Pavement

PV

SECTION

PV

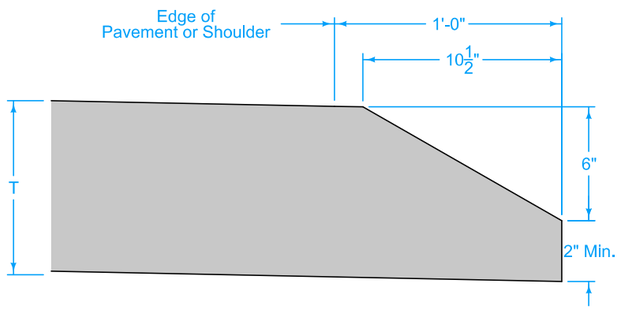
Pavement

NO.	DATE	TITLE
		General
PV-3	10-15-24	Safety Edge
PV-10	04-21-20	Rumble Strip Panel for Intersection Approach
PV-12	04-16-24	Milled Shoulder Rumble Strips
PV-13	04-16-24	Milled Centerline Rumble Strips
PV-20	10-21-14	Raised Islands
		PCC
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
PV-103	04-19-22	Manhole Boxouts in PCC Pavement
PV-104	04-21-20	Ramped Median Nose
PV-105	10-21-14	PCC Pavement Widening
PV-106	10-17-17	PCC Railroad Approach Section
PV-121	04-21-15	Jointing PCC Pavement Widening
		HMA
PV-201	04-19-22	Manhole Boxouts in HMA Pavement and HMA Overlays
PV-202	04-21-20	Hot Mix Asphalt Resurfacing
PV-203	04-21-20	HMA Base Widening
PV-204	10-17-17	HMA Railroad Approach Section
		Superelevation
PV-301	04-21-20	Superelevation Details Two Lane Roadway
PV-302	04-16-24	Superelevation Details Four Lane Roadway Depressed Median
PV-303	04-21-20	Superelevation Details Ramps
PV-304	04-19-22	Superelevation Details Six Lane Roadway Depressed Median
PV-305	04-19-22	Superelevation Details Six Lane Roadway Closed Median
PV-306	04-19-22	Superelevation Details Eight Lane Roadway Closed Median
PV-307	04-19-22	Superelevation Details Eight Lane Roadway Depressed Median

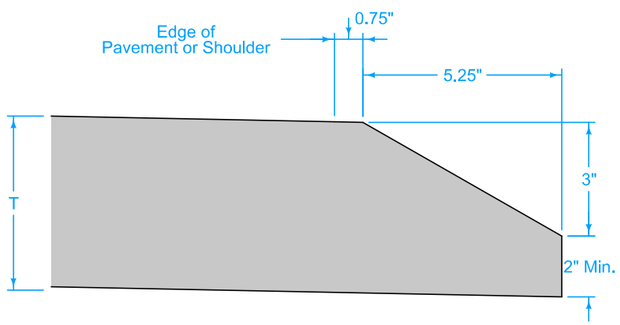
Pavement

NO.	DATE	TITLE
		Ramp Tapers
PV-410	04-21-20	Deceleration Taper for 16' Exit Ramp
PV-411	04-21-20	Acceleration Taper for 16' Entrance Ramp
PV-412	04-21-20	Deceleration Taper for 18' Exit Loop
PV-414	04-21-20	Acceleration Taper for 18' Entrance Loop
		Detours and Median Crossovers
PV-418	10-21-14	One- Lane Detour Connection
PV-428	10-21-14	Two-Lane Detour Connection
PV-500	04-21-15	Median Crossover (50' Median)
PV-501	04-21-20	Median Crossover (50' Median) 16' Wide 1 Lane
PV-502	04-21-20	Median Crossover (50' Median) 28' Wide 2 Lane
PV-503	04-21-15	Median Crossover (64' Median)
PV-504	04-21-20	Median Crossover (64' Median) 16' Wide 1 Lane
PV-505	04-21-20	Median Crossover (64' Median) 28' Wide 2 Lane
PV-506	04-21-15	Median Crossover (68.24' Median)
PV-507	04-21-20	Median Crossover (68.24' Median) 16' Wide 1 Lane
PV-508	04-21-20	Median Crossover (68.24' Median) 28' Wide 2 Lane
PV-509	04-21-15	Median Crossover (82' Median)
PV-510	04-21-20	Median Crossover (82' Median) 16' Wide 1 Lane
PV-511	04-21-20	Median Crossover (82' Median) 28' Wide 2 Lane
PV-512	04-21-15	Median Crossover (100' Median)
PV-513	04-21-20	Median Crossover (100' Median) 16' Wide 1 Lane
PV-514	04-21-20	Median Crossover (100' Median) 28' Wide 2 Lane

DESIGNER INFORMATION

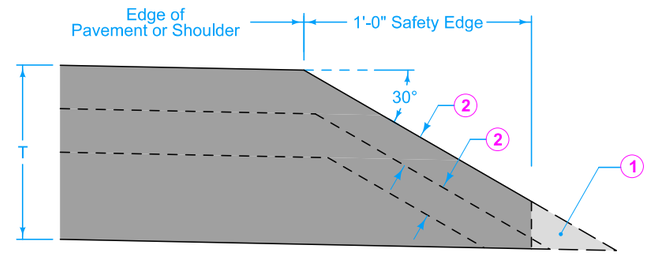


T ≥ 8"

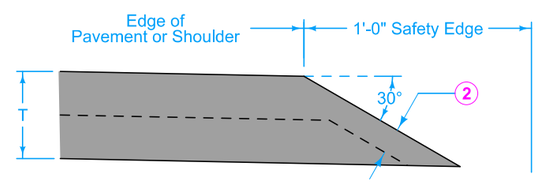


5"≤ T < 8"

PCC



T ≥ 8"



T < 8"

HMA

Quantities for Safety Edge are included in the estimated quantity of the pavement or shoulder. For HMA quantities calculated by area, the Safety Edge is measured as one foot of width regardless of thickness.

See paving typicals for placement within roadway.

The number of HMA lifts shown are for illustration purposes only.

1. Material in excess of 1' width is contractor's option.
2. Coverage thickness to exceed nominal maximum aggregate size.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	10-15-24

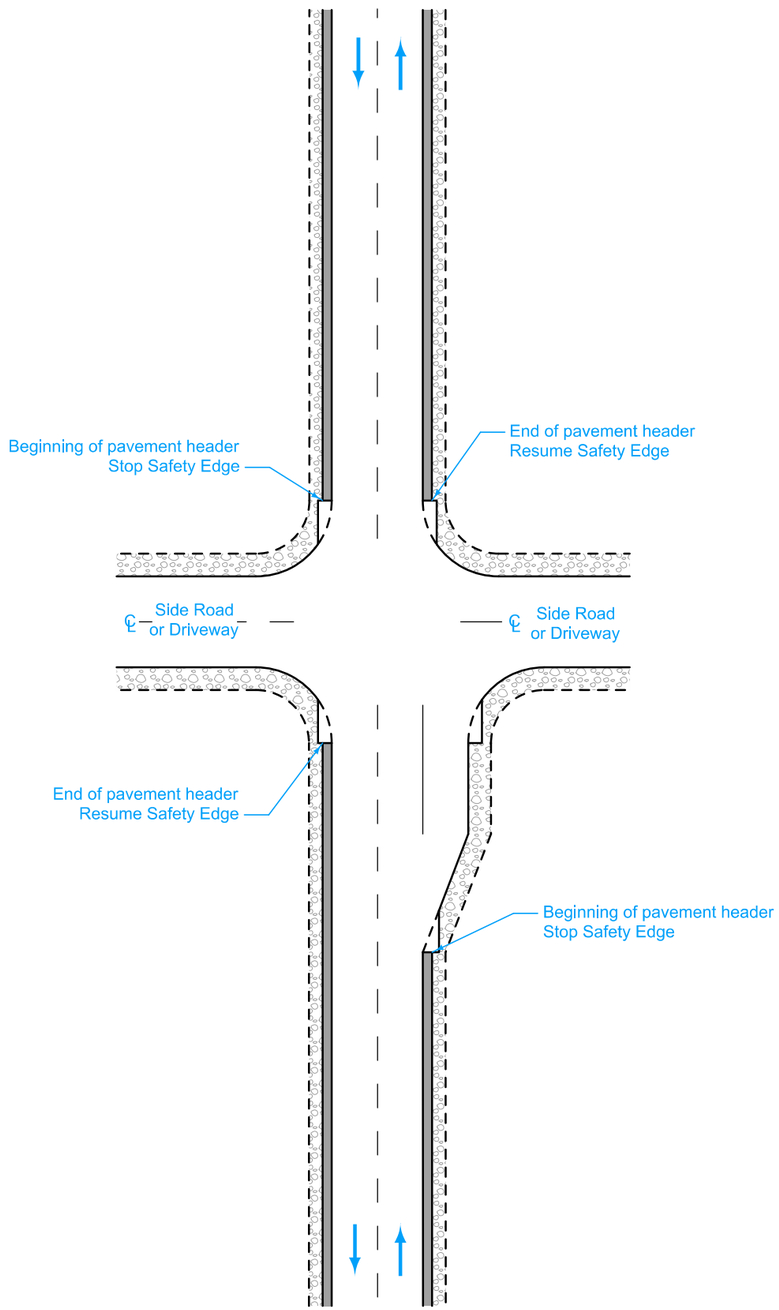
PV-3

SHEET 1 of 2

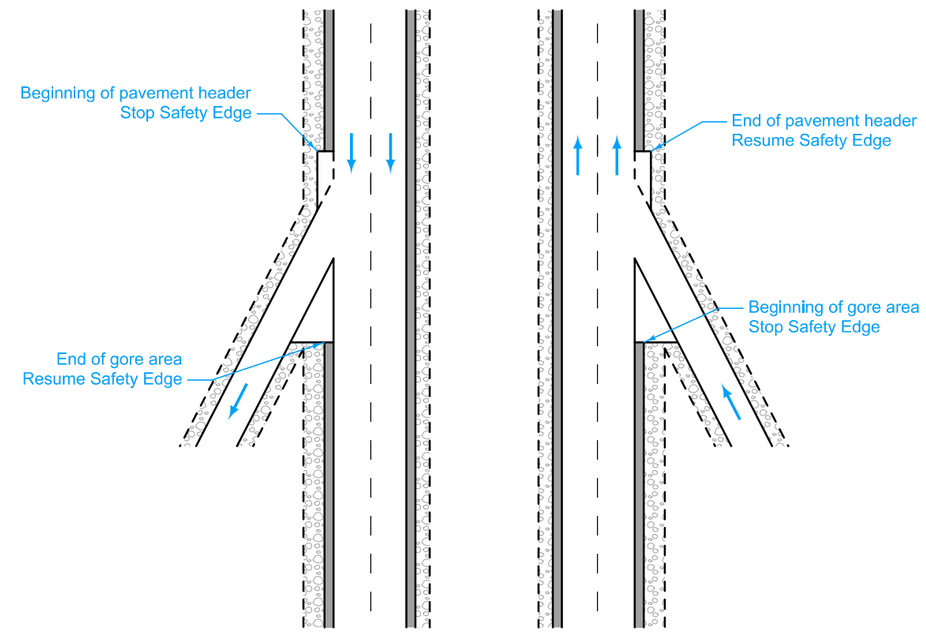
REVISIONS: Added detail for PCC between 5 inches and 8 inches.

APPROVED BY DESIGN METHODS ENGINEER

SAFETY EDGE



AUXILIARY LANES AND INTERSECTIONS



RAMPS AND LOOPS

IOWA | DOT

STANDARD ROAD PLAN

REVISION	
3	10-15-24

PV-3

SHEET 2 of 2

REVISIONS: Added detail for PCC between 5 inches and 8 inches.

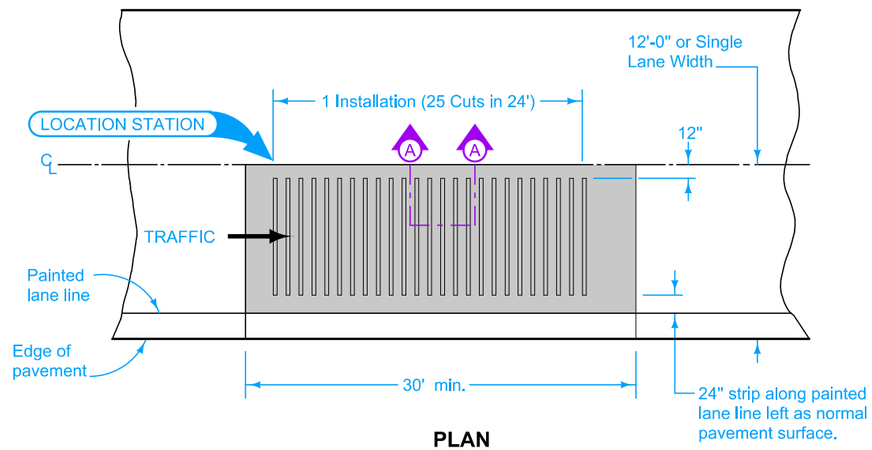
APPROVED BY DESIGN METHODS ENGINEER

SAFETY EDGE

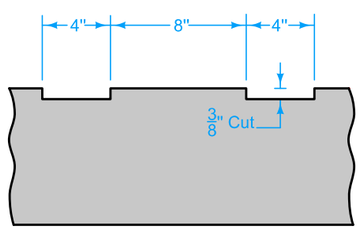
DESIGNER INFORMATION

Construct rumble strip panel prior to opening to traffic.

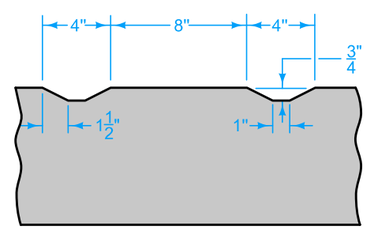
Refer to the contract documents for pavement patching and jointing information.



PLAN



SECTION A-A
(RUMBLE STRIP CUT IN PAVEMENT)



SECTION A-A
(RUMBLE STRIP PLACED IN PLASTIC P.C. CONCRETE)

Possible Contract Items:
- CD Joint Assembly
- CT Joint
- Patches, Full-Depth Finish, by Area
- Patches, Full-Depth Finish, by Count
- Rumble Strip Panel (In Full Depth Patch)
- Rumble Strip Panel (PCC Surface)
- Rumble Strip Panel (HMA Surface)

Possible Tabulations:
- 102-6C
- 112-7

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	04-21-20

PV-10

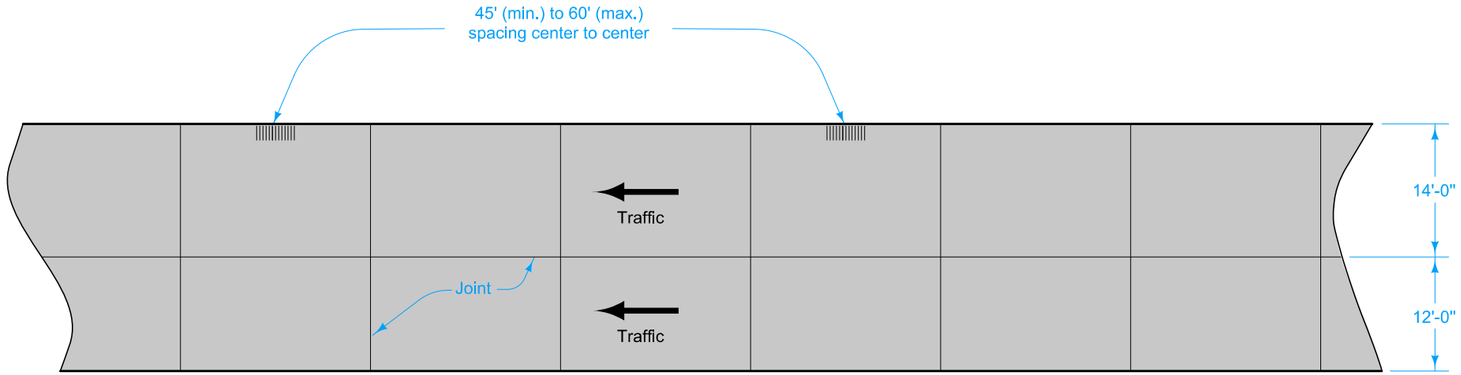
SHEET 1 of 1

REVISIONS: Changed 18" strip of normal pavement surface to 24".

APPROVED BY DESIGN METHODS ENGINEER

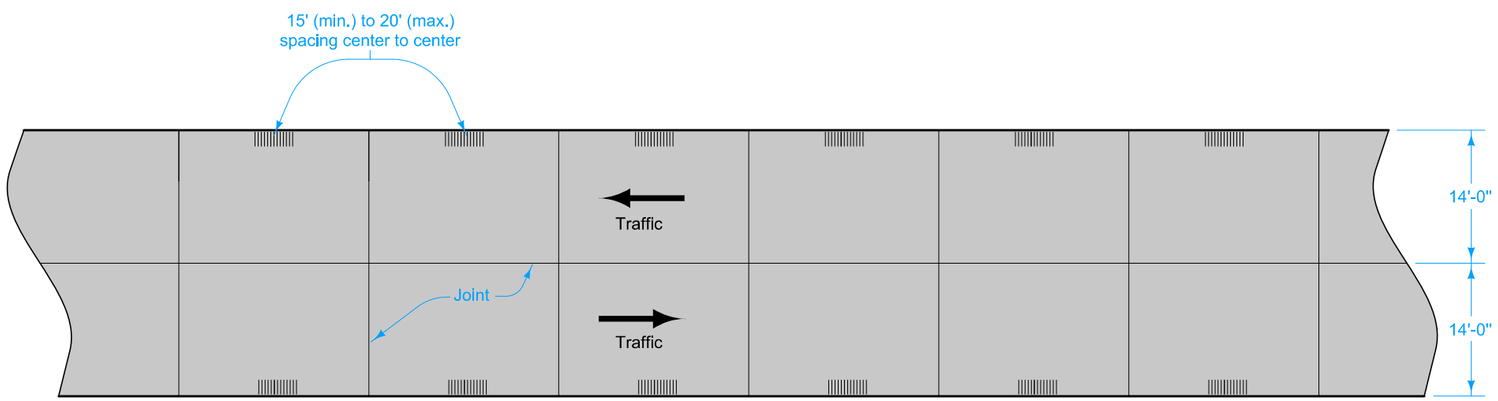
RUMBLE STRIP PANEL FOR INTERSECTION APPROACH

DESIGNER INFORMATION



PLAN

(4-Lane Divided Roadway)



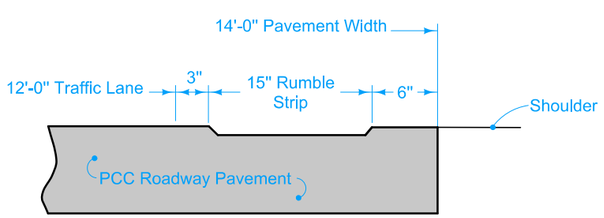
PLAN

(2-Lane Roadway)

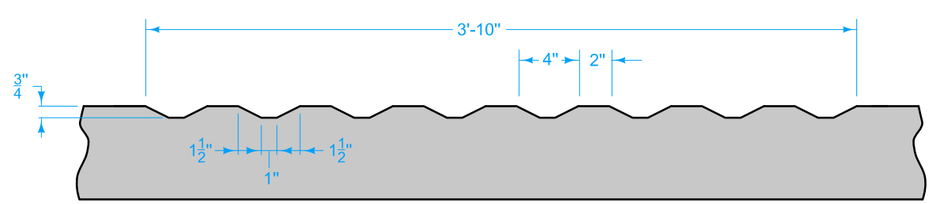
Do not place structural rumble strips areas where
- a lane's paved width is less than 14 feet
- milled shoulder rumble strips will be placed

Placement of structural rumble strips will be incidental to "Standard or Slip Form Portland Cement Concrete Pavement".

STRUCTURAL RUMBLE STRIP



SECTION THROUGH PAVEMENT EDGE



PROFILE

Possible Contract Item:
Standard or Slip Form Portland Cement Concrete Pavement

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	10-17-17

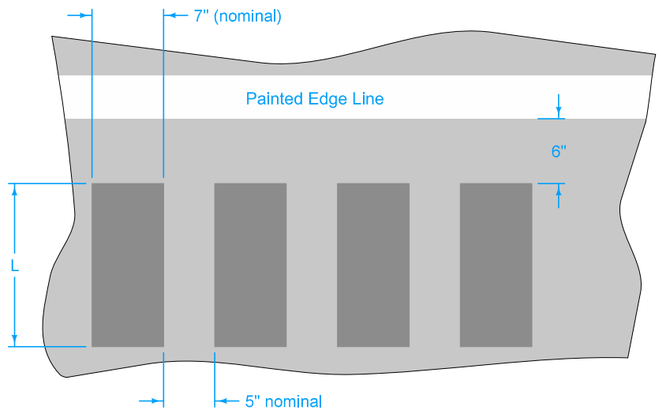
PV-11

SHEET 1 of 1

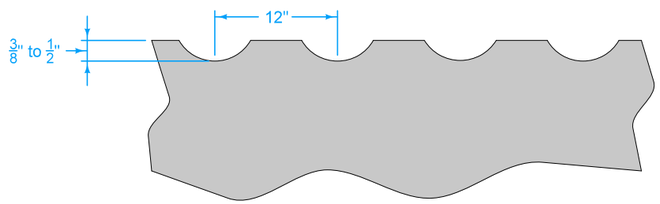
REVISIONS: Added Designer Info button and updated DOT logo.

APPROVED BY DESIGN METHODS ENGINEER

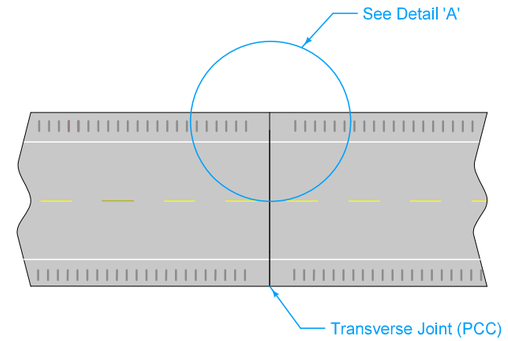
STRUCTURAL RUMBLE STRIPS

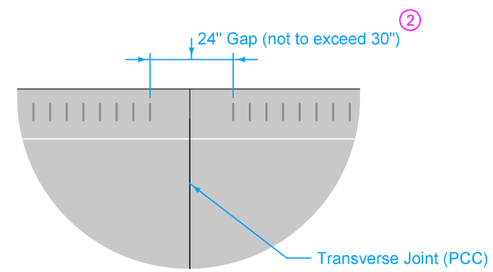


PLAN



SECTION

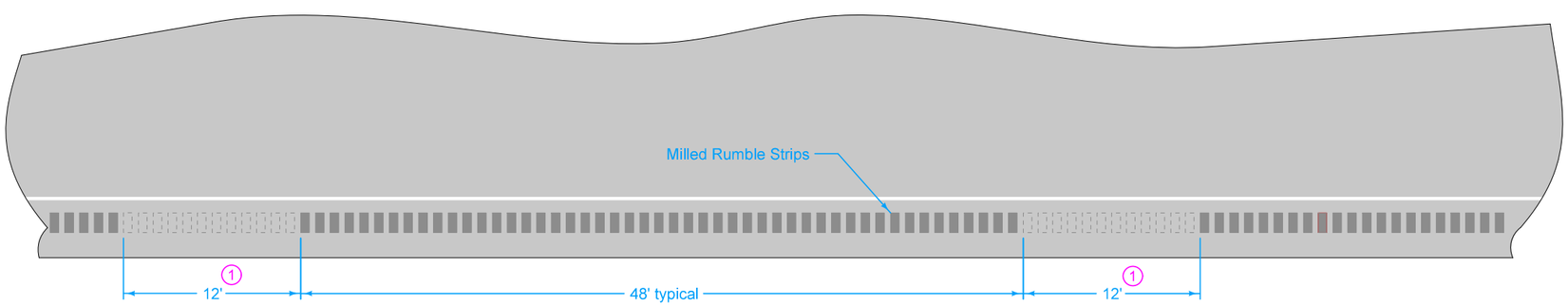




Detail 'A'

MILLED RUMBLE STRIP

1. Place continuous Milled Rumble Strips (no 12 foot gaps) on all median side shoulders and on all interstate shoulders.
2. Gap rumble strips at transverse joints. Centering the gap about the joint is desireable. Maintain a minimum of 3 inches between rumble and transverse joint.



GAP DETAILS

Possible Contract Items:
- Asphalt Emulsion for Fog Seal (Shoulder Rumble Strips)
- Milled Shoulder Rumble Strips, HMA Surface
- Milled Shoulder Rumble Strips, PCC Surface

Possible Tabulation:
112-10

IOWA DOT

STANDARD ROAD PLAN

REVISION	
8	4-16-24

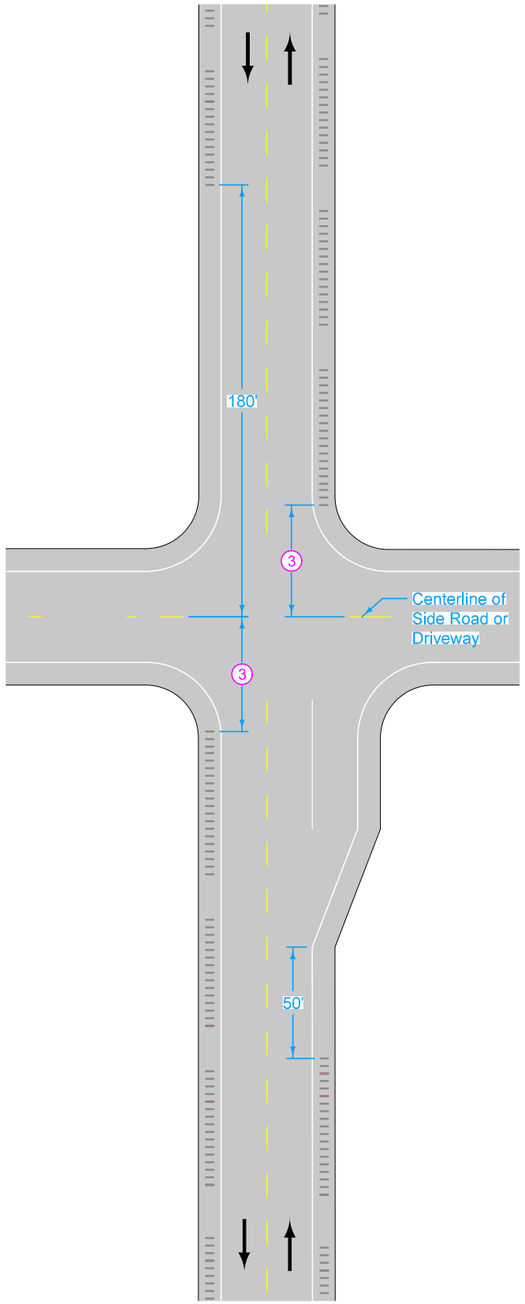
PV-12

SHEET 1 of 3

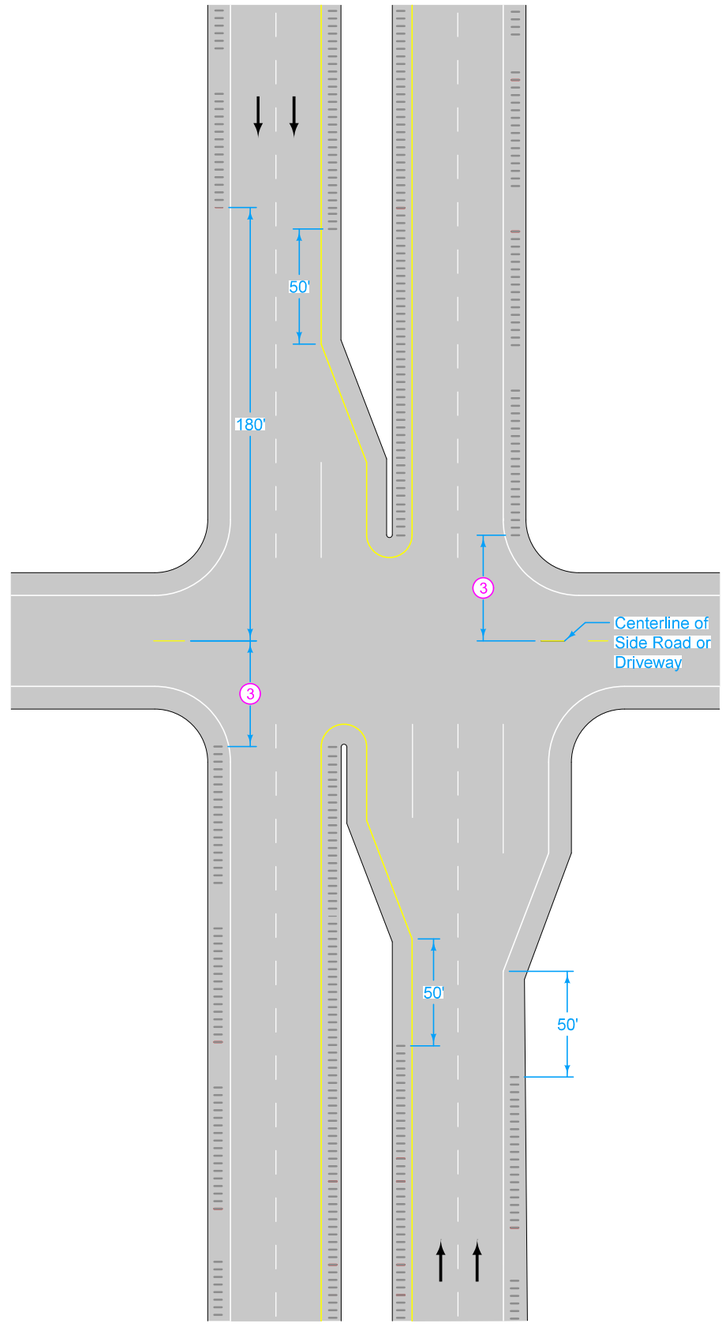
REVISIONS: Added passing lane detail.

APPROVED BY DESIGN METHODS ENGINEER

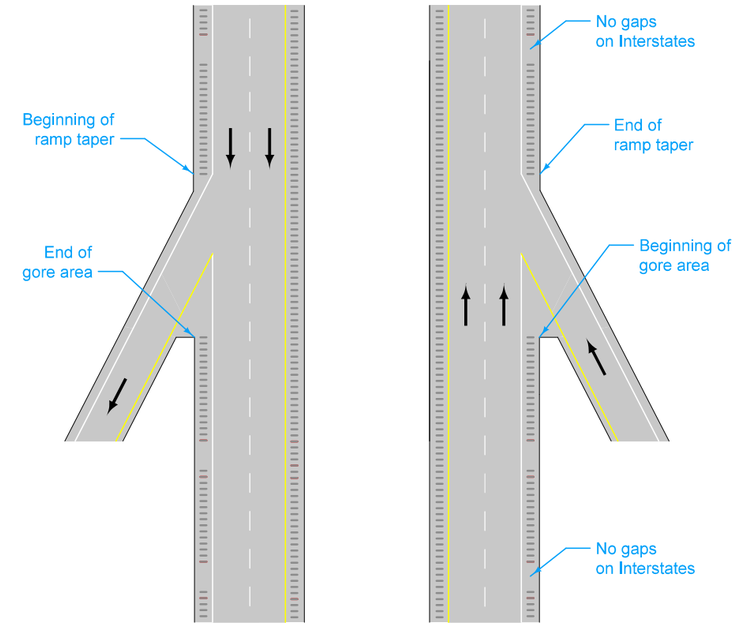
MILLED SHOULDER RUMBLE STRIPS



UNDIVIDED
HIGHWAYS

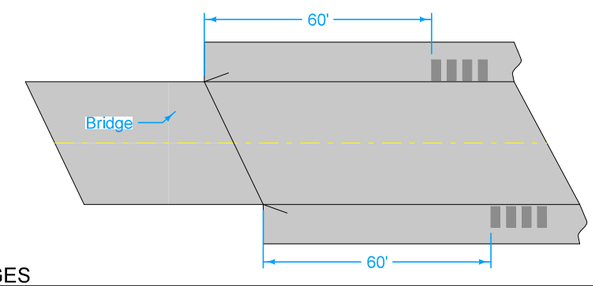


DIVIDED
HIGHWAYS



1

RAMP AND LOOP TERMINALS



BRIDGES

1 Place continuous Milled Rumble Strips (no 12 foot gaps) on all median side shoulders and on all interstate shoulders.

3 Begin rumbles 100 feet beyond paved side roads or 50 feet for driveways or granular side roads.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
8	4-16-24

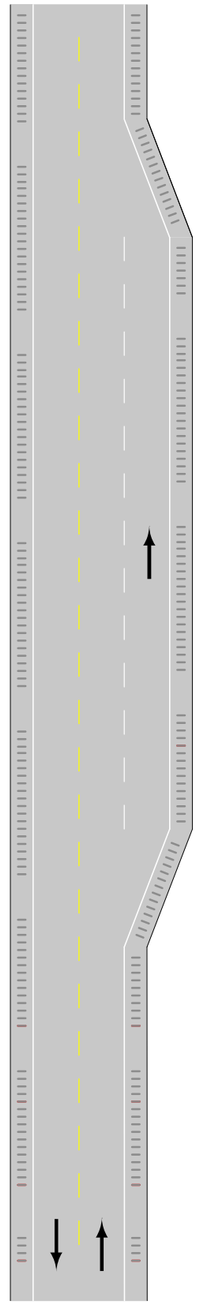
PV-12

SHEET 2 of 3

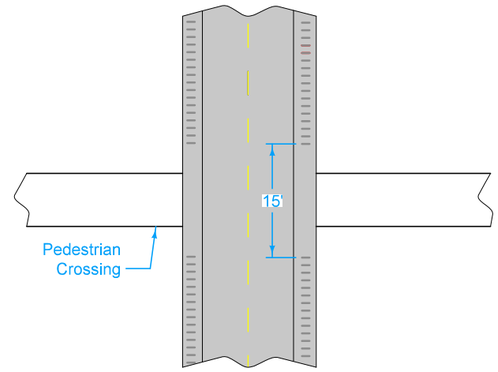
REVISIONS: Added passing lane detail.

APPROVED BY DESIGN METHODS ENGINEER

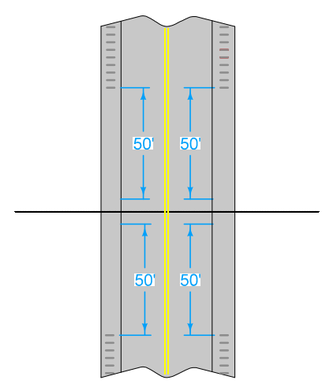
MILLED SHOULDER RUMBLE STRIPS



PASSING LANE



PEDESTRIAN
CROSSING



RAILROAD
CROSSING

IOWA DOT

STANDARD ROAD PLAN

REVISION	
8	4-16-24

PV-12

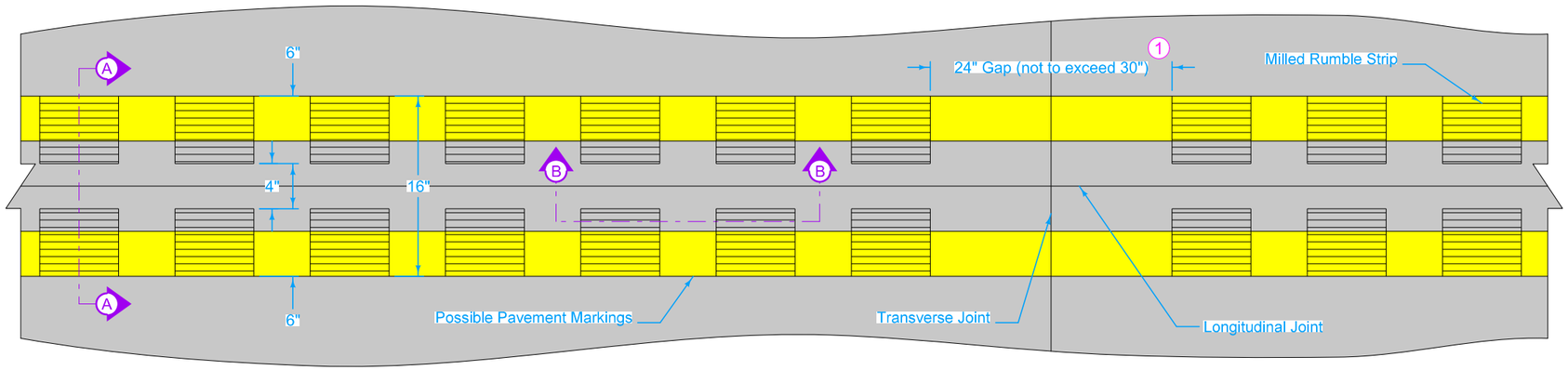
SHEET 3 of 3

REVISIONS: Added passing lane detail.

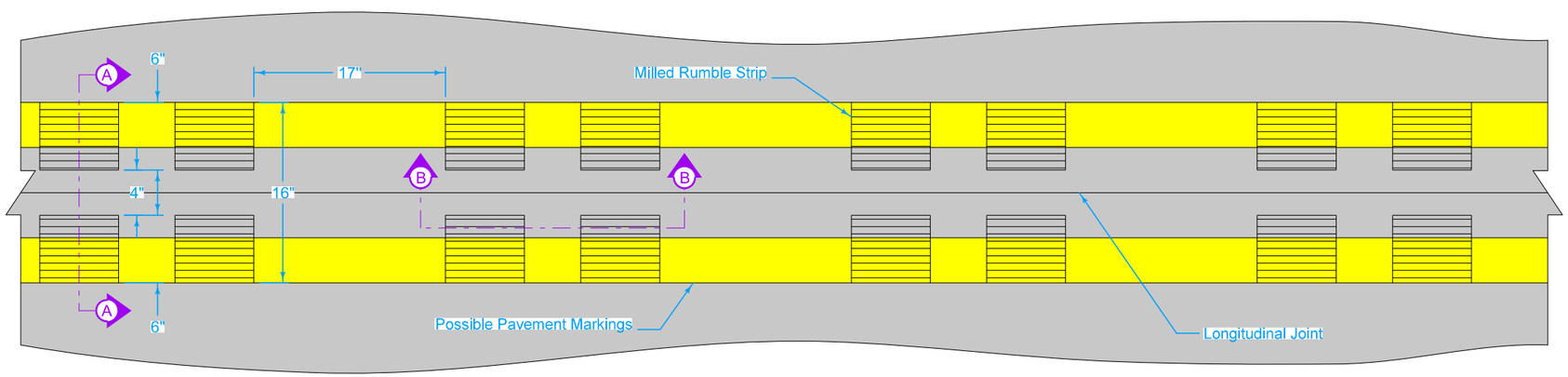
APPROVED BY DESIGN METHODS ENGINEER

MILLED SHOULDER RUMBLE STRIPS

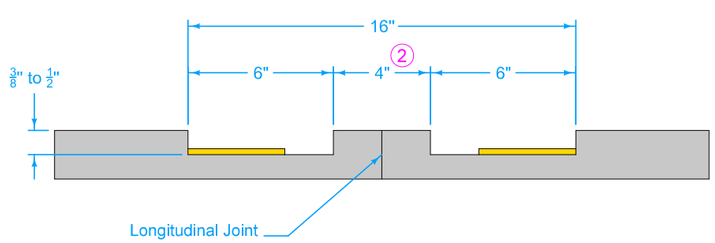
DESIGNER INFORMATION



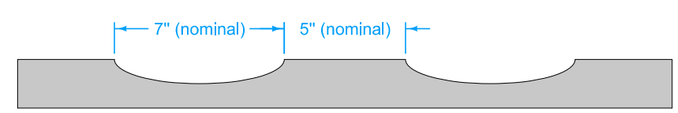
PLAN (PCC)



PLAN (HMA)



SECTION A-A



SECTION B-B

Centerline rumble strip placement is the same regardless of centerline pavement marking.

1. Gap rumble strips at PCC transverse joints. Centering the gap about the joint is desireable. Maintain a mimimum of 3 inches between rumble and transverse joint.
2. Center 4 inch gap over longitudial joint.

Possible Contract Items:
Milled Centerline Rumble Strips, HMA Surface
Milled Centerline Rumble Strips, PCC Surface

Possible Tabulation:
112-10

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	4-16-24

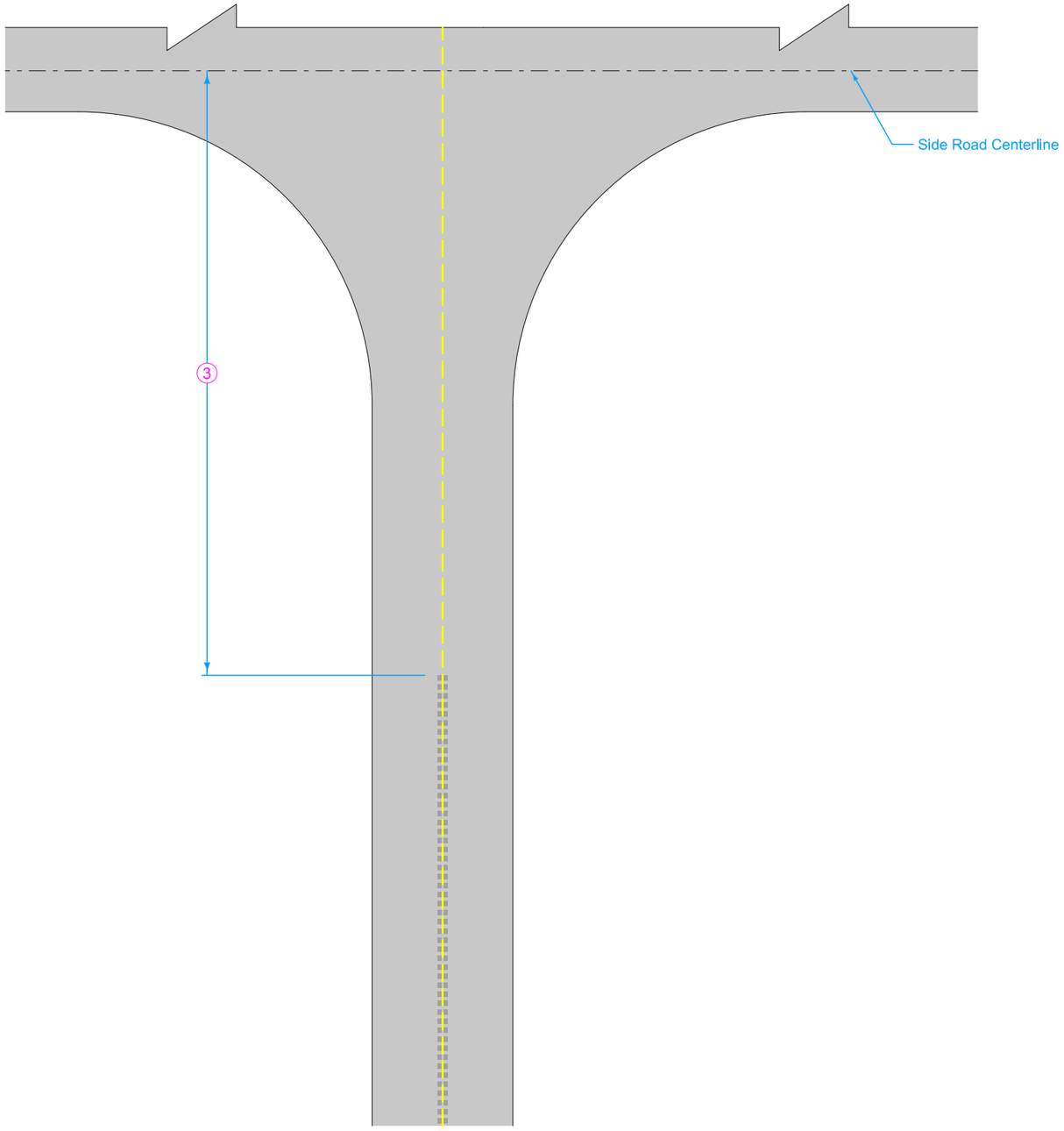
PV-13

SHEET 1 of 4

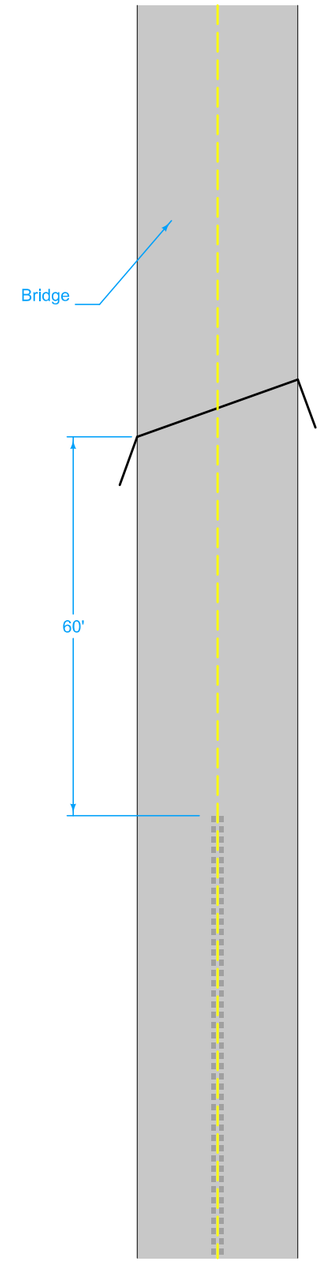
REVISIONS: Added passing lane detail.

APPROVED BY DESIGN METHODS ENGINEER

MILLED CENTERLINE RUMBLE STRIPS



INTERSECTION WITH
SIDE ROAD



BRIDGE APPROACH

3 Stop rumbles 180 feet in advance of paved side roads or 75 feet for granular side roads.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	4-16-24

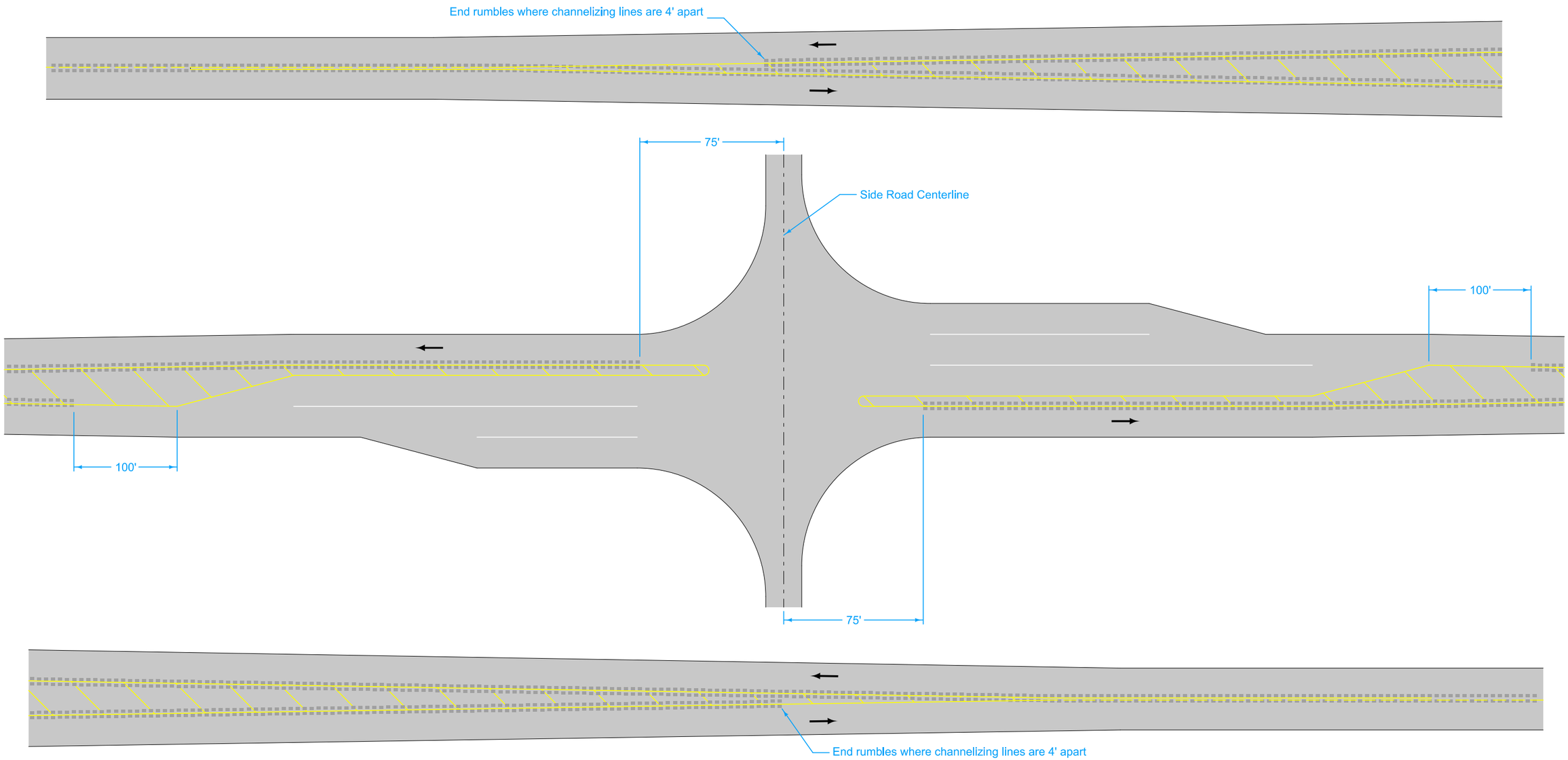
PV-13

SHEET 2 of 4

REVISIONS: Added passing lane detail.

APPROVED BY DESIGN METHODS ENGINEER

MILLED CENTERLINE RUMBLE STRIPS



LEFT TURN LANE
(PAINTED MEDIAN)

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	4-16-24

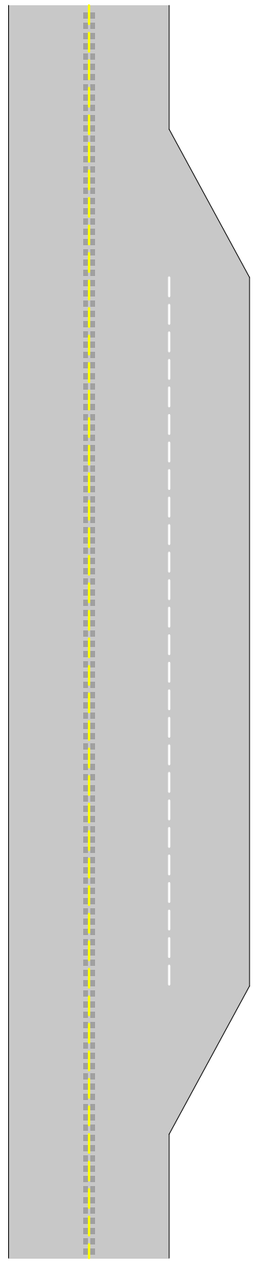
PV-13

SHEET 3 of 4

REVISIONS: Added passing lane detail.

APPROVED BY DESIGN METHODS ENGINEER

MILLED CENTERLINE RUMBLE STRIPS



PASSING LANE SITUATIONS

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	4-16-24

PV-13

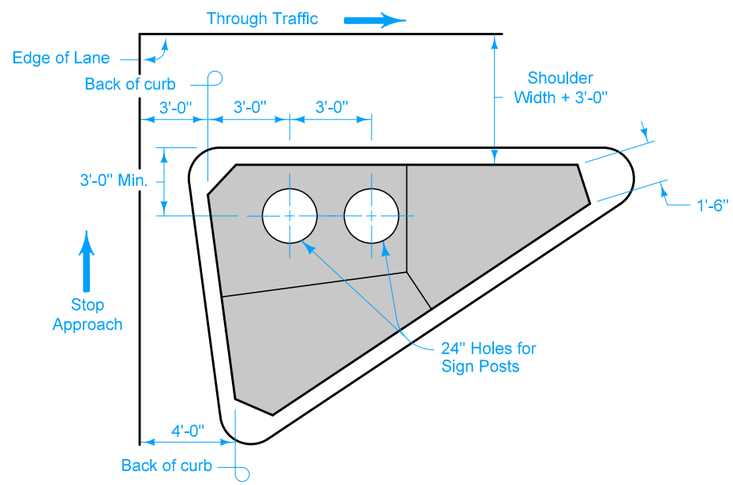
SHEET 4 of 4

REVISIONS: Added passing lane detail.

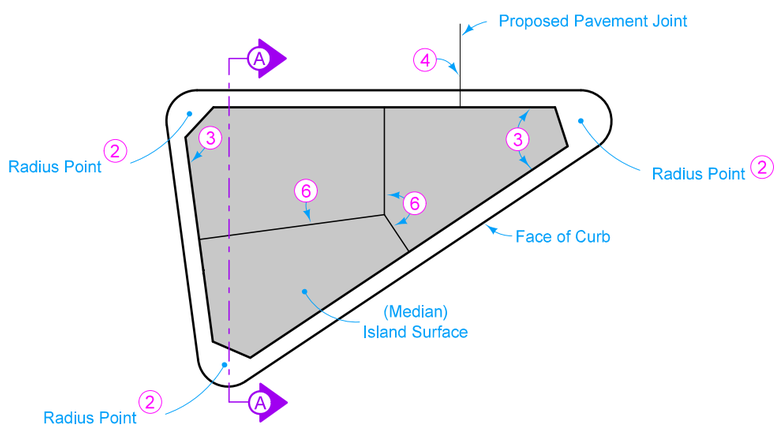
APPROVED BY DESIGN METHODS ENGINEER

MILLED CENTERLINE RUMBLE STRIPS

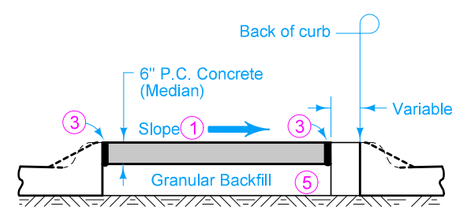
DESIGNER INFORMATION



Plan



Jointing



Section A-A

After required signs have been placed, fill any unused holes for sign posts with Flowable Mortar meeting the requirements of Section 2506 of the Standard Specifications. This work is incidental to sign placement.

Refer to Standard Road Plan PV-102 for curb information.

1. Shape surface of island as necessary to drain.
2. Radius point is located at back of curb. Pave across and between curbs on a straight line. See tabulation 112-4.
3. 'E' Joint, see PV-101.
4. Construct 'C' Joint In Curb as needed to continue intersection pavement joints. See PV-101.
5. The furnishing and placing of granular backfill is incidental to the price bid for 6 inch P.C. Concrete Median.
6. 'C' Joints as required. See PV-101.

Possible Contract Items:
Curb and Gutter, P.C. Concrete
Median, P.C. Concrete, 6 inch

Possible Tabulation:
112-4

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	10-21-14

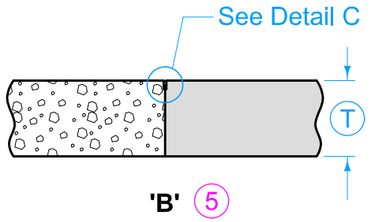
PV-20

SHEET 1 of 1

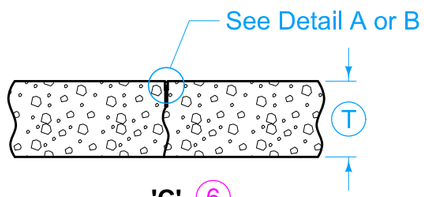
REVISIONS: Changed reference from tabulation 101-13 to 112-4 in circle note 2 and changed title as Painted Islands are being introduced.

APPROVED BY DESIGN METHODS ENGINEER

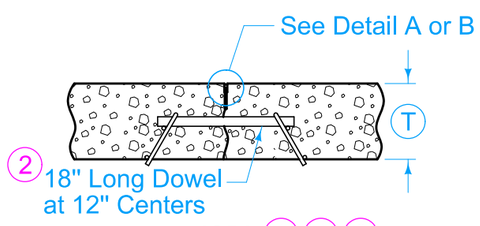
RAISED ISLANDS



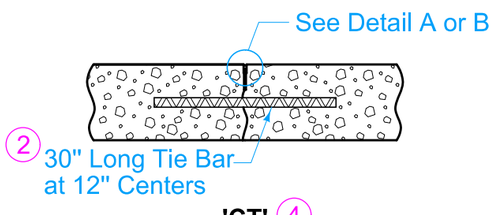
'B' (5)
PLAIN JOINT
(Abutting Pavement Slabs)



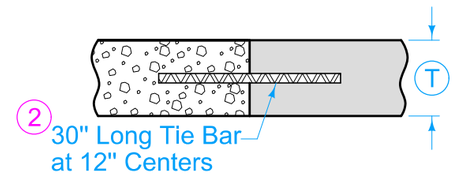
'C' (6)
CONTRACTION JOINT



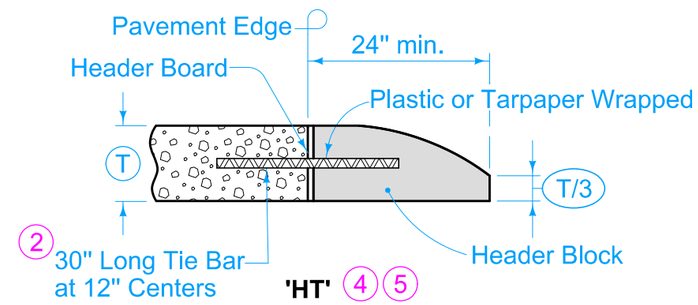
'CD' (1)(4)(6)
DOWELED CONTRACTION JOINT



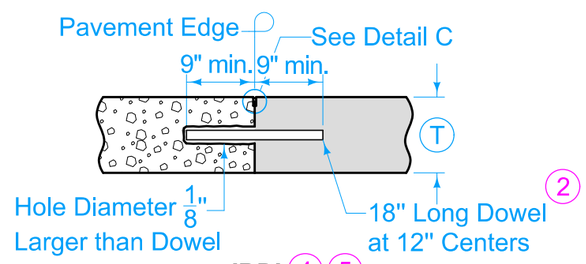
'CT' (4)
TIED CONTRACTION JOINT



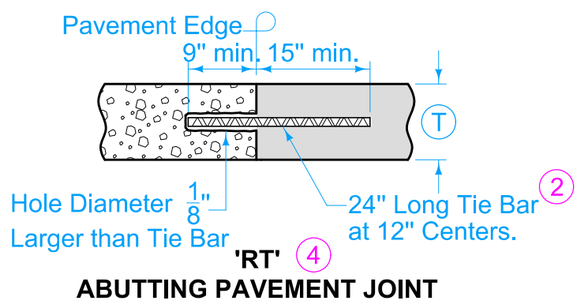
'DW' (3)(4)(7)
DAY'S WORK JOINT(Non-working)



'HT' (4)(5)
HEADER JOINT
(End Rigid Pavement)



'RD' (4)(5)
ABUTTING PAVEMENT JOINT



'RT' (4)
ABUTTING PAVEMENT JOINT
RIGID TIE

(1) See dowel assemblies for fabrication details.

(2) See Bar Size Table for Contraction Joints on Sheet 2.

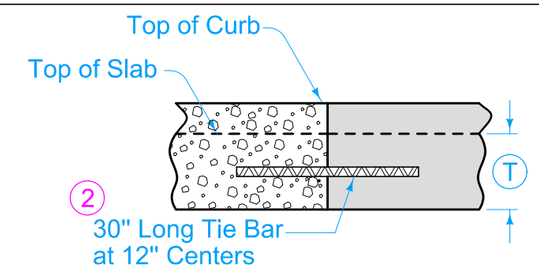
(3) Locate 'DW' joint at a mid-panel location between future 'C' or 'CD' joints. Place no closer than 5 feet to a 'C' or 'CD' joint.

(4) Place bars within the limits shown under dowel assemblies.

(5) Edge with 1/8 inch tool for length of joint. For HT joint, remove header block and board when second slab is placed.

(6) Unless specified otherwise, use 'CD' transverse contraction joints in mainline pavement when (T) is greater or equal to 8 inches. Use 'C' joints when (T) is less than 8 inches.

(7) 'RT' joint may be used in lieu of 'DW' joint at the end of the days work. Remove any pavement damaged due to the drilling at no additional cost to the Contracting Authority.



'DW - CG' (3)(4)
DAY'S WORK JOINT
CURB AND GUTTER UNIT

LEGEND
Existing Pavement
Proposed Pavement

TRANSVERSE CONTRACTION

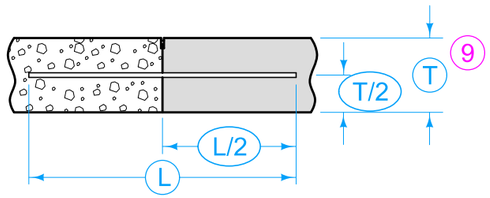
SUDAS	IOWA DOT	REVISION 11 04-19-22
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101 SHEET 1 of 8

REVISIONS: Modified circle note 32.

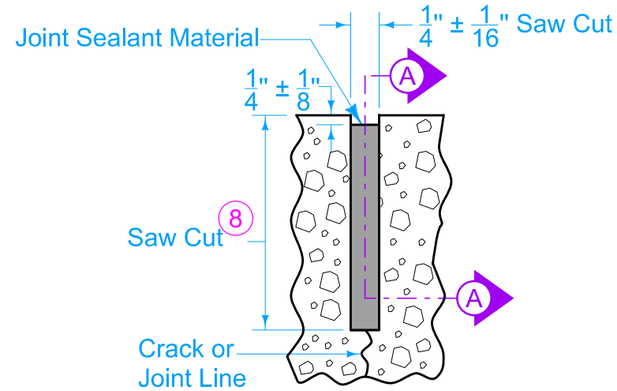
Paul D. Wiegand — SUDAS DIRECTOR
Stuart Nielsen — DESIGN METHODS ENGINEER

JOINTS

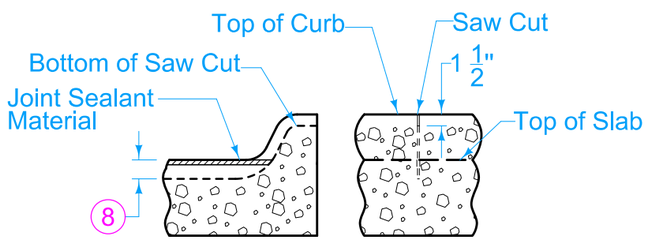
FIGURE 7010.101 SHEET 1 OF 8



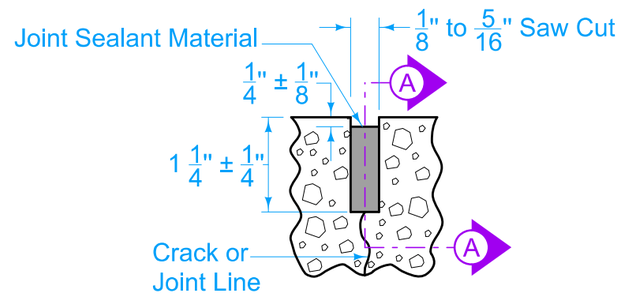
BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



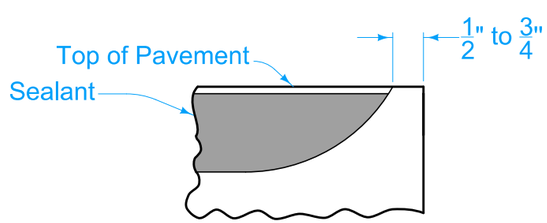
DETAIL A
(Saw cut formed by conventional concrete sawing equipment.)



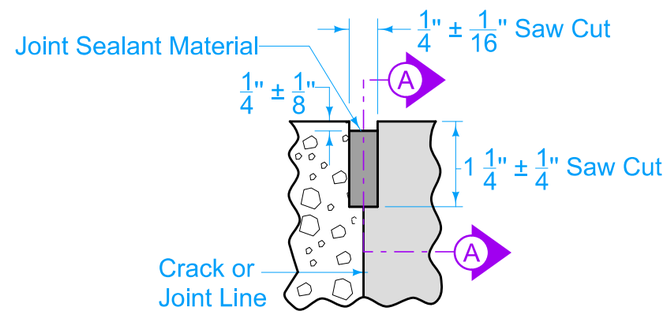
'C' JOINT IN CURB
(Match 'CT', 'CD', or 'C' joint in pavement.)



DETAIL B
(Saw cut formed by approved early concrete sawing equipment.)



SECTION A-A
(Detail at Edge of Pavement)



DETAIL C

8 Saw 'CD' joint to a depth of T/3 ± 1/4"; saw 'C' joint to a depth of T/4 ± 1/4".

9 When tying into old pavement, T represents the depth of sound PCC.

BAR SIZE TABLE FOR CONTRACTION JOINTS			
T	Solid Dowel Diameter	Tubular Dowel Diameter	Tie Bar Size
< 8"	3/4"	7/8"	#6
≥ 8" but < 10"	1 1/4"	1 3/8"	#10
≥ 10"	1 1/2"	1 5/8"	#11
Tubular Dowel Bars will not be allowed for RD joints.			

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT | REVISION 11 04-19-22

FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101

SHEET 2 of 8

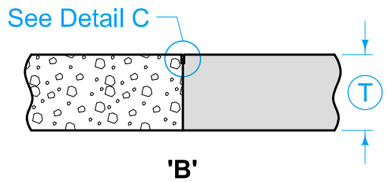
REVISIONS: Modified circle note 32.

Paul D. Wiegand, SUDAS DIRECTOR | Stuart Nielsen, DESIGN METHODS ENGINEER

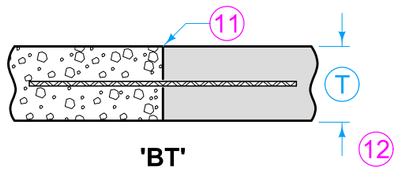
TRANSVERSE CONTRACTION

JOINTS

FIGURE 7010.101 SHEET 2 OF 8

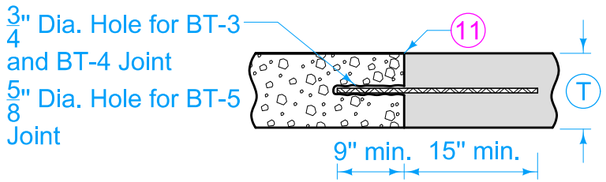


'B'
PLAIN JOINT
(Abutting Pavement Slabs)



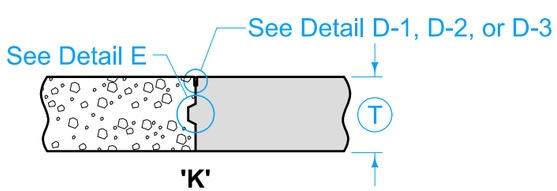
'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE

T	Joint	Bars	Bar Length and Spacing
< 8"	'BT-1'	#4	36" Long at 30" Centers
		#5	30" Long at 30" Centers
≥ 8"	'BT-2'	#5	36" Long at 30" Centers

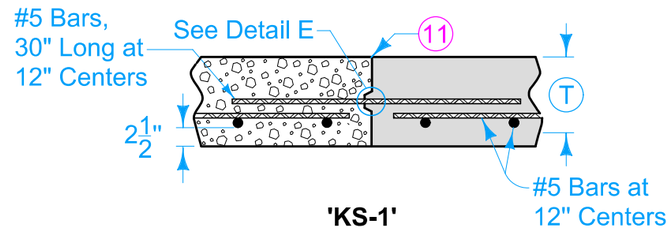


'BT'
ABUTTING PAVEMENT JOINT - RIGID TIE (Drilled)

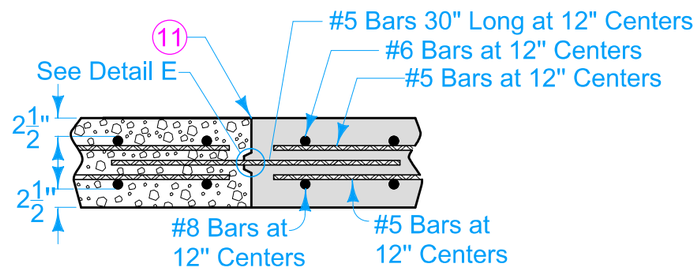
T	Joint	Bars	Bar Length and Spacing
< 8"	'BT-5'	#4	24" Long at 30" Centers
≥ 8"	'BT-3'	#5	24" Long at 30" Centers
	'BT-4'		24" Long at 15" Centers



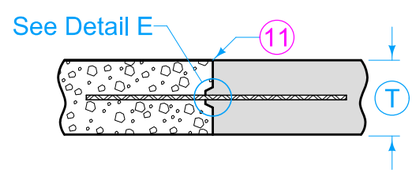
'K'
KEYED JOINT FOR ADJACENT SLABS
(Where T is 8" or more)



'KS-1'
[Single Reinforced Pavement (Bridge Approach)]



'KS-2'
[Double Reinforced Pavement (Bridge Approach)]



'KT' 10 12
ABUTTING PAVEMENT JOINT - KEYWAY TIE

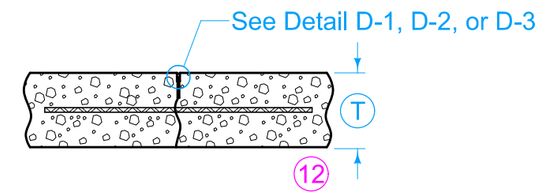
T	Joint	Bars	Bar Length and Spacing
< 8"	'KT-1'	#4	30" Long at 30" Centers
≥ 8"	'KT-2'	#5	30" Long at 30" Centers
	'KT-3'		30" Long at 15" Centers

LONGITUDINAL CONTRACTION

10 Bar supports may be necessary for fixed form paving to ensure the bar remains in a horizontal position in the plastic concrete.

11 Sawing or sealing of joint not required.

12 The following joints are interchangeable, subject to the pouring sequence:
'BT-1', 'L-1', and 'KT-1'
'KT-2' and 'L-2'
'KT-3' and 'L-3'



'L'
CONTRACTION JOINT

T	Joint	Bars	Bar Length and Spacing
< 8"	'L-1'	#4	36" Long at 30" Centers
≥ 8"	'L-2'	#5	36" Long at 30" Centers
	'L-3'		36" Long at 15" Centers

LEGEND
Existing Pavement
Proposed Pavement

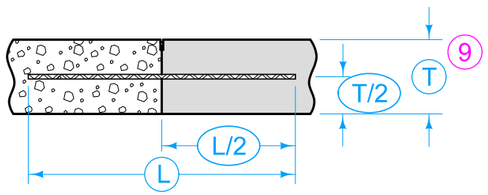
SUDAS | IOWA DOT | REVISION 11 04-19-22
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101
SHEET 3 of 8

REVISIONS: Modified circle note 32.

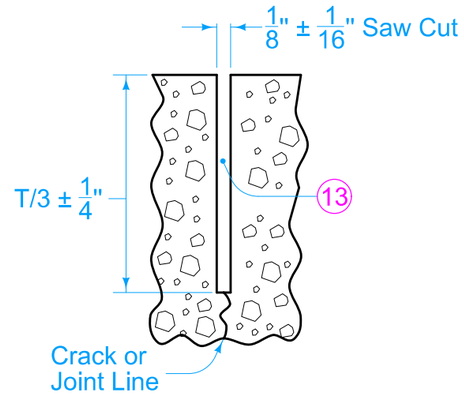
Paul D. Wiegand, SUDAS DIRECTOR
Steven Neff, DESIGN METHODS ENGINEER

JOINTS

FIGURE 7010.101 SHEET 3 OF 8



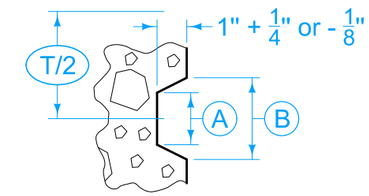
TIE BAR PLACEMENT
(Applies to all joints unless otherwise detailed.)



DETAIL D-1
(Required when specified in the contract documents.)

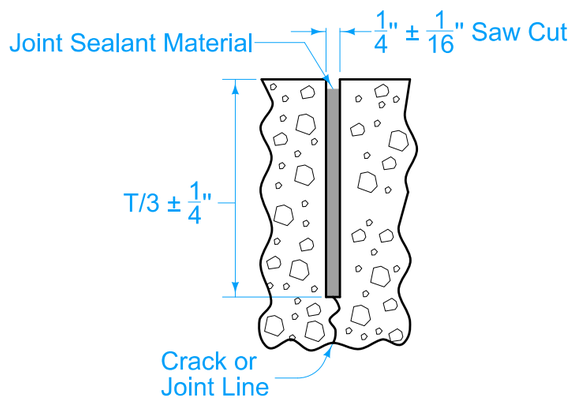
9 When tying into old pavement, T represents the depth of sound PCC.

13 Sealant or cleaning not required.

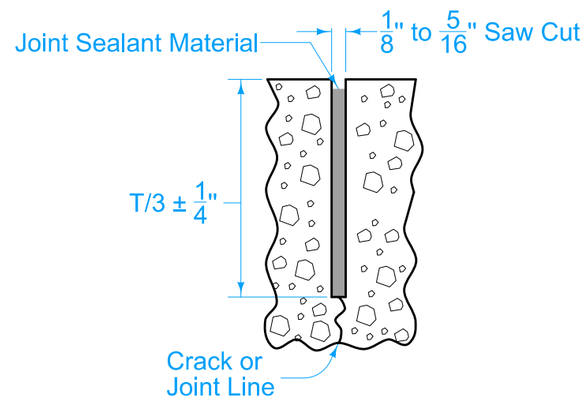


DETAIL E

KEYWAY DIMENSIONS			
Keyway Type	Pavement Thickness T	A	B
Standard	8" or greater	1 3/4"	2 3/4"
Narrow	Less than 8"	1"	2"



DETAIL D-2
(Required when the Department of Transportation is not the Contracting Authority, or when specified in the contract documents)



DETAIL D-3
(Required when the Department of Transportation is the Contracting Authority, or when specified in the contract documents)

LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT | REVISION 11 04-19-22

FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101

SHEET 4 of 8

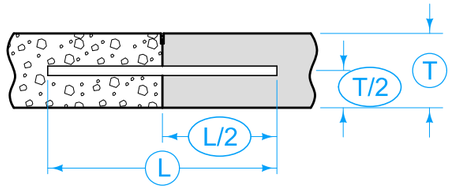
REVISIONS: Modified circle note 32.

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

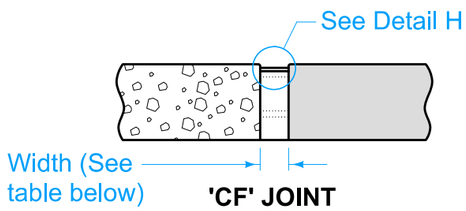
LONGITUDINAL CONTRACTION

JOINTS

FIGURE 7010.101 SHEET 4 OF 8

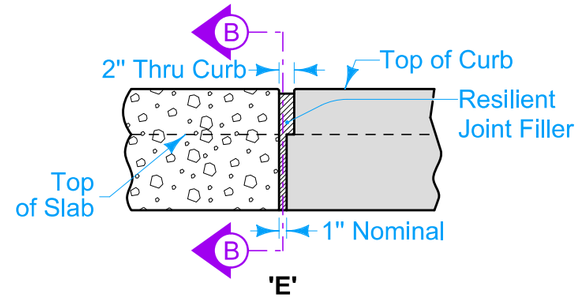


DOWEL PLACEMENT
(Applies to all joints unless otherwise detailed.)

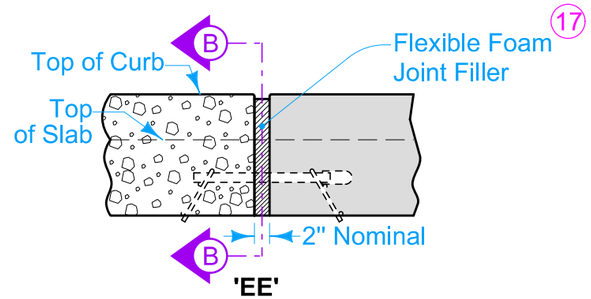


'CF' JOINT

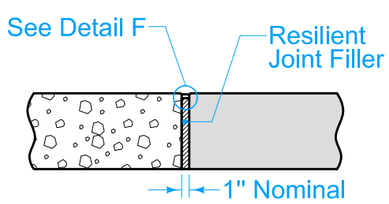
TYPE	WIDTH
CF-1	2"
CF-2	$2\frac{1}{2}$"
CF-3	3"
CF-4	$3\frac{1}{2}$"



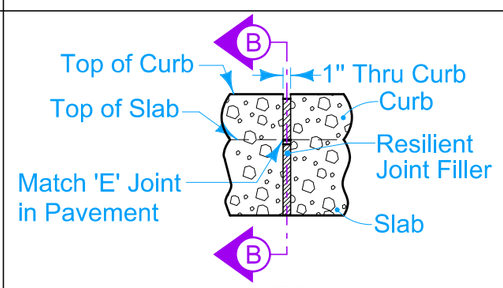
'E'
JOINT IN CURB
(View at Back of Curb)



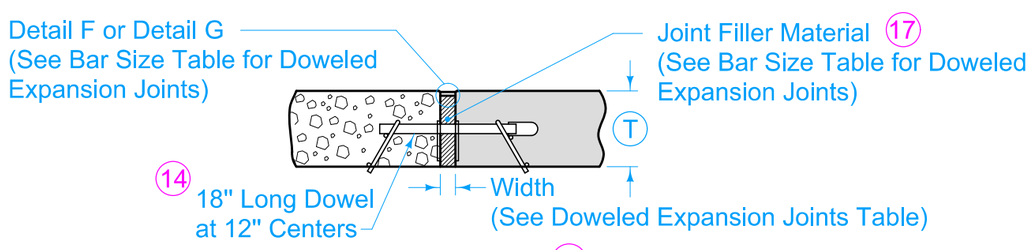
'EE'
JOINT IN CURB
(View at Back of Curb)



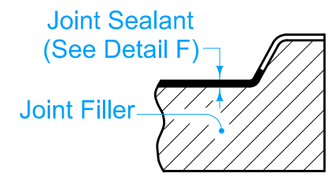
'E'
1" EXPANSION JOINT



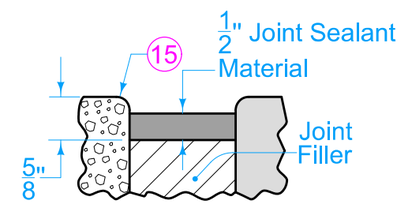
'ES'
JOINT IN CURB
(View at Back of Curb)



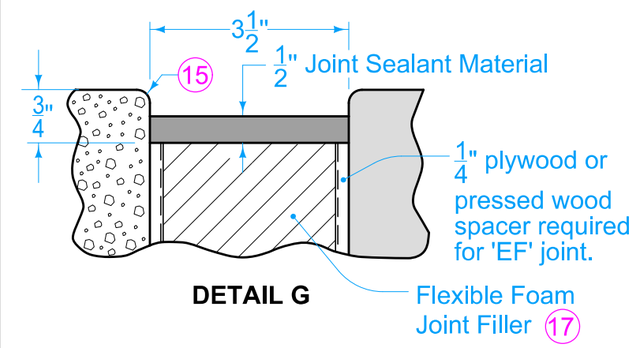
'ED', 'EE', 'EF' 16
DOWELED EXPANSION JOINT



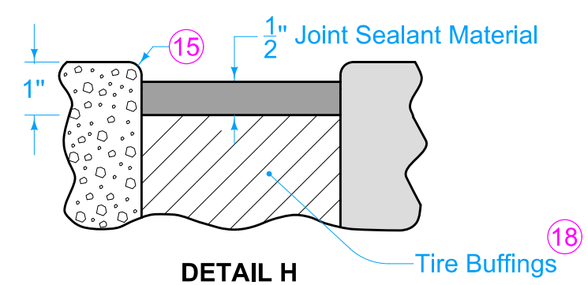
SECTION B-B



DETAIL F



DETAIL G



DETAIL H

EXPANSION

14 See Bar Size Table for Doweled Expansion Joints.

15 Edge with 1/4 inch tool for length of joint indicated if formed; edging not required when cut with diamond blade saw.

16 See Dowel Assemblies for fabrication details and placement limits. Coat the free end of dowel bar to prevent bond with pavement. At intake locations, dowel bars may be cast-in-place.

17 Predrill or preform holes in joint material for appropriate dowel size.

18 Compact tire buffings by spading with a square-nose shovel.

DOWELED EXPANSION JOINTS		
TYPE	WIDTH	FILLER MATERIAL 17
ED	1"	Resilient (Detail F)
EE	2"	Flexible Foam (Detail F)
EF	$3\frac{1}{2}$"	Flexible Foam (Detail G)

BAR SIZE TABLE FOR DOWELED EXPANSION JOINTS			
T	< 8"	≥ 8" but < 10"	≥ 10"
Dowel Diameter	$\frac{3}{4}$"	$1\frac{1}{4}$"	$1\frac{1}{2}$"
Tubular Dowel Bars will not be allowed for expansion joints.			

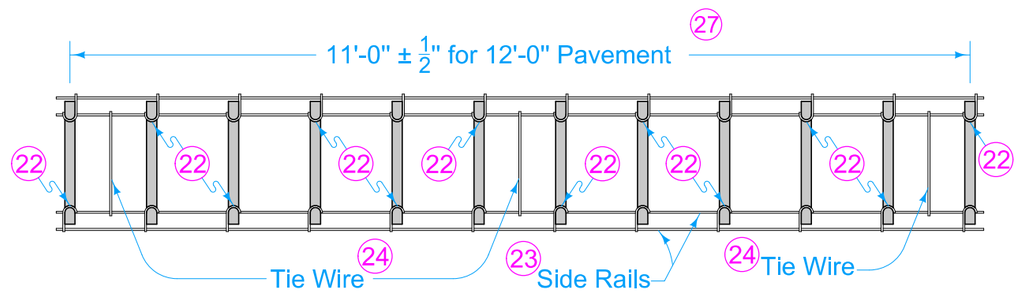
LEGEND
Existing Pavement
Proposed Pavement

SUDAS | IOWA DOT
FIGURE 7010.101 | STANDARD ROAD PLAN
REVISION 11 04-19-22
PV-101
SHEET 5 of 8
REVISIONS: Modified circle note 32.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

JOINTS

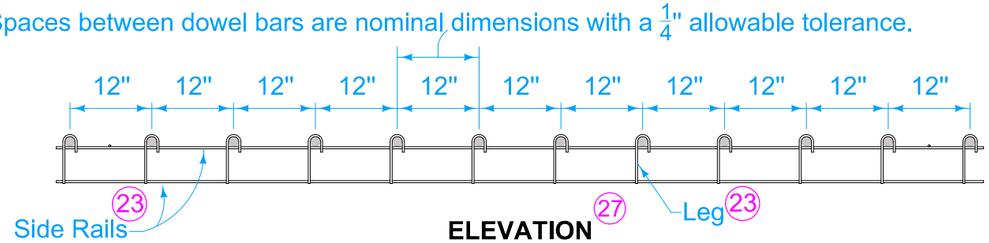
FIGURE 7010.101 SHEET 5 OF 8

CONTRACTION JOINTS

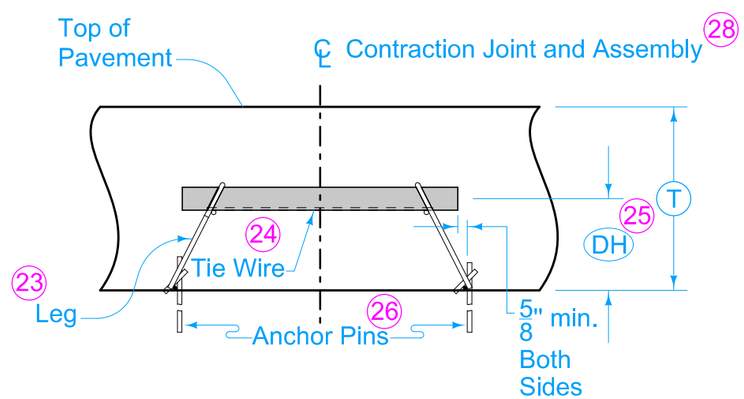


PLAN

Spaces between dowel bars are nominal dimensions with a 1/4" allowable tolerance.



ELEVATION



LONGITUDINAL SECTION

DOWEL ASSEMBLIES (19) (20) (21)

DOWEL HEIGHT AND DIAMETER FOR DOWELED CONTRACTION JOINTS			
T	DH (25)	Diameter (Solid)	Diameter (Tubular)
7" to 7 1/2"	3 1/2"	3/4"	7/8"
8" to 9 1/2"	4 1/4"	1 1/4"	1 3/8"
10" to 11 1/2"	5 1/4"	1 1/2"	1 5/8"
12" to 13"	6 1/4"	1 1/2"	1 5/8"
Tubular Dowel Bars will not be allowed for RD joints.			

(19) Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

(20) Use wires with a minimum tensile strength of 50 ksi.

(21) Details apply to both transverse contraction and expansion joints.

(22) Weld alternately throughout.

(23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.

(24) Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.

(25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.

(26) Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.

(27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.

(28) Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

SUDAS | IOWA DOT | REVISION 11 04-19-22

FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 6 of 8

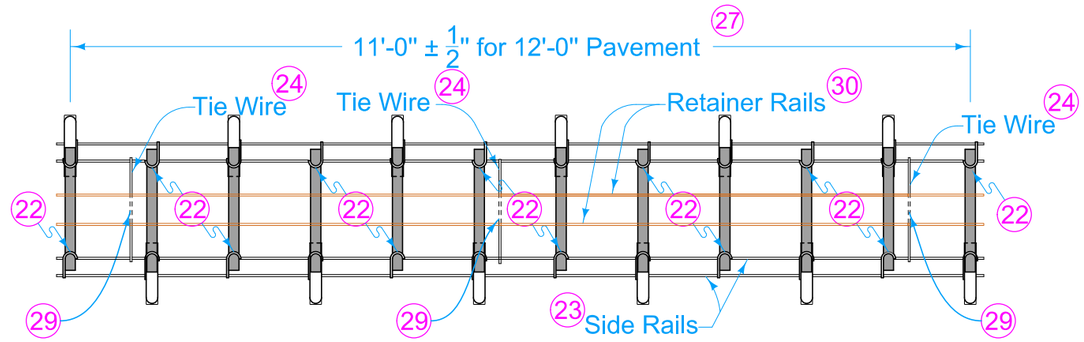
REVISIONS: Modified circle note 32.

Paul D. Wigand, SUDAS DIRECTOR | Stuart Nielsen, DESIGN METHODS ENGINEER

JOINTS

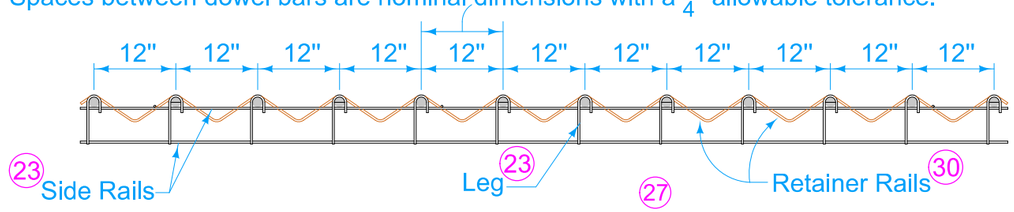
FIGURE 7010.101 | SHEET 6 OF 8

EXPANSION JOINTS

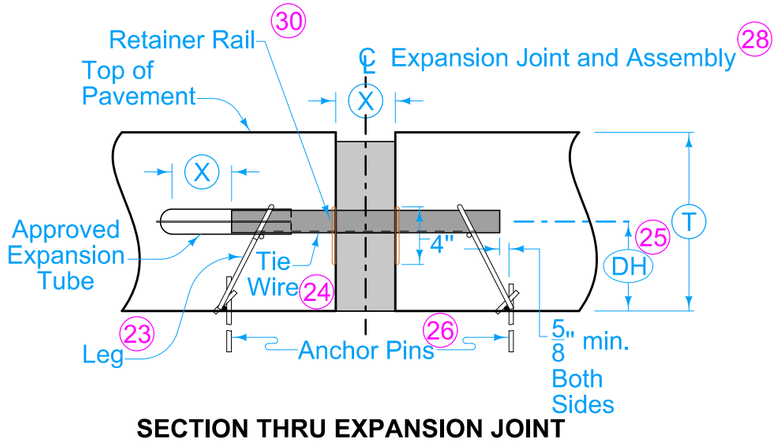


PLAN

Spaces between dowel bars are nominal dimensions with a 1/4" allowable tolerance.



ELEVATION



SECTION THRU EXPANSION JOINT

JOINT OPENING AND EXPANSION TUBE EXTENSION		
Joint Type	X	Minimum Tube Length
"ED"	1"	6"
"EE"	2"	7"
"EF"	3 1/2"	9"

DOWEL HEIGHT AND DIAMETER FOR DOWELED EXPANSION JOINTS		
T	DH (25)	Diameter
7" to 7 1/2"	3 1/2"	3/4"
8" to 9 1/2"	4 1/4"	1 1/4"
10" to 11 1/2"	5 1/4"	1 1/2"
12" to 13"	6 1/4"	1 1/2"
Tubular Dowel Bars will not be allowed for expansion joints.		

DOWEL ASSEMBLIES (19) (20) (21)

(19) Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

(20) Use wires with a minimum tensile strength of 50 ksi.

(21) Details apply to both transverse contraction and expansion joints.

(22) Weld alternately throughout.

(23) 0.306 inch diameter wire. Wire sizes shown are the minimum required.

(24) Maximum 0.177 inch diameter wire, welded or friction fit to upper side rail, both sides.

(25) Measured from the centerline of dowel bar to bottom of lower side rail + 1/4 inch.

(26) Per lane width, install a minimum of 8 anchor pins evenly spaced (4 per side), to prevent movement of assembly during construction. Anchor assemblies placed on pavement or PCC base with devices approved by the Engineer.

(27) If dowel basket assemblies are required for curbed pavements, the assembly length is based on the jointing layout. See PV-101, sheet 8.

(28) Ensure dowel basket assembly centerline is within 2 inches of the intended joint location longitudinally and has no more than 1/4 inch horizontal skew from end of basket to end of basket.

(29) Clip and remove center portion of tie during field assembly.

(30) 1/4 inch diameter wire.

SUDAS | IOWA DOT | REVISION 11 04-19-22

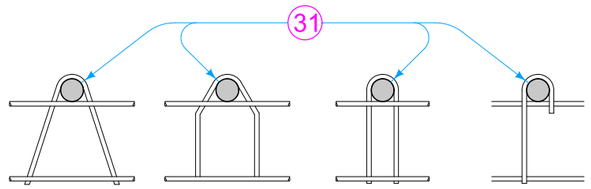
FIGURE 7010.101 | STANDARD ROAD PLAN | PV-101 | SHEET 7 of 8

REVISIONS: Modified circle note 32.

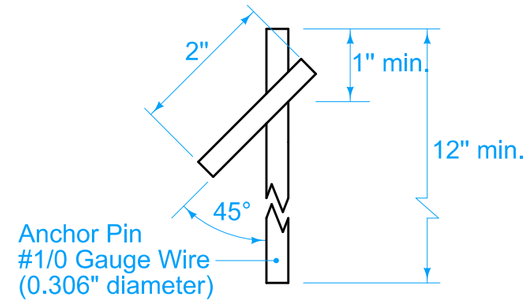
Paul D. Wiegand, SUDAS DIRECTOR | Stuart Nielsen, DESIGN METHODS ENGINEER

JOINTS

FIGURE 7010.101 | SHEET 7 OF 8



OPTIONAL LEG SHAPES



ANCHOR PIN

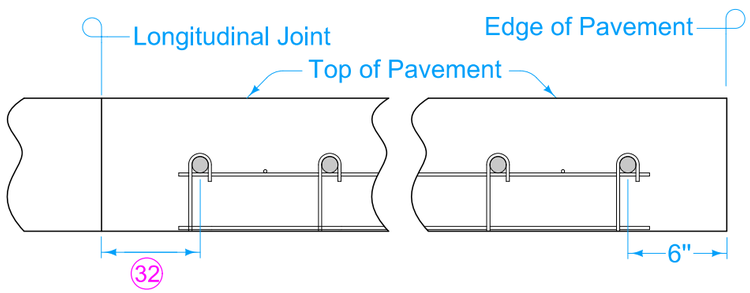
19 Use 18 inch long dowel bars with a tolerance of ± 1/8 inch. Ensure the centerlines of individual dowels are parallel to the other dowels in the assembly within ± 1/8 inch.

20 Use wires with a minimum tensile strength of 50 ksi.

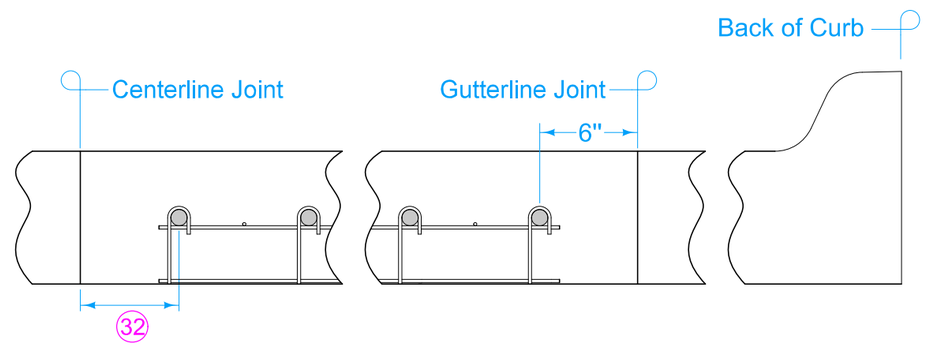
21 Details apply to both transverse contraction and expansion joints.

31 Diameter of bend around dowel is dowel diameter + 1/8 to 3/16 inches.

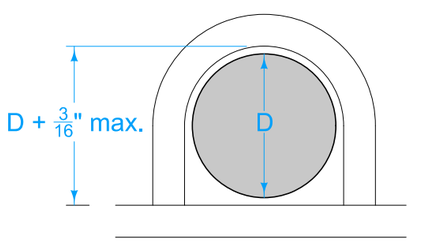
32 For uniform lane widths: 3 to 6 inches. For taper and variable width pavements: 3 to 12 inches.



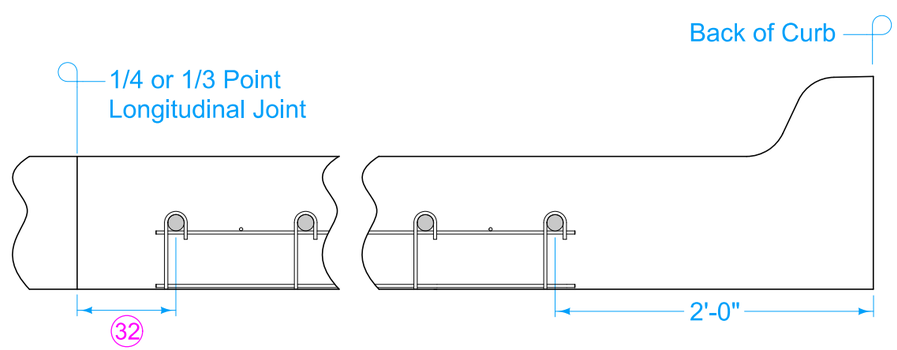
PLACEMENT LIMITS
(Rural Section)



PLACEMENT LIMITS
(Curb and Gutter - Gutterline Jointing)



BEND AROUND DOWEL 31



PLACEMENT LIMITS
(Curb and Gutter - 1/4 or 1/3 Point Jointing)

DOWEL ASSEMBLIES 19 20 21

FIGURE 7010.101 | SHEET 8 OF 8

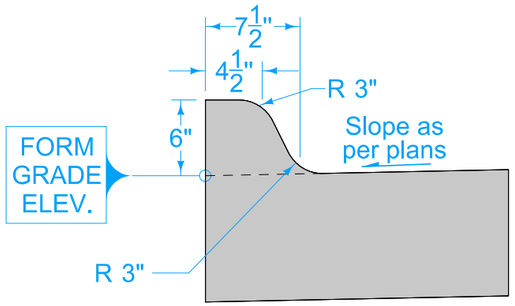
SUDAS	IOWA DOT	REVISION 11 04-19-22
FIGURE 7010.101	STANDARD ROAD PLAN	PV-101 SHEET 8 of 8

REVISIONS: Modified circle note 32.

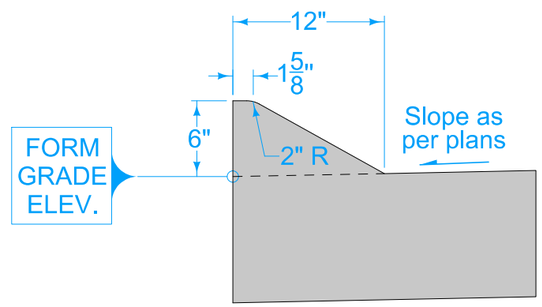
SUDAS DIRECTOR — DESIGN METHODS ENGINEER

JOINTS

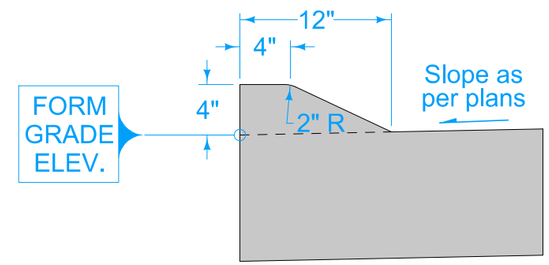
For joint details, see PV-101.



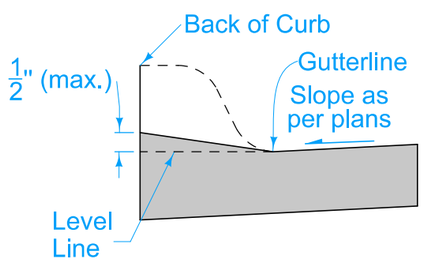
6" STANDARD CURB



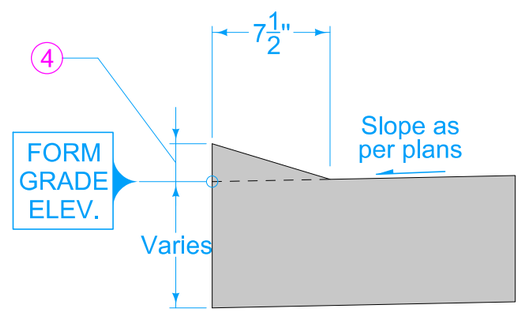
6" SLOPED CURB



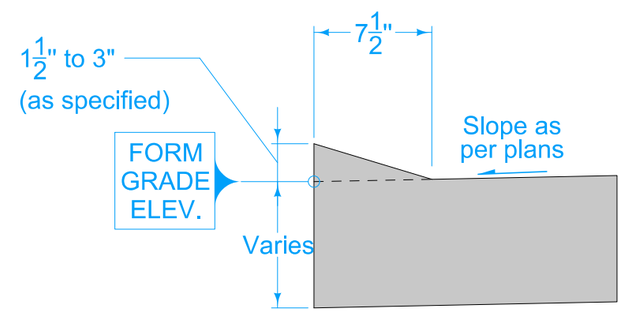
4" SLOPED CURB



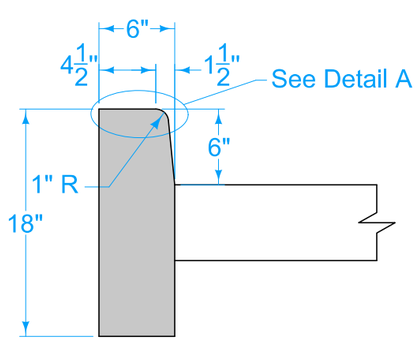
DROP CURB AT SIDEWALK



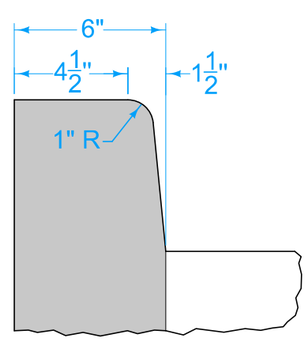
DRIVEWAY DROP CURB (IowaDepartment of Transportation is not the Contracting Authority)



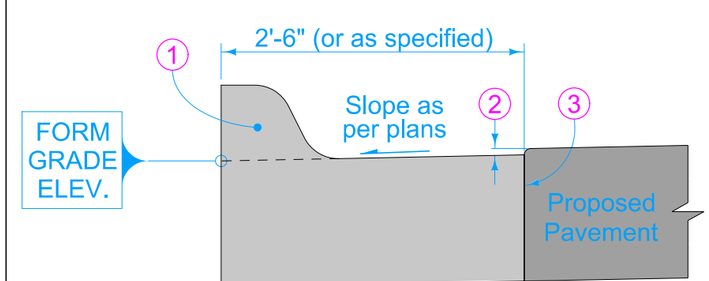
DRIVEWAY DROP CURB (Iowa Department of Transportation is the Contracting Authority)



BEAM CURB*
*For short replacement sections, match existing curb profile



DETAIL A



CURB AND GUTTER UNIT

1. 6 inch Standard Curb, 6 inch Sloped Curb, or 4 inch Sloped Curb as specified.
2. 1/8 inch if Proposed Pavement is HMA. No elevation difference if Proposed Pavement is PCC.
3. 'BT' , 'KT', or 'L' joint if Proposed Pavement is PCC. 'B' joint if Proposed Pavement is HMA.
4. 0 to 2 inches for residential entrances. 1 1/2 to 3 inches for industrial or commercial entrances.

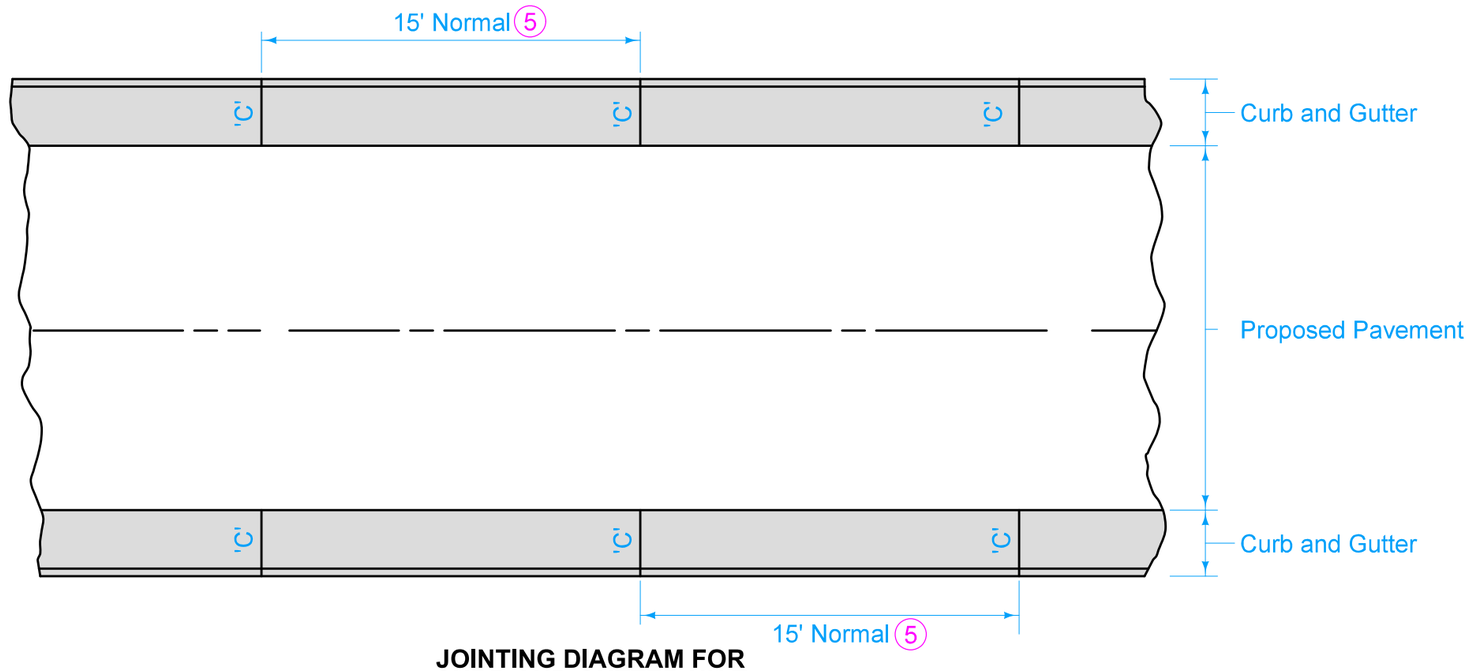
SUDAS	IOWA DOT	REVISION 5	04-21-20
FIGURE 7010.102	STANDARD ROAD PLAN	PV-102	SHEET 1 of 2

REVISIONS: Split DRIVEWAY DROP CURB detail into two details. Added new circle note 4 on Sheet 1. Renumbered cirlce note on Sheet 5.

Paul D. Wiegand — SUDAS DIRECTOR
Steven Nichols — DESIGN METHODS ENGINEER

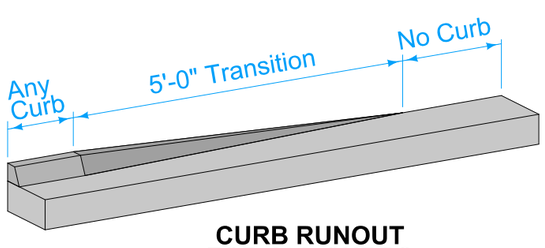
PCC CURB DETAILS

FIGURE 7010.102 SHEET 1 OF 2

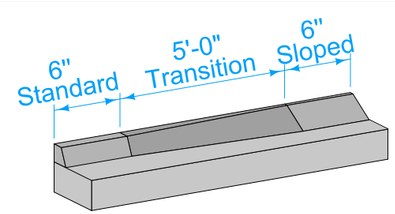


JOINTING DIAGRAM FOR CURB AND GUTTER UNIT

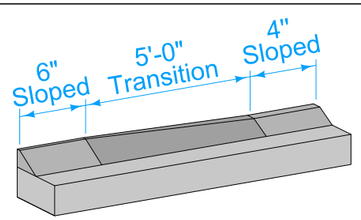
5 If proposed pavement is PCC, match joint spacing for proposed pavement. Place 'E' joints in curb and gutter section where expansion joints are to be placed in proposed pavement.



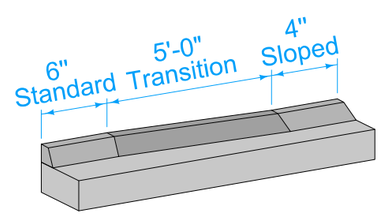
CURB RUNOUT FOR ALL CURBS



CURB TRANSITION FROM 6" STANDARD TO 6" SLOPED



CURB TRANSITION FROM 6" SLOPED TO 4" SLOPED



CURB TRANSITION FROM 6" STANDARD TO 4" SLOPED

FIGURE 7010.102

SHEET 2 OF 2

SUDAS | IOWA DOT

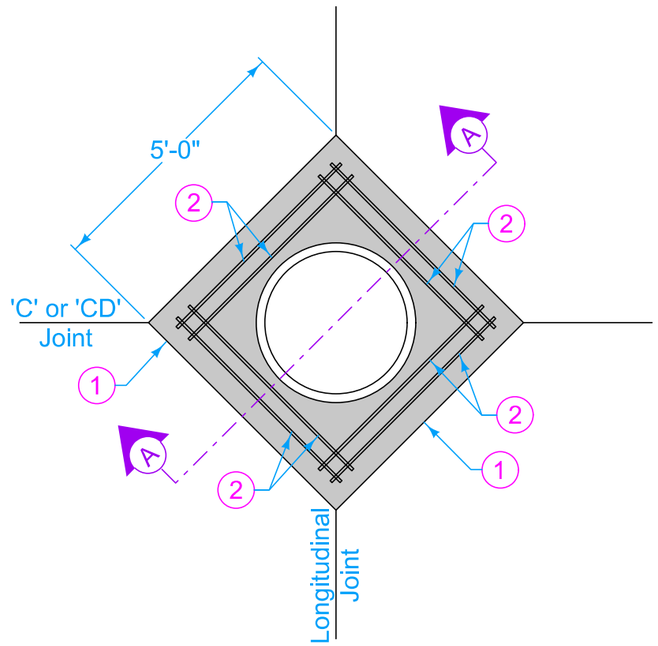
REVISION	
5	04-21-20

FIGURE 7010.102 | STANDARD ROAD PLAN | **PV-102** | SHEET 2 of 2

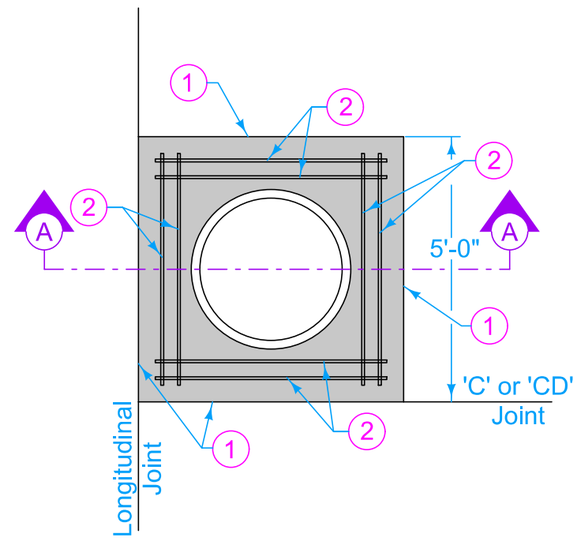
REVISIONS: Split DRIVEWAY DROP CURB detail into two details. Added new circle note 4 on Sheet 1. Renumbered cirlce note on Sheet 5.

SUDAS DIRECTOR | DESIGN METHODS ENGINEER

PCC CURB DETAILS



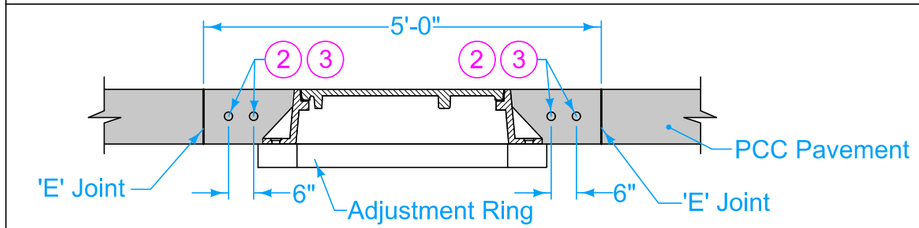
AT JOINT INTERSECTION



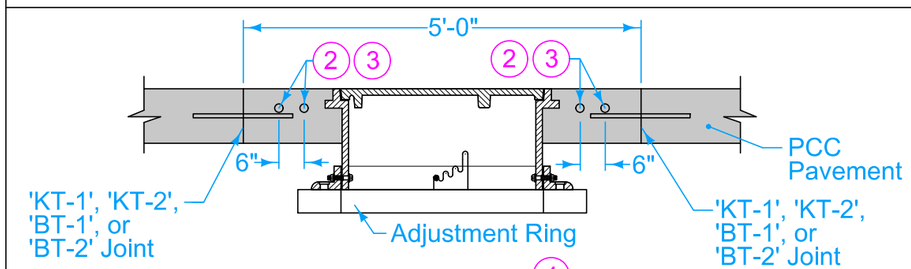
OFFSET AT JOINT INTERSECTION

Construct boxout with Class C concrete or match pavement class. Minimum 2 inches clear on reinforcement. Minimum 12 inches of concrete between outside of casting and nearest joint. Center casting within boxout area if possible.

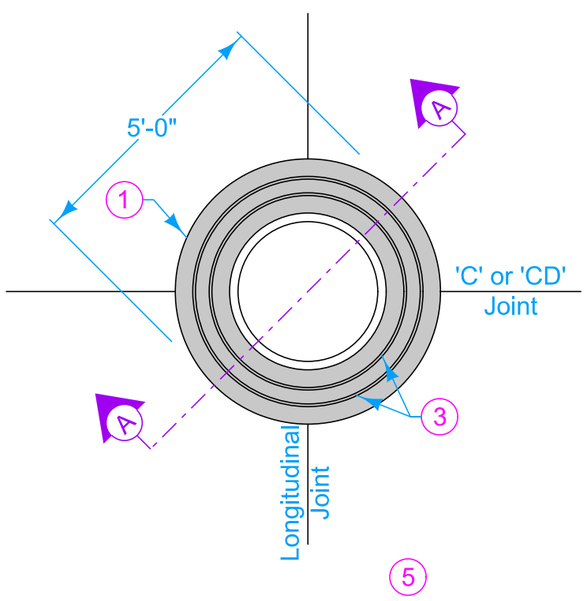
1. 'KT-1', 'KT-2', 'BT-1', or 'BT-2' joint if three-piece floating casting (SW 601 Type B and D or SW-602 Type F) is used. 'E' joint if two-piece fixed casting (SW 601 Type A and C or SW-602 Type E) is used.
2. 4 foot 8 inch (typ.) #4 bar. Place at mid-slab.
3. #4 hoops (variable length). Place at mid-slab.
4. No boxout is required for three-piece floating castings (SW 601 Type B and D or SW-602 Type F). If a boxout is used with a three-piece casting, construct as detailed in Section A-A for three-piece floating casting.
5. If a circular boxout is cut and extracted after PCC construction, a 'B' joint may be substituted for the 'E' joint if approved by the Engineer.



SECTION A-A
(For two-piece fixed casting)

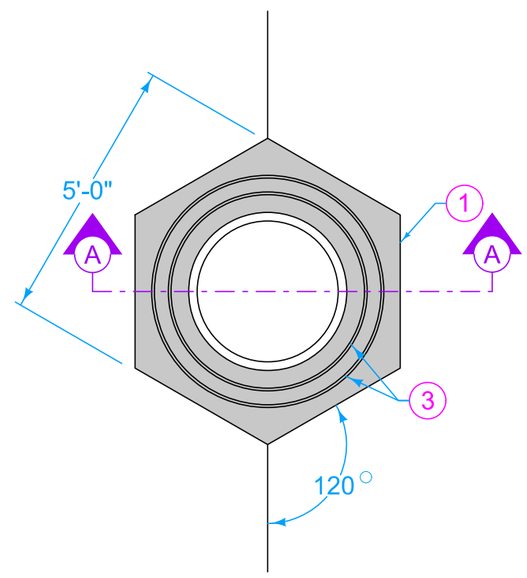


SECTION A-A 4
(For three-piece floating casting)



5

CIRCULAR



AT A SINGLE JOINT

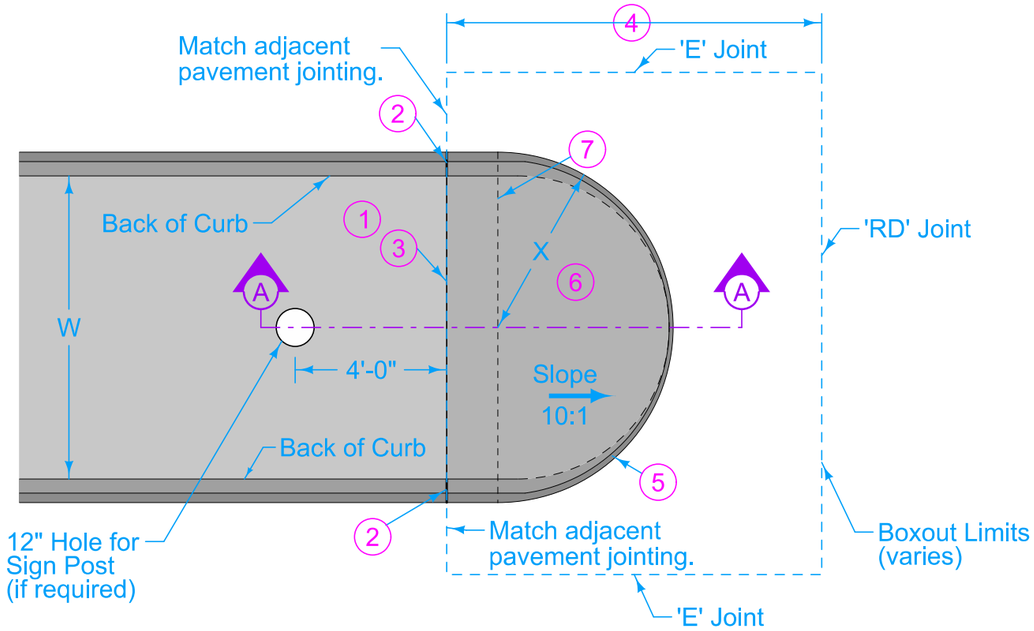
SUDAS	IOWA DOT	REVISION 2 04-19-22
FIGURE 7010.103	STANDARD ROAD PLAN	PV-103
		SHEET 1 of 1

REVISIONS: Added note 5.

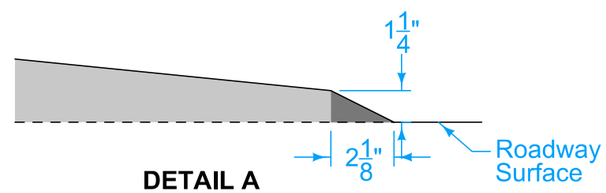
SUDAS DIRECTOR — DESIGN METHODS ENGINEER

MANHOLE BOXOUTS IN PCC PAVEMENT

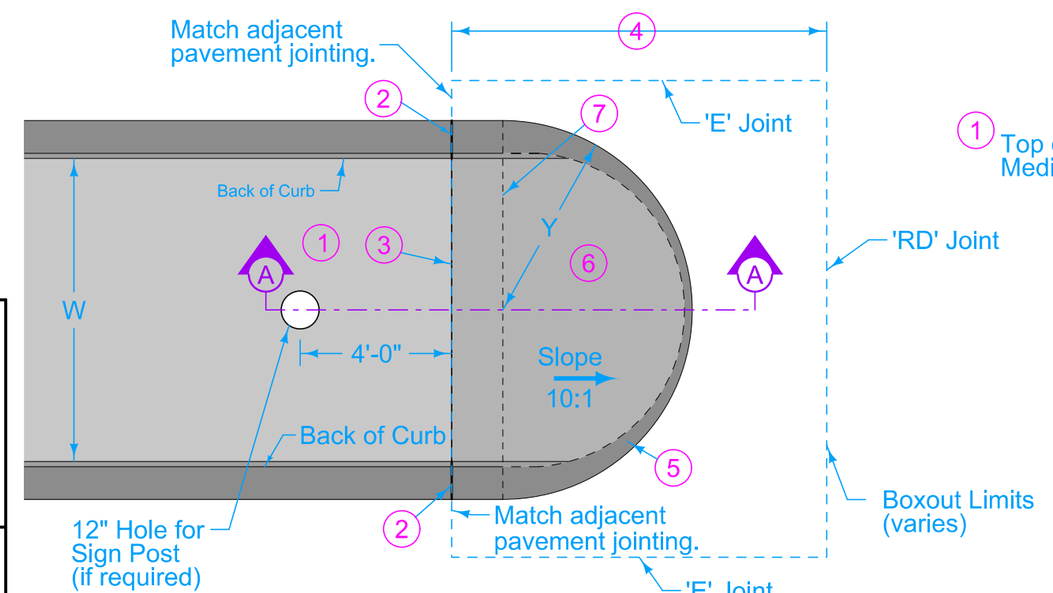
FIGURE 7010.103 | SHEET 1 OF 1



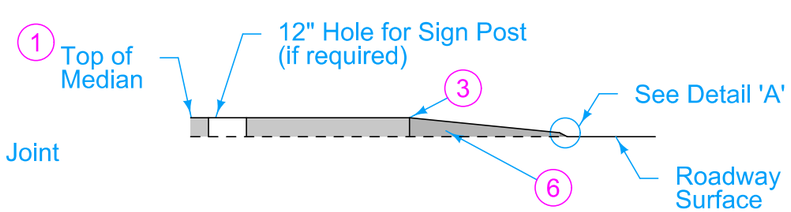
6" STANDARD
PLAN



DETAIL A



6" SLOPED
PLAN



SECTION A-A

1. For details of paved median, see contract documents.
2. 'EE' Joint. Expansion joints located at the end of normal curb.
3. 'E'Joint. If median is paved, place expansion joints at the end of normal curb.
4. If boxout length is less than or equal to 12 feet, provide 'C' Joint. If boxout length is greater than 12 feet, provide 'RD' joint.
5. Special shaping of curb.
6. Quantities for ramped median nose area is included in roadway pavement quantities.
7. When X or Y is 4 feet or greater the expansion joints will be at the begining of the rounded median.
   W = Width from back of curb to back of curb

   X = W/2 + 7.5"

   Y = W/2 + 12"

RAMPED MEDIAN NOSE
(Median Width 8'-0" or Less)

SUDAS	IOWA DOT	REVISION	
		1	04-21-20
FIGURE 7010.104	STANDARD ROAD PLAN	PV-104	
		SHEET 1 of 1	

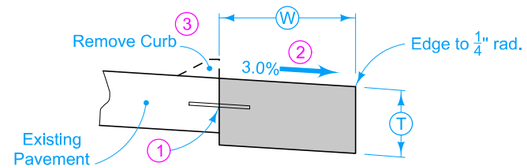
REVISIONS: New logo.

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

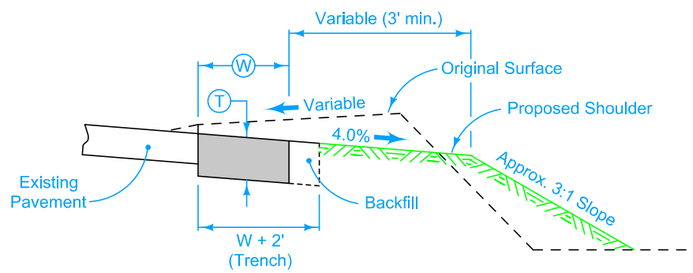
RAMPED MEDIAN NOSE

FIGURE 7010.104 | SHEET 1 OF 1

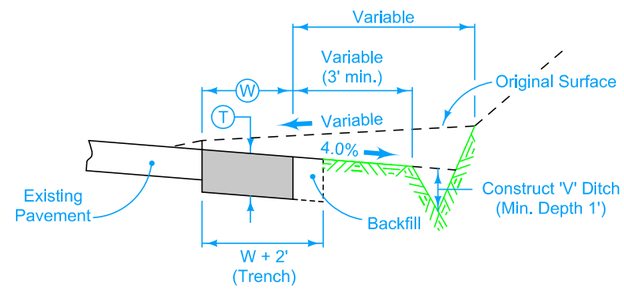
DESIGNER INFORMATION



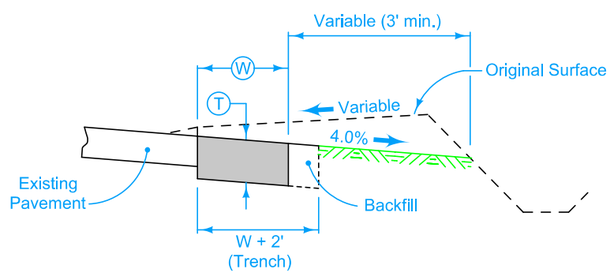
PAVEMENT WIDENING



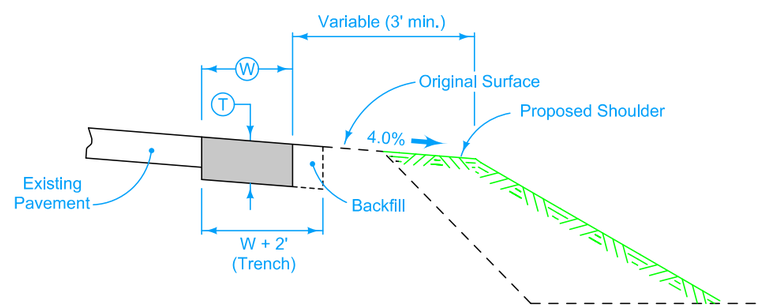
TYPE 'A'



TYPE 'B'



TYPE 'C'



TYPE 'D'

SHOULDERS FOR PAVEMENT WIDENING

'W' and 'T' are specified by the individual project plans. Dimensions may vary for superelevated curves or at locations specifically designated by the Engineer.

For joint details, refer to PV-101 and PV-121.

Install contraction joints adjacent to all existing joints or at the interval specified on the plans. Extend existing expansion joint through the widening unit. This work is incidental to other work on the project.

Construct special shaping of widening units through bridge approach sections as directed by the Engineer. The joint between the widening unit and the end of a bridge consists of a 3 inch wide joint filled with full depth bituminous resilient filler as specified in Article 4136.03, A of the Standard Specifications

Excavation in excess of that indicated is incidental to other work on the project.

1. 'BT-3' placed at mid-height unless noted otherwise.
2. For ramps and superelevated curves, match the cross-slope of the widening unit to the existing pavement.
3. See Section 2514 (for Portland Cement Concrete Widening) or Section 2213 (for Base Widening) of the Standard Specifications.

Possible Contract Items:
- Portland Cement Concrete Pavement Widening
- Base Widening, Portland Cement Concrete
- Removal of Curb
- Removal of Flumes
- Shoulders
- Excavation, Class 13, For Widening
- Special Backfill

Possible Tabulations:
- 106-5
- 106-4
- 110-4
- 110-3

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	10-21-14

PV-105

SHEET 1 of 1

REVISIONS: Changed the P dimension to W in each of the drawings.

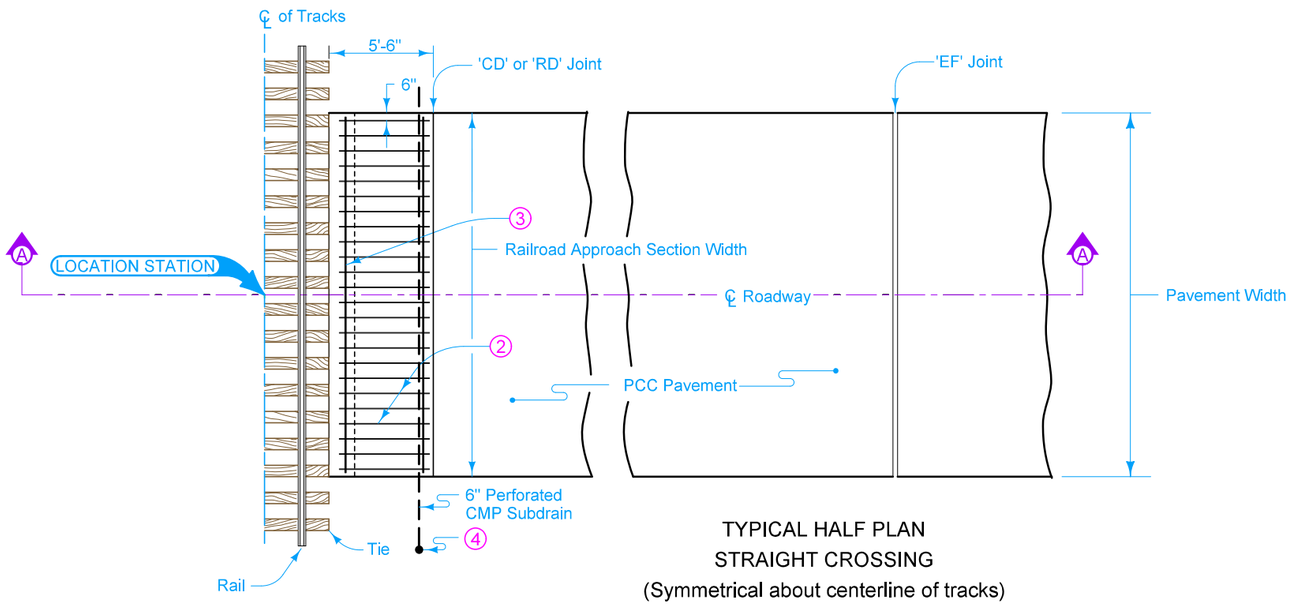
APPROVED BY DESIGN METHODS ENGINEER

PCC PAVEMENT WIDENING

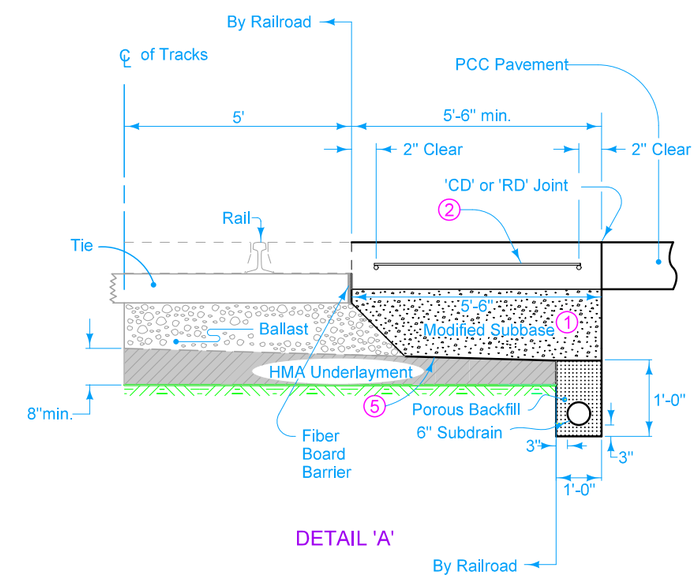
DESIGNER INFORMATION

For joint details, see PV-101.

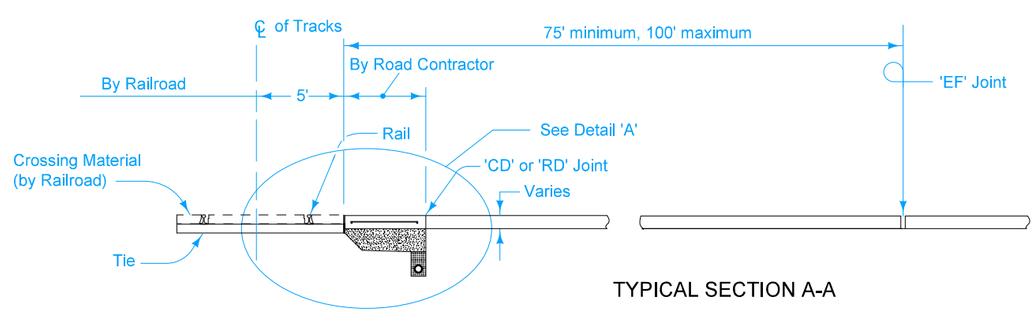
1. Ballast meeting Railroad specifications may be substituted for modified subbase.
2. #5 Bars at 12" centers located at half of the pavement thickness. Wire tie at all intersections with other bars. Lap a minimum of 1 foot when necessary and securely wire tie.
3. #5 Bars x (Approach Width - 4").
4. Outlet subdrain into ditch or storm sewer. See DR-303 and DR-306. Slope subdrain to drain.
5. Slope according to AREMA specifications



TYPICAL HALF PLAN
STRAIGHT CROSSING
(Symmetrical about centerline of tracks)



DETAIL 'A'



TYPICAL SECTION A-A

Possible Contract Item:
Railroad Approach Section, P.C.C.

Possible Tabulation:
112-3

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	10-17-17

PV-106

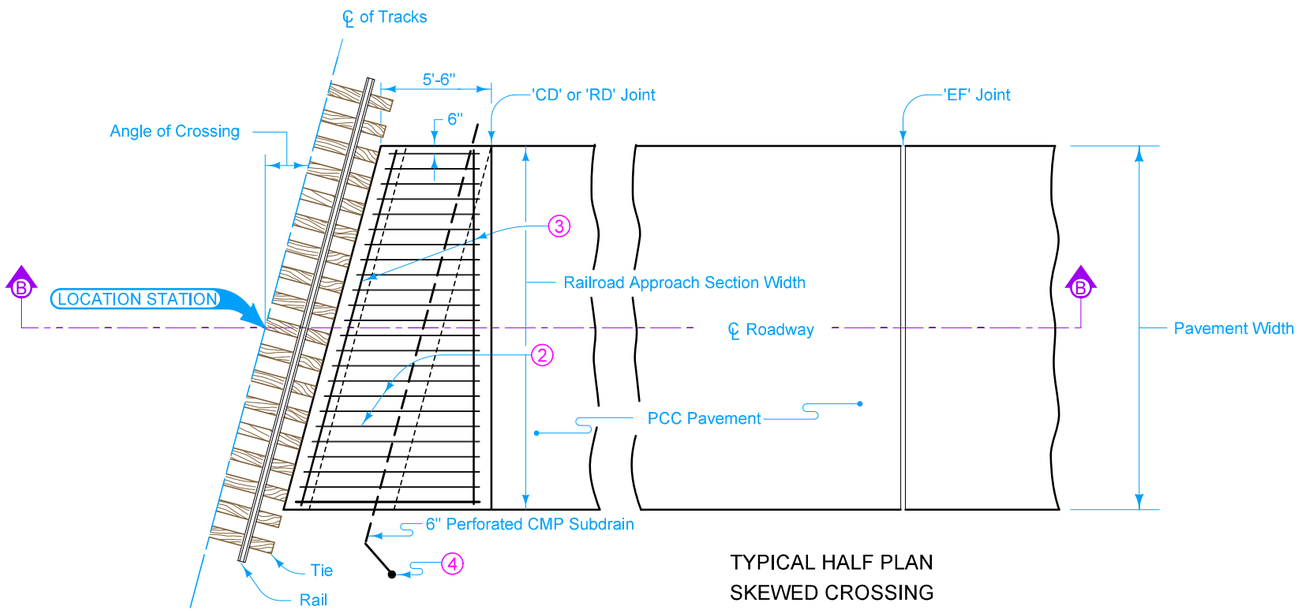
SHEET 1 of 2

REVISIONS: Changed DR-304 to DR-306.

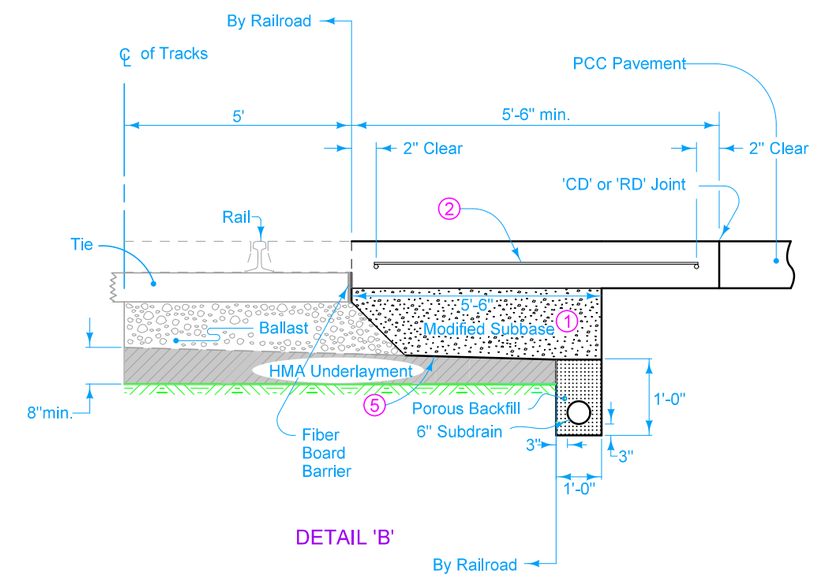
APPROVED BY DESIGN METHODS ENGINEER

PCC RAILROAD APPROACH SECTION

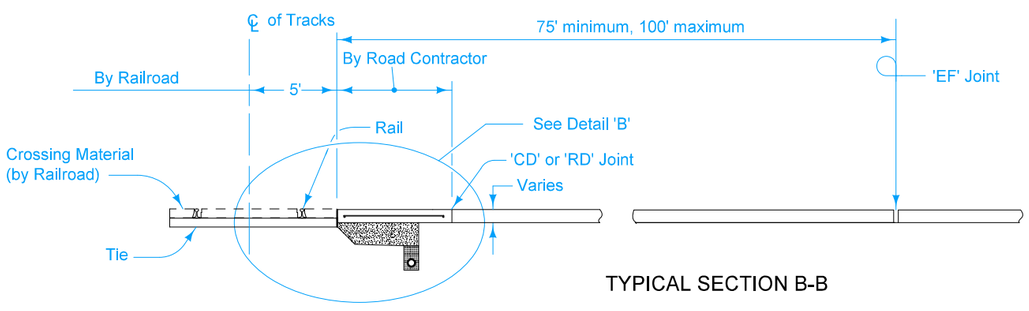
1. Ballast meeting Railroad specifications may be substituted for modified subbase.
2. #5 Bars at 12" centers located at half of the pavement thickness. Wire tie at all intersections with other bars. Lap a minimum of 1 foot when necessary and securely wire tie.
3. #5 Bars x (Approach Width - 4").
4. Outlet subdrain into ditch or storm sewer. See DR-303 and DR-306. Slope subdrain to drain.
5. Slope according to AREMA specifications



TYPICAL HALF PLAN
SKEWED CROSSING
(Symmetrical about centerline of tracks)



DETAIL 'B'



TYPICAL SECTION B-B

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	10-17-17

PV-106

SHEET 2 of 2

REVISIONS: Changed DR-304 to DR-306.

APPROVED BY DESIGN METHODS ENGINEER

PCC RAILROAD APPROACH SECTION

For joint details, see PV-101.
For curb details, see PV-102.

1. If more than 20 feet, add extra joint at midpoint.
2. 'BT' Joint.

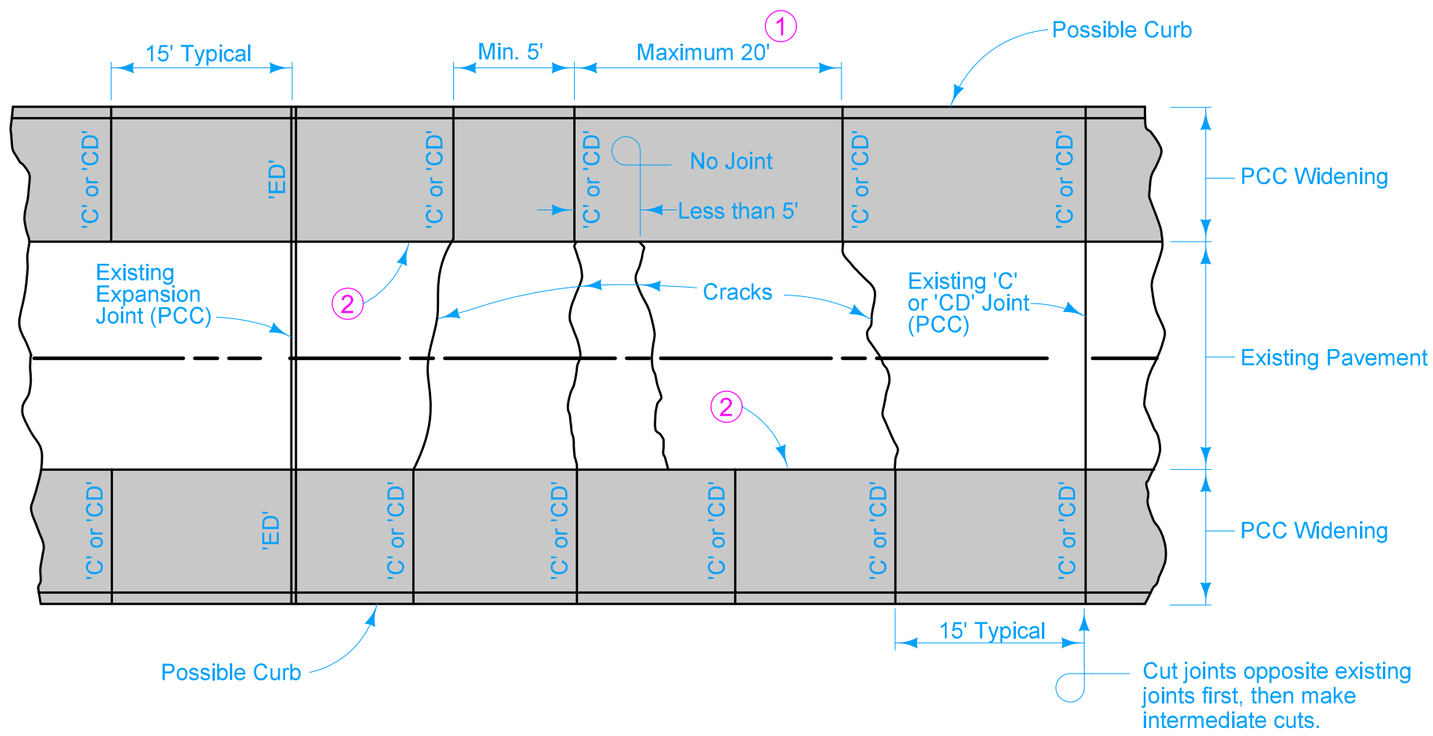


FIGURE 7010.121

SHEET 1 OF 1

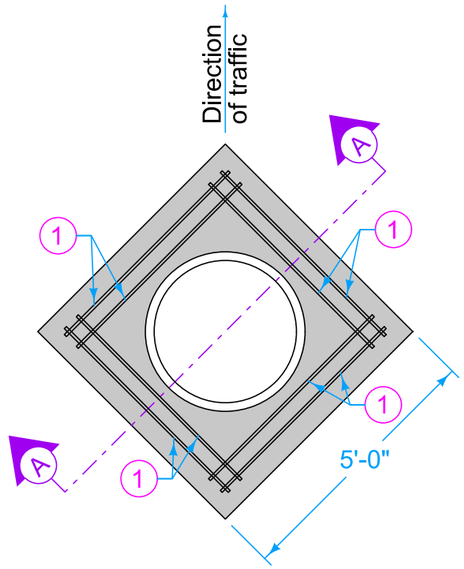
SUDAS	IOWA DOT	REVISION 1 04-21-15
FIGURE 7010.121	STANDARD ROAD PLAN	PV-121 SHEET 1 of 1

REVISIONS: Added circle note 2 and replaced the DOT logo in the title block with the new version.

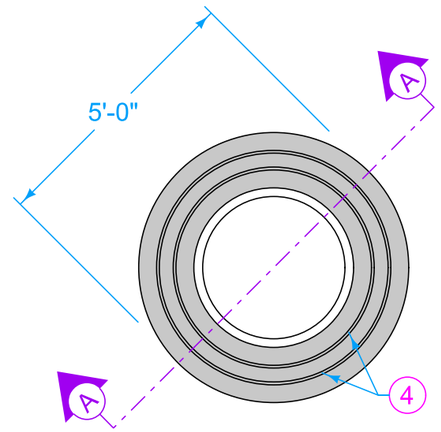
Paul D. Wiegand — SUDAS DIRECTOR

Steven Neff — DESIGN METHODS ENGINEER

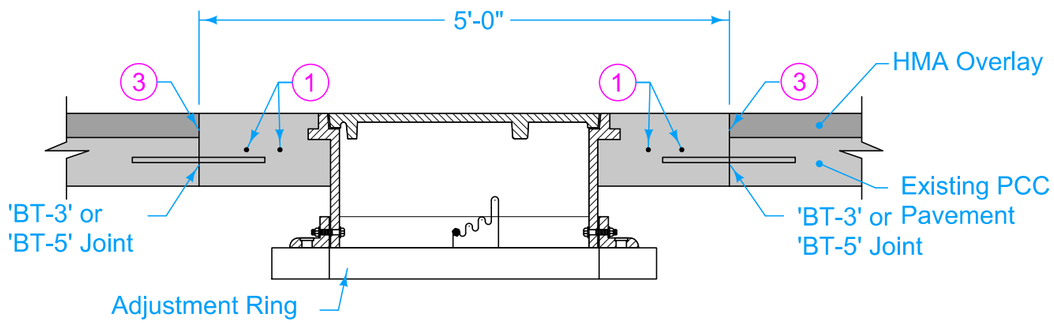
JOINTING PCC PAVEMENT WIDENING



RECTANGULAR

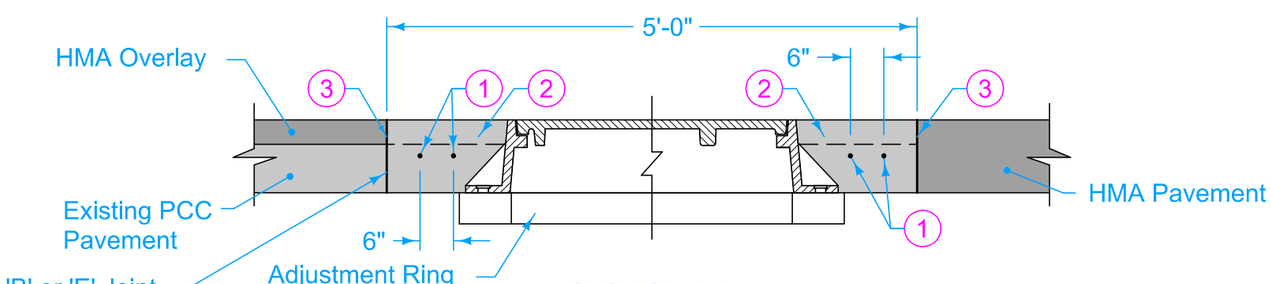


CIRCULAR



SECTION A-A

(For three-piece floating casting)



SECTION A-A

(For two-piece fixed casting)

Construct boxout with Class C concrete or match pavement class. Minimum 2 inches clear on reinforcement. Minimum 12 inches of concrete between outside of casting and nearest joint. Center casting within boxout area if possible.

1. 4 foot 8 inch (typ.) #4 bar. Place at mid-slab.
2. If boxout is constructed prior to placement of HMA overlay or final lift of HMA pavement, boxout may be constructed low, with a 'B' joint in place of the 'E' joint, and then final lift or overlay placed.
3. Apply tack coat.
4. #4 hoops (variable length). Place at mid-slab.

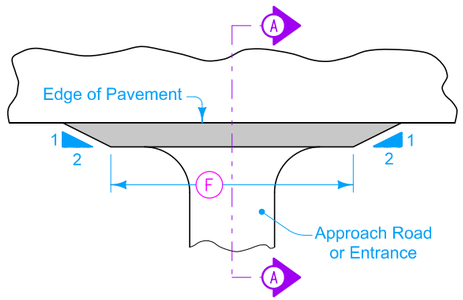
SUDAS	IOWA DOT	REVISION	
		2	04-19-22
FIGURE 7020.201	STANDARD ROAD PLAN	PV-201	
		SHEET 1 of 1	

REVISIONS: Added note 12 inch minimum around casting.

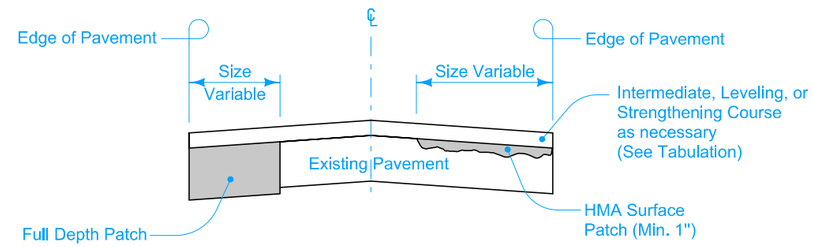
SUDAS DIRECTOR — DESIGN METHODS ENGINEER

MANHOLE BOXOUTS IN HMA PAVEMENT AND HMA OVERLAYS

FIGURE 7020.201 SHEET 1 OF 1



TYPICAL PLAN FOR FILLET
AT ENTRANCE OR INTERSECTING ROAD



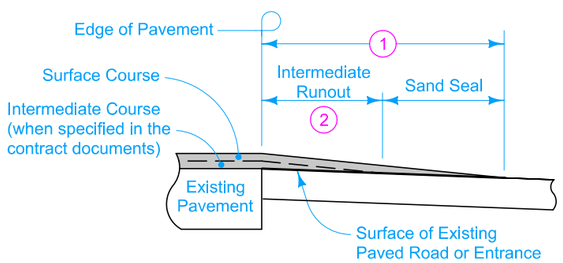
TYPICAL SECTION
FULL DEPTH AND SURFACE PATCHES

Unless specified otherwise, construct full runouts for HMA resurfacing at a rate of 50 feet for each 1 inch of resrufacing thickness.

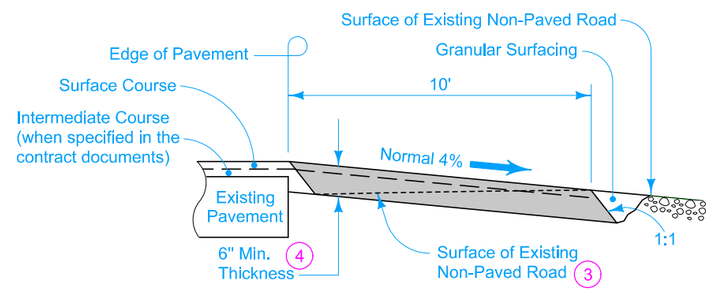
Construct temporary runouts at a length of 10 feet for each 1 inch of resurfacing thickness. Place subgrade paper, burlap, or similar material over adjacent surfaces to facilitate removal of wedges.

Construct wedge shaped HMA fillets at all paved entrances and paved intersecting roads. Construct full thickness fillets at all non-paved entrances and non-paved side roads.

Fillet sizes as listed in the Normal Fillet Sizes table are recommended and are to be used for design and estimating purposes. The Engineer will establish the length and width of each individual fillet to accommodate conditions at the site.



SECTION A-A
(WEDGE SHAPED FILLET)

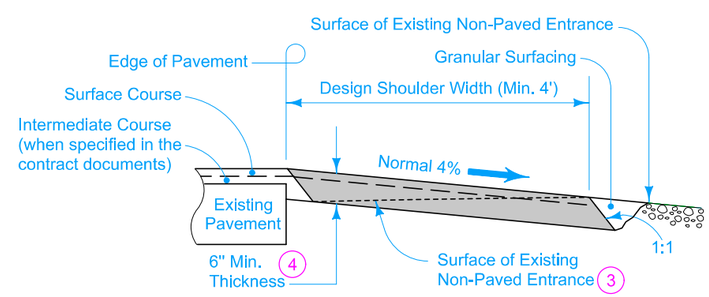


SECTION A-A
(FULL THICKNESS FILLET - NON-PAVED ROAD)

1. Fillet width is 3.33 feet for each inch of overlay thickness.
2. The ratio of the Intermediate Course runout length to the total runout length is the same as the ratio of the Intermediate Course resurfacing thickness to the total resurfacing thickness.
3. Special shaping of existing surface prior to placement of fillet may be required by the Engineer and is incidental to other work on the project.
4. For existing fillets at non-paved roads and entrances, construct a wedge shaped fillet matching the thickness of the resurfacing.

NORMAL FILLET SIZES	
TYPE OF ACCESS	F Min. - ft.
Residential Entrance	40
Farm Entrance	60
Commercial Entrance	80
Non-Paved Road	100
Paved Road	Variable*

* See layout drawing for details of construction of special areas.



SECTION A-A
(FULL THICKNESS FILLET - NON-PAVED ENTRANCE)

GENERAL DETAILS

IOWA DOT

STANDARD ROAD PLAN

REVISION
1 04-21-20

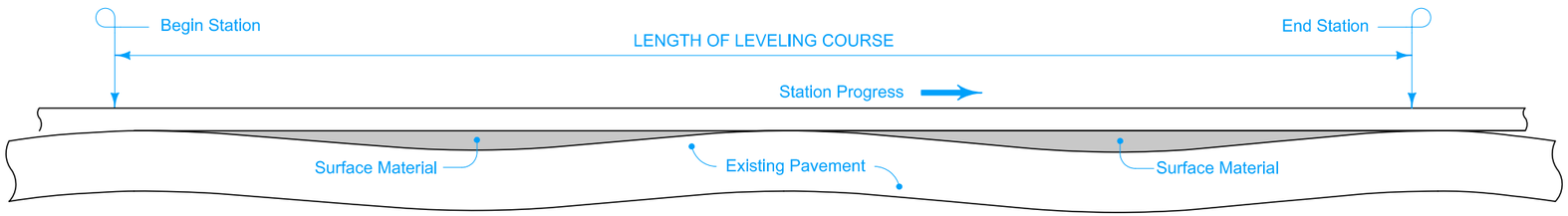
PV-202

SHEET 1 of 2

REVISIONS: New logo.

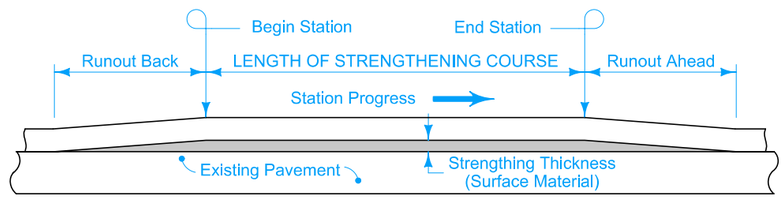
APPROVED BY DESIGN METHODS ENGINEER

HOT MIX ASPHALT
RESURFACING



LEVELING COURSE

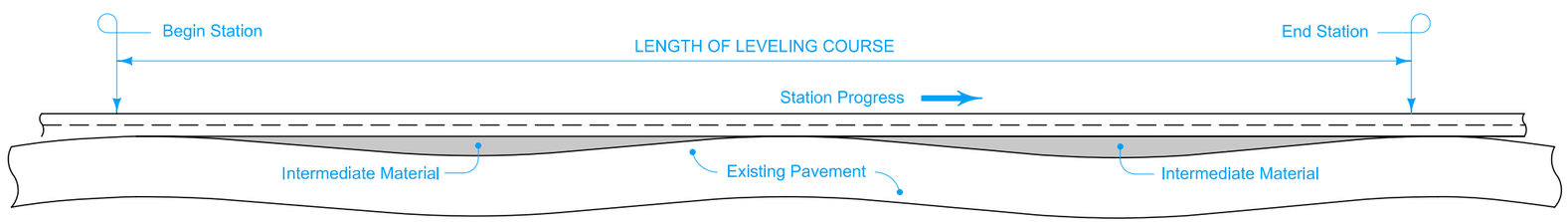
(See Tabulation for Location)



STRENGTHENING COURSE

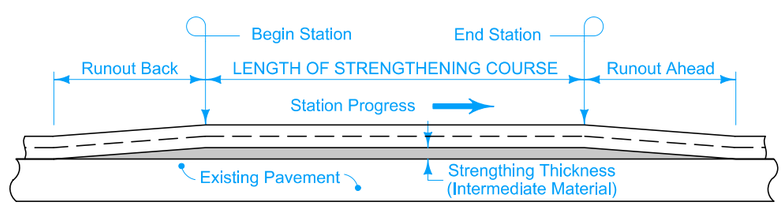
(See Tabulation for Location)

SINGLE COURSE RESURFACING



LEVELING COURSE

(See Tabulation for Location)



STRENGTHENING COURSE

(See Tabulation for Location)

DOUBLE COURSE RESURFACING

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

PV-202

SHEET 2 of 2

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

HOT MIX ASPHALT RESURFACING

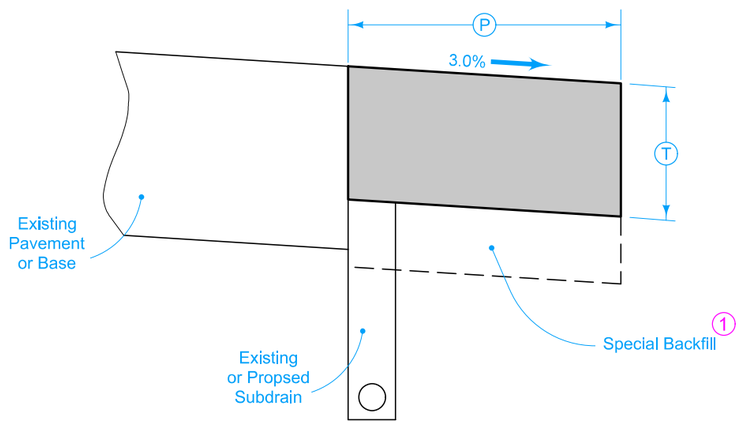
'P' and 'T' are specified by the individual project plans. Dimensions may vary for superelevated curves or at locations specifically designated by the Engineer.

Handle excavated asphalt materials as detailed elsewhere in the project plans.

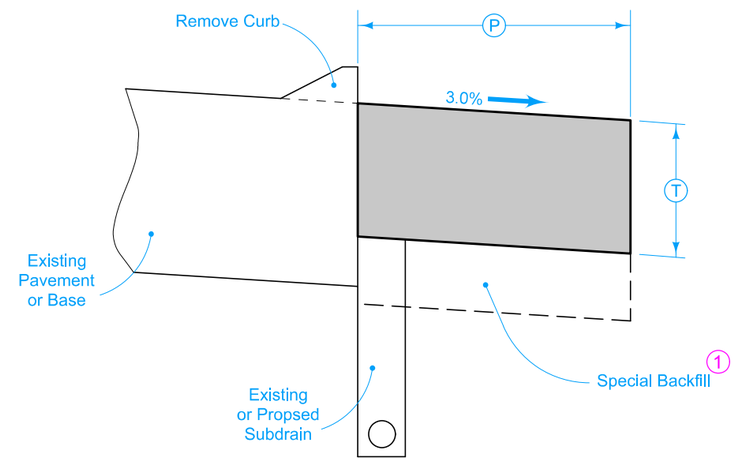
Construct special shaping of widening units through bridge approach sections as directed by the Engineer.

Excavation in excess of that indicated is incidental to other work on the project.

Place Special Backfill only at locations where specifically required by the Engineer. This work will be paid for as "Extra Work" as per Article 1109.03 of the Standard Specifications.



Hot Mix Asphalt
Widening on Existing
Pavement Without Curb



Hot Mix Asphalt
Widening on Existing
Pavement With Curb

1 6 inches of Special Backfill required when widening unit is part of the proposed traffic lane or when noted in project plans.

Possible Contract Items:
- Base Widening, Hot Mix Asphalt Mixture
- Removal of Curb
- Removal of Flumes
- Excavation, Class 13, For Widening
- Special Backfill
- Asphalt Binder

Possible Tabulations:
- 106-5
- 110-4
- 110-3

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

PV-203

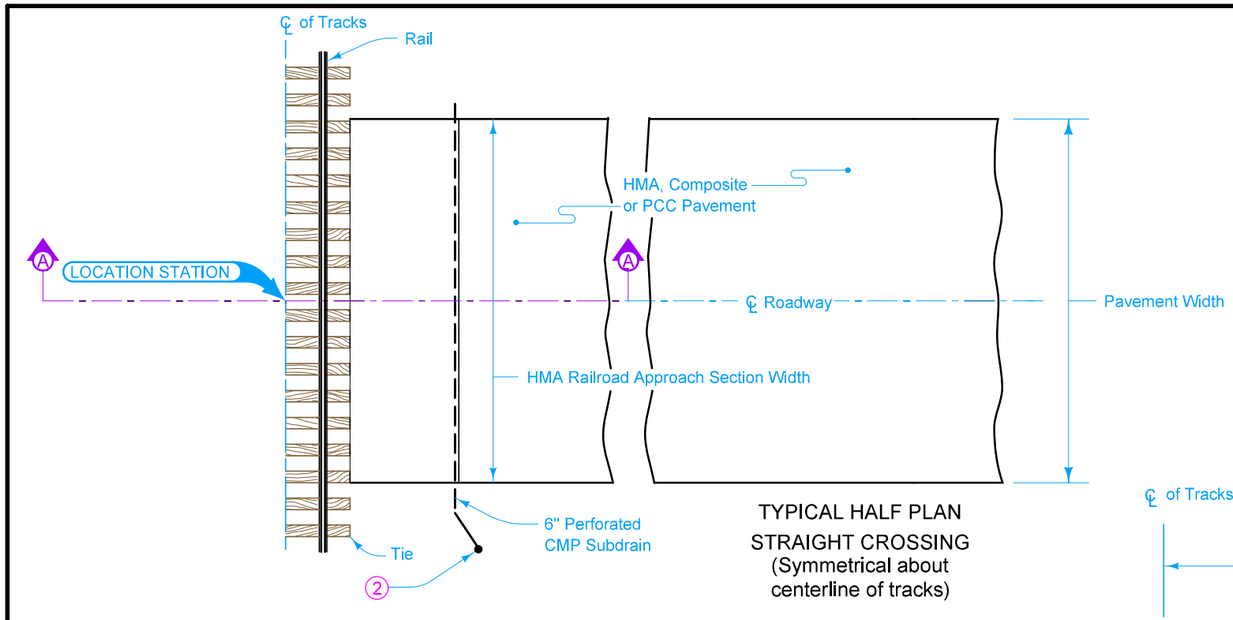
SHEET 1 of 1

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

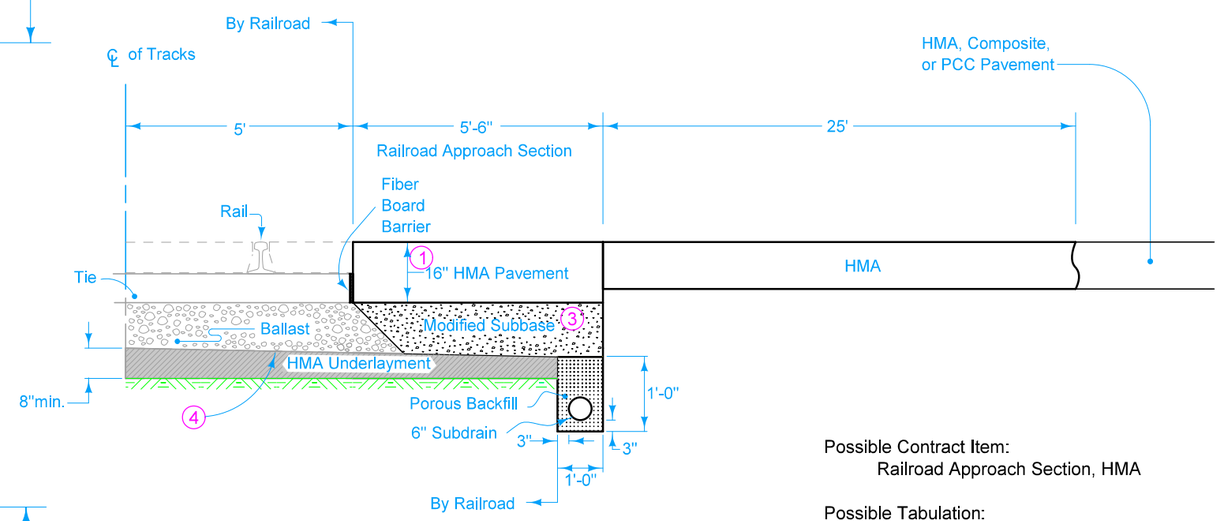
HMA BASE WIDENING

DESIGNER INFORMATION



TYPICAL HALF PLAN
STRAIGHT CROSSING
(Symmetrical about centerline of tracks)

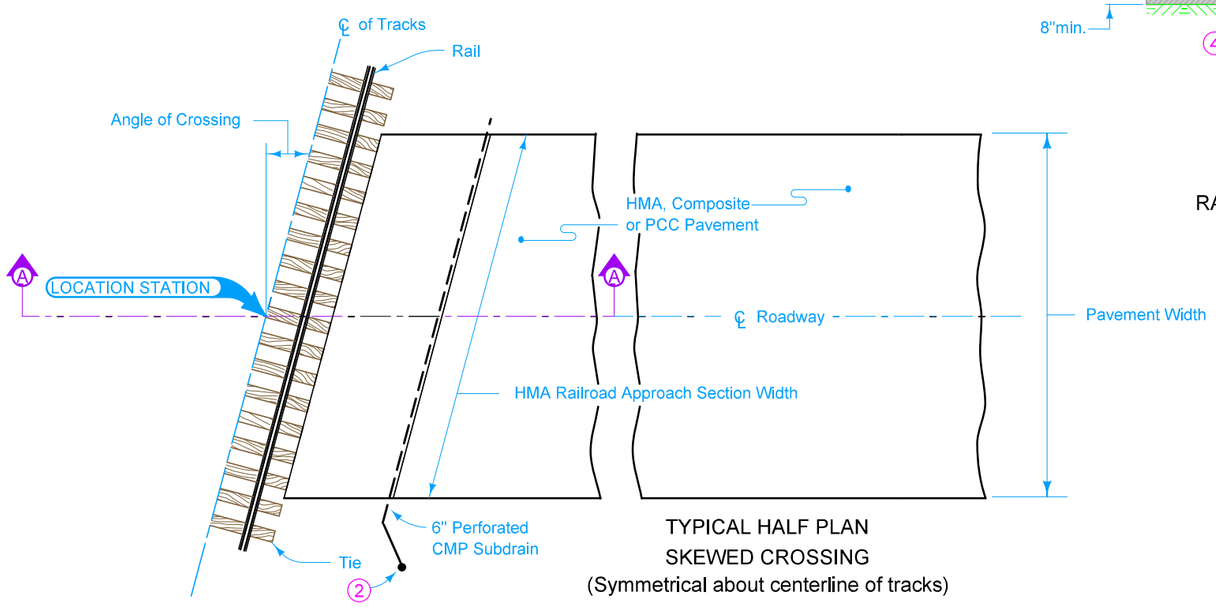
1. 16 inch approach thickness includes thickness of HMA resurfacing.
2. Outlet subdrain in ditch or sewer. See DR-303 and DR-306. Slope subdrain to drain.
3. Ballast meeting Railroad specifications may be substituted for modified subbase.
4. Slope subgrade toward drain according to AREMA specs.
5. Geosynthetic material need not be placed under modified subbase.



TYPICAL SECTION A-A
RAILROAD APPROACH DETAILS

Possible Contract Item:
Railroad Approach Section, HMA

Possible Tabulation:
112-3



TYPICAL HALF PLAN
SKEWED CROSSING
(Symmetrical about centerline of tracks)

IOWA DOT

REVISION	
2	10-17-17

STANDARD ROAD PLAN

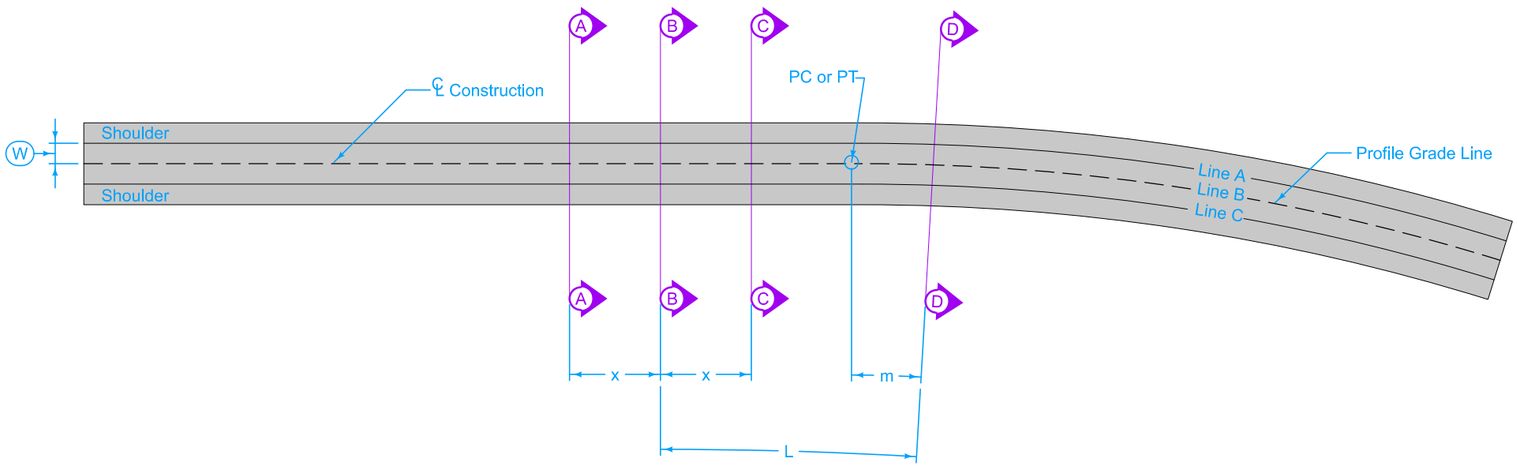
PV-204

SHEET 1 of 1

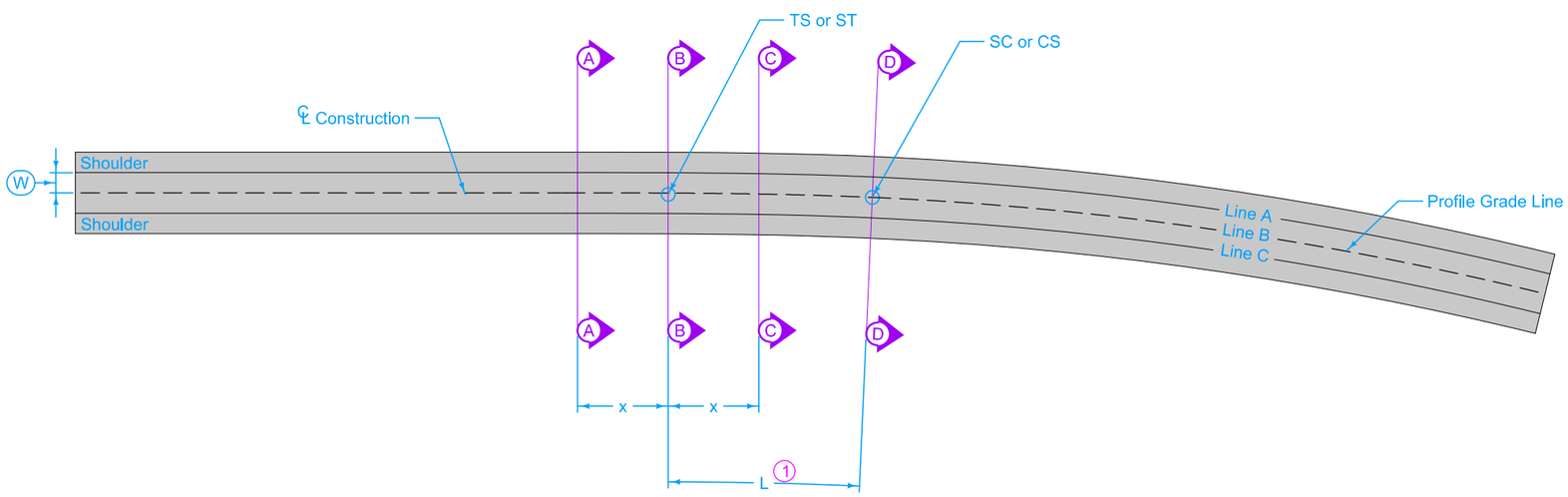
REVISIONS: Changed DR-304 to DR-306.

APPROVED BY DESIGN METHODS ENGINEER

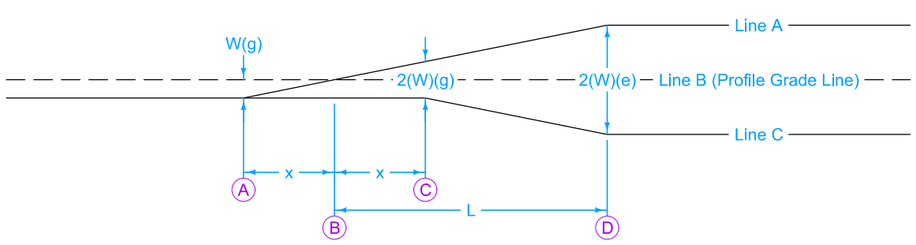
HMA RAILROAD APPROACH SECTION



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the PC and PT
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-D along the profile edges of lines A-C.

Axis of rotation coincides with profile grade location.

m = 30% of Runoff Length (L)

W = 12' Regardless of Pavement Width

g = Normal Cross Slope (2%)

L = Distance to Change Cross Slope from 0% to e

e = Supereleavtion Rate

x = Distance to Change Cross Slope from 0% to 2%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWADOT

REVISION	
2	04-21-20

STANDARD ROAD PLAN

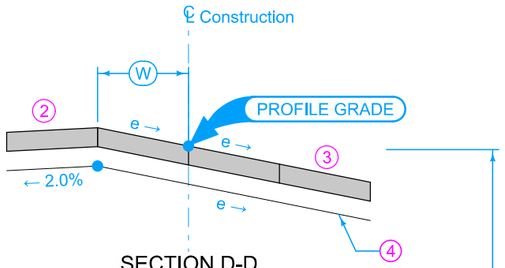
PV-301

SHEET 1 of 2

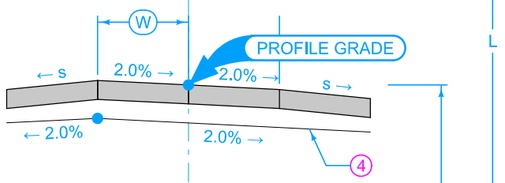
REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

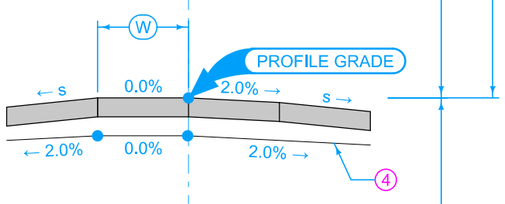
SUPERELEVATION DETAILS
TWO LANE ROADWAY



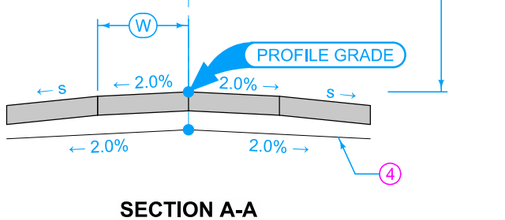
SECTION D-D
(Full Superelevation)



SECTION C-C
(Remove Crown)



SECTION B-B
(Remove Adverse Crown)

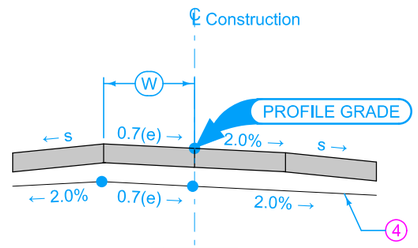


SECTION A-A
(Typical Section)

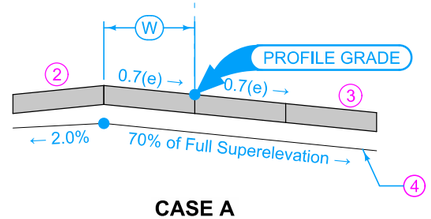
L

x

x

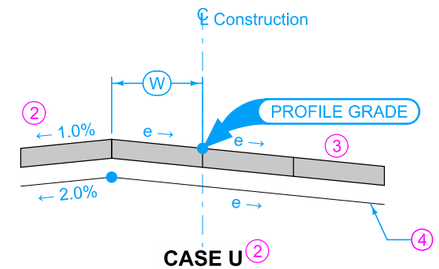


CASE B
e = 2.8%

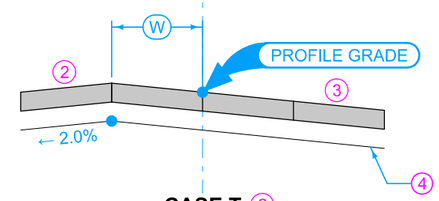


CASE A
e > 2.8%

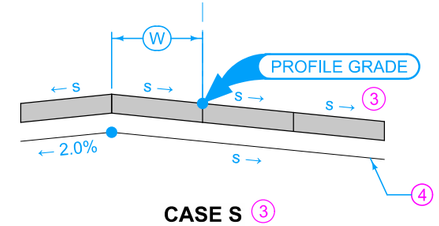
SECTION AT THE PC OR PT



CASE U 2
(Section where e = 7.0%)



CASE T 2
(Section where high side shoulder crown break rule occurs)



CASE S 3
(Section where low side shoulder crown break rule occurs)

SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

2 High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

3 Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

4 Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-21-20

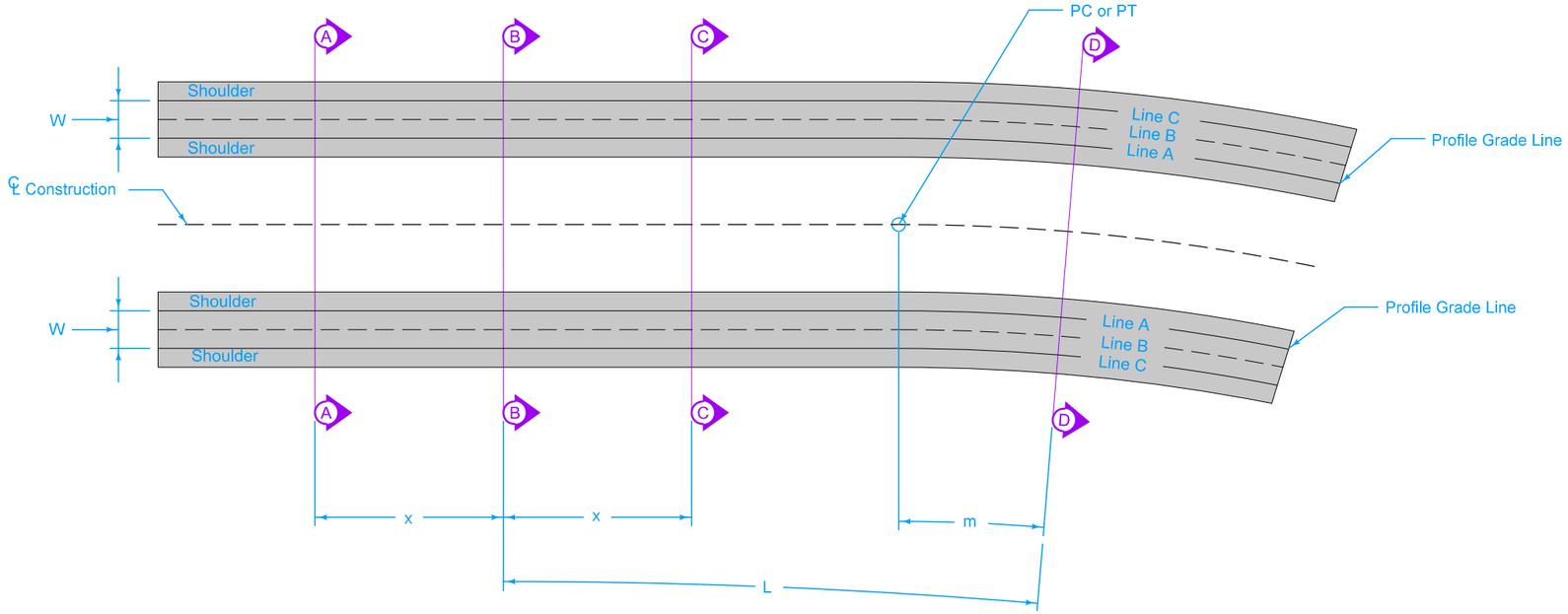
PV-301

SHEET 2 of 2

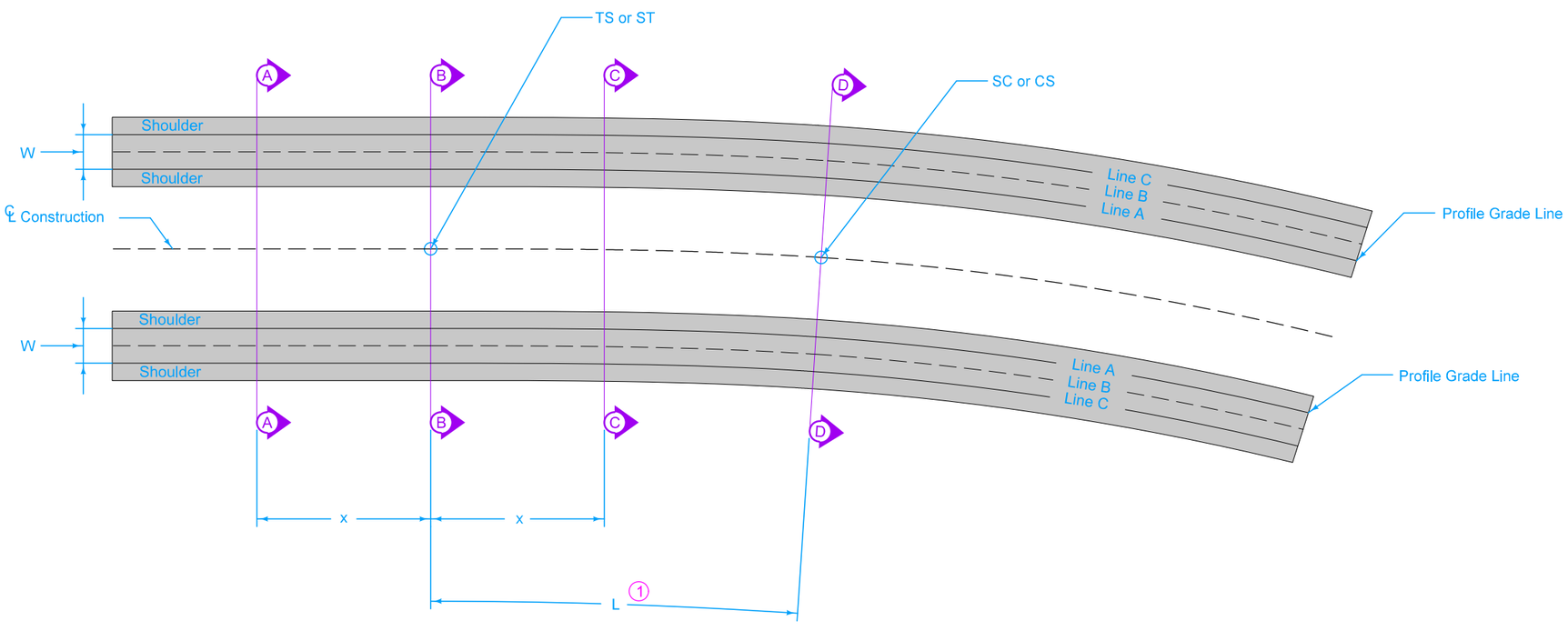
REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
TWO LANE ROADWAY



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the PC and PT
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-D along the profile edges of lines A-C.

Axis of rotation coincides with profile grade location.

m = 30% of Runoff Length (L)

W = 24' Regardless of Pavement Width

g = Normal Cross Slope (2%)

L = Distance to Change Cross Slope from 0% to e

e = Supereleavtion Rate

x = Distance to Change Cross Slope from 0% to 2%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWA DOT

REVISION	
3	4-16-24

STANDARD ROAD PLAN

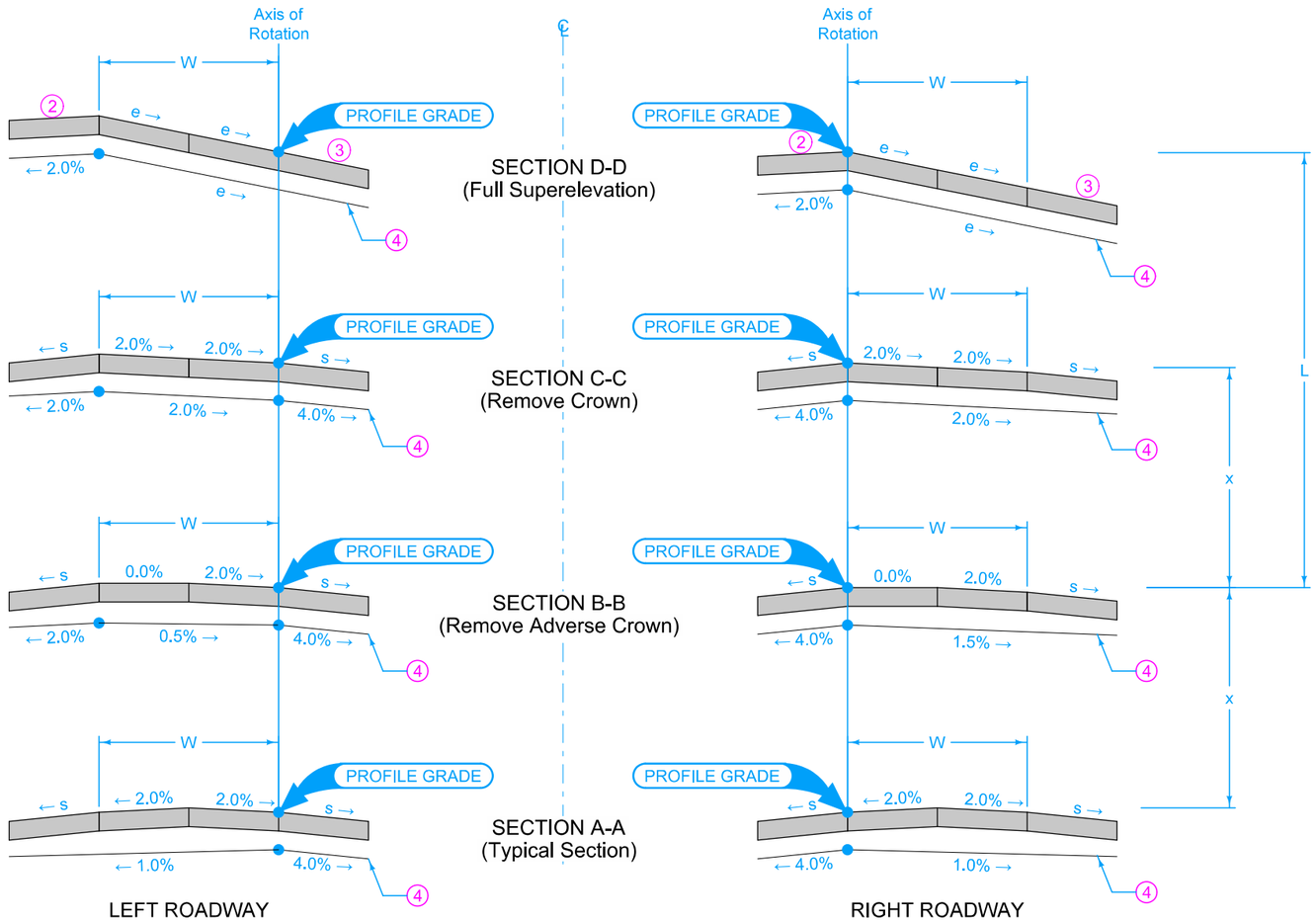
PV-302

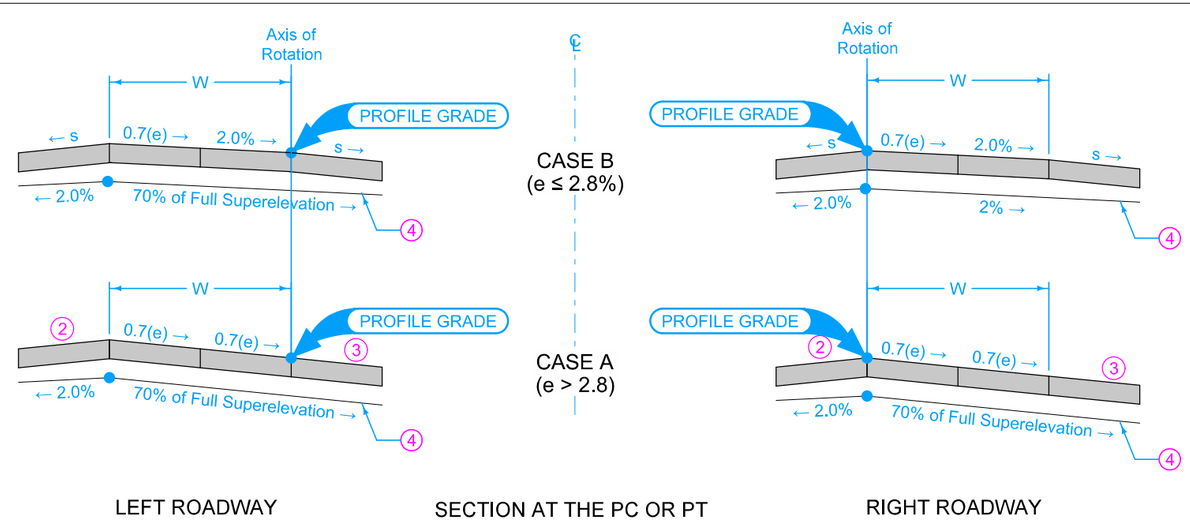
SHEET 1 of 3

REVISIONS: Changed inside shoulder subgrade slope to 4% to match detail.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
FOUR LANE ROADWAY
DEPRESSED MEDIAN





(2) High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	4-16-24

PV-302

SHEET 2 of 3

REVISIONS: Changed inside shoulder subgrade slope to 4% to match detail.

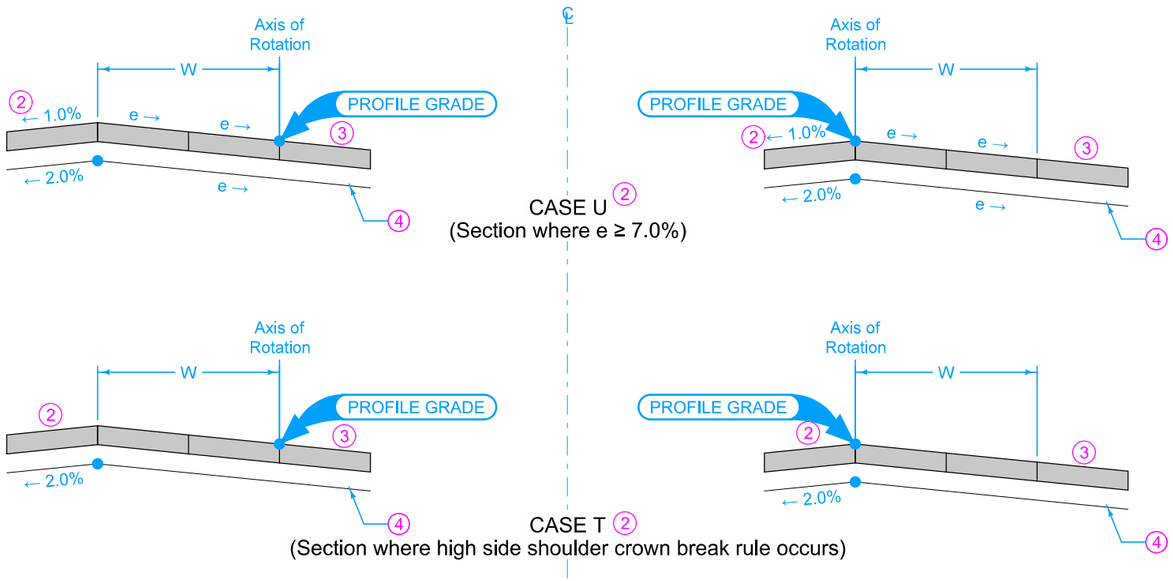
APPROVED BY DESIGN METHODS ENGINEER

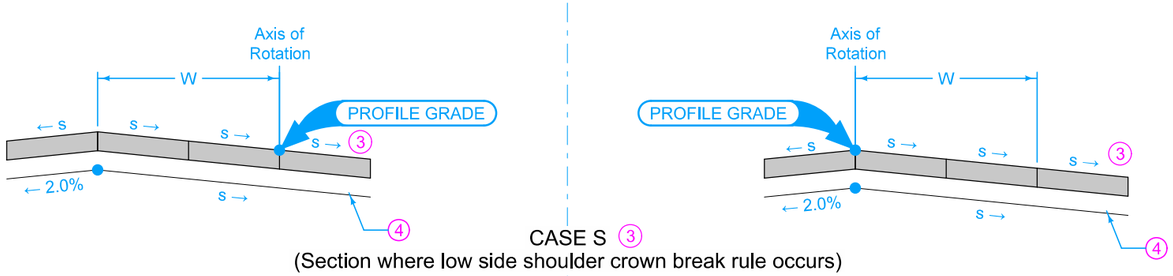
SUPERELEVATION DETAILS
FOUR LANE ROADWAY
DEPRESSED MEDIAN

(2) High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface

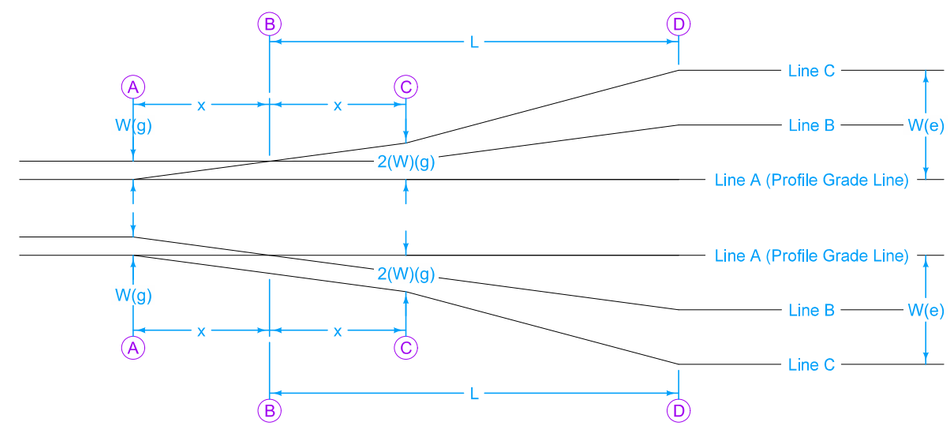




LEFT ROADWAY

RIGHT ROADWAY

SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	4-16-24

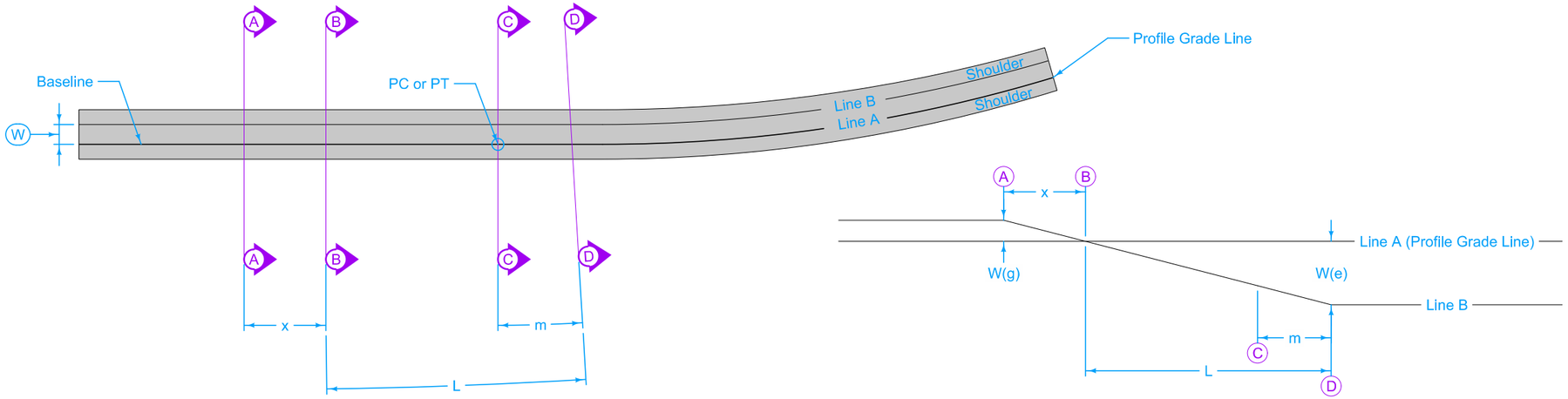
PV-302

SHEET 3 of 3

REVISIONS: Changed inside shoulder subgrade slope to 4% to match detail.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
FOUR LANE ROADWAY
DEPRESSED MEDIAN



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

CASE A
TRANSITION DETAILS - TANGENT TO CURVE
WHEN NORMAL CROSS SLOPE IS IN THE OPPOSITE DIRECTION AS SUPERELEVATION

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

Place 70% of full superelevation at the P.C. and P.T.

Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the baseline.

Smooth curves should be established at the time of construction at sections A-D along the profile edge of lines A and B.

Axis of rotation coincides with profile grade location.

m = 30% of Runoff Length (L)

W = Pavement Width

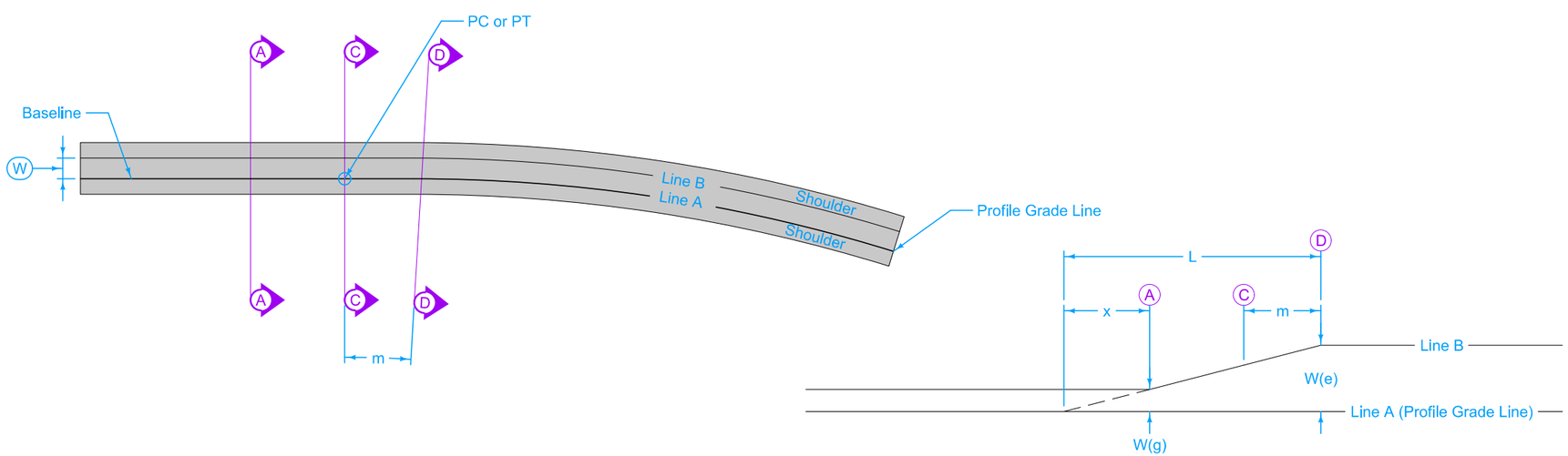
g = Normal Cross Slope (2%)

L = Distance to Change Cross Slope from 0% to e

e = Superelevation Rate

x = Distance to Change Cross Slope from 0% to 2%

s = Normal Shoulder Slope



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

CASE B
TRANSITION DETAILS - TANGENT TO CURVE
WHEN NORMAL CROSS SLOPE IS IN THE SAME DIRECTION AS SUPERELEVATION

Possible Tabulation:
101-18

IOWA DOT

REVISION	
2	04-21-20

STANDARD ROAD PLAN

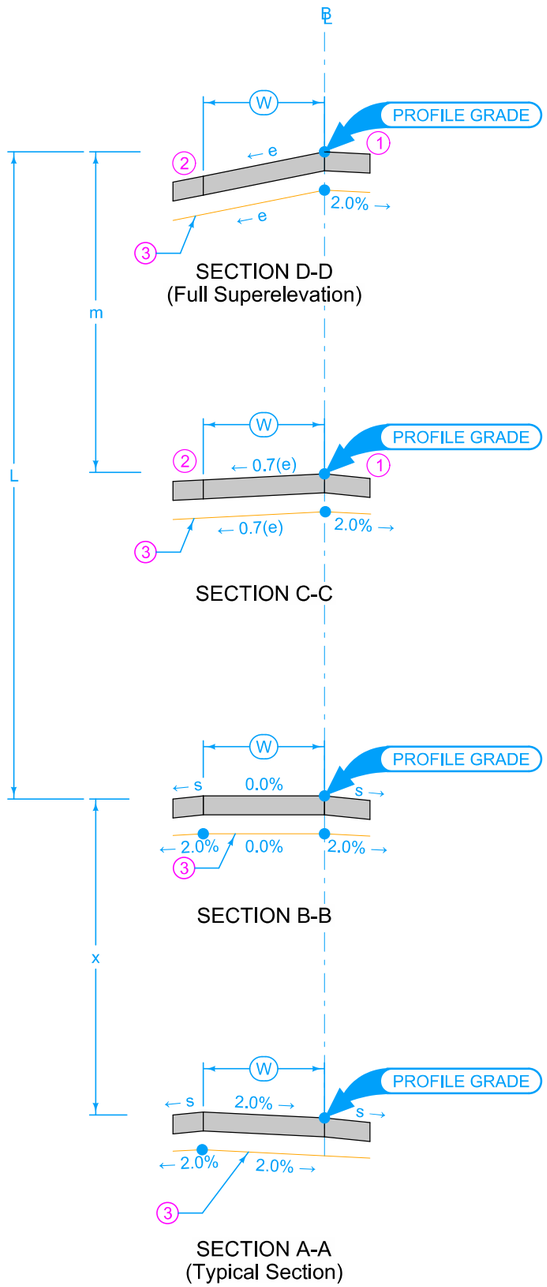
PV-303

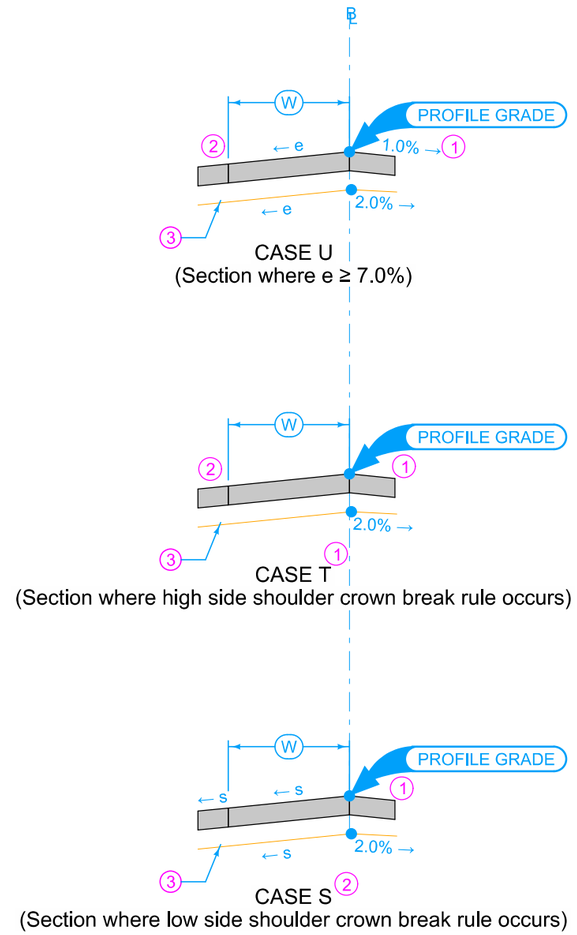
SHEET 1 of 3

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
RAMPS





SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

1. High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.
2. Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.
3. Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

CASE A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-21-20

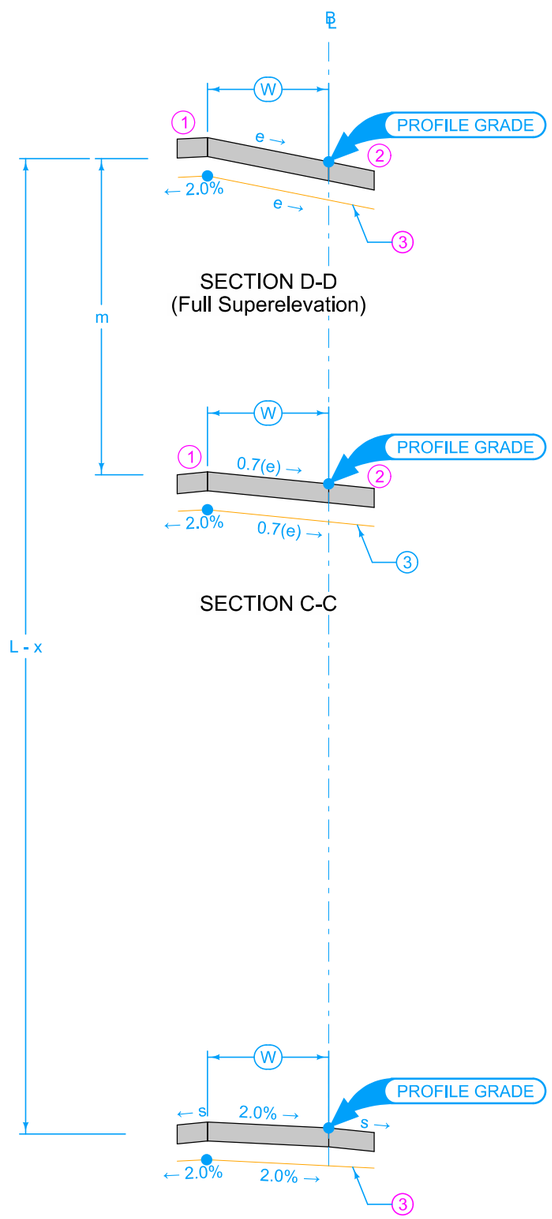
PV-303

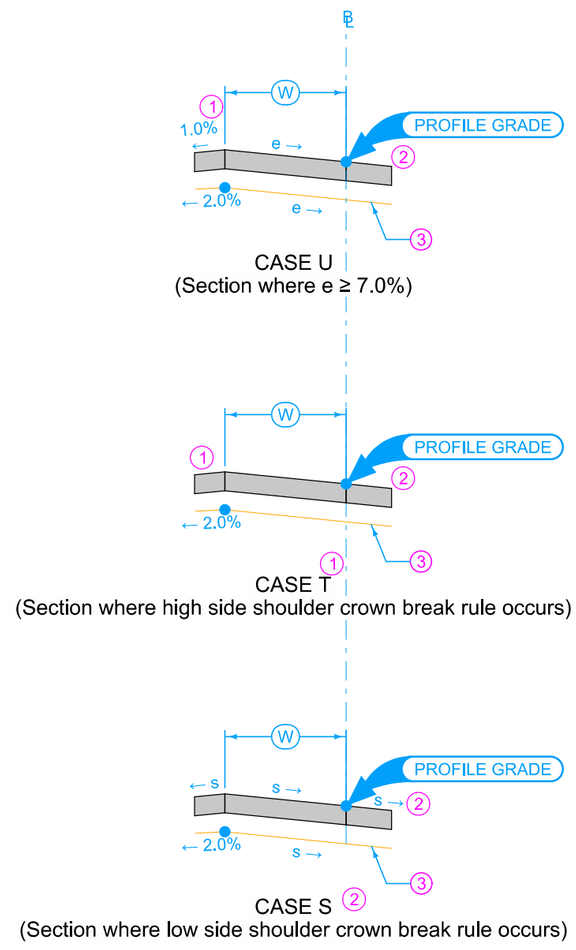
SHEET 2 of 3

REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
RAMPS





SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

1. High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.
2. Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.
3. Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

CASE B

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-21-20

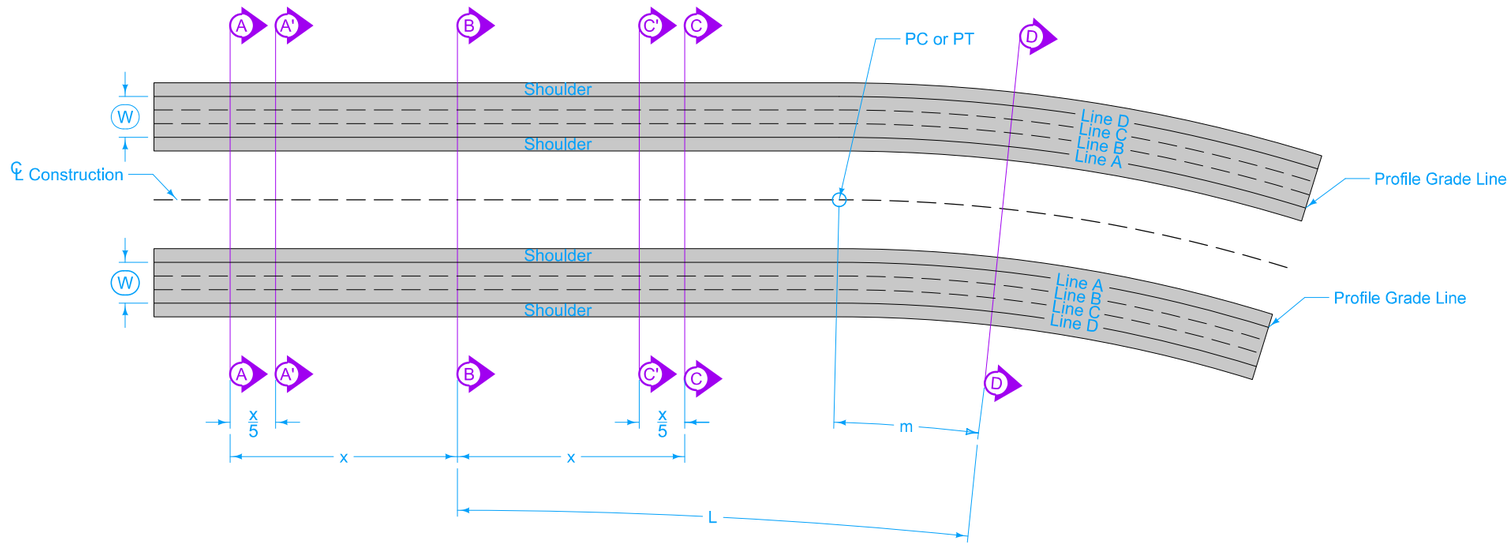
PV-303

SHEET 3 of 3

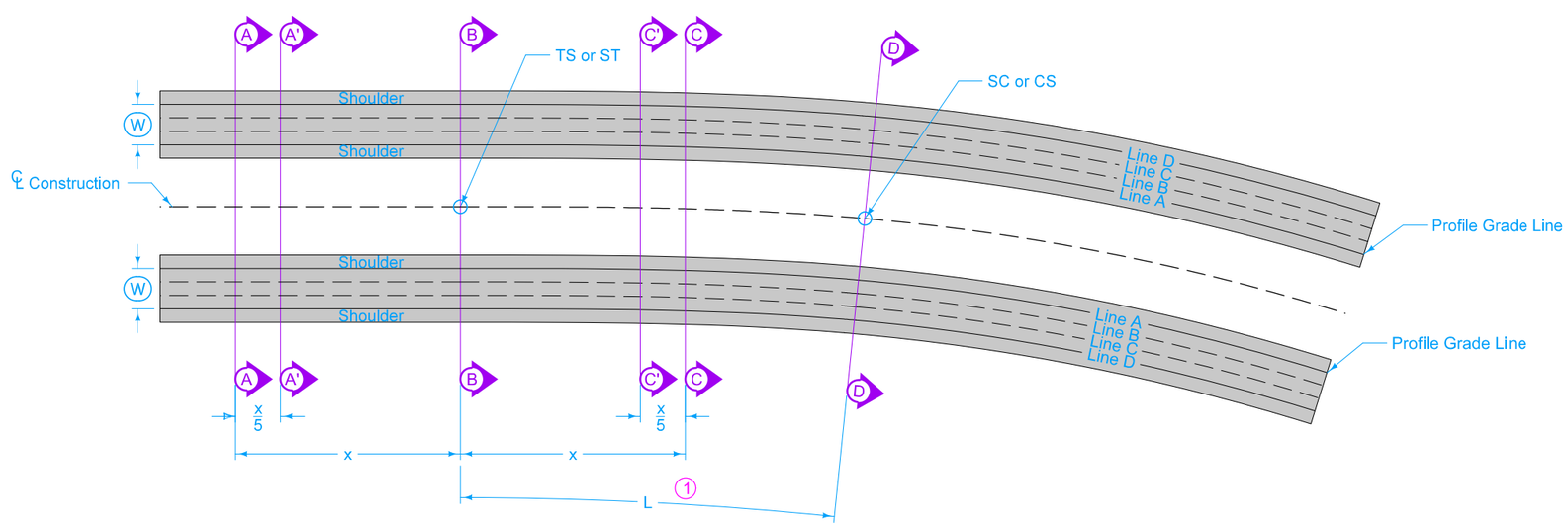
REVISIONS: New logo.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
RAMPS



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the PC and PT.
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-F along the profile edges of lines A-D.

Axis of rotation coincides with profile grade location.

m = 30% of Runoff Length (L)

W = 36' Regardless of Pavement Width

g = Normal Cross Slope (2.5%)

L = Distance to Change Cross Slope from 0% to e

e = Supereleavtion Rate

x = Distance to Change Cross Slope from 0% to 2.5%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	04-19-22

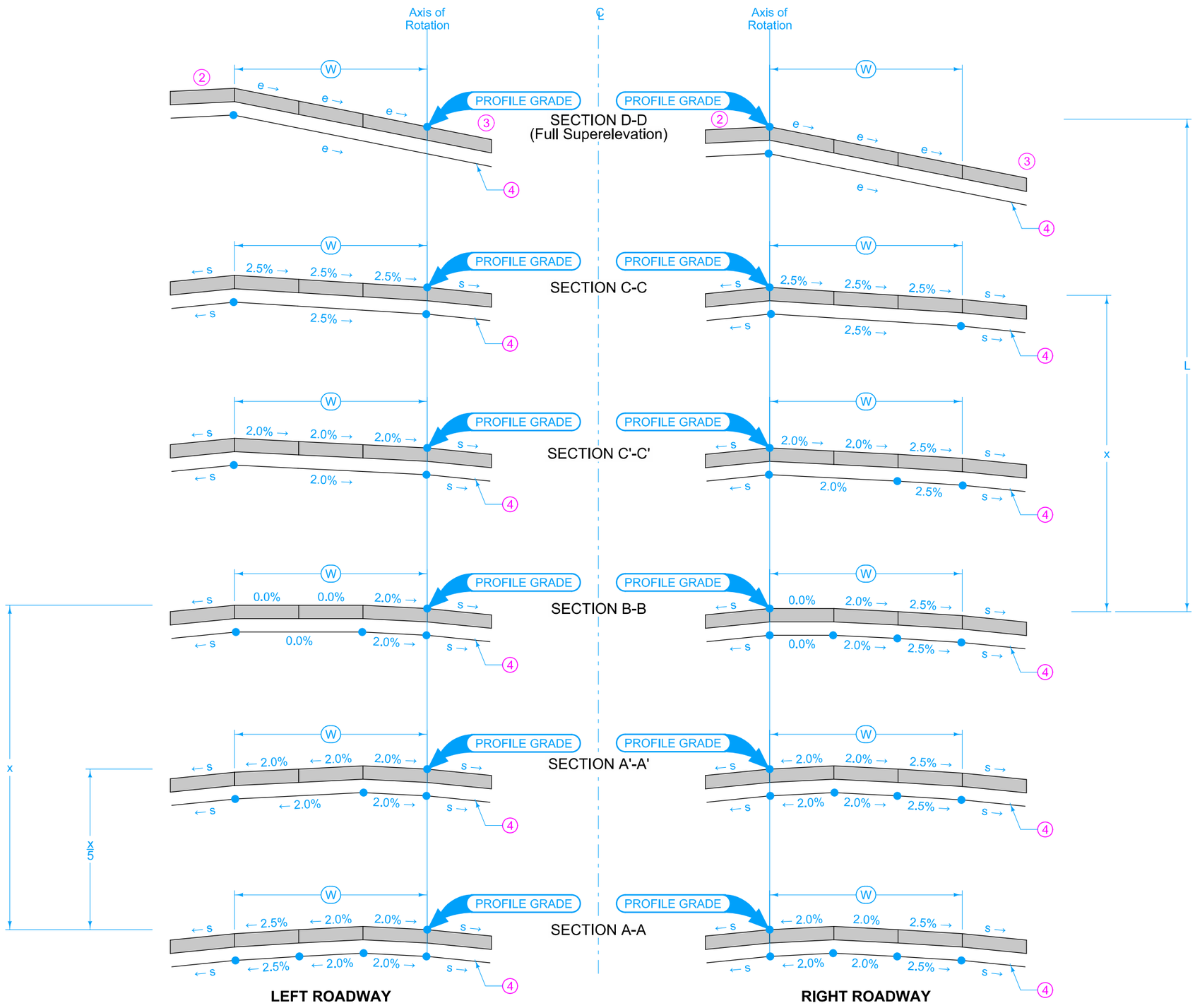
PV-304

SHEET 1 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
DEPRESSED MEDIAN



(2) High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	04-19-22

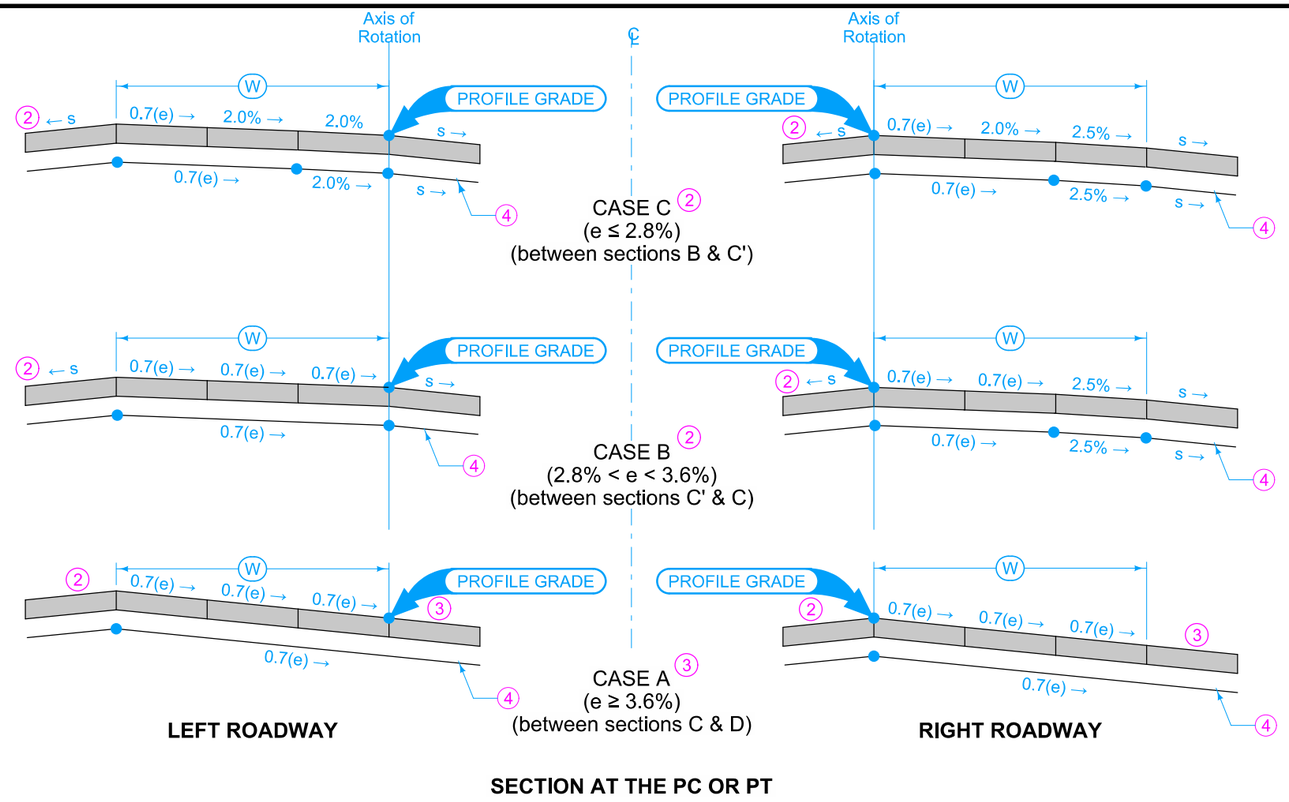
PV-304

SHEET 2 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
DEPRESSED MEDIAN

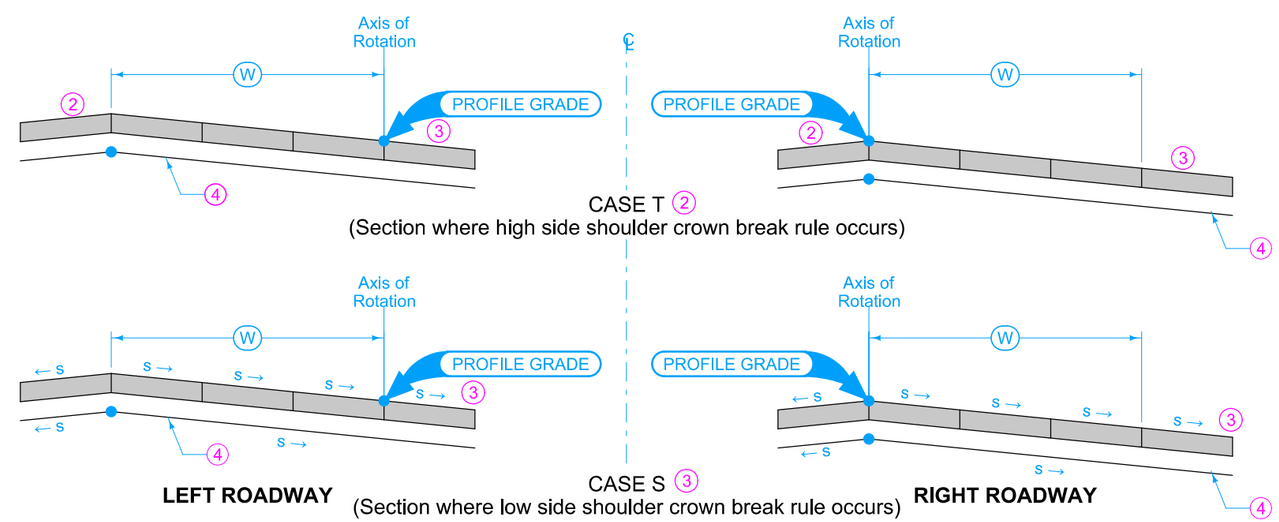


SECTION AT THE PC OR PT

(2) High Side Shoulder: Maintain normal shoulder cross slope (s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.



SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	04-19-22

PV-304

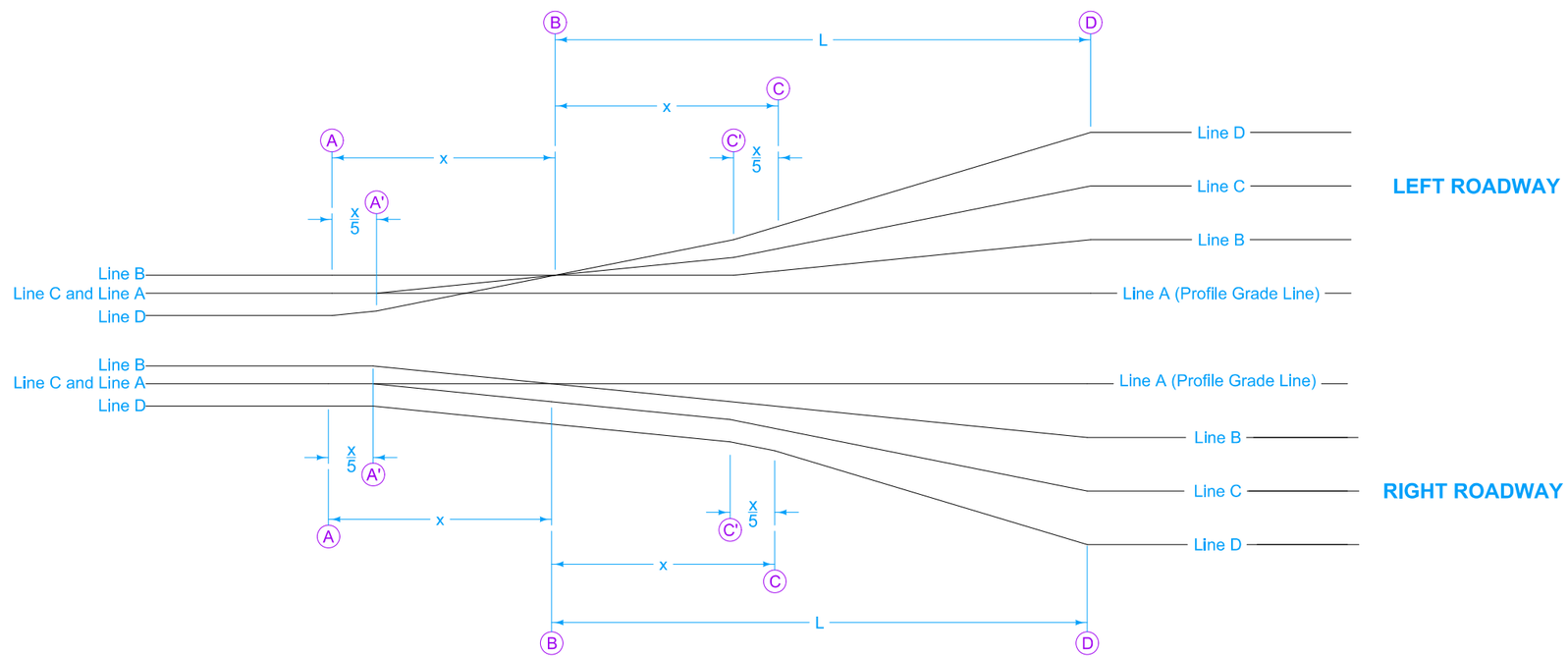
SHEET 3 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
DEPRESSED MEDIAN

TABLE OF OFFSETS AND DROPS FOR LEFT ROADWAY							
Location of Cross Sections		(A)	(A')	(B)	(C')	(C)	(D)
From Line A To Line B	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	2.0	2.0	2.5	e
	Drop (Ft.)	0.24	0.24	0.24	0.24	0.30	12(e)
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.24	-0.24	0.0	0.24	0.30	12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.30	-0.24	0.0	0.24	0.30	12(e)
From Line A To Line D	Offset (Ft.)	36	36	36	36	36	36
	Drop (Ft.)	-0.30	-0.24	0.24	0.72	0.90	36(e)



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

TABLE OF OFFSETS AND DROPS FOR RIGHT ROADWAY							
Location of Cross Sections		(A)	(A')	(B)	(C')	(C)	(D)
From Line A To Line B	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.24	0.24	0.0	-0.24	-0.30	-12(e)
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	-2.0	-2.0	-2.5	-e
	Drop (Ft.)	-0.24	-0.24	-0.24	-0.24	-0.30	-12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.5	-2.5	-2.5	-2.5	-e
	Drop (Ft.)	-0.30	-0.30	-0.30	-0.30	-0.30	-12(e)
From Line A To Line D	Offset (Ft.)	36	36	36	36	36	36
	Slope (%)						
	Drop (Ft.)	-0.30	-0.30	-0.54	-0.78	-0.90	-36(e)

IOWA DOT

STANDARD ROAD PLAN

REVISION	
3	04-19-22

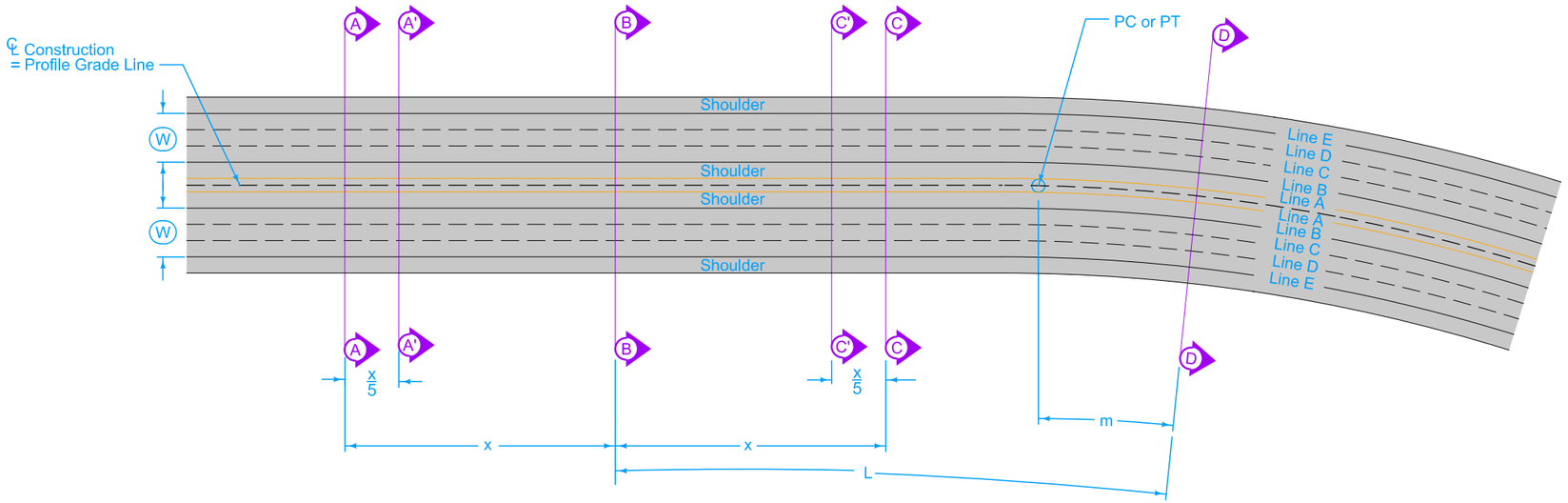
PV-304

SHEET 4 of 4

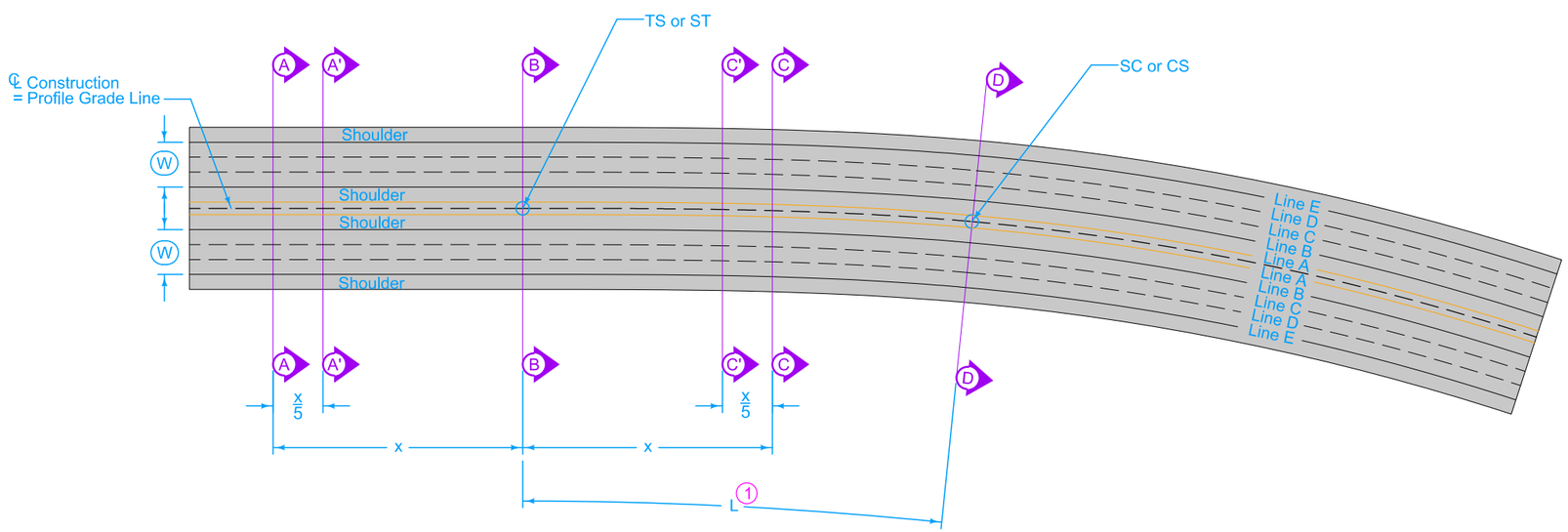
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
DEPRESSED MEDIAN



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the P.C. and P.T.
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-F along the profile edge of lines A-E.

See Detail A for profile grade location.

m = 30% of Runoff Length (L)

W = 36'

L = Distance to Change Cross Slope from 0% to e

e = Superelevation Rate

x = Distance to Change Cross Slope from 0% to 2.5%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-19-22

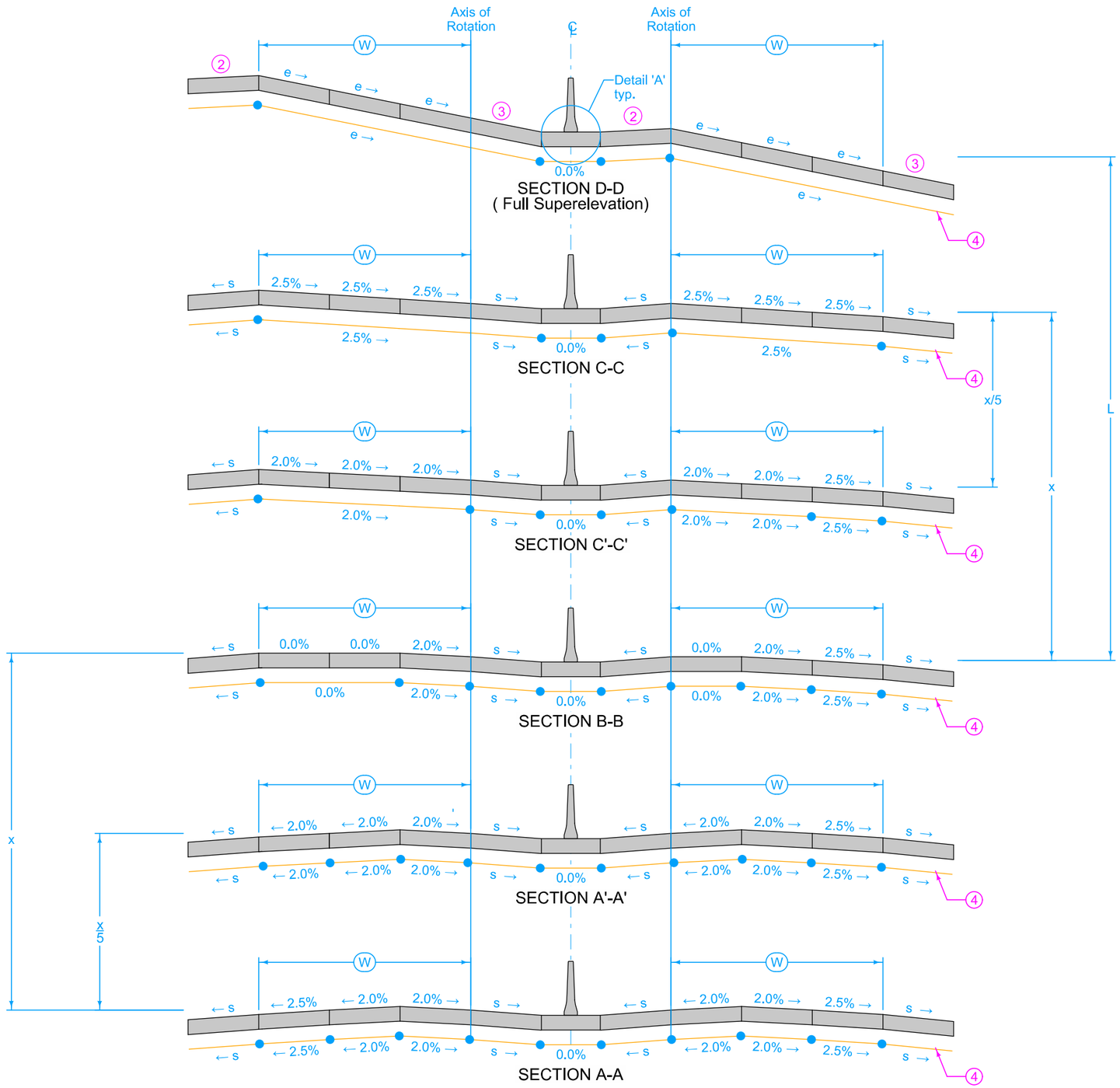
PV-305

SHEET 1 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

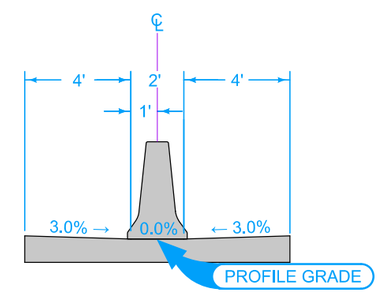
SUPERELEVATION DETAILS
SIX LANE ROADWAY
CLOSED MEDIAN



2 High Side Shoulder: Maintain normal shoulder cross slope (s) until the cross slope break with the adjacent pavement reaches 8.0%, then slope the shoulder at the same rate as the adjacent pavement maintaining an 8% cross slope breakover.

3 Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

4 Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.



DETAIL A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-19-22

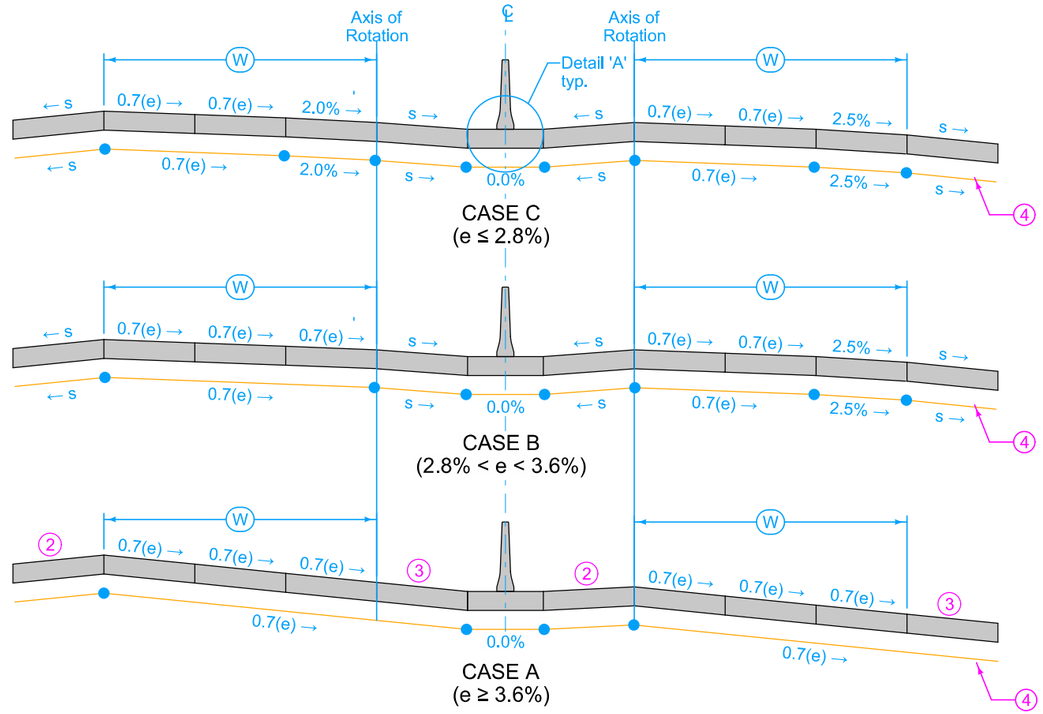
PV-305

SHEET 2 of 4

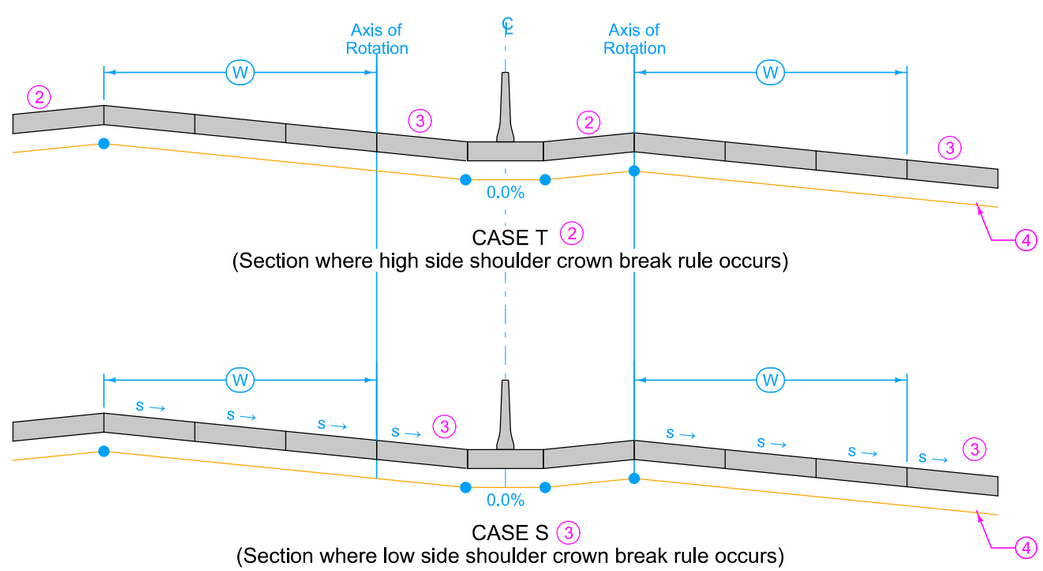
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
CLOSED MEDIAN



SECTION AT THE PC OR PT



SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

(2) High Side Shoulder: Maintain normal shoulder cross slope (s) until the cross slope break with the adjacent pavement reaches 8.0%, then slope the shoulder at the same rate as the adjacent pavement maintaining an 8% cross slope breakover.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-19-22

PV-305

SHEET 3 of 4

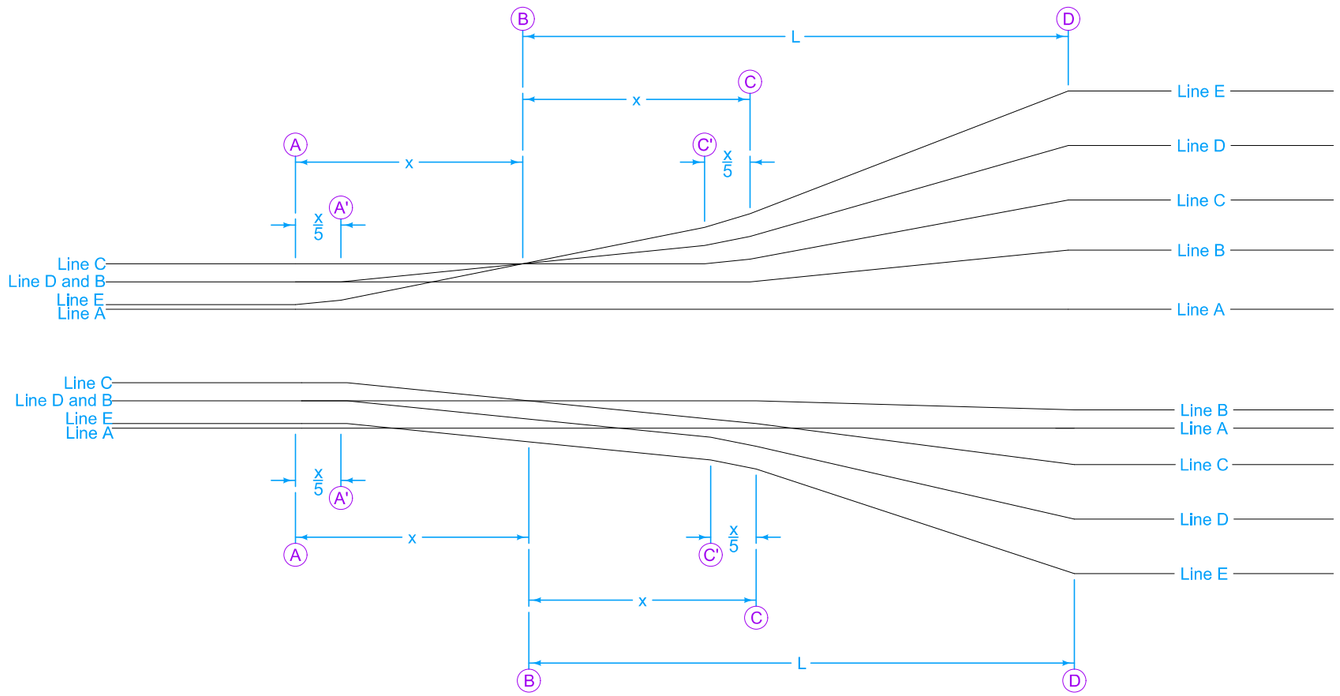
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
CLOSED MEDIAN

TABLE OF OFFSETS AND DROPS FOR LEFT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	*	*	*	*	*	*
	Slope (%)	s	s	s	s	s	3
	Drop (Ft.)						
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	2.0	2.0	2.5	e
	Drop (Ft.)	0.24	0.24	0.24	0.24	0.30	12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.24	-0.24	0.0	0.24	0.30	12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.30	-0.24	0.0	0.24	0.30	12(e)

* Refer to plan details for shoulder width



DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

TABLE OF OFFSETS AND DROPS FOR RIGHT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	*	*	*	*	*	*
	Slope (%)	s	s	s	s	3.0	2
	Drop (Ft.)						
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.24	0.24	0.0	-0.24	-0.30	-12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	-2.0	-2.0	-2.5	-e
	Drop (Ft.)	-0.24	-0.24	-0.24	-0.24	-0.30	-12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.5	-2.5	-2.5	-2.5	-e
	Drop (Ft.)	-0.30	-0.30	-0.30	-0.30	-0.30	-12(e)

* Refer to plan details for shoulder width

IOWA DOT

STANDARD ROAD PLAN

REVISION 4 04-19-22

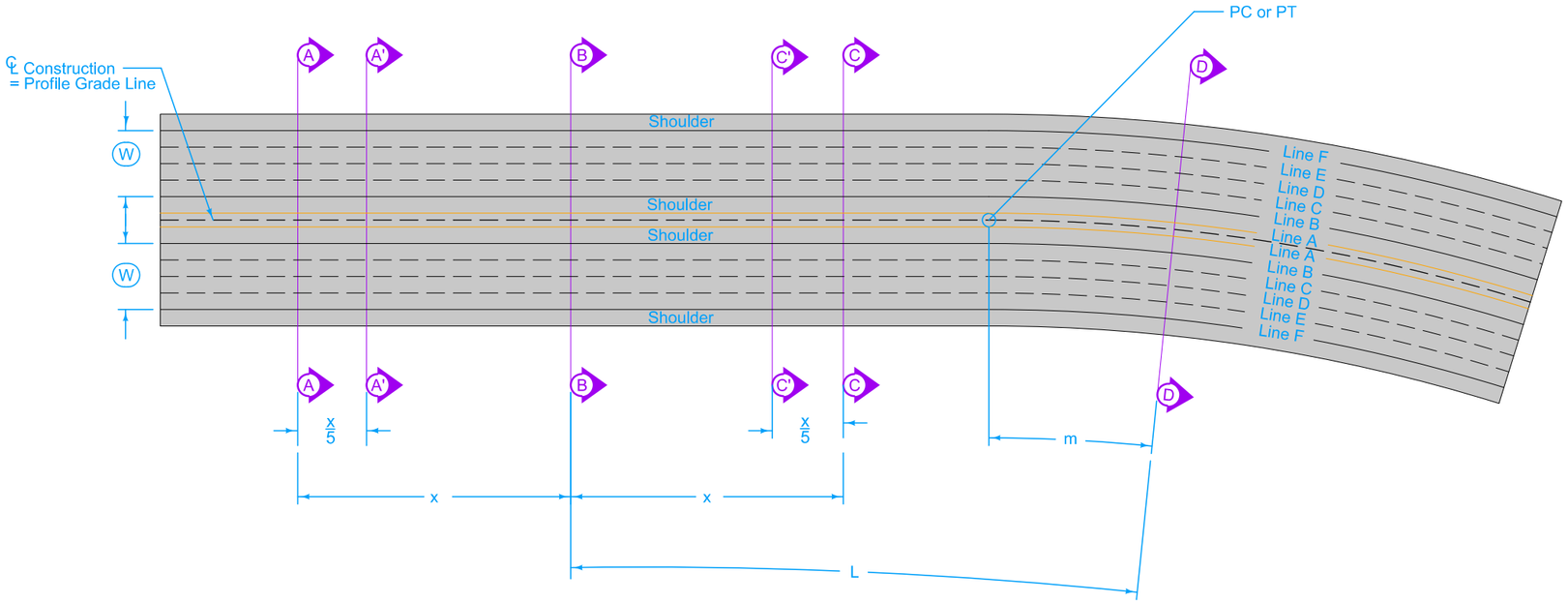
PV-305

SHEET 4 of 4

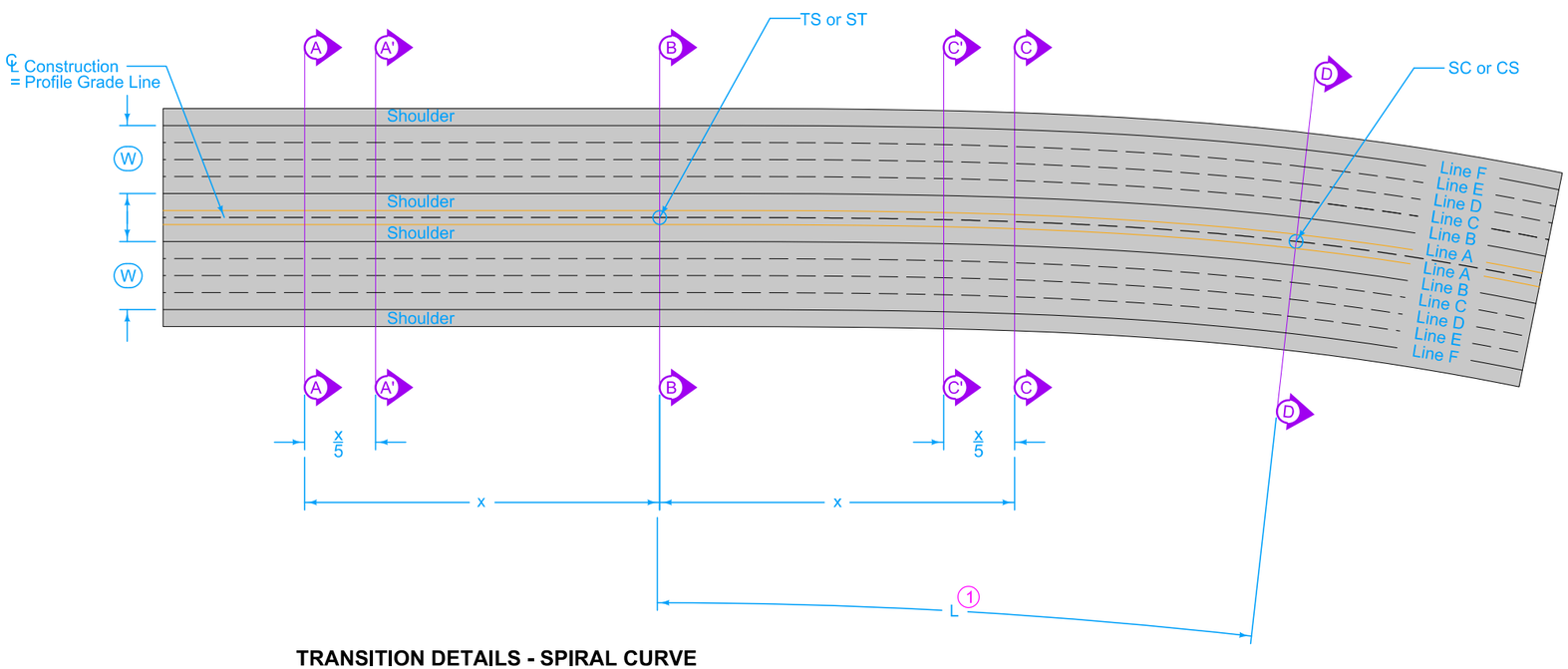
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
SIX LANE ROADWAY
CLOSED MEDIAN



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the P.C. and P.T.
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-F along the profile edges of lines A-F.

See Detail A for profile grade location.

m = 30% of Runoff Length (L)

W = 48'

g = Normal Cross Slope (2.5%)

L = Distance to Change Cross Slope from 0% to e

e = Supereleavtion Rate

x = Distance to Change Cross Slope from 0% to 2.5%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWA DOT

REVISION	
2	04-19-22

STANDARD ROAD PLAN

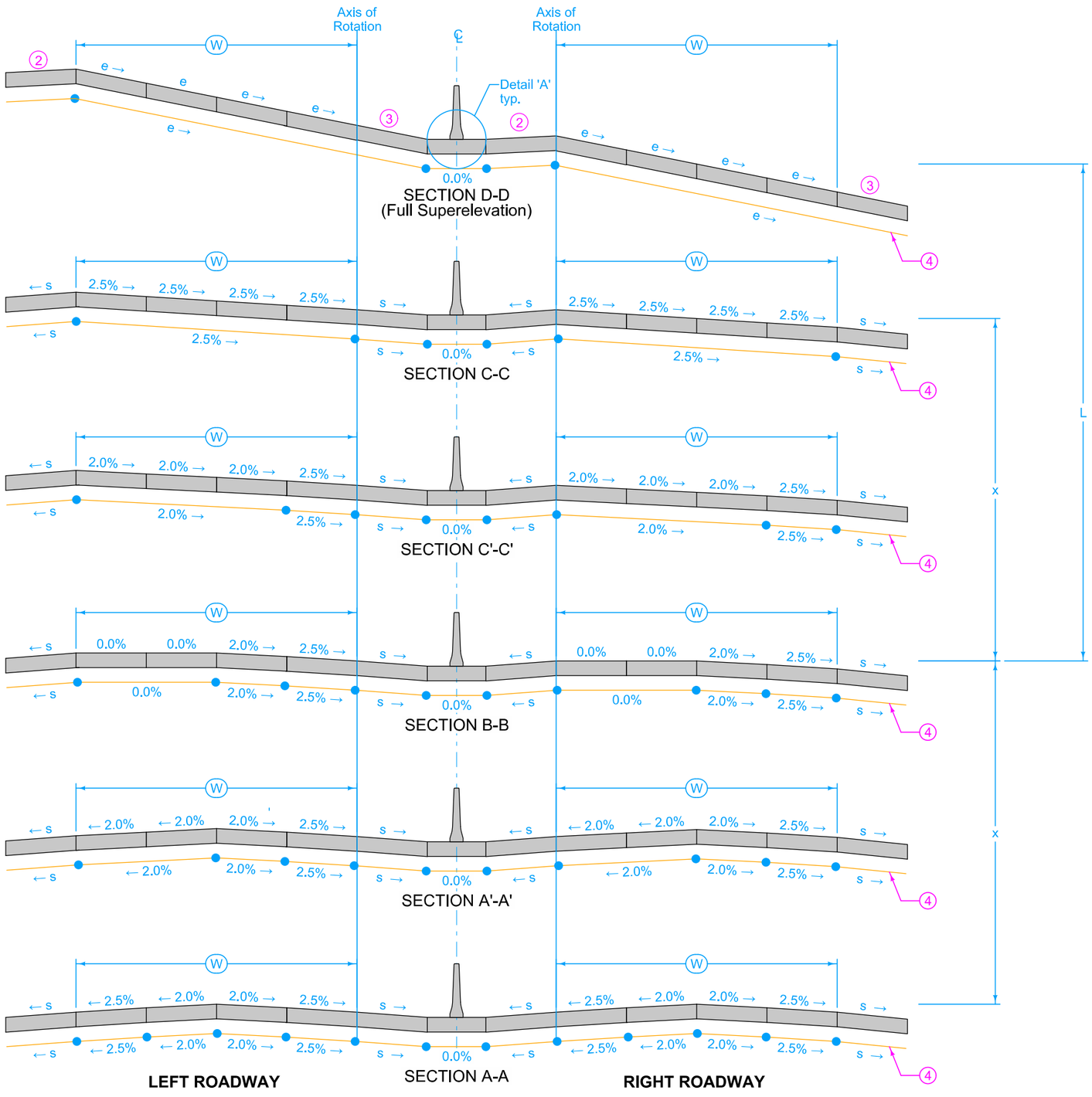
PV-306

SHEET 1 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

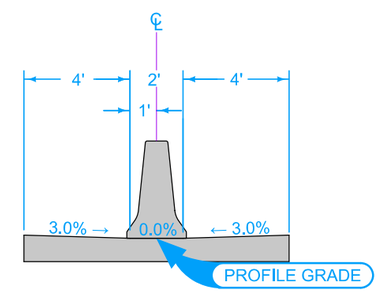
SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
CLOSED MEDIAN



2 High Side Shoulder: Maintain normal shoulder cross slope (s) until the cross slope break with the adjacent pavement reaches 8.0%, then slope the shoulder at the same rate as the adjacent pavement maintaining an 8% cross slope breakover.

3 Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

4 Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.



DETAIL A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-19-22

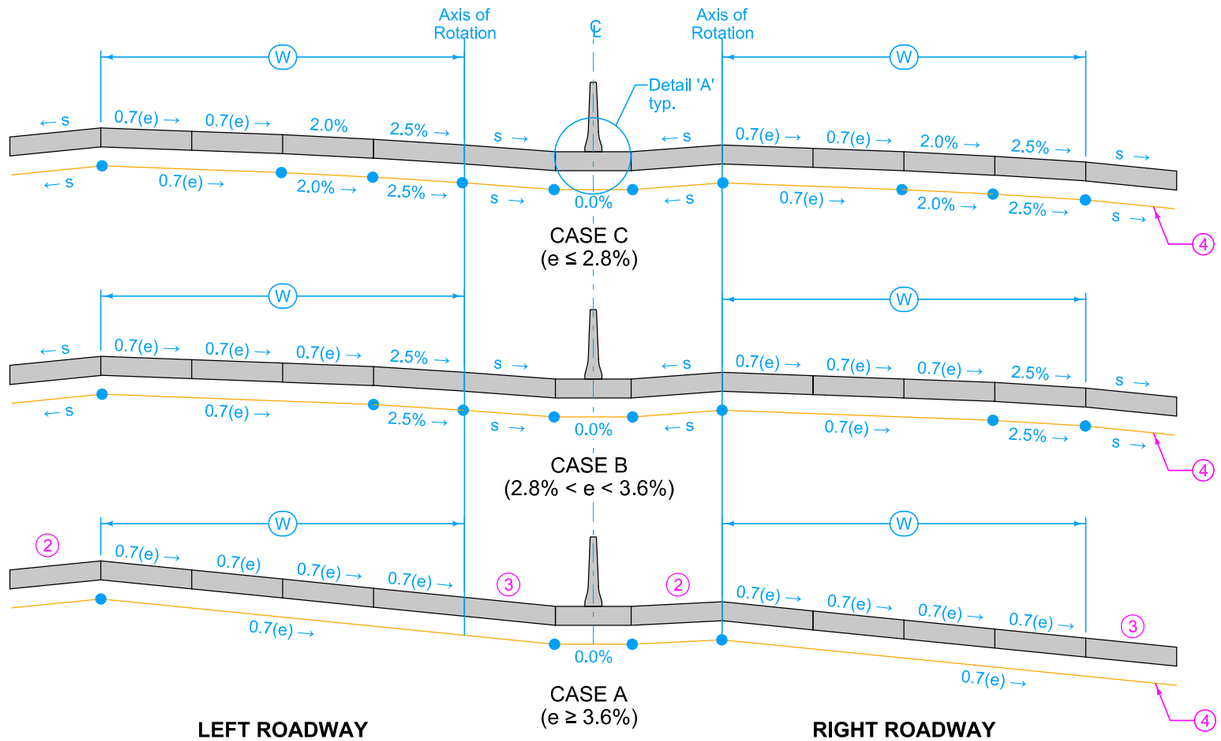
PV-306

SHEET 2 of 4

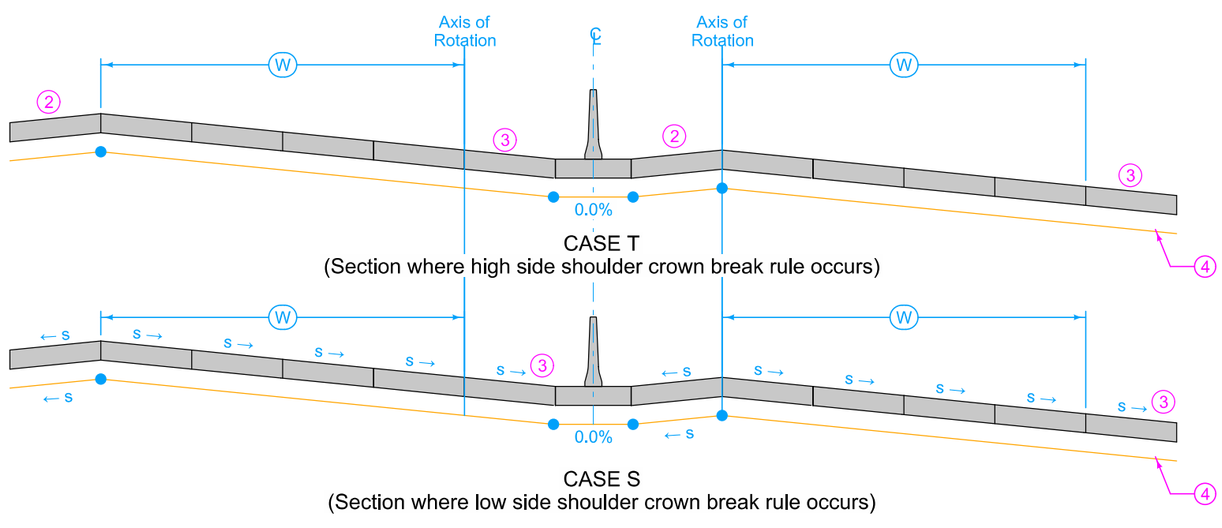
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
CLOSED MEDIAN



SECTION AT THE PC OR PT



SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

(2) High Side Shoulder: Maintain normal shoulder cross slope (s) until the cross slope break with the adjacent pavement reaches 8.0%, then slope the shoulder at the same rate as the adjacent pavement maintaining an 8% cross slope breakover.

(3) Low Side Shoulder: Maintain normal shoulder cross slope (s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-19-22

PV-306

SHEET 3 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
CLOSED MEDIAN

TABLE OF OFFSETS AND DROPS FOR LEFT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	*	*	*	*	*	*
	Slope (%)	s	s	s	s	s	3
	Drop (Ft.)						
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.5	2.5	2.5	2.5	2.5	e
	Drop (Ft.)	0.30	0.30	0.30	0.30	0.30	12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	2.0	2.0	2.5	e
	Drop (Ft.)	0.24	0.24	0.24	0.24	0.30	12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.24	-0.24	0.0	0.24	0.30	12(e)
From Line E To Line F	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.30	-0.24	0.0	0.24	0.30	12(e)

* Refer to plan details for shoulder width

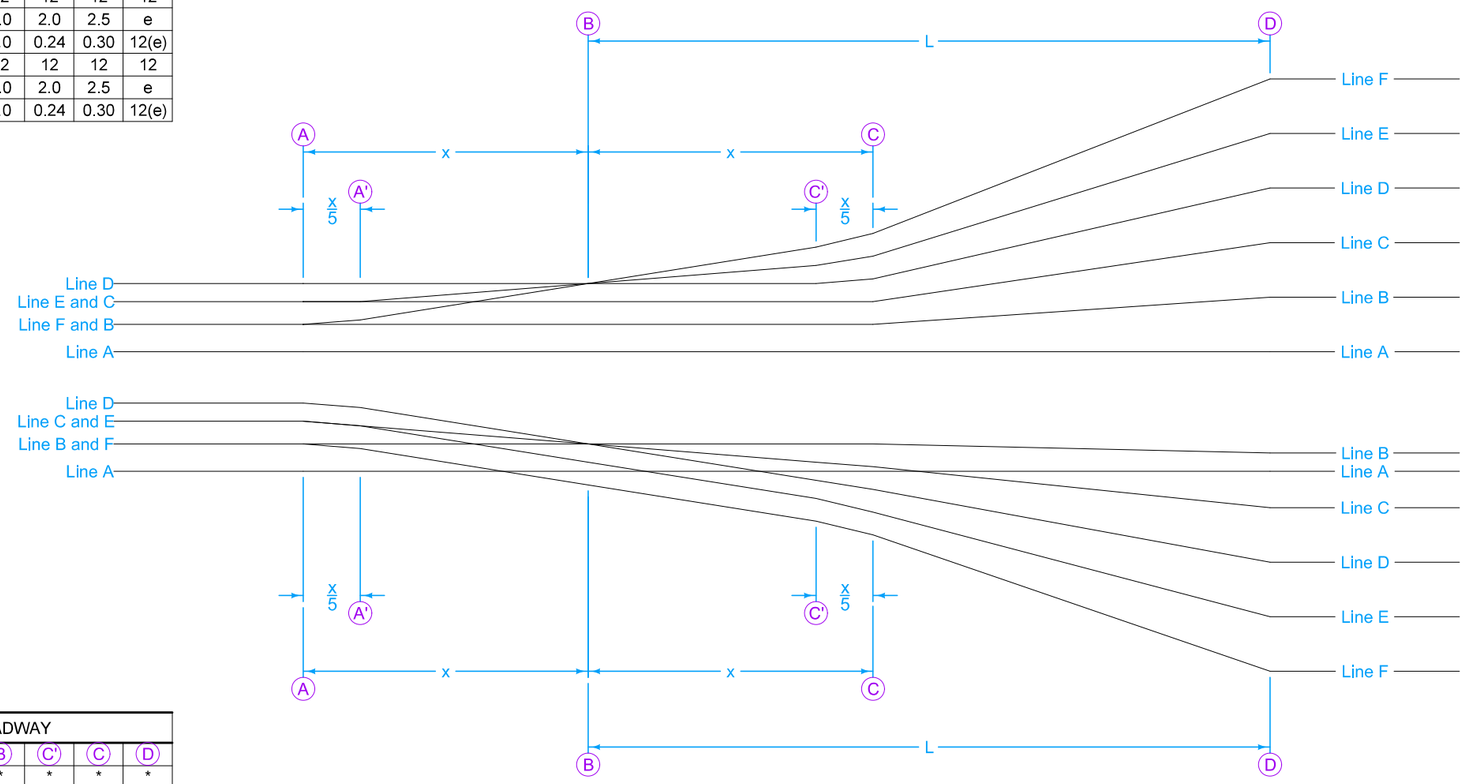


TABLE OF OFFSETS AND DROPS FOR RIGHT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	*	*	*	*	*	*
	Slope (%)	s	s	s	s	s	2
	Drop (Ft.)						
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.5	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.30	0.24	0.0	-0.24	-0.30	-12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.24	0.24	0.0	-0.24	-0.30	-12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	-2.0	-2.0	-2.5	-e
	Drop (Ft.)	-0.24	-0.24	-0.24	-0.24	-0.30	-12(e)
From Line E To Line F	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.5	-2.5	-2.5	-2.5	-e
	Drop (Ft.)	-0.30	-0.30	-0.30	-0.30	-0.30	-12(e)

* Refer to plan details for shoulder width

DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

IOWA DOT

STANDARD ROAD PLAN

REVISION	
2	04-19-22

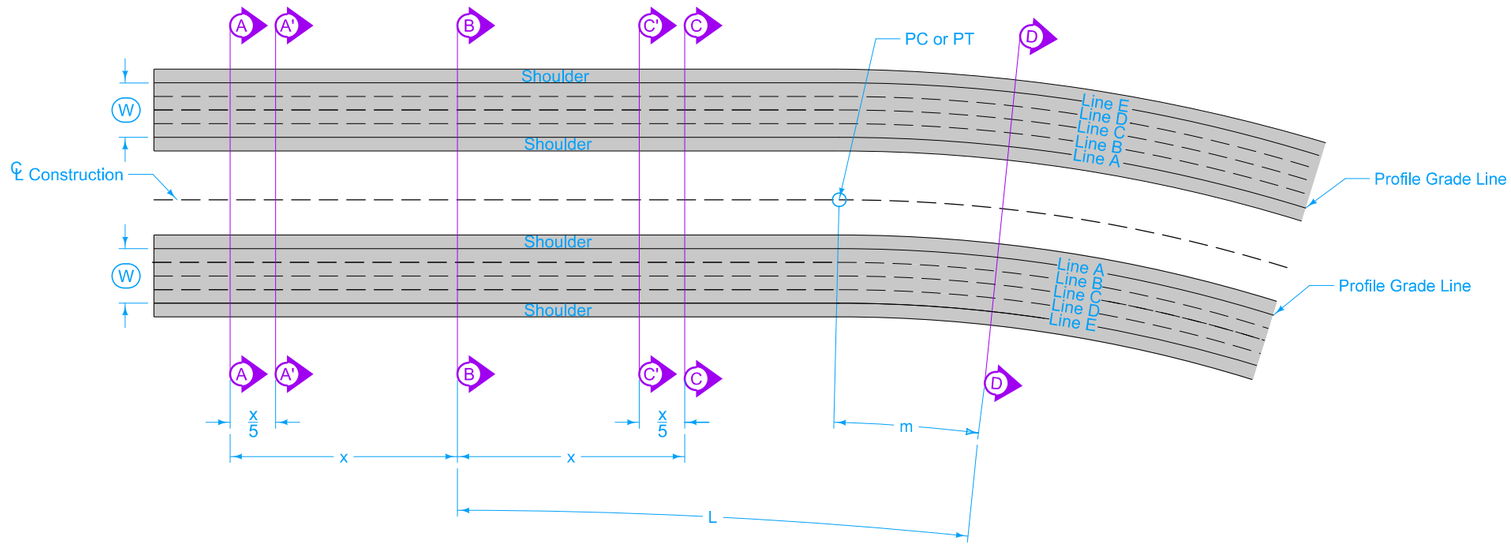
PV-306

SHEET 4 of 4

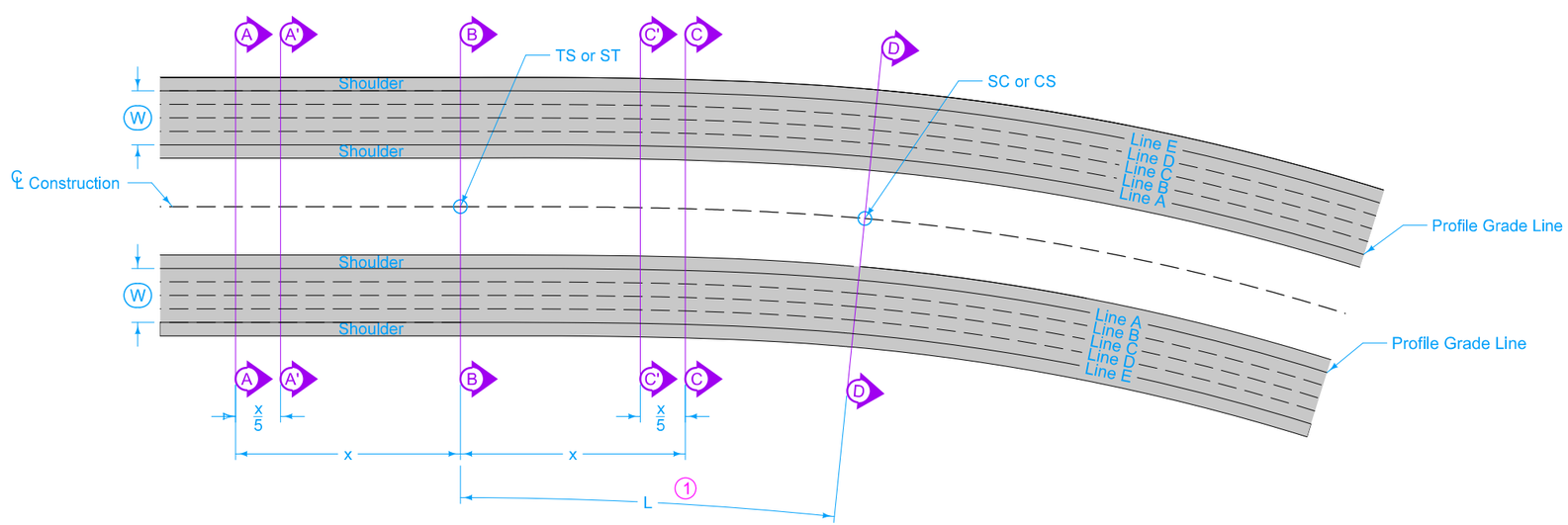
REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
CLOSED MEDIAN



TRANSITION DETAILS - TANGENT TO CURVE



TRANSITION DETAILS - SPIRAL CURVE

Refer to specific curve data contained in project plans for tangent runout length (x), runoff length (L) and full superelevation (e).

When spiral curve transitions are not required:
Place 70% of full superelevation at the PC and PT.
Place 30% of the runoff length within the curve.

Unless otherwise specified, all lengths are measured along the centerline of construction.

Superelevations on this standard are shown for curves to the right. Curves to the left are a mirror image of what is shown.

Smooth curves should be established at the time of construction at sections A-F along the profile edges of lines A-D.

Axis of rotation coincides with profile grade location.

m = 30% of Runoff Length (L)

W = 48' Regardless of Pavement Width

g = Normal Cross Slope (2.5%)

L = Distance to Change Cross Slope from 0% to e

e = Supereleavtion Rate

x = Distance to Change Cross Slope from 0% to 2.5%

s = Normal Shoulder Slope

1 Spiral curve length coincides with runoff length (L)

Possible Tabulation:
101-18

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-19-22

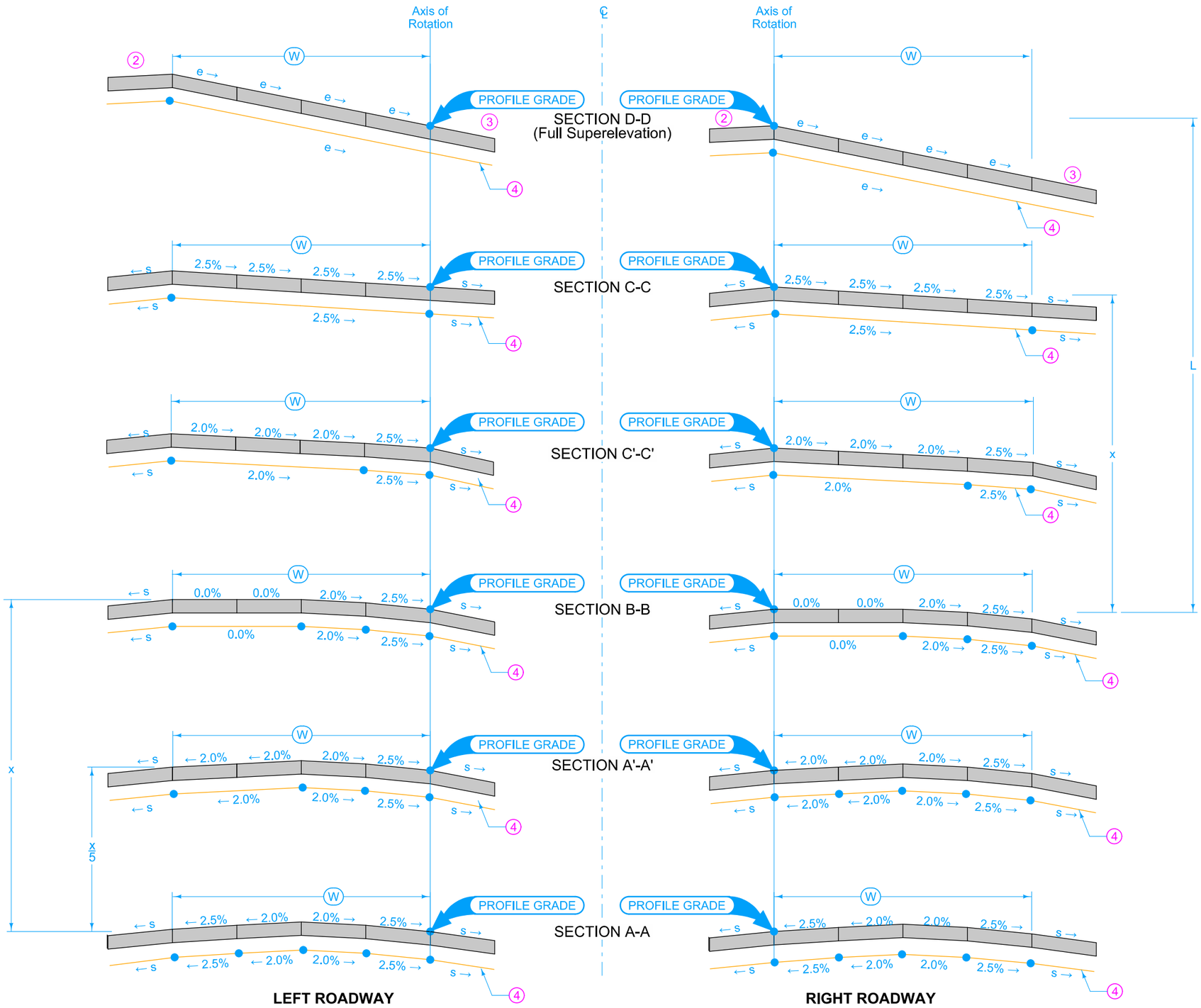
PV-307

SHEET 1 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
DEPRESSED MEDIAN



(2) High Side Shoulder: Maintain normal shoulder cross slope(s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope(s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-19-22

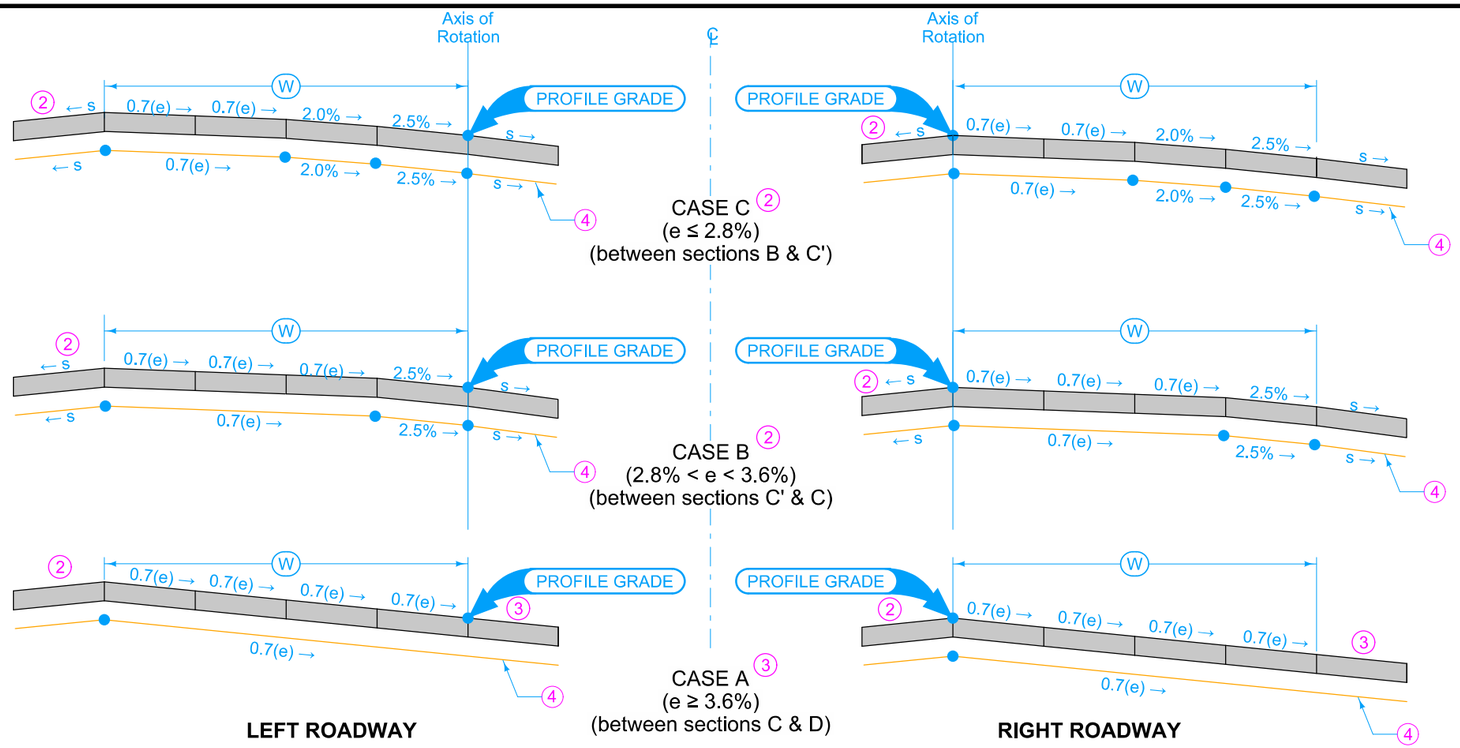
PV-307

SHEET 2 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
DEPRESSED MEDIAN

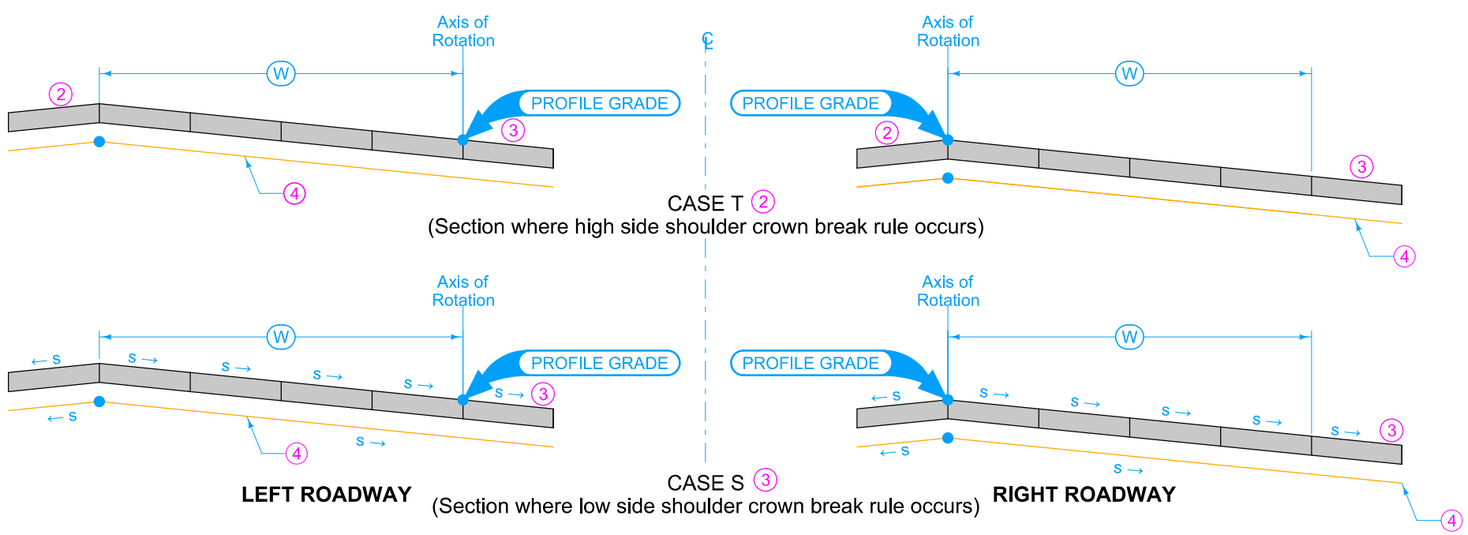


SECTION AT THE PC OR PT

(2) High Side Shoulder: Maintain normal shoulder cross slope(s), until the cross slope break with the adjacent pavement reaches 8.0%. Maintain 8% breakover until superelevation rate reaches 7%. If superelevation rate exceeds 7.0%, maintain a 1% shoulder cross slope away from the adjacent pavement.

(3) Low Side Shoulder: Maintain normal shoulder cross slope(s) until the adjacent pavement slope equals s, then slope the shoulder at the same cross slope as the adjacent pavement.

(4) Subgrade Surface: Subgrade surface cross slope parallel to pavement surface cross slope.



SECTION WHERE SHOULDER SLOPE TRANSITION BEGINS

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-19-22

PV-307

SHEET 3 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
DEPRESSED MEDIAN

TABLE OF OFFSETS AND DROPS FOR LEFT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.5	2.5	2.5	2.5	2.5	e
	Drop (Ft.)	0.30	0.30	0.30	0.30	0.30	12(e)
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	2.0	2.0	2.5	e
	Drop (Ft.)	0.24	0.24	0.24	0.24	0.30	12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.24	-0.24	0.0	0.24	0.30	12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.0	0.0	2.0	2.5	e
	Drop (Ft.)	-0.30	-0.24	0.0	0.24	0.30	12(e)
From Line A To Line E	Offset (Ft.)	48	48	48	48	48	48
	Drop (Ft.)	0.00	0.06	0.54	1.02	1.20	48(e)

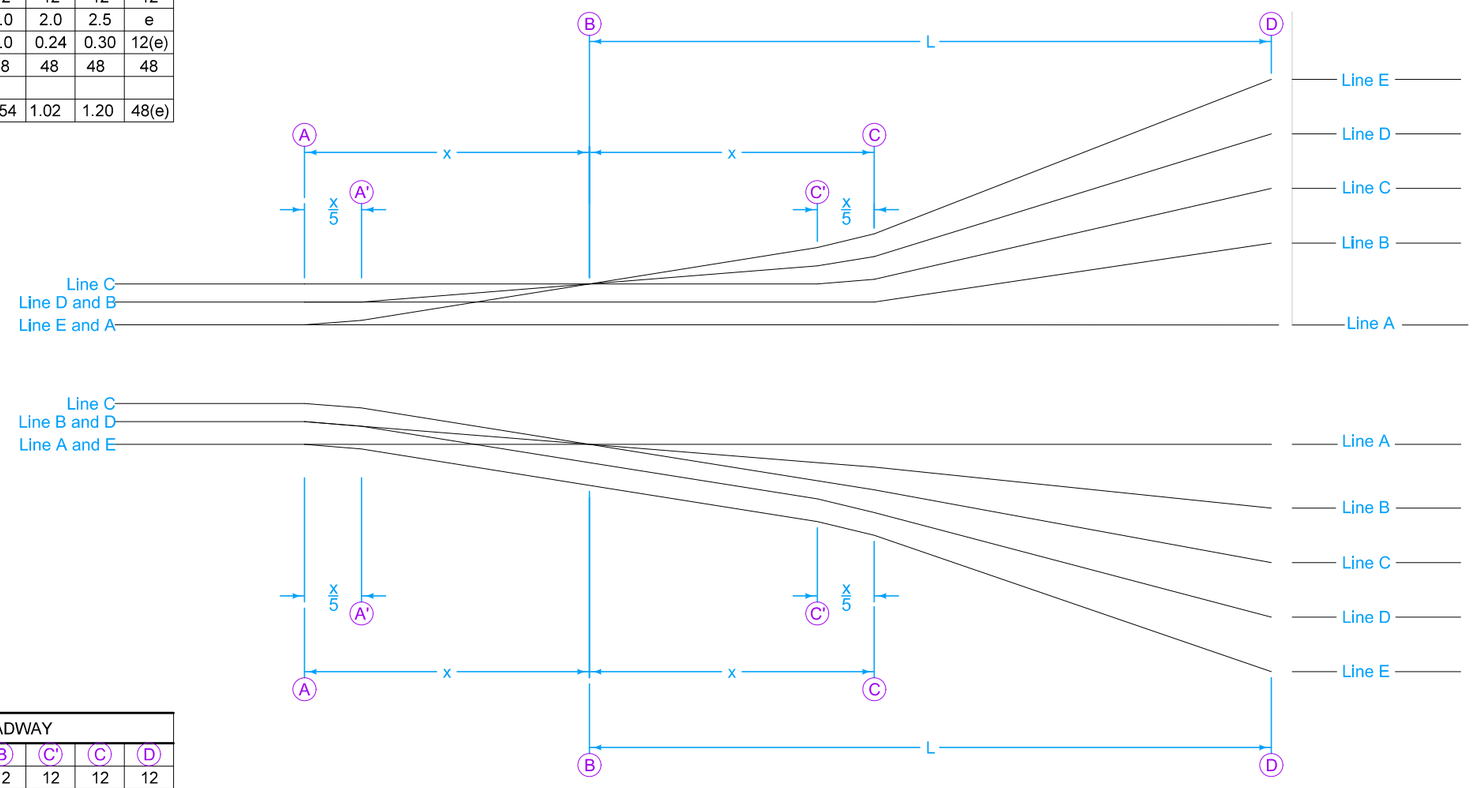


TABLE OF OFFSETS AND DROPS FOR RIGHT ROADWAY							
Location of Cross Sections		A	A'	B	C'	C	D
From Line A To Line B	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.5	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.30	0.24	0.0	-0.24	-0.30	-12(e)
From Line B To Line C	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	2.0	2.0	0.0	-2.0	-2.5	-e
	Drop (Ft.)	0.24	0.24	0.0	-0.24	-0.30	-12(e)
From Line C To Line D	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.0	-2.0	-2.0	-2.0	-2.5	-e
	Drop (Ft.)	-0.24	-0.24	-0.24	-0.24	-0.30	-12(e)
From Line D To Line E	Offset (Ft.)	12	12	12	12	12	12
	Slope (%)	-2.5	-2.5	-2.5	-2.5	-2.5	-e
	Drop (Ft.)	-0.30	-0.30	-0.30	-0.30	-0.30	-12(e)
From Line A To Line E	Offset (Ft.)	48	48	48	48	48	48
	Slope (%)						
	Drop (Ft.)	0.00	-0.06	-0.54	-1.02	-1.20	-48(e)

* Refer to plan details for shoulder width

DIAGRAMMATIC PROFILES OF THE PAVEMENT EDGE LINES

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-19-22

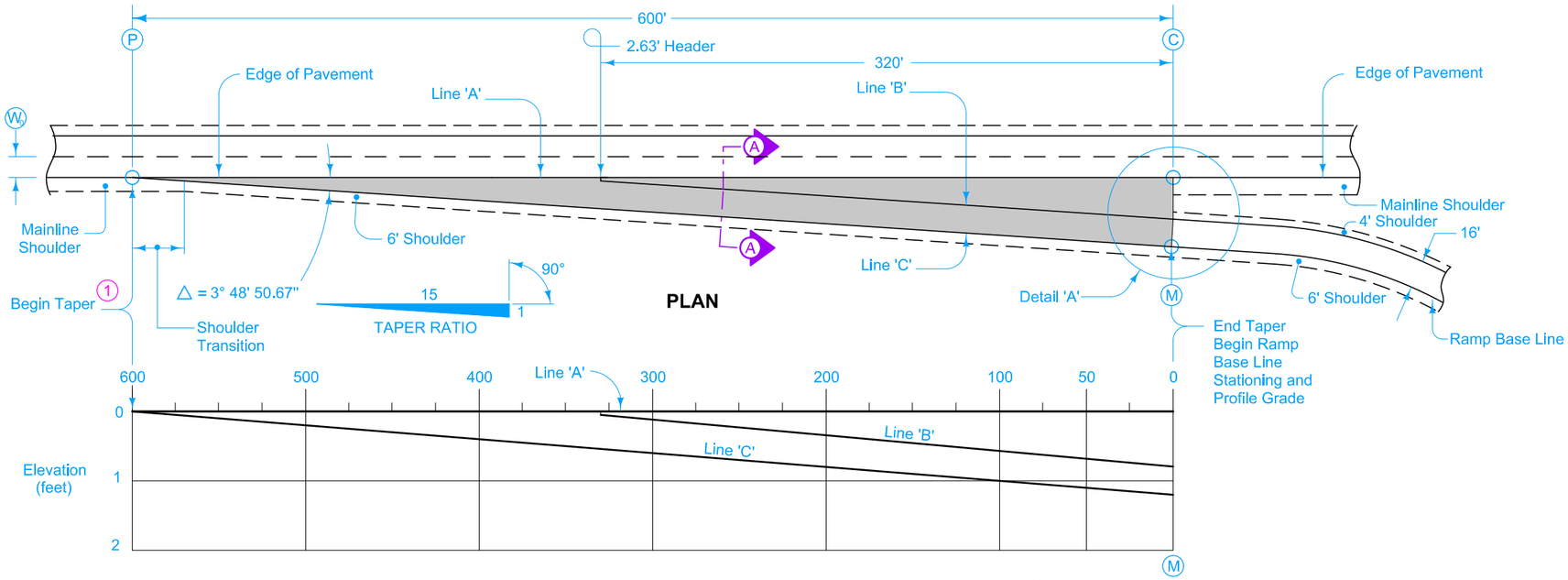
PV-307

SHEET 4 of 4

REVISIONS: Modified section labeling.

APPROVED BY DESIGN METHODS ENGINEER

SUPERELEVATION DETAILS
EIGHT LANE ROADWAY
DEPRESSED MEDIAN



NOTE: The algebraic difference between profile grade for Ramp Base Line at (M) and relative profile grade of Mainline at (C) is 0.2%.

PROFILE

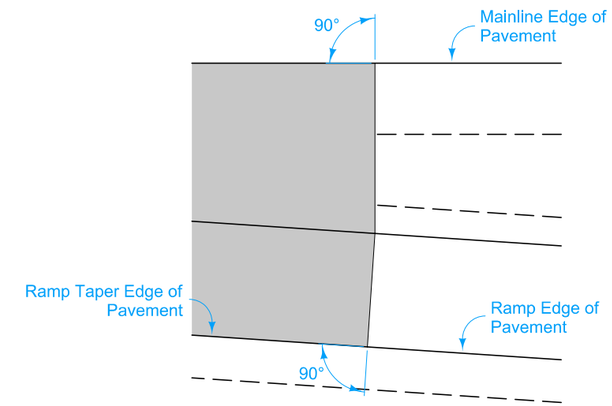
Construct ramp exit pavement the same thickness as mainline pavement.

Ramp exit pavement shown by shaded area is 1332 square yards.

For joint details, see PV-101.

(1) For header construction details at the beginning of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for ramp exit pavement the same thickness as mainline subbase.

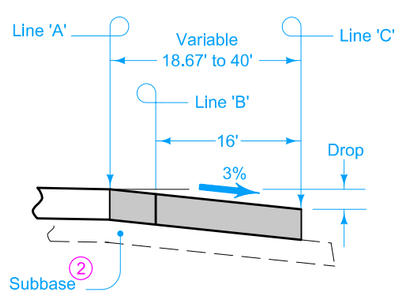


DETAIL A

(C)

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																										
DISTANCE FROM POINT (C) ALONG LINE 'A' (Ft.)		600	575	550	525	500	475	450	425	400	375	350	320	300	275	250	225	200	175	150	125	100	75	50	25	0
From Line 'A' To Line 'B'	OFFSET (Ft.)												2.63	4.00	5.67	7.33	9.00	10.67	12.33	14.00	15.67	17.33	19.00	20.67	22.33	24.00
	SLOPE (%)												← Constant 3.0% Slope →													
	DROP (Ft.)												0.08	0.12	0.17	0.22	0.27	0.32	0.37	0.42	0.47	0.52	0.57	0.62	0.67	0.72
From Line 'B' To Line 'C'	OFFSET (Ft.)												← Constant 16' Offset →													
	SLOPE (%)												← Constant 3.0% Slope →													
	DROP (Ft.)												0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
From Line 'A' To Line 'C'	OFFSET (Ft.)	0	1.67	3.33	5.00	6.67	8.33	10.00	11.67	13.33	15.00	16.67														
	SLOPE (%)	← Constant 3.0% Slope →																								
	DROP (Ft.)	0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.56	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20

(M)



SECTION A-A

TABLE OF SHOULDER TRANSITION LENGTHS			
W_o	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	60'	90'

NOTE: W_o is the width of the outside lane to the Edge of Pavement.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
7	04-21-20

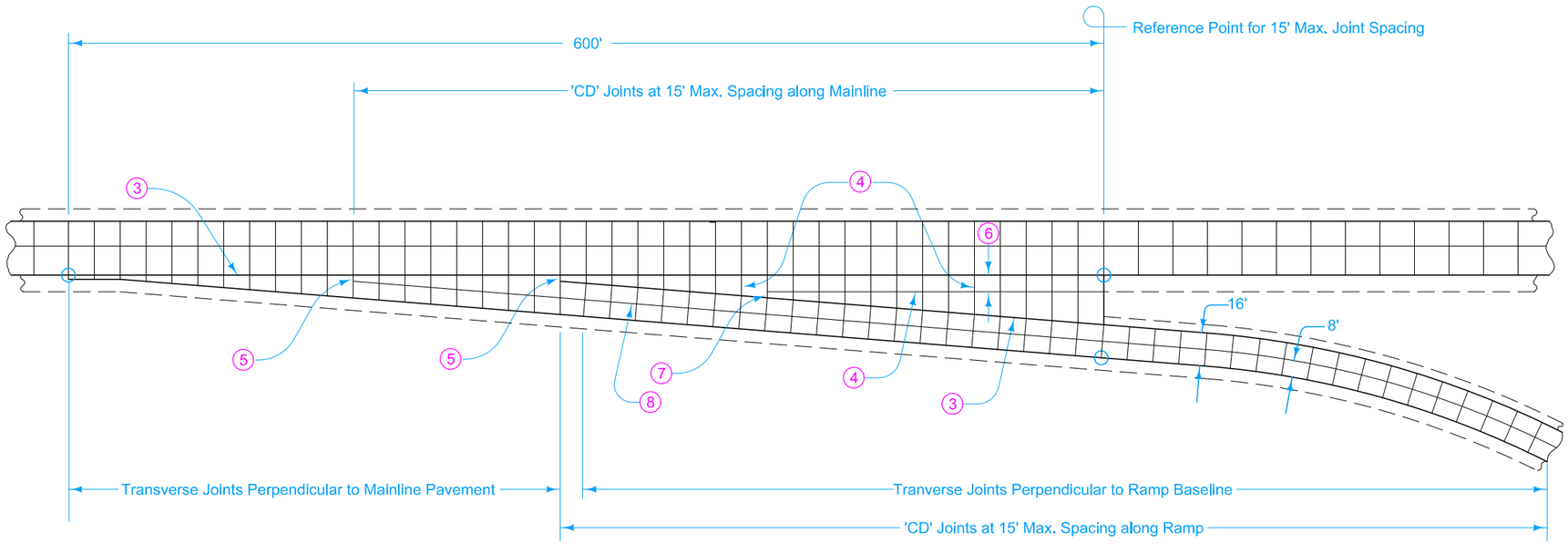
PV-410

SHEET 1 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

DECELERATION TAPER FOR 16' RAMP



16' EXIT RAMP

3 'BT-2' or 'KT-2' Joint.

4 'C' Joint.

5 'B' Joint. 2' minimum. 4' maximum.

6 10' minimum or equal to mainline shoulder width.

7 'B' or 'C' Joint. 2' minimum. 4' maximum.

8 'L-2' Joint.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
7	04-21-20

PV-410

SHEET 2 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

DECELERATION TAPER FOR 16' RAMP

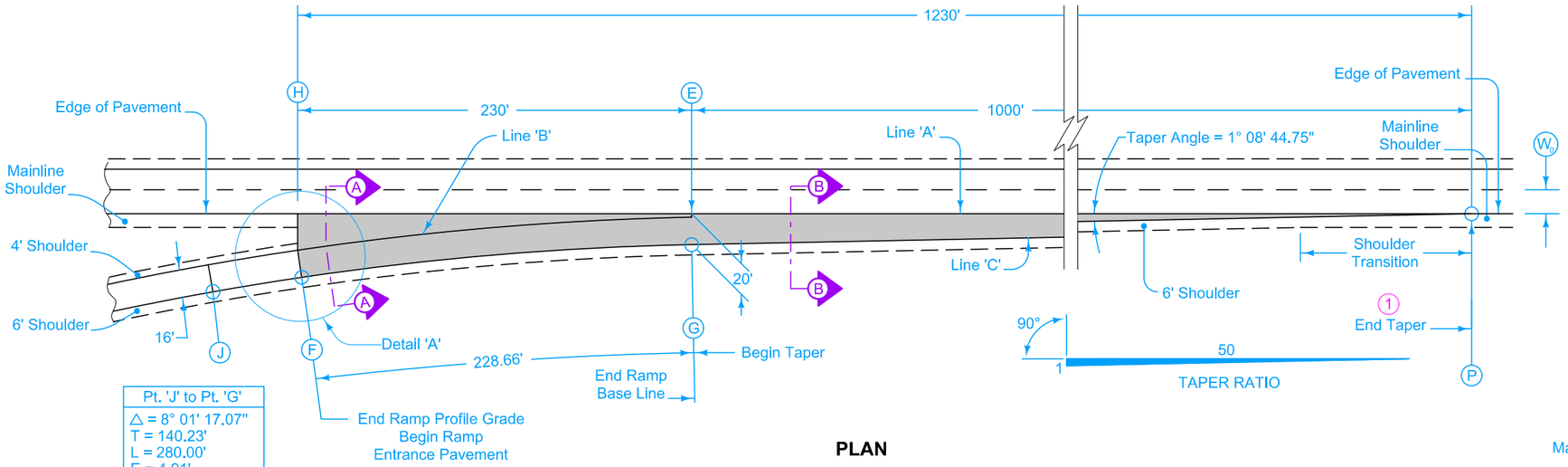
Construct ramp entrance pavement the same thickness as mainline pavement.

Ramp entrance pavement shown by shaded area is 1793 square yards.

For joint details, see PV-101

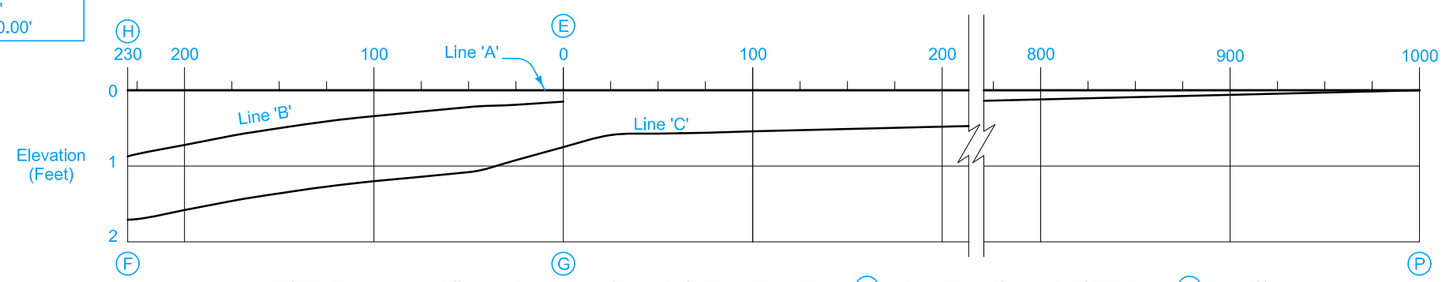
(1) For header construction details at the end of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for ramp entrance pavement the same thickness as mainline subbase.



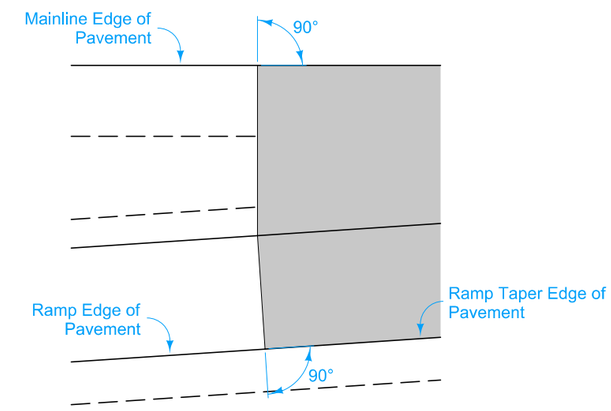
Pt. 'J' to Pt. 'G'
△ = 8° 01' 17.07"
T = 140.23'
L = 280.00'
E = 4.91'
R = 2000.00'

PLAN



NOTE: The algebraic difference between profile grade for Ramp Base Line at (F) and relative profile grade of Mainline at (H) is 0.54%.

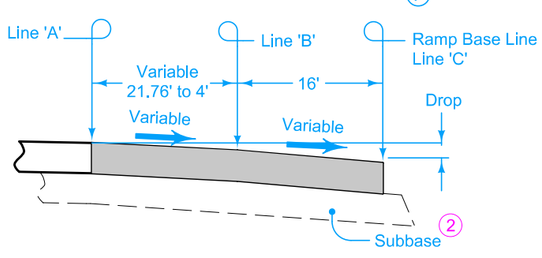
PROFILE



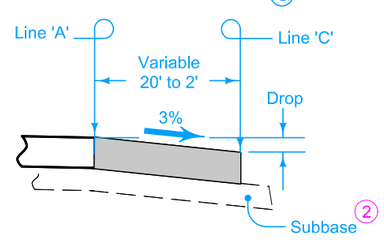
DETAIL A

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER

Distance From Point (E) Along Line 'A' (Ft.)		230	225	200	175	150	125	100	75	50	25	0	25	50	75	100	200	300	400	500	600	700	800	900	1000
From Line 'A' To Line 'B'	Offset (Ft.)	21.76	21.10	17.95	15.11	12.59	10.38	8.48	6.90	5.62	4.66	4.0													
	Slope (%)	← Constant 4.0% Slope →										3.78													
	Drop (Ft.)	0.87	0.84	0.72	0.60	0.50	0.42	0.34	0.28	0.22	0.19	0.15													
From Line 'B' To Line 'C'	Offset (Ft.)	← Constant 16.0' Offset →																							
	Slope (%)	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	4.58	3.78													
	Drop (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.73	0.60													
From Line 'A' To Line 'C'	Offset (Ft.)												19.5	19.0	18.5	18.0	16.0	14.0	12.0	10.0	8.0	6.0	4.0	2.0	0.0
	Slope (%)												← Constant 3.0% Slope →												
	Drop (Ft.)	1.73	1.70	1.58	1.46	1.36	1.28	1.20	1.14	1.08	0.92	0.75	0.59	0.57	0.56	0.54	0.48	0.42	0.36	0.30	0.24	0.18	0.12	0.06	0.0
Distance From Point (G) Along Line 'C' (Ft.)		228.66	223.66	198.66	173.70	148.77	123.87	99.00	74.15	49.31	24.49	0.00													



SECTION A-A



SECTION B-B

TABLE OF SHOULDER TRANSITION LENGTHS

W_0	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	200'	300'

NOTE: W_0 is the width of the outside lane to the Edge of Pavement.

IOWA DOT

STANDARD ROAD PLAN

REVISION 6 04-21-20

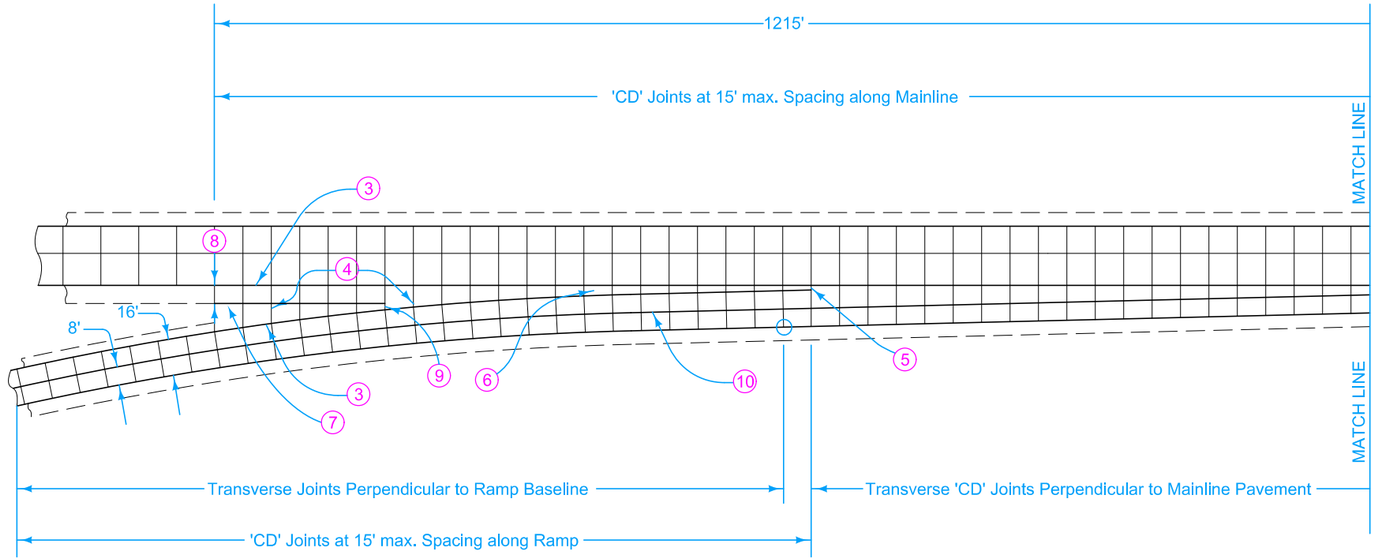
PV-411

SHEET 1 of 2

REVISIONS: Removed INTERIM from the standard and modified leader line for circle note 9.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER FOR 16' ENTRANCE RAMP



3 'BT-2' or 'KT-2' Joint.

4 'C' Joint.

5 'B' Joint. 2' minimum, 4' maximum.

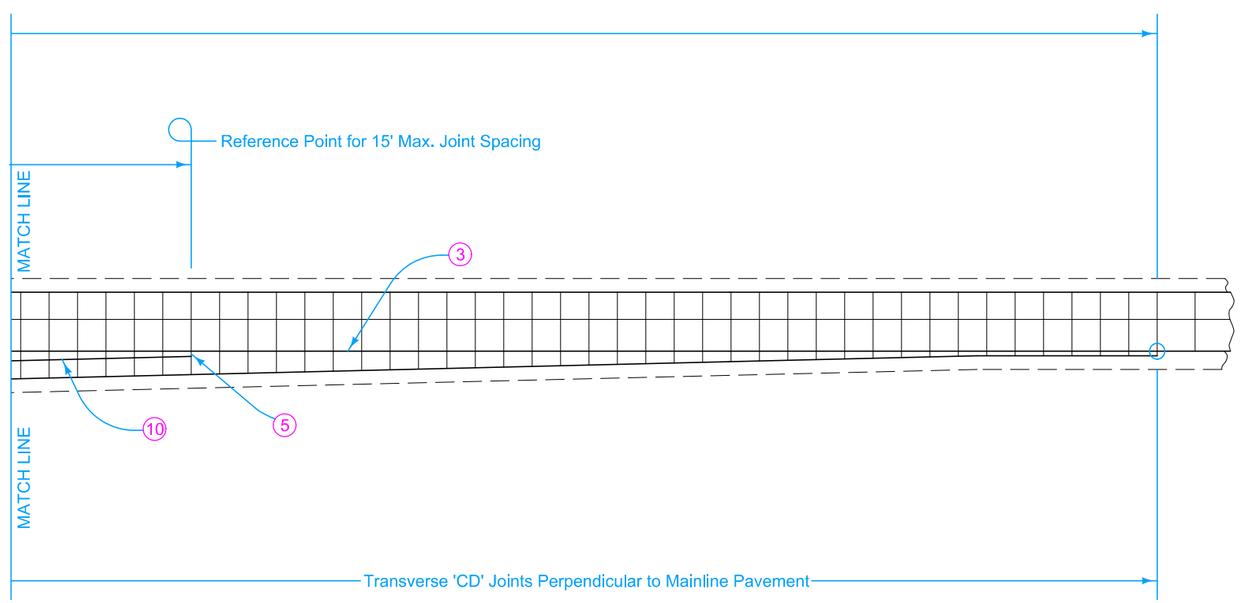
6 Construct transverse joints on the entrance ramp taper perpendicular to the tapered edge where the gore area is greater than 4 feet.

7 'C' Joint equal to mainline shoulder width.

8 10' minimum, or equal to mainline shoulder width.

9 'B' or 'C' Joint. 2' minimum. 4' maximum.

10 'L-2' Joint.



16' ENTRANCE RAMP

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-21-20

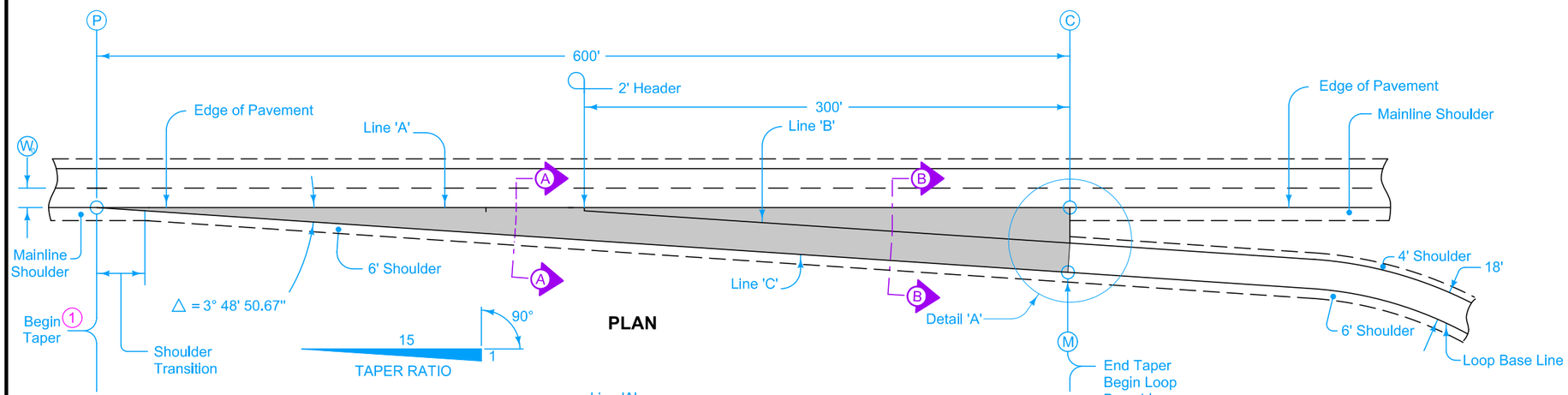
PV-411

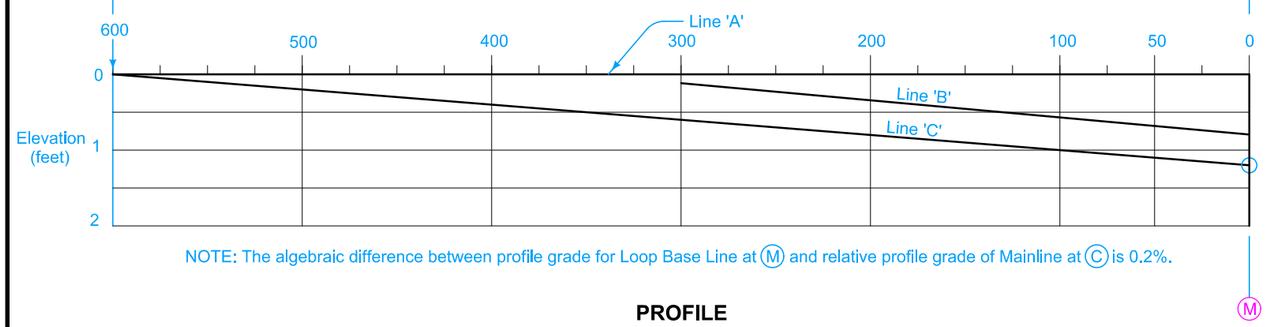
SHEET 2 of 2

REVISIONS: Removed INTERIM from the standard and modified leader line for circle note 9.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER FOR 16' ENTRANCE RAMP





NOTE: The algebraic difference between profile grade for Loop Base Line at (M) and relative profile grade of Mainline at (C) is 0.2%.

PROFILE

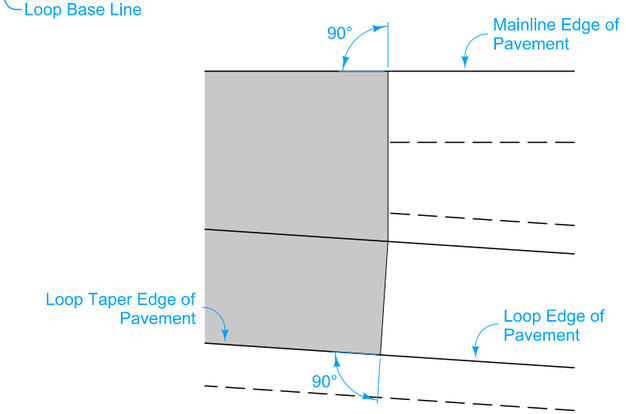
Construct loop exit pavement the same thickness as mainline pavement.

Loop exit pavement shown by shaded area is 1332 square yards.

For joint details, see PV-101

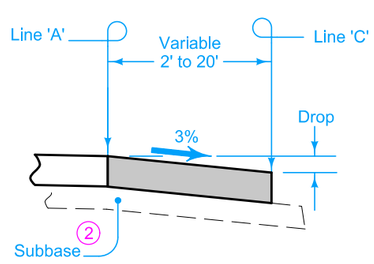
(1) For header construction details at the beginning of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for loop exit pavement the same thickness as mainline subbase.

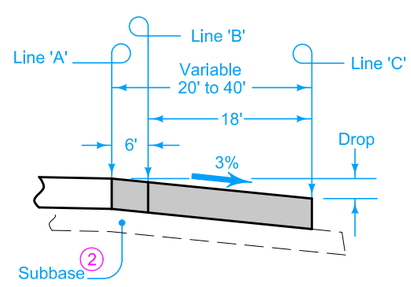


DETAIL A

TABLE OF OFFSETS AND DROPS FOR 18' LOOP TAPER																										
DISTANCE FROM POINT (C) ALONG LINE 'A' (Ft.)		600	575	550	525	500	475	450	425	400	375	350	325	300	275	250	225	200	175	150	125	100	75	50	25	0
From Line 'A' To Line 'B'	OFFSET (Ft.)													2.00	3.67	5.33	7.00	8.67	10.33	12.00	13.67	15.33	17.00	18.67	20.33	22.00
	SLOPE (%)													← Constant 3.0% Slope →												
	DROP (Ft.)													0.06	0.11	0.16	0.21	0.26	0.31	0.36	0.41	0.46	0.51	0.56	0.61	0.66
From Line 'B' To Line 'C'	OFFSET (Ft.)													← Constant 18' Offset →												
	SLOPE (%)													← Constant 3.0% Slope →												
	DROP (Ft.)													0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
From Line 'A' To Line 'C'	OFFSET (Ft.)	0	1.67	3.33	5.00	6.67	8.33	10.00	11.67	13.33	15.00	16.67	18.33													
	SLOPE (%)	← Constant 3.0% Slope →																								
	DROP (Ft.)	0	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.56	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20



SECTION A-A



SECTION B-B

TABLE OF SHOULDER TRANSITION LENGTHS			
W	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	60'	90'

NOTE: W_0 is the width of the outside lane to the Edge of Pavement.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-21-20

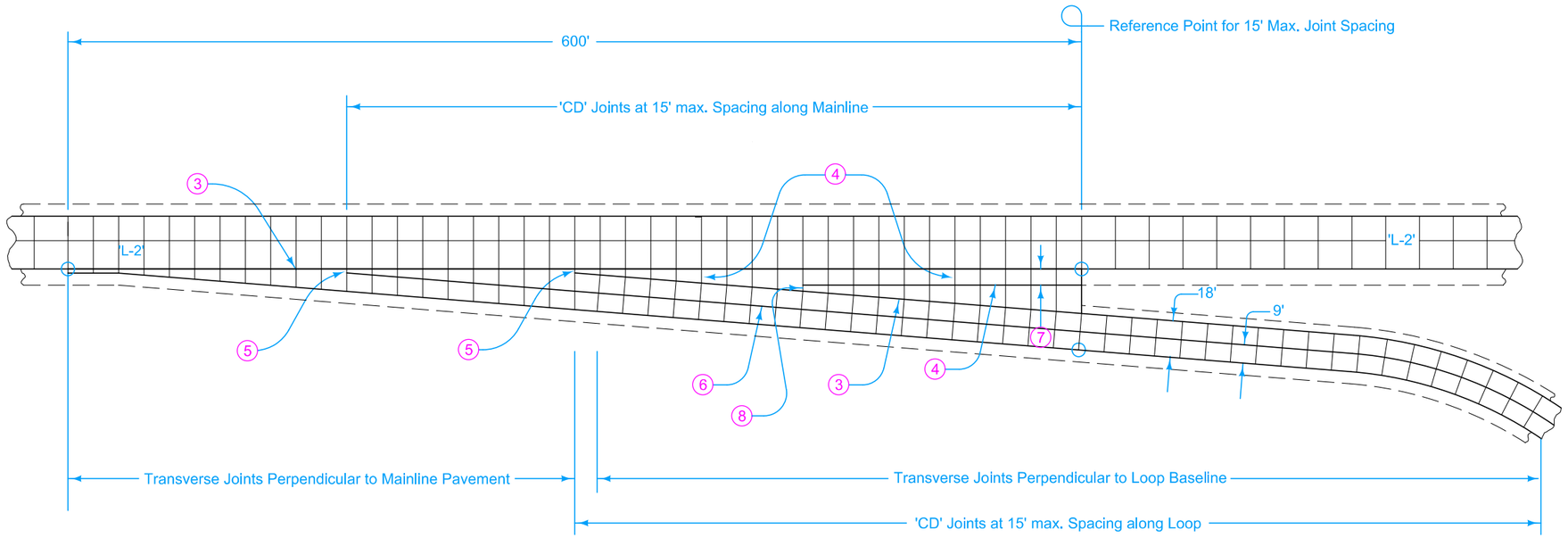
PV-412

SHEET 1 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

DECELERATION TAPER FOR 18' EXIT LOOP



18' EXIT LOOP

3. 'BT-2' or 'KT-2' Joint.
4. 'C' Joint.
5. 'B' Joint. 2' minimum, 4' maximum.
6. 'L-2' Joint.
7. 10' minimum or equal to mainline shoulder width.
8. 'B' or 'C' Joint. 2' minimum. 4' maximum.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-21-20

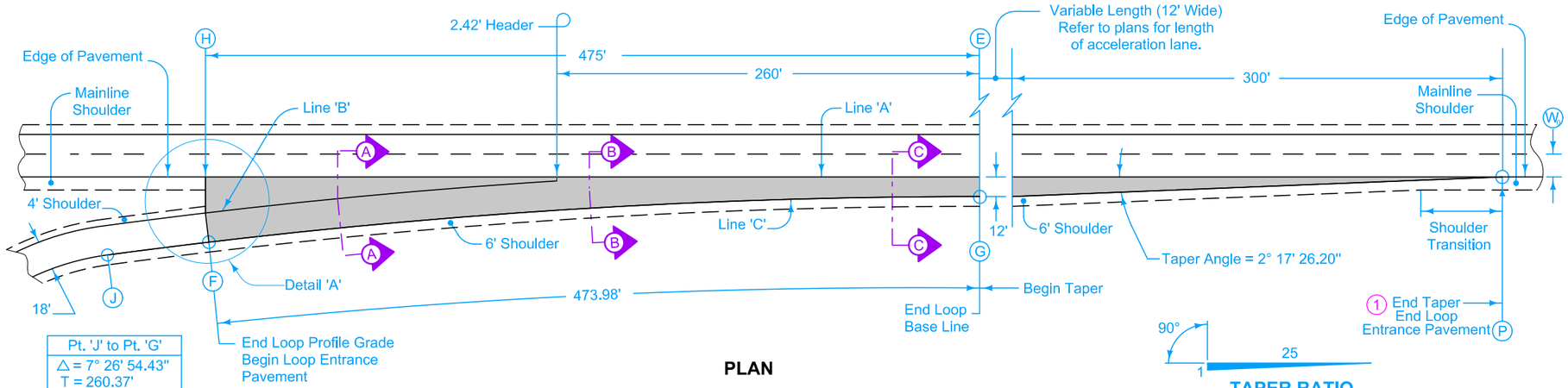
PV-412

SHEET 2 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

DECELERATION TAPER FOR 18' EXIT LOOP



Pt. 'J' to Pt. 'G'
△ = 7° 26' 54.43"
T = 260.37'
L = 520.00
E = 8.45'
R = 4000.00'

PLAN

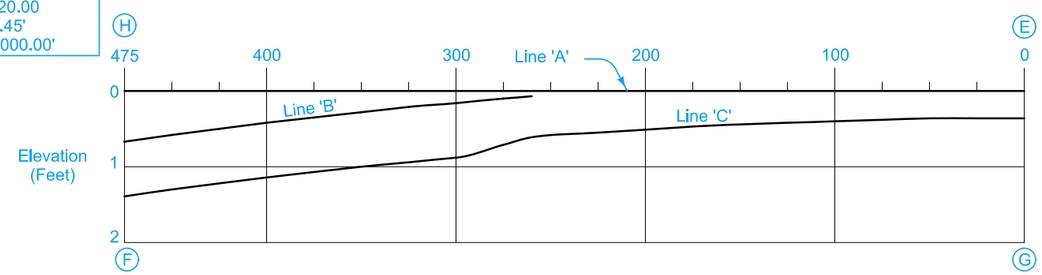
TAPER RATIO

Construct loop entrance pavement the same thickness as mainline pavement.

Loop entrance pavement shown by shaded area is 1329 square yards.

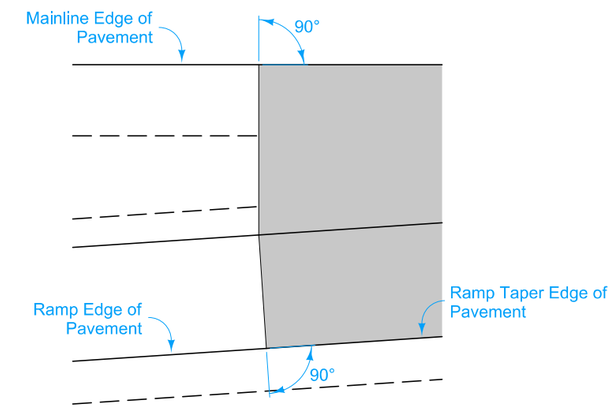
For joint details, see PV-101.

1. For header construction details at the end of taper, see Typical 7101 or Typical 7102.
2. Construct subbase for loop entrance pavement the same thickness as mainline subbase.



NOTE: The algebraic difference between profile grade for Loop Base Line at (F) and relative profile grade of Mainline at (H) is 0.36%.

PROFILE

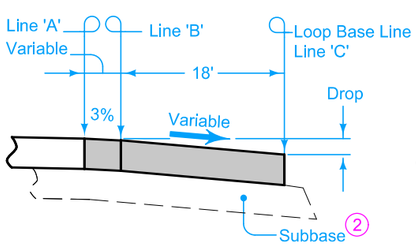


DETAIL A

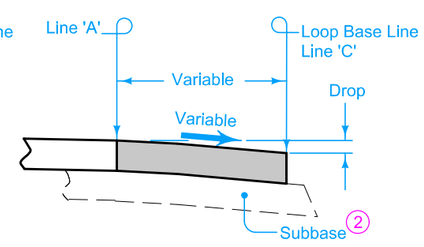
TABLE OF OFFSETS AND DROPS FOR 18' LOOP TAPER

Distance From Point (E) Along Line 'A' (Ft.)		475	450	425	400	375	350	325	300	275	260	225	200	175	150	125	100	75	50	25	0
From Line 'A' To Line 'B'	Offset (Ft.)	22.18	19.28	16.54	13.96	11.54	9.27	7.17	5.22	3.42	2.42										
	Slope (%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00										
	Drop (Ft.)	0.67	0.58	0.50	0.42	0.35	0.28	0.22	0.16	0.10	0.07										
From Line 'B' To Line 'C'	Offset (Ft.)	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0										
	Slope (%)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.38	3.00										
	Drop (Ft.)	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.61	0.54										
From Line 'A' To Line 'C'	Offset (Ft.)											18.33	17.00	15.83	14.81	13.95	13.25	12.70	12.31	12.08	12.00
	Slope (%)											3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
	Drop (Ft.)	1.39	1.30	1.22	1.14	1.07	1.00	0.94	0.88	0.71	0.61	0.55	0.51	0.47	0.44	0.42	0.40	0.38	0.37	0.36	0.36
Distance From Point (G) Along Line 'C' (Ft.)		473.98	448.93	423.89	398.87	373.86	348.87	323.90	298.93	273.98	260.18	225.12	200.08	175.06	150.03	125.02	100.01	75.00	50.00	25.00	0.00

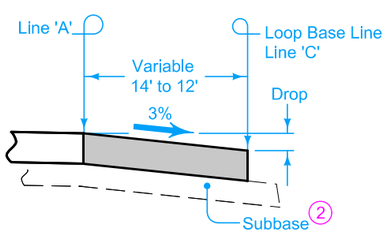
NOTE: From (G) to (P) cross-slope between Line 'A' and Line 'C' is a constant 3%.



SECTION A-A



SECTION B-B



SECTION C-C

TABLE OF SHOULDER TRANSITION LENGTHS

W_o	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	100'	150'

NOTE: W_o is the width of the outside lane to the Edge of Pavement.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-21-20

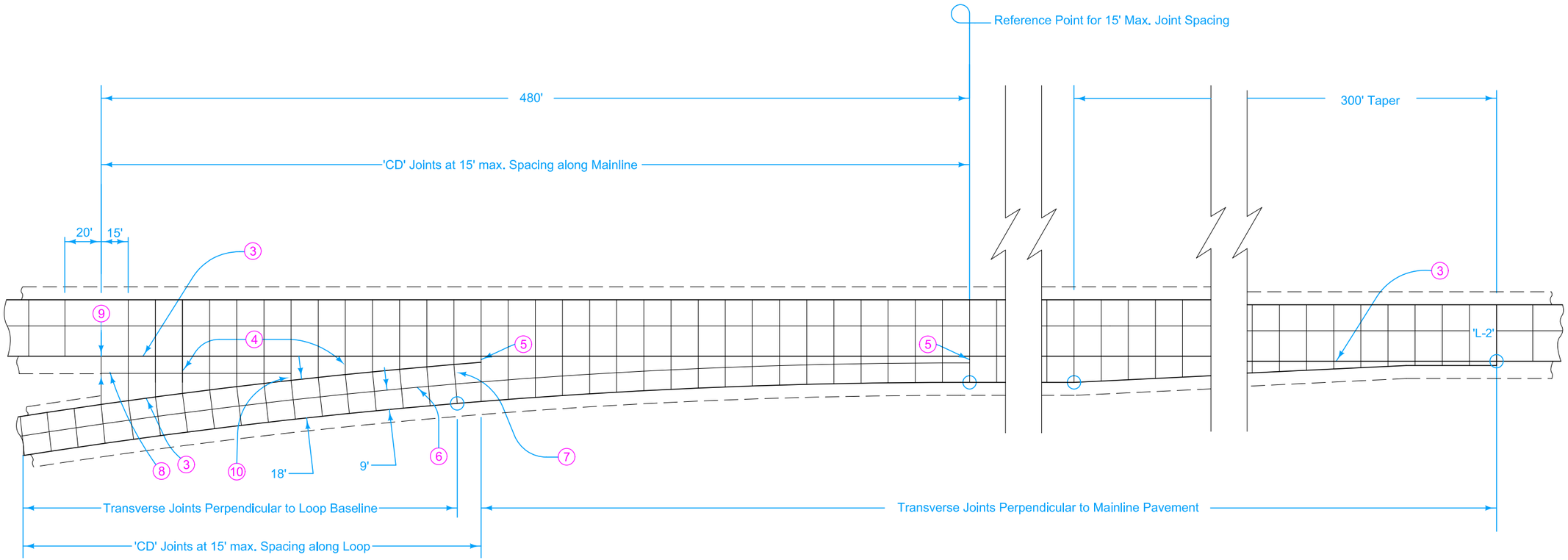
PV-414

SHEET 1 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER FOR 18' ENTRANCE LOOP



18' ENTRANCE LOOP

3. 'BT-2' or 'KT-2' Joint.
4. 'C' Joint.
5. 'B' Joint. 2' minimum, 4' maximum.
6. 'L-2' Joint.
7. Construct transverse joints on the entrance loop taper perpendicular to the loop baseline where the gore area is 4 feet or greater.
8. 'C' Joint equal to mainline shoulder.
9. 10' minimum or equal to mainline shoulder width.
10. 'B' or 'C' Joint. 2' minimum. 4' maximum.

IOWA DOT

STANDARD ROAD PLAN

REVISION	
6	04-21-20

PV-414

SHEET 2 of 2

REVISIONS: Removed INTERIM from the standard.

APPROVED BY DESIGN METHODS ENGINEER

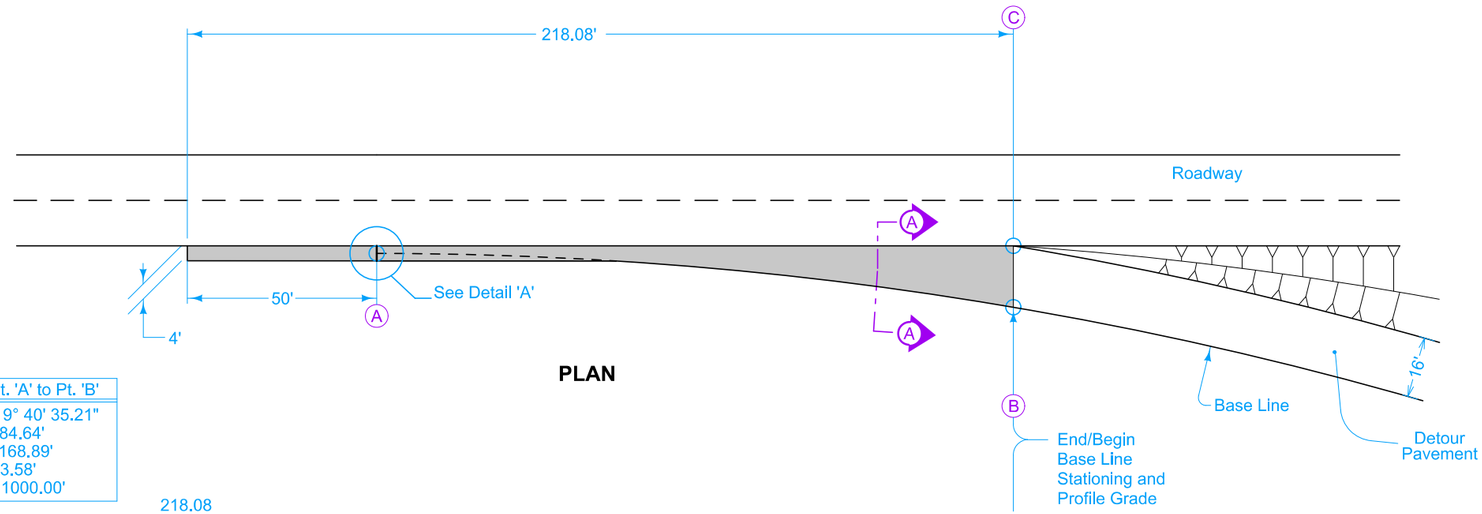
ACCELERATION TAPER FOR 18' ENTRANCE LOOP

DESIGNER INFORMATION

Construct detour connection pavement and subbase the same thickness as detour pavement and subbase.

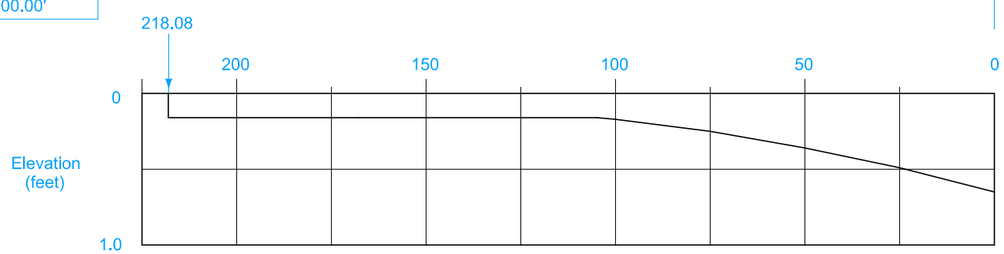
Detour connection pavement shown by shaded area is 147.89 square yards.

For joint details, see PV-101



PLAN

Pt. 'A' to Pt. 'B'
△ = 9° 40' 35.21"
T = 84.64'
L = 168.89'
E = 3.58'
R = 1000.00'

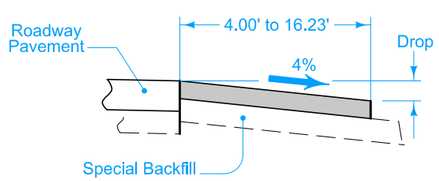


NOTE: The algebraic difference between profile grade for Ramp Base Line at (B) and relative profile grade of Mainline at (C) is 0.63%.

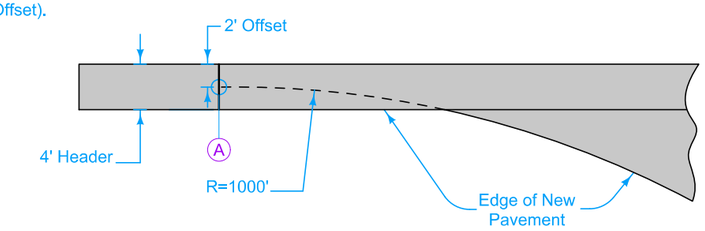
PROFILE

TABLE OF OFFSETS AND DROPS FOR DETOUR PAVEMENT											
DISTANCE (Ft.)	218.08	200	175	150	125	104.87	100	75	50	25	0
OFFSET (Ft.)	4.00	4.00	4.00	4.00	4.00	4.00	4.32	6.34	9.00	12.29	16.23
DROP (Ft.)	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.25	0.36	0.49	0.65

NOTE: The elevations are established by a constant 4% slope across the appropriate detour widths based on a radius of 1000'. Drop = (0.04) x (Offset).



SECTION A-A



DETAIL 'A'

Possible Contract Items:
Detour Pavement
Special Backfill

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	10-21-14

PV-418

SHEET 1 of 1

REVISIONS: Changed "ramp entrance" to "detour connection" and "mainline" to "detour". Removed circle notes. Added 50' header and Detail 'A'.

APPROVED BY DESIGN METHODS ENGINEER

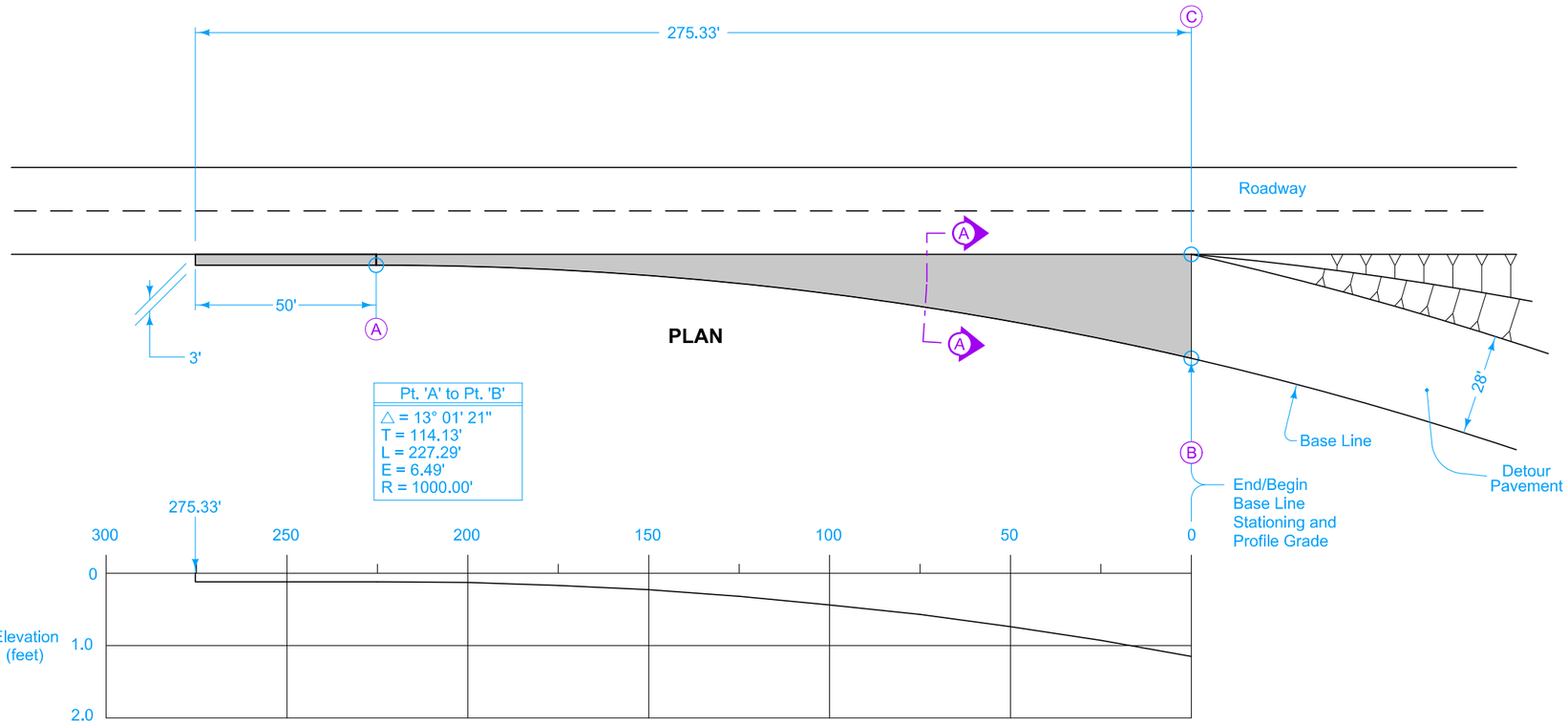
ONE-LANE DETOUR CONNECTION

DESIGNER INFORMATION

Construct detour connection pavement and subbase the same thickness as detour pavement and subbase.

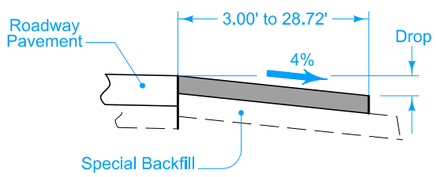
Detour connection pavement shown by shaded area is 305.30 square yards.

For joint details, see PV-101



NOTE: The algebraic difference between profile grade for Ramp Base Line at (B) and relative profile grade of Mainline at (C) is 0.88%.

PROFILE



SECTION A-A

TABLE OF OFFSETS AND DROPS FOR DETOUR PAVEMENT													
DISTANCE (Ft.)	275.33	275	250	225	200	175	150	125	100	75	50	25	0
OFFSET (Ft.)	3.00	3.00	3.00	3.00	3.32	4.27	5.84	8.05	10.89	14.36	18.49	23.27	28.72
DROP (Ft.)	0.12	0.12	0.12	0.12	0.13	0.17	0.23	0.32	0.44	0.57	0.74	0.93	1.15

NOTE: The elevations are established by a constant 4% slope across the appropriate detour widths based on a radius of 1000'. Drop = (0.04) x (Offset).

Possible Contract Items:
Detour Pavement
Special Backfill

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	10-21-14

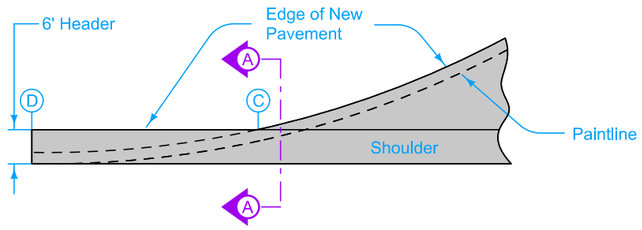
PV-428

SHEET 1 of 1

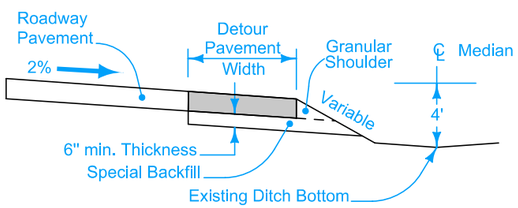
REVISIONS: Changed "ramp entrance" to "detour connection" and "mainline" to "detour". Removed circle notes.

APPROVED BY DESIGN METHODS ENGINEER

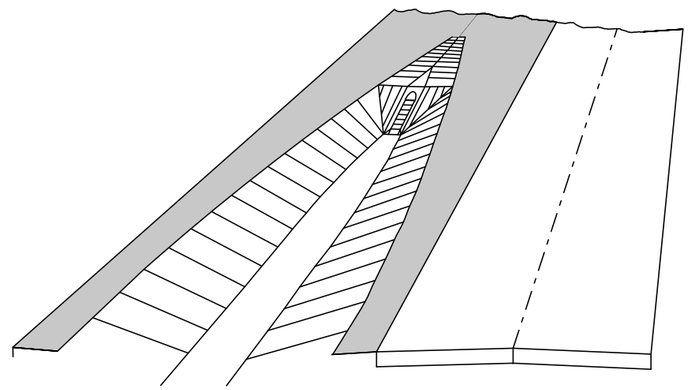
TWO-LANE DETOUR CONNECTION



DETAIL 'A'



SECTION A-A



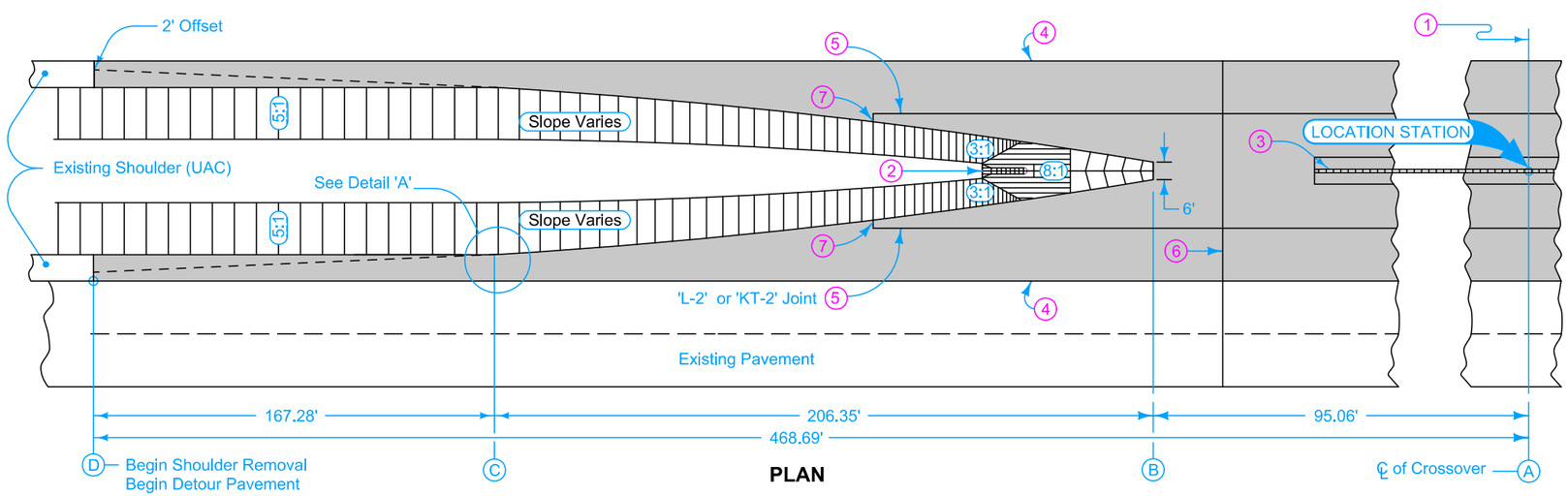
PERSPECTIVE VIEW
DITCH SLOPE AND BEVELED PIPE

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Beveled pipe and guard. See DR-212.
3. Slotted drain for median crossover. See DR-502.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.
5. For PCC Detour Pavement, 'KT-2' or 'L-2' spaced at one-quarter median width.
6. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
7. For PCC Detour Pavement, 2 foot 'C' Joint.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
2695	1265	275



PLAN

Detour Pavement

Possible Contract Items:
- Granular Shoulders, Type A
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS (PAVED SHOULDERS)

Distance from Location Station (Feet)	468.69	450	425	400	375	350	325	301.41	300	275	250	225	200	175	150	125	100	95.06	75.0	0
Offset from inside edge of Pavement (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.07	7.36	8.84	10.49	12.33	14.34	16.54	18.92	21.47	22.00	25.00	25.00
Cross-Slope from inside edge of Pavement	4.00%	3.33%	2.44%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Drop from inside edge of Pavement (Feet)	0.24	.20	0.15	0.12	0.12	0.12	0.12	0.12	0.13	.15	0.18	0.21	0.25	0.29	0.33	0.38	0.43	0.44	0.50	0.50
POINT LOCATION	D							C										B		A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
5	04-21-15

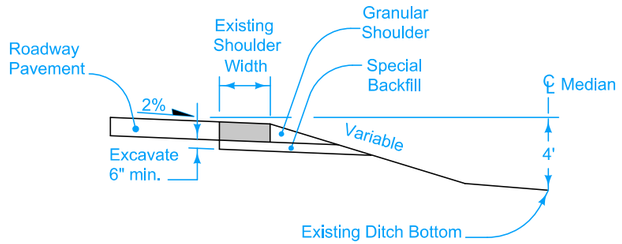
PV-500

SHEET 1 of 1

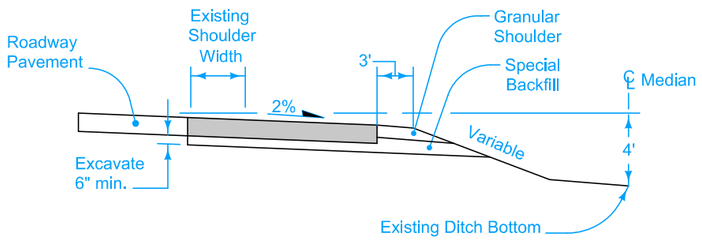
REVISIONS: Updated references to renamed standards.

APPROVED BY DESIGN METHODS ENGINEER

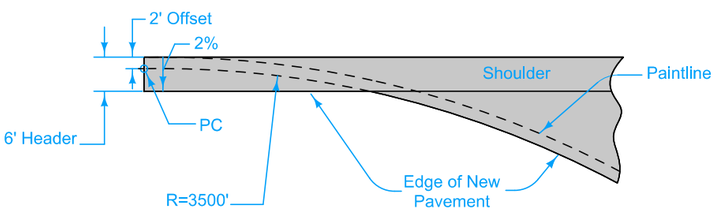
MEDIAN CROSSOVER
(50' MEDIAN)



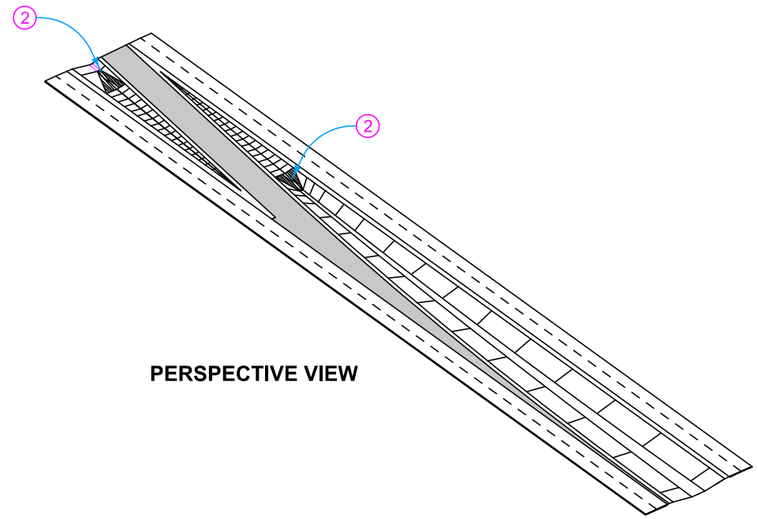
SECTION A-A



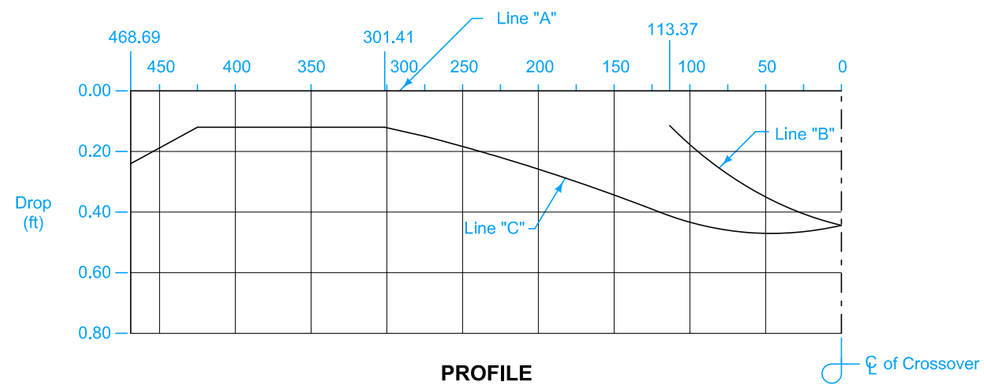
SECTION B-B



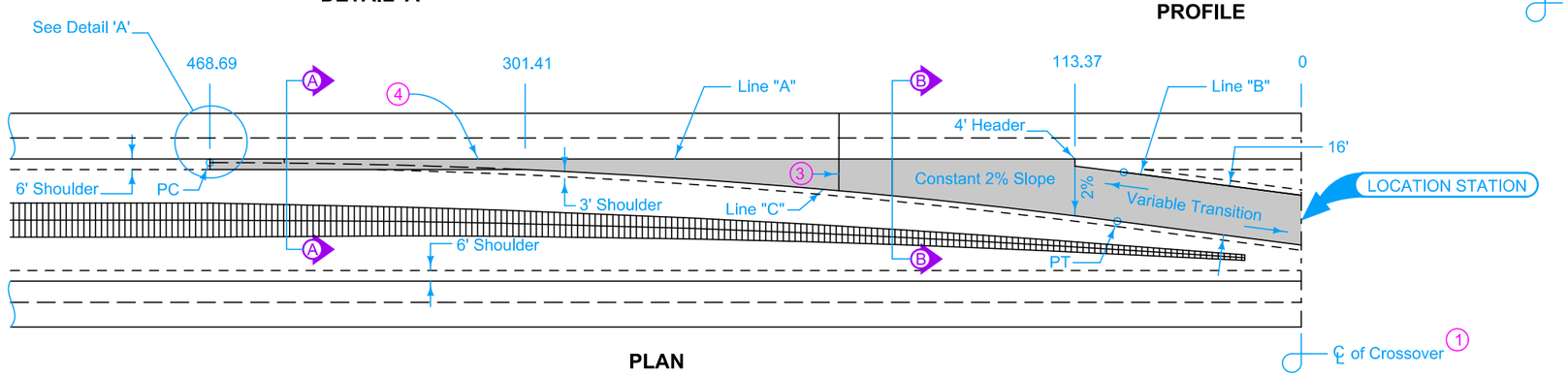
DETAIL 'A'



PERSPECTIVE VIEW



PROFILE



PLAN

TABLE OF OFFSETS AND DROPS																			
Distance (Feet)	468.69	450	400	350	301.41	300	275	250	225	200	175	150	125	113.37	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.07	7.36	8.84	10.49	12.33	14.34	16.54	18.92	20.08	21.47	24.21	27.13	30.08	33.06
Drop A to C (Feet)	0.24	0.20	0.12	0.12	0.12	0.13	0.15	0.18	0.21	0.25	0.29	0.33	0.38	0.40	0.43	0.46	0.47	0.46	0.44
Drop A to B (Feet)														0.08	0.18	0.27	0.35	0.41	0.44

Detour Pavement options: 9" PCC or 12" HMA
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1140	555	*200

*Quantity based on 8" shoulder depth.

Detour Pavement

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulders, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

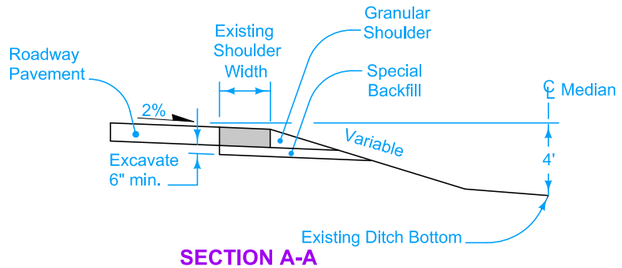
PV-501

SHEET 1 of 1

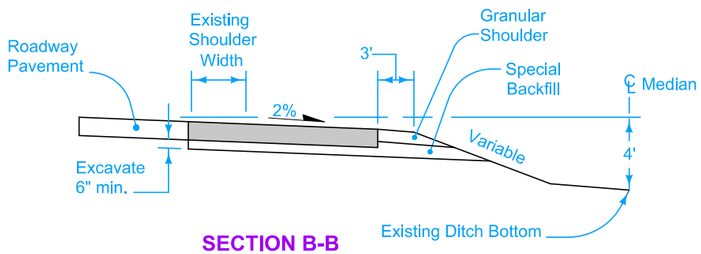
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

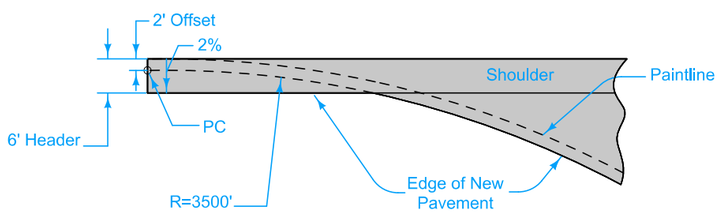
MEDIAN CROSSOVER
(50' MEDIAN)
16' WIDE 1 LANE



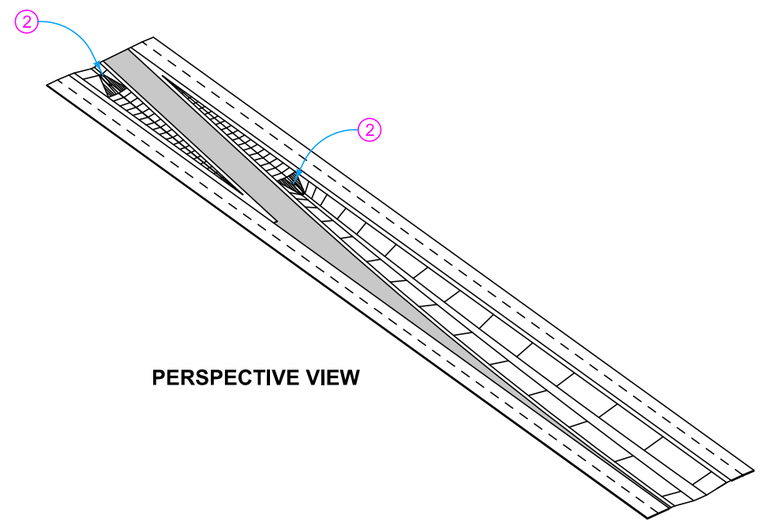
SECTION A-A



SECTION B-B



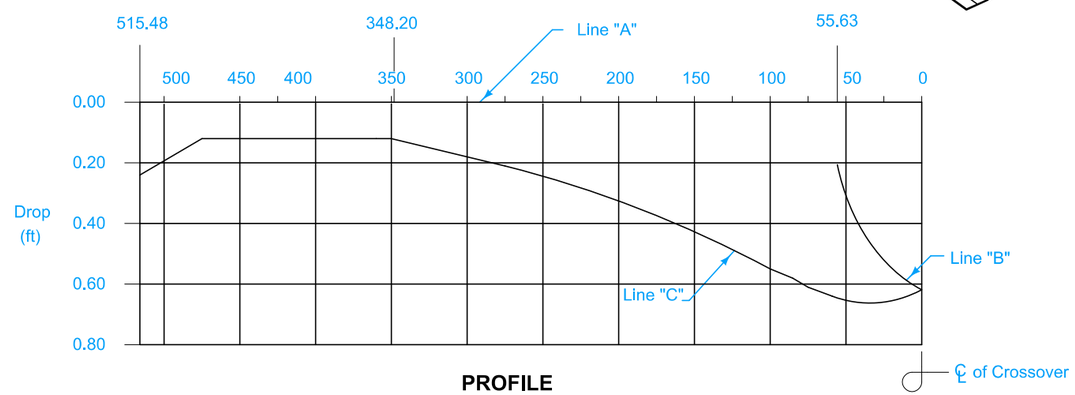
DETAIL 'A'



PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

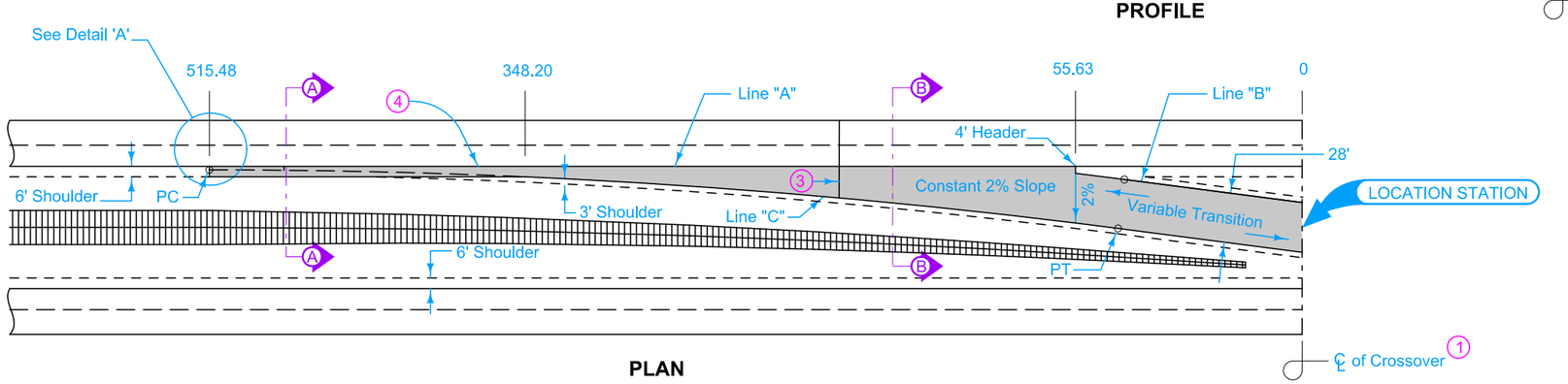


PROFILE

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1685	725	*195

*Quantity based on 8" shoulder depth.

Detour Pavement



PLAN

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulders, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS																					
Distance (Feet)	515.48	500	450	400	350	348.20	325	300	275	250	225	200	175	150	125	100	75	55.63	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	7.19	8.64	10.27	12.08	14.07	16.25	18.60	21.13	23.85	26.75	29.81	32.21	32.91	36.01	39.11
Drop A to C (Feet)	0.24	0.21	0.12	0.12	0.12	0.12	0.14	0.17	0.21	0.24	0.28	0.33	0.37	0.42	0.48	0.54	0.60	0.64	0.65	0.66	0.62
Drop A to B (Feet)																		.08	0.31	0.52	0.62

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

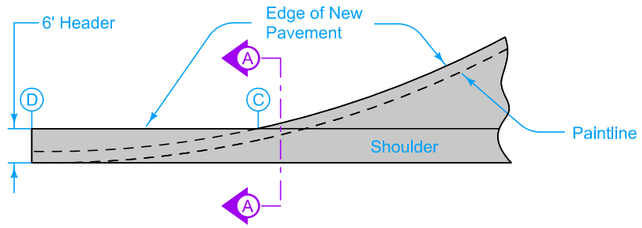
PV-502

SHEET 1 of 1

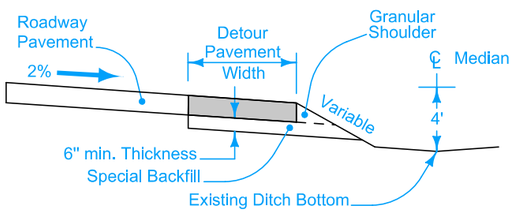
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

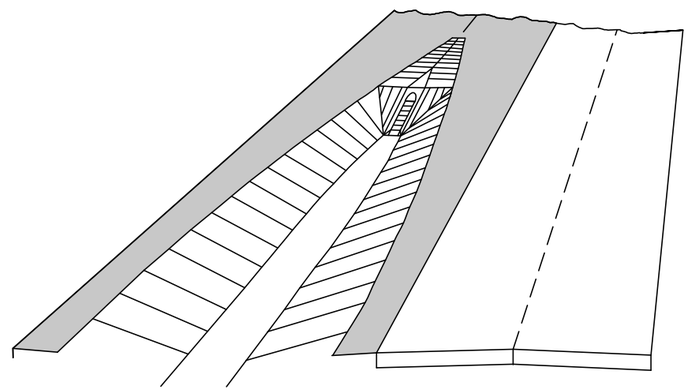
MEDIAN CROSSOVER
(50' MEDIAN)
28' WIDE 2 LANE



DETAIL 'A'



SECTION A-A



PERSPECTIVE VIEW
DITCH SLOPE AND BEVELED PIPE

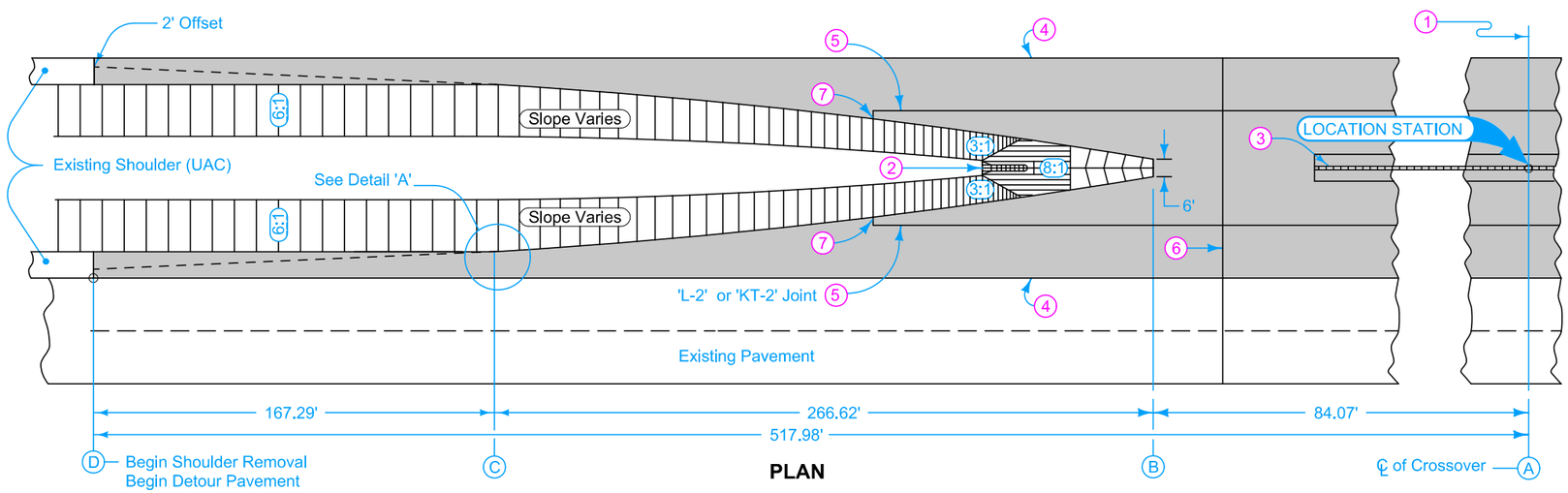
Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Beveled pipe and guard. See DR-212.
3. Slotted drain for median crossover. See DR-502.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.
5. For PCC Detour Pavement, 'L-2' or 'KT-2' spaced at one-quarter median width.
6. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
7. For PCC Detour Pavement, 2 foot 'C' Joint.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
3515	1700	325

Detour Pavement



PLAN

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Removal of Pavement
- Special Backfill
- Granular Shoulders, Type A

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS (PAVED SHOULDERS)

Distance from Location Station (Feet)	517.98	500	475	450	400	350.69	350	325	300	275	250	225	200	175	150	125	100	84.07	75.0	0
Offset from inside edge of Pavement (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.03	7.32	8.79	10.44	12.27	14.28	16.47	18.84	21.40	24.13	27.05	29.00	32.00	32.00
Cross-Slope from inside edge of Pavement	4.00%	3.36%	2.47%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Drop from inside edge of Pavement (Feet)	0.24	0.20	0.15	0.12	0.12	0.12	0.12	0.15	0.18	0.21	0.25	0.29	0.33	0.38	0.43	0.48	0.54	0.58	0.64	0.64
POINT LOCATION	D					C												B		A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
5	04-21-15

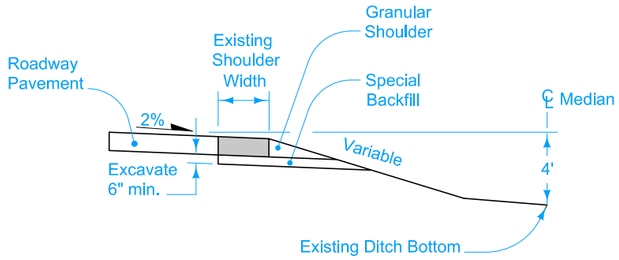
PV-503

SHEET 1 of 1

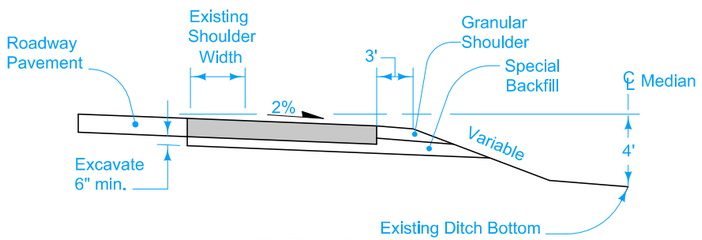
REVISIONS: Updated references to renamed standards.

APPROVED BY DESIGN METHODS ENGINEER

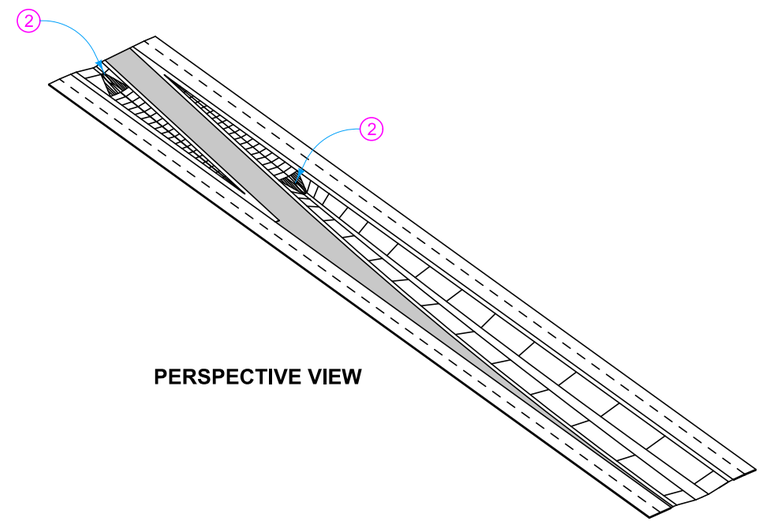
MEDIAN CROSSOVER
(64' MEDIAN)



SECTION A-A



SECTION B-B



PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

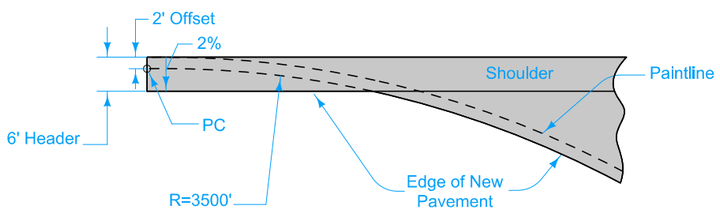
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

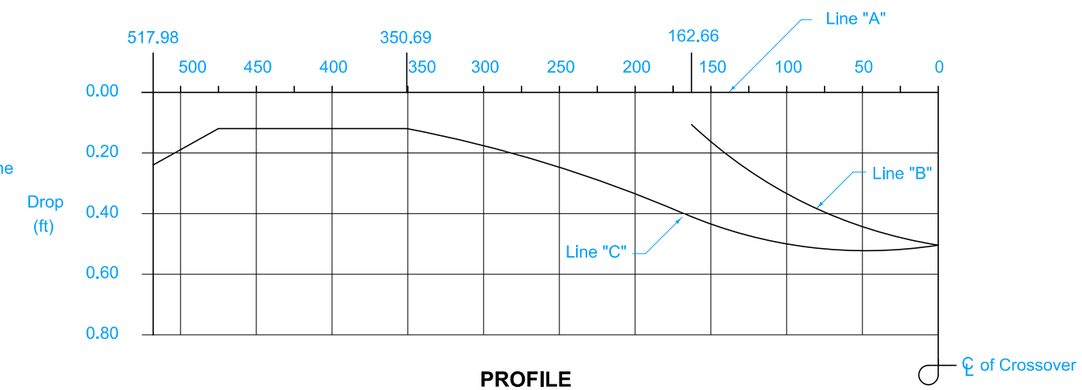
DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1320	645	*235

*Quantity based on 8" shoulder depth.

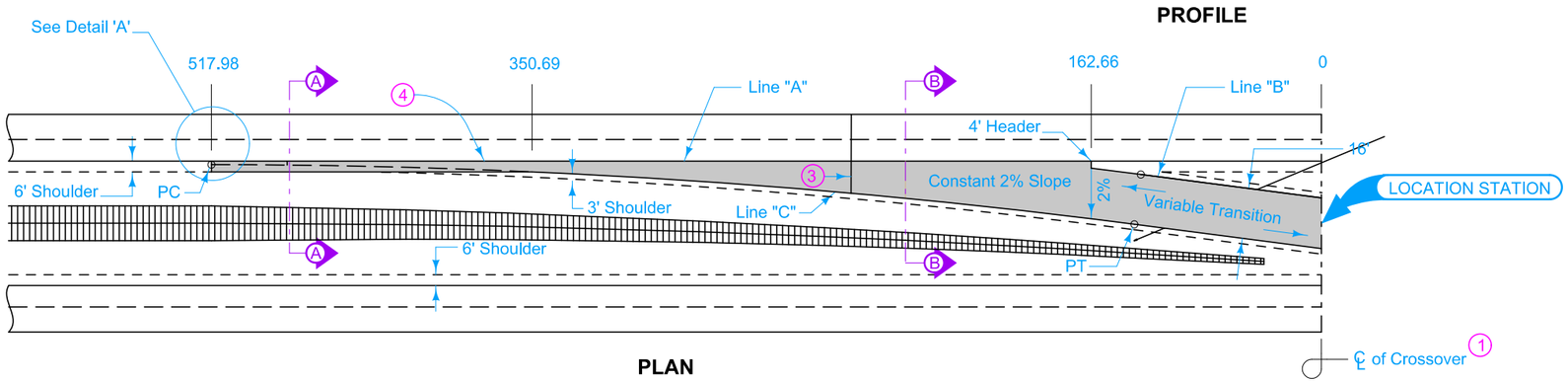
Detour Pavement



DETAIL 'A'



PROFILE



PLAN

TABLE OF OFFSETS AND DROPS																					
Distance (Feet)	517.98	500	450	400	350.69	350	325	300	275	250	225	200	175	162.66	150	125	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.03	7.32	8.79	10.44	12.79	14.28	16.47	18.84	20.08	21.40	24.13	27.05	30.15	33.42	36.75	40.07
Drop A to C (Feet)	0.24	0.20	0.12	0.12	0.12	0.12	0.15	0.18	0.21	0.26	0.29	0.33	0.38	0.40	0.43	0.47	0.50	0.52	0.52	0.52	0.50
Drop A to B (Feet)														0.08	0.17	0.26	0.33	0.40	0.44	0.48	0.50

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulders, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

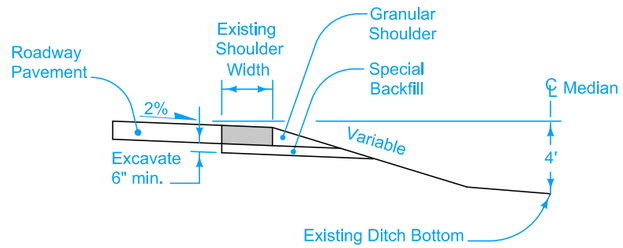
PV-504

SHEET 1 of 1

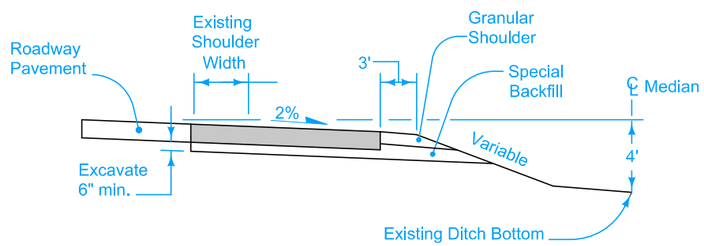
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

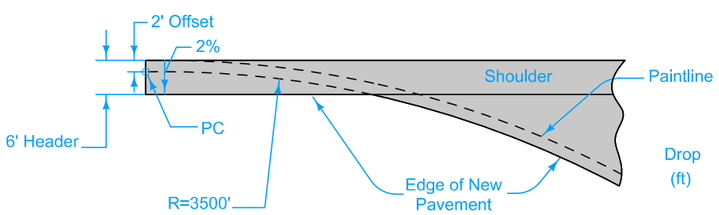
MEDIAN CROSSOVER
(64' MEDIAN)
16' WIDE 1 LANE



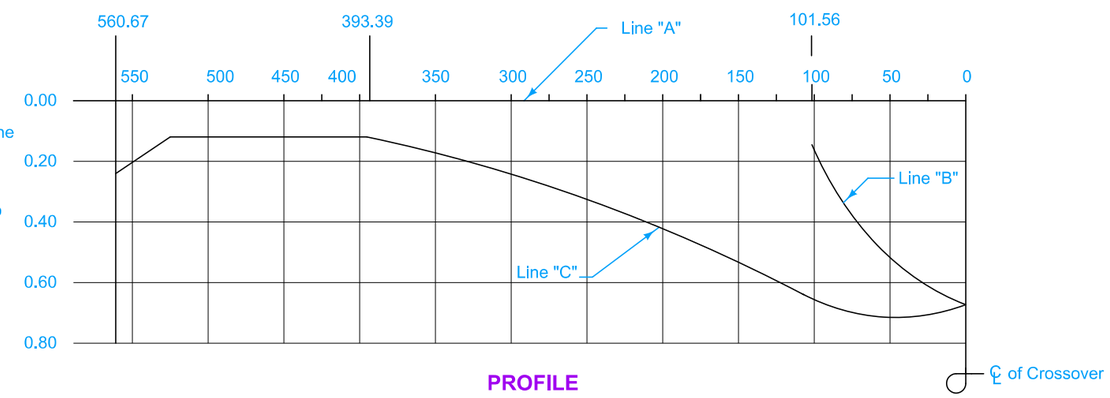
SECTION A-A



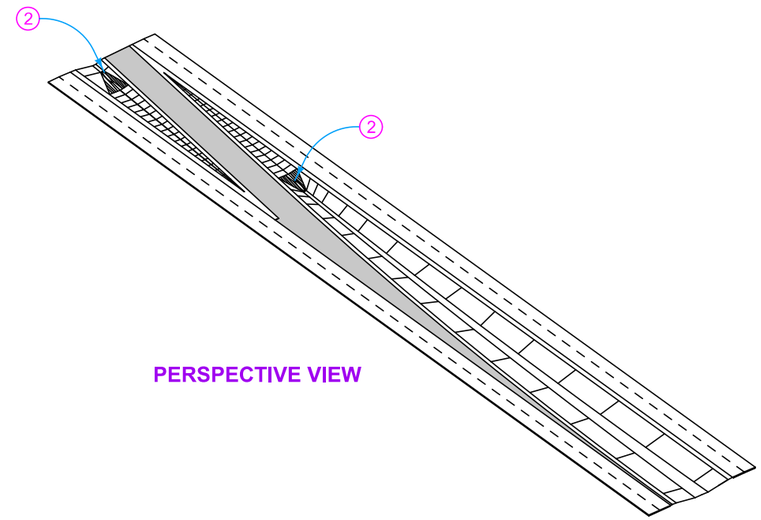
SECTION B-B



DETAIL 'A'



PROFILE



PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

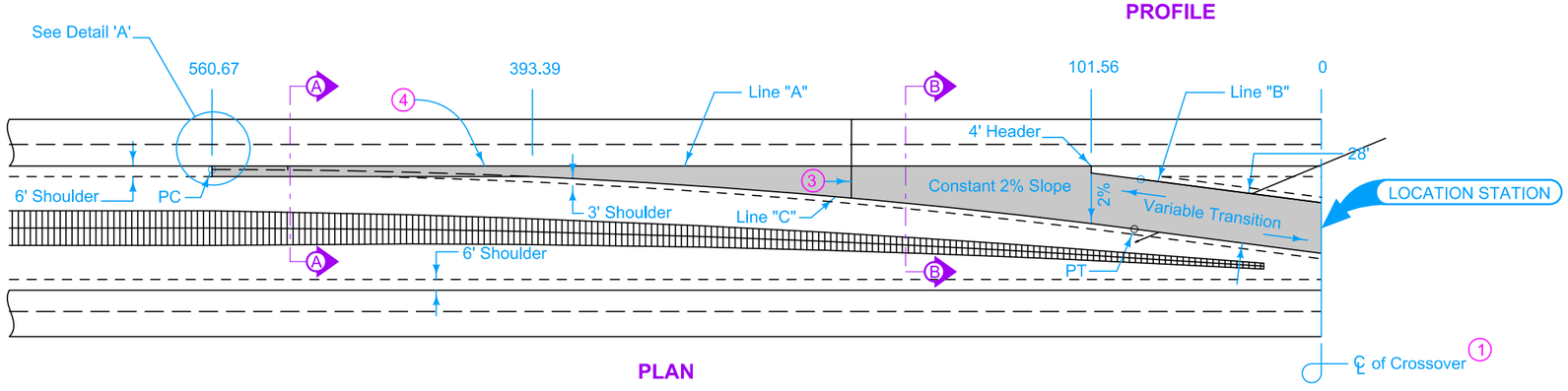
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1970	845	*225

*Quantity based on 8" shoulder depth.

Detour Pavement



PLAN

TABLE OF OFFSETS AND DROPS																							
Distance (Feet)	560.67	550	500	450	400	393.39	375	350	325	300	275	250	225	200	175	150	125	101.56	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.93	8.35	9.94	11.72	13.68	15.81	18.13	20.63	23.31	26.18	29.22	32.24	32.45	35.84	39.27	42.70	46.13
Drop A to C (Feet)	0.24	0.22	0.12	0.12	0.12	0.12	0.14	0.17	0.20	0.23	0.27	0.32	0.36	0.41	0.47	0.52	0.58	0.64	0.66	0.70	0.71	0.72	0.68
Drop A to B (Feet)																		0.08	0.16	0.38	0.52	0.61	0.68

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulders, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

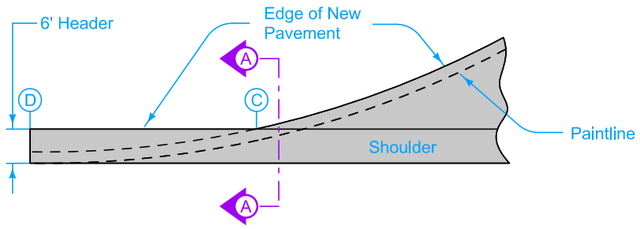
PV-505

SHEET 1 of 1

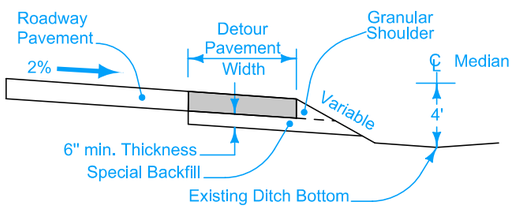
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

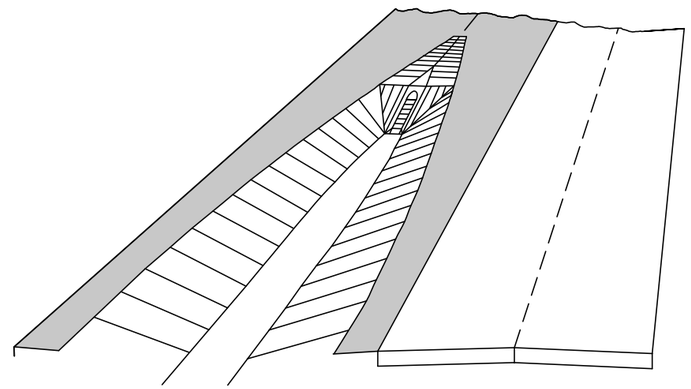
MEDIAN CROSSOVER
(64' MEDIAN)
28' WIDE 2 LANE



DETAIL 'A'



SECTION A-A



PERSPECTIVE VIEW
DITCH SLOPE AND BEVELED PIPE

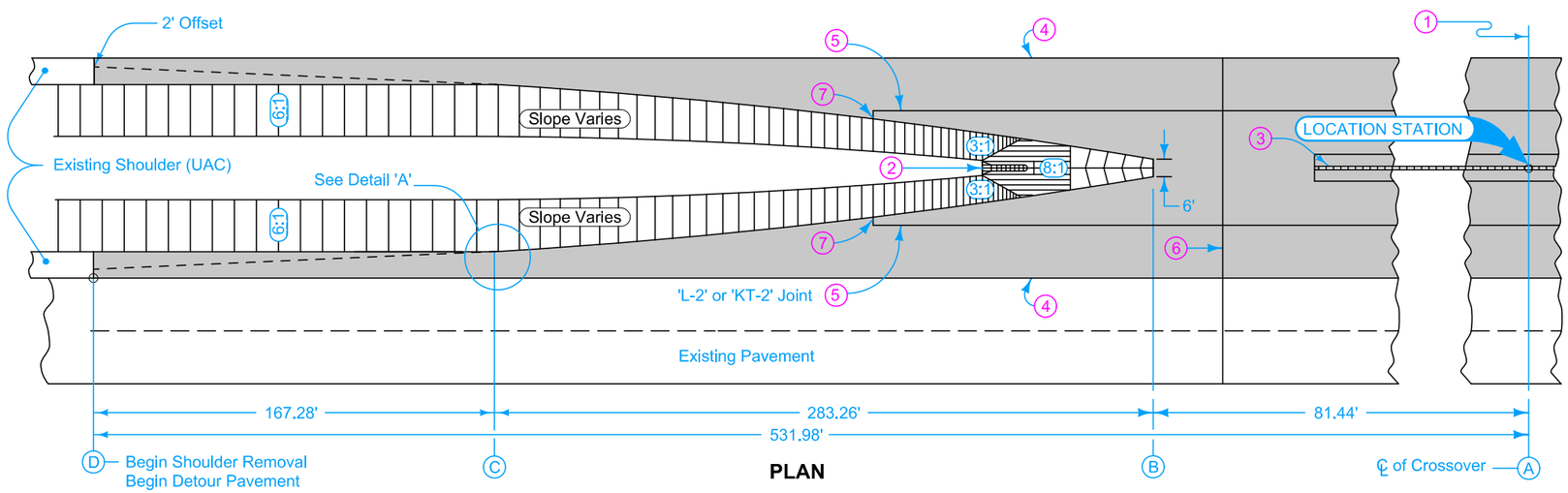
Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Beveled pipe and guard. See DR-212.
3. Slotted drain for median crossover. See DR-502.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.
5. For PCC Detour Pavement, 'L-2' or 'KT-2' spaced at one-quarter median width.
6. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
7. For PCC Detour Pavement, 2 foot 'C' Joint.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
3775	1700	340

Detour Pavement



PLAN

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Removal of Pavement
- Special Backfill
- Granular Shoulders, Type A

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS (PAVED SHOULDERS)																				
Distance from Location Station (Feet)	531.98	500	475	450	400	364.70	350	325	300	275	250	225	200	175	150	125	100	81.44	75.0	0
Offset from inside edge of Pavement (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	7.11	8.55	10.17	11.98	13.96	16.12	18.47	20.99	23.70	26.59	29.66	31.12	34.12	34.12
Cross-Slope from inside edge of Pavement	4.00%	2.86%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Drop from inside edge of Pavement (Feet)	0.24	0.17	0.12	0.12	0.12	0.12	0.13	0.16	0.19	0.23	0.27	0.31	0.36	0.41	0.46	0.51	0.58	0.62	0.68	0.68
POINT LOCATION	D					C												B		A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
5	04-21-15

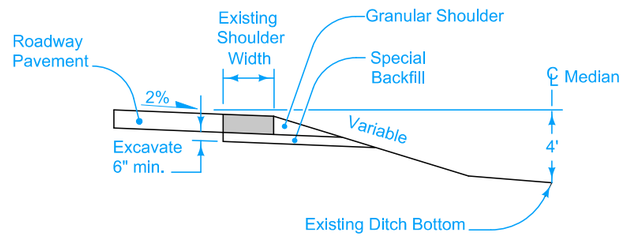
PV-506

SHEET 1 of 1

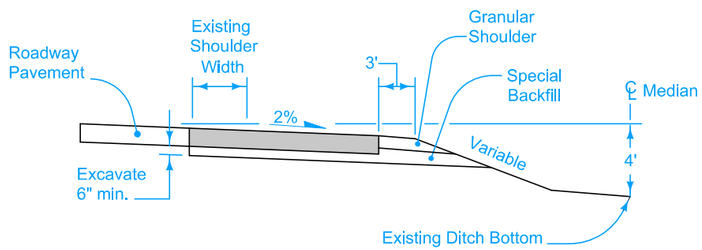
REVISIONS: Updated references to renamed standards.

APPROVED BY DESIGN METHODS ENGINEER

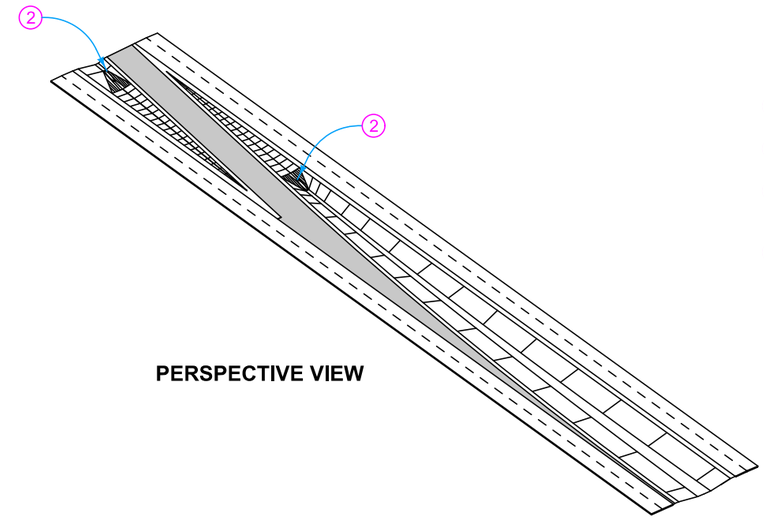
MEDIAN CROSSOVER
(68.24' MEDIAN)



SECTION A-A



SECTION B-B



PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

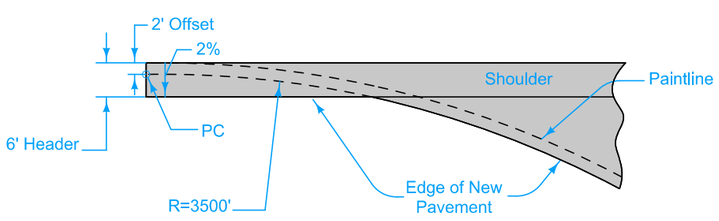
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

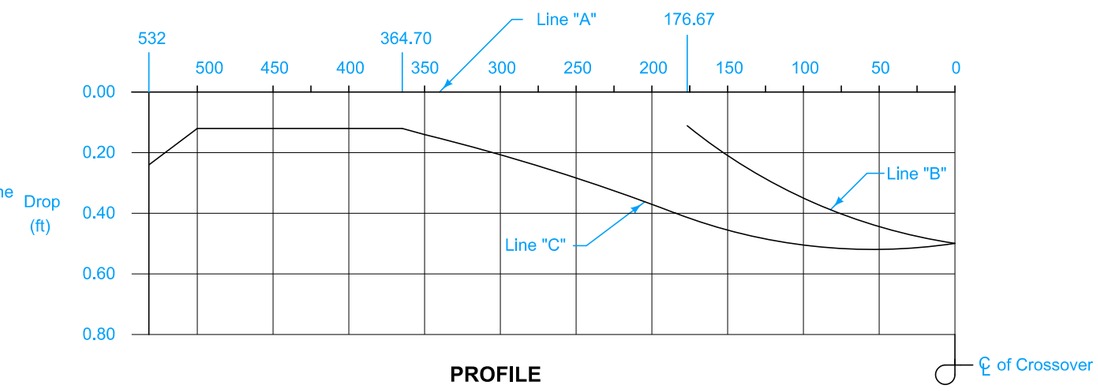
DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1370	670	*245

*Quantity based on 8" shoulder depth.

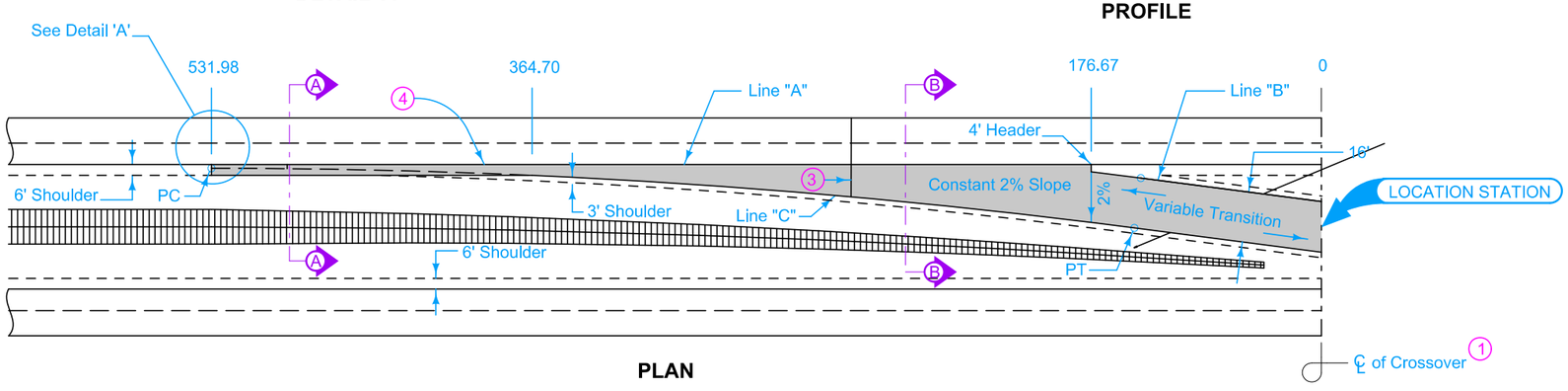
Detour Pavement



DETAIL 'A'



PROFILE



PLAN

TABLE OF OFFSETS AND DROPS																					
Distance (Feet)	531.98	500	450	400	364.70	350	325	300	275	250	225	200	176.67	175	150	125	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.73	8.13	9.70	11.45	13.38	15.49	17.78	20.08	20.25	22.91	25.74	28.76	31.96	35.34	38.77	42.19
Drop A to C (Feet)	0.24	0.17	0.12	0.12	0.12	0.13	0.16	0.19	0.23	0.27	0.31	0.36	0.40	0.42	0.46	0.48	0.50	0.52	0.52	0.51	0.50
Drop A to B (Feet)													0.08	0.12	0.21	0.29	0.35	0.40	0.44	0.48	0.50

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

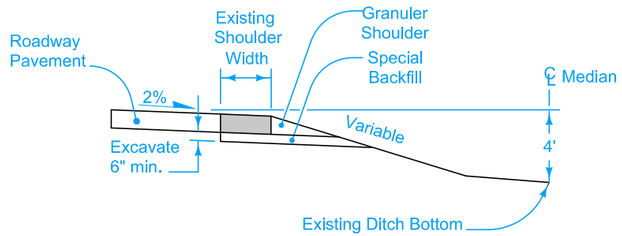
PV-507

SHEET 1 of 1

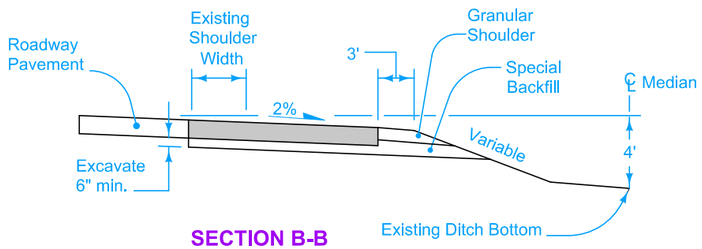
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

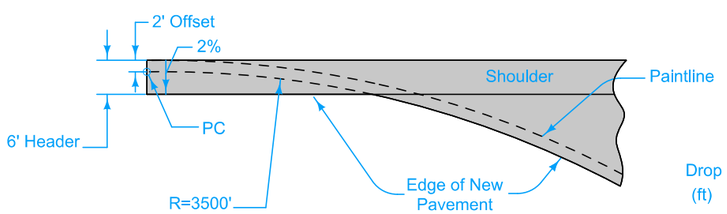
MEDIAN CROSSOVER
(68.24' MEDIAN)
16' WIDE 1 LANE



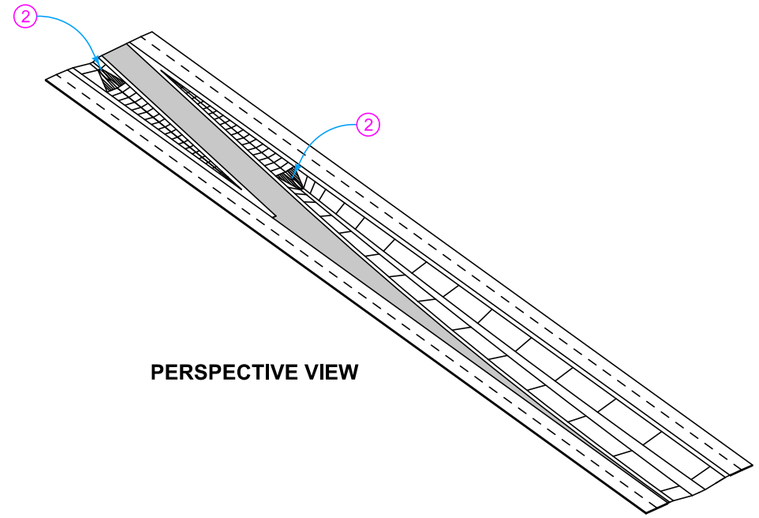
SECTION A-A



SECTION B-B



DETAIL 'A'

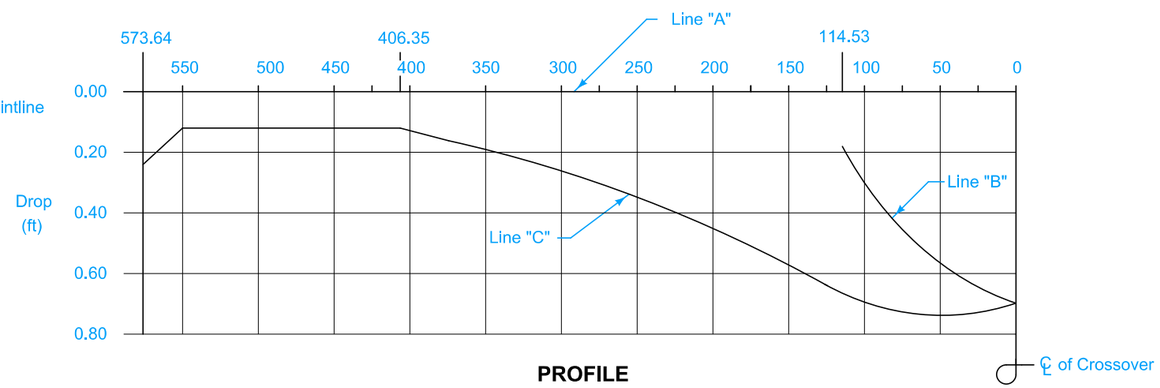


PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out. 'BT-3' joint if mainline pavement is existing. 'B' joint if Detour Pavement is HMA.

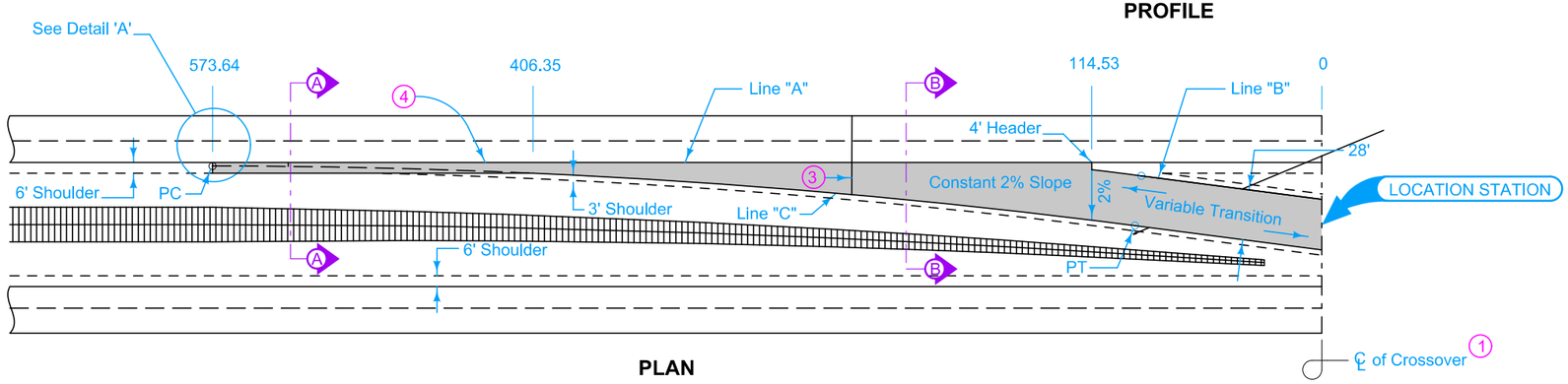


PROFILE

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
2050	880	*235

*Quantity based on 8" shoulder depth.

Detour Pavement



PLAN

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS																							
Distance (Feet)	573.64	550	500	450	406.35	400	375	350	325	300	275	250	225	200	175	150	125	114.53	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.31	7.64	9.15	10.84	12.71	14.76	16.99	19.41	22.00	24.78	27.73	30.87	32.24	34.20	37.69	41.21	44.73	48.26
Drop A to C (Feet)	0.24	0.19	0.12	0.12	0.12	0.13	0.15	0.18	0.22	0.25	0.30	0.34	0.40	0.44	0.50	0.55	0.62	0.64	0.70	0.73	0.74	0.73	0.70
Drop A to B (Feet)																		0.08	0.30	0.45	0.56	0.64	0.70

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	04-21-20

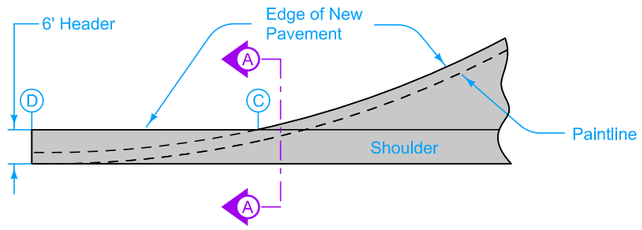
PV-508

SHEET 1 of 1

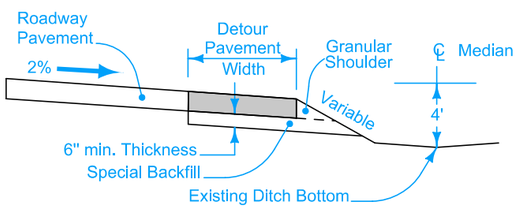
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

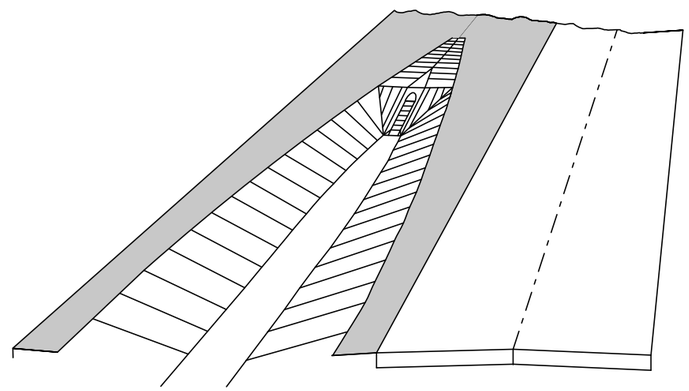
MEDIAN CROSSOVER
(68.24' MEDIAN)
28' WIDE 2 LANE



DETAIL 'A'



SECTION A-A



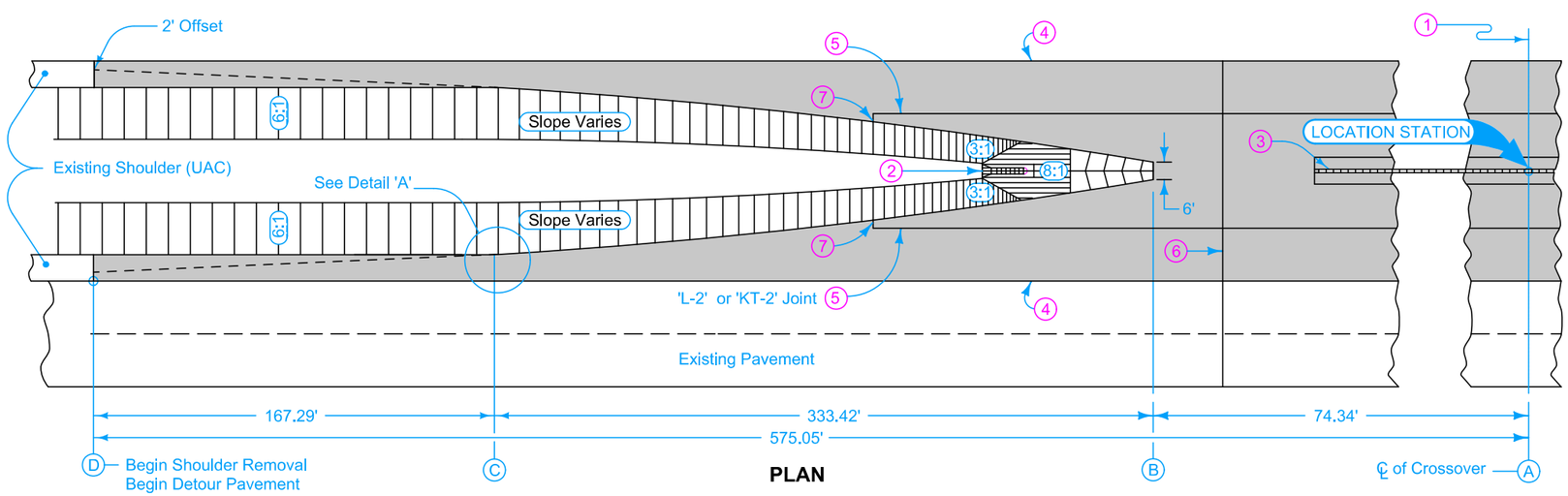
PERSPECTIVE VIEW
DITCH SLOPE AND BEVELED PIPE

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Beveled pipe and guard. See DR-212.
3. Slotted drain for median crossover. See DR-502.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.
5. For PCC Detour Pavement, 'KT-2' or 'L-2' spaced at one-quarter median width.
6. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
7. For PCC Detour Pavement, 2 foot 'C' Joint.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
4665	1860	380



PLAN

Detour Pavement

Possible Contract Items:
- Granular Shoulders, Type A
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS (PAVED SHOULDERS)

Distance from Location Station (Feet)	575.05	550	525	500	475	450	425	407.76	375	350	300	250	200	175	150	125	100	74.34	50	0
Offset from inside edge of Pavement (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	7.72	9.24	12.82	17.13	22.15	24.94	27.90	31.05	34.38	38.00	41.00	41.00
Cross-Slope from inside edge of Pavement	4.00%	3.12%	2.23%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Drop from inside edge of Pavement (Feet)	0.24	0.19	0.13	0.12	0.12	0.12	0.12	0.12	0.15	0.19	0.26	0.34	0.44	0.50	0.56	0.62	0.69	0.76	0.82	0.82
POINT LOCATION	D							C										B		A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-15

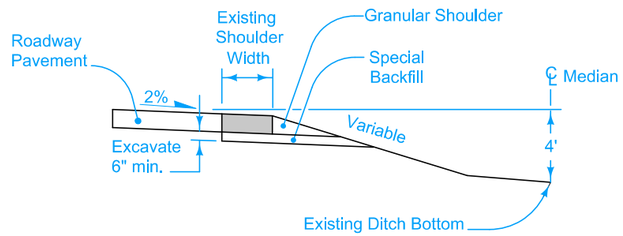
PV-509

SHEET 1 of 1

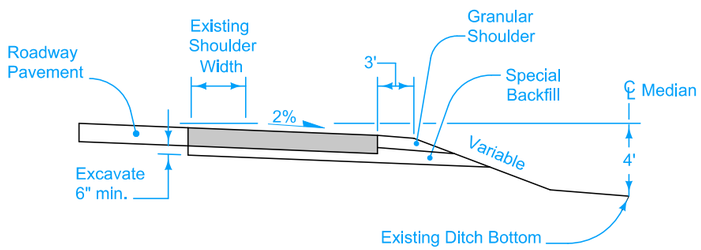
REVISIONS: Updated references to renamed standards.

APPROVED BY DESIGN METHODS ENGINEER

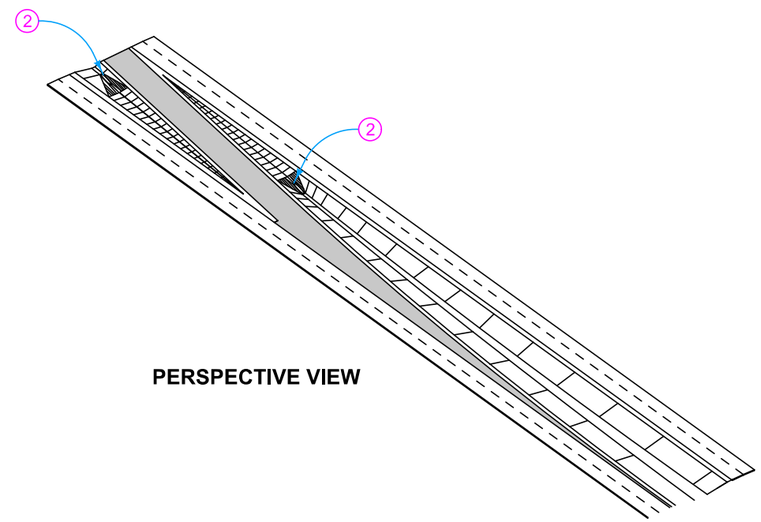
MEDIAN CROSSOVER
(82' MEDIAN)



SECTION A-A



SECTION B-B



PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

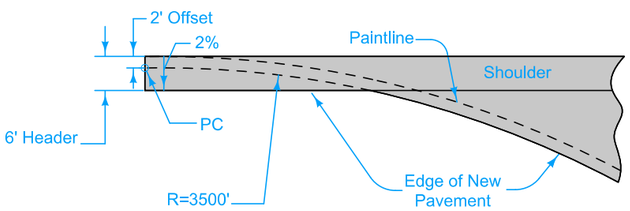
For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

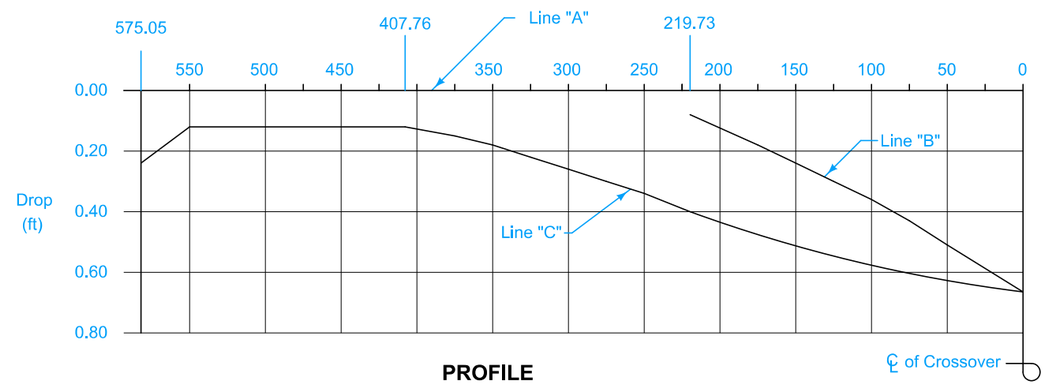
DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1525	750	*280

*Quantity based on 8" shoulder depth.

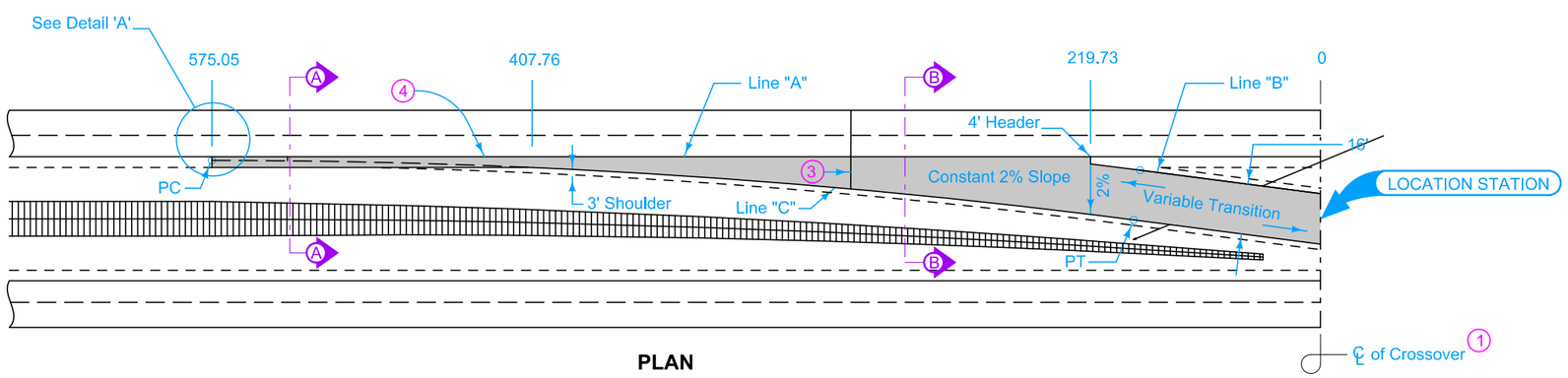
Detour Pavement



DETAIL 'A'



PROFILE



PLAN

TABLE OF OFFSETS AND DROPS																					
Distance (Feet)	575.05	550	525	500	475	450	407.76	375	350	325	300	275	250	219.73	175	150	125	100	75	50	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	7.72	9.24	10.94	12.82	14.88	17.13	20.08	24.94	27.91	31.06	34.39	37.91	41.60	49.09
Drop A to C (Feet)	0.24	0.19	0.13	0.12	0.12	0.12	0.12	0.15	0.18	0.22	0.26	0.30	0.34	0.40	0.50	0.56	0.62	0.69	0.86	0.83	0.66
Drop A to B (Feet)														0.08	0.18	0.24	0.30	0.36	0.43	0.51	0.66

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

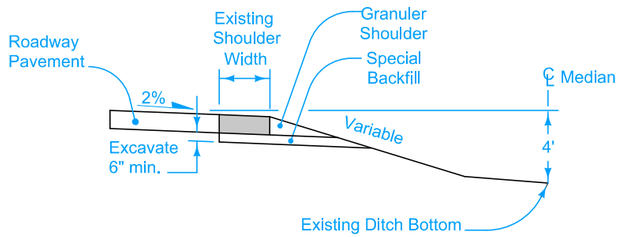
PV-510

SHEET 1 of 1

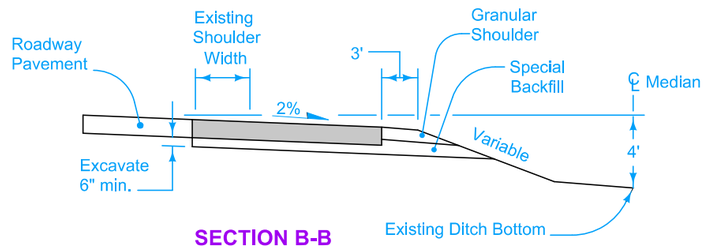
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

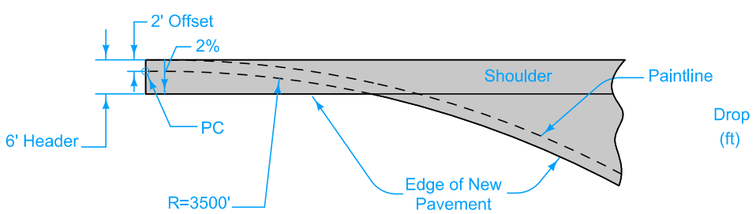
MEDIAN CROSSOVER
(82' MEDIAN)
16' WIDE 1 LANE



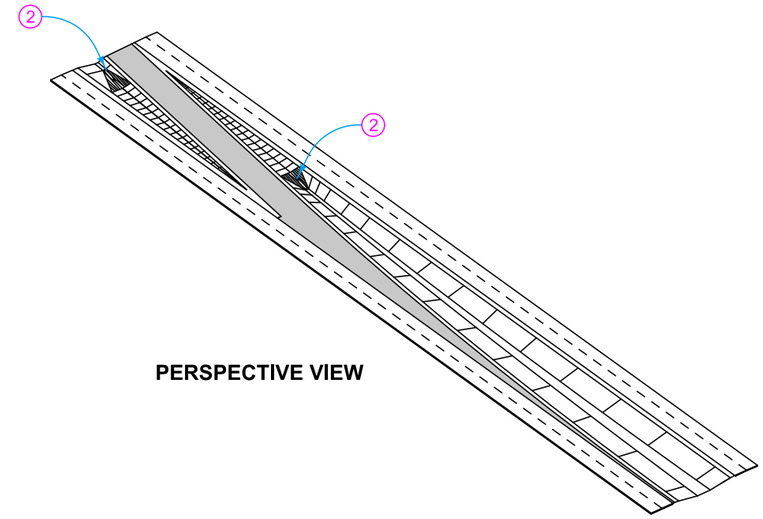
SECTION A-A



SECTION B-B



DETAIL 'A'

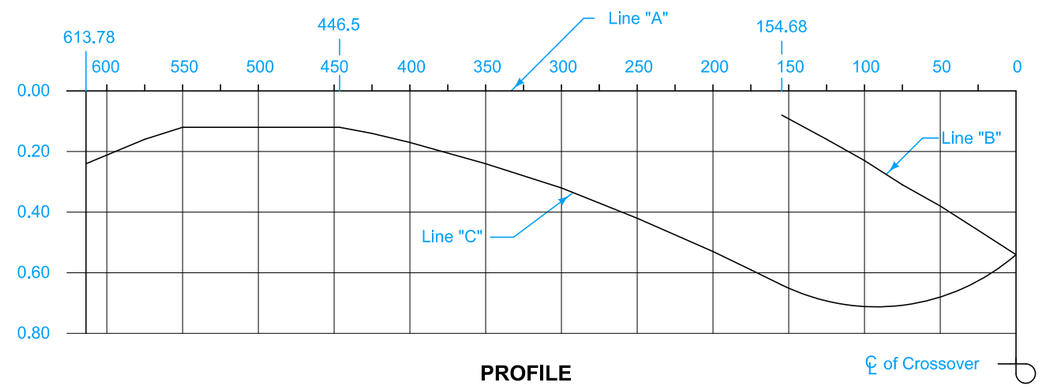


PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out. 'BT-3' joint if mainline pavement is existing. 'B' joint if Detour Pavement is HMA.

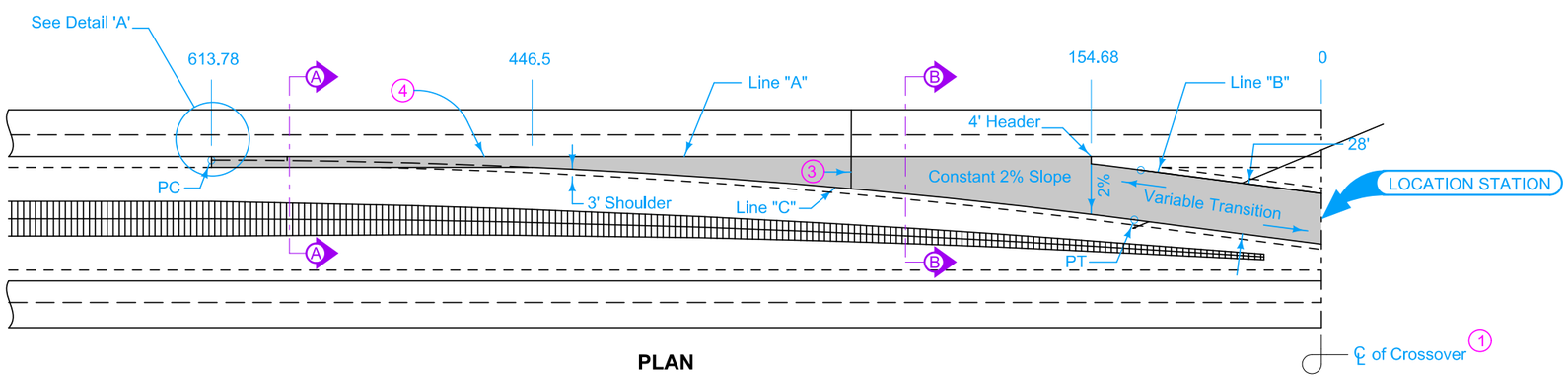


PROFILE

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
2305	985	*270

*Quantity based on 8" shoulder depth.

Detour Pavement



PLAN

TABLE OF OFFSETS AND DROPS																					
Distance (Feet)	613.78	575	550	525	500	475	446.5	425	400	350	300	250	200	175	154.68	125	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	7.10	8.53	11.95	16.09	20.96	26.55	29.61	32.24	36.30	39.92	43.70	47.52	51.34	55.16
Drop A to C (Feet)	0.24	0.16	0.12	0.12	0.12	0.12	0.12	0.14	0.17	0.24	0.32	0.42	0.53	0.59	0.64	0.69	0.71	0.71	0.68	0.63	0.54
Drop A to B (Feet)															0.08	0.16	0.23	0.31	0.38	0.46	0.54

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

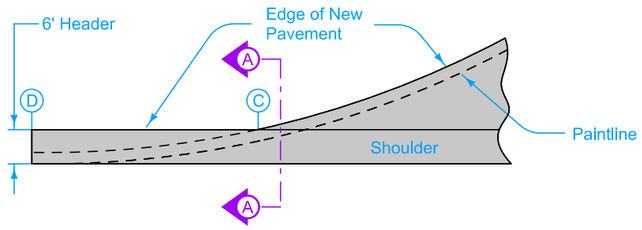
PV-511

SHEET 1 of 1

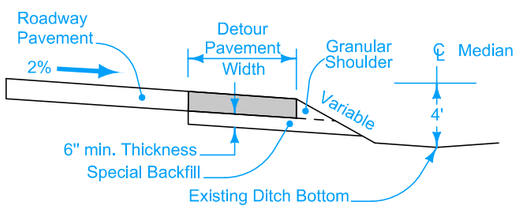
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

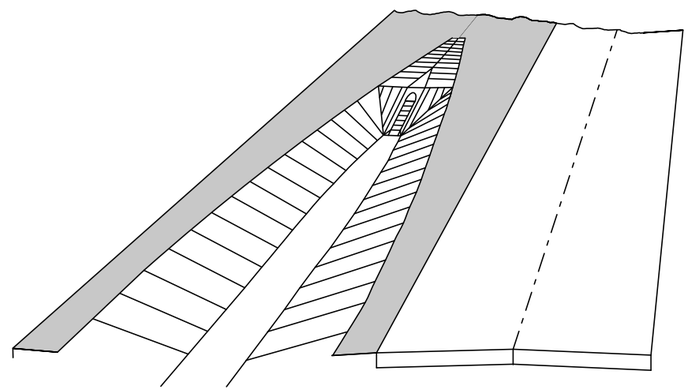
MEDIAN CROSSOVER
(82' MEDIAN)
28' WIDE 2 LANE



DETAIL 'A'



SECTION A-A



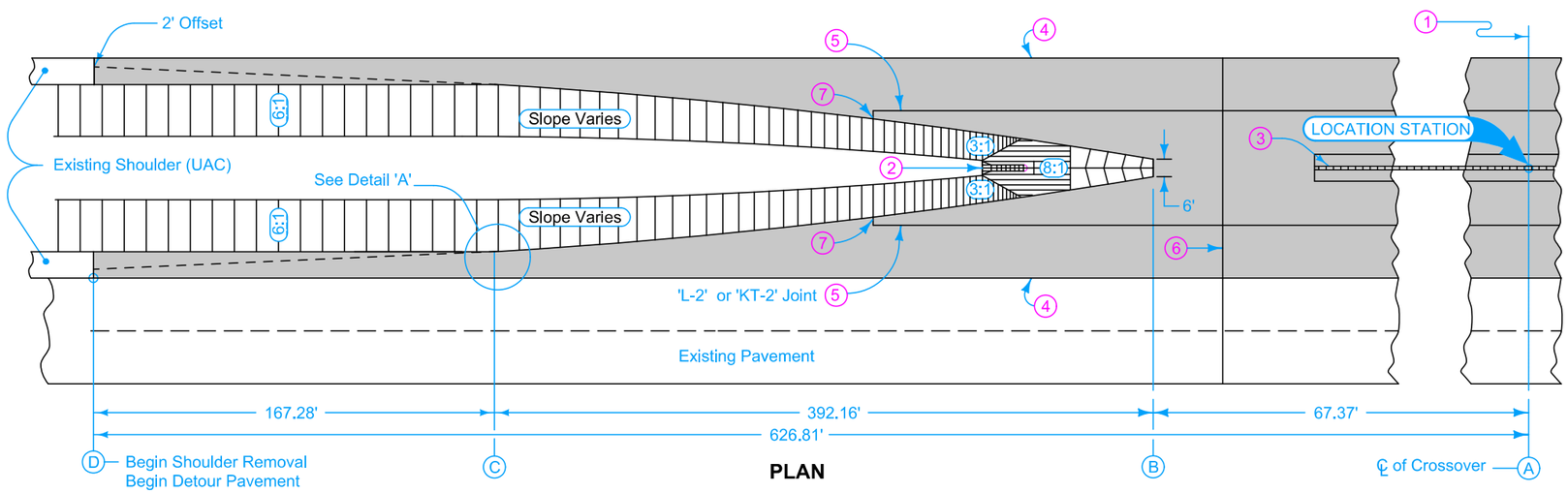
PERSPECTIVE VIEW
DITCH SLOPE AND BEVELED PIPE

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Beveled pipe and guard. See DR-212.
3. Slotted drain for median crossover. See DR-502.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.
5. For PCC Detour Pavement, 'KT-2' or 'L-2' spaced at one-quarter median width.
6. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
7. For PCC Detour Pavement, 2 foot 'C' Joint.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
5915	2300	430



PLAN

Detour Pavement

Possible Contract Items:
- Granular Shoulders, Type A
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS (PAVED SHOULDERS)																					
Distance from Location Station (Feet)	626.81	600	575	550	500	475	459.53	425	400	350	325	300	250	225	200	150	125	100	67.37	50	0
Offset from inside edge of Pavement (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	7.82	9.36	12.96	15.04	17.29	22.34	25.14	28.12	34.63	38.16	41.87	47	50	50
Cross-Slope from inside edge of Pavement	4.00%	3.05%	2.15%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Drop from inside edge of Pavement (Feet)	0.24	0.18	0.13	0.12	0.12	0.12	0.12	0.16	0.19	0.26	0.30	0.35	0.45	0.50	0.56	0.69	0.76	0.84	0.94	1.0	1.0
POINT LOCATION	D						C												B		A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-15

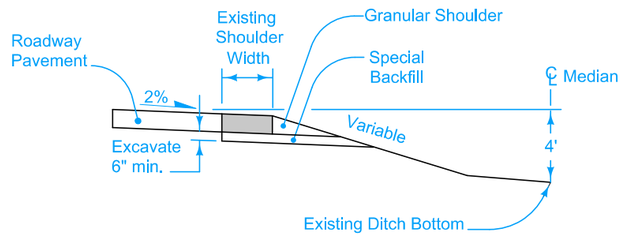
PV-512

SHEET 1 of 1

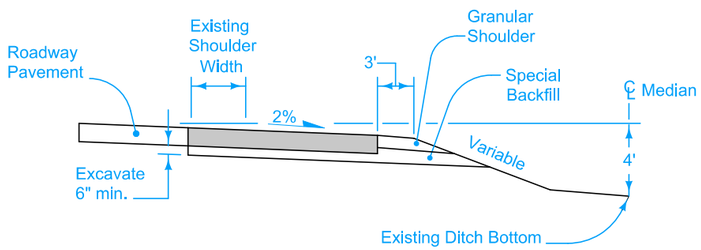
REVISIONS: Updated references to renamed standards.

APPROVED BY DESIGN METHODS ENGINEER

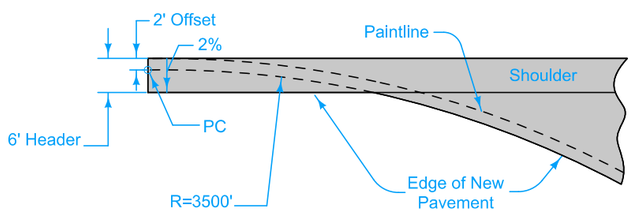
MEDIAN CROSSOVER
(100' MEDIAN)



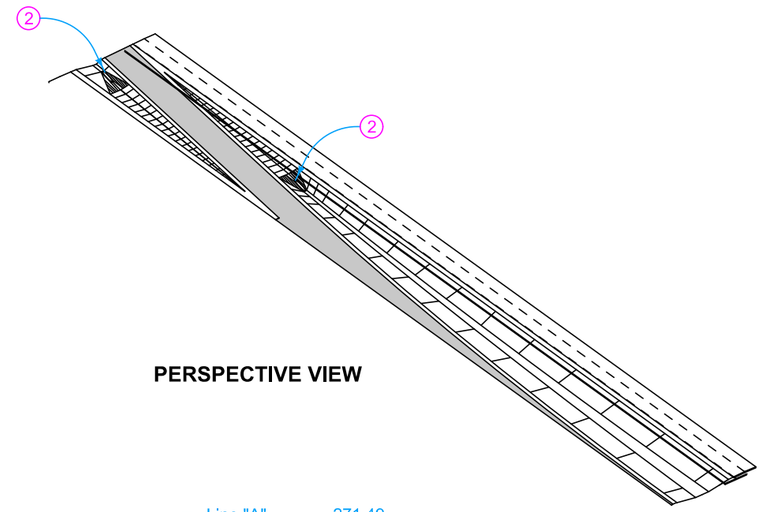
SECTION A-A



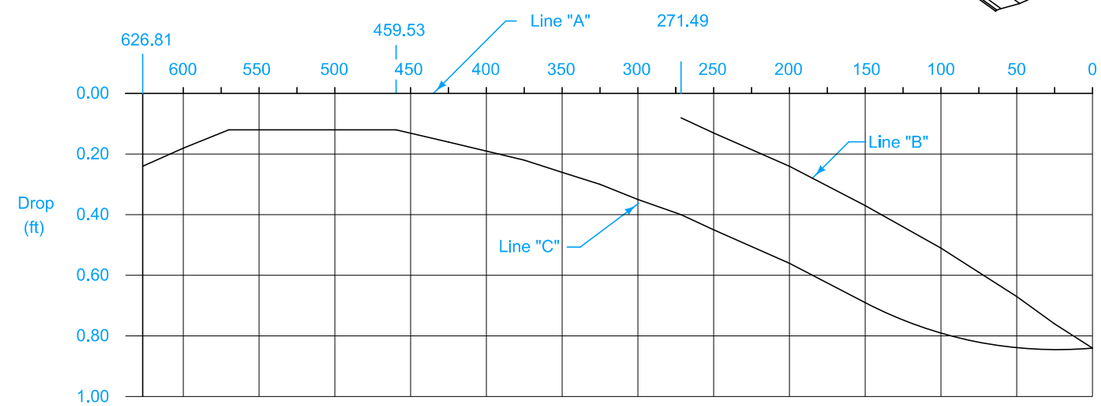
SECTION B-B



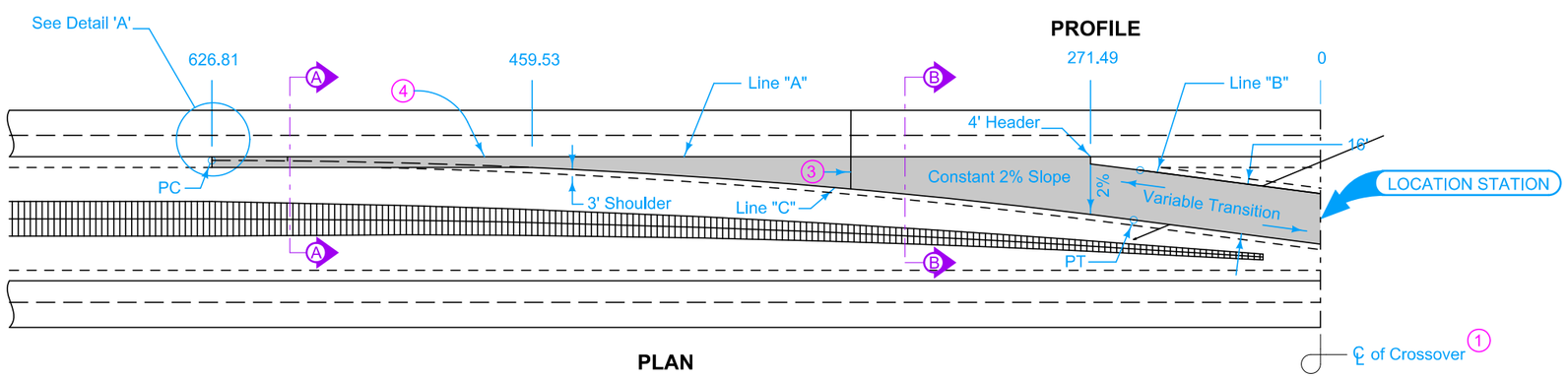
DETAIL 'A'



PERSPECTIVE VIEW



PROFILE



PLAN

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out.
   'BT-3' joint if mainline pavement is existing.
   'B' joint if Detour Pavement is HMA.

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
1710	845	*320

*Quantity based on 8" shoulder depth.

Detour Pavement

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS

Distance (Feet)	626.81	600	575	550	500	459.53	425	400	375	350	325	300	271.49	250	200	150	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	7.82	9.36	11.07	12.96	15.04	17.29	20.08	22.34	28.12	34.63	41.87	45.77	49.85	55.95	58.11
Drop A to C (Feet)	0.24	0.18	0.13	0.12	0.12	0.12	0.16	0.19	0.22	0.26	0.30	0.35	0.40	0.45	0.56	0.69	0.79	0.82	0.84	0.85	0.84
Drop A to B (Feet)													0.08	0.13	0.24	0.37	0.51	0.59	0.67	0.76	0.84

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

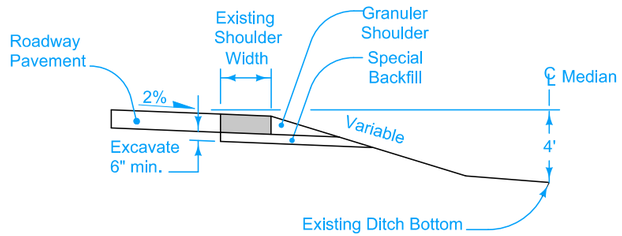
PV-513

SHEET 1 of 1

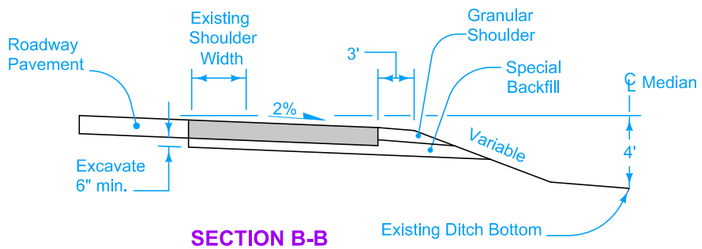
REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

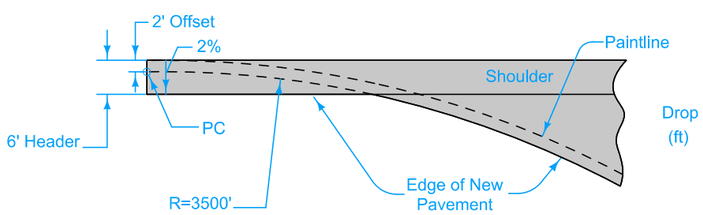
MEDIAN CROSSOVER
(100' MEDIAN)
16' WIDE 1 LANE



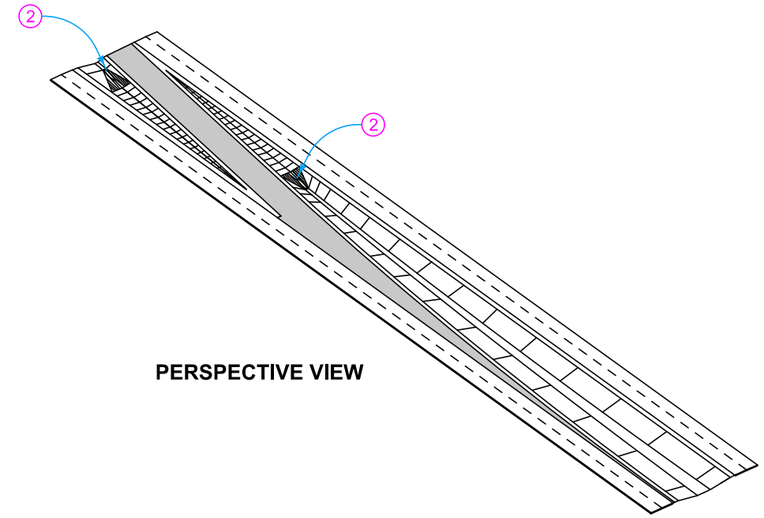
SECTION A-A



SECTION B-B



DETAIL 'A'

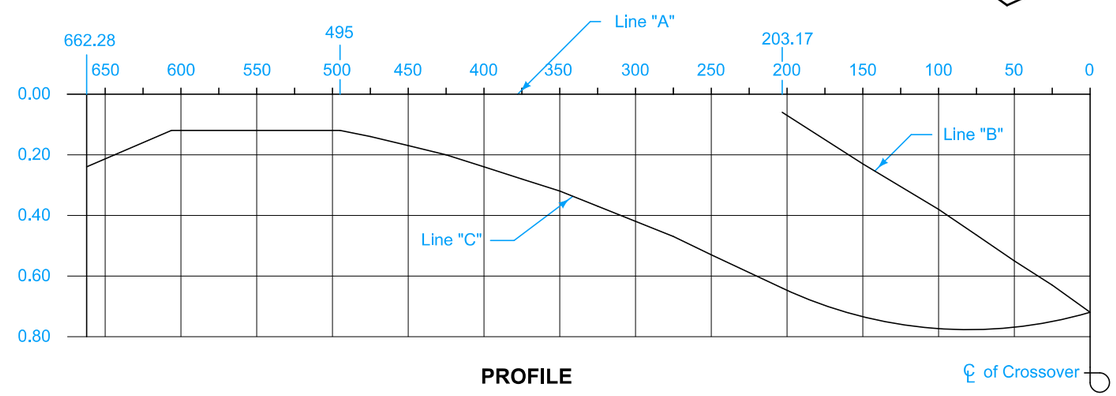


PERSPECTIVE VIEW

Detour Pavement options: 9" PCC or 12" HMA

For joint details, see PV-101.

1. Median crossover is symmetrical about centerline.
2. Median pipe for crossover. See DR-504.
3. For PCC Detour Pavement, match existing roadway joints. 'CD' joints are required.
4. 'KT-2' or 'L-2' joint if mainline pavement is new construction. Bend bars out. 'BT-3' joint if mainline pavement is existing. 'B' joint if Detour Pavement is HMA.

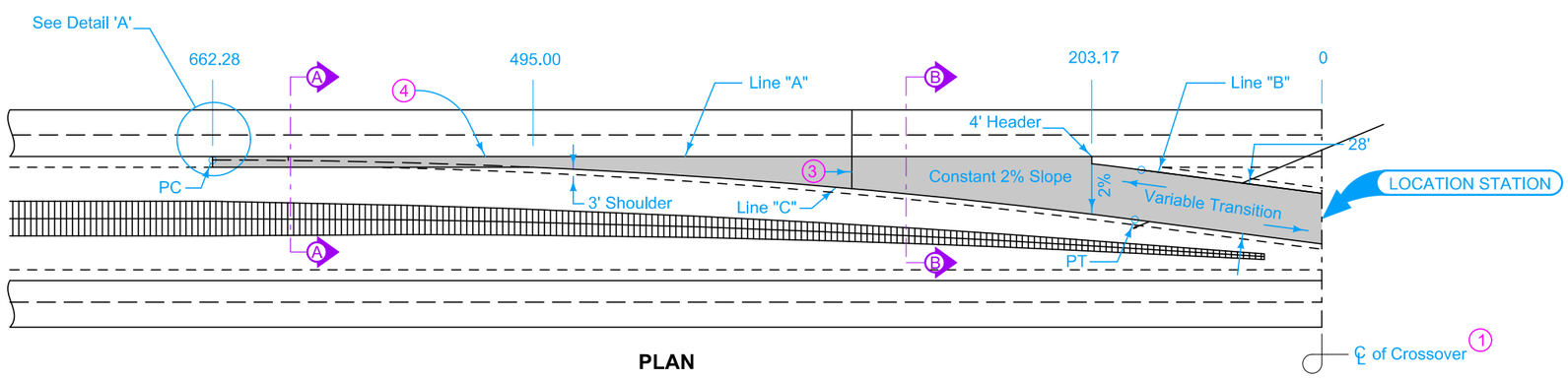


PROFILE

DESIGN QUANTITY TABLE		
Detour Pavement Sq. Yds.	Special Backfill Tons	Granular Shoulder Tons
2610	1115	*305

*Quantity based on 8" shoulder depth.

Detour Pavement



PLAN

Possible Contract Items:
- Detour Pavement
- Embankment In Place
- Excavation, Class 10, Roadway and Borrow
- Excavation, Class 13, Roadway and Borrow
- Granular Shoulder, Type A
- Removal of Pavement
- Special Backfill

Possible Tabulation:
112-8

TABLE OF OFFSETS AND DROPS																							
Distance (Feet)	662.28	625	600	575	525	495	475	450	425	400	375	350	325	300	275	250	203.17	150	100	75	50	25	0
Offset A to C (Feet)	6.00	6.00	6.00	6.00	6.00	6.00	7.01	8.44	10.05	11.84	13.81	15.96	18.29	20.80	23.49	26.37	32.24	39.69	47.46	51.61	55.81	60.00	64.19
Drop A to C (Feet)	0.24	0.16	0.12	0.12	0.12	0.12	0.14	0.17	0.20	0.24	0.28	0.32	0.37	0.42	0.47	0.53	0.64	0.73	0.77	0.78	0.77	0.75	0.72
Drop A to B (Feet)																	0.08	0.23	0.38	0.46	0.55	0.63	0.72

IOWA DOT

STANDARD ROAD PLAN

REVISION	
1	04-21-20

PV-514

SHEET 1 of 1

REVISIONS: New logo and modified circle note 2.

APPROVED BY DESIGN METHODS ENGINEER

MEDIAN CROSSOVER
(100' MEDIAN)
28' WIDE 2 LANE