2024 OREGON STANDARD DRAWINGS

Standard Distribution
Date of Issue: July 2025

Chris A. Bores 2025.08.04 11:58:16 -07'00'

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Senior Standards Engineer

This is the July 2025 release of the 2024 Oregon Standard Drawings.

For ODOT Projects, the details in the standard drawings will be effective on the **December 1, 2025,** bid opening where these drawings are called for in the project plans.

These drawings are for use with projects using the **2024 Oregon Standard Specifications.**

The drawing "effective date" is located below the title block on each Standard Drawing. The bid opening date of a project should be in the effective date window of the drawings. This will ensure the correct drawings are being used on the projects.

Electronic PDF files with the effective date for each drawing are on the web at:

http://www.oregon.gov/ODOT/Engineering/Pages/Standards.aspx

Each standard drawing has a corresponding Standard Drawing Reports that contains useful information for the designer as well as updates that occur on the drawing. The link to the report is the title of the specific drawing on the webpage.

The following Standard Drawings were updated for the July 2025 release:

Drawing Number	Comment
RD402	
RD548A	
RD710	Discontinued Drawing
RD710A	New Drawing
RD710B	New Drawing
RD711	
RD720	
RD721	
RD722	
BR165	
BR192	New Drawing
BR193	New Drawing
BR195	

Drawing Number	Comment
BR207	
BR216	
BR220	
BR226	
BR245	Discontinued Drawing
BR273	
BR277	New Drawing
BR278	New Drawing
BR279	New Drawing
BR280	New Drawing
BR285	Title Change
BR286	Title Change
BR287	New Drawing
BR550	
TM302	Discontinued Drawing
TM457	
TM460	
TM466	
TM467	
TM470	
TM482	
TM493	
TM503	
TM530	
TM560	
TM561	
TM624	
TM630	
TM702	
TM840	
TM850	
TM854	
TM855	

OREGON STANDARD DRAWINGS 2024
NUMBERS AND REVISION DATES

DRAWING NUMBER	REVISION DATE
RD100	1/2024
RD101	1/2024
RD110	
RD115	
RD120	
RD130	
RD140	
RD150	
RD160	
RD170	
RD250	
RD254	
RD255	
RD258	
RD262	
RD266	
RD270	
RD274	
RD278	
RD282	
RD286	
RD300	
RD302	
RD304	
RD306	
RD308	
RD310	
RD312	
RD316	
RD317	
RD318	
RD319	
RD320	
RD321	
RD322	1/2024
RD324	1/2024
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RD388	
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RD391	
RD393	
RD398	
RD399	
RD400	
RD401	
RD402	7/2025
RD403	
RD404	
RD405	
RD406	
RD407	
RD408	
RD409	
RD410	
RD412	
RD415	
RD416	
RD417	
RD419	
RD420	1/2024
RD421	
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RD436	
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RD438	7/2024
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RD442	1/2024
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RD450	
RD451	1/2024
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RD474	
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RD482	
RD484A	7/2024
RD484B	7/2024
RD490A	7/2024
RD490B	7/2024
RD490C	7/2024
RD490D	7/2024
RD490E	7/2024
RD490F	7/2024
RD490G	7/2024
RD490H	7/2024
RD500	
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RD502	7/2024
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RD505	
RD510	
RD515	
RD516	
RD520	
RD526	
RD530	
RD535	
RD536	
RD545	7/2024
RD546	7/2024
RD548A	7/2025
RD548B	1/2025
RD550	
RD560	
RD570	

OREGON STANDARD DRAWINGS 2024
NUMBERS AND REVISION DATES

DRAWING NUMBER	REVISION DATE
RD575	
RD576	
RD580	
RD581	
RD590	
RD595	
RD596	
RD602	
RD610	
RD615	
RD700	
RD701	
RD702	1/2024
RD705	
RD706	
RD707	
RD710	Discontinued 7/2025
RD710A	7/2025
RD710B	7/2025
RD711	7/2025
RD715	
RD720	7/2025
RD721	7/2025
RD722	7/2025
RD725	
RD730	
RD735	
RD740	
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RD770	
RD771	
RD780	1/2024
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RD782	1/2024
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RD904	1/2025
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BR287	7/2025
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BR291	1/2025
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BR310	
BR321	
BR325	
BR330	
BR335	

OREGON STANDARD DRAWINGS 2024
NUMBERS AND REVISION DATES

DRAWING NUMBER	REVISION DATE
BR340	
BR350	
BR360	
BR365	
BR375	
BR400	
BR405	
BR410	
BR415	
BR420	
BR422	
BR425	
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BR500	1/2024
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BR971	
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TM223	1/2024
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TM226	1/2024
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TM233	
TM240	7/2024
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TM301	
TM302	Discontinued 7/2025
TM303	1/2024
TM450	7/2024
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TM453	
TM454	1/2025
TM456	
TM457	7/2025
TM460	7/2025
TM462	1/2024
TM466	7/2025
TM467	7/2025
TM470	7/2025
TM471	Discontinued 1/2025
TM472	Discontinued 1/2025
TM482	7/2025
TM485	1/2025
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TM493	7/2025
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TM503	7/2025
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TM652	1/2024
TM653	
TM654	
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TM656	
TM657	
TM658	
TM670	1/2024
TM671	
TM672	

OREGON STANDARD DRAWINGS 2024
NUMBERS AND REVISION DATES

DRAWING NUMBER	REVISION DATE	DRAWING NUMBER	REVISION DATE	DRAWING NUMBER	REVISION DATE
TM675					
TM676	1/2025				
TM677					
TM678	7/2024				
TM679					
TM680	1/2024				
TM681					
TM687					
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TM693					
TM694	1/2025				
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TM700	1/2025				
TM701	1/2025				
TM702	7/2025				
TM800	7/2024				
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TM852					
TM853					
TM854	7/2025				
TM855	7/2025				
TM860					
TM861					
TM862					
TM870					
TM871					
TM880					

- A -

- B -

-F-

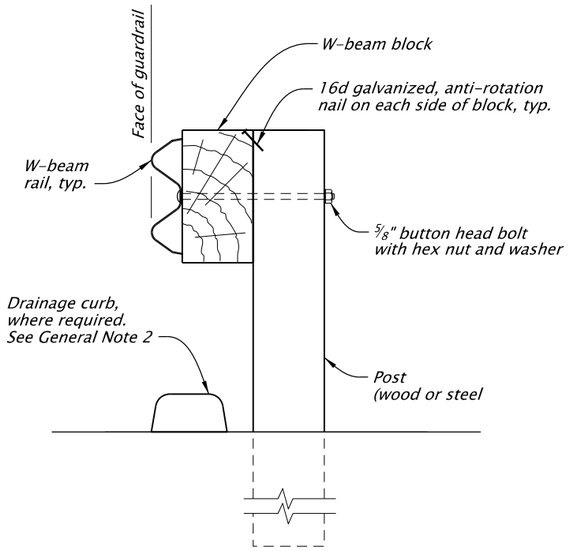
-G-

-V-

-W-

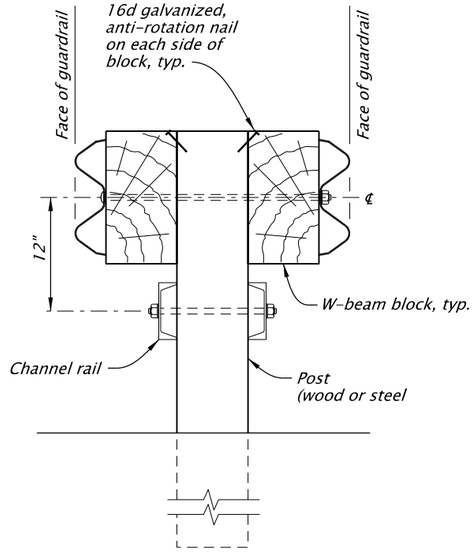
11-JUL-2025

RD402.dgn



TYPES 2A AND 3

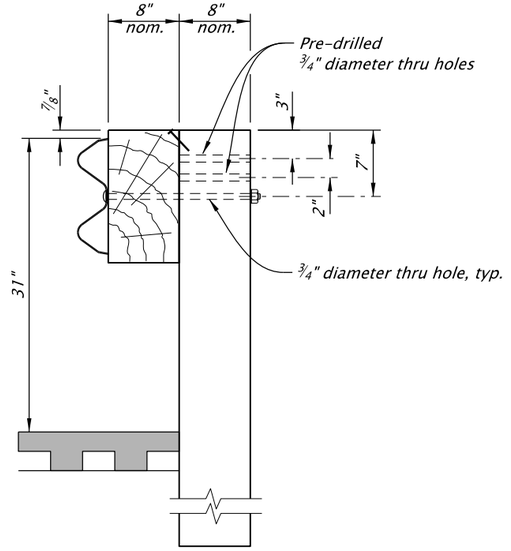
For Type 3 use double thickness (2) rail elements



METAL MEDIAN BARRIER DOUBLE SIDED WITH CHANNEL RAIL

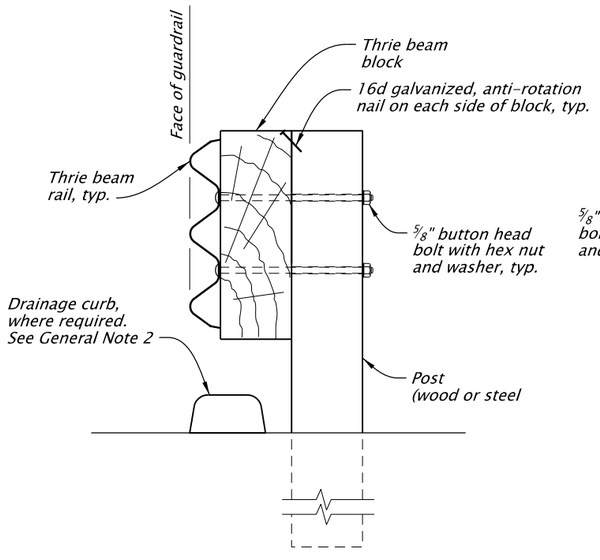
See General Note 3

W-BEAM GUARDRAIL

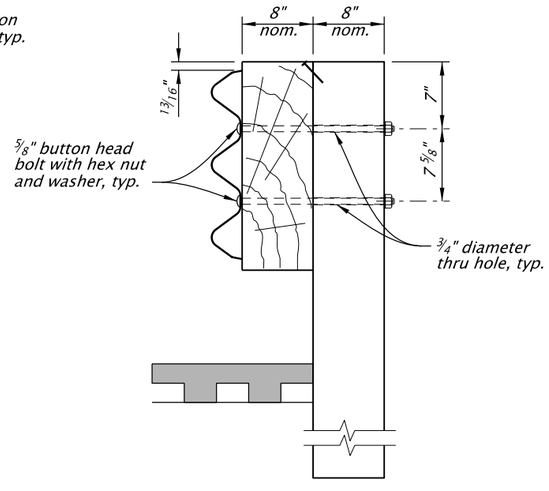


TYPICAL INSTALLATION

W-BEAM GUARDRAIL ASSEMBLY



TYPE 4 AND 4 TRANSITION



INITIAL INSTALLATION

THRIE BEAM GUARDRAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *See appropriate guardrail standard drawing(s) for details not shown.*
2. *When required by the plans, drainage curb alignment same as face of guardrail.*
3. *Orient post bolts with the button head located on the side nearest the traffic lane. The bolt's threaded portion is not permitted to extend beyond limits of 1/4 inch to 1/2 inch from the face of the tightened nut; trim the treated portion as needed.*
4. *Lap guardrail in direction of adjacent traffic.*
5. *Final paved surfacing to extend to face of post. Rail height measured from final paved surface at face of rail, typical all types. 1-inch ± tolerance.*
6. *Wood block shall be toenailed to the post with two 16d galvanized nails in top of block to prevent block rotation.*
7. *Wood blocks shown. Blocks of an approved alternate material may be used, see ODOT's QPL.*
8. *Existing posts shall not be raised. Replace posts as necessary to achieve required guardrail height.*

NORMAL RAIL ELEMENT DATA

TYPE	RAIL	EFFECTIVE LENGTHS	GAUGE
2A	*W-beam*	*6.25', 12.5', 25'*	*10 and 12*
3	*W-beam*	*6.25', 12.5', 25'*	*10 and 12*
4	*Thrie beam*	*6.25', 12.5', 25'*	*10 and 12*
4 TRANSITION	*Thrie beam*	*6.25'*	*10 and 12*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

MIDWEST GUARDRAIL SYSTEM TYPES

2024

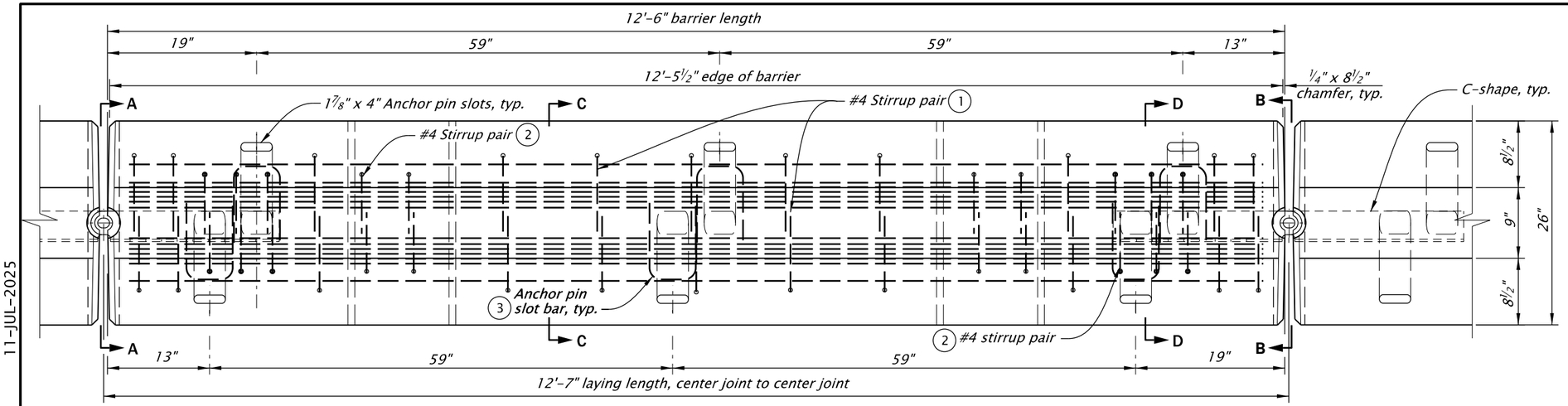
DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS AND NOTES
07-2025	REVISED DETAILS AND NOTES, UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD402**

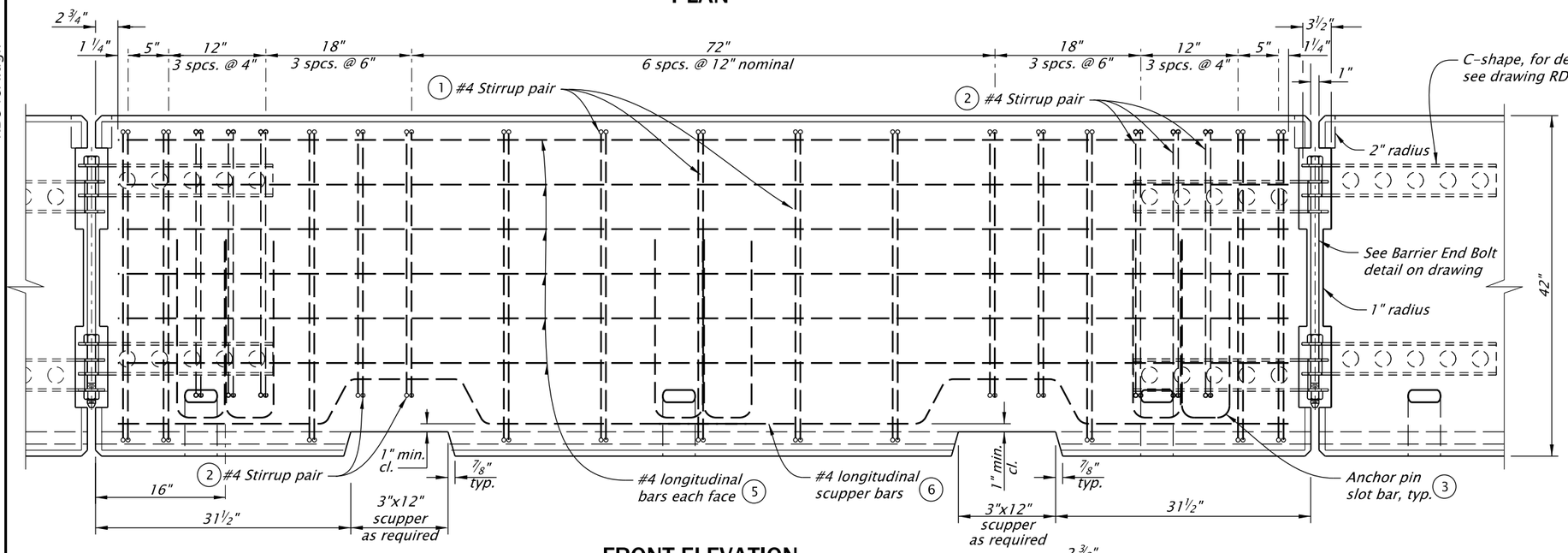
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

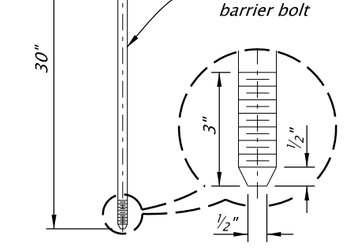
RD548A.dgn



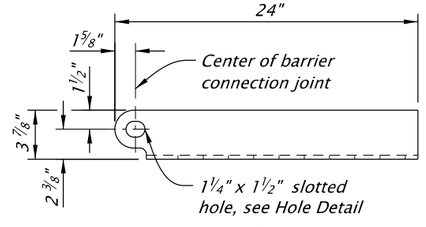
PLAN



FRONT ELEVATION

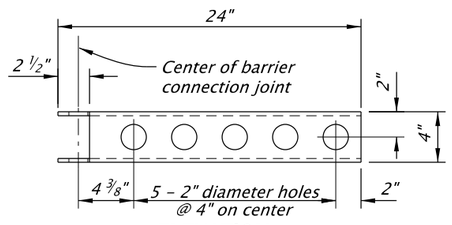


BARRIER END BOLT



PLAN

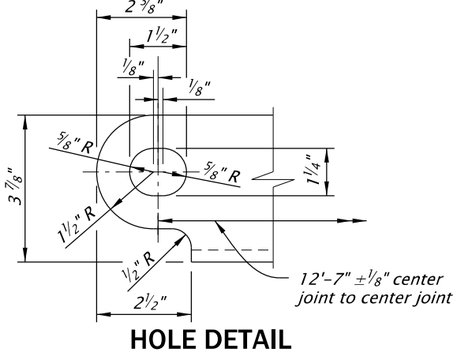
Cut from 5/16" thick steel plate
(See General Note 5 for casting instructions)



ELEVATION

Perforated C-shape

C-SHAPE DETAIL



HOLE DETAIL

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *All reinforcing steel shall conform to ASTM A706 or AASHTO M31 (ASTM A615) Grade 60. All bars shall be full length as shown and shall be placed 2 inches clear of the nearest face of concrete unless shown otherwise.*
2. *All structural steel including fasteners shall be hot-dip galvanized after fabrication.*
3. *Normal use of precast tall median barrier is restricted to curves with radii greater than 770 feet.*
4. *Chamfer all edges 3/4-inch, typical.*
5. *Perforated C-shape shall be placed in location shown to a tolerance of 3/32-inch.*
6. *Estimated barrier weight is 8,070 pounds per 12 foot 6 inch unit length, estimated vertical backed barrier weight is 6,550 pounds.*
7. *Narrow base shoulder barrier to be used only at locations with backfill behind barrier as shown on plans.*
8. *See drawing RD548B for additional reinforcing details.*

ACCOMPANIED BY DWGS.:
RD548B

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PRECAST TALL (42") CONCRETE BARRIER WITH MODIFIED REINFORCING

SHEET 1 OF 2

2024

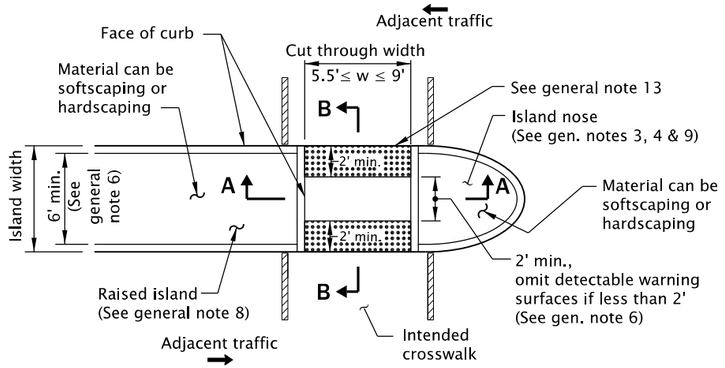
DATE	REVISION DESCRIPTION
06-2024	CREATED NEW DRAWING
01-2025	REVISED REBAR FOR SLOT CONFLICTS
07-2025	REVISED NOTES

CALC. BOOK NO. N/A

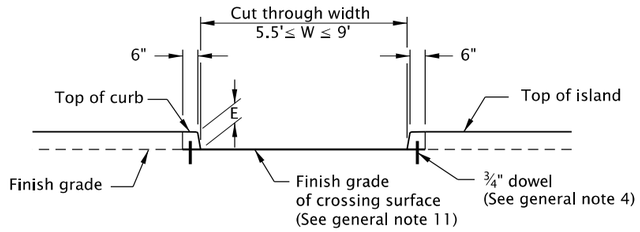
SDR DATE 11-JUL-2025

RD548A

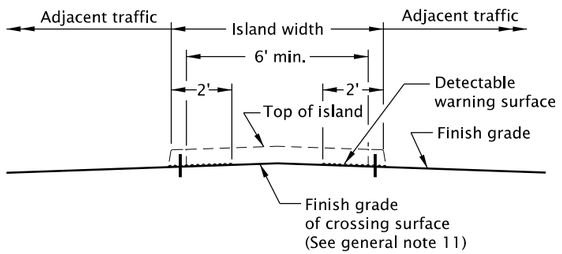
Effective Date: December 1, 2025 - May 31, 2026



PLAN



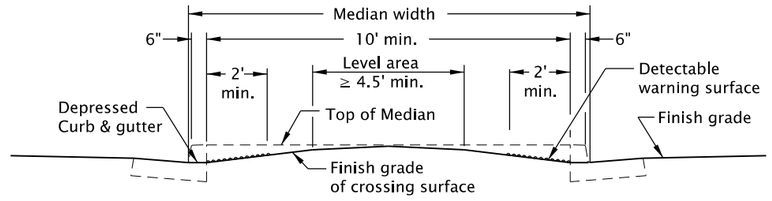
SECTION A-A



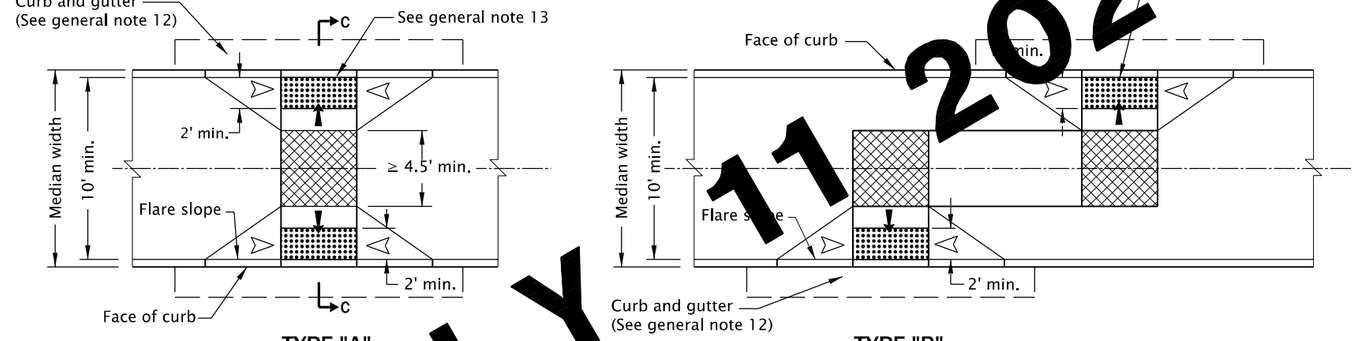
SECTION B-B

MEDIAN ISLAND CROSSING (CUT THROUGH)

(A.C. pavement shown)



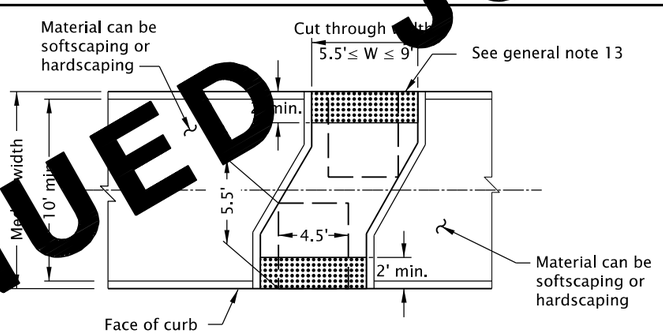
SECTION C-C



TYPE "A" **TYPE "B"**

MEDIAN RAISED CROSSING

(P.C. conc. surface shown)



MEDIAN CUT-THROUGH CROSSING

(Asph. conc. surface shown)

LEGEND:

- Marked or intended crossing location
- 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) is considered level.
- Detectable warning surface
- Cross slope 1.5% max. (Max. 2.0% finished surface slope)
- Running slope 7.5% max. (Max. 8.3% finished surface slope)
- Flare slope (Max. 10.0% finished surface slope)
- Zero curb exposure
- Clear space 4.5' x 5.5' (Longer dimension in direction of pedestrian street crossing)

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET

1. Accessible route islands are based on applicable ODOT Standar
2. Place detectable warning surface at the back of cur for a minimum pth of 2 feet at curb ramp that is adjacent to traffic. For details not sho see S Dwgs. RD902 through RD908.
3. The minimum area of islands that cont signal poles, pedestals, etc., shall be 75 square feet. Square feet to be measured to out er of entire island.
4. For cut through islands, level ea island ent to the pavement with a minimum of two ¾" diameter dowels lowe nos ction of the raised median island with a minimum of two ¾" diameter dow . Plac dowel as directed. See Std. Dwg RD705.
5. Align curb ramps for lo or partially lowered island and cut through island with the crosswalk.
6. Detectable warning surfaces shall be separated by a 2-foot minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.
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. Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see Std. Dwg. RD705.
9. See project plans for details not shown. See Std. Dwg. RD707 for island nose treatment. See Std. Dwg. RD705 for expansion and contraction joint spacing. See Std. Dwgs. RD700, RD701, RD705 & RD706 for additional details. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.
10. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.
11. When crossing surface grade is ≤ 5%, a level area is not required.
12. On or along state highways, curb and gutter is required at curb ramps.
13. Raised islands in crossings shall have accessible curb ramps at all crossings or all crossings shall be cut through with the street.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

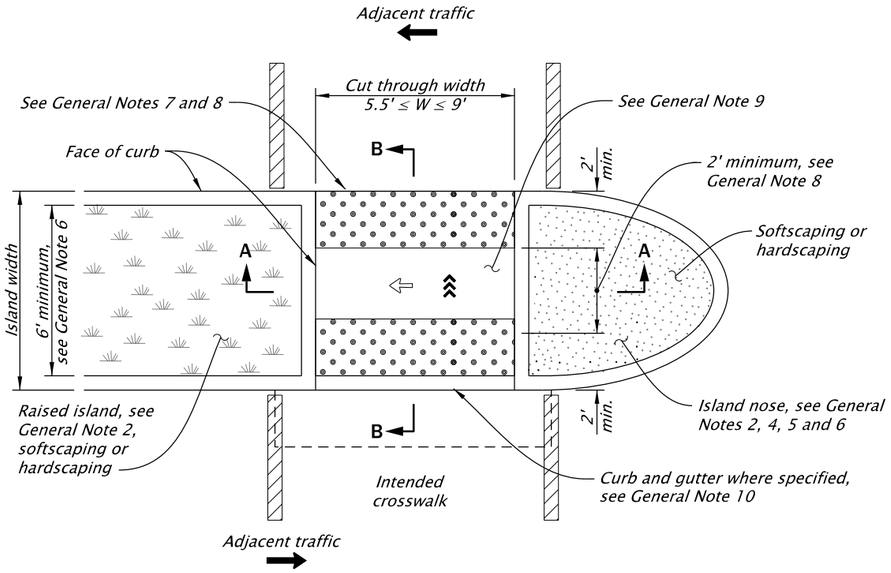
ACCESSIBLE ROUTE ISLANDS

2024

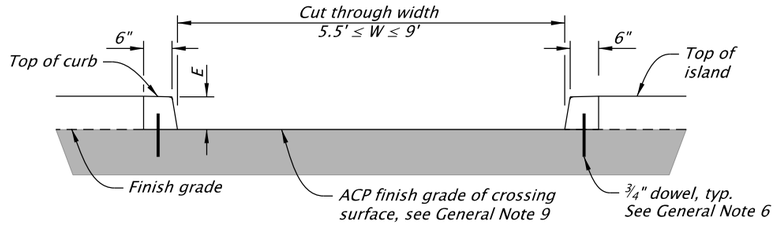
DATE	REVISION DESCRIPTION
07-2021	REVISED DETAILS AND NOTES
11-2021	REVISED NOTES

CALC. BOOK NO. N/A | SDR DATE 14-JAN-2022 | **RD710**

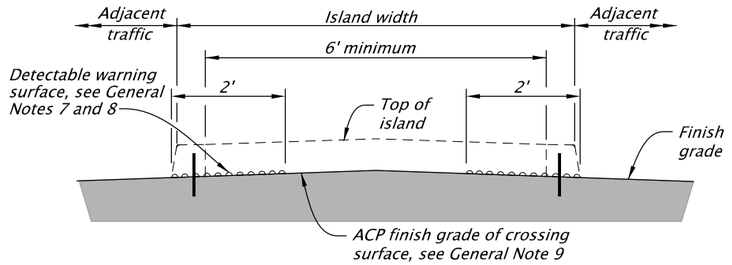
Effective Date: December 1, 2025 - May 31, 2026



PLAN

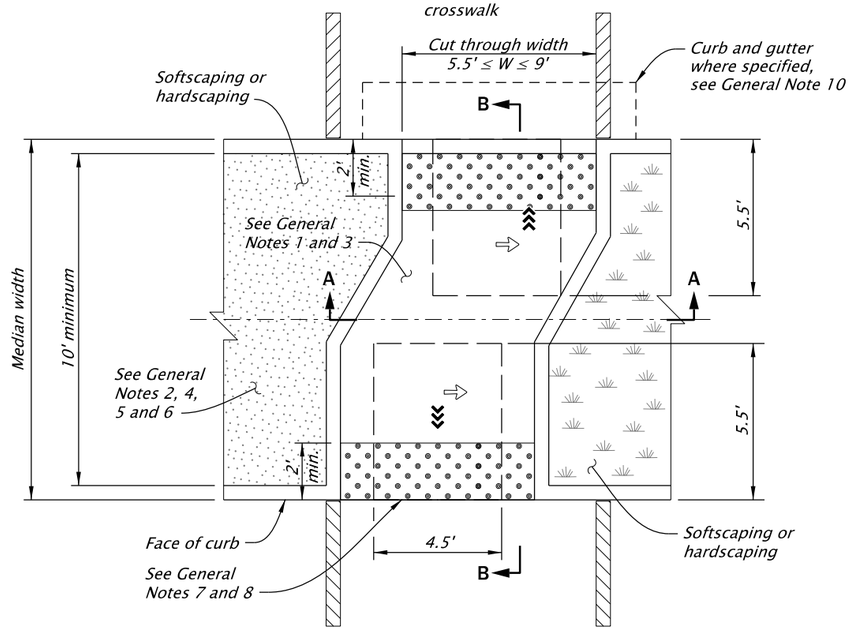


SECTION A-A
(ACP surface shown)



SECTION B-B
(ACP surface shown)

MEDIAN CUT-THROUGH ISLAND CROSSING



PLAN

MEDIAN CUT-THROUGH CROSSING

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Accessible route islands are based on applicable ODOT Standards. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.*
2. *See project plans for details not shown. See drawings RD700, RD702, RD705 and RD706 for additional details. See drawing RD707 for island nose treatment. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.*
3. *Raised islands in crossings shall have accessible curb ramps at all crossings or all crossings shall be cut through flush with the street. Align cut through island with the crosswalk.*
4. *Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see drawing RD705.*
5. *The minimum area of islands that contain signal poles, pedestals, etc., shall be 75 square feet. Square feet to be measured to outer perimeter of entire island.*
6. *For cut through islands, dowel each island segment to the pavement with minimum of two 3/4-inch diameter dowels. Dowel the nose section of the raised median island with a minimum of two 3/4-inch diameter dowels. Place dowels as directed. See drawings RD705 and RD707.*
7. *Place detectable warning surface for a minimum depth of 2 feet that is adjacent to traffic. For details not shown, see drawings RD902 and RD906.*
8. *Detectable warning surfaces shall be separated by a 2-foot minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.*
9. *When there is no pedestrian pushbutton serving the cut through island, a level area is not required.*
10. *On or along state highways, curb and gutter is required at curb ramps.*

LEGEND:

- *Marked or intended crossing location*
- *Detectable warning surface (DWS)*
- *Maximum cross slope governed by intersection condition types, shown on drawing RD900*
- *Running slope, 4.0% maximum (Maximum 4.9% finished surface slope)*
- *For this drawing the clear space is 4.5' x 5.5' (longer dimension in direction of pedestrian street crossing)*

ACCOMPANIED BY DWGS.:
RD710B

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

ACCESSIBLE ROUTE ISLANDS CUT THROUGH

SHEET 1 OF 2

2024

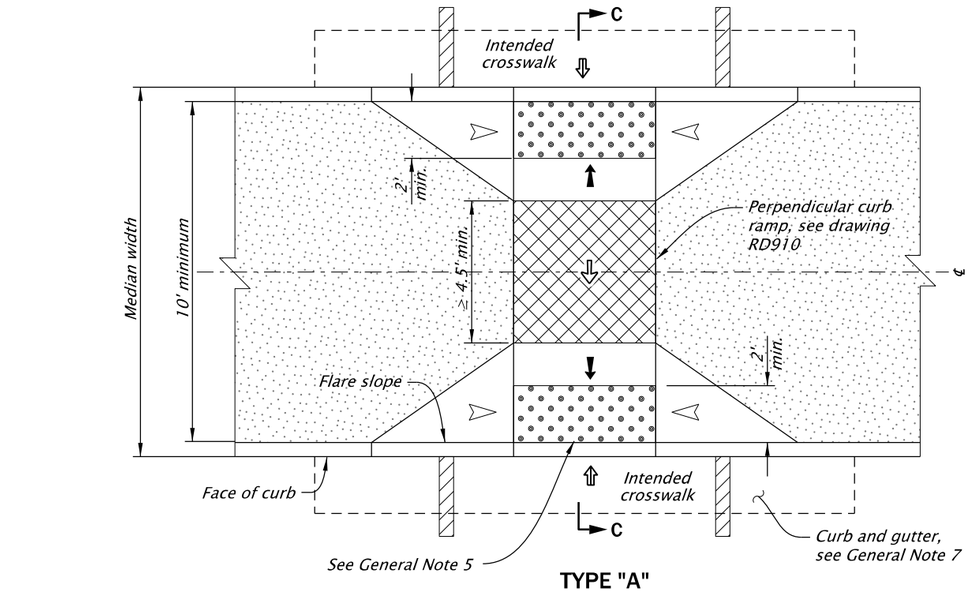
DATE	REVISION DESCRIPTION
07-2025	NEW DRAWING CREATED – SPLIT FROM RD710 TO IMPROVE CLARITY.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD710A**

11-JUL-2025

RD710A.dgn

Effective Date: December 1, 2025 – May 31, 2026



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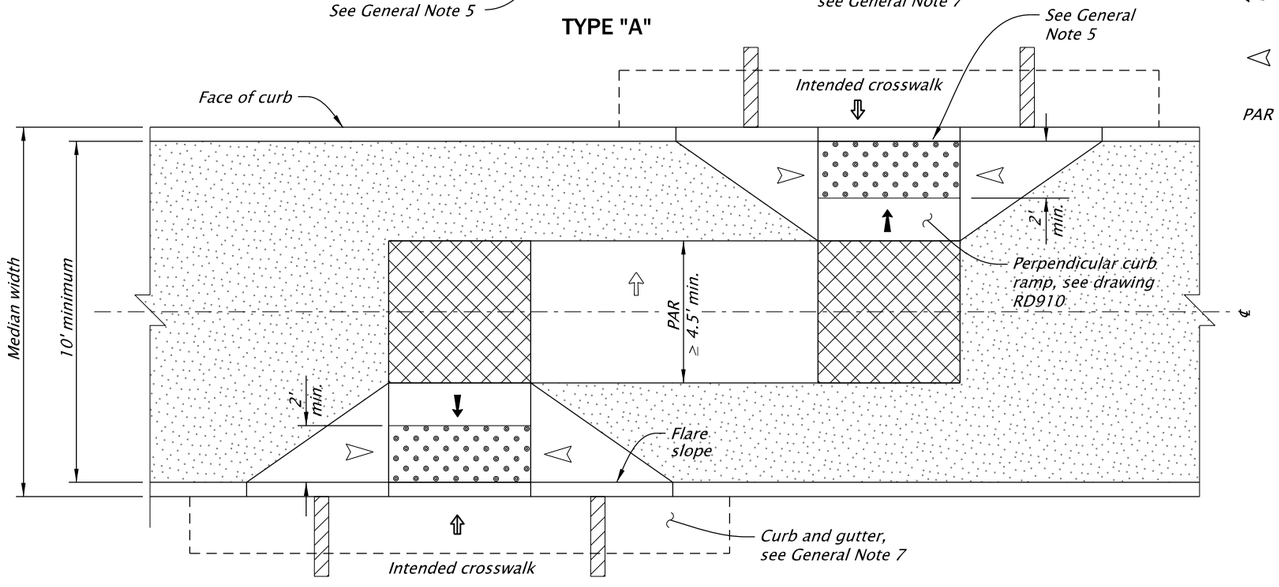

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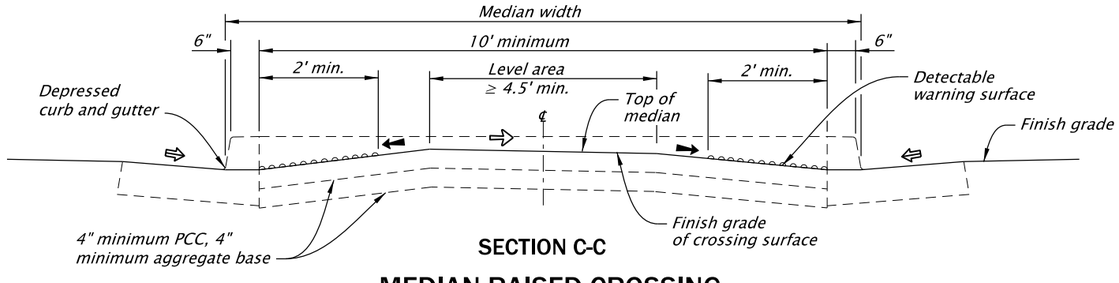


SECTION C-C

MEDIAN RAISED CROSSING

LEGEND:

- *Marked or intended crossing location*
- *Detectable warning surface (DWS)*
- *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 maximum 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- *Counter slope 4.0% maximum ascending or descending*
  (Maximum 5.0% finished surface slope)
  Slope as required for drainage
- *Cross slope 1.5% maximum*
  (Maximum 2.0% finished surface slope)
  (Normal sidewalk cross slope)
- *Running slope 7.5% maximum*
  (Maximum 8.3% finished surface slope)
- *Flare slope*
  (Maximum 10.0% finished surface slope)
- PAR *Pedestrian Access Route*

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Accessible route islands are based on applicable ODOT Standards. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.*
2. *See project plans for details not shown. See drawings RD700, RD701, RD705 and RD706 for additional details. See drawing RD707 for island nose treatment. See TM Standard Drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.*
3. *Raised islands in crossings shall have accessible curb ramps at all crossings or all crossings shall be cut through flush with the street. Align curb ramps with the crosswalk.*
4. *The minimum area of islands that contain signal poles, pedestals, etc., shall be 75 square feet. Square feet to be measured to outer perimeter of entire island.*
5. *Place detectable warning surface at the back of curb for a minimum depth of 2 feet at curb ramp that is adjacent to traffic. For details not shown, see drawings RD902, RD904 and RD906.*
6. *Detectable warning surfaces shall be separated by a 2-foot minimum length of walkway without detectable warnings.*
7. *On or along state highways, curb and gutter is required at curb ramps.*

ACCOMPANIED BY DWGS.:
RD710A

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

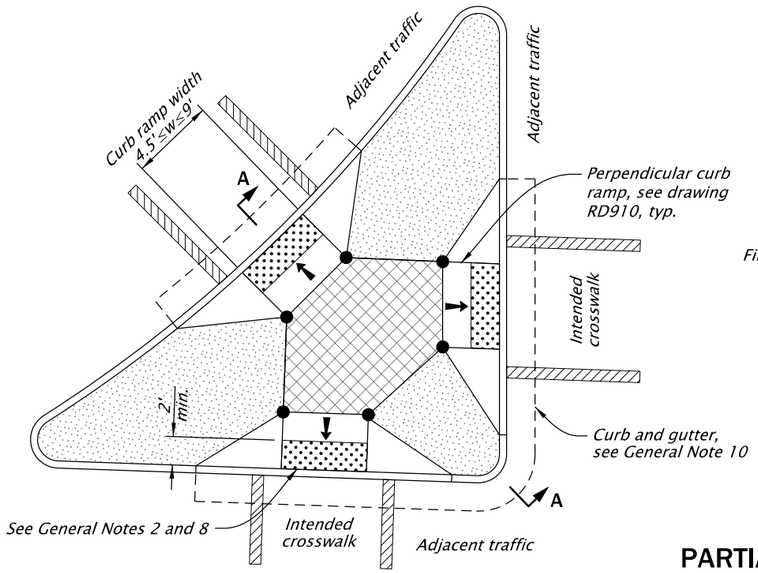
OREGON STANDARD DRAWINGS
ACCESSIBLE ROUTE ISLANDS WITH PERPENDICULAR CURB RAMP
SHEET 2 OF 2
2024

DATE	REVISION DESCRIPTION
07-2025	NEW DRAWING CREATED - SPLIT FROM RD710 TO IMPROVE CLARITY.

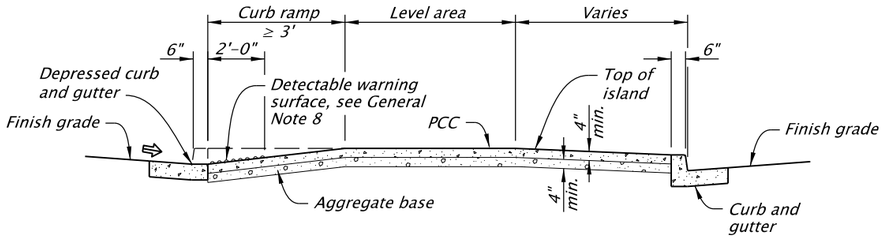
CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD710B**

Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025
RD710B.dgn



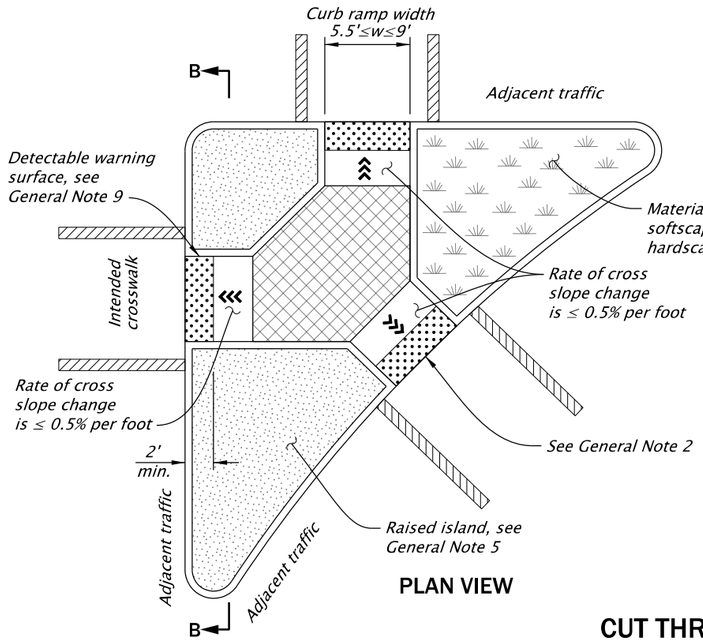
PLAN VIEW



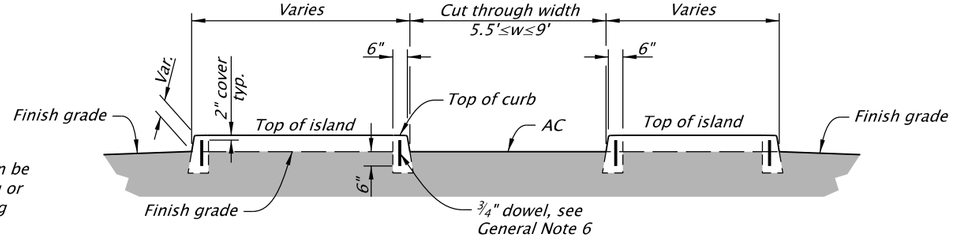
SECTION A-A

PARTIALLY LOWERED ISLAND DETAIL

(Use perpendicular curb ramp inspection form)



PLAN VIEW



SECTION B-B

(ACP surface shown)

CUT THROUGH ISLAND DETAIL

LEGEND:

- *Marked or intended crossing location*
- *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 maximum 2.0% finished surface slope (for drainage) measured perpendicular in two directions is considered level.
- *Zero curb exposure*
- *Counter slope 4.0% maximum ascending or descending*
  (Maximum 5.0% finished surface slope)
  Slope as required for drainage
- *Running slope 4.0% maximum (Maximum 4.9% finished surface slope)*
- *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Accessible route islands are based on applicable ODOT Standards. Details intended for pedestrian route only. For multi-use path, see project plans for specific details.*
2. *Raised islands in crossings shall have accessible curb ramps at all crossings or all crossings shall be cut through with the street. Align curb ramps for lowered or partially lowered island and cut through island with the crosswalk.*
3. *The minimum area of islands that contain signal poles, pedestals, etc., shall be 75 square feet. Square feet to be measured to outer perimeter of entire island.*
4. *See project plans for details not shown. See drawing RD707 for island nose treatment. See drawing RD705 for expansion and contraction joint spacing. See drawings RD700, RD701, RD705 and RD706 for additional details. See TM drawings for signal pole, pedestrian pedestal, crosswalk markings, and related details.*
5. *Curb type and island width as shown on plans or as directed. Type A or Type CA islands are acceptable alternates, see drawing RD705.*
6. *For cut through islands dowel each island segment to the pavement with a minimum of two 3/4-inch diameter dowels. Dowel the nose section of the raised median island with a minimum of two 3/4-inch diameter dowels. Place dowels as directed. See drawing RD705.*
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. *Place detectable warning surface at the back of curb for a minimum depth of 2 feet at curb ramp that is adjacent to traffic. For details not shown, see drawings RD902, RD904 and RD906.*
9. *Detectable warning surfaces shall be separated by a 2-foot minimum length of walkway without detectable warnings. Where no curb, the detectable warning surface shall be placed at the edge of roadway.*
10. *On or along state highways, curb and gutter is required at curb ramps.*

All materials shall be in accordance with the current Oregon Standard Specifications.

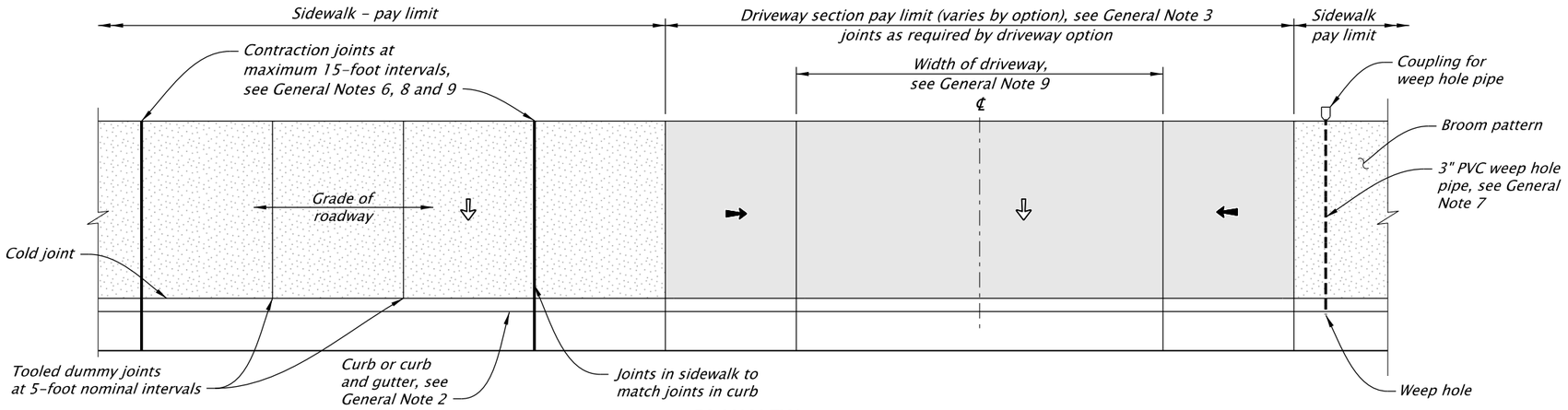
OREGON STANDARD DRAWINGS

ACCESSIBLE ROUTE RAISED CHANNELIZED ISLANDS

2024

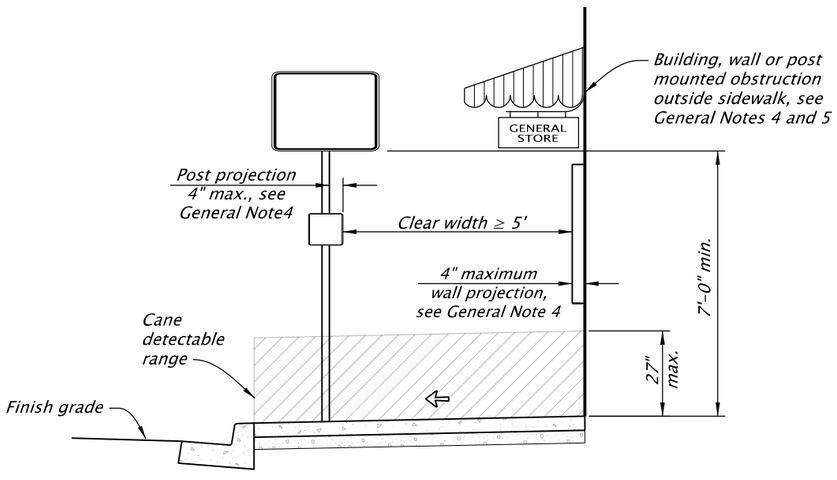
DATE	REVISION DESCRIPTION
07-2021	NEW DRAWING CREATED
07-2021	REVISED NOTES
11-2021	REVISED NOTES
07-2025	REVISED DETAIL TITLE, UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD711**

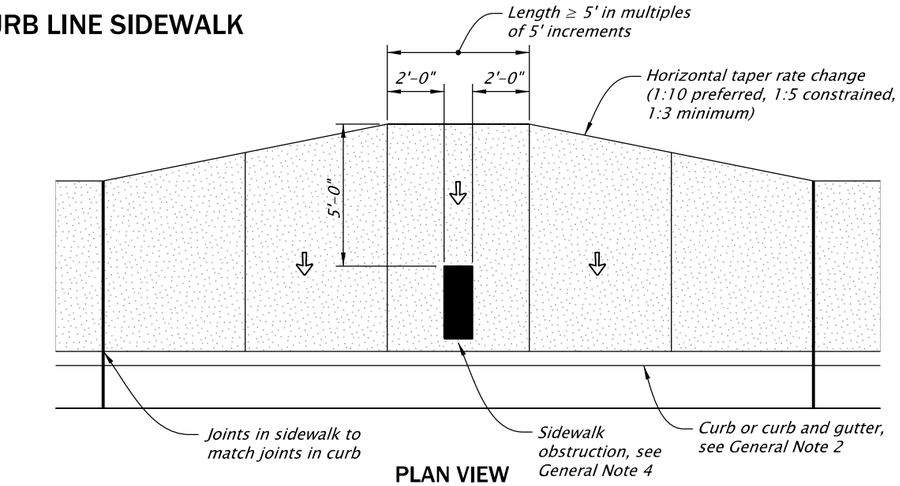


PLAN VIEW

TYPICAL CURB LINE SIDEWALK



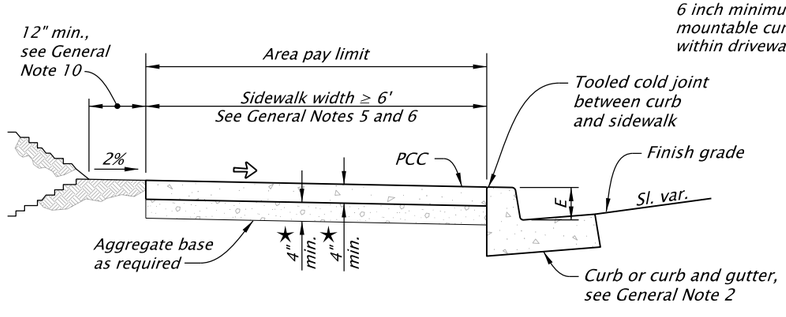
CLEAR CIRCULATION PATH CROSS SECTION



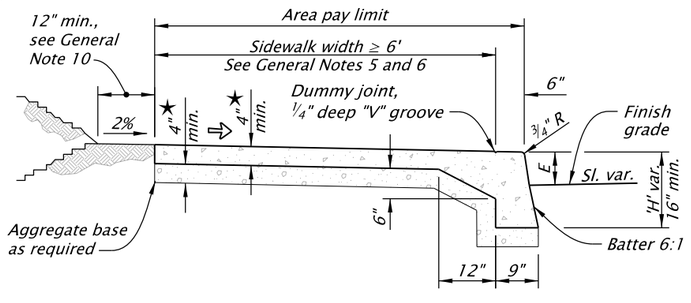
PLAN VIEW

SIDEWALK WIDENING AROUND OBSTRUCTIONS

★ 4 inch typical. Install 6 inch minimum aggregate base and 6 inch minimum PCC where mountable curb is used or within driveway pay limits.



TYPICAL CURB AND SIDEWALK CROSS SECTION



TYPICAL MONOLITHIC CURB AND SIDEWALK CROSS SECTION

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *Sidewalk details are based on applicable ODOT standards. Curb type and sidewalk width as shown on plans or as directed.*
2. *For curb details, see drawings RD700, RD701 and RD702. ODOT standard E=7".*
3. *Fully lowered sidewalk shown; see project plans for the driveway design specified. For driveway details not shown, see drawings RD725, RD730, RD735, RD740, RD745 and RD750.*
4. *Objects with base below 27 inches may protrude any distance as long as the 5-foot circulation path is maintained. When an object protrudes further than 4 inches, at a height between 27 inches and 84 inches, provide a detectable treatment below protrusion to delineate edge.*
5. *Include additional paved or unpaved 2-foot shy distance to vertical faces higher than 5 feet such as retaining walls, sound walls, fences and buildings.*
6. *On sidewalks 8 feet and wider, provide a longitudinal joint at the midpoint. See drawing RD722 for dummy joint details.*
7. *Install 3-inch PVC weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See drawing RD700 for weep hole details. See drawing RD722 for contraction joint detail.*
8. *Construct contraction joints at 15-foot maximum spacing, and at ends of each curb ramp. See drawing RD722 for contraction joints details.*
9. *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 and sidewalk, construct expansion joints at 45-foot maximum spacing. See drawing RD722 for expansion joints details.*
10. *Provide compacted backfill adjacent to curb and sidewalk.*

LEGEND

- *Sidewalk pay limit*
- *Driveway pay limit, varies by option*
- *Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)*
- *Running slope 7.5% maximum (Maximum 8.3% finished surface slope)*
- E — *Curb exposure, see General Note 2*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

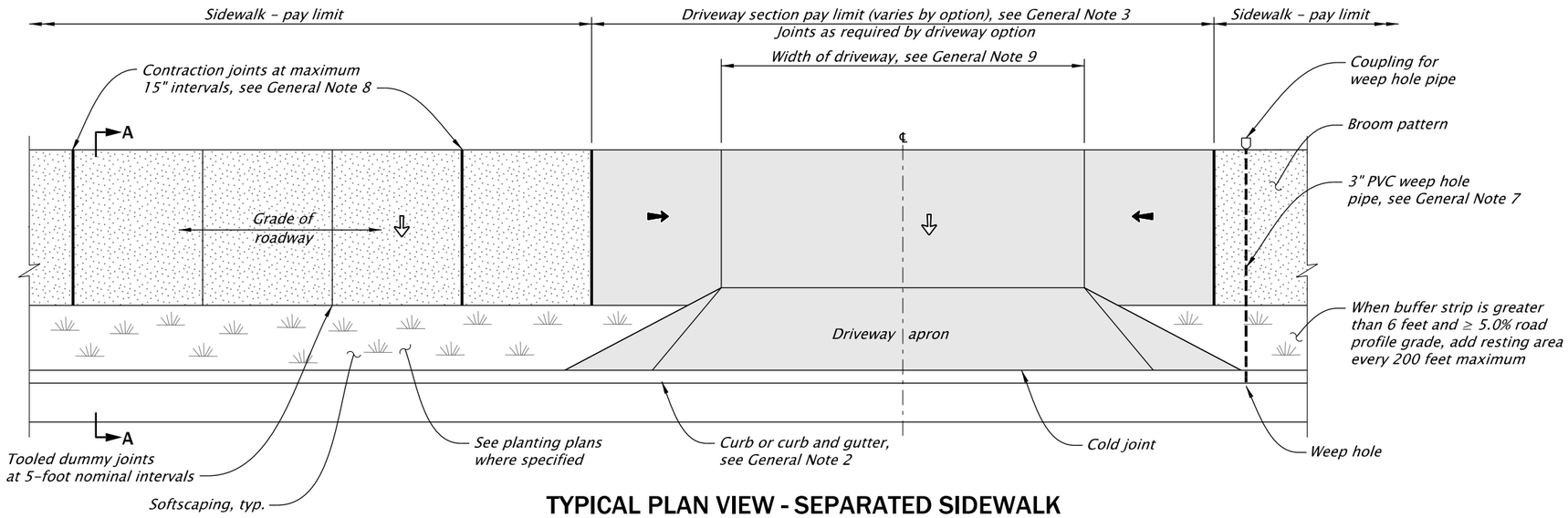
CURB LINE SIDEWALKS

2024

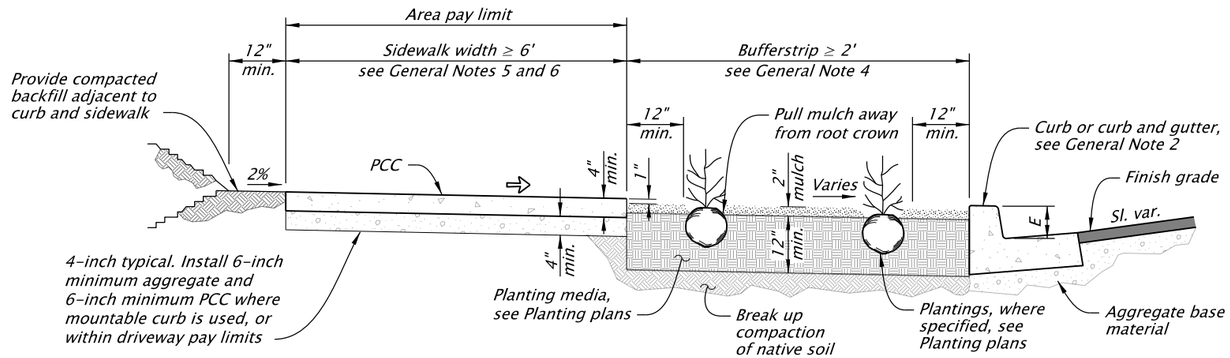
DATE	REVISION DESCRIPTION
02-2025	UPDATED CAD STANDARDS
07-2025	UPDATED CAD STANDARDS, REVISED DETAILS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD720**

Effective Date: December 1, 2025 - May 31, 2026

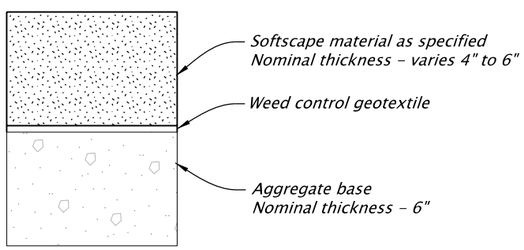


TYPICAL PLAN VIEW - SEPARATED SIDEWALK



SECTION A-A

TYPICAL SETBACK SIDEWALK CROSS SECTION



NON-PLANTED SOFTSCAPE CROSS SECTION

NOTES:
1. Use softscape materials allowed by jurisdiction.
2. Approved softscape materials:
   a) Loose, durable round rock 2-inch to 4-inch diameter
   b) Lava rock 2-inch to 4-inch diameter
   c) Wood chips/bark mulch
   d) Sand
   e) Sod (see planting plans)
3. No crushed aggregate or pea gravel allowed.
4. Install softscape material flush with the top of sidewalk.

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. Sidewalk details are based on ODOT applicable standards. Curb type and sidewalk width as shown on plans or as directed.
2. Curb and gutter shown. See project plans for the curb design specified. For curb details, see drawings RD700 and RD701. ODOT standard E=7".
3. Driveway encroaches into sidewalk shown. See project plans for the driveway design specified. For driveway details not shown, see drawings RD725, RD730, RD735, RD740, RD745 and RD750.
4. Provide plantings in areas 12 square feet or greater, as shown or directed. Treat areas less than 12 square feet with mulch surfacing.
5. Include additional paved or unpaved 2-foot shy distance to vertical faces higher than 5 feet such as retaining walls, sound walls, fences and buildings.
6. On sidewalks 8 feet and wider, provide a longitudinal joint at the midpoint. See drawing RD722 for dummy joint details.
7. Install 3-inch PVC weep hole pipes in sidewalks where shown on plans, and allowed by jurisdiction. Place contraction joint over top of pipe. See drawing RD700 for weep hole details. See drawing RD722 for contraction joint details.
8. Construct contraction joints at 15-foot maximum spacing, and at ends of each curb ramp. See drawing RD722 for contraction joint details.
9. 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 and sidewalk, construct expansion joints at 45-foot maximum spacing. See drawing RD722 for expansion joint details.

LEGEND

- Sidewalk pay limit
- Driveway pay limit, varies by option, see General Note 3
- ⇦ Cross slope 1.5% maximum (Maximum 2.0% finished surface slope) (Normal sidewalk cross slope)
- ⬅ Running slope 7.5% maximum (Maximum 8.3% finished surface slope)
- E Curb exposure, see General Note 2

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

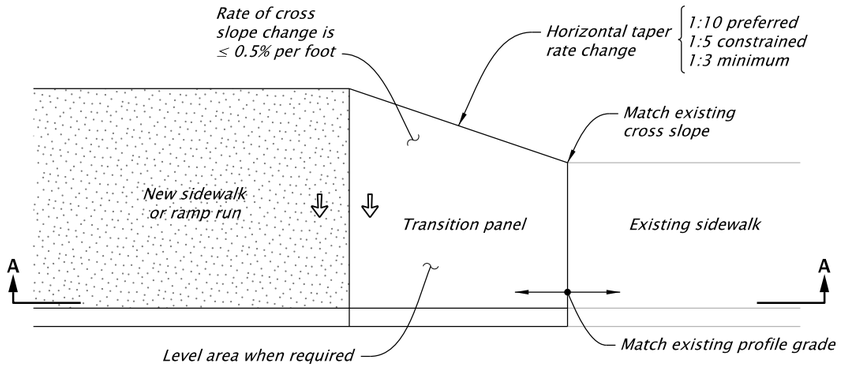
OREGON STANDARD DRAWINGS

SEPARATED SIDEWALKS

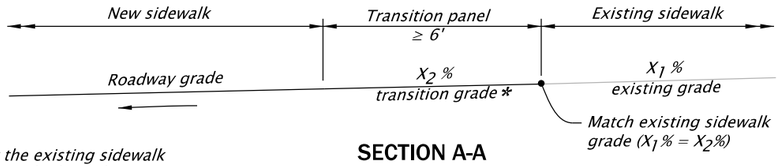
2024

DATE	REVISION DESCRIPTION
02-2025	UPDATED CAD STANDARDS
07-2025	UPDATED CAD STANDARDS, REVISED DETAILS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD721**

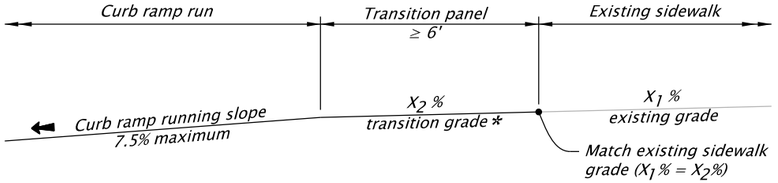


PLAN



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

SECTION A-A
SIDEWALK TRANSITION PANEL SHOWN

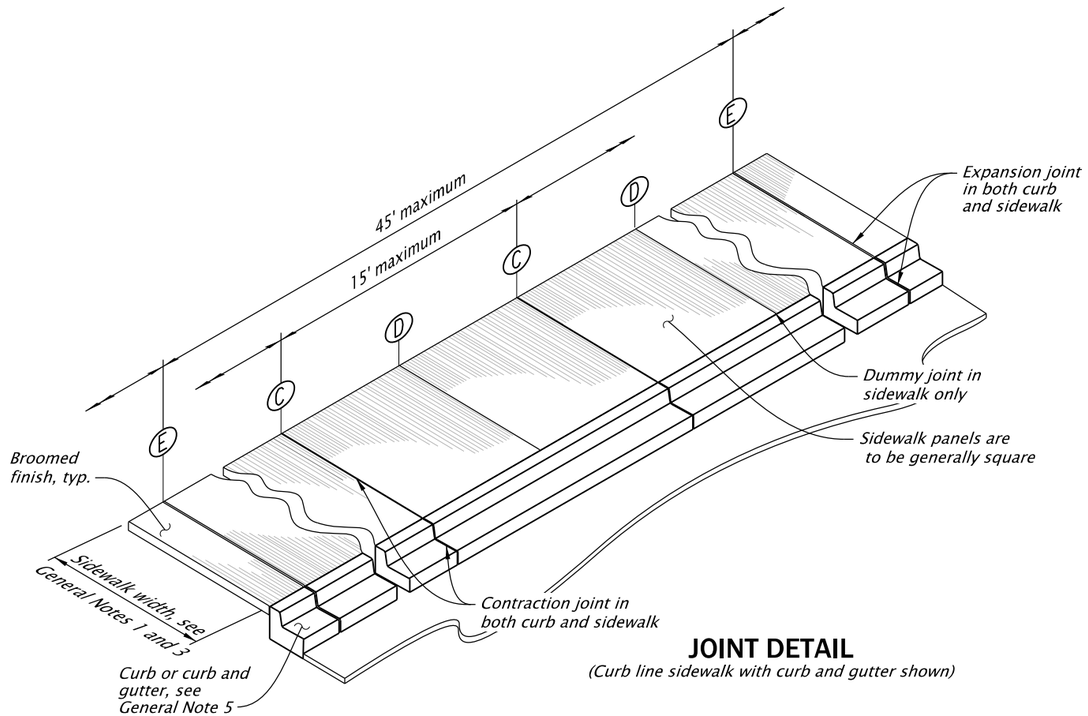


SECTION A-A
CURB RAMP TRANSITION PANEL SHOWN

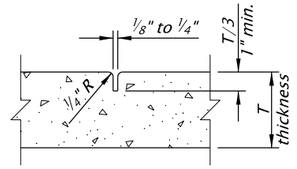
GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

1. *See drawings RD720 and 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, provide construction expansion joints at 45 feet maximum spacing.*
3. *On sidewalks 8 feet and wider, provide a longitudinal joint at the midpoint of sidewalk panel.*
4. *See drawings RD700, RD701 and RD702 for concrete curb details. See project plans for the curb design specified.*
5. *Do not place expansion joints between separate concrete pours for curb ramp system components construction. Place expansion joints outside of curb ramp runs when required. Install expansion joints flush with surface for structures protruding through the curb ramp system. See drawing RD900.*
6. *Construct contraction joints at 15 feet maximum spacing, and at each curb ramp, driveway, sidewalk and curb.*
7. *Construct decorative sidewalk scoring patterns per project plan with dummy joint.*

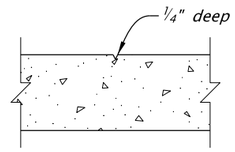
SIDEWALK AND CURB RAMP TRANSITION PANELS



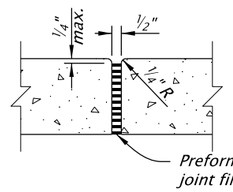
JOINT DETAIL
(Curb line sidewalk with curb and gutter shown)



Ⓒ **CONTRACTION JOINT**
(see General Note 6)



Ⓓ **DUMMY JOINT**
(see General Note 7)



Ⓔ **EXPANSION JOINT**
(see General NoteS 2 and 5)

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*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

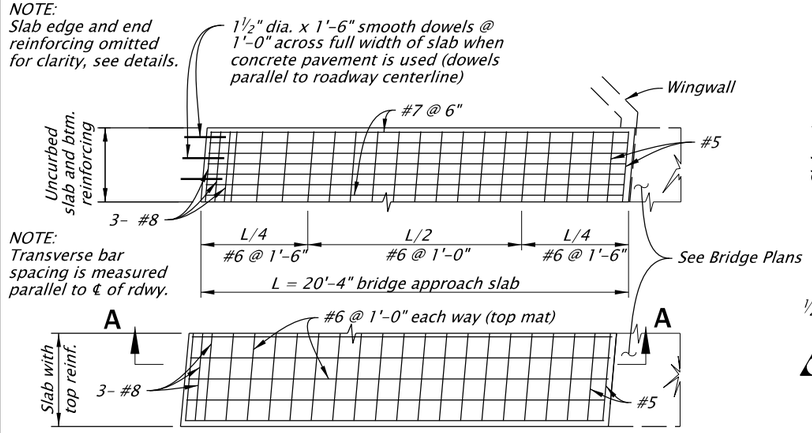
SIDEWALK JOINTS AND TRANSITION PANELS

2024

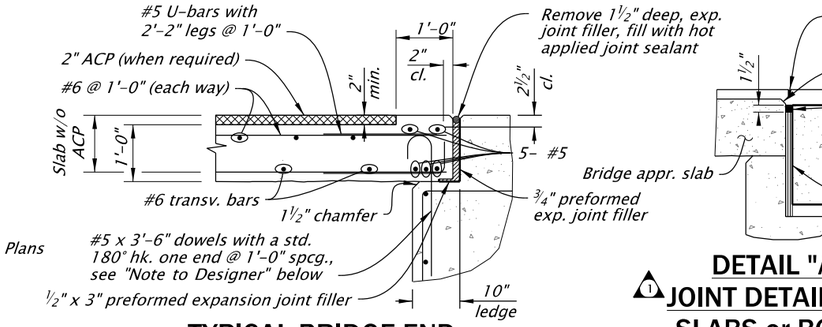
DATE	REVISION DESCRIPTION
07-2022	REVISED NOTES
02-2025	UPDATED CAD STANDARDS
07-2025	UPDATED CAD STANDARDS, REVISED DETAILS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **RD722**

Effective Date: December 1, 2025 - May 31, 2026

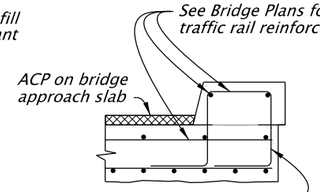


1 PLAN - TYPICAL APPROACH SLAB

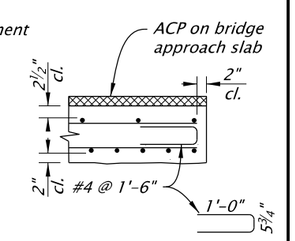


1 TYPICAL BRIDGE END WITHOUT EXPANSION JOINT BLOCKOUT

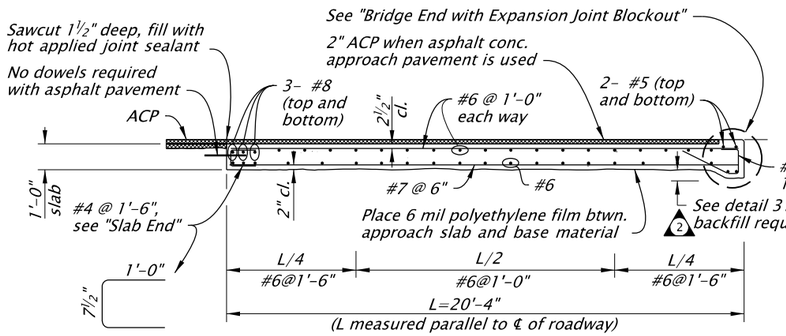
1 DETAIL "A" JOINT DETAIL with SLABS or BOXES



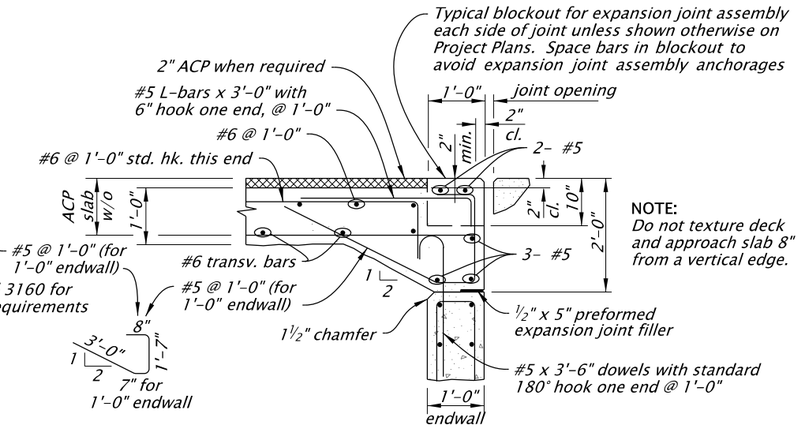
1 CURB EDGE



1 UNCURBED EDGE

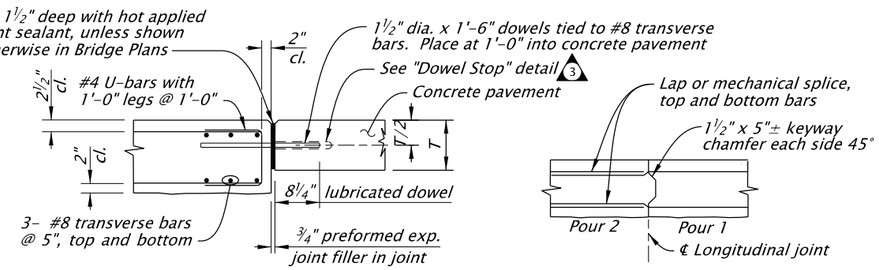


1 SECTION A-A



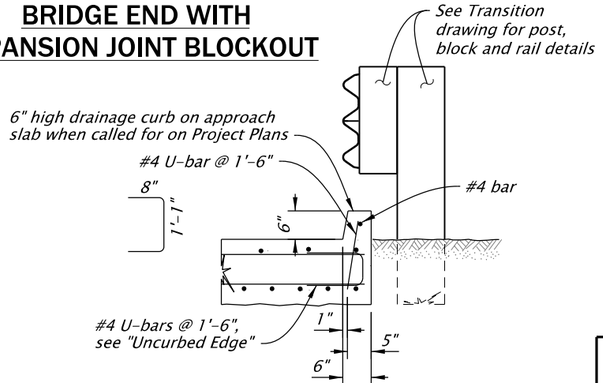
NOTE:
Do not texture deck and approach slab 8" from a vertical edge.

1 BRIDGE END WITH EXPANSION JOINT BLOCKOUT

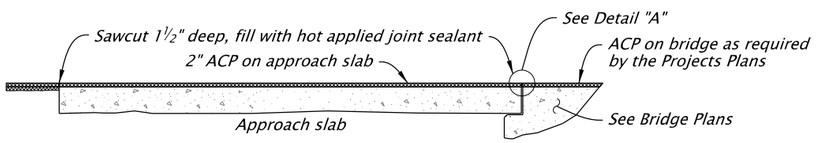


1 SLAB END

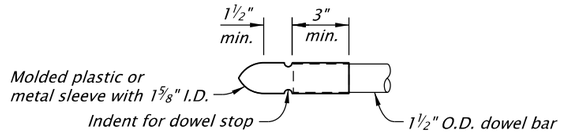
LONGITUDINAL JOINT



1 DRAINAGE CURB EDGE



1 APPROACH SLAB WITH ASPHALT PAVEMENT ON BRIDGE



3 DOWEL STOP

GENERAL NOTES:

1. *See Project Plans for bridge rail, median barrier, and/or guardrail transition details.*
2. *Bridge approach slab designed for HL-93 loading according to AASHTO LRFD Bridge Design Specifications with an allowance of 25 psf for present wearing surface and 25 psf for future wearing surface (Span = 17'-4").*
3. *Provide Class HPC 4500 - 1 or 1½ concrete.*
4. *Provide reinforcing steel conforming to AASHTO Specification M31 (ASTM A615) Grade 60 or A706. Place steel 2" clear of nearest face of concrete unless shown otherwise. Use the following splice lengths unless shown otherwise:*

Bar Size		3	4	5	6	7	8	9	10	11
Splice Length	Uncoated	1'-4"	1'-6"	1'-11"	2'-3"	2'-7"	3'-0"	3'-4"	3'-9"	4'-2"
	Epoxy Coated	1'-8"	2'-3"	2'-10"	3'-4"	3'-11"	4'-5"	5'-0"	5'-8"	6'-3"

5. *Provide ¾" chamfer at all top transverse concrete edges (each end of approach slab and each end of bridge).*
6. *Longitudinal construction joints are allowed only when permitted by the Engineer or when shown on the Project Plans.*
7. *When a longitudinal construction joint is permitted, locate joint on a lane line.*
8. *Provide dowels conforming to AASHTO Specification M31 (ASTM A615) .*
9. *Use the details on this sheet unless shown otherwise on the Project Plans.*
10. *Flare approach slab as required. Maintain bottom longitudinal bars spacing requirements at midspan.*
11. *Support top and bottom mat reinforcing steel at 3'-0" max. centers each way. Use #4 C-bars with 8" legs, or approved bar support chairs for top mat.*
12. *For additional reinforcing bars needed in the approach slab, see bridge rail and transition drawings in project plans.*

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

BRIDGE APPROACH SLAB

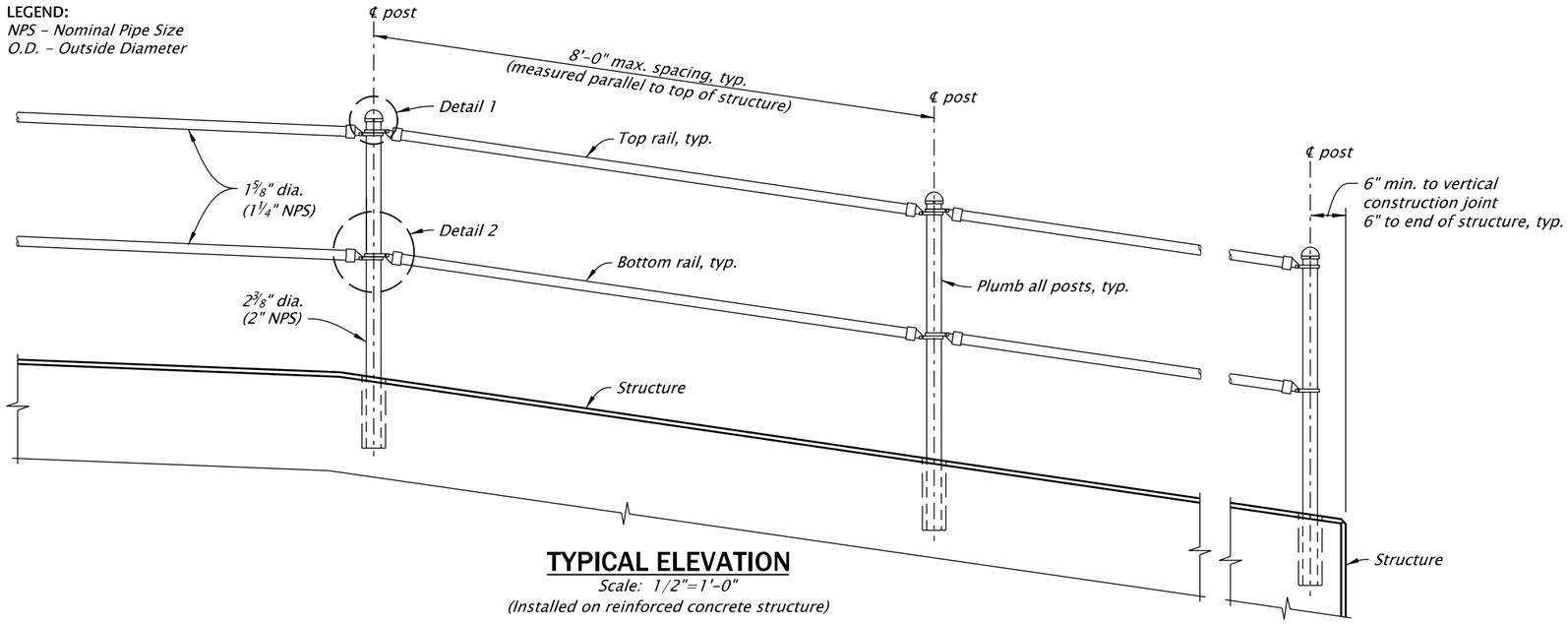
2024

	DATE	REVISION DESCRIPTION
3	07-2020	Changed end panel to approach slab, Removed 30'-4" length; CAD updates.
2	01-2024	General text revisions.
1	07-2025	Add detail callout and Dowel Stop detail; minor text edits.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **BR165**

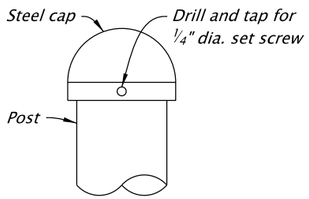
Effective Date: December 1, 2025 - May 31, 2026

LEGEND:
NPS - Nominal Pipe Size
O.D. - Outside Diameter

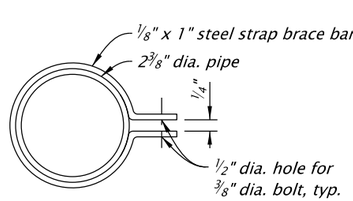


TYPICAL ELEVATION
Scale: 1/2"=1'-0"
(Installed on reinforced concrete structure)

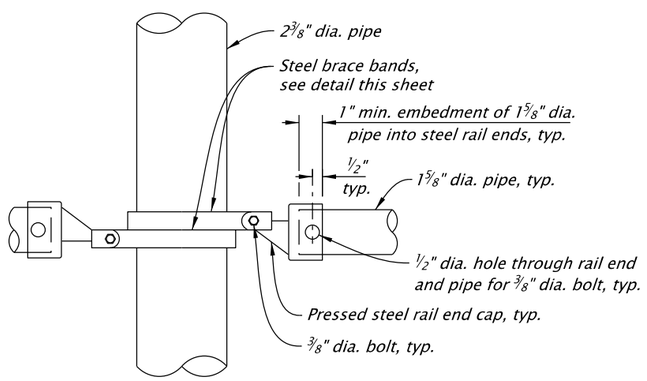
NOTES:
1. This pipe rail fence meets the requirements for fall prevention in accordance with OAR 437 003 1926.502 and shall not be used for pedestrian applications.
2. All posts to be installed vertical and rail to be installed parallel to top of structure.
3. Do not install posts across joints.
4. Provide schedule 40 post and rail elements according to AASHTO M181, Type 1, Grade 1, with a minimum yield strength of 50 KSI.
5. Provide pressed steel fence fittings according to ASTM F626.
6. Provide fence hardware according to ASTM A307 or approved equal.
7. Hot dip galvanize all steel parts in accordance with AASHTO M111, M232 or ASTM F2329 after fabrication, unless noted otherwise.
8. Provide cellular molded type expanded polystyrene with a density of 1.5 (±0.25) pounds per cubic foot.
9. Provide Schedule 40 PVC pipe.
10. Provide structural grout from the QPL.
11. Place pipe rail fence outside roadway design clear zone, or shielded by a traffic barrier and placed outside the deflection distance of the traffic barrier. For traffic barrier having no deflection distance, the fence shall be placed a minimum horizontal distance of 3'-6" as measured from the top front face of the barrier.



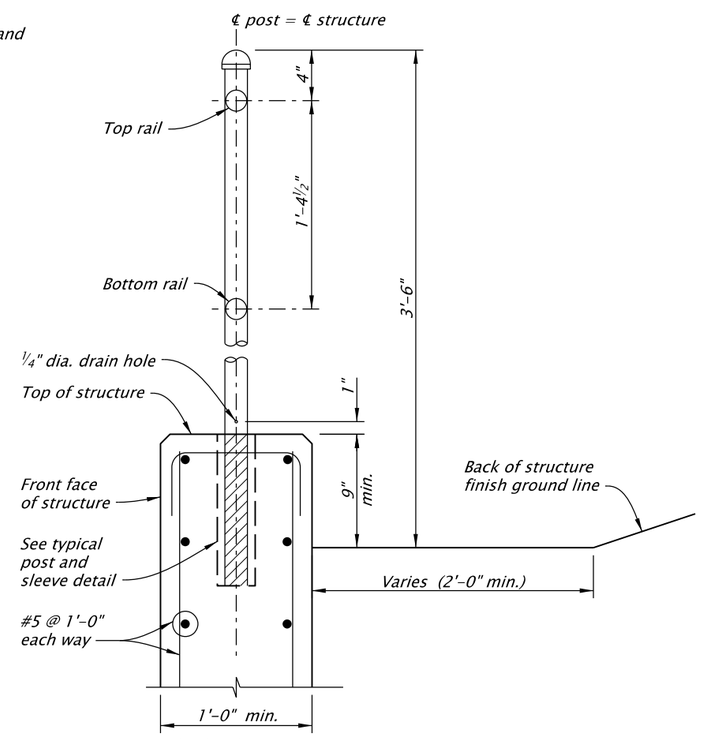
DETAIL 1
Scale: 3"=1'-0"



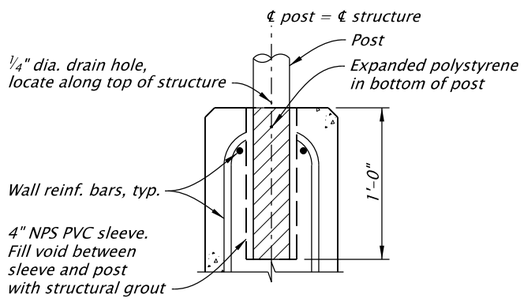
BRACE BAND
Scale: 3"=1'-0"



DETAIL 2
Scale: 3"=1'-0"



SECTION A-A
Scale: 1"=1'-0"



NOTE:
Steel sleeve may be omitted if hole is cored.
Cored holes shall be 3" in diameter and walls roughened.
It is structurally acceptable to core through top transverse ties.

TYPICAL POST AND SLEEVE DETAIL
Scale: 1"=1'-0"

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PIPE RAIL FENCE

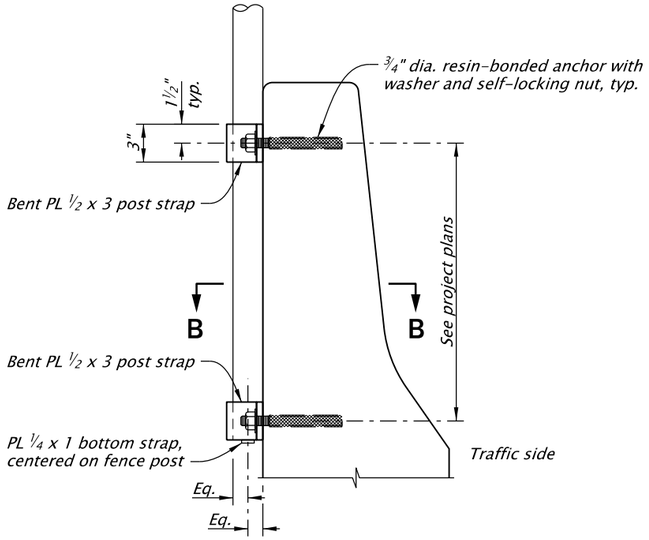
SHEET 1 OF 2
2024

DATE	REVISION DESCRIPTION
07-2025	NEW DRAWING

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **BR192**

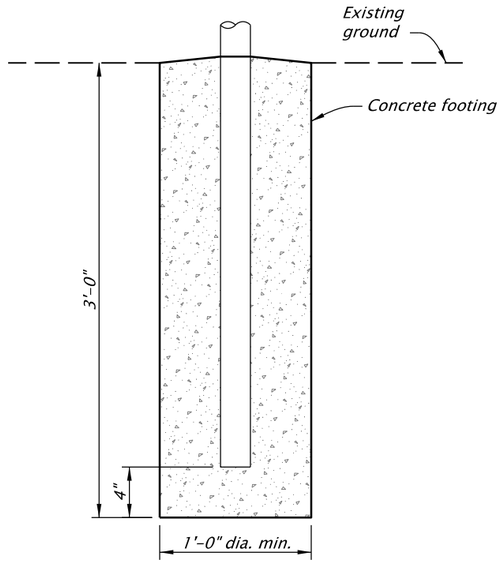
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025
BR192.dgn



PIPE RAIL SIDE MOUNT

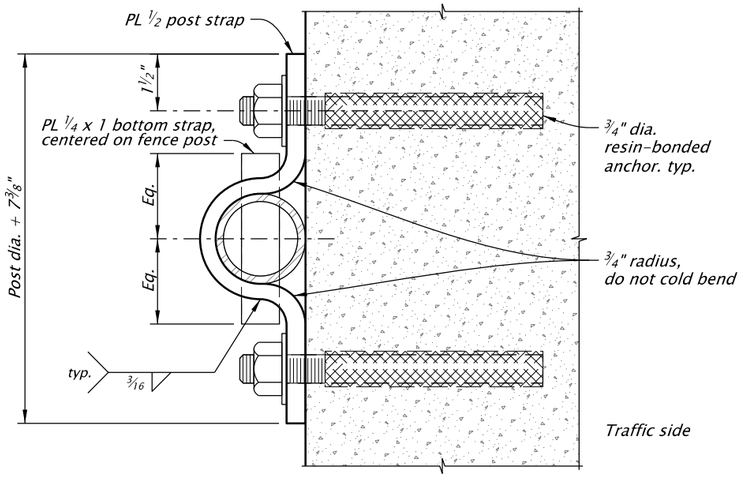
Scale: 1"=1'-0"



CIP ANCHORAGE OPTION

Scale: 1"=1'-0"

NOTE:
As an alternate to resin-bonded anchor, use 2- ¾" dia. x 5"± embedment concrete inserts with minimum safe working loads in 3300 psi concrete of 4.3 kips tension.



SECTION B-B

Scale: 3"=1'-0"

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

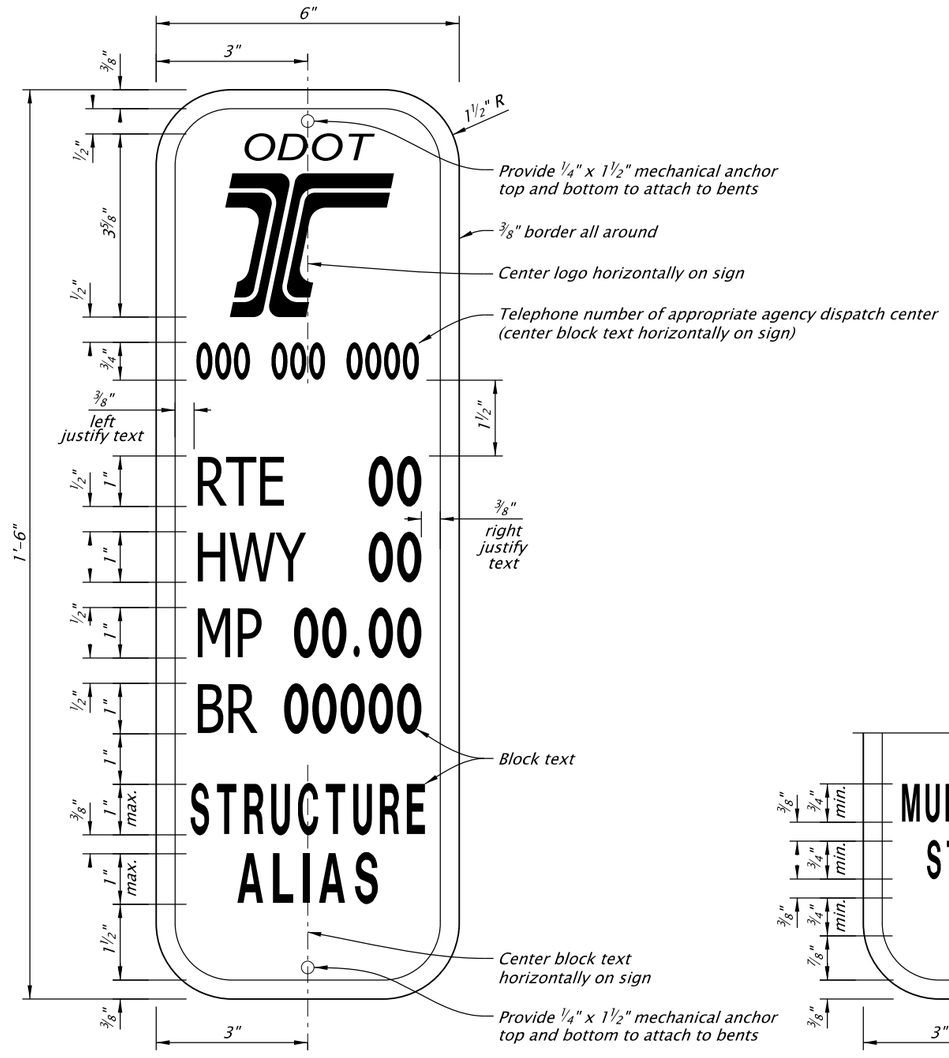
PIPE RAIL FENCE

SHEET 2 OF 2
2024

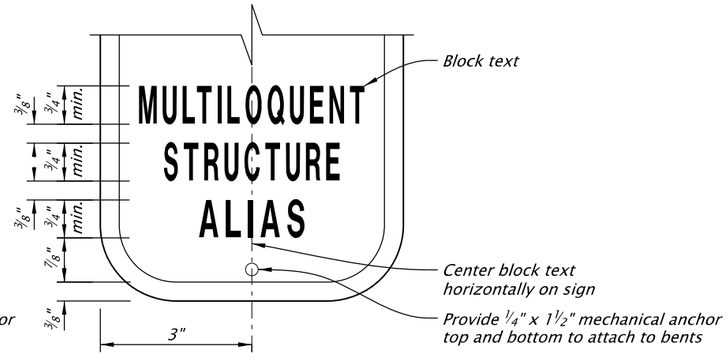
DATE	REVISION DESCRIPTION
07-2025	NEW DRAWING

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **BR193**

Effective Date: December 1, 2025 - May 31, 2026

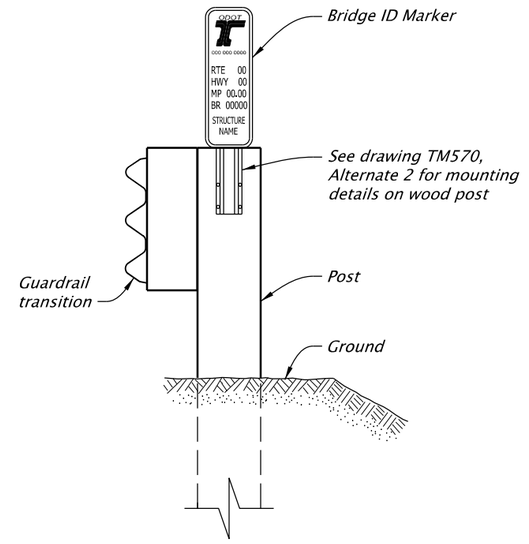


1 MAXIMUM TEXT SIZE



1 MINIMUM TEXT SIZE

BRIDGE ID MARKER



BRIDGE ID MARKER IN RAIL TRANSITION

GENERAL NOTES

1. See Special Provision 00842 for materials and mounting requirements not shown.
2. See bridge contract plans for locations of bridge ID markers.
3. Fabricate markers from sheet aluminum with nominal thickness of 0.063".
4. Furnish Type "G" green background with silver-white retroreflective legend according to 02910.
5. Text and numbers are Type B font.
6. Provide four 7/32" dia mounting holes, pattern to match post. Use same hole pattern for mounting on concrete surface.
7. See Bridge ID Marker Chart in Structure Plans for filling out block text.

Accompanied by drawing TM570.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

BRIDGE ID MARKER

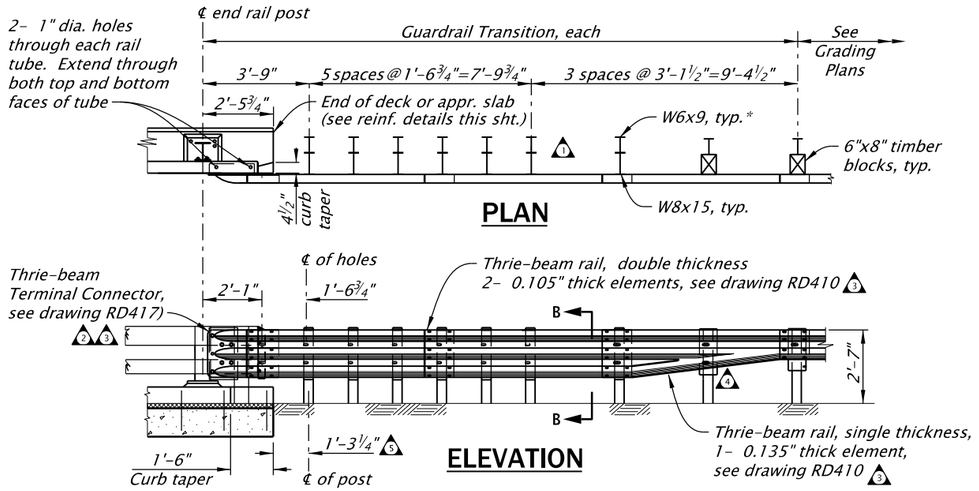
2024

DATE	REVISION DESCRIPTION
△ 07-2025	Text size clarification; detail added; add fasteners.

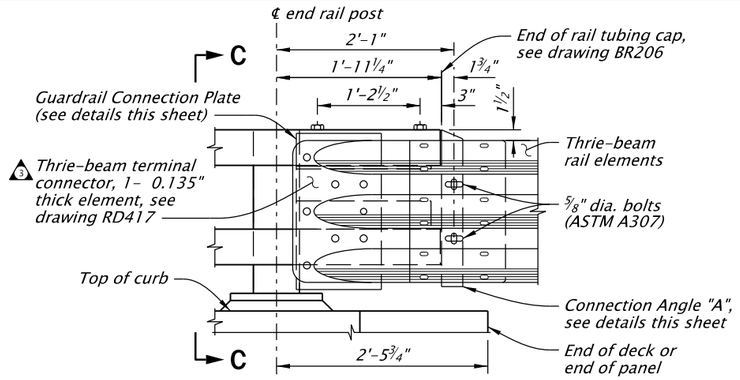
CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **BR195**

Effective Date: December 1, 2025 - May 31, 2026

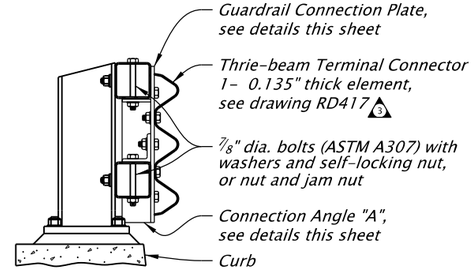
BR195.dgn 11-JUL-2025



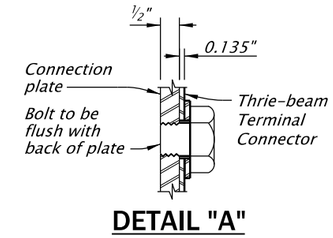
* Transition posts may be steel W6x9 or timber 8"x 8". All posts to be of same material. See drawing BR203 "Thrie-beam Block" for details.



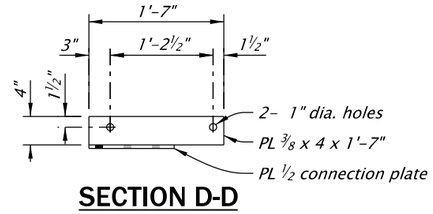
ELEVATION: TRANSITION CONNECTION



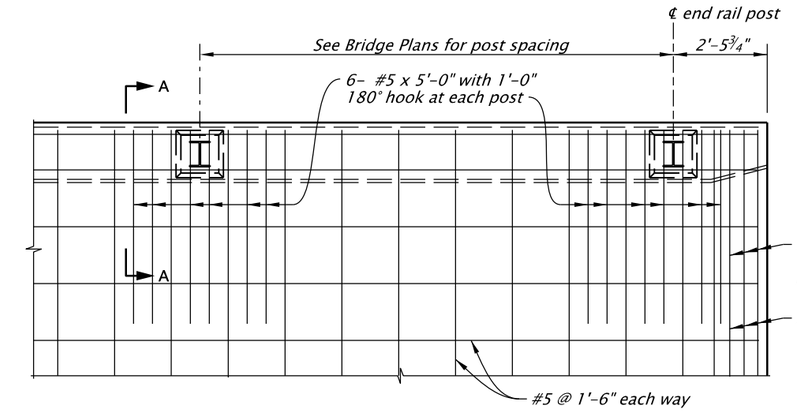
SECTION C-C



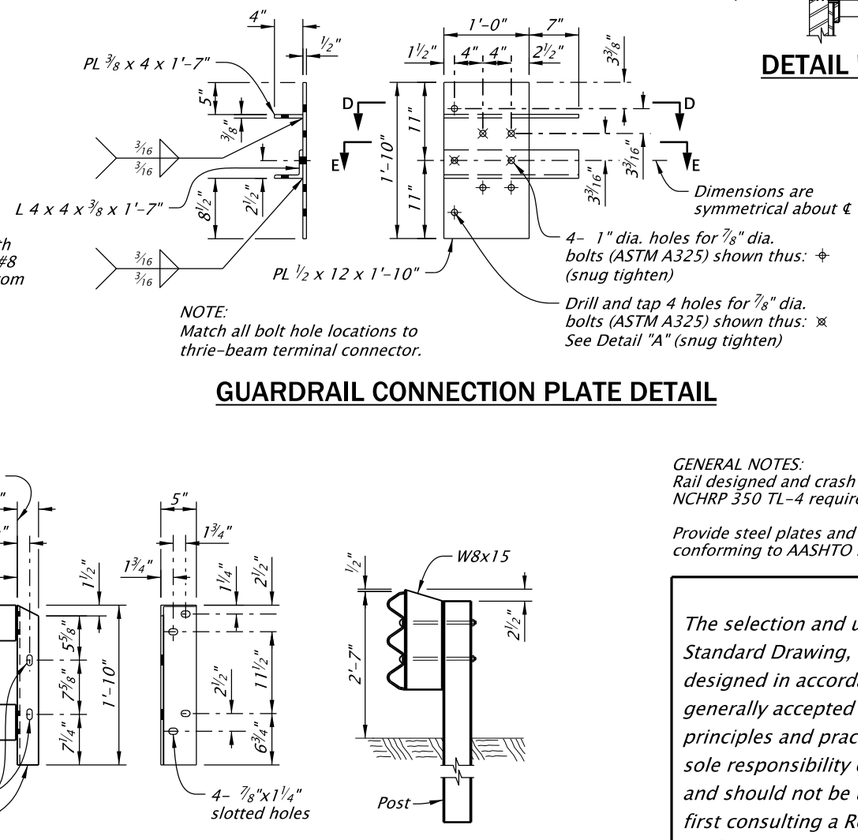
DETAIL "A"



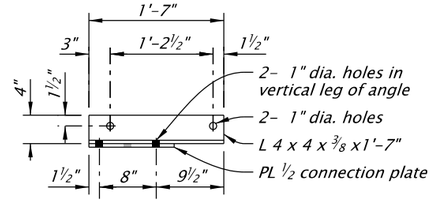
SECTION D-D



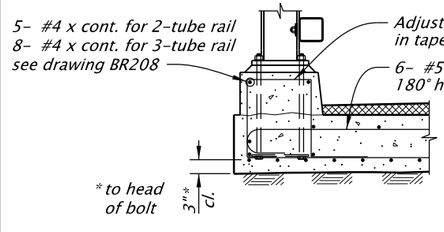
⚠1 APPROACH SLAB TOP REBAR AT RAIL POSTS



GUARDRAIL CONNECTION PLATE DETAIL



SECTION E-E



SECTION A-A

NOTES: ⚠1
For approach slab reinforcement not shown, see project plans.

For rail and curb details not shown, see drawing BR206 or BR208.

CONNECTION ANGLE "A"

SECTION B-B

GENERAL NOTES:
Rail designed and crash tested to meet NCHRP 350 TL-4 requirements.

Provide steel plates and wide-flange posts conforming to AASHTO M183 (ASTM A36).

⚠1⚠3 ACCOMPANIED BY DWGS.:
BR203, BR206, RD401, RD402, RD407, RD408, RD417, RD412

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

2-TUBE CURB MOUNT RAIL TRANSITION

2024

	DATE	REVISION DESCRIPTION
⚠1	01-2023	Revised accompanied by dwg references, General text revisions.
⚠2	01-2024	General text revisions.
⚠3	07-2024	General text revisions.
⚠4	01-2025	Thrie-beam transition revised: CAD standards updates.
⚠5	07-2025	Dimension edit in Elevation view.

CALC. BOOK NO. 4057 & 4058 | SDR DATE 11-JULY-2025 | **BR207**

Effective Date: December 1, 2025 - May 31, 2026

11-JULY-2025

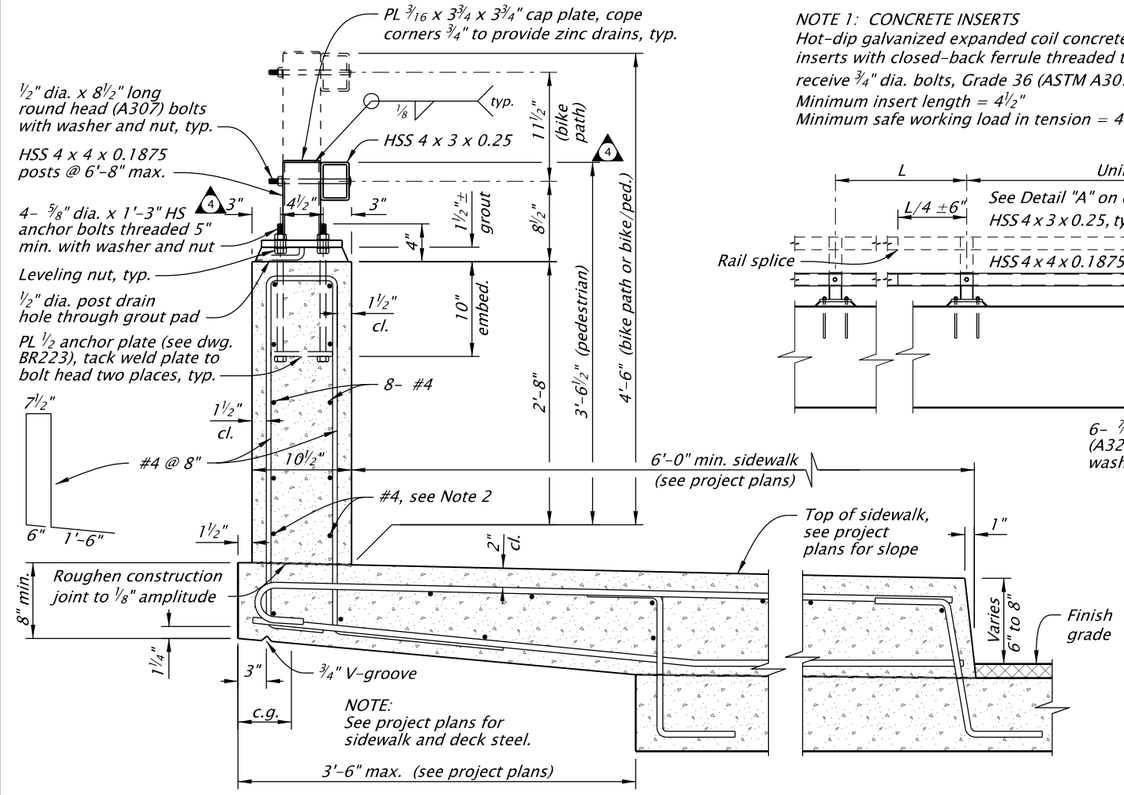
BR207.dgn

11-JULY-2025

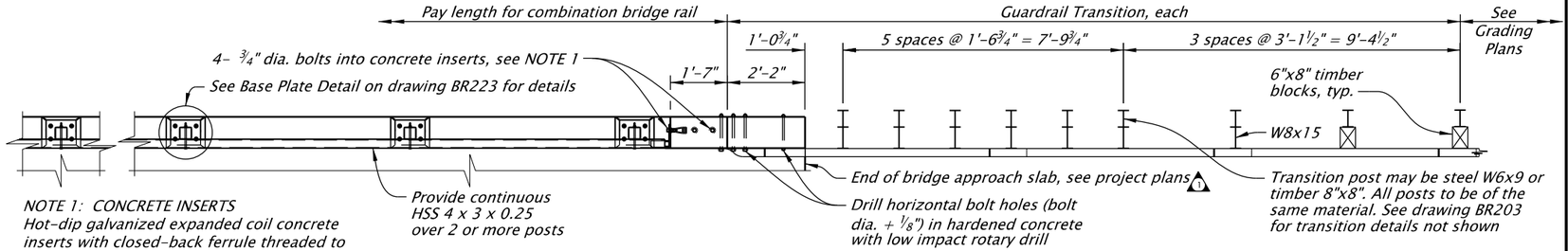
BR216.dgn

ESTIMATED QUANTITIES

		3'-6½" rail	4'-6" rail
Concrete Volume	(ft³/ft)	2.26	2.26
Reinforcement Weight	(lbs/ft)	23.39	23.39
Structural Steel Weight	(lbs/ft)	18.0	30.0
Total Rail Weight	(lbs/ft)	357	369
Center of Gravity	(cg, ft)	0.572	0.581



TYPICAL RAIL SECTION

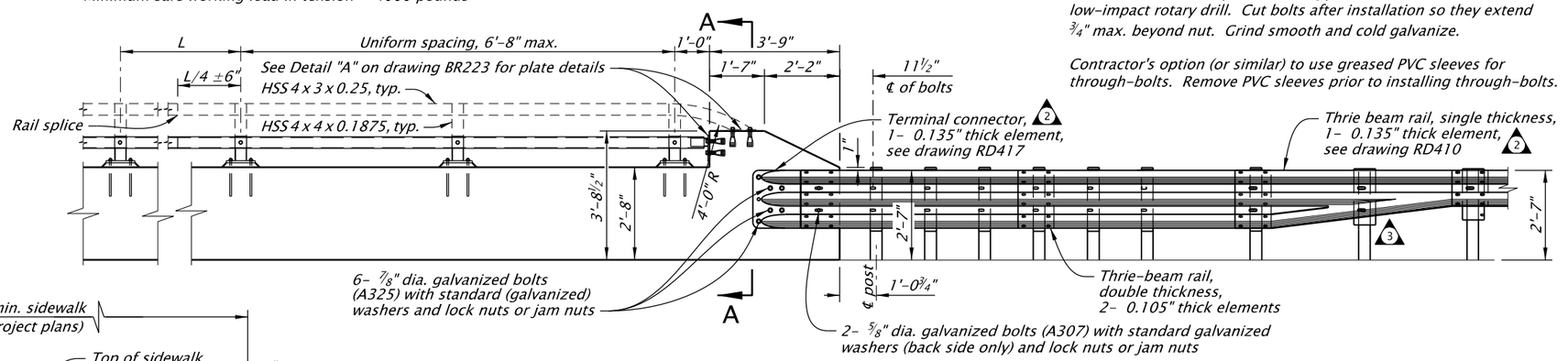


NOTE 1: CONCRETE INSERTS
Hot-dip galvanized expanded coil concrete inserts with closed-back ferrule threaded to receive ¾" dia. bolts, Grade 36 (ASTM A307).
Minimum insert length = 4½"
Minimum safe working load in tension = 4000 pounds

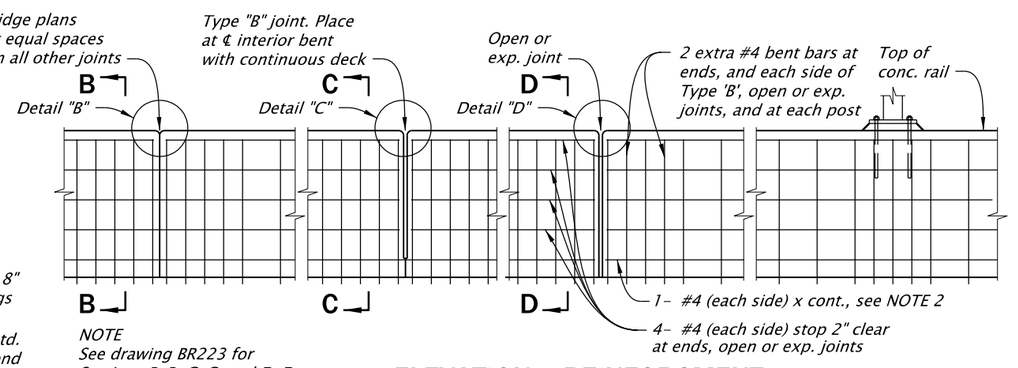
PLAN: TRANSITION RAIL DETAIL

NOTES:
Drill horizontal holes (bolt dia. + ⅛") in hardened concrete with low-impact rotary drill. Cut bolts after installation so they extend ¾" max. beyond nut. Grind smooth and cold galvanize.

Contractor's option (or similar) to use greased PVC sleeves for through-bolts. Remove PVC sleeves prior to installing through-bolts.



ELEVATION: TRANSITION RAIL DETAIL



NOTE 2
Continuous through scoring joints, stop 2" clear at ends and open or expansion joints.

NOTE
See drawing BR223 for Sections B-B, C-C, and D-D; and Details A, B, C, and D .

ELEVATION – REINFORCMENT

GENERAL NOTES:
Provide steel tubing conforming to ASTM A500, Grade B, A501 or A618.

Provide reinforcing steel conforming to ASTM A706, or AASHTO M31 (ASTM A615) Grade 60. Splice #4 bars 1'-4" min.

Provide concrete Class 3300 - 1½ or ¾.

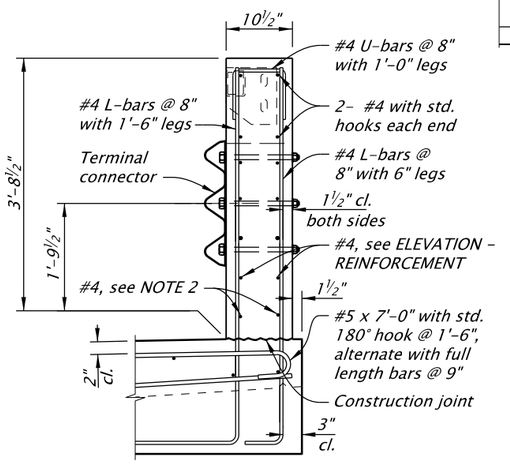
Provide steel posts and plates conforming to AASHTO M183 (ASTM A36) unless otherwise noted.

Provide high strength anchor bolts (Grade 105) according to Oregon Standard Specification 02560.30 (b).

Construct rail (posts and parapet) normal to grade in the longitudinal direction and vertical in the transverse direction.

Hot-dip galvanize structural steel including fasteners after fabrication. Provide Galvanize-Control Silicon posts and horizontal rail steel tubing according to Oregon Standard Specification 02530.70. Tap nuts and inserts 0.021" oversize after galvanizing in accordance with ASTM A563.

Use 4'-6" height for bikeways when called for on project plans.



SECTION A-A

Accompanied by dwgs. BR203, BR223, RD401, RD402, RD407, RD408, RD410, RD417, RD412

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

SIDEWALK MOUNTED COMBINATION BRIDGE RAIL

2024

DATE	REVISION DESCRIPTION
01-2023	Revised accompanied by dwg references, General text revisions.
07-2024	General text revisions.
01-2025	Thrie-beam transition revised; CAD standards updates
07-2025	Dimensions adjusted.

CALC. BOOK NO. N/A | SDR DATE 11-JULY-2025 | **BR216**

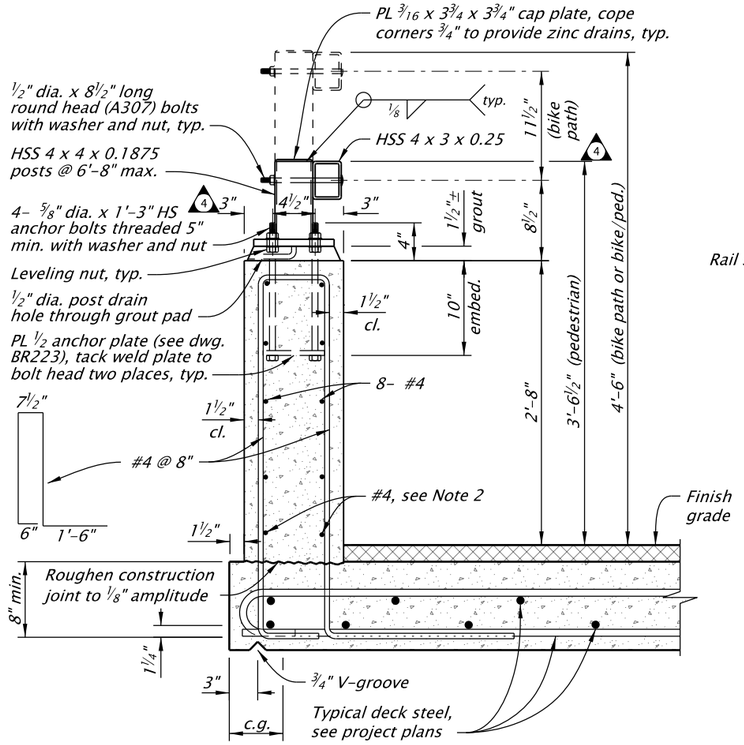
Effective Date: December 1, 2025 - May 31, 2026

11-JULY-2025

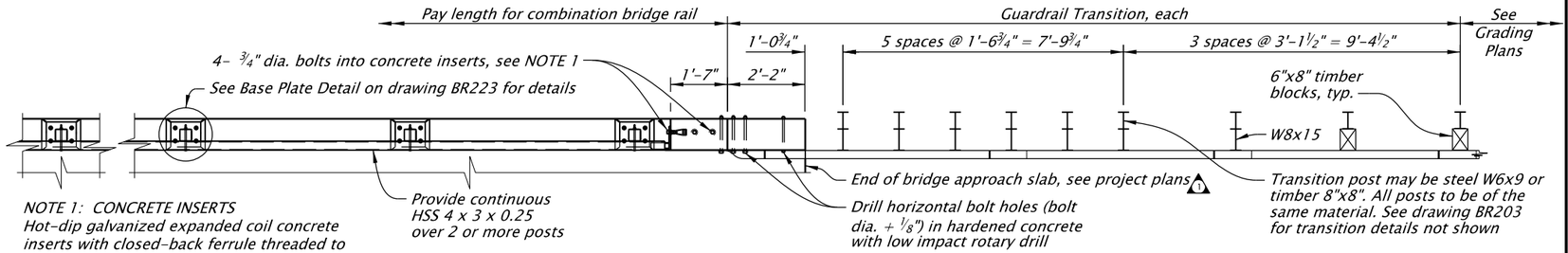
BR220.dgn

ESTIMATED QUANTITIES

		3'-6½" rail	4'-6" rail
Concrete Volume	(ft³/ft)	2.26	2.26
Reinforcement Weight	(lbs/ft)	23.39	23.39
Structural Steel Weight	(lbs/ft)	18.0	30.0
Total Rail Weight	(lbs/ft)	357	369
Center of Gravity	(cg, ft)	0.572	0.581

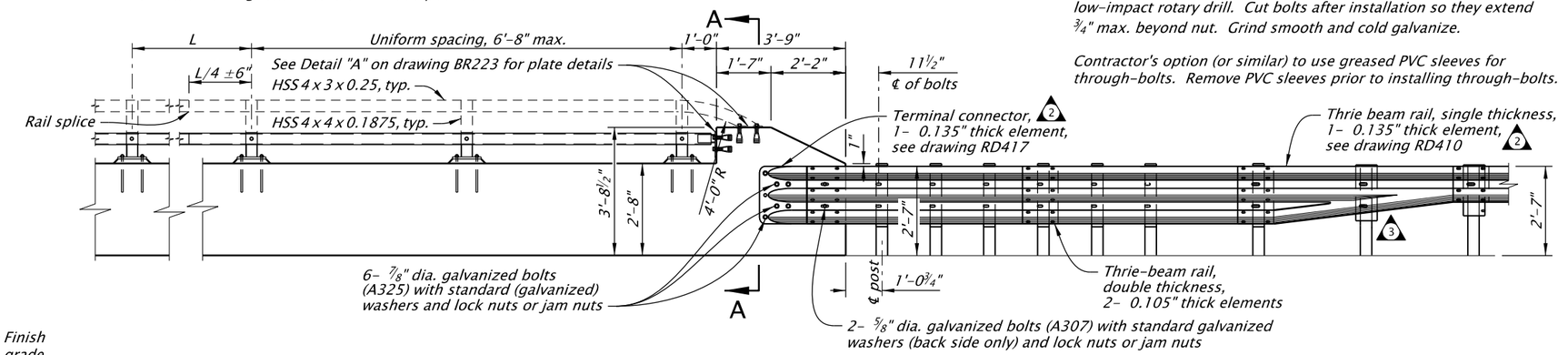


TYPICAL RAIL SECTION



NOTE 1: CONCRETE INSERTS
Hot-dip galvanized expanded coil concrete inserts with closed-back ferrule threaded to receive ¾" dia. bolts, Grade 36 (ASTM A307).
Minimum insert length = 4½"
Minimum safe working load in tension = 4000 pounds

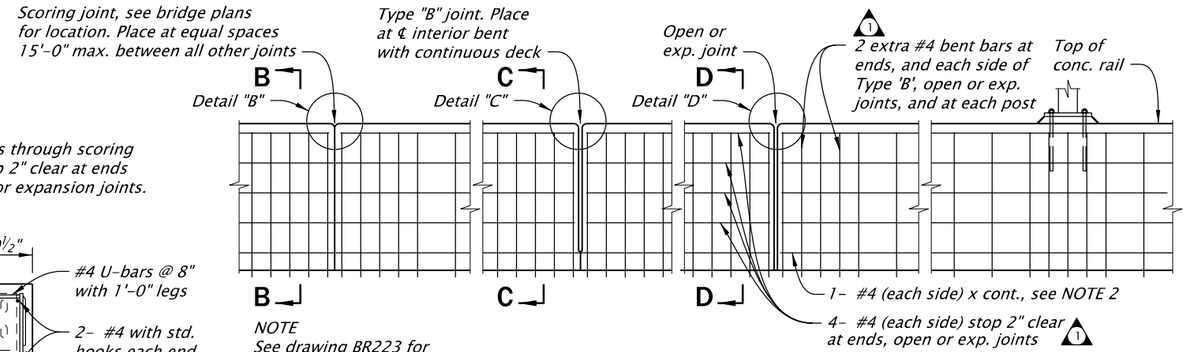
PLAN: TRANSITION RAIL DETAIL



NOTES:
Drill horizontal holes (bolt dia. + ⅛") in hardened concrete with low-impact rotary drill. Cut bolts after installation so they extend ¾" max. beyond nut. Grind smooth and cold galvanize.

Contractor's option (or similar) to use greased PVC sleeves for through-bolts. Remove PVC sleeves prior to installing through-bolts.

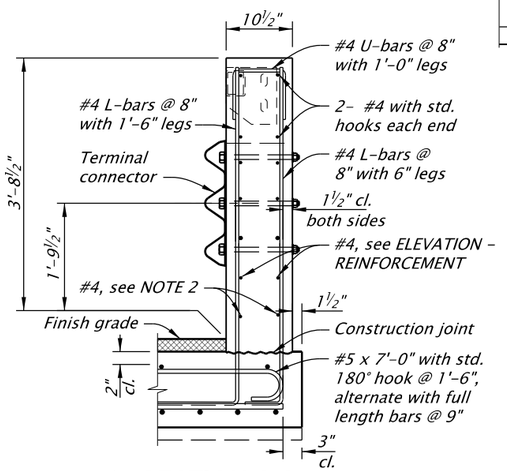
ELEVATION: TRANSITION RAIL DETAIL



NOTE 2
Continuous through scoring joints, stop 2" clear at ends and open or expansion joints.

NOTE
See drawing BR223 for Sections B-B, C-C, and D-D; and Details A, B, C, and D .

ELEVATION - REINFORCMENT



1 SECTION A-A

GENERAL NOTES:
Provide steel tubing conforming to ASTM A500, Grade B, A501 or A618.

Provide reinforcing steel conforming to ASTM A706, or AASHTO M31 (ASTM A615) Grade 60. Splice #4 bars 1'-4" min.

Provide concrete Class 3300 - 1½ or ¾.

Provide steel posts and plates conforming to AASHTO M183 (ASTM A36) unless otherwise noted.

Provide high strength anchor bolts (Grade 105) according to Oregon Standard Specification 02560.30 (b).

Construct rail (posts and parapet) normal to grade in the longitudinal direction and vertical in the transverse direction.

Hot-dip galvanize structural steel including fasteners after fabrication. Provide Galvanize-Control Silicon posts and horizontal rail steel tubing according to Oregon Standard Specification 02530.70. Tap nuts and inserts 0.021" oversize after galvanizing in accordance with ASTM A563.

Use 4'-6" height for bikeways when called for on project plans.

Provide High Strength anchor bolts (Grade 105) according to Oregon Standard Specification 02560.30 (b).

Accompanied by drawings BR203, BR223, RD401, RD402, RD407, RD408, RD410, RD417, RD412 2

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

FLUSH MOUNTED COMBINATION BRIDGE RAIL

2024

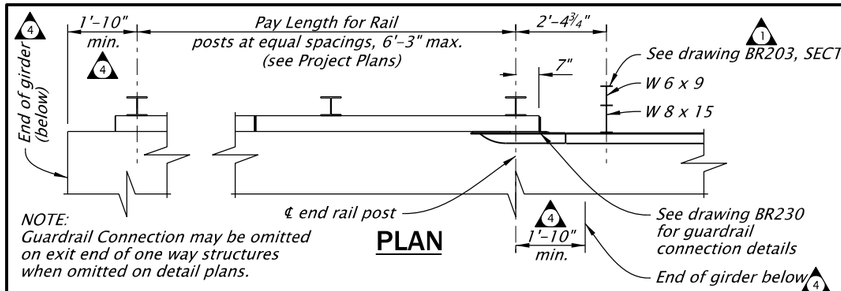
DATE	REVISION DESCRIPTION
01-2023	Revised accompanied by dwg references, General text revisions.
07-2024	General text revisions.
01-2025	Thrie-beam transition revised; CAD standards updates
07-2025	Dimensions adjusted.

CALC. BOOK NO. N/A | SDR DATE 11-JULY-2025 | BR220

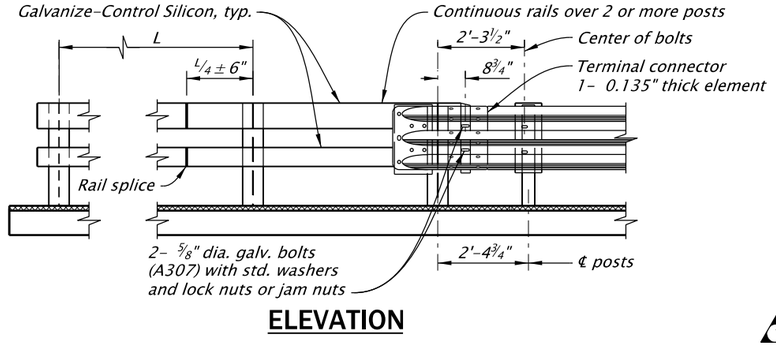
Effective Date: December 1, 2025 - May 31, 2026

11-JULY-2025

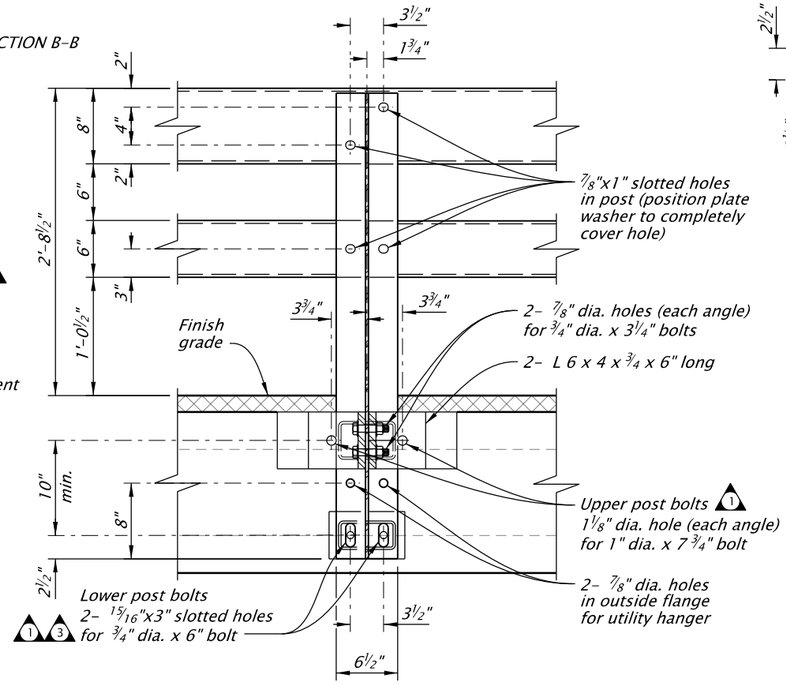
BR226.dgn



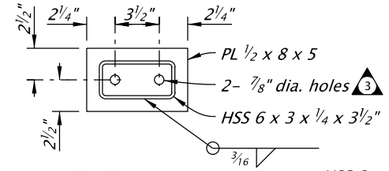
PLAN



ELEVATION

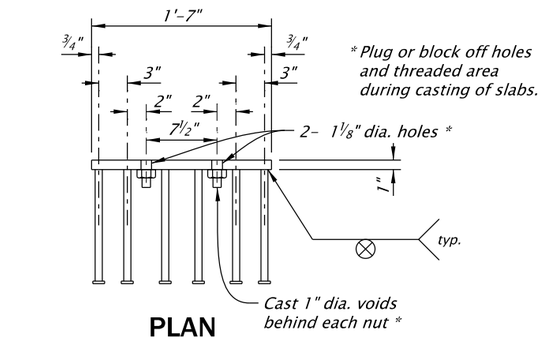


SECTION A-A



SECTION C-C

SECTION AT RAIL POST



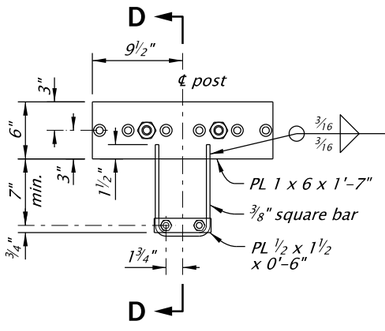
PLAN

GENERAL NOTES

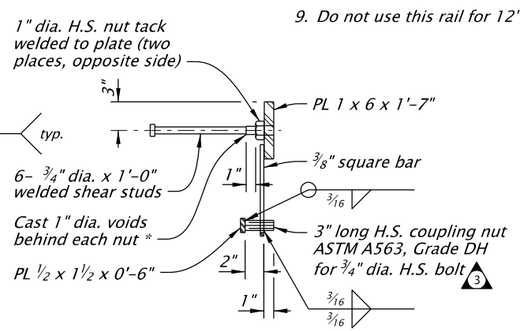
1. Provide structural tubing according to Oregon Standard Specification 2810.20.
2. Provide structural steel shapes and plates conforming to AASHTO Specification M183 (ASTM A36) unless otherwise noted.
3. Provide bolts conforming to AASHTO Specification M164 (ASTM A325) unless otherwise noted.
4. Fabricate steel studs with material, welding and inspection according to AWS D1.5.
5. Construct rail normal to slab in both the longitudinal and the transverse directions. When wearing surface thickness varies due to beam camber and/or superelevation, vary rail post lengths to provide uniform rail height. Field verify post lengths before fabrication.
6. Hot-dip galvanize structural steel including fasteners after fabrication. Provide Galvanize-Control Silicon posts and horizontal rail steel tubing according to ODOT Specification 02530.70. Tap nuts 0.021+0.01- 0.00 oversize after galvanizing in accordance with ASTM A563.
7. Tighten upper post bolts 180° turn past snug tight condition and lower post bolts 120° turn past snug tight condition.
8. Estimated rail mass (for slab design) is 72 pounds per linear foot.
9. Do not use this rail for 12" and Slab number 9 of the 15" Standard Precast Slabs.

SECTION B-B

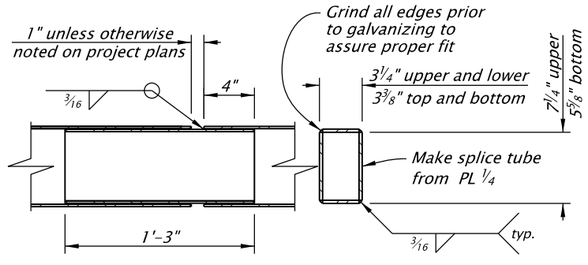
ACCOMPANIED BY DRAWINGS:
BR203, BR230



ANCHOR DEVICE



SECTION D-D



RAIL SPLICE

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

2-TUBE SIDE MOUNT RAIL

2024

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 first consulting a Registered Professional Engineer.

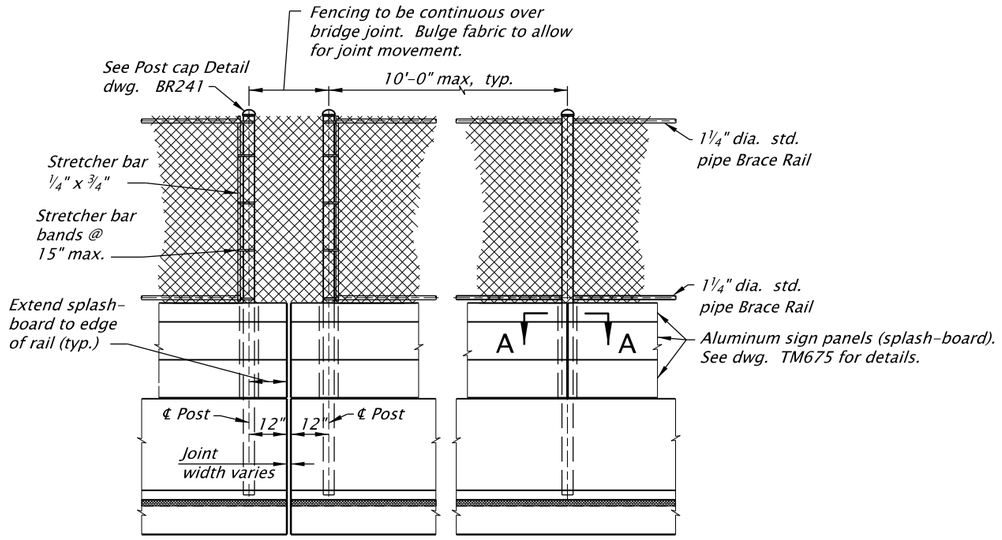
DATE	REVISION DESCRIPTION
12-2020	Modified detail note text; changed General Notes 4 & 7; CAD updates.
01-2022	Modified General Note 4, removed "Section 7" notation.
01-2024	Revised hole diameters.
07-2025	Girder end clarification; CAD updates.

CALC. BOOK NO. N/A

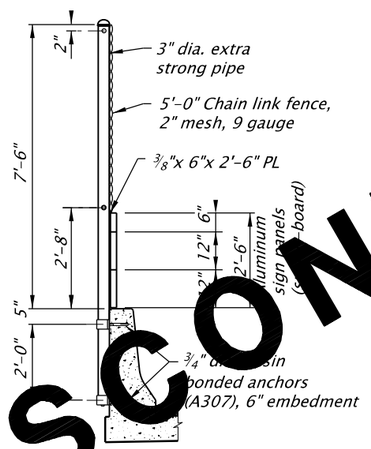
SDR DATE 11-JULY-2025

BR226

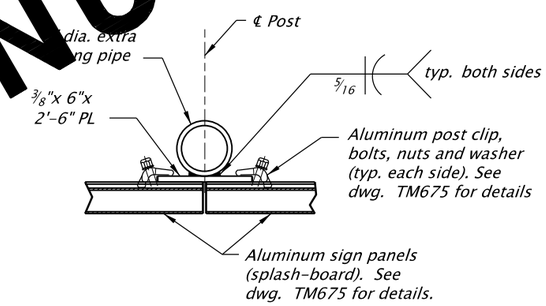
Effective Date: December 1, 2025 - May 31, 2026



ELEVATION TYPE 'C' FENCE
at DECK JOINTS
with SPLASH-BOARD



TYPE 'C' FENCE SECTION
with SPLASH-BOARD



SECTION A - A
with SPLASH-BOARD

DISCONTINUED JULY 1 2025

GENERAL NOTES

Protective Fencing is designed according to the AASHTO LRFD Bridge Design Specifications 4th Ed/2007 with 2008 Interim Revision. The applied loading is 0.015 ksf according to LRFD Subsection 13.8.2.

Install all fence posts normal to grade in the longitudinal direction and plumb in transverse direction.

Stretch chain link fabric and fasten to vertical posts at 1'-3" max. centers and 2'-0" max. centers to horizontal brace rails.

Provide steel pipe for the fence posts conforming to ASTM Specification A53 Grade B. Provide all the materials of chain link fence (fabric, pipes, and hardware) conforming to AASHTO Specification M181 unless noted otherwise on the contract plans.

Provide all steel plates and shapes conforming to AASHTO Specification M183 (ASTM Specification A36). Provide all bolts conforming to AASHTO Specification M164 (ASTM Specification A325).

Unless noted otherwise, provide and install ¾" diameter concrete anchors AASHTO M314, Gr. 36 (ASTM A307) resin bonded according to ODOT Specification 00535. Provide anchors embedment such that the required strength is achieved, but not less than 6".

Hot-dip galvanize all steel materials after fabrication.

Omit brace rails and allow the chain link fabric to be bulged 1½" out of plane to allow for expansion between posts on either side of an expansion joint. See contract plans for location of fence posts with respect to expansion joints.

Chain link fabric to be within ¼" of concrete surface where applicable (knuckle selvage at top and bottom of fence).

Provide one stretcher bar at the beginning and end of each run. No more than two fabric splices per run spaced at 50 ft.

Designers may use 13 PLF for fence selfweight.

Accompanied by dwg. BR241, BR242, TM675

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

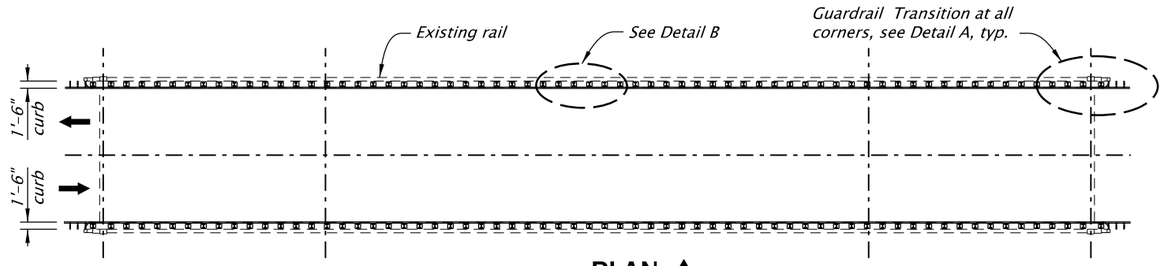
PROTECTIVE FENCING WITH SPLASH BOARD

2024

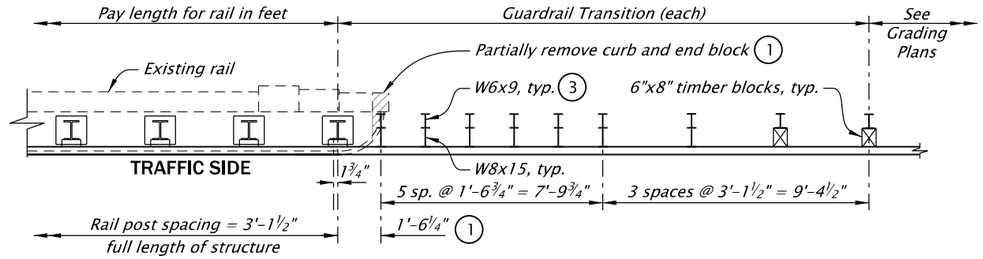
DATE	REVISION DESCRIPTION
-	-

CALC. BOOK NO. N/A | SDR DATE 20-APR-2018 | **BR245**

Effective Date: December 1, 2025 - May 31, 2026



PLAN (3)



DETAIL A (3)

(3) GENERAL NOTES:
Rail designed and crash tested to meet MASH TL-3 requirements.

Transition designed to meet MASH TL-3.

Furnish non-epoxy grout for the 1½" nominal grout pads in Section 02080.

Furnish structural steel posts and plates according to Oregon Standard Specification 2810.20. Provide steel posts and plates conforming to ASTM A572 Grade 50.

Hot-dip galvanize all posts, anchor rods, washers, and nuts after fabrication.

Construct railing conforming to the horizontal and vertical alignment of the structure. Install posts normal to grade in longitudinal direction and vertical in transverse direction.

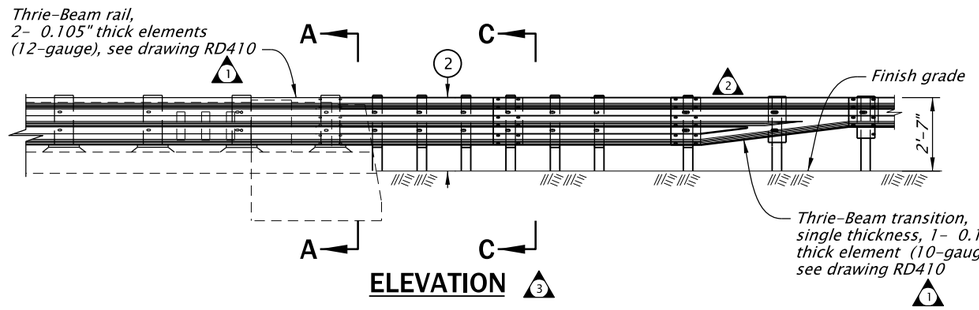
Furnish and install ⅞" diameter F1554 grade 105 resin-bonded anchors with epoxy resin from the QPL. The characteristic bond stress used in design is 1200 psi. Minimum pullout strength is 33 pounds with a minimum embedment (hef) of 10 inches. Install anchors according to the manufacturer's recommendations.

Field verify dimensions before fabrication.

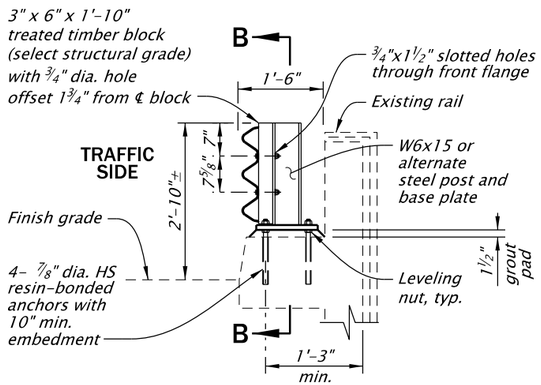
(1) Partially remove curb and end block to maintain first post spacing as shown. When removal is not feasible, consider alternative attachment details (i.e. addition of a new end block).

(2) Transition top of rail height to match 2'-7" approach rail.

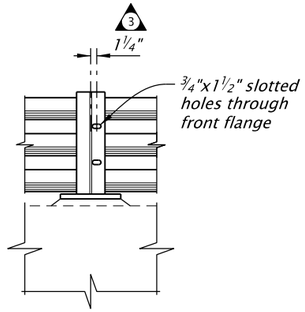
(3) Transition posts may be steel W6x9 or timber 8"x8". All posts to be of same material.



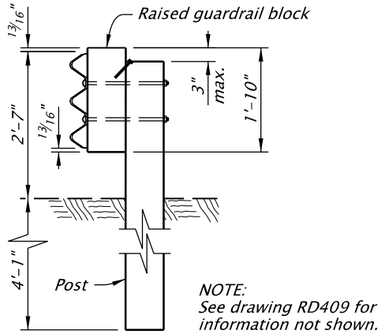
ELEVATION (3)



SECTION A-A (3)



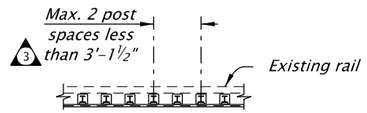
SECTION B-B



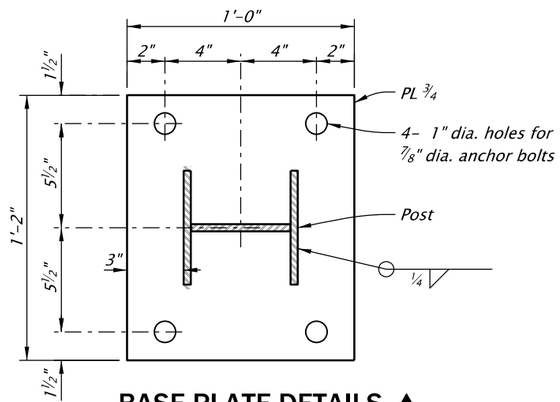
SECTION C-C (3)

NOTES: (3)
Maintain post spacing at 3'-1½" full length of structure.

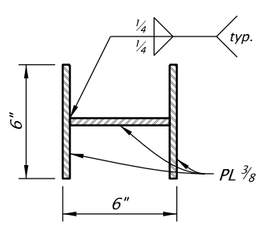
A maximum of 2 non-standard post spaces may be used to adjust the rail installation to match structure length.



DETAIL B



BASE PLATE DETAILS (3)



ALTERNATE POST (3)

(3) (1) Accompanied by drawings RD405, RD409, RD410.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

THRIE-BEAM RAIL RETROFIT FOR CURB AND PARAPET RAIL CONNECTION DETAILS (3)

2024

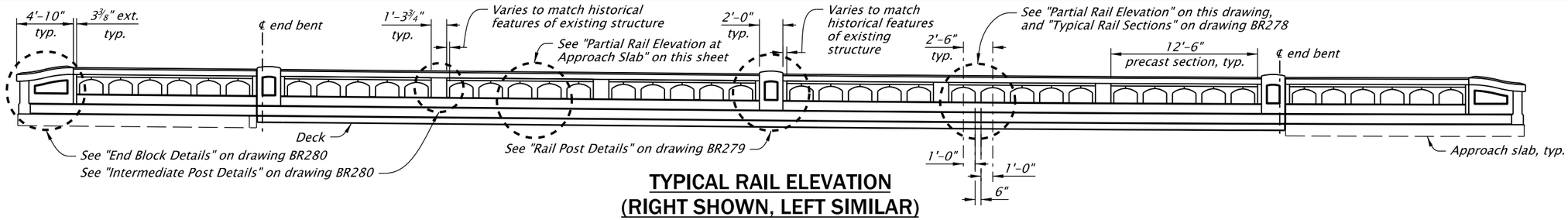
DATE	REVISION DESCRIPTION
A 07-2024	General text revisions.
B 01-2025	Thrie-beam transition revised; CAD standards updates.
C 07-2025	Redrawn to reflect TR# 615131-01.

CALC. BOOK NO. N/A | SDR DATE 11-JULY-2025 | BR273

11-JULY-2025

BR273.dgn

Effective Date: December 1, 2025 - May 31, 2026

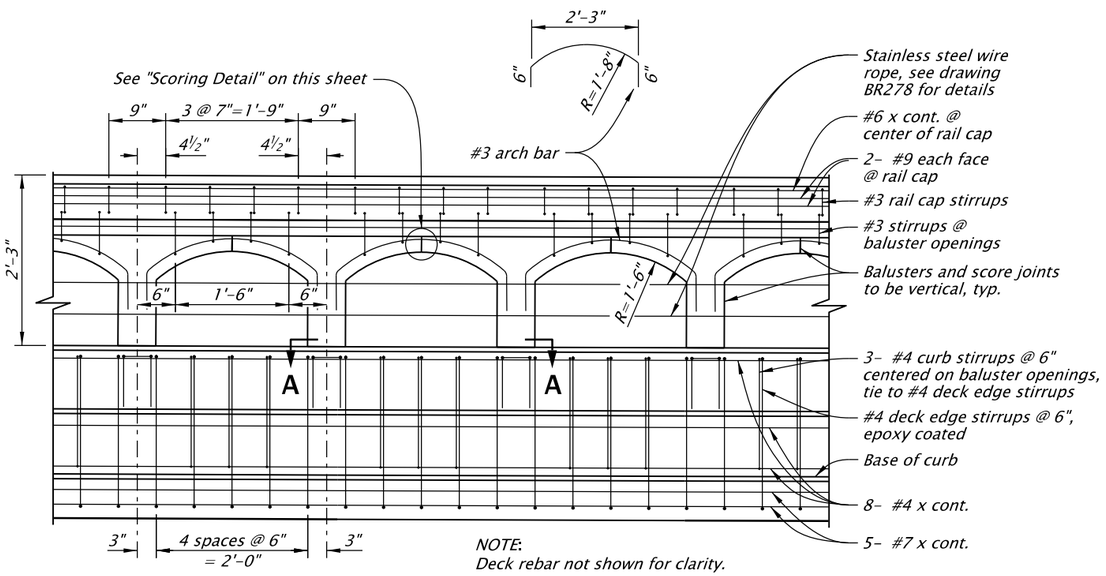


TYPICAL RAIL ELEVATION (RIGHT SHOWN, LEFT SIMILAR)

Scale: 1"=10'-0"

NOTES:

1. *Rail cap and top of curb to be parallel to bridge deck finish grade profile.*
2. *Construct bridge rails vertically plumb (not normal to the deck).*
3. *For construction of reusable rail forms, the average grade of -0.90% may be used for determining baluster plumbness.*
4. *See "Typical Rail Section" on drawing BR278.*

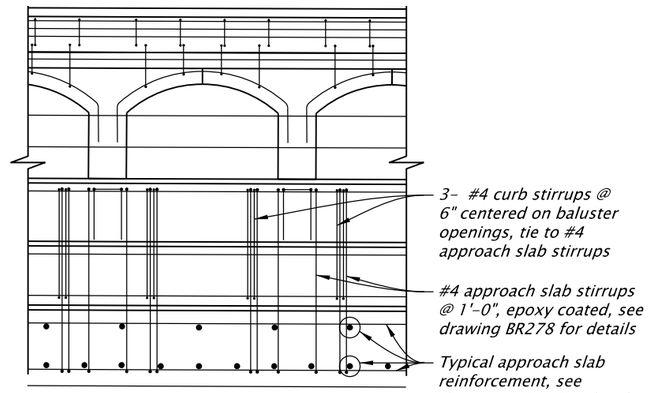


NOTE:
Deck rebar not shown for clarity.

PARTIAL RAIL ELEVATION

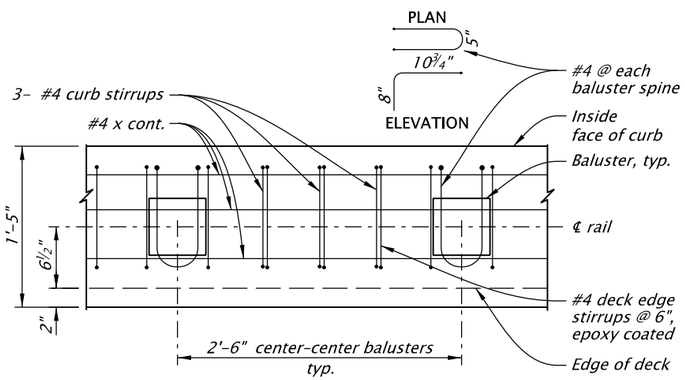
Scale: 1/2"=1'-0"

NOTE:
See "Partial Rail Elevation" on this sheet for details not shown.



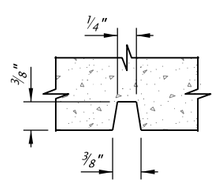
PARTIAL RAIL ELEVATION AT APPROACH SLAB

Scale: 1/2"=1'-0"



SECTION A-A

Scale: 3/4"=1'-0"



SCORING DETAIL

Scale: 6"=1'-0"

GENERAL NOTES:
Rail designed and crash tested to meet MASH TL-4 requirements.

Provide all reinforcing steel conforming to ASTM A706 or AASHTO M31 (ASTM A615) Grade 60.

Place all bars 2" clear of the nearest face of concrete, unless shown otherwise.

Splice #4 bars 1'-4" minimum, splice #5 bars 1'-8" minimum.

Provide Class 3300 - 1 1/2 or 3/4 concrete.

Provide steel post and plates conforming to AASHTO M183 (ASTM A36).

At skewed bents up to 20°, make joints parallel to bent centerline. For skews greater than 20°, make joints normal to rail.

ACCOMPANIED BY DRAWINGS:
BR278, BR279, BR280

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

HISTORIC LOOK BRIDGE RAIL

2024

DATE	REVISION DESCRIPTION
07-2025	New drawing.

CALC. BOOK NO. TR no. 619641-01 | SDR DATE 11-JUL-2025 | **BR277**

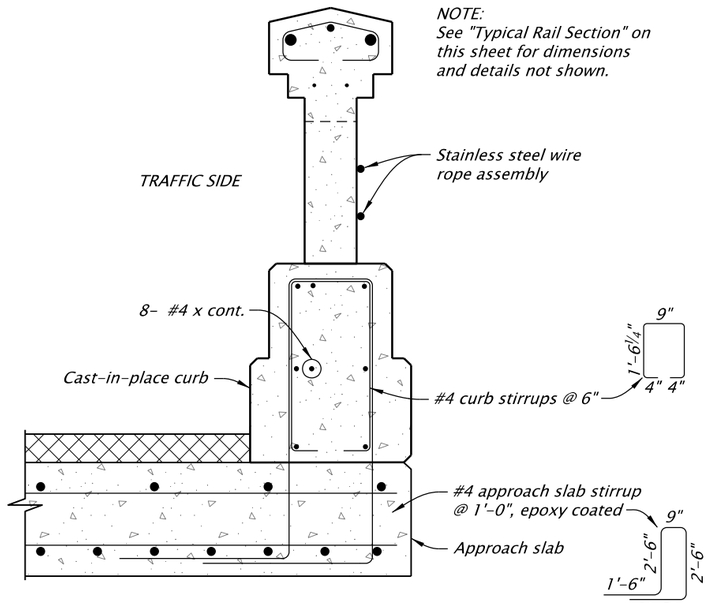
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

BR277.dgn

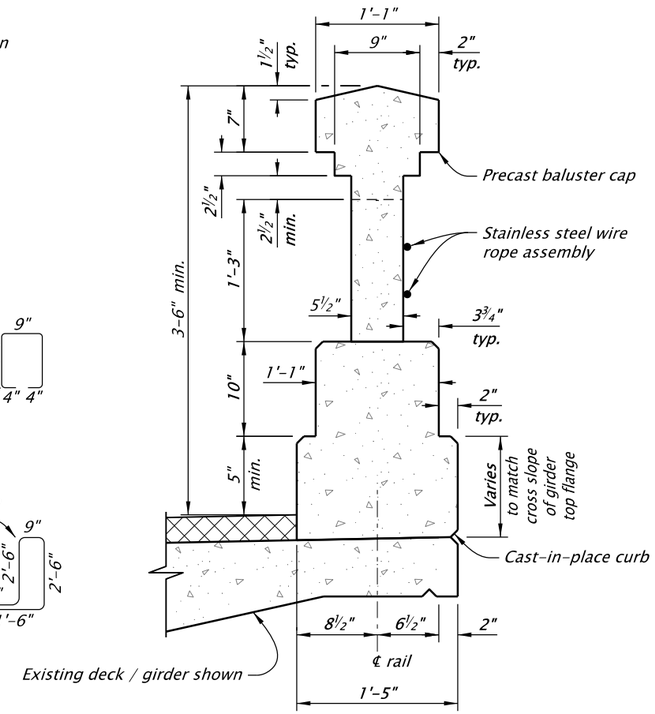
11-JUL-2025

BR278.dgn

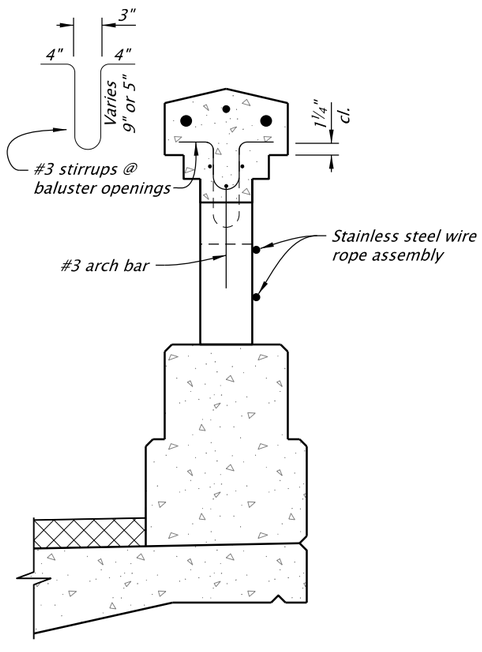


TYPICAL RAIL SECTION AT APPROACH SLAB

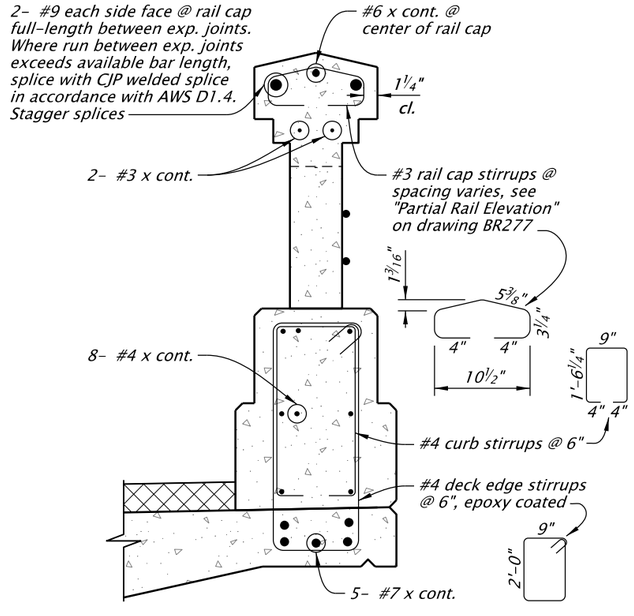
Scale: ¾"=1'-0"



DIMENSIONS



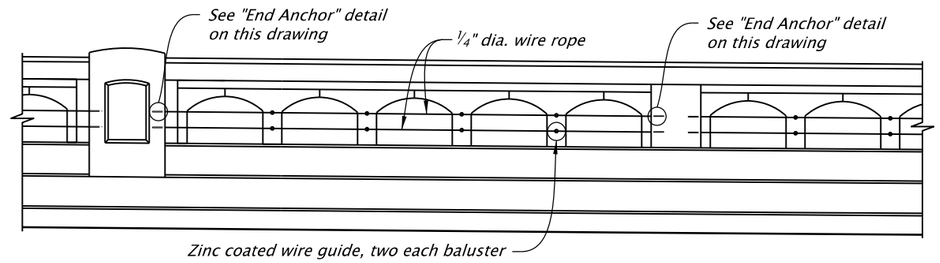
REINFORCEMENT AT BALUSTER OPENING



REINFORCEMENT AT BALUSTER

TYPICAL RAIL SECTION

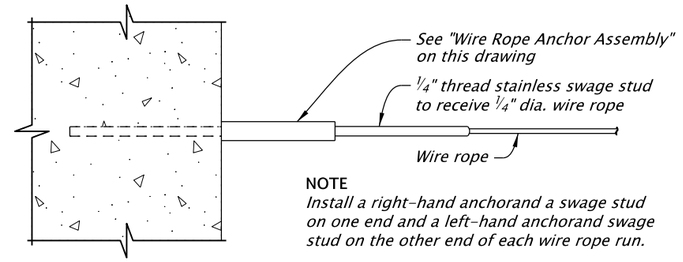
Scale: ¾"=1'-0"



NOTE
Provide ANSI 316 stainless steel wire rope and hardware.

PARTIAL RAIL ELEVATION RAIL WIRE ROPE ASSEMBLY

Scale: ⅜"=1'-0"

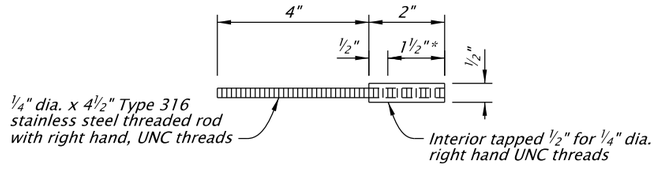


NOTE
Install a right-hand anchorand a swage stud on one end and a left-hand anchorand swage stud on the other end of each wire rope run.

END ANCHOR

Scale: 3"=1'-0"

* Type 316 stainless steel, ½" O.D. structural stainless pipe, interior tapped 2½" for ¼" dia. UNF, right and left handed



WIRE ROPE ANCHOR ASSEMBLY

Scale: 3"=1'-0"

ACCOMPANIED BY DRAWINGS:
BR277, BR279, BR280

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

HISTORIC LOOK BRIDGE RAIL SECTIONS AND WIRE ROPE

2024

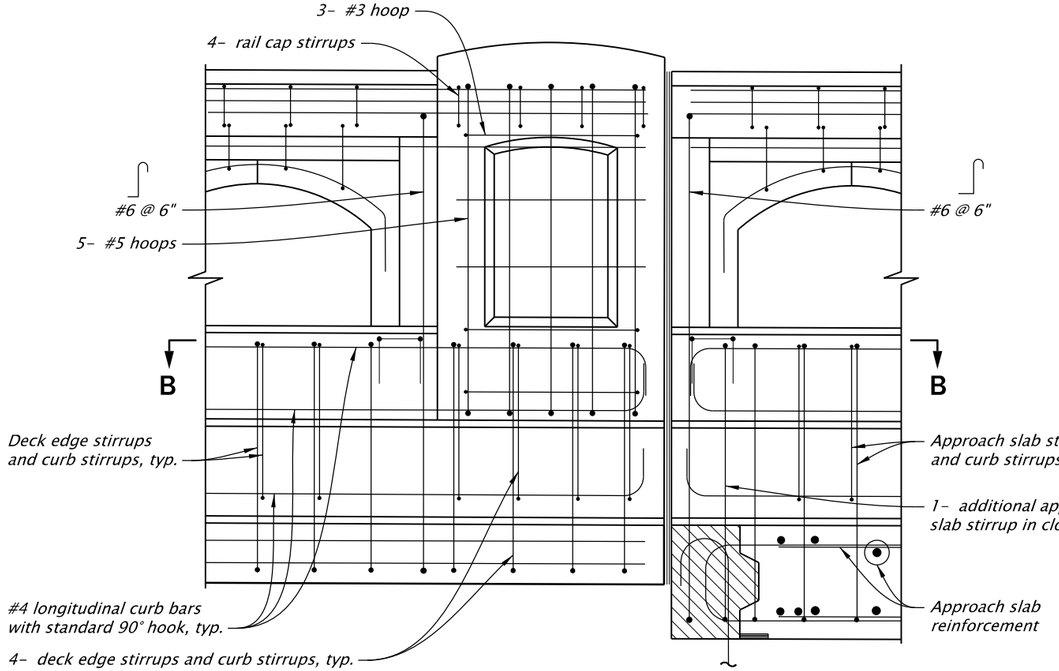
DATE	REVISION DESCRIPTION
07-2025	New drawing.

CALC. BOOK NO. TR no. 619641-01 | SDR DATE 11-JUL-2025 | **BR278**

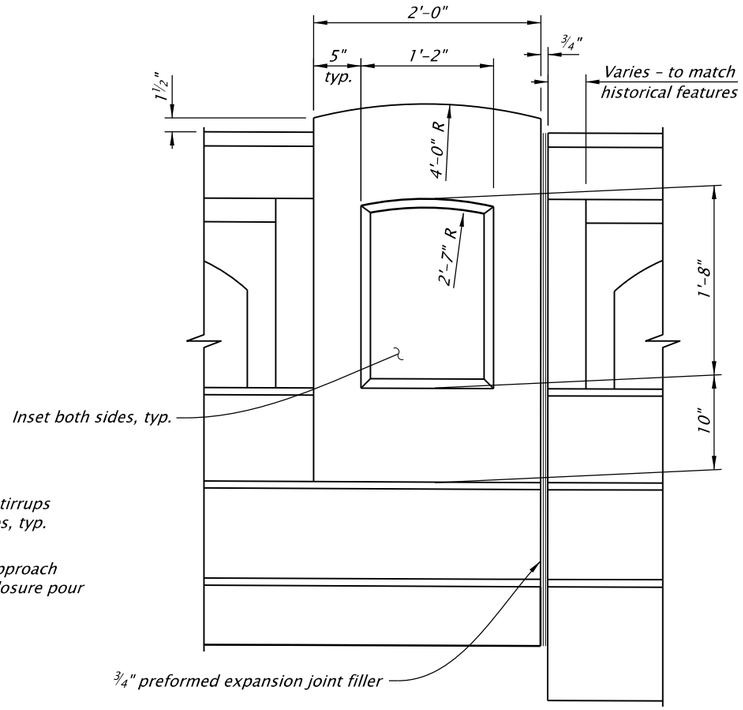
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

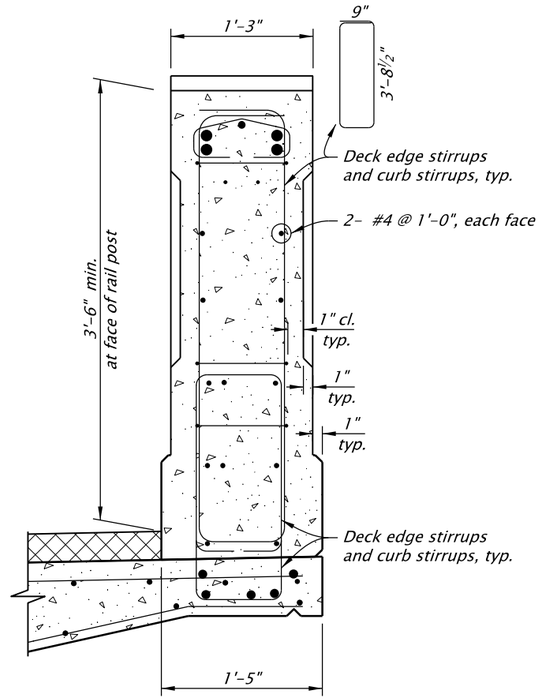
BR279.dgn



REINFORCEMENT



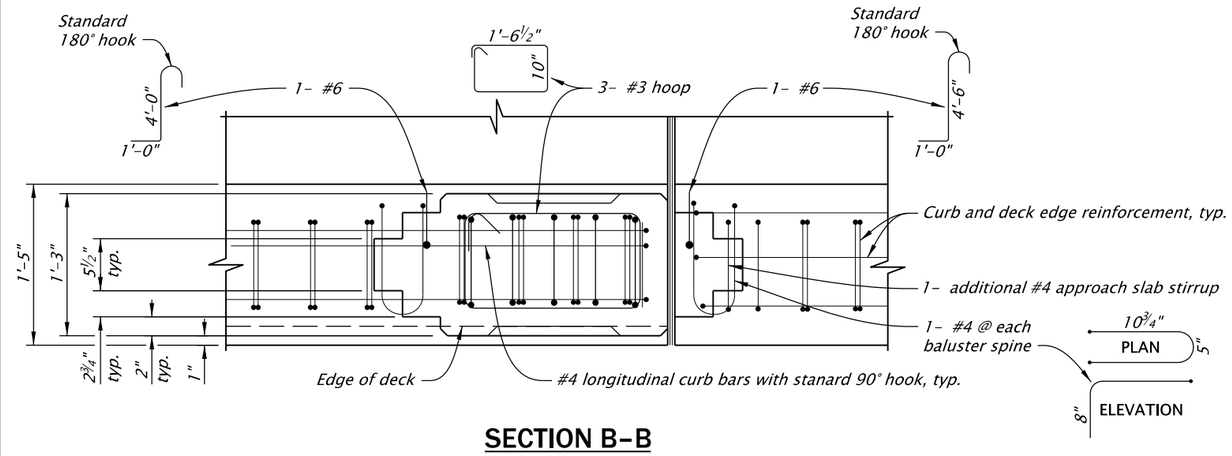
DIMENSIONS



SECTION - RAIL POST

ELEVATION - RAIL POST

Scale: 3/4"=1'-0"



SECTION B-B

Scale: 3/4"=1'-0"

ACCOMPANIED BY DRAWINGS:
BR277, BR278, BR280

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

HISTORIC LOOK BRIDGE RAIL RAIL POST

2024

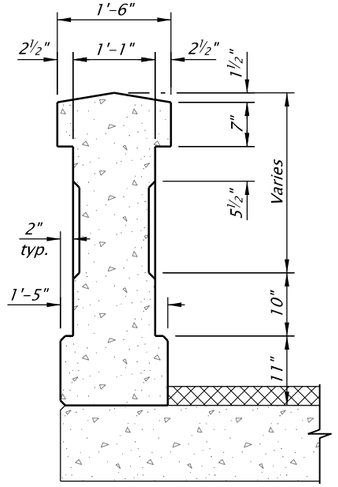
DATE	REVISION DESCRIPTION
07-2025	New drawing.

CALC. BOOK NO. TR no. 619641-01 | SDR DATE 11-JUL-2025 | **BR279**

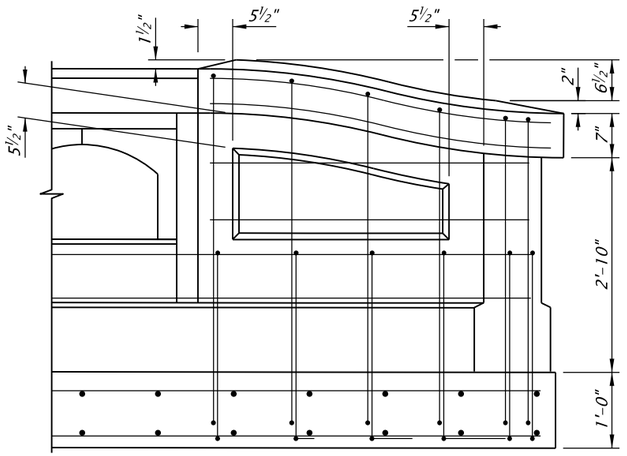
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

BR280.dgn

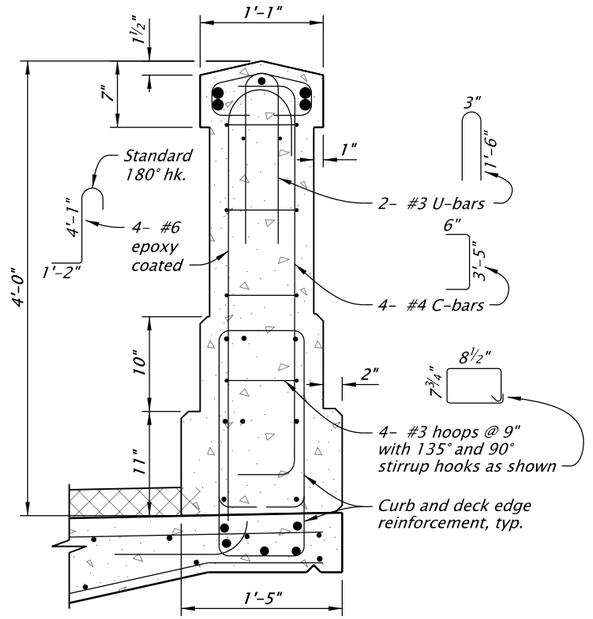


DIMENSIONS



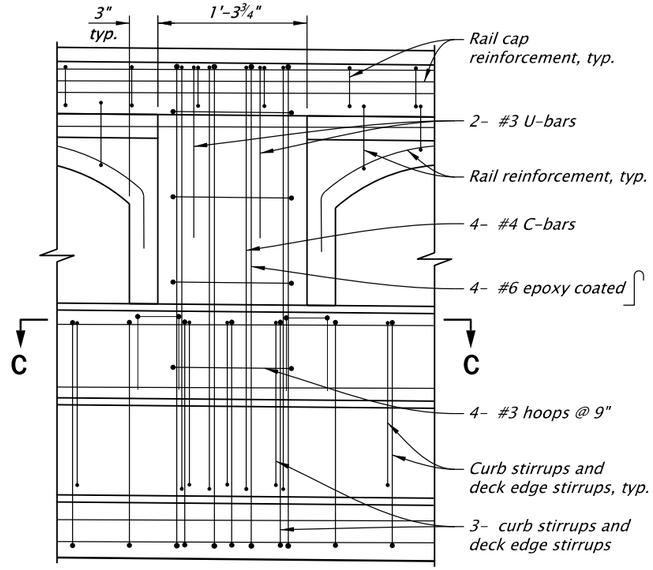
ELEVATION – END BLOCK

Scale: ½"=1'-0"



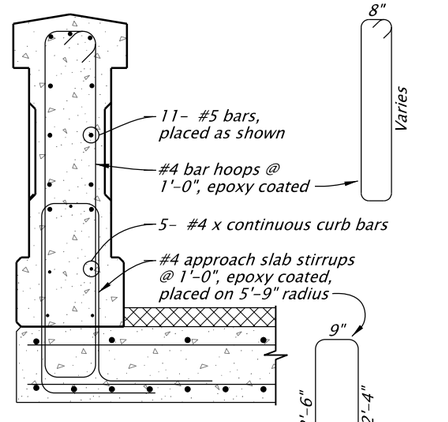
SECTION – INTERMEDIATE POST

Scale: ¾"=1'-0"



ELEVATION – INTERMEDIATE POST

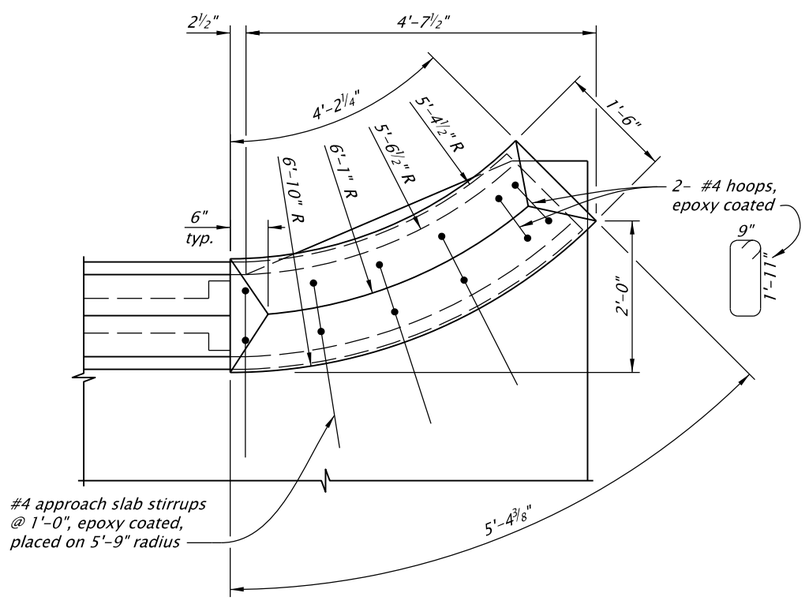
Scale: ¾"=1'-0"



REINFORCEMENT

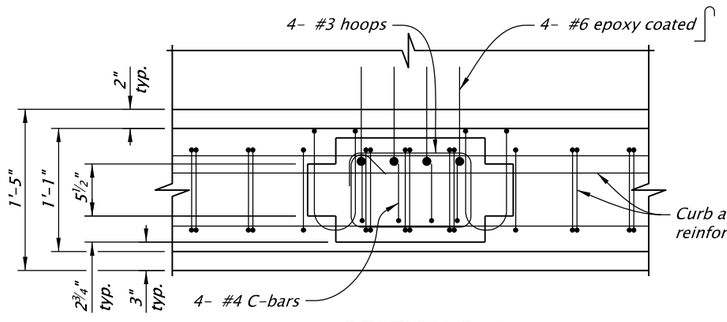
SECTION – END BLOCK

Scale: ½"=1'-0"



PLAN – END BLOCK

Scale: ½"=1'-0"



SECTION C-C

Scale: ¾"=1'-0"

ACCOMPANIED BY DRAWINGS:
BR277, BR278, BR279

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

HISTORIC LOOK BRIDGE RAIL INTERMEDIATE POST AND END BLOCK

2024

DATE	REVISION DESCRIPTION
07-2025	New drawing.

CALC. BOOK NO. TR no. 619641-01 | SDR DATE 11-JUL-2025 | **BR280**

Effective Date: December 1, 2025 - May 31, 2026

CONSTRUCTION NOTES:
Test adhesive anchors in accordance with Oregon Standard Specification 00535.45. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

Erect mounting plates square to the top of parapet. Place grout under mounting plate for gaps greater than 1/16". Provide grout according to Oregon Standard Specification 2080.30.

Panel lengths of rail section members must be attached continuously to a minimum of three mounting plates. (2)

One shop splice per panel is permitted with minimum 85% penetration. The weld may be square groove, double vee groove, or single groove. Grind smooth.

Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.

Cap all open ends of tubular steel sections.

Field verify rail heights prior to fabrication.

MATERIAL NOTES:
Provide structural tubing according to Oregon Standard Specification 02810.20.

Provide steel mounting plates conforming to ASTM A572 Gr 50 unless otherwise noted.

Anchor rods must be $^{3}/_{4}$" dia. ASTM F1554 Grade 105 threaded rods with heavy hex nuts, one hardened steel washer, and one (2" O.D.) steel washer each.

Anchor installation, include hole size, drilling, and clean out, must be in accordance with Oregon Standard Specification 00535. Anchor adhesive chosen must be able to achieve a minimum pullout force of 30kips. Use Hilti HIT-HY200-A, or Hilti HIT-RE 500v3, or Red Head C6+ or Ultrabond HS-1CC epoxy adhesive from the QPL. Minimum adhesive anchor embedment depth is 10$^{1}/_{2}$".

Hot-dip galvanized structural steel including fasteners after fabrication, except as noted. Provide Galvanize-Control Silicon according to Oregon Standard Specification 02530.70.

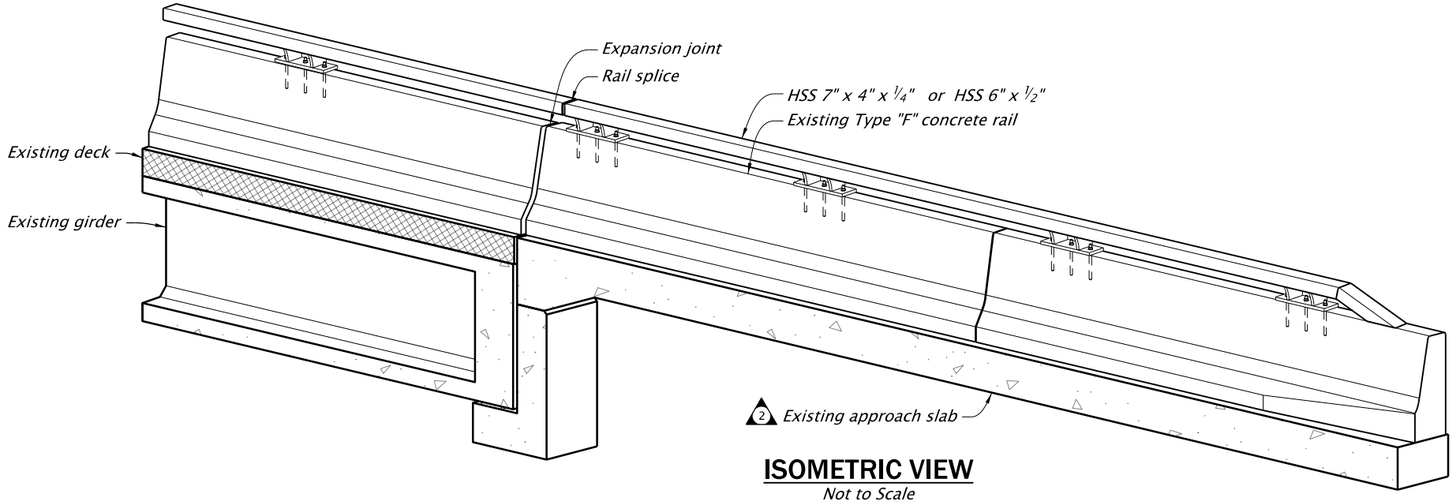
GENERAL NOTES:
Rail evaluated to meet MASH TL-4 requirements. This rail retrofit can be used for speeds of 45 mph and greater when a TL-3 rated guardrail transition is used.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

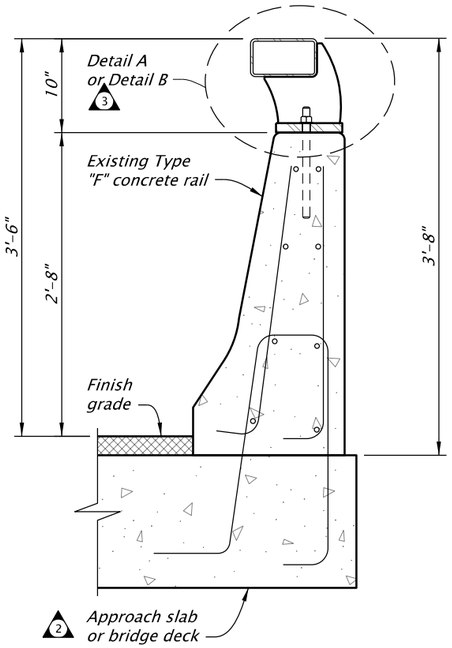
Submit erection drawings showing panel lengths, mounting plate spacing, and anchor rod setting to the Engineer for approval.

NOTE TO DESIGNER:
Check structural capacity of the existing bridge deck overhang and strengthen as required.

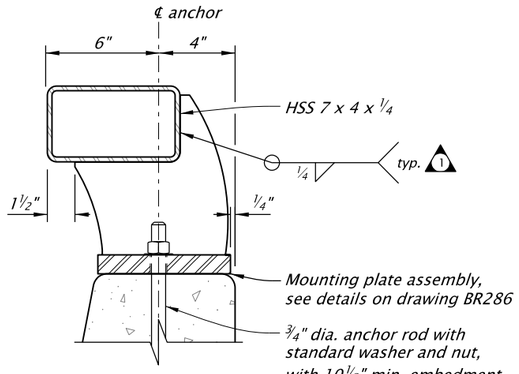
RAIL DATA FOR HORIZONTAL CURVES			
	RADIUS TO FACE OF RAIL	MAX. CHORD LENGTH	CONSTRUCT OR FABRICATE
Rail Members	Over 2800'	29'-0"	Straight rail sections
	Over 1400' through 2800'	14'-6"	To required radius or to chords shown
	Over 700' through 1400'	7'-3"	
	Through 700'	Zero	To required radius



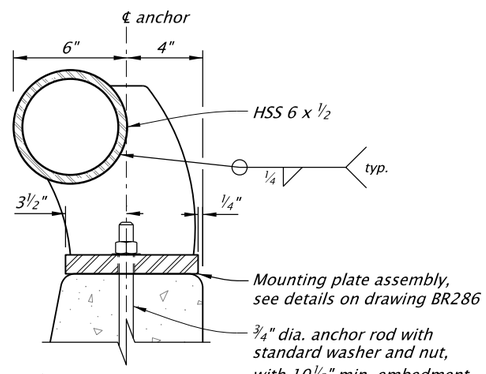
ISOMETRIC VIEW
Not to Scale



TYPICAL SECTION
Scale: $^{3}/_{4}$"=1'-0"



DETAIL A
Scale: $1^{1}/_{2}$"=1'-0"



3 DETAIL B
Scale: $1^{1}/_{2}$"=1'-0"

Accompanied by drawings BR200, BR203, BR236

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TYPE "F" CONCRETE RAIL TUBE RETROFIT SHEET 1 OF 3 (3)

2024

	DATE	REVISION DESCRIPTION
3	07-2020	Update section number for adhesive anchor test.
		Modify mounting plate to tube weld size, Detail A.
2	07-2021	Note Changes/CAD edits.
1	07-2025	Title updated to reflect round HSS alternative; Detail B added.

CALC. BOOK NO. _ _ _ N/A _ _ _ | SDR DATE 11-JULY-2025 | **BR285**

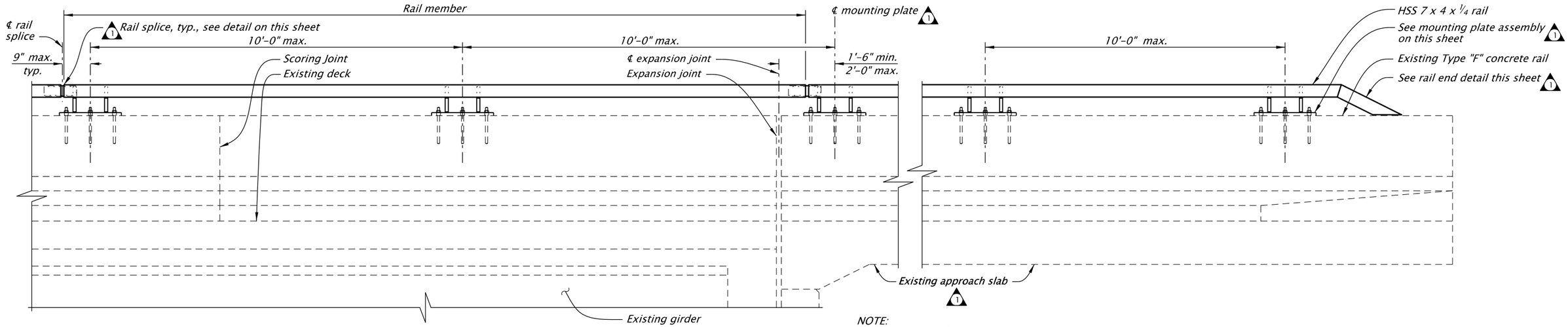
11-JULY-2025

BR285.dgn

Effective Date: December 1, 2025 - May 31, 2026

11-JULY-2025

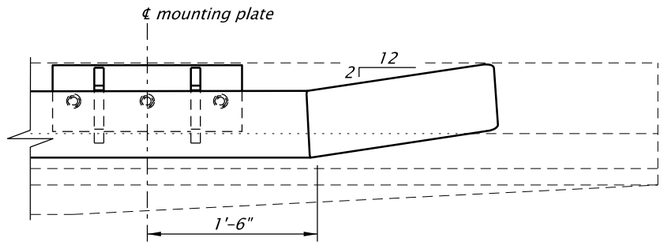
BR286.dgn



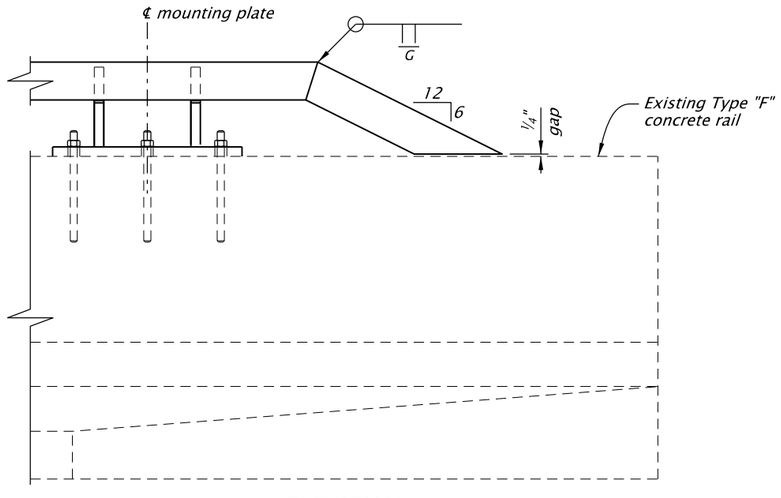
ELEVATION

Scale: 3/8"=1'-0"

NOTE:
Reinforcing steel in existing components not shown for clarity.



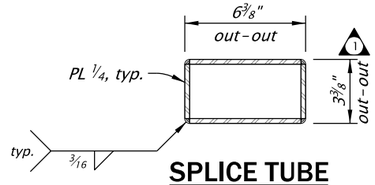
PLAN



ELEVATION

1 RAIL END

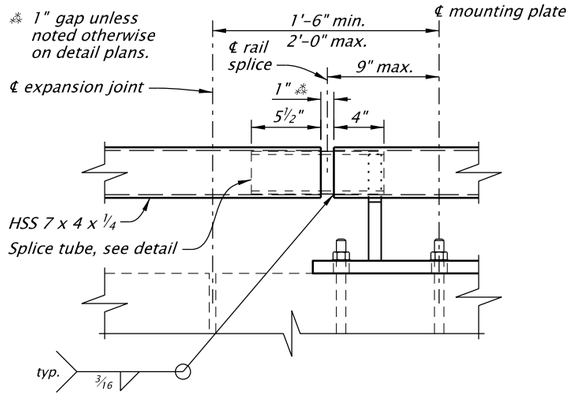
Scale: 3/4"=1'-0"



SPLICE TUBE

Scale: 3"=1'-0"

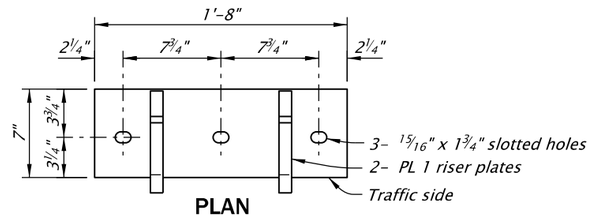
NOTE:
Grind all edges prior to galvanizing to ensure proper fit.



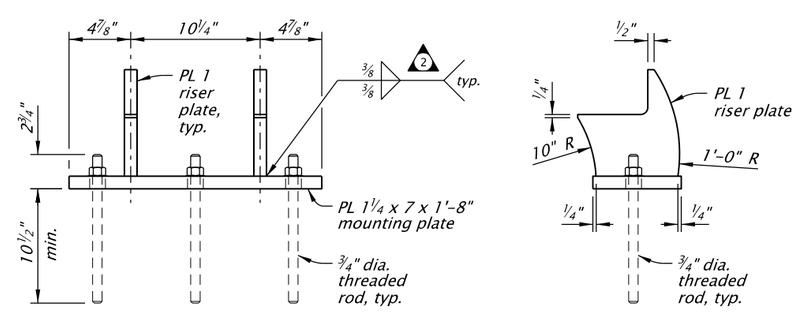
NOTE:
Provide a rail splice in panel that has a deck expansion joint. If more than 2" movement needed, increase length of splice tube.

1 RAIL SPLICE

Scale: 1"=1'-0"



PLAN



ELEVATION

SIDE VIEW

1 MOUNTING PLATE ASSEMBLY

Scale: 1"=1'-0"

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

TYPE "F" CONCRETE RAIL TUBE RETROFIT SHEET 2 OF 3 3

2024

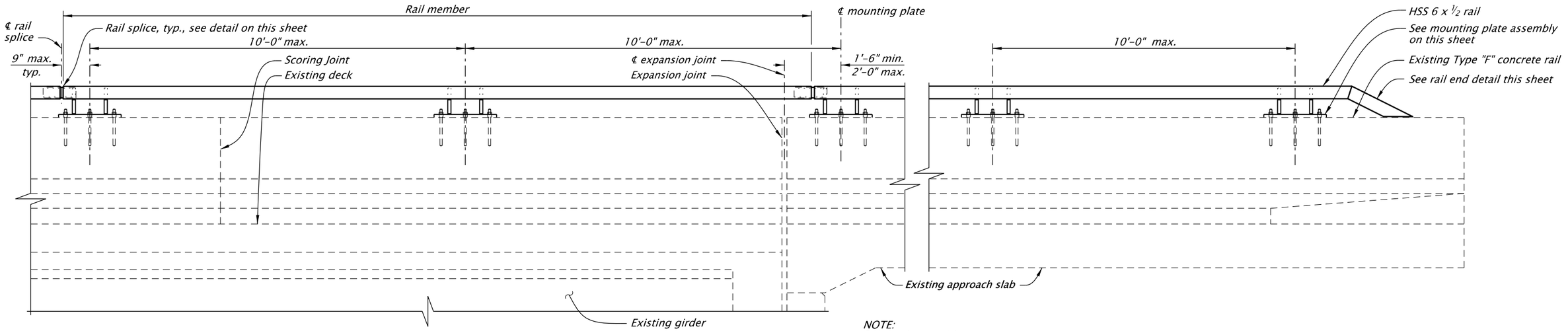
DATE	REVISION DESCRIPTION
1 07-2021	Note changes, CAD edits.
2 01-2025	Weld correction.
3 07-2025	Title updated to reflect round HSS alternative.

CALC. BOOK NO. N/A | SDR DATE 11-JULY-2025 | **BR286**

Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

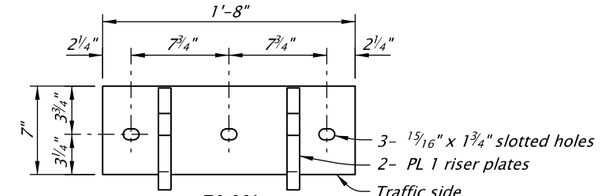
BR286.dgn



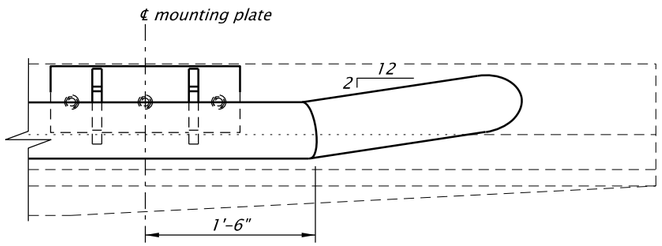
ELEVATION

Scale: 3/8"=1'-0"

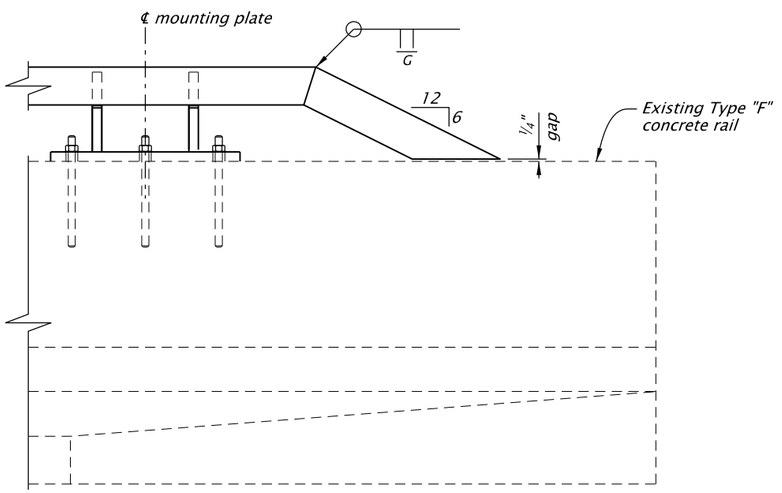
NOTE:
Reinforcing steel in existing components not shown for clarity.



PLAN



PLAN

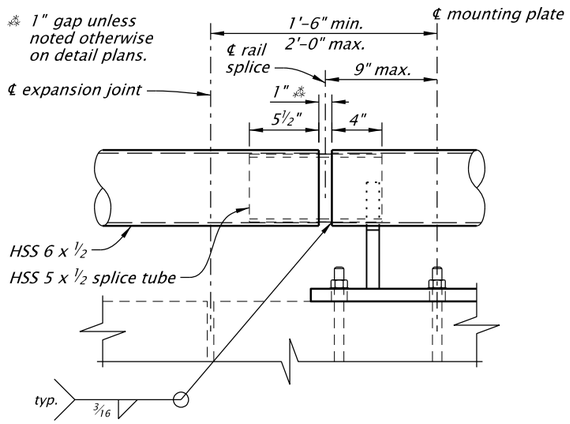


ELEVATION

RAIL END

Scale: 3/4"=1'-0"

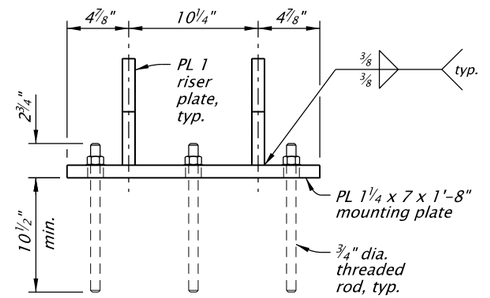
NOTE:
Grind all edges prior to galvanizing to ensure proper fit.



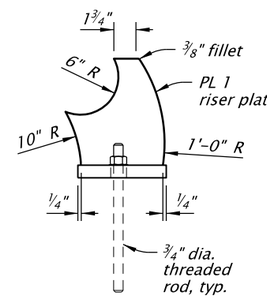
NOTE:
Provide a rail splice in panel that has a deck expansion joint. If more than 2" movement needed, increase length of splice tube.

RAIL SPLICE

Scale: 1"=1'-0"



ELEVATION



SIDE VIEW

MOUNTING PLATE ASSEMBLY

Scale: 1"=1'-0"

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

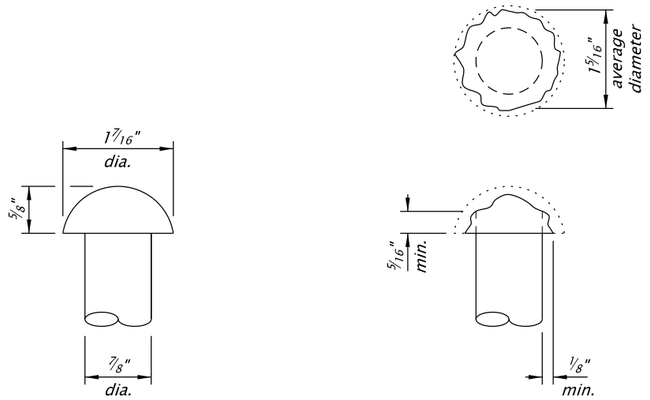
TYPE "F" CONCRETE RAIL TUBE RETROFIT SHEET 3 OF 3

2024

DATE	REVISION DESCRIPTION
1 07-2025	Sheet added for round HSS alternative.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **BR287**

Effective Date: December 1, 2025 - May 31, 2026

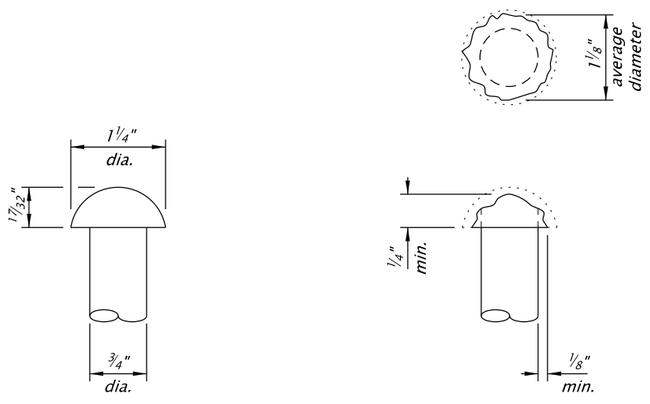


NOMINAL DIMENSIONS
UNDAMAGED RIVET

MINIMUM ACCEPTABLE DIMENSIONS
EXISTING RIVET HEAD

7/8" DIA. RIVET REPLACEMENT DETAIL

Replace deficient rivets with 7/8" diameter ASTM F3125 Grade F1852 Twist-off Type-1 galvanized, ASTM A563 heavy hex galvanized nut, ASTM F436 galvanized washer, and galvanized tapered washer as needed.



NOMINAL DIMENSIONS
UNDAMAGED RIVET

MINIMUM ACCEPTABLE DIMENSIONS
EXISTING RIVET HEAD

3/4" DIA. RIVET REPLACEMENT DETAIL

If hole bores are damaged, ream 3/4" rivet hole to 0.94" and install 7/8" ASTM A325 galvanized bolt, ASTM A563 heavy hex galvanized nut, ASTM F436 galvanized washer (and galvanized tapered washer as needed), and ream hex galvanized nut, ASTM F436 galvanized washer (and galvanized tapered washer as needed).

GENERAL NOTES

Work done as directed by Engineer and installed in accordance with ODOT Standard Specification 00560.29.

Any rivet with either head not meeting "Minimum Acceptable Dimensions" on both heads after cleaning shall be replaced with same diameter ASTM F3125 Grade F1852 Twist-off Type-1 galvanized, ASTM A563 heavy hex galvanized nut, ASTM F436 galvanized washer, and galvanized tapered washer as needed, installed in accordance with 00560.29. Coat according to 00594 after installation.

Remove rivets using pneumatic "rivet buster" or other approved method. Do not allow removal or damage of metal from surfaces or bore of holes in structural steel members.

When rivets are removed, power tool clean surfaces and hole bores in accordance with SSPC-SP 15 (use metal wire deburring brushes or tube brushes as necessary) and apply primer in accordance with the Specifications 00594.11(d) (1) and 00594.42.

Bolt may be installed while primer is wet.

No more than 6 fasteners at one time may be removed from any structural member between connections, and no more than 3 rivets at one time may be removed from any structural connection.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

RIVET REPLACEMENT

2024

DATE	REVISION DESCRIPTION
07-2025	Updated specification reference.

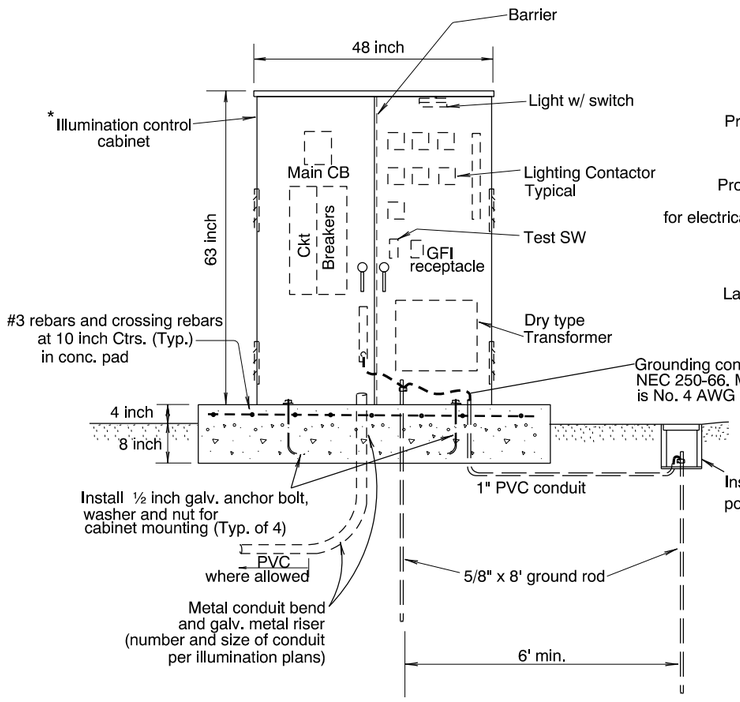
CALC. BOOK NO. N/A | SDR DATE 11-JULY-2025 | BR550

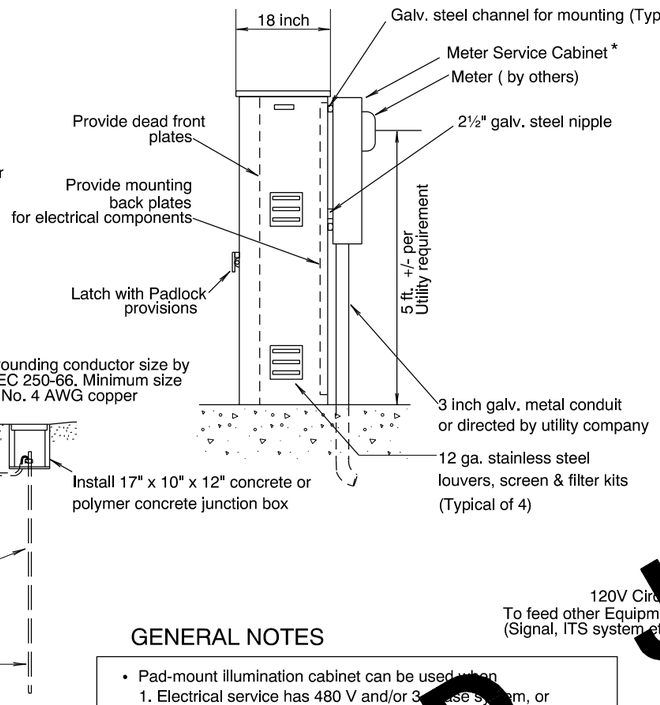
Effective Date: December 1, 2025 - May 31, 2026

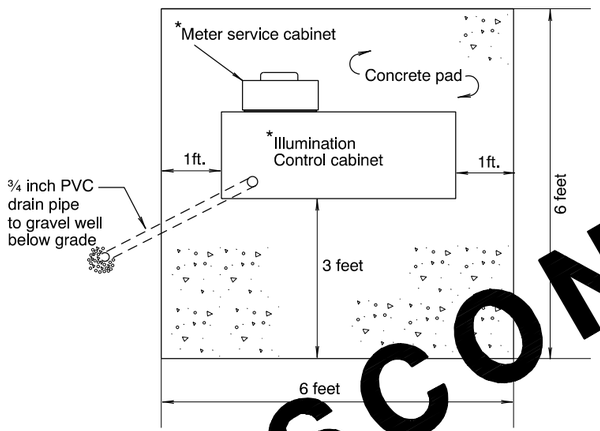
JULY-2025

BR550.dgn

PAD-MOUNT ILLUMINATION CONTROL CABINET







PAD MOUNT ILLUMINATION CABINET

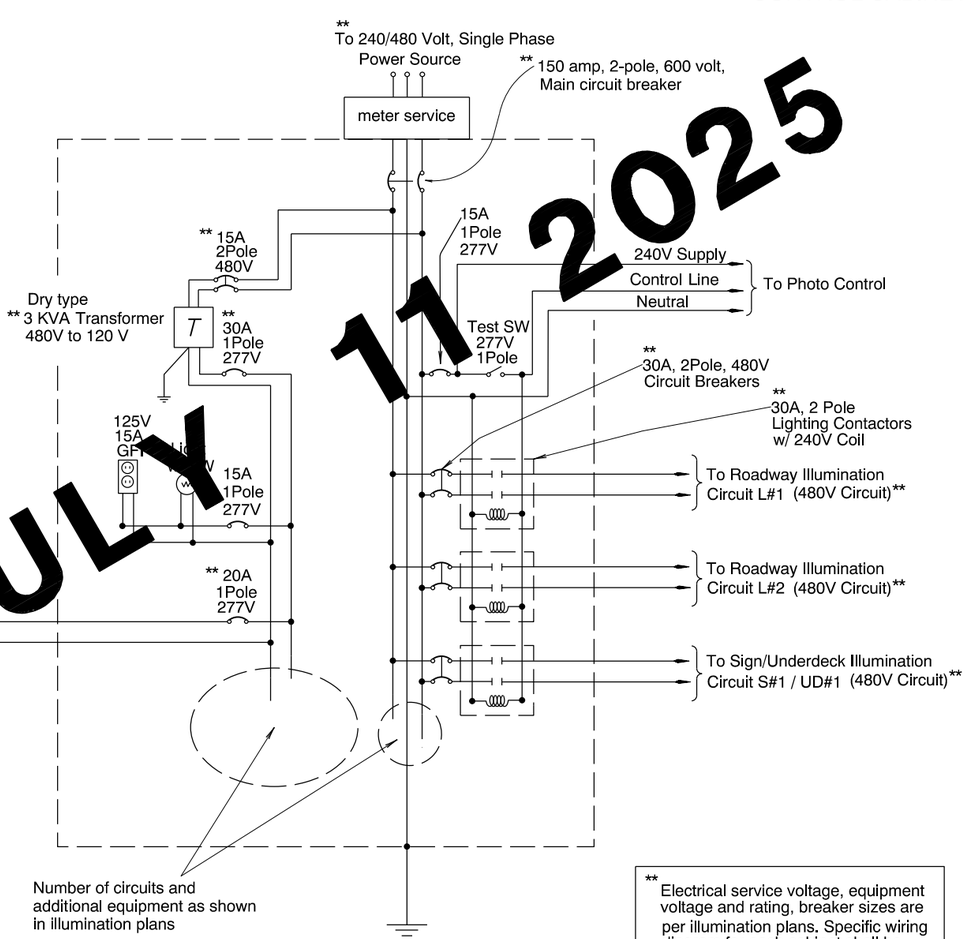
No Scale

Pedestal base, cabinet & all electrical components shall meet or exceed voltage requirements & short circuit rating of the specified illumination system.

GENERAL NOTES

- Pad-mount illumination cabinet can be used when
  1. Electrical service has 480 V and/or 3 phase system, or
  2. Main CB is larger than 100 amp or
  3. The number of branch circuits is six or more, or
  4. Dry type Transformer is installed inside the cabinet, or
  5. More room inside the cabinet is desirable for additional equipment and wiring.
- Pad-mount illumination control cabinet shall be NEMA 3R, with hinged double doors, 3 point lockable vault handles and stainless steel hardware.
- Cabinet shall be formed with 10 gage pregalvanized metal, or 14 gage stainless steel. It shall be powder coated to match Federal Standard 595C color # 26440 (Light Gull Gray). (Painting is not required on stainless steel cabinets.)
- Backpanels may be fabricated from code thickness galvanized sheet metal or type 304 or 316 stainless steel. Provide stainless steel, turn-and-fold style, dead front latches. (min. 2 per panel)
- All electrical components shall be per ODOT Standards and as shown in illumination plans.
- Install copper buss bars for main and branch circuits.
- All internal wiring, except field wires, shall be done by a U.L. listed facility.
- Cabinet size is nominal. Engineer to verify before ordering.
- For electrical service, coordinate with Utility co. and satisfy all utility requirements.
- Meter service cabinet formed with stainless steel 304, NEMA 3R, UL 67 listed, 600 V, 200 amp with natural finish and test/bypass provision (124 TBSS or approved equal)
- C/T cabinet may be required for bigger electrical service such as 250 amp, 277/480 volt, 3 phase.
- Install cabinet in safe location from vehicle traffic, or provide protection such as barrier, guardrail or (2) 4 ft. metal pole barrier

CB = Circuit Breaker
Ckt = Circuit
GFI = Ground Fault Interupt
SW = Switch
C/T = Current Transformer



WIRING DIAGRAM
SERVICE & CONTROL CABINETS

** Electrical service voltage, equipment voltage and rating, breaker sizes are per illumination plans. Specific wiring diagram for each cabinet shall be shown in illumination plans and checked by Engineer.

DISCONTINUED JULY 1 2025

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PAD-MOUNT ILLUMINATION CONTROL CABINET

2024

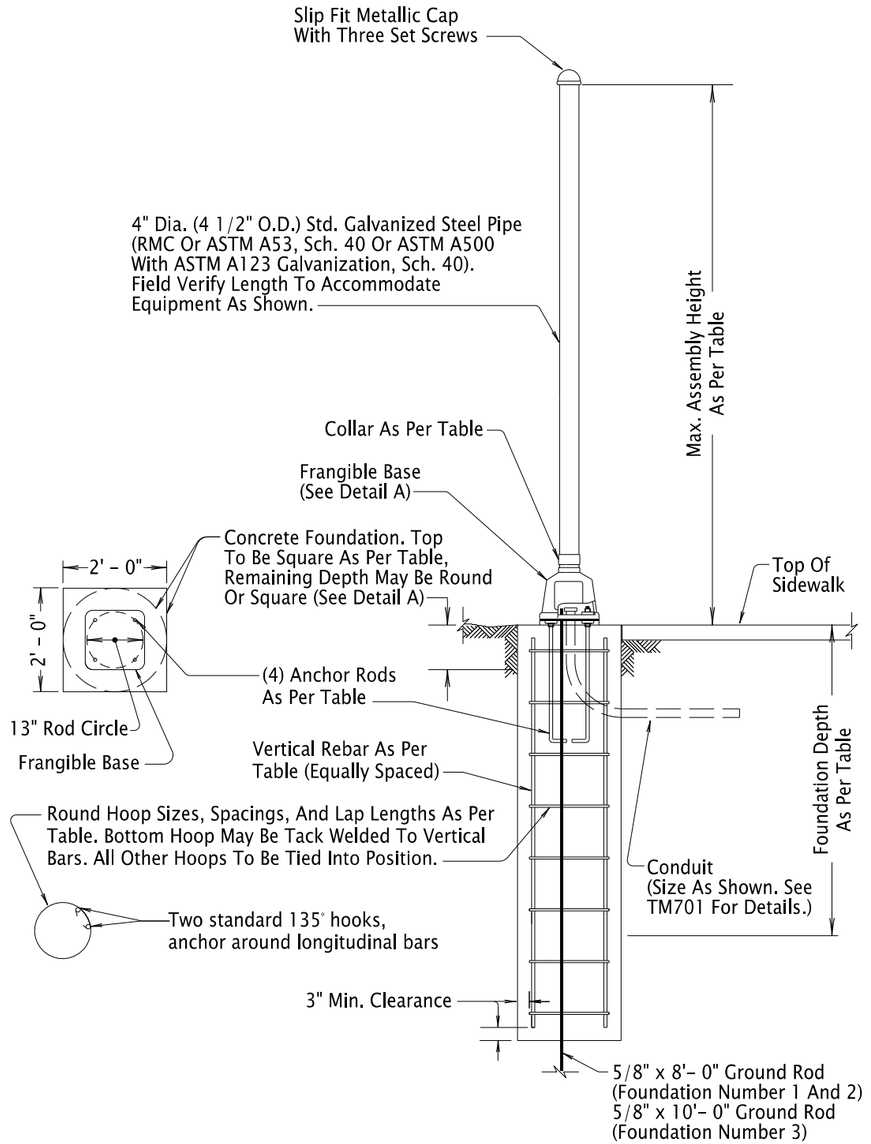
DATE	REVISION DESCRIPTION
01-2024	REMOVED PE CONTROL WITH NOTE
07-2025	DRAWING DISCONTINUED

CALC. BOOK NO. N/A | SDR DATE 19-JAN-2024 | **TM302**

Effective Date: December 1, 2025 - May 31, 2026

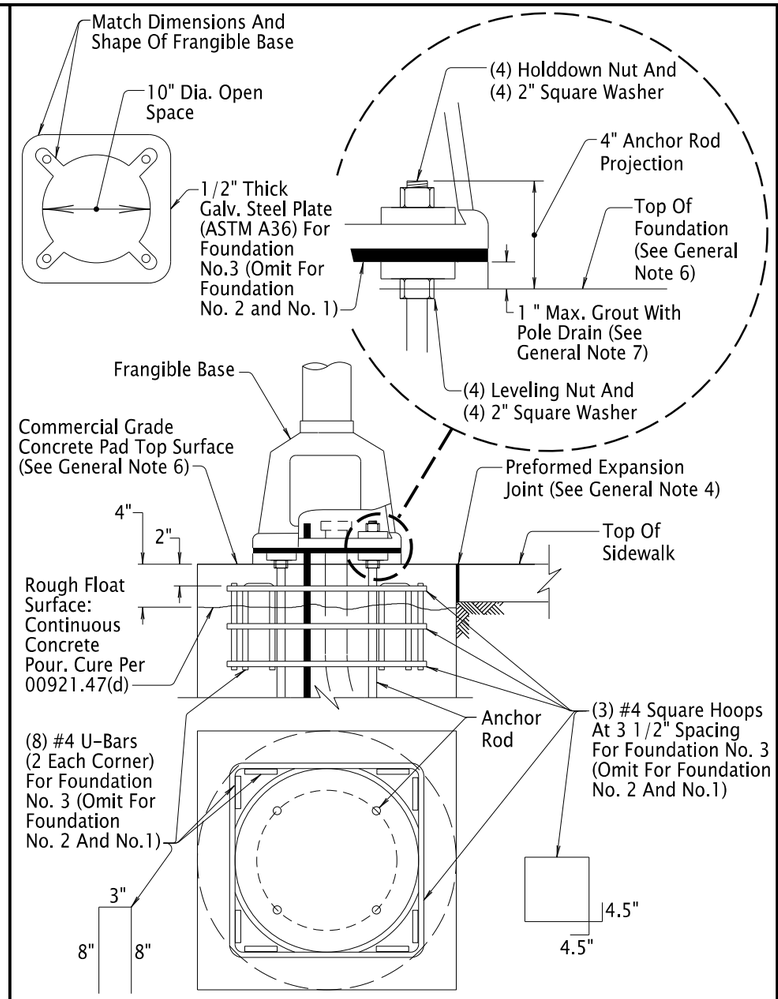
11-JUL-2025

TM457.dgn



Pedestal Foundation Number	Max. Assembly Height	Foundation Depth	Depth of Square Foundation	Anchor Rods (ASTM F 1554 Grade 36)	Reinforcing Steel			Collar
					Vertical Rebar	Hoop Size & Spacing	Hoop Lap Length	
1	6' - 0"	2' - 0"	4"	3/4" x 18" x 4" (6" Thread)	N/A	N/A	N/A	N/A
2	10' - 0"	3' - 0"	4"					
3	20' - 6"	8' - 0"	12"	1" x 36" x 4" (6" Thread)	8-#6	#4-12"	6" with 2 hooks	Req'd

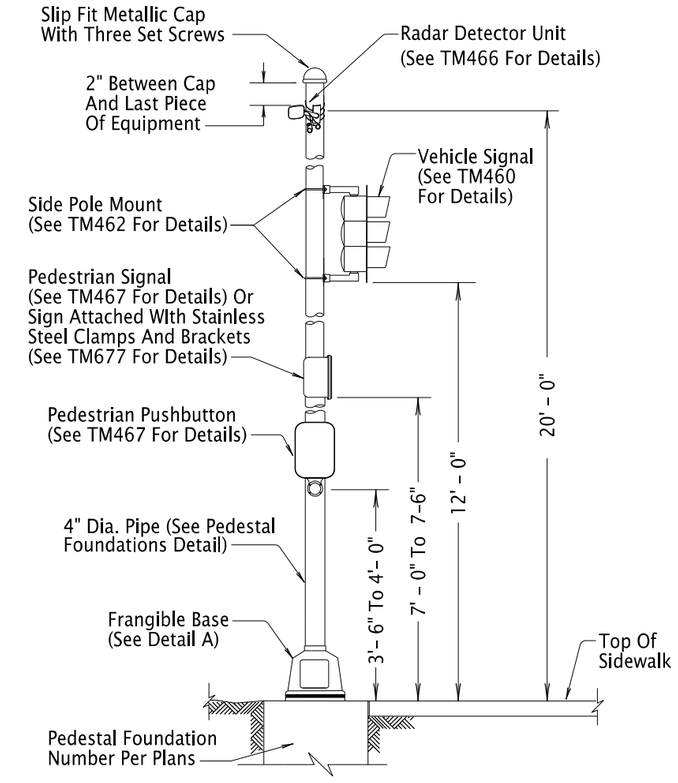
PEDESTAL FOUNDATIONS



DETAIL A - FRANGIBLE BASE

General Notes:

1. All Bolts, Nuts And Washers To Conform To 02560.20 And Be Galvanized Steel According To 02560.40 Unless Noted Otherwise.
2. All Anchor Rods To Be Galvanized Steel Conforming To 02560.30.
3. All Pole Entrances Containing Wiring To Be Smooth.
4. Install 1/4" To 3/8" Thick Preformed Expansion Joint Filler Around Footing In Sidewalk Areas.
5. The Entire Foundation To Be Located On A Single Plane With Less Than 2% Slope. The Flat Edge(s) Of The Foundation May Be Adjacent To The Turn Space, Back Of Walk, Or A Curb Ramp Grade Break Line.
6. Install Commercial Grade Concrete Pad Above Rough Float Surface With Top Surface Matching Sidewalk Grade And Less Than 1/4 " Vertical Exposure From Adjacent Grade. Clean Rough Float Surface Prior To Placing Fresh Concrete By Removing All Scum, Laitance, Loose Gravel, And Sediment. Pour During Sidewalk Installation After Installing Pipe And Appurtenances.
7. Non-Shrink High Early Strength Grout (Non-Ferrous) with 3/4" Diameter Pole Drain And A Minimum Strength of 5000 psi. Do Not Use Footing Concrete.



Notes:

1. Equipment Shown In the Assembly Detail Is An Example Of The Equipment That May Be Mounted. Install Equipment As Shown.
2. See TM492 For Ramp Meter Pedestal Mounting Details.
3. See TM493 For RRFB Pedestal Mounting Details.

TRAFFIC SIGNAL PEDESTAL ASSEMBLY

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

PEDESTAL FOUNDATION AND TRAFFIC SIGNAL ASSEMBLY

2024

DATE	REVISION DESCRIPTION
07-2022	COMPLETE REDESIGN OF FOUNDATION AND INSTALLATION PROCEDURE
07-2023	NOTE 5 - CHANGED TO 2% SLOPE. ADDED RMC AS PIPE OPTION. MINOR TEXT CHANGES FOR CLARITY.
01-2025	TYPO CORRECTION. UPDATED STANDARD DRAWING REFERENCES
07-2025	REVISED GEN. NOTE 4 EXPANSION JOINT THICKNESS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM457**

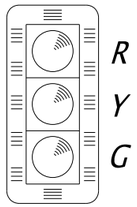
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

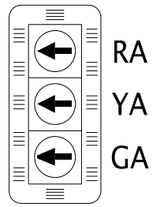
TM460.dgn

TYPE 1R
Red Flashing Beacon

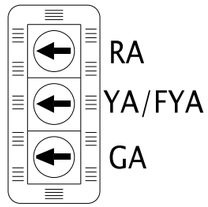
TYPE 1Y
Yellow Flashing Beacon



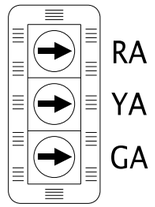
TYPE 2
Standard



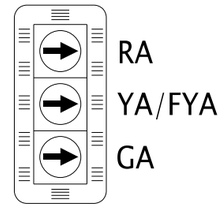
TYPE 3L
Protected Left Turn



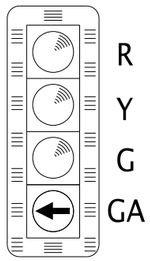
TYPE 3LCF
Protected / Permitted Left Turn



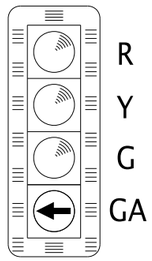
TYPE 3R
Protected Right Turn



TYPE 3RCF
Protected/Permitted Right Turn

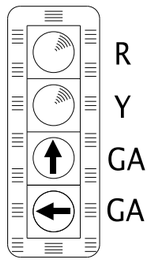


TYPE 4
Spilt Phase Only

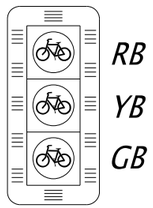


TYPE 7
Rail Preemption Only

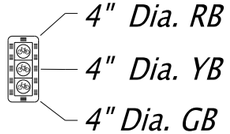
TYPE 8
Ramp Meter Only



TYPE 9
Split Phase Only



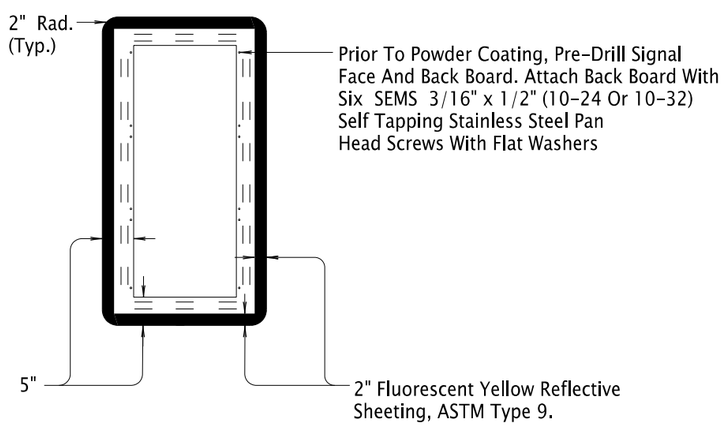
TYPE 12
Bike



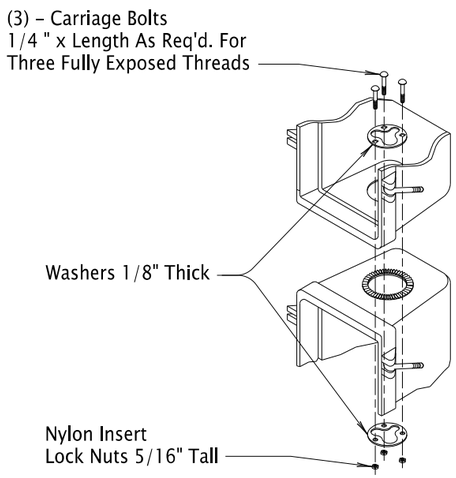
TYPE 12M
Mini Nearside Bike

Color Indications All Indications Are 12" Diameter Unless Otherwise Shown	
R	Red Circular Ball
Y	Yellow Circular Ball
G	Green Circular Ball
RA	Red Arrow
YA	Yellow Arrow
GA	Green Arrow
FYA	Flashing Yellow Arrow
FR	Flashing Red Circular Ball
FY	Flashing Yellow Circular Ball
RB	Red Bike Symbol
YB	Yellow Bike Symbol
GB	Green Bike Symbol

VEHICLE SIGNAL HEAD DESIGNATIONS AND LENS ARRANGEMENT



BACKBOARD



VEHICLE HEAD ASSEMBLY

General Notes:

1. All Screws, Bolts, Nuts And Washers Shall Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
2. Bolts And Screws Shall Have Square Or Hex Heads Unless Otherwise Noted. Allen Head Fasteners Not Allowed.
3. Assemble The Heavy Duty Polycarbonate Vehicle Signal, Visor, And Backboard With Bolted Connections, Stainless Steel Reinforcing Strips And Stainless Steel Plates.
4. Apply Anti-Seize Compound On All Hardware.
5. Drill A 1/4" Drain Hole In The Bottom Of The Screw Hole Plug Of The Vehicle Signal Head When Not Using The Bottom Opening For Mounting (e.g. Tenon & Plumbizer Mounted Vehicle Signals).

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

VEHICLE SIGNAL DETAILS

2024

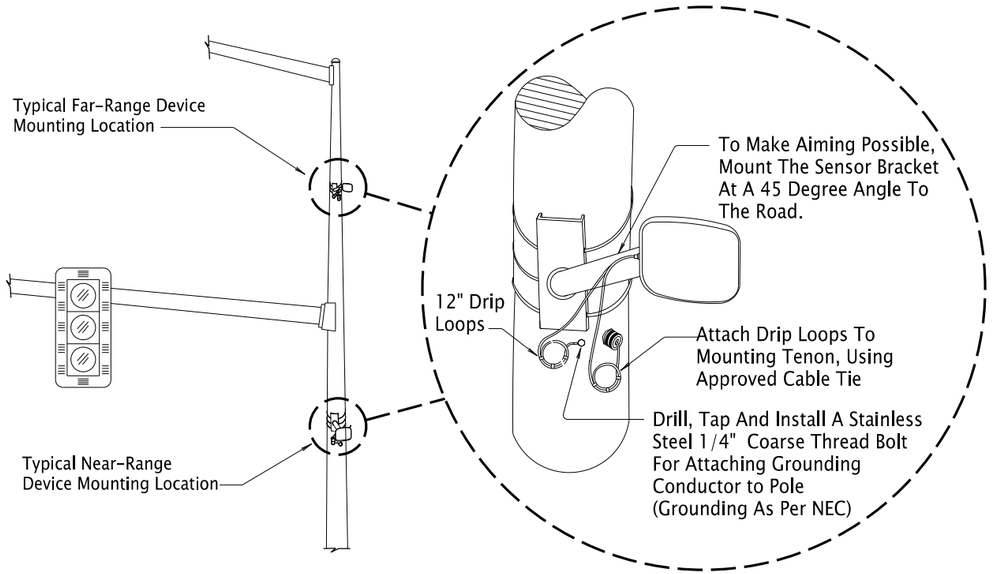
DATE	REVISION DESCRIPTION
01-2024	ADDED TYPE 12 AND 12M. REMOVED TYPE 3LBF, 5, 6L, AND 10.
07-2024	ADDED GENERAL NOTE 4
07-2025	ADDED GENERAL NOTE 5

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM460**

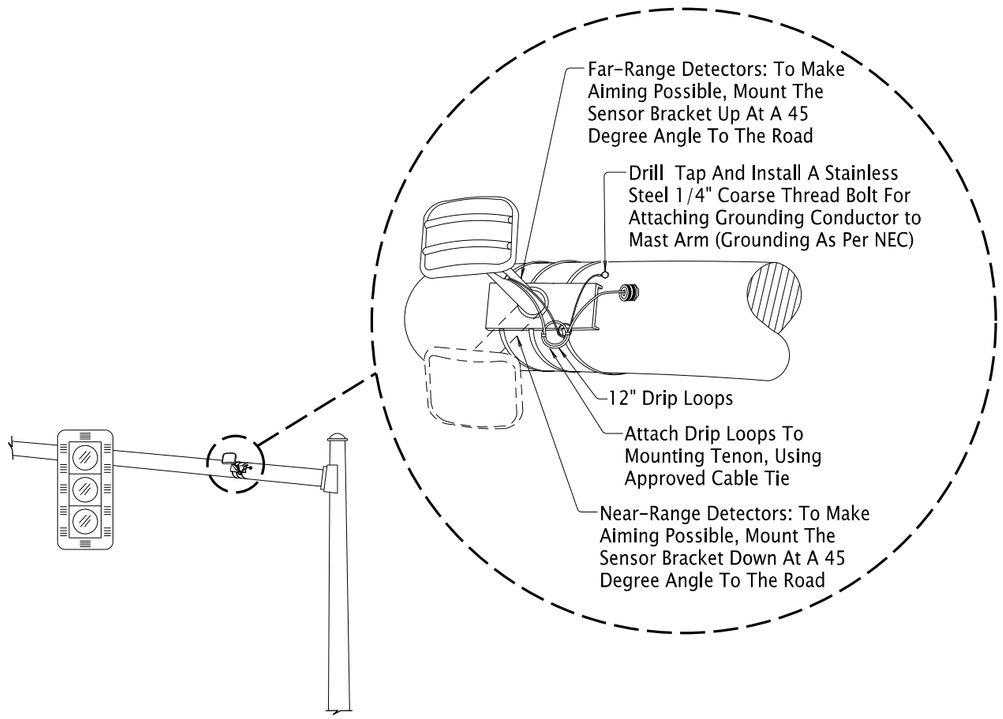
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

TM466.dgn

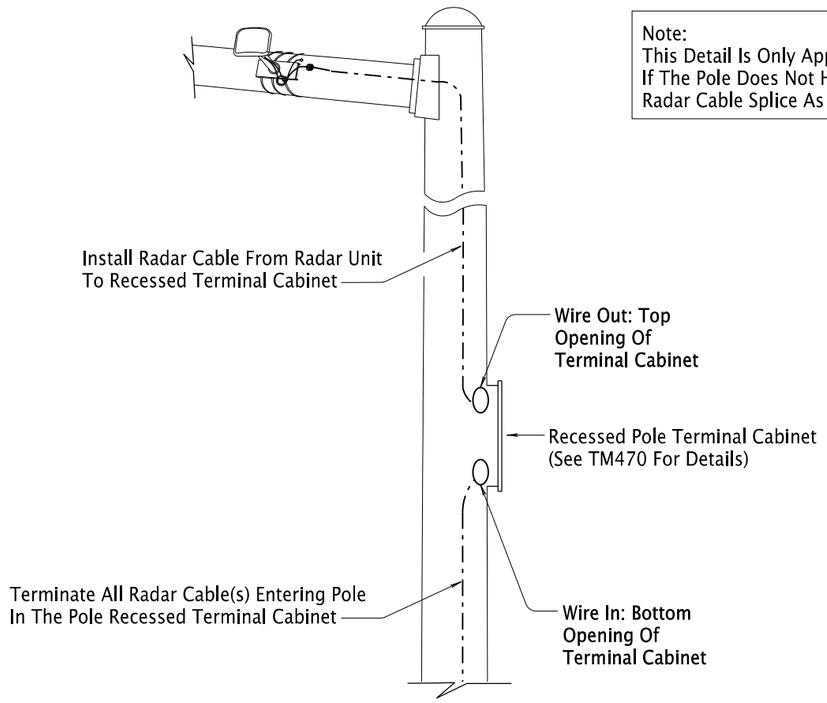


VERTICAL SIGNAL POLE MOUNT



HORIZONTAL MAST ARM MOUNT

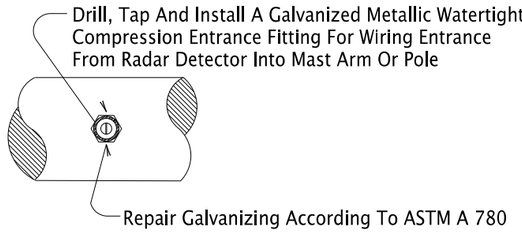
Note:
This Detail Is Only Applicable For Recessed Terminal Cabinets. If The Pole Does Not Have A Recessed Terminal Cabinet, Install Radar Cable Splice As Shown Or Directed.



RADAR CABLE SPLICE INSTALLATION (RECESSED TERMINAL CABINET)

GENERAL NOTES:

1. All Bolts, Nuts And Washers Shall Be 304, Or 316 Stainless Steel Unless Noted Otherwise.
2. Mount Radar Detector Assembly As Per Manufacturer's Recommendations.



CABLE GRIP

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

RADAR MOUNTING DETAILS

2024

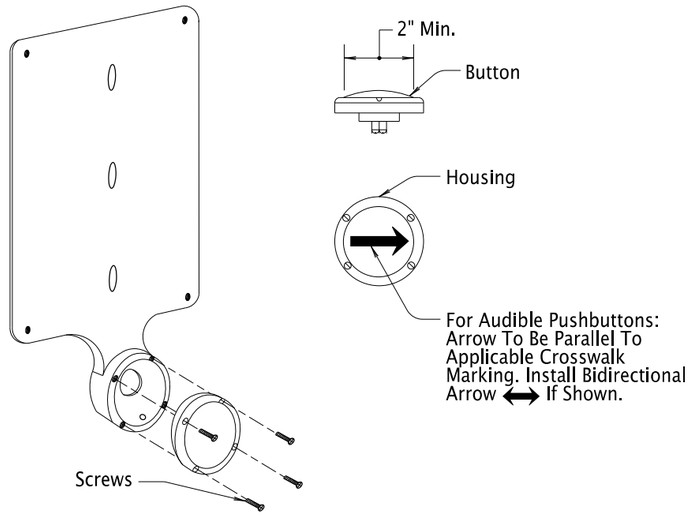
DATE	REVISION DESCRIPTION
01-2023	ADDED NEAR RANGE DETECTOR INFORMATION
07-2024	REVISED NAME OF EQUIPMENT PART FOR CONSISTENCY
07-2025	ADDED RADAR CABLE SPLICE INSTALLATION (RTC) DETAIL

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM466**

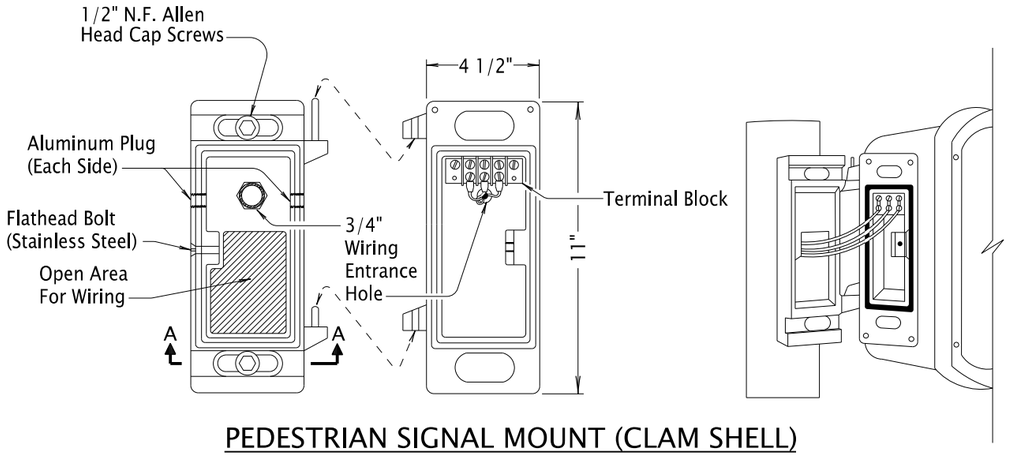
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

TM467.dgn



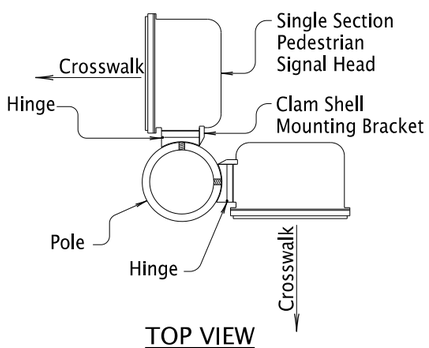
STANDARD PUSHBUTTON



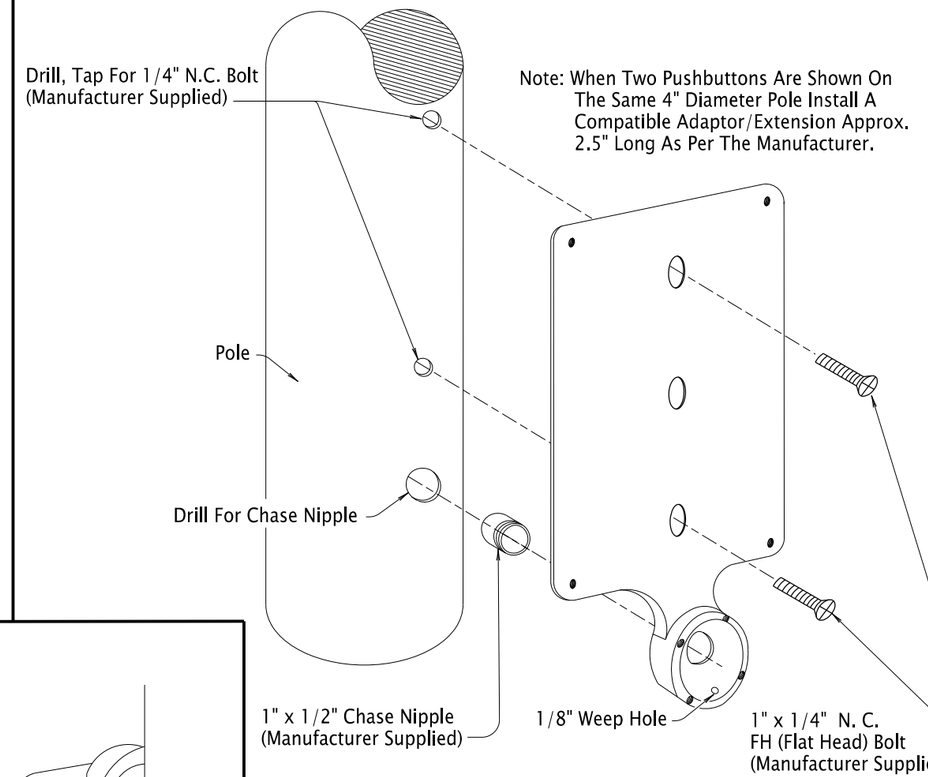
PEDESTRIAN SIGNAL MOUNT (CLAM SHELL)

NOTES:

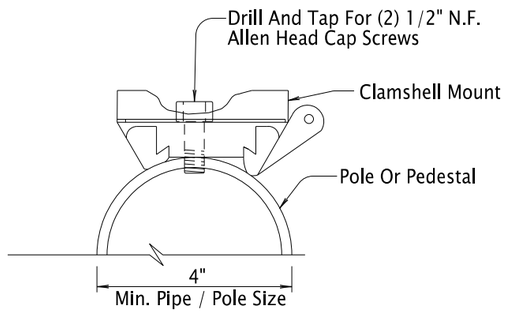
1. Where Two Heads Are Side Mounted On 4" Conduit, Proper Clearance To Be Maintained To Allow Legend To Be Fully Visible.
2. Clam Shells To Be Orientated So That The Heads Can Be Opened For Maintenance. (Verify Hinge Placement Of Clamshell).



TOP VIEW

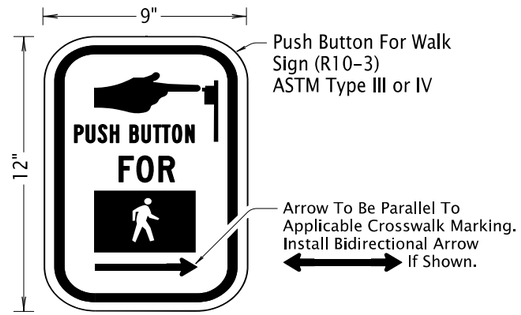


STANDARD PUSHBUTTON STATION AND INSTRUCTION SIGN

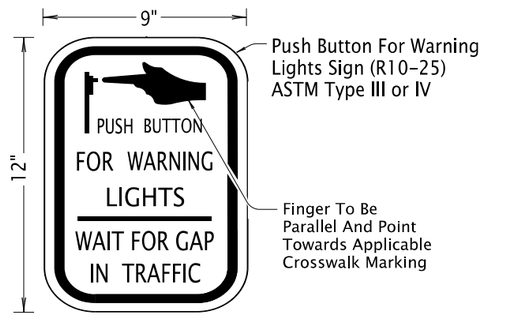


SECTION A-A

CLAM SHELL ORIENTATION



SIGN FOR PEDESTRIAN SIGNALS



SIGN FOR WARNING BEACON ASSEMBLY

General Notes:

1. All Screws, Bolts, Nuts And Washers To Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
2. Bolts And Screws To Have Square Or Hex Heads. Allen Head Fasteners Not Allowed.
3. Drill And Tap Pole As Per Orientation Shown On Plans.
4. Horizontal Reach To The Pushbutton To Be 10 Inches Maximum. See Plans Or Consult Engineer To Ensure Compliance.
5. Drill A 1/4" Drain Hole In the Bottom Of The Hex Head Pipe Plug Of The Pedestrian Signal Head When Not Using The Bottom Opening For Mounting.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

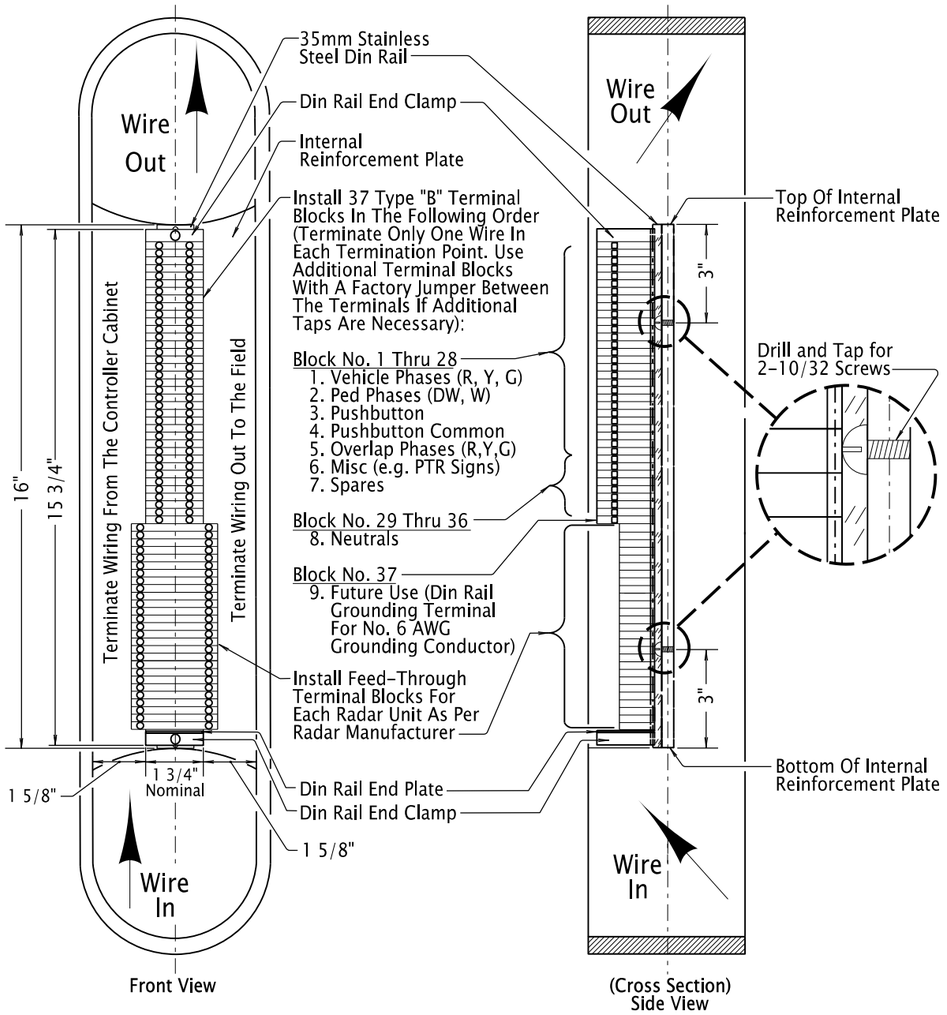
PEDESTRIAN SIGNAL MOUNT AND PEDESTRIAN PUSHBUTTON DETAILS

2024

DATE	REVISION DESCRIPTION
07-2022	ADDED R10-25 SIGN. ADDED EXTENSION MOUNTING NOTE FOR
	2 PUSHBUTTONS ON SAME 4" DIA. POLE.
07-2024	ADDED ARROW TO PUSHBUTTON. ADDED BI-DIRECTIONAL ARROW.
07-2025	REVISED SIGN R10-25. ADDED GEN. NOTE 5.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM467**

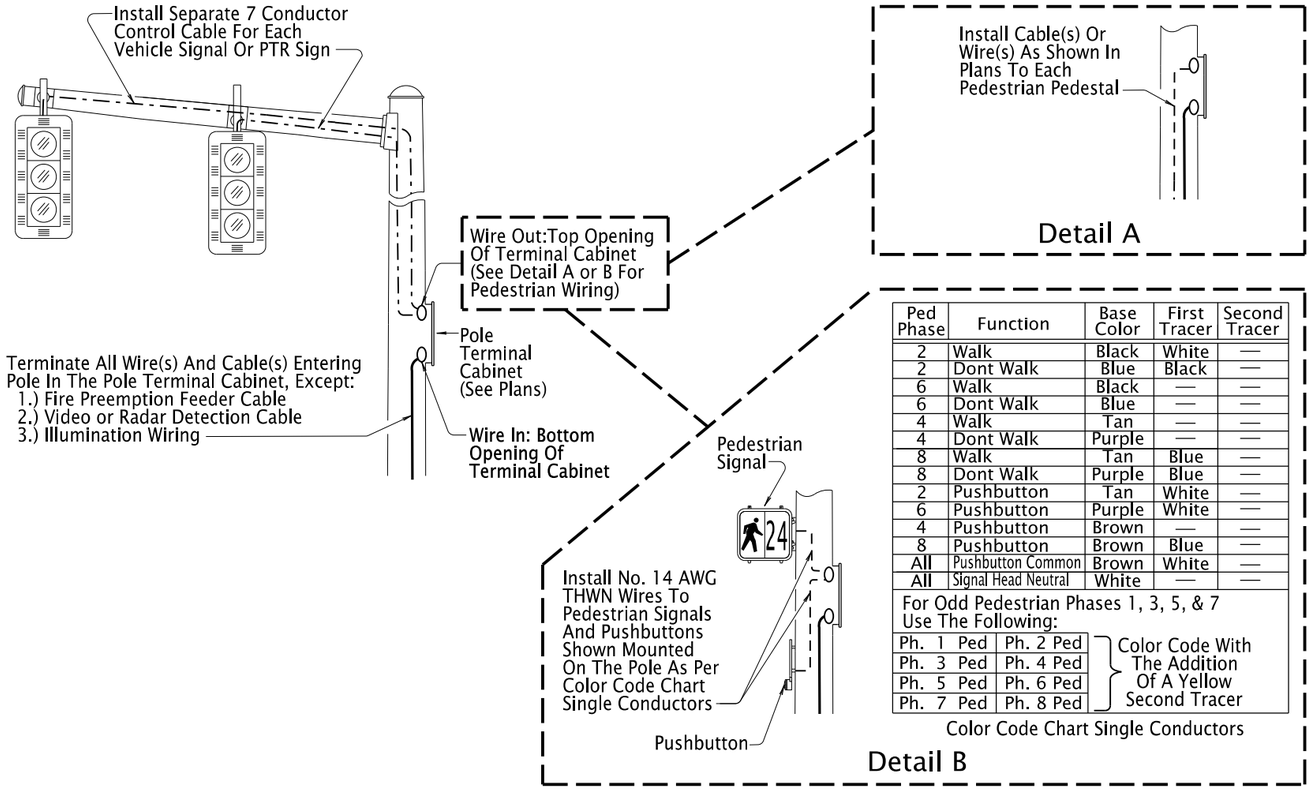
Effective Date: December 1, 2025 - May 31, 2026



DIN RAIL, TERMINAL BLOCKS, & WIRING IN POLE RECESSED TERMINAL CABINET

7 Conductor Control Cable			Pedestrian Phases	Vehicle Phases	Signal Head Types			
Conductor Number	Base Color	First Tracer	1 Pedestrian Phase	1 Vehicle Phase	6L or 3LBF	4L, 5, or 7	1R, 1Y, 2, 3L, 3LCF, 3U, 3R, 4, 9, 12, or 12M	10
1	White	—	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
2	Black	—	Walk	Yellow	Yellow	Yellow	Yellow	Yellow
3	Red	—	Dont Walk	Red	Red	Red	Red	Red 1
4	Orange	—	P.B. Common	Spare	Flashing Yellow	Turn Yellow	Spare	Red 2
5	Green	—	Pushbutton	Green	Green	Green	Green	Spare
6	Blue	—	Spare	Spare	Spare	Turn Green	Spare	Spare
7	White	Black	Spare	Spare	Spare	Spare	Spare	Spare

COLOR CODE CHART CONTROL CABLE



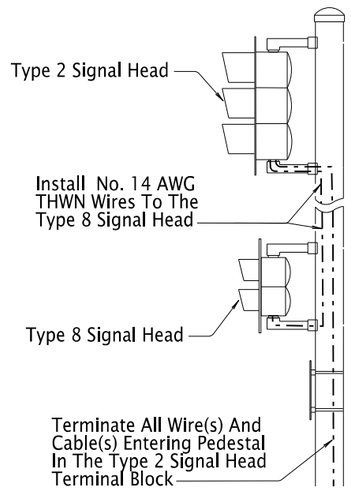
Ped Phase	Function	Base Color	First Tracer	Second Tracer
2	Walk	Black	White	—
2	Dont Walk	Blue	Black	—
6	Walk	Black	—	—
6	Dont Walk	Blue	—	—
4	Walk	Tan	—	—
4	Dont Walk	Purple	—	—
8	Walk	Tan	Blue	—
8	Dont Walk	Purple	Blue	—
2	Pushbutton	Tan	White	—
6	Pushbutton	Purple	White	—
4	Pushbutton	Brown	—	—
8	Pushbutton	Brown	Blue	—
All	Pushbutton Common	Brown	White	—
All	Signal Head Neutral	White	—	—

For Odd Pedestrian Phases 1, 3, 5, & 7 Use The Following:

Ph. 1 Ped	Ph. 2 Ped	Color Code With The Addition Of A Yellow Second Tracer
Ph. 3 Ped	Ph. 4 Ped	
Ph. 5 Ped	Ph. 6 Ped	
Ph. 7 Ped	Ph. 8 Ped	

Color Code Chart Single Conductors

WIRE & CABLE IN POLES



WIRE & CABLE IN RAMP METER PEDESTALS

General Notes:

1. See TM701 For Additional Wire/Cable Installation Requirements That Apply To All Electrical Systems.
2. Install All Wire And Cable Between Terminal Blocks Without Splicing.
3. Mark Phase Number & Function Or Identification On All Cable And Wires Installed In Terminal Cabinets, Service Cabinets, & Controller Cabinets With Permanent Tags. Overlaps Shall Be Labeled (OLA, OLB, OLC, OLD).
4. Leave Slack In Each Wire And Cable As Follows:
   A.) 6 Feet In The First Junction Box Nearest The Controller Cabinet
   B.) 6 Feet In Controller Cabinet And Service Cabinet
5. At Existing Installations Re-wire And Re-label New And Existing Control Cables And Wires, In All Terminal Cabinets, Service Cabinets, And Controller Cabinets.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

WIRE/CABLE INSTALLATION

2024

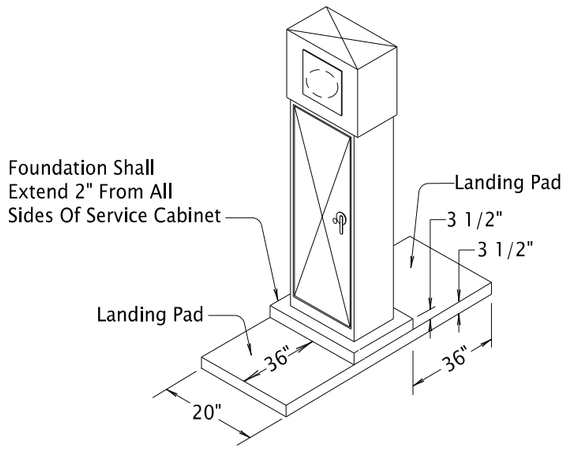
DATE	REVISION DESCRIPTION
01-2024	REVISED SIGNAL HEAD TYPES IN COLOR CODE CHART CONTROL CABLE DETAIL
07-2024	ADDED GEN. NOTE 3, ADDED PED COLOR CODE, ADDED FACTORY JUMPERS
01-2025	MOVED GENERAL ELECTRICAL CONTENT TO TM701. REFORMATTED CONTENT
07-2025	MODIFIED GEN. NOTE 3 & 5. DELETED GEN. NOTE 4. TB BLOCK REVISION.

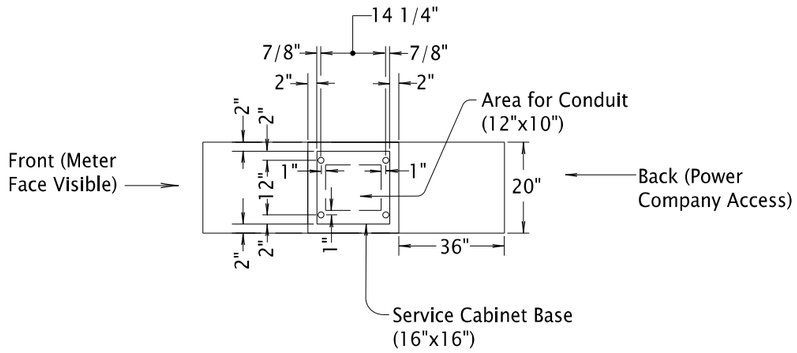
CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM470**

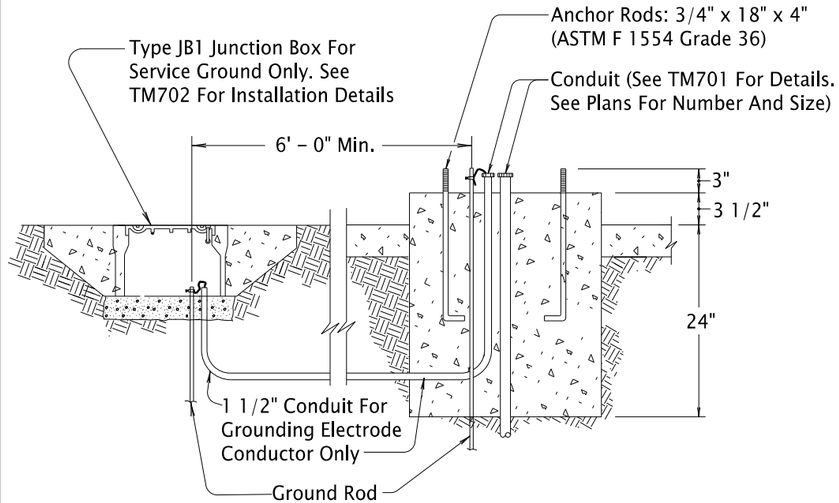
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

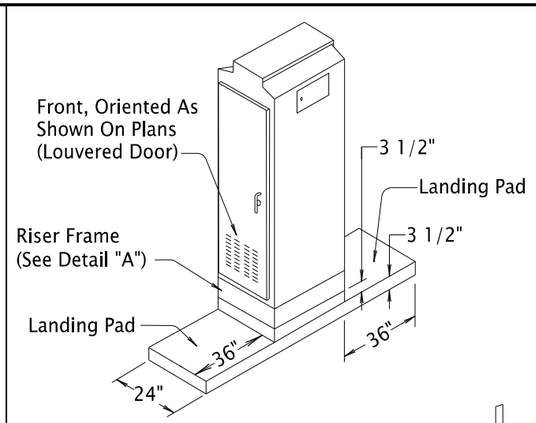
TM482.dgn

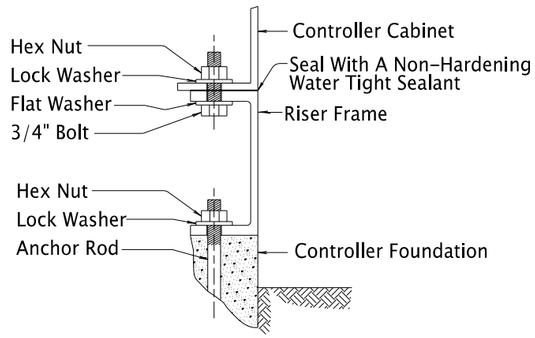




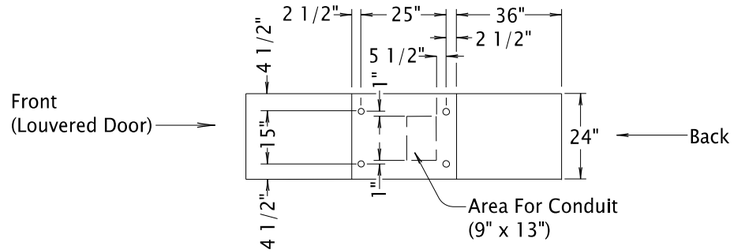


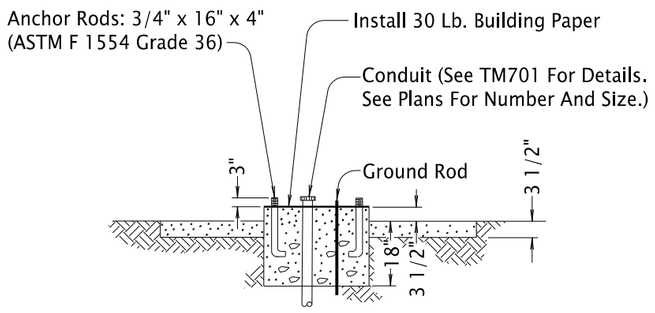
BASE MOUNTED SERVICE CABINET FOUNDATION





DETAIL "A"
RISER FRAME CONNECTION

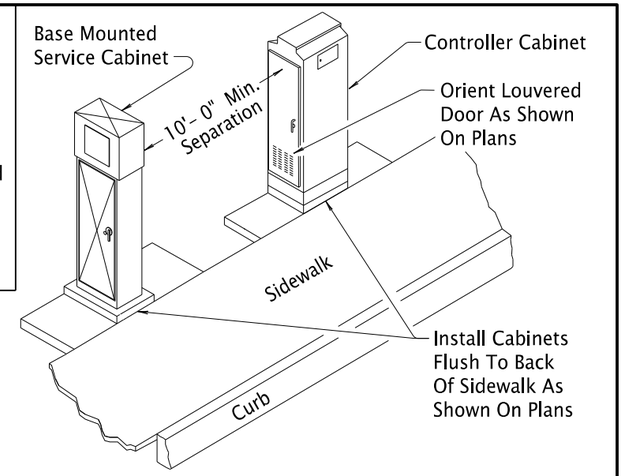




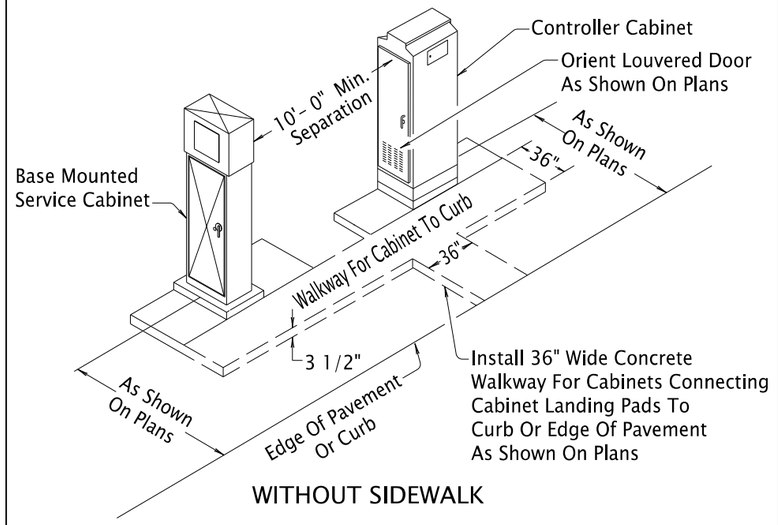
CONTROLLER CABINET FOUNDATION DETAILS
(Model 332S, 332, 334, And 340 Cabinets)

General Notes:

1. All Screws, Bolts, Nuts And Washers Shall Be Galvanized Steel Unless Noted Otherwise.
2. Bolts And Screws Shall Have Square Or Hex Heads. Allen Fasteners Not Allowed.
3. Type 304 Or 316 Stainless Steel Or Galvanized Steel May Be Used For Mounting Cabinet To Riser Frame.
4. Provide A 3/4" Chamfer On All Exposed Concrete Edges.



WITH SIDEWALK



WITHOUT SIDEWALK

CABINET FOUNDATION LOCATIONS

Note: Verify Base Mounted Service Cabinet Location And Meter Placement Is Acceptable To Local Power Company

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

CONTROLLER CABINET & SERVICE CABINET FOUNDATION DETAILS

2024

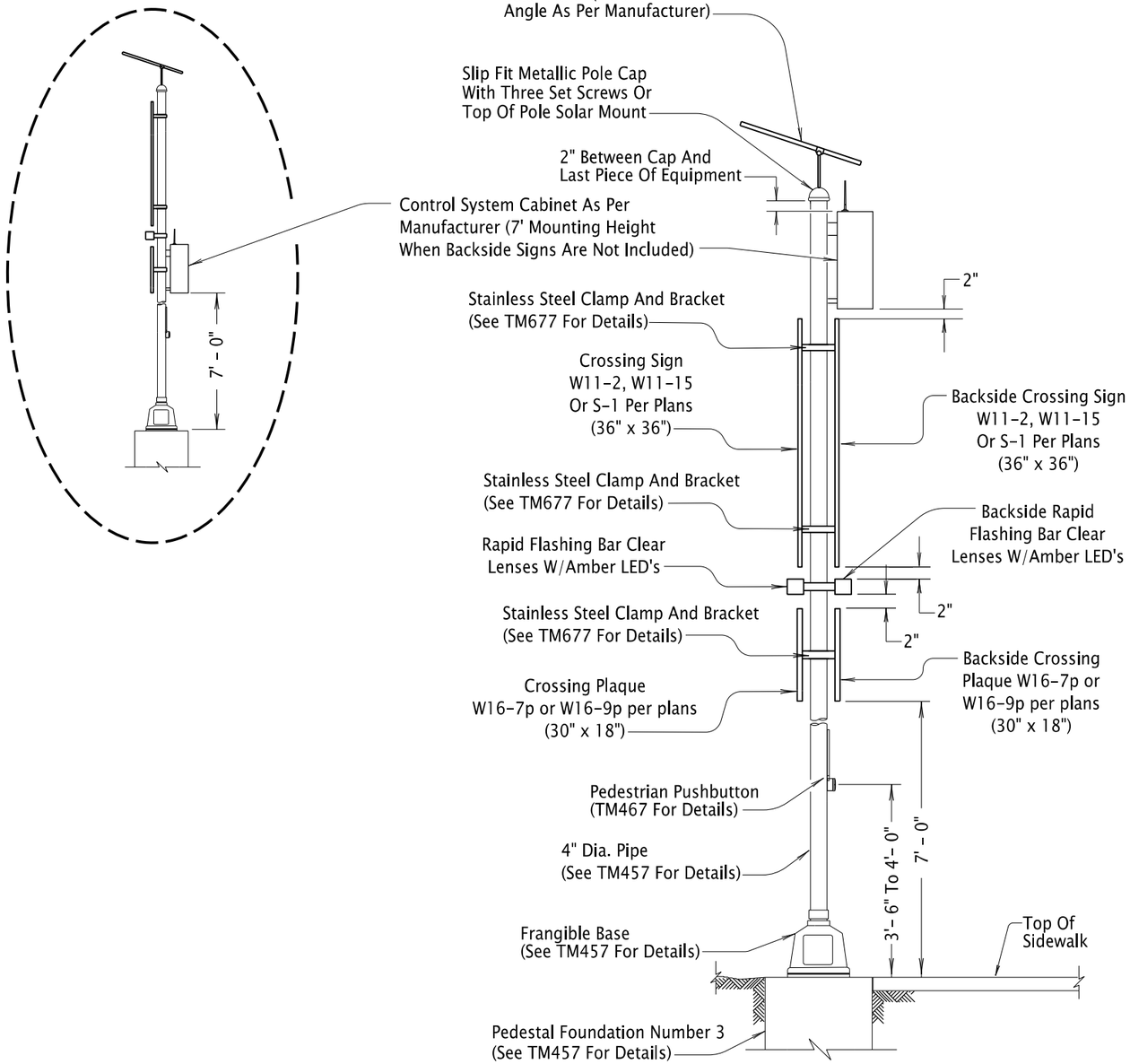
DATE	REVISION DESCRIPTION
01-2021	UPDATED ALL ANCHOR ROD DETAILS
01-2025	UPDATED STANDARD DRAWING REFERENCES
07-2025	REMOVED BUILDING PAPER REQUIREMENT

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM482**

Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

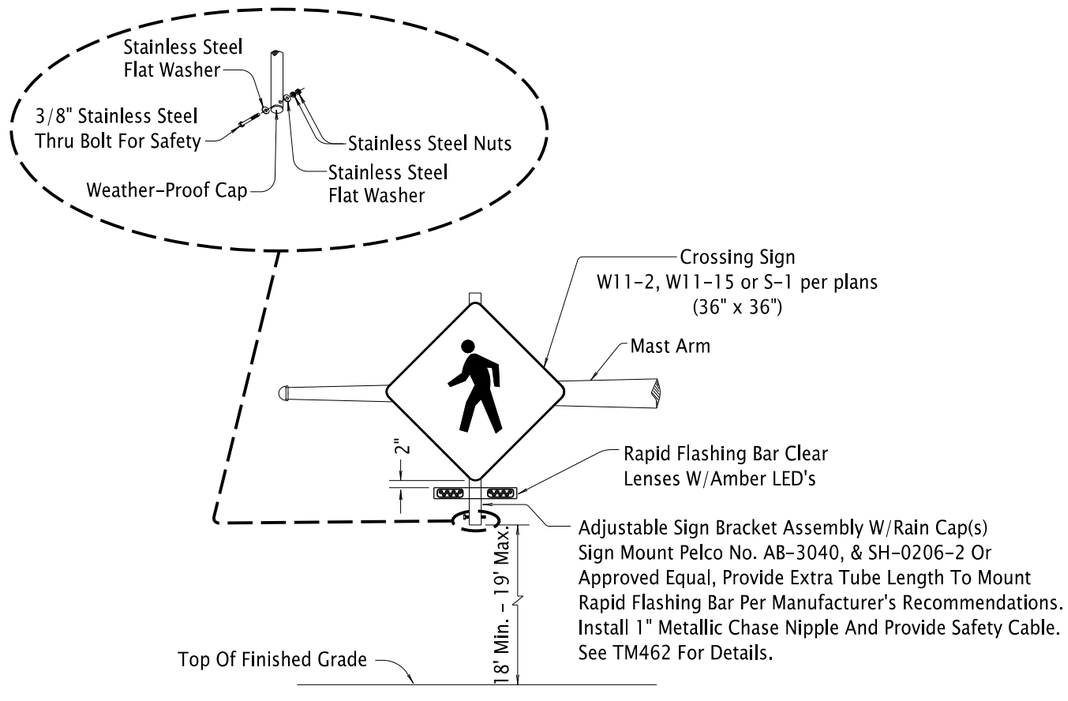
TM493.dgn



Note:

1. Equipment Shown In The Assembly Detail Is An Example Of The Equipment That May Be Mounted. Install Equipment As Shown.
2. Equipment Mounting Details Shown Are Also Applicable When Mounting Equipment To A Large Signal Pole.

RECTANGULAR RAPID FLASHING BEACON PEDESTAL ASSEMBLY
(Use Green Sheet Listed Items Only)



RECTANGULAR RAPID FLASHING BEACON MAST ARM ASSEMBLY
(Use Green Sheet Listed Items Only)

GENERAL NOTES:

1. Install Cable/Wire Terminations And Splices As Per The Rectangular Rapid Flashing Beacon Manufacturer's Recommendations.

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLIES

2024

DATE	REVISION DESCRIPTION
07-2022	NEW DRAWING
07-2023	MINOR TEXT CHANGES FOR CLARITY
01-2025	CORRECTED TYPO
07-2025	ADDED GENERAL NOTE 1

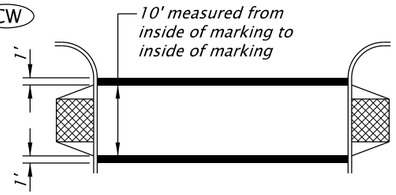
CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM493**

Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

TM503.dgn

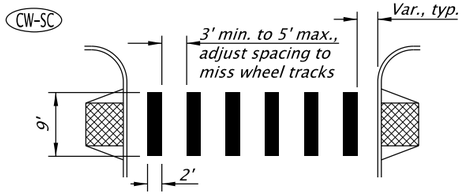
CW



STANDARD CROSSWALK
TWO 1' WHITE BARS

Install per Standard Drawing TM530

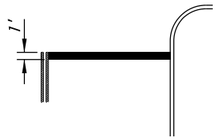
CW-SC



STAGGERED CONTINENTAL CROSSWALK
2'WHITE BARS

Install per Standard Drawing TM530

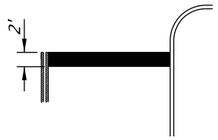
S



STOP BAR
1' WHITE BAR

Install per Standard Drawing TM530

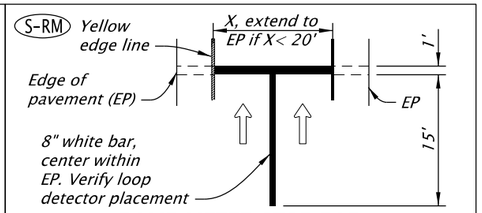
S-2



STOP BAR - LARGE
2' WHITE BAR

Install per Standard Drawing TM530

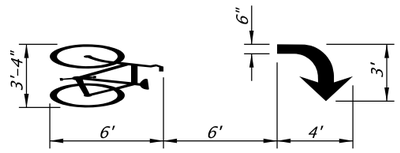
S-RM



RAMP METER STOP BAR
1' AND 8" WHITE BARS

For multi-lane ramp meter applications

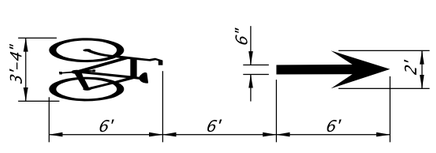
BR



BIKE RIGHT TURN STENCIL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

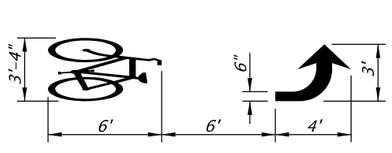
BS



BIKE LANE STANDARD STENCIL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

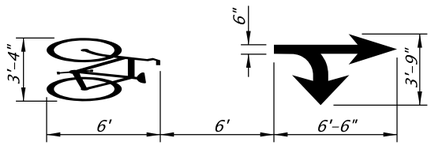
BL



BIKE LEFT TURN STENCIL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

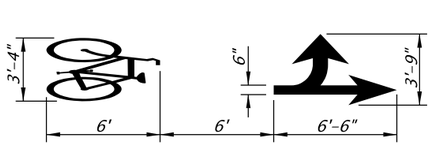
BRS



BIKE RIGHT TURN STRAIGHT STENCIL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

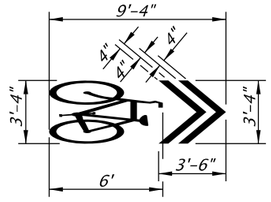
BLS



BIKE LEFT TURN STRAIGHT STENCIL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

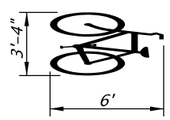
SLM



SHARED LANE MARKING (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

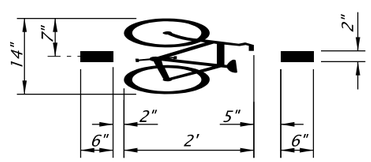
B



BIKE STENCIL (white)

Used for Intersection Bicycle Box applications. Place markings within bicycle box, centered with motor vehicle lane width

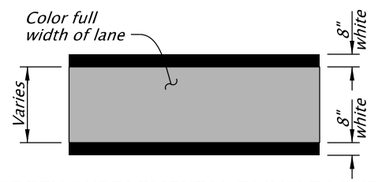
BD



BICYCLE DETECTOR MARKING (white)

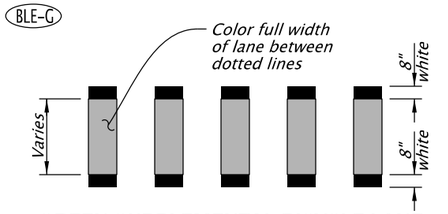
Place Bicycle Detector Pavement Marking in optimum location where bicycle actuates the traffic signal

GRN



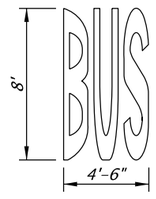
GREEN SUPPLEMENTAL BICYCLE LANE
SOLID GREEN (green)

BLE-G



GREEN SUPPLEMENTAL BICYCLE LANE
DOTTED LINE EXTENSION (green)

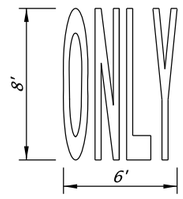
BUS



BUS (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

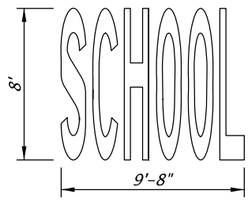
ON



ONLY (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

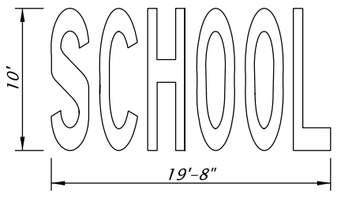
SCH



SCHOOL (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

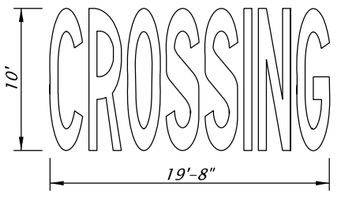
SCH-LG



SCHOOL LARGE (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

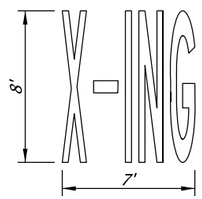
CRS-LG



CROSSING - LARGE (white)

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

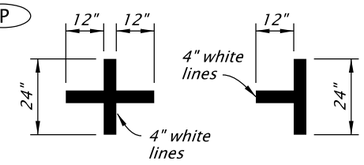
XNG



X-ING - WHITE

Center marking within lane width, for proportion details, see current version of Standard Highway Signs

P



INTERMEDIATE MARKING **END MARKING**

ON-STREET PARKING DETAIL - WHITE

GENERAL NOTES:

1. *Arrow, letter, and bicycle symbol dimensions nominal.*

LEGEND

⇦ Direction of Travel

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

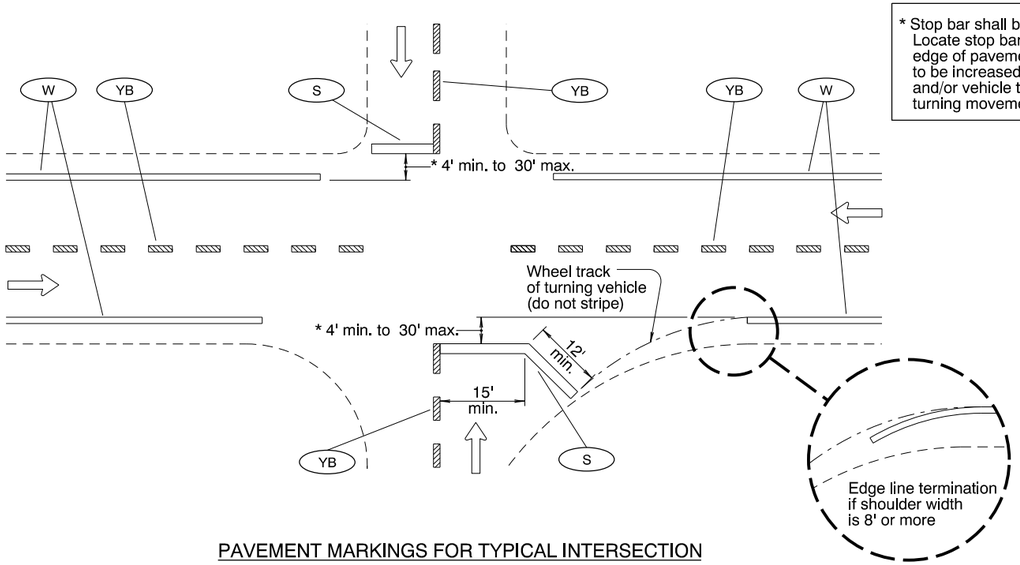
PAVEMENT MARKING STANDARD DETAIL BLOCKS

2024

DATE	REVISION DESCRIPTION
07-2022	ADDED NOTE FOR MEASUREMENT OF STANDARD CROSSWALK
07-2025	REPLACED HELMETED BICYCLIST SYMBOL WITH BICYCLE SYMBOL
07-2025	UPDATED CAD STANDARDS

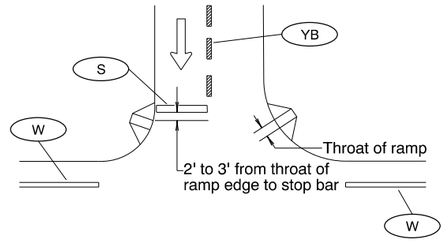
CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM503**

Effective Date: December 1, 2025 - May 31, 2026

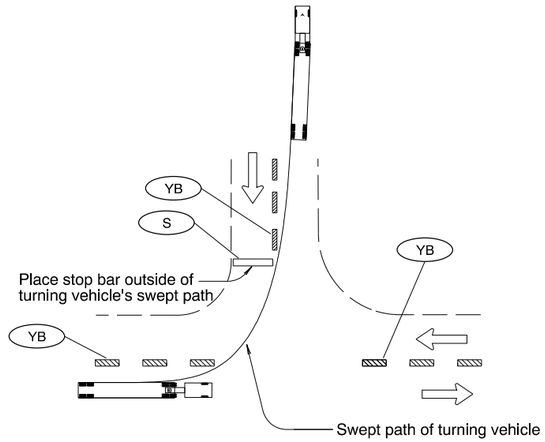


PAVEMENT MARKINGS FOR TYPICAL INTERSECTION

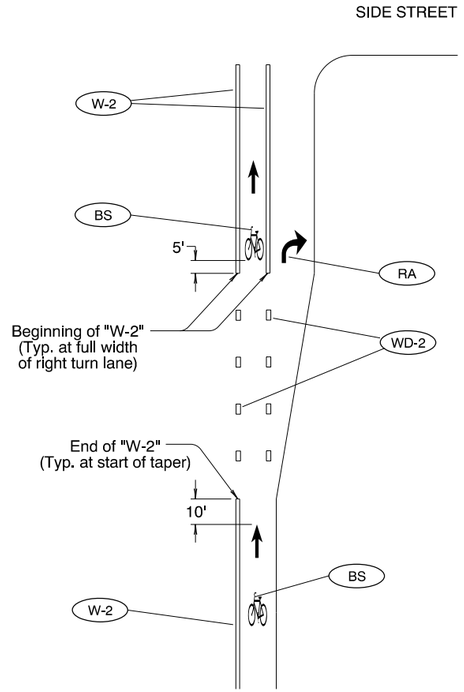
* Stop bar shall be placed as near as possible to the intersecting traveled way. Locate stop bar 4' min. to 30' max. in advance of the extended fog line, edge of pavement, or curb face. Minimum stop bar distance may need to be increased, depending on location of pedestrian ramps (see Detail "A") and/or vehicle turn radii (see Detail "B"). Field verify sight distance and truck turning movements.



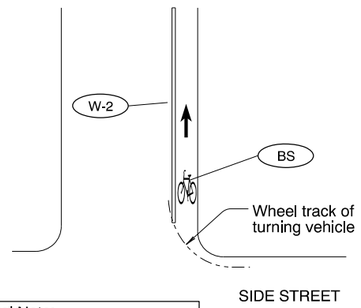
Detail "A"
STOP BAR PLACEMENT WITH
RESPECT TO PEDESTRIAN RAMPS



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



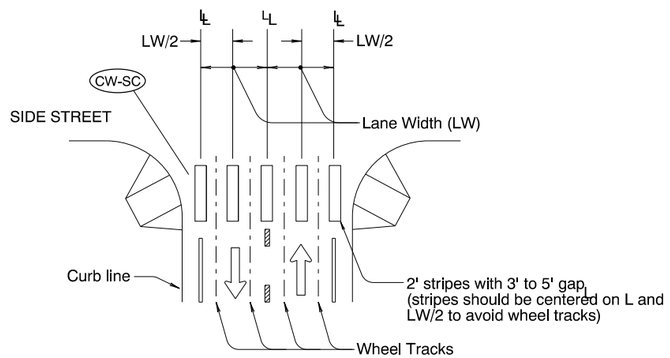
INSTALLATION OF BIKE LANE STENCILS
FOR BIKE LANE SEPARATED BY RIGHT TURN LANE



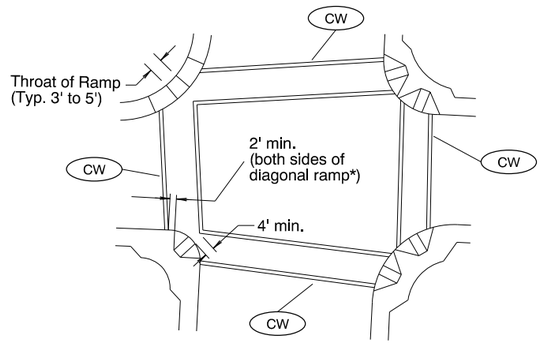
General Note:

Install bike lane stencil to avoid right turning vehicle wheel tracks.

INSTALLATION OF BIKE LANE STENCILS
FOLLOWING INTERSECTIONS



STAGGERED CONTINENTAL LAYOUT



STANDARD CROSSWALK BARS
AT INTERSECTION

* = Refer to Std Dwg RD916

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

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 first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR & BIKE LANE STENCIL)

2024

DATE	REVISION DESCRIPTION
07-2022	Added Roadway Standard Drawing reference to detail for clarity
07-2025	Edited Bike Lane Stencil image to match new MUTCD standard

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM530**

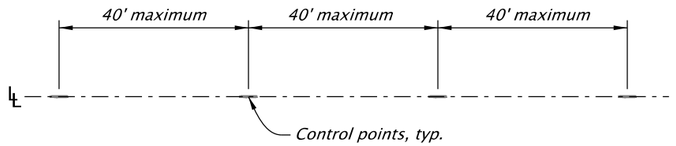
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

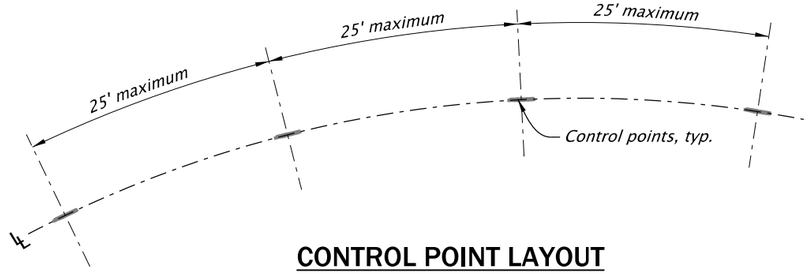
TM530.dgn

11-JUL-2025

TM560.dgn



CONTROL POINT LAYOUT TANGENT SECTIONS



CONTROL POINT LAYOUT CURVE SECTIONS

GENERAL NOTES:

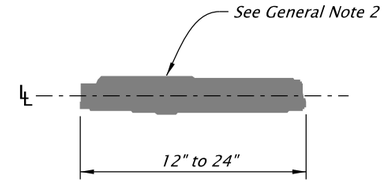
1. *Use control points to make continuous narrow guideline as specified.*
2. *Use aerosol paint to mark layout transition details and control point; white paint on asphalt surfaces and black paint on concrete pavement surfaces.*
3. *Use pavement marking transition detail marks at the start of pavement markings, where pavement markings transition to a different pavement marking and at the end of pavement markings.*
4. *Typical layout transition details are marked by lines denoting location of permanent pavement markings. These lines will be followed by three dots if the line is broken.*

LEGEND

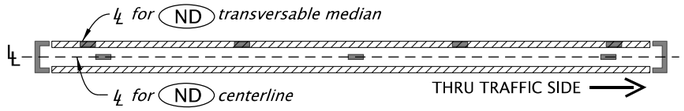
℄ = *Lane line dimensions are shown on the Striping plans.*

SOLID LINE LAYOUT TRANSITION DETAIL

(W) (Y) (W-2)

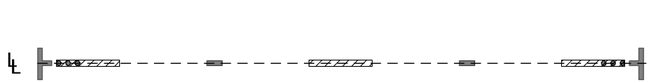


CONTROL POINT



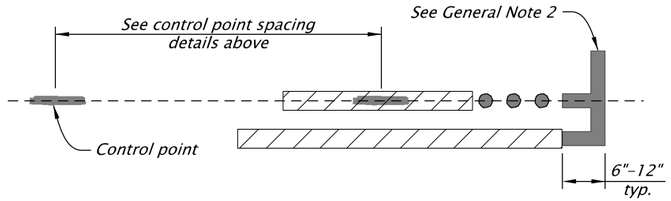
DOUBLE LINES 4" TO 12" WIDTH LAYOUT TRANSITION DETAIL

(ND) (D) (NDW)



BROKEN LINE LAYOUT TRANSITION DETAIL

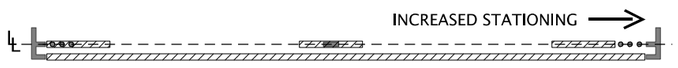
(WB) (YB) (WD) (YD) (DLL) (DLL-2) (WD-2)



EXAMPLE LAYOUT TRANSITION DETAIL

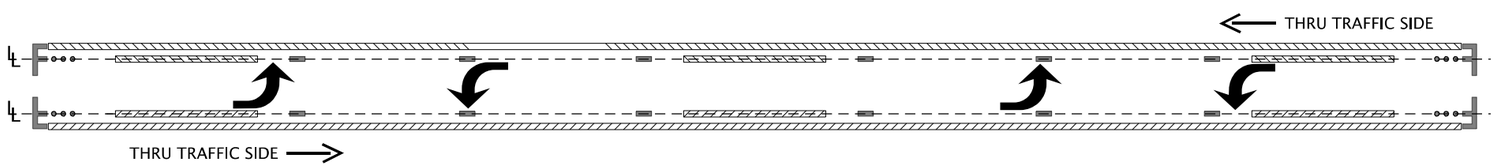
NO PASS LEFT LAYOUT TRANSITION DETAIL

(NPL)



NO PASS RIGHT LAYOUT TRANSITION DETAIL

(NPR)



TWO WAY LEFT LAYOUT TRANSITION DETAIL

(TWL)

ACCOMPANIED BY DWGS.:
TM500, TM501, TM502, TM503, TM504

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OREGON STANDARD DRAWINGS

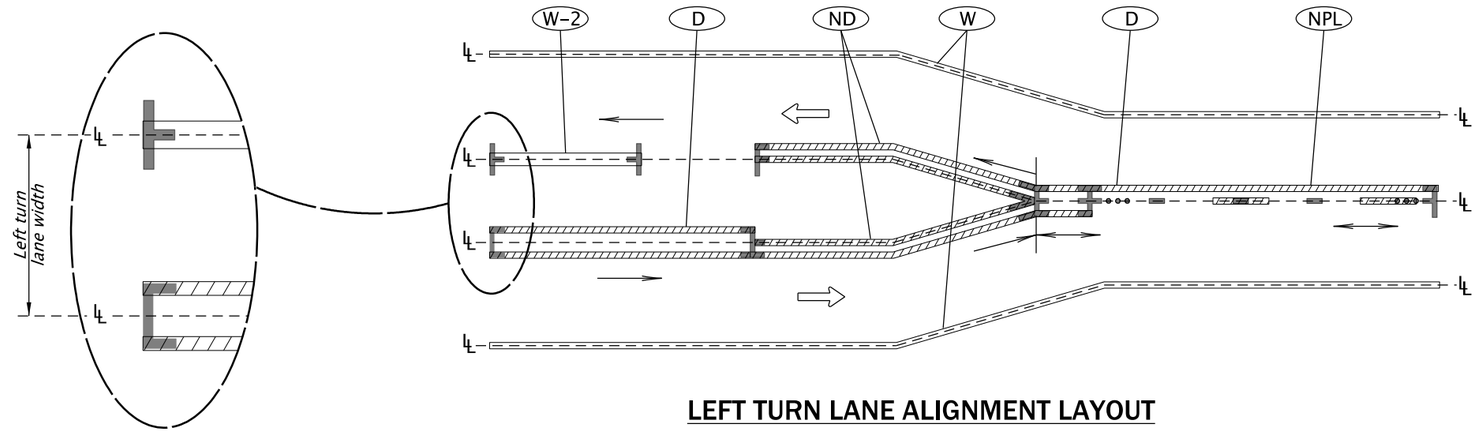
ALIGNMENT LAYOUT: GENERAL

2024

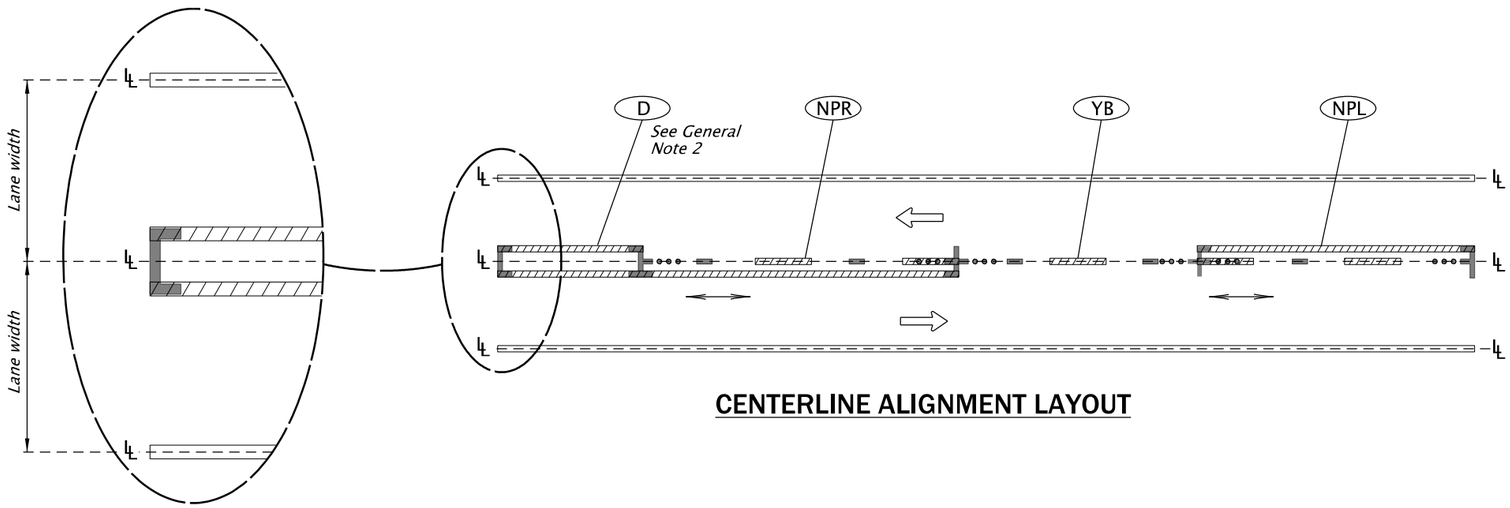
DATE	REVISION DESCRIPTION
07-2025	MODIFIED CONTROL POINTS, ADDED NEW LAYOUT REQUIREMENTS AND DETAILS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM560**

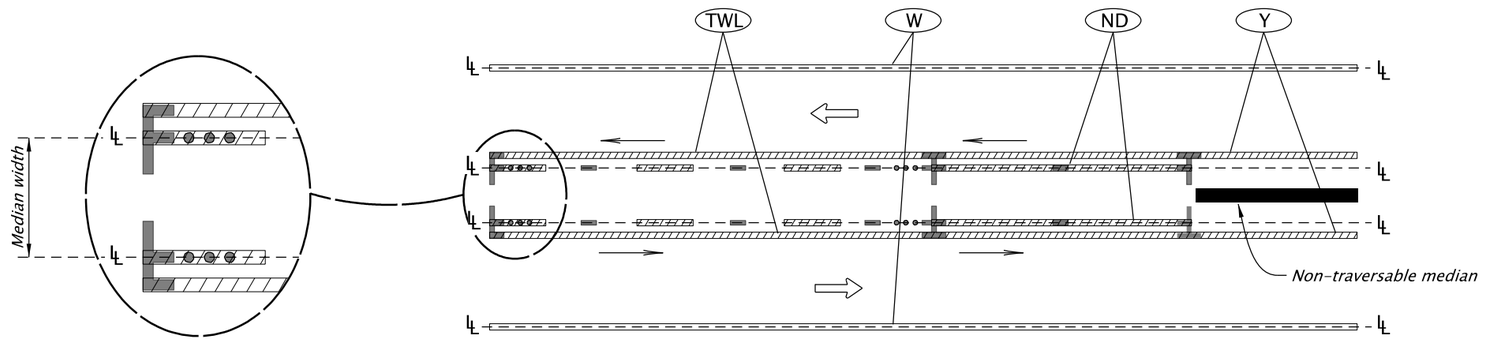
Effective Date: December 1, 2025 - May 31, 2026



LEFT TURN LANE ALIGNMENT LAYOUT



CENTERLINE ALIGNMENT LAYOUT



MEDIAN ALIGNMENT LAYOUT

GENERAL NOTES:

1. *Use pavement marking transition detail marks and control points for pavement marking alignment layout along the centerline gun location.*
2. *Increasing stationing from left to right.*

LEGEND

℄ = *Lane line dimensions are shown on the Striping plans.*

Direction of travel and through traffic side

Direction of striping truck (may go either direction)

Direction of striping truck (may go one direction only)

ACCOMPANIED BY DWGS.:
TM500, TM501, TM502, TM503, TM504, TM560

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OREGON STANDARD DRAWINGS

ALIGNMENT LAYOUT: LEFT TURN LANE, CENTERLINE AND MEDIANS

2024

DATE	REVISION DESCRIPTION
07-2020	EXTENDED ACCOMPANIED BY DRAWINGS TO INCLUDE TM504
07-2025	REVISED CONTROL POINT SPACING, UPDATED CAD STANDARDS

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM561**

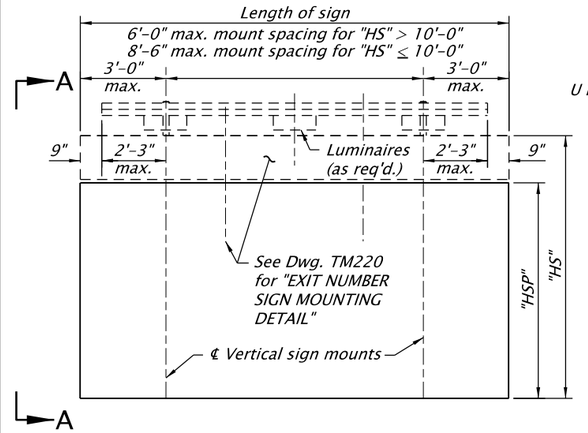
11-JUL-2025

TM561.dgn

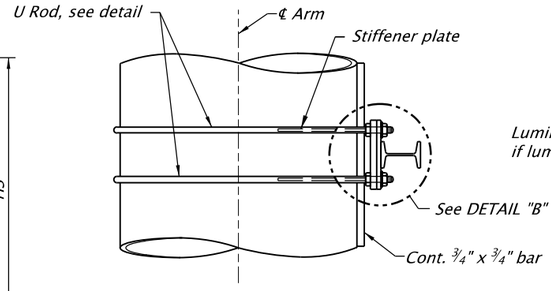
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

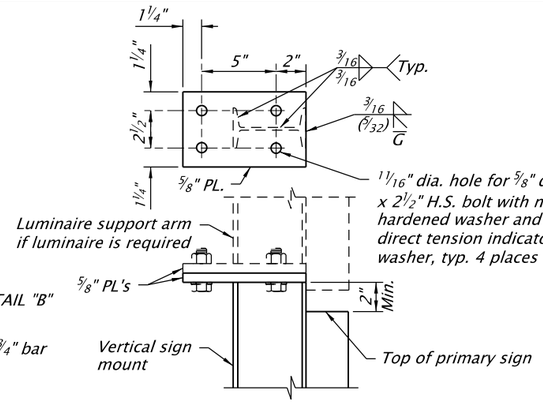
TM624.dgn



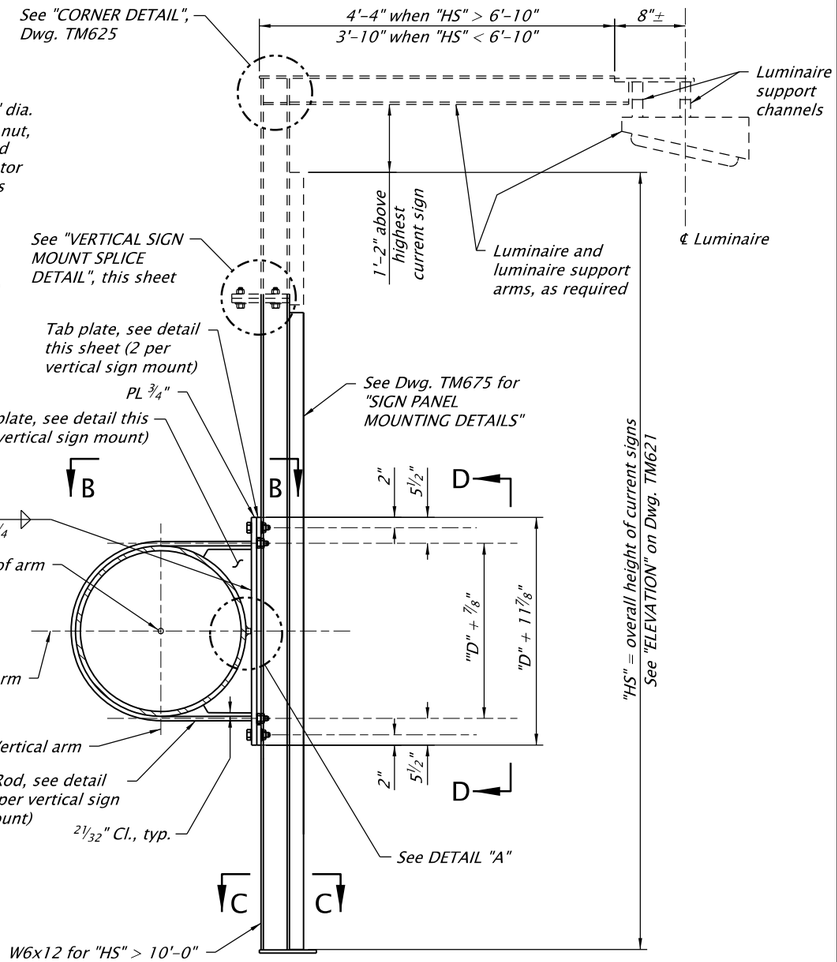
VERTICAL SIGN MOUNT – ELEVATION
No Scale



SECTION B–B
No Scale

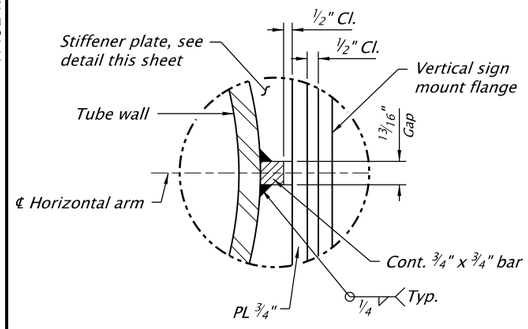


VERTICAL SIGN MOUNT SPLICE DETAIL
No Scale

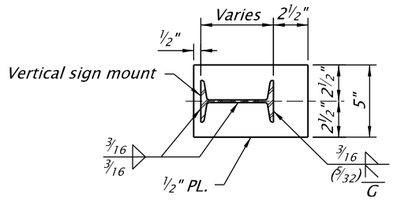


SECTION A–A
(Shown with Luminaire)
No Scale

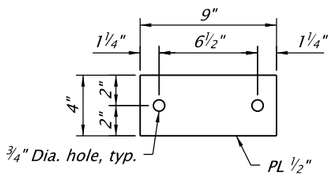
Note:
For VMS support arm details, see Dwg. TM690



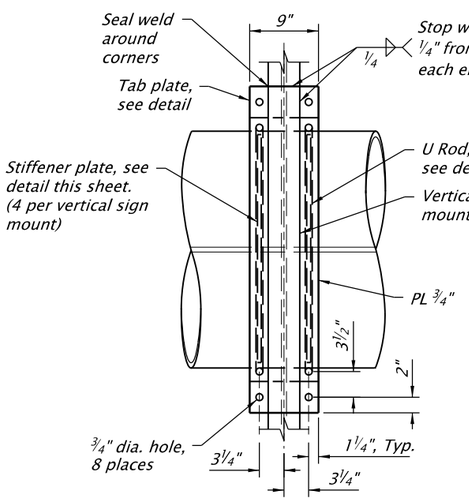
DETAIL "A"
No Scale



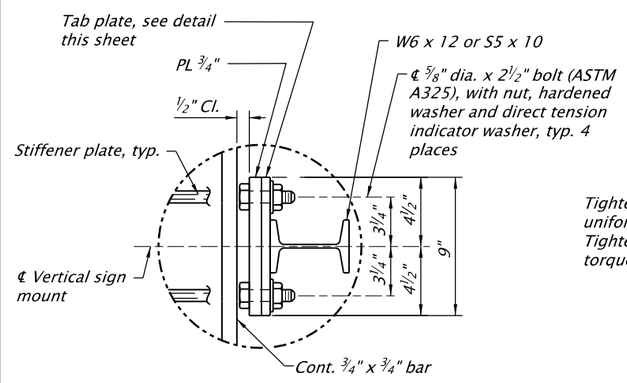
SECTION C–C
No Scale



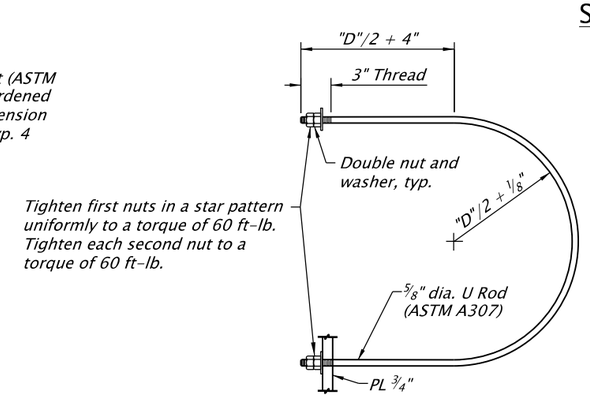
TAB PLATE
No Scale



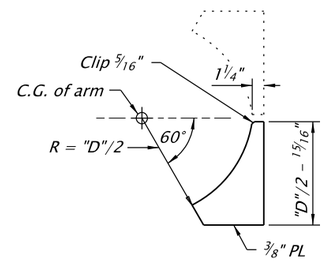
SECTION D–D
No Scale



DETAIL "B"
No Scale



U ROD
No Scale



STIFFENER PLATE
No Scale

Accompanied by dwgs. TM621, TM622, TM623, TM625, TM626, TM627, TM628

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OREGON STANDARD DRAWINGS

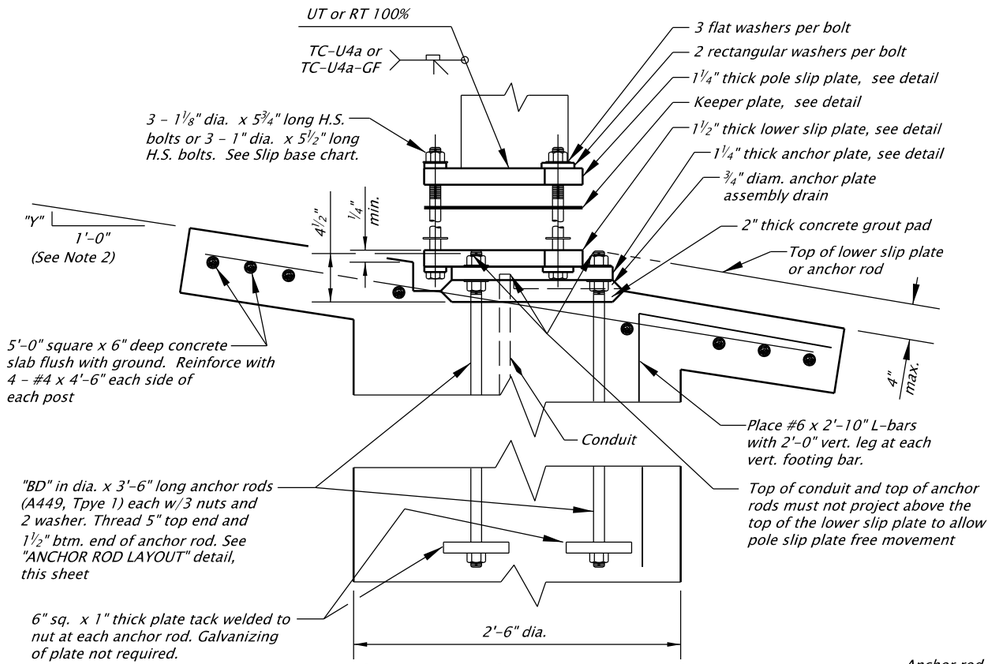
STD. MONOTUBE SIGN/VMS CANTILEVER MOUNTING DETAILS

2024

DATE	REVISION DESCRIPTION
07-2025	ADDED U ROD TIGHTENING PROCEDURE AND TORQUE WAS 100 FT-LB

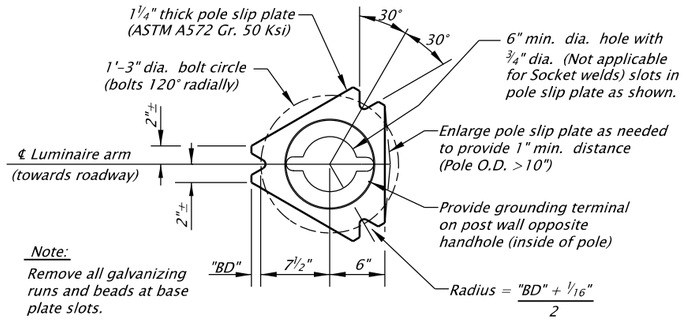
CALC. BOOK NO. 6921-6930, 6974 | SDR DATE 11-JUL-2025 | **TM624**

Effective Date: December 1, 2025 – May 31, 2026



SLIP BASE DETAILS

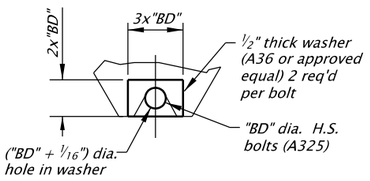
No Scale



Note:
Remove all galvanizing runs and beads at base plate slots.

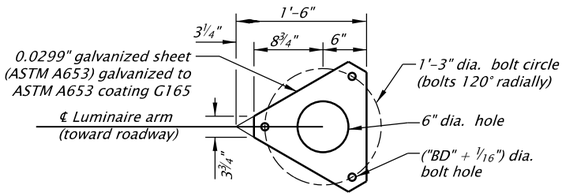
PLAN - POLE SLIP PLATE - SLIP BASE POLE

No Scale



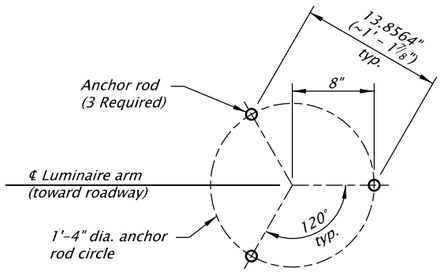
RECTANGULAR WASHER DETAIL

No Scale



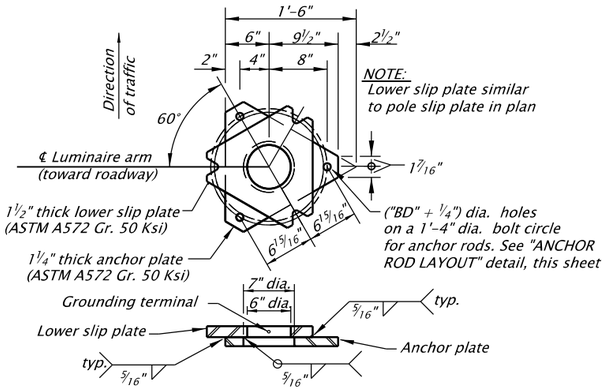
KEEPER PLATE - SLIP BASE POLE

No Scale



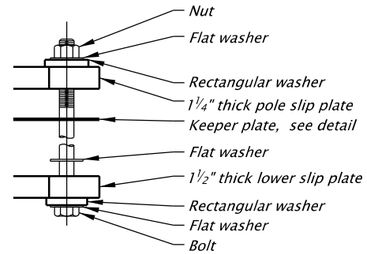
ANCHOR ROD LAYOUT

No Scale



ANCHOR PLATE ASSEMBLY - SLIP BASE POLE

No Scale



BOLT ASSEMBLY DETAIL

No Scale

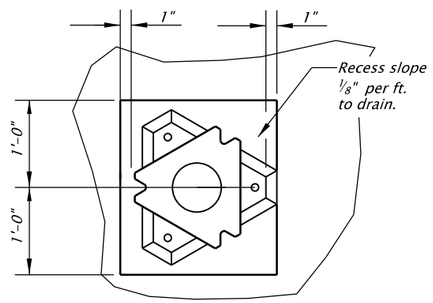
SLIP BASE CHART					
Bolt or Anchor rod "BD"	No. of Luminaire arms		Torque ft-lbs		Footing Depth
	1	2	"T_1"	"T_2"	
1"	"BL" ≤ 50'	"BL" ≤ 40'	700	90	8'-0"
1⅛"	"BL" > 50'	"BL" > 40'	850	100	8'-6"

Notes:
1. "BL" shall not exceed 55' for single luminaire arm poles. "BL" shall not exceed 45' for double luminaire arm poles. Top of rods must not project above top of lower slip plate.
2. The maximum slope rise "Y" is 2.50 inches per foot and a grade of 1V:4.80H.
3. The assumed cohesive soil minimum undrained shear strength, c, is 600 psf. The assumed non-cohesive soil friction angle is 25 degrees, the bulk weight is 100 pcf, and fully saturated.
4. Engineer of Record shall confirm site specific conditions satisfy the assumed soil parameters and satisfy the slope requirements. If conditions are not satisfied, Engineer of Record must adjust the shaft design as needed.

SLIP BASE BOLTING PROCEDURE (see 00962.46(j)(2)(b)

1. Erect pole on an anchor assembly using 3 flat washers and 2 rectangular washers per bolt along with the keeper plate. Place 1 flat washer and the keeper plate between the pole base plate and the anchor plate.
2. Adjust anchor rod leveling nuts as required to rake pole.
3. Tighten high strength bolts to "T_1" ft-lbs torque.
4. Loosen each bolt and retighten to "T_2" ft-lbs torque. DO NOT OVERTIGHTEN!
5. Burr bolt threads at junction with nut using a center punch.

NOTE:
Tightening of slip base bolts shall not be done without an inspector present.



ANCHOR PLATE RECESS - SLIP BASE POLE

No Scale

Accompanied by dwgs. TM629, TM631

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OREGON STANDARD DRAWINGS

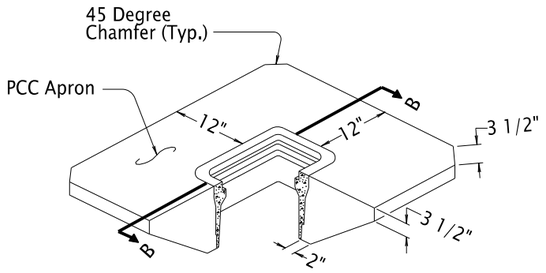
SLIP BASE LUMINAIRE SUPPORTS BASE PLATE & FOOTING DETAILS

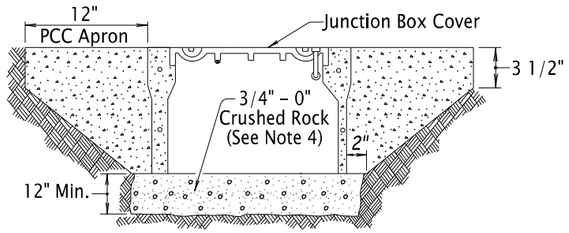
2024

DATE	REVISION DESCRIPTION
07-2021	UPDATED TO THE LRFD AND MOVED FIXED BASE DETAILS TO TM631
01-2024	CONDUIT AND ANCHOR ROD SLIP PLATE CLEARANCE CLARIFIED
07-2024	ADDED GROUT PAD DRAIN HOLE
07-2025	ADDED ANCHOR ROD LAYOUT AND GALV. NOTE ON ANCHOR ROD PLATES

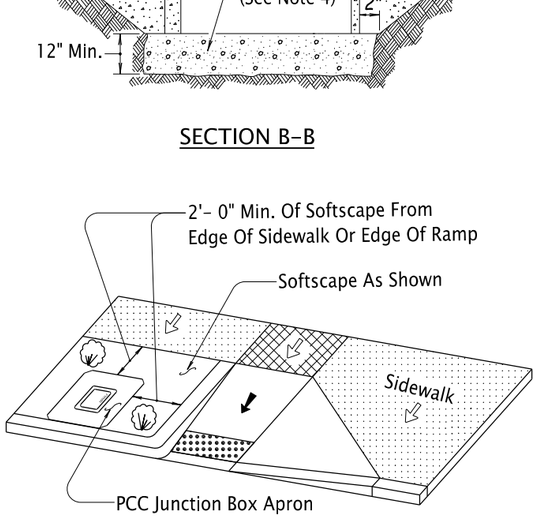
CALC. BOOK NO. 7481 | SDR DATE 11-JUL-2025 | **TM630**

Effective Date: December 1, 2025 - May 31, 2026



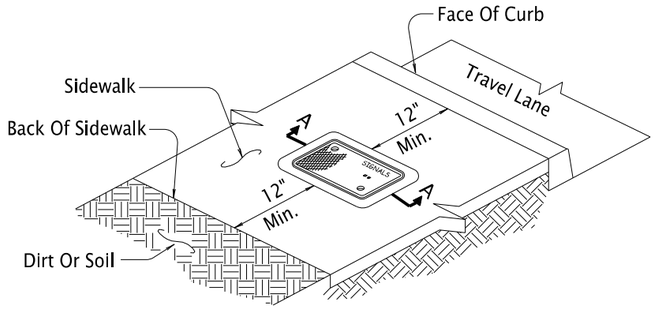


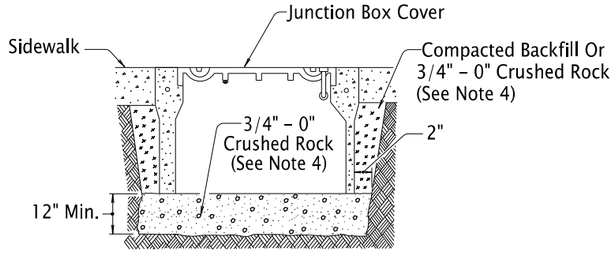
SECTION B–B



JUNCTION BOX INSTALLATION IN UNSURFACED AREA

(This Detail Only Applicable for Junction Boxes Located In Incidental Travel Areas; Gravel Shoulders, Behind Guardrail, Etc. Do Not Install In Travel Lanes, Paved Shoulders, Or Other Areas Exposed To Traffic.)

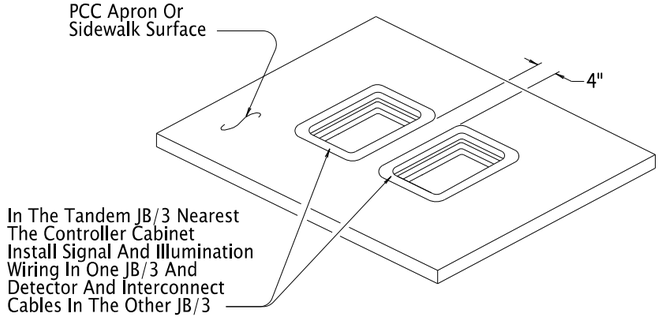




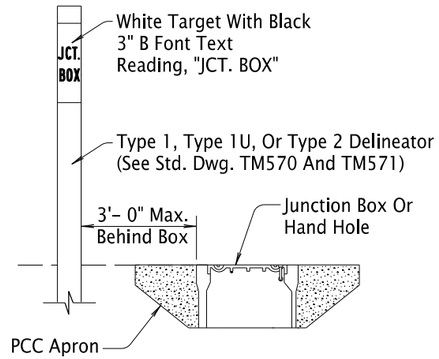
SECTION A–A

JUNCTION BOX INSTALLATION IN PCC SIDEWALK

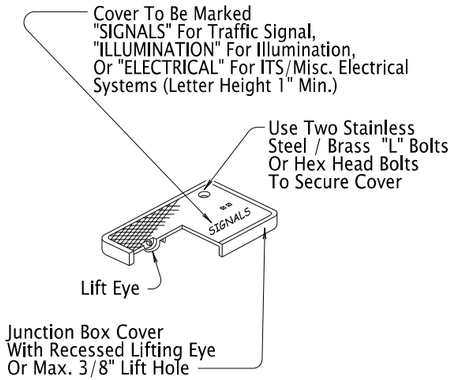
(This Detail Only Applicable for Junction Boxes Located In Flat Areas Of Sidewalks. Do Not Install In Slopes Of Ramps Or Driveways)



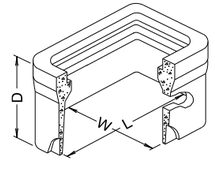
TANDEM JB/3A JUNCTION BOX DETAILS



DELINEATION OF JUNCTION BOX & HAND HOLE IN UNSURFACED AREA



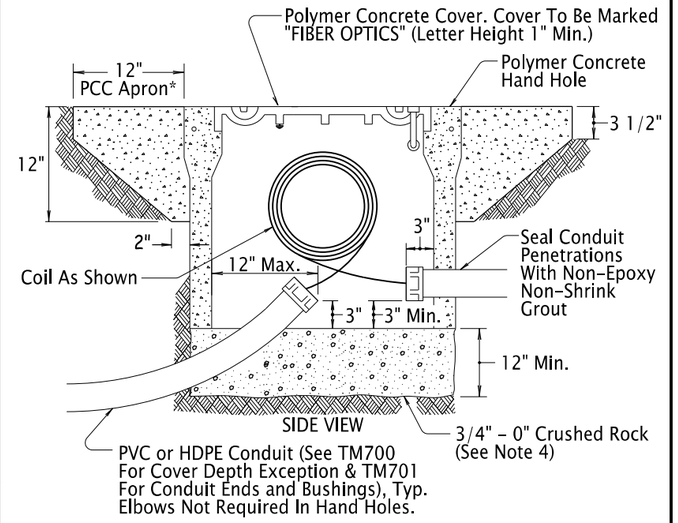
JUNCTION BOX COVER DETAILS

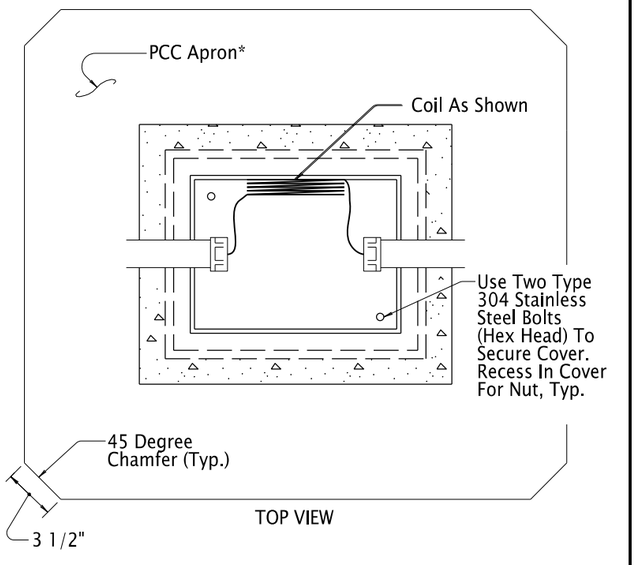


Type*	L	W	D
JB1	17"	10"	12"
JB2	22"	12"	12"
JB3	30"	17"	12"
HH–1	24"	30"	24"
HH–2	30"	48"	24"
HH–3	30"	48"	36"

*Junction Box Or Handhole Type As Shown On Plans

DIMENSION TABLE





*Install PCC Apron When Hand Holes Are Located In Driveable Surface Or As Shown

FIBER OPTIC CABLE HAND HOLE INSTALLATION

GENERAL NOTES:

1. Install Top of Junction Box And Hand Hole Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb. For Hand Holes Installed In The Roadway Or Shoulder, Leave The Top Of The Hand Hole 1/2" Below The Pavement Surface.
2. Install Junction Boxes And Hand Holes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart For Junction Boxes And No More Than 1000 Feet Apart For Hand Holes.
3. More Junction Boxes And Hand Holes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor
4. Use Materials According To 00640.10 and 00640.16. Use Compaction Equipment Suitable For Area And Compact Each Six Inch Layer With Sufficient Coverage To Produce A Firm Unyielding Surface. Do Not Install Conductors Until Surface Has Been Constructed.

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OREGON STANDARD DRAWINGS

GENERAL JUNCTION BOX/HAND HOLE INSTALLATION

2024

DATE	REVISION DESCRIPTION
01–2025	NEW DRAWING (CONTENT FROM RETIRED TM472)
07–2025	REVISED FIBER OPTIC CABLE HAND HOLE INSTALLATION DETAIL

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM702**

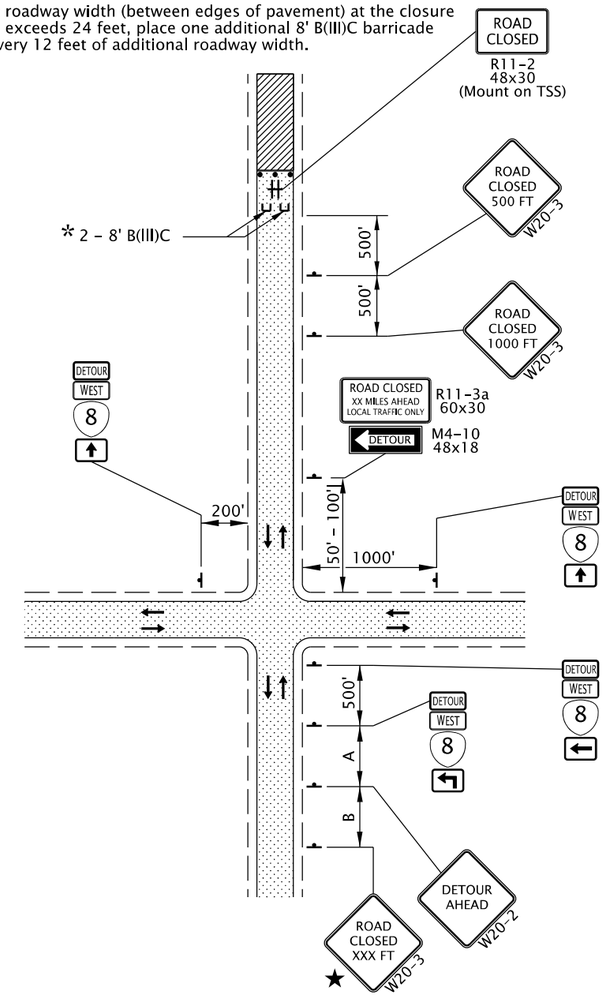
Effective Date: December 1, 2025 – May 31, 2026

11-JUL-2025

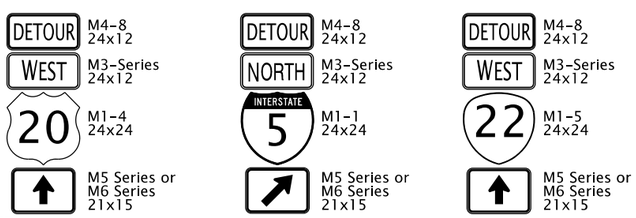
TM702.dgn

NOTES:
If closure point is less than 1500 ft. from nearest intersection, use a "ROAD CLOSED TO THRU TRAFFIC" (R11-4)sign in place of the "ROAD CLOSED XX MILES AHEAD" sign.

✲ If the roadway width (between edges of pavement) at the closure point exceeds 24 feet, place one additional 8' B(III)C barricade for every 12 feet of additional roadway width.

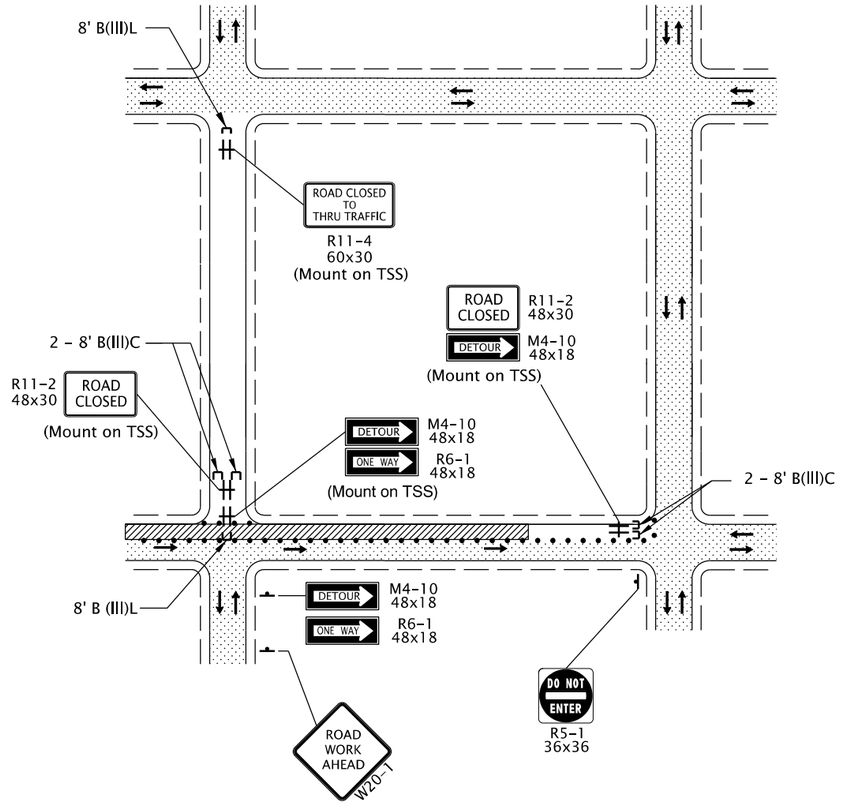


TYPICAL ROAD CLOSURE WITH DETOUR



NOTE:
- When detour routes overlap, each Route Shield will include a separate cardinal direction, detour, and directional arrow auxiliary sign assembly.

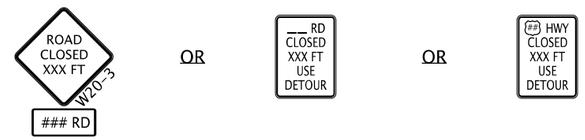
TYPICAL TRAILBLAZER ASSEMBLY



TYPICAL PARTIAL ROAD CLOSURE

GENERAL NOTES FOR ALL DETAILS:

★ A "Street Name" rider may be used to enhance Road Closure signing; or provide a project specific design; or, as shown in the traffic control plan.



##x18 Rider
Rider width to be determined by width of street name.

48 x 60 (nom.)
Project Specific Design

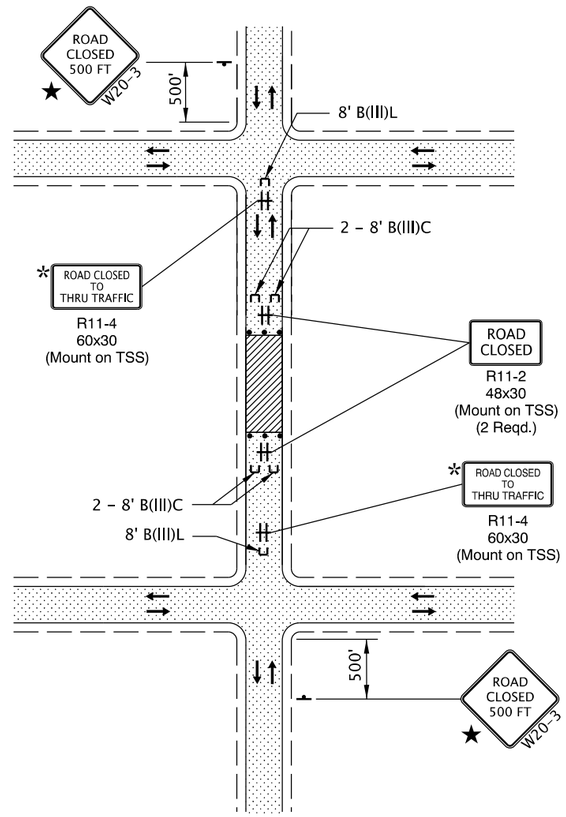
48 x 60 (nom.)
Project Specific Design

- Use a minimum of two Type III barricades for a road closure. For roads ≥ 36' wide between curbs or edge of pavement, use a minimum of three Type III barricades for the closure point.
- For full road closures, the C or LR barricade may be used.
- Place additional signing as directed.
- To determine sign spacing A, B, & C, use the "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- To be accompanied by Dwg. Nos.TM820 & TM821.

• • • • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION



NOTE:
✲ If accesses exist between intersection and point of closure, install "ROAD CLOSED TO THRU TRAFFIC" sign as shown.

TYPICAL ROAD CLOSURE

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OREGON STANDARD DRAWINGS

CLOSURE DETAILS

2024

DATE	REVISION DESCRIPTION
MM-YYYY	REVISION
07-2025	Revised a miss spelling.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM840**

11-JUL-2025

TM840.dgn

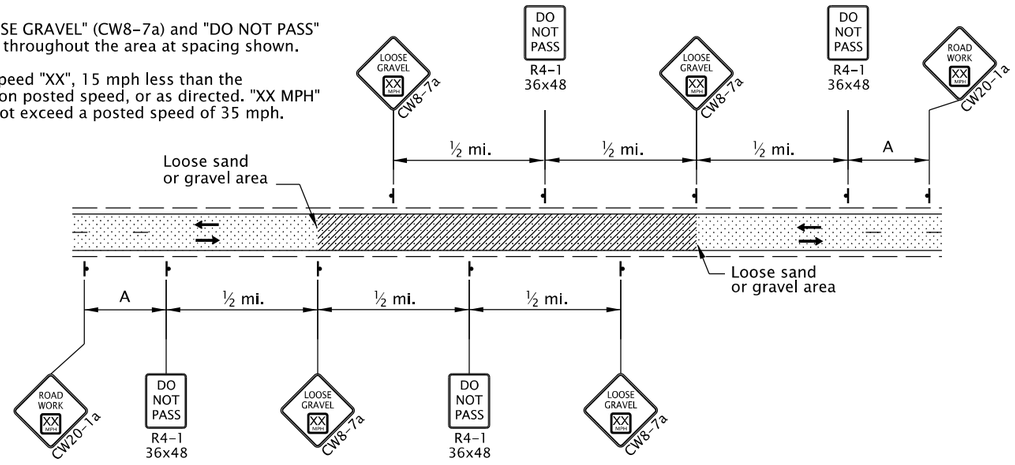
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

TM850.dgn

NOTE:

- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
- Use advisory speed "XX", 15 mph less than the pre-construction posted speed, or as directed. "XX MPH" placard shall not exceed a posted speed of 35 mph.

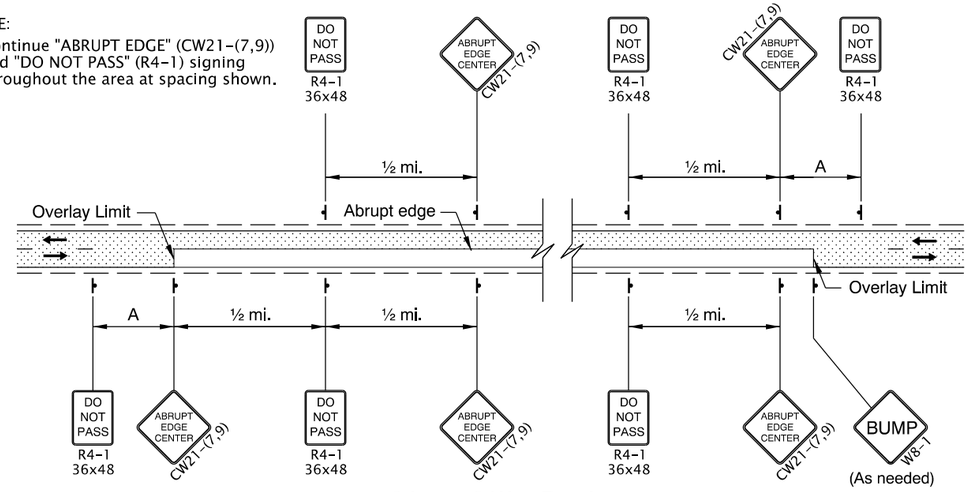


2-Lane, 2-Way Roadway

LOOSE GRAVEL IN ROADWAY SIGNING

NOTE:

- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.

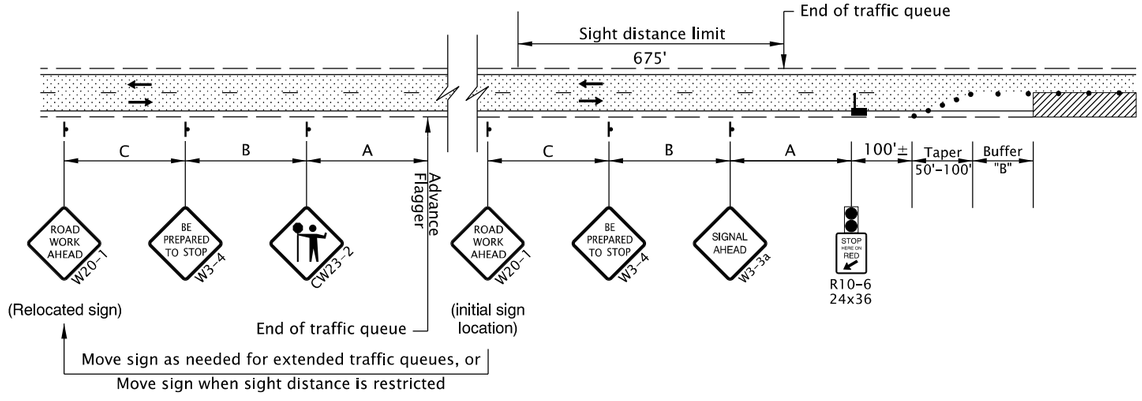


2-Lane, 2-Way Roadway

OVERLAY AREA SIGNING

NOTES:

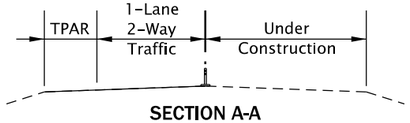
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



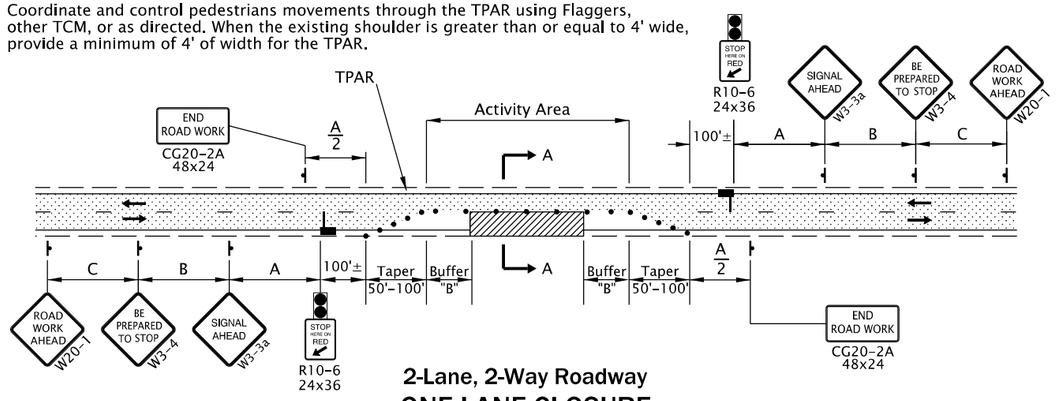
ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger Station.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



SECTION A-A



2-Lane, 2-Way Roadway

ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

- The "SIGNAL AHEAD" (W3-3a) sign may be substituted with the Signal Ahead (W3-3) symbol sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820, TM821 & TM854.

Automated Flagging Assistance Device (AFAD)

• • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

• • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

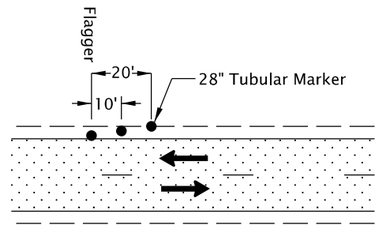
UNDER TRAFFIC

UNDER CONSTRUCTION

CONSTRUCTION UNDER TRAFFIC

NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

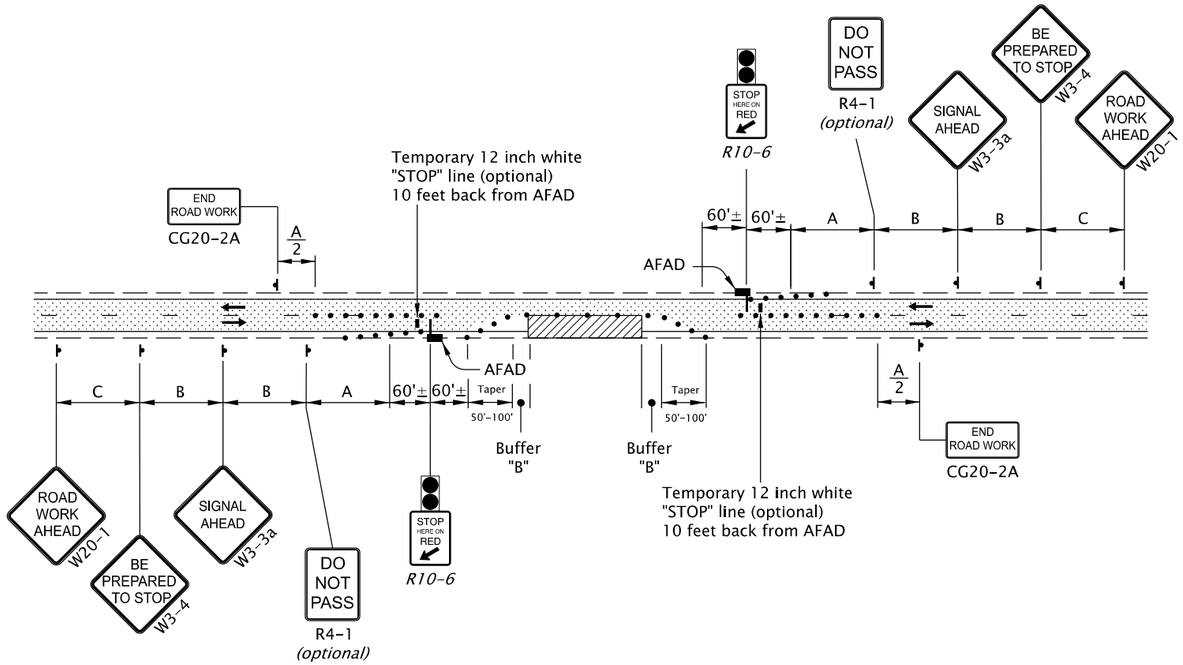
DATE	REVISION DESCRIPTION
01-2022	Added AFADs to drawing.
07-2025	Clarified location of "WAIT FOR FLAGGER" sign.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM850**

Effective Date: December 1, 2025 - May 31, 2026

NOTES:

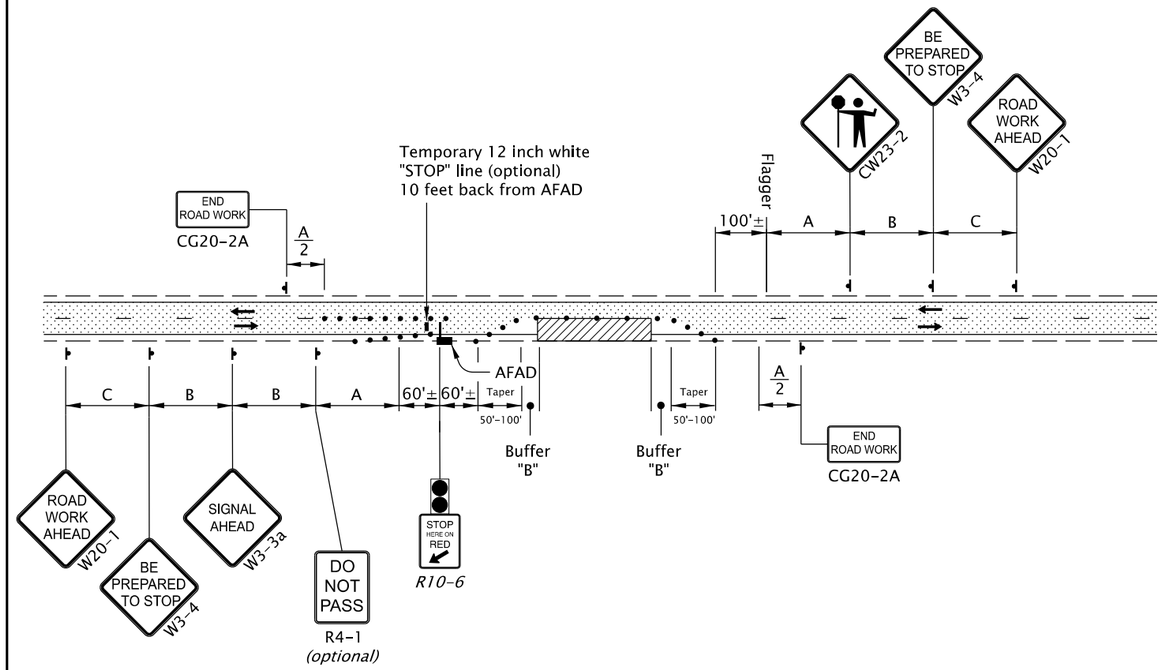
- An AFAD operator shall be provided for each AFAD. A single operator may not simultaneously operate two AFADs.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, TWO AFADs

NOTES:

- The AFAD operator shall not flag traffic and operate an AFAD at the same time.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, ONE AFAD & ONE FLAGGER

GENERAL NOTES FOR ALL DETAILS:

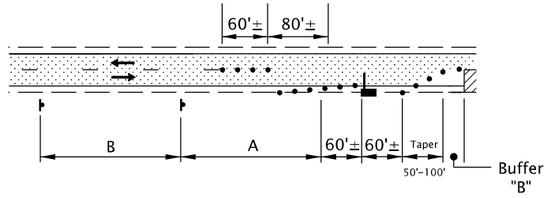
- Flagger station shall be delineated according to "FLAGGER STATION" detail shown on Standard Drawing TM800
- Bottom of lens housing shall be a minimum of 7 ft. above surface when mounted on shoulder and at least 17 ft. above any portion of the travel lane.
- The gate arm shall cover at least one half of the approaching vehicle travel lane.
- Signing and other TCD installed in conjunction with the work area, shall move with the work area.
- Use 1/3 "L" taper for shoulder closure, where necessary.
- For Taper Length ("L") and Buffer Length ("B") shown on this sheet, use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- The AFAD operator shall be a certified flagger who has been trained in the operation of the AFAD in use.
- Operator shall operate AFAD from a designated area. Designated area should maintain visual presence of the AFAD and should be at least 50' away from the AFAD and have an escape route available for the operator.
- See "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800 for sign spacing A, B, and C.
- Remove existing striping and install temporary striping as required.
- Cover existing passing lane signing (as directed)
- When extended traffic queues develop during AFAD operations, protect traffic by providing advance flaggers(s) and signing according to the "Extended Traffic Queues Detail" shown on Standard Drawing TM850.
- When AFAD is not in use for less than one work shift, turn off AFAD, or switch YELLOW lens to flashing mode, and cover or remove all accompanying signing.
- When AFAD is not in use for longer than one work shift, remove AFAD and all accompanying signing from the roadway.
- Do not use the AFAD to control more than one lane of approaching traffic.
- Use temporary pavement markings or a white portable rumble strip for temporary stop line. Remove temporary stop line when AFAD is no longer in use.
- Tubular markers along centerline placed in advance of AFAD to first sign are optional, unless the DO NOT PASS sign is used.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger Station.
- Coordinate and control pedestrians movements through the TPAR using flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.

Automated Flagger Assistance Device (AFAD)

• • • • • 28" Tubular Markers
See TCD spacing table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION



OVER-DIMENSIONAL VEHICLE ACCOMMODATION DETAIL

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

DATE	REVISION DESCRIPTION
MM-YYYY	REVISION
07-2023	Minor drafting revision.
07-2025	Added notes for TPAR.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM854**

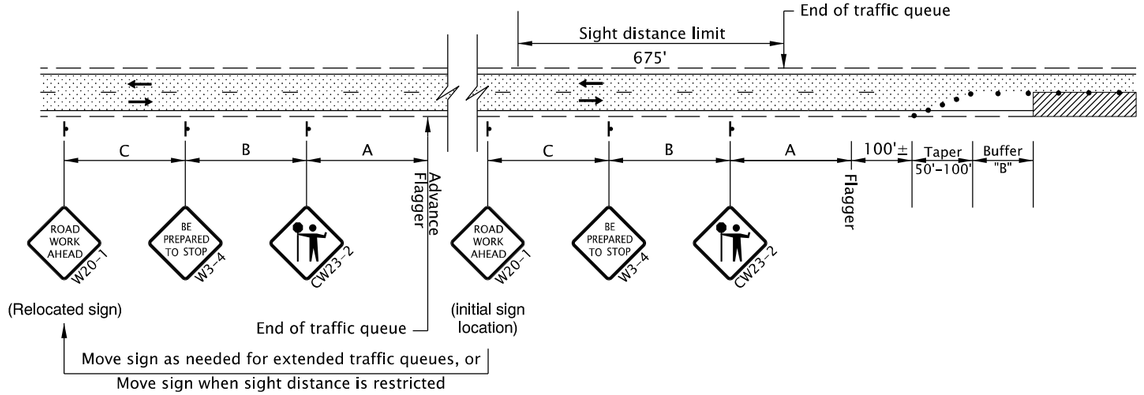
Effective Date: December 1, 2025 - May 31, 2026

11-JUL-2025

TM854.dgn

NOTES:

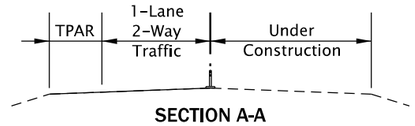
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



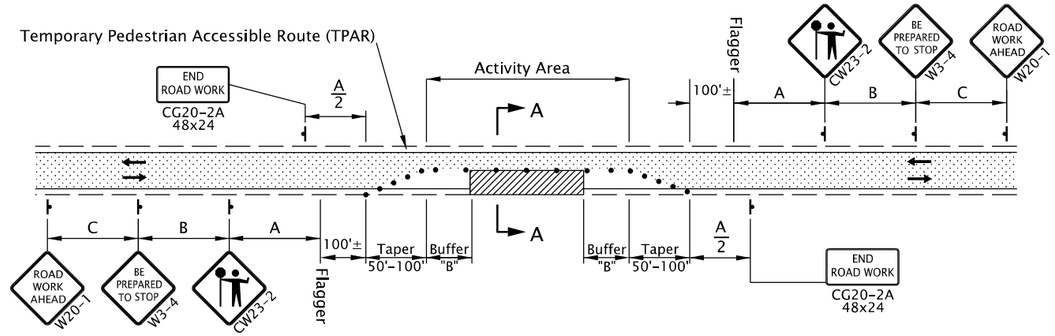
ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger Station.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



SECTION A-A



2-Lane, 2-Way Roadway
ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

- This drawing is only intended to be used where an Automated Flagger Assistance Device (AFAD) cannot be utilized.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820 & TM821.

••••••••• 28" Tubular Markers on 10'max. spacing arround intersection radii.

• • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

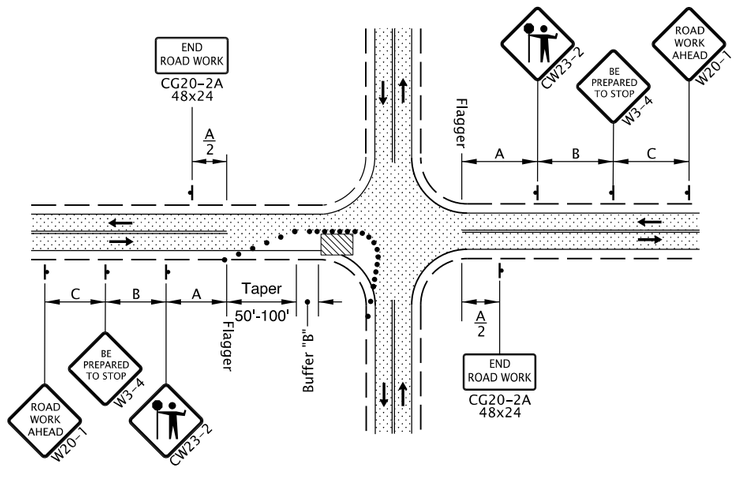
• • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC

UNDER CONSTRUCTION

NOTE:

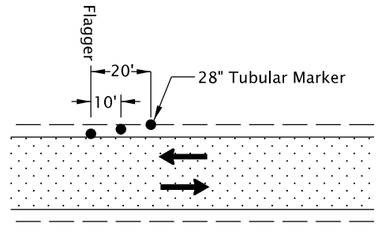
- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, INTERSECTION

NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

DATE	REVISION DESCRIPTION
MM-YYYY	REVISION
07-2025	Clarified location of "WAIT FOR FLAGGER" sign.

CALC. BOOK NO. N/A | SDR DATE 11-JUL-2025 | **TM855**

11-JUL-2025

TM855.dgn

Effective Date: December 1, 2025 - May 31, 2026