations.

Type 10 - Curb inlet sediment dam  
Fit curb inlet sediment dam snugly into inlet  
mouth. Curb inlet sediment dam is  
required for use with inlet filter insert  
where at-grade inlet grate and curb inlet  
are combined at a catch basin.

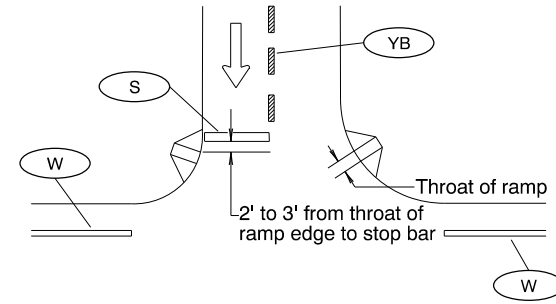
Type 11 - Wattle barrier with filter insert  
Install prefabricated filter insert per Type 3  
detail.  
Install wattles over opening and 36" to each  
side of opening tight against curb. Adjust  
wattle to force storm water to flow through  
filter insert or wattle prior to leaving the  
site.  
Adjust, replace or modify the inlet protection  
as needed to prevent sediment laden water  
from entering the catch basin.

CALC. BOOK NO. <u>N/A</u>	SDR DATE <u>January, 2021</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>INLET PROTECTION TYPE 2, 3, 6, 7, 10 AND 11</b>	
2021	
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers
Jan 2021	Moved notes up from overlapping the sheet border

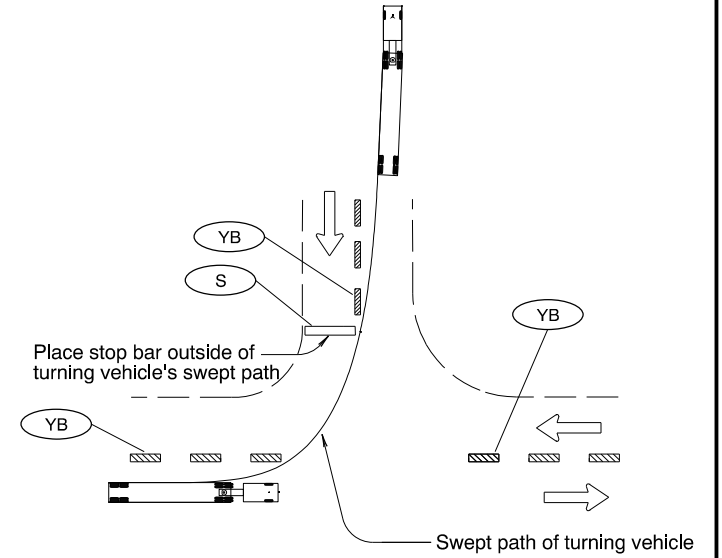
TM530.dgn 7-01-2020



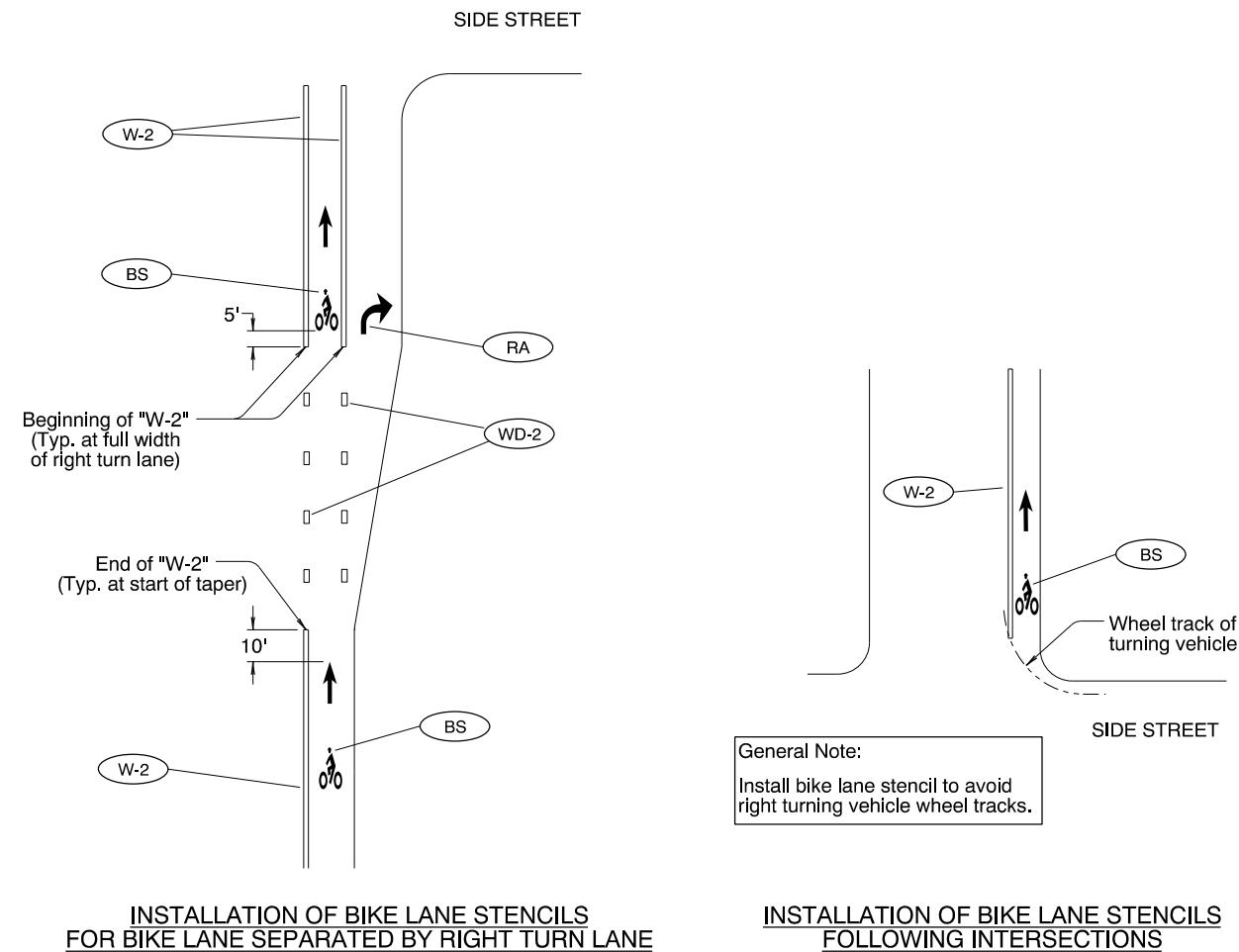
PAVEMENT MARKINGS FOR TYPICAL INTERSECTION



Detail "A"  
STOP BAR PLACEMENT WITH  
RESPECT TO PEDESTRIAN RAMP

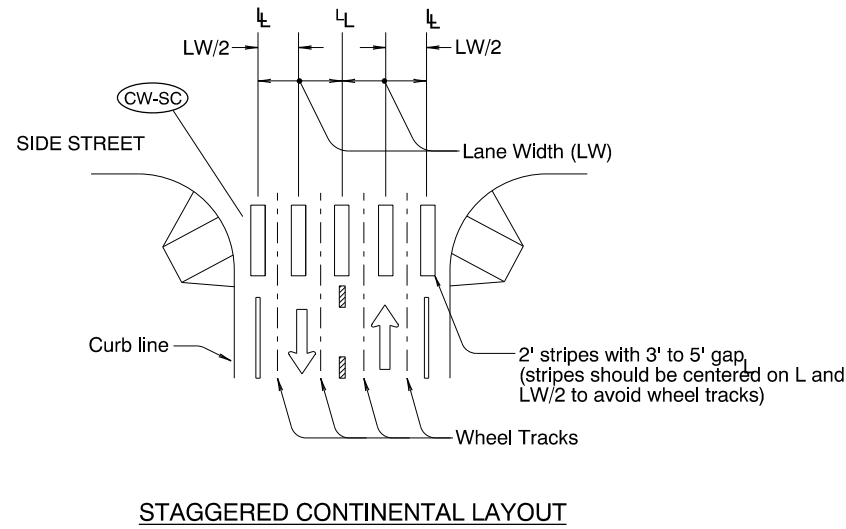


Detail "B"  
STOP BAR PLACEMENT WITH  
RESPECT TO TURN RADII

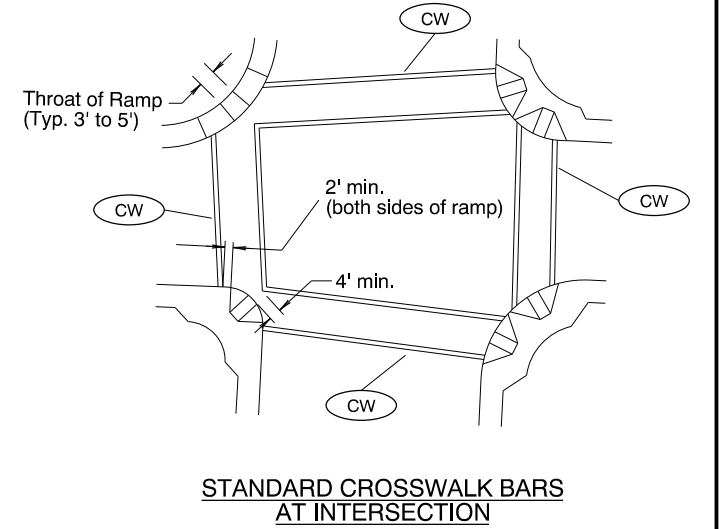


INSTALLATION OF BIKE LANE STENCILS  
FOR BIKE LANE SEPARATED BY RIGHT TURN LANE

INSTALLATION OF BIKE LANE STENCILS  
FOLLOWING INTERSECTIONS



STAGGERED CONTINENTAL LAYOUT



STANDARD CROSSWALK BARS  
AT INTERSECTION

General Note:  
1. Install crosswalk bars such that the throat of the ADA ramp is entirely within crosswalk markings, or 5' back of extended fog line, edge of pavement, or curb face.

LEGEND  
← Direction of Travel  
L - Lane line dimensions are shown on the striping plans

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

CALC. BOOK NO. N/A	SDR DATE July 10, 2020
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
OREGON STANDARD DRAWINGS INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)	
2021	
DATE	REVISION DESCRIPTION

TM530