

NOTES:

1. MINIMUM PAVEMENT THICKNESS SHOWN IS FOR RESIDENTIAL STREETS, PROPOSED PAVEMENT DESIGNS FOR OTHER ROADWAYS TO BE APPROVED BY TOWN ENGINEER.
2. RECLAIMED ASPHALT PAVEMENT MATERIAL MAY BE SUBSTITUTED FOR DENSE GRADED CRUSHED STONE AND GRAVEL SUB-BASE IF APPROVED BY TOWN ENGINEER. GRADATION SHALL MET AASHTO A-1-A AT A MINIMUM.

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AT

APPROVED BY:

RR



Town of Durham Engineering Division

TYPICAL PAVEMENT SECTION

SECTION:

ROADWAY

DWG #:

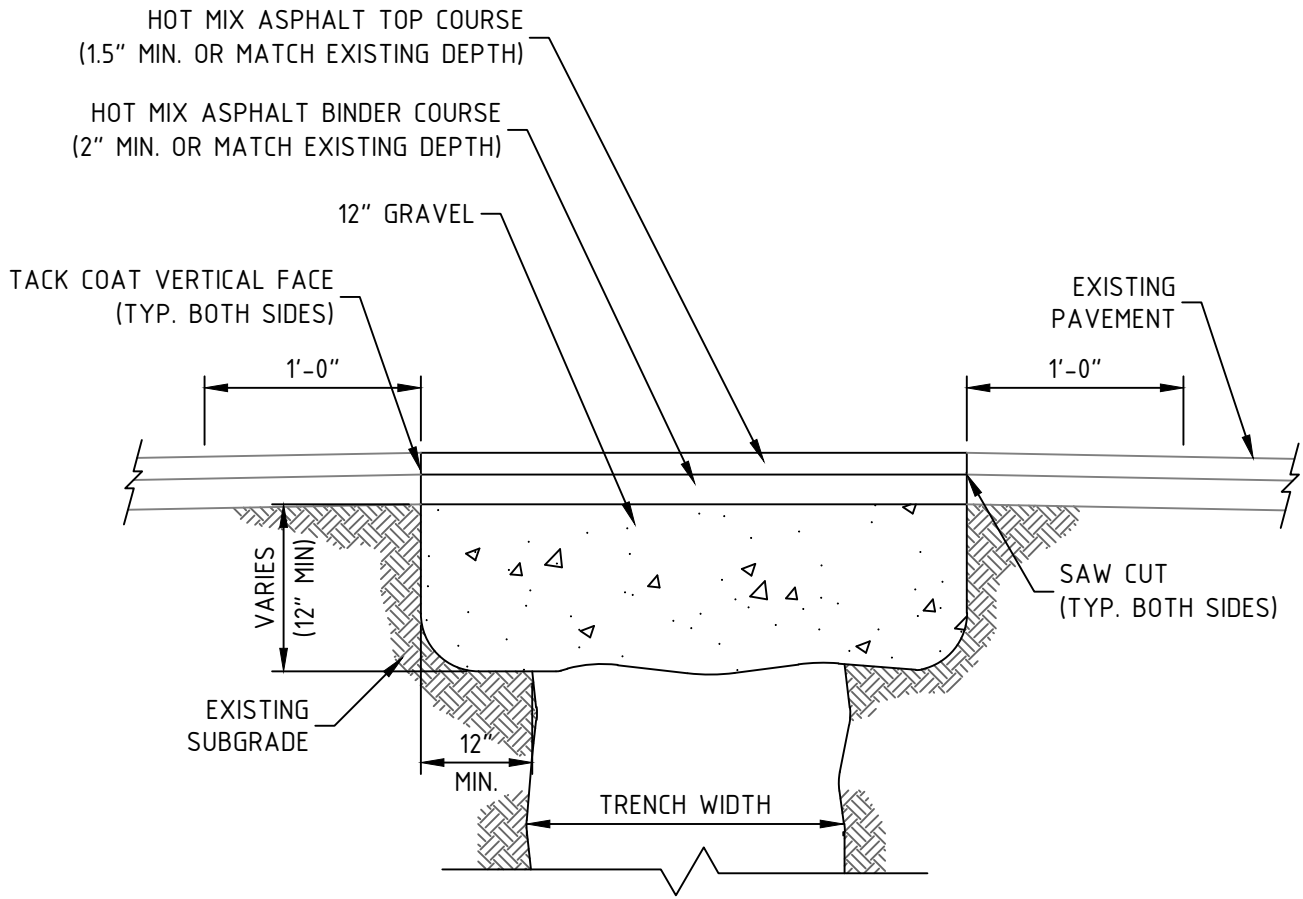
RS-1

DATE:

JAN 2022

PAGE:

81



**NOTES:**

1. 12" OF GRAVEL BASE COURSE SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.
2. HOT MIX ASPHALT TRENCH PATCH SHALL BE A MINIMUM OF 3.5" TOTAL THICKNESS, OR SHALL MATCH THE EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER.
3. TRENCHES IN EXCESS OF 100 FEET IN LENGTH, OR AS REQUIRED BY TOWN ENGINEER SHALL HAVE THE JOINT BETWEEN NEW AND OLD PAVEMENT SEALED WITH AN ASPHALT CRACK SEALER UNLESS OTHERWISE SPECIFIED.

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AT

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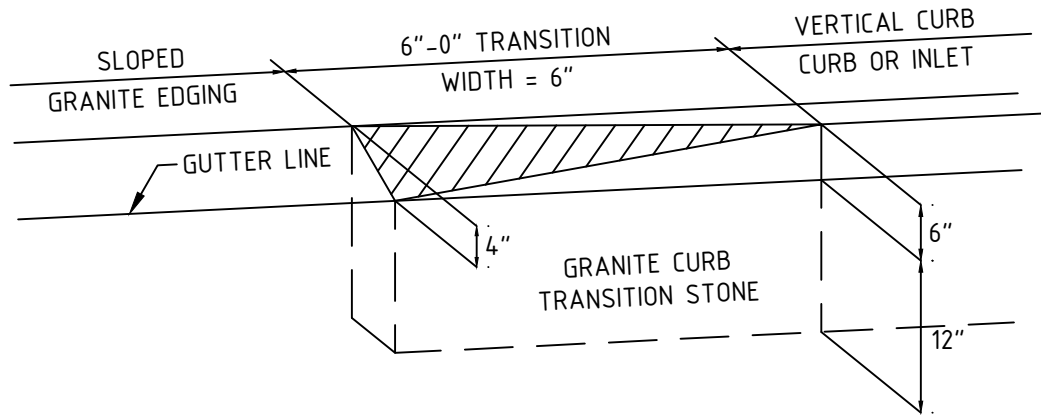
**TRENCH PAVEMENT DETAIL**

SECTION: ROADWAY

DWG #: RS-2

DATE: JAN 2022

PAGE: 82



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Town of Durham Engineering Division

EDGING TO CURB  
TRANSITION

SECTION:

ROADWAY

DWG #:

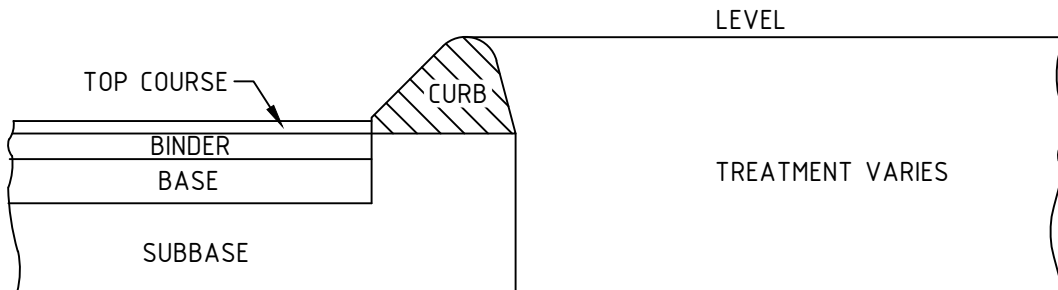
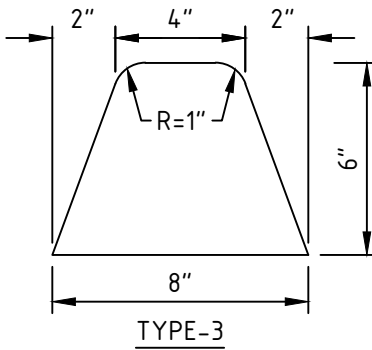
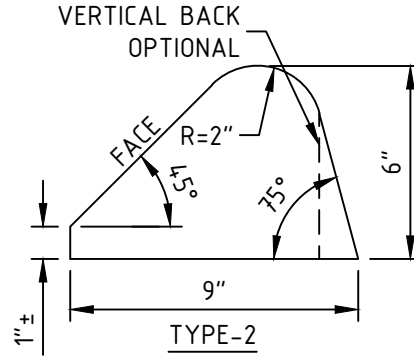
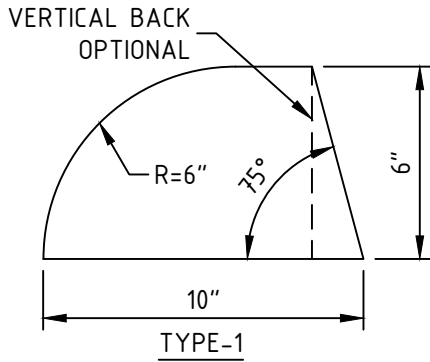
RS-5

DATE:

JAN 2022

PAGE:

83



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Town of Durham Engineering Division

HOT MIX ASPHALT BERM &  
CURB

SECTION:

ROADWAY

DWG #:

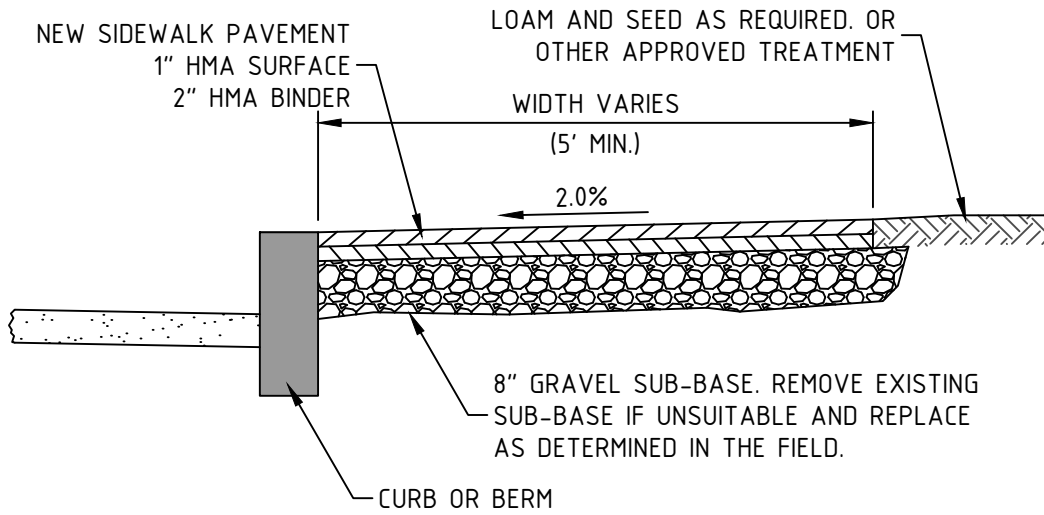
RS-6

DATE:

JAN 2022

PAGE:

84



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Town of Durham Engineering Division

HOT MIX ASPHALT  
SIDEWALK

SECTION:

ROADWAY

DWG #:

RS-7A

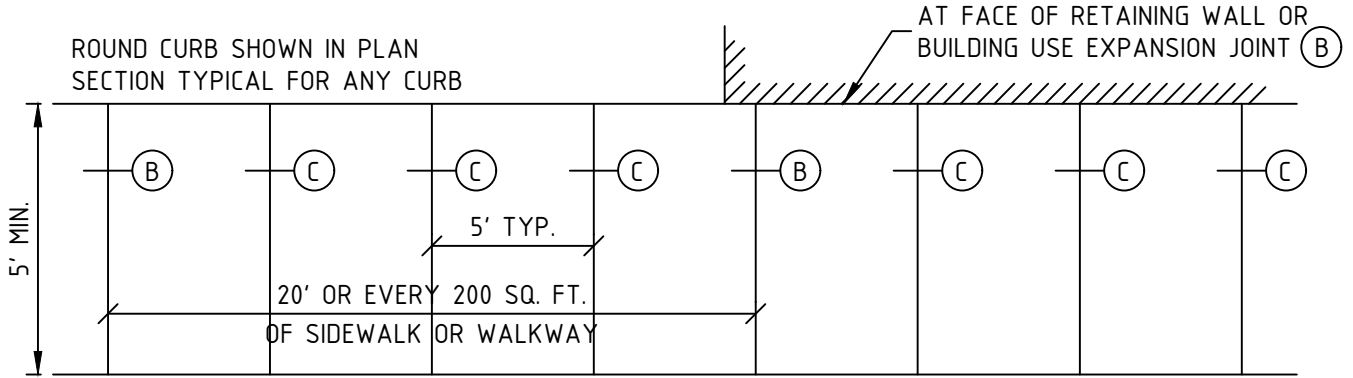
DATE:

JAN 2022

PAGE:

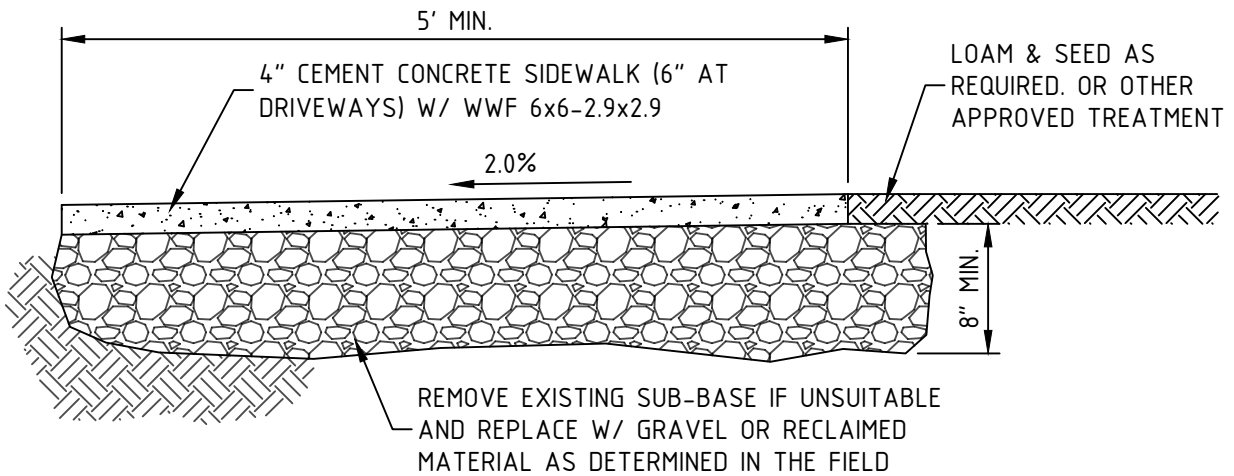
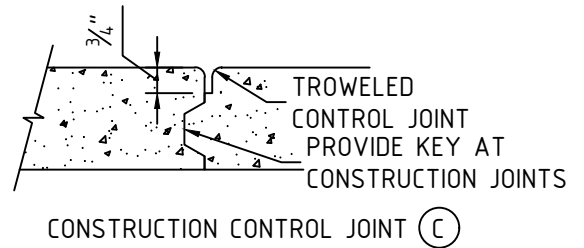
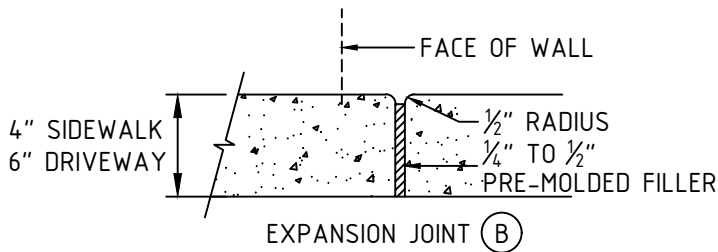
85

ROUND CURB SHOWN IN PLAN  
SECTION TYPICAL FOR ANY CURB



GRASS STRIP

EXISTING CURB



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AT

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Town of Durham Engineering Division

CEMENT CONCRETE  
SIDEWALK

SECTION:

ROADWAY

DWG #:

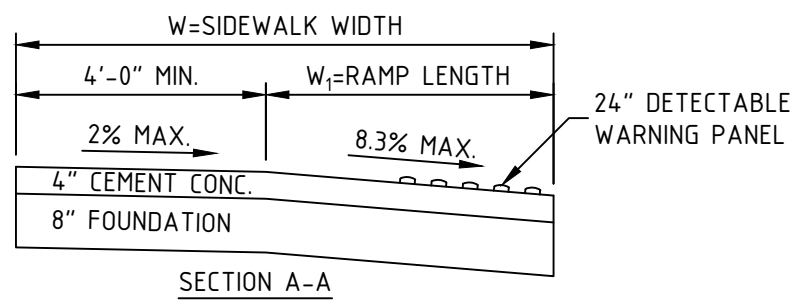
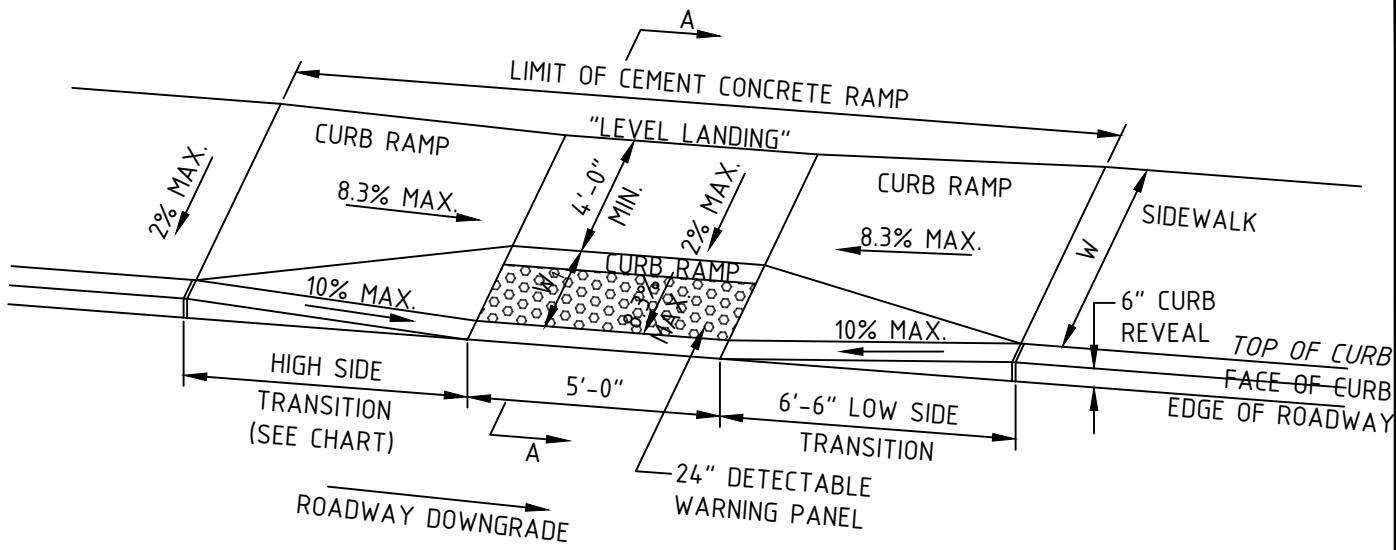
RS-8

DATE:

JAN 2022

PAGE:

86



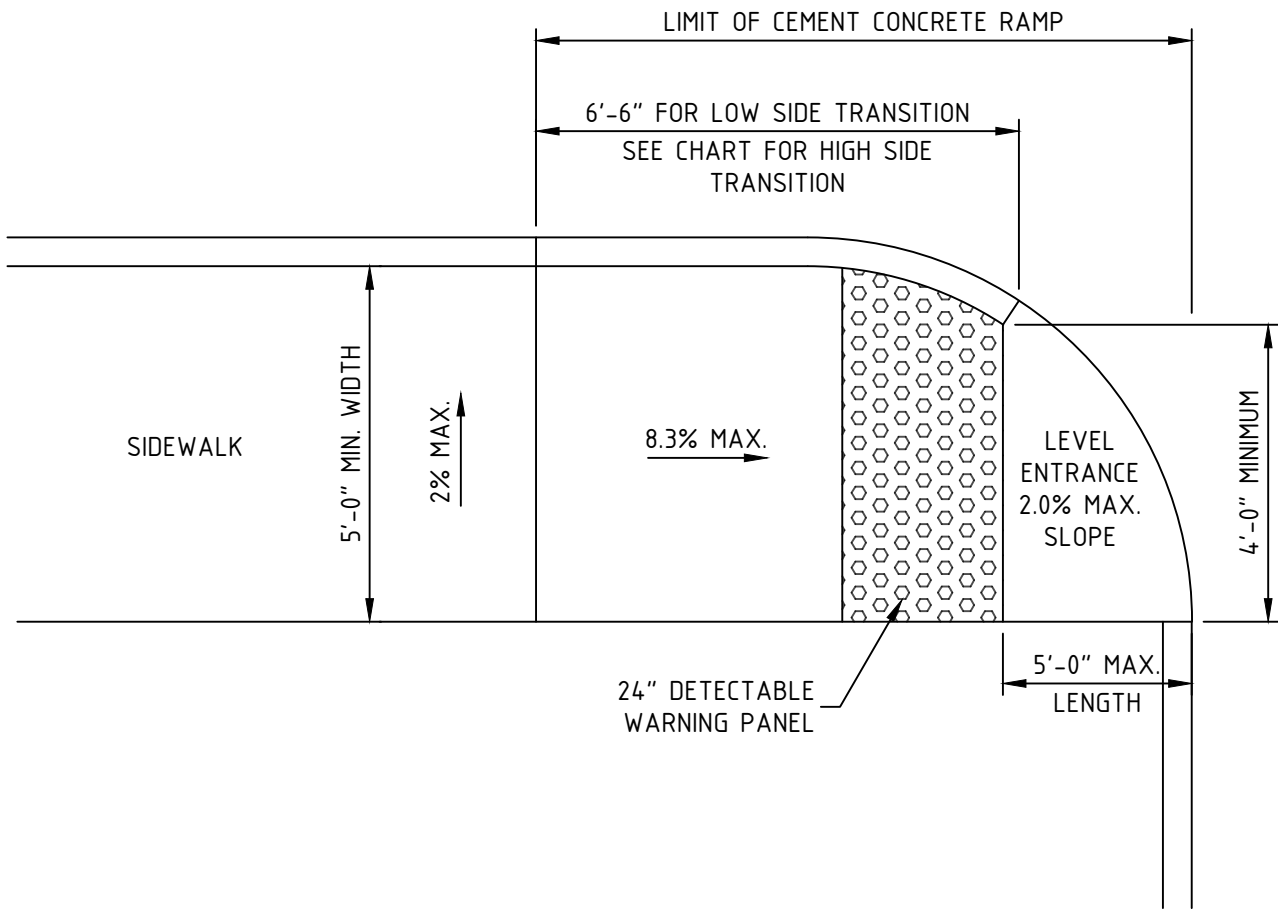
LEGEND

W = SIDEWALK WIDTH (MIN. 5' EXCLUDING CURB)  
 $W_1$  = PERPENDICULAR RAMP LENGTH

NOTE

LEVEL LANDING SHALL BE 60" MIN. IN DIRECTION OF PEDESTRIAN CROSSING WHEN CONSTRAINED. RECOMMENDED 60"x60".

CHECKED BY: AT		Town of Durham Engineering Division <b>CURB RAMP TYPE A          (COMBINATION RAMP)</b>	SECTION: ROADWAY	
			DWG #: RS-10	
APPROVED BY: RR			DATE: JAN 2022	PAGE: 87



CHECKED BY:  
AT

APPROVED BY:  
RR



Town of Durham Engineering Division

**CURB RAMP TYPE B**  
**(SINGLE DIRECTION RAMP)**

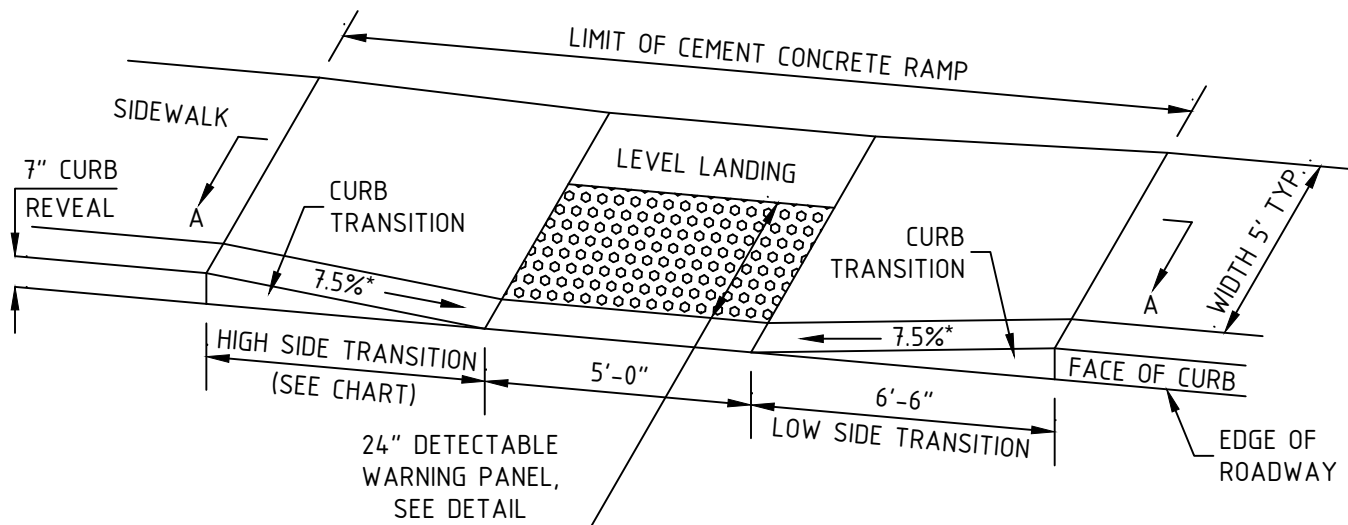
SECTION: ROADWAY

DWG #: RS-11

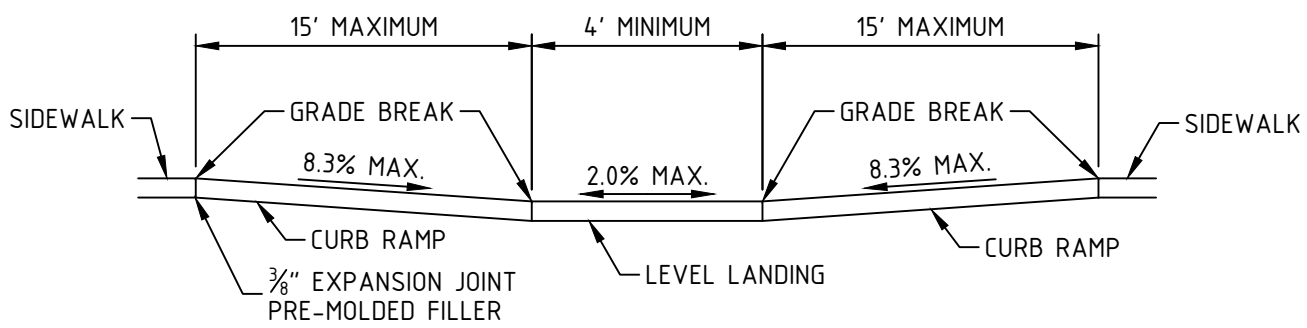
DATE: JAN 2022

PAGE: 88




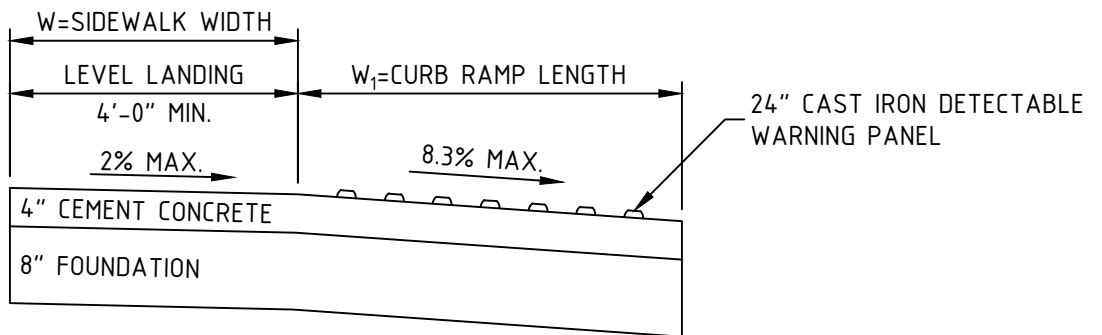
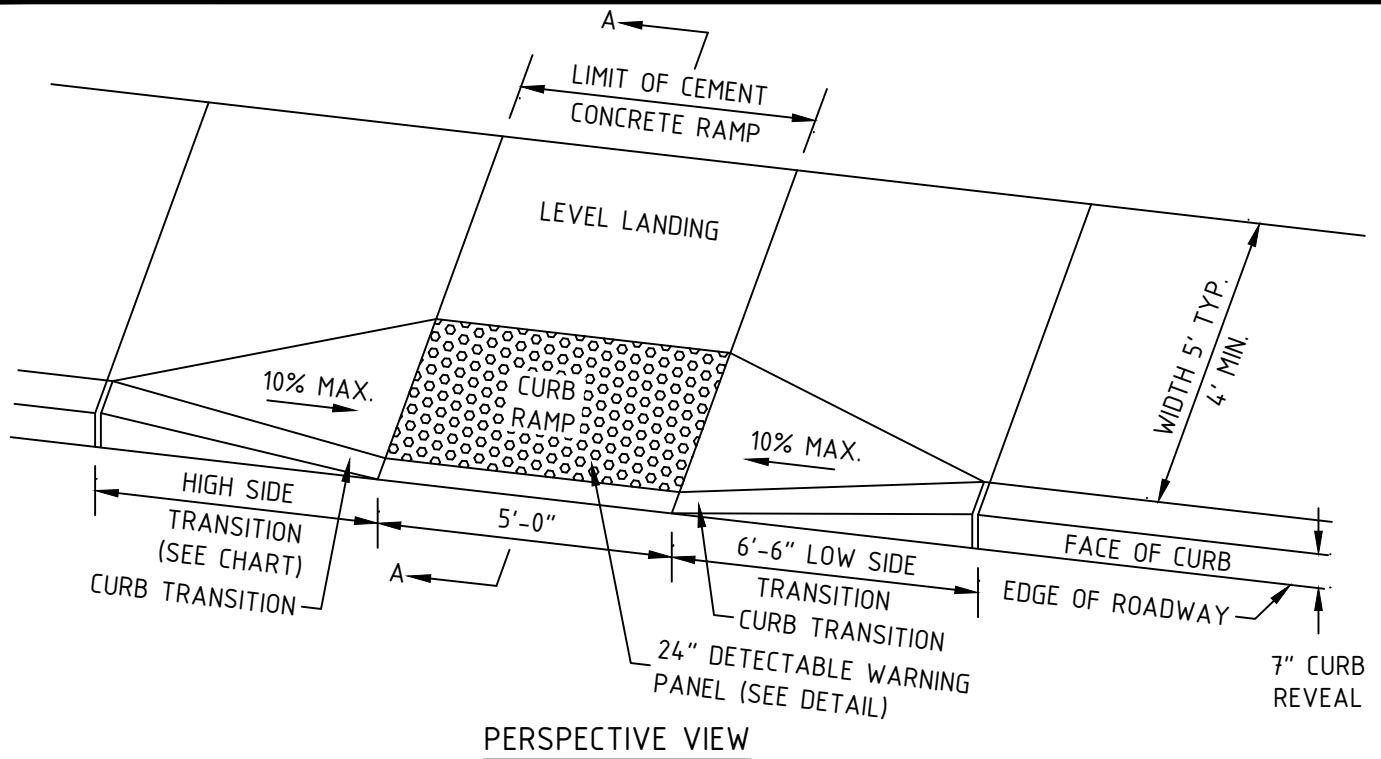


PERSPECTIVE VIEW



SECTION A-A

CHECKED BY: AT		Town of Durham Engineering Division		SECTION: ROADS	
		CURB RAMP TYPE C (PARALLEL RAMP)		DWG #: RS-12	
APPROVED BY: RR				DATE: JAN 2022	PAGE: 40



LEGEND:

W = SIDEWALK WIDTH (MIN. 5' EXCLUDING CURB)

W<sub>1</sub> = PERPENDICULAR RAMP LENGTH

NOTE:

LEVEL LANDING SHALL BE 60" MIN. IN DIRECTION OF PEDESTRIAN CROSSING WHEN CONSTRAINED. RECOMMENDED 60"x60".

CHECKED BY:  
AT

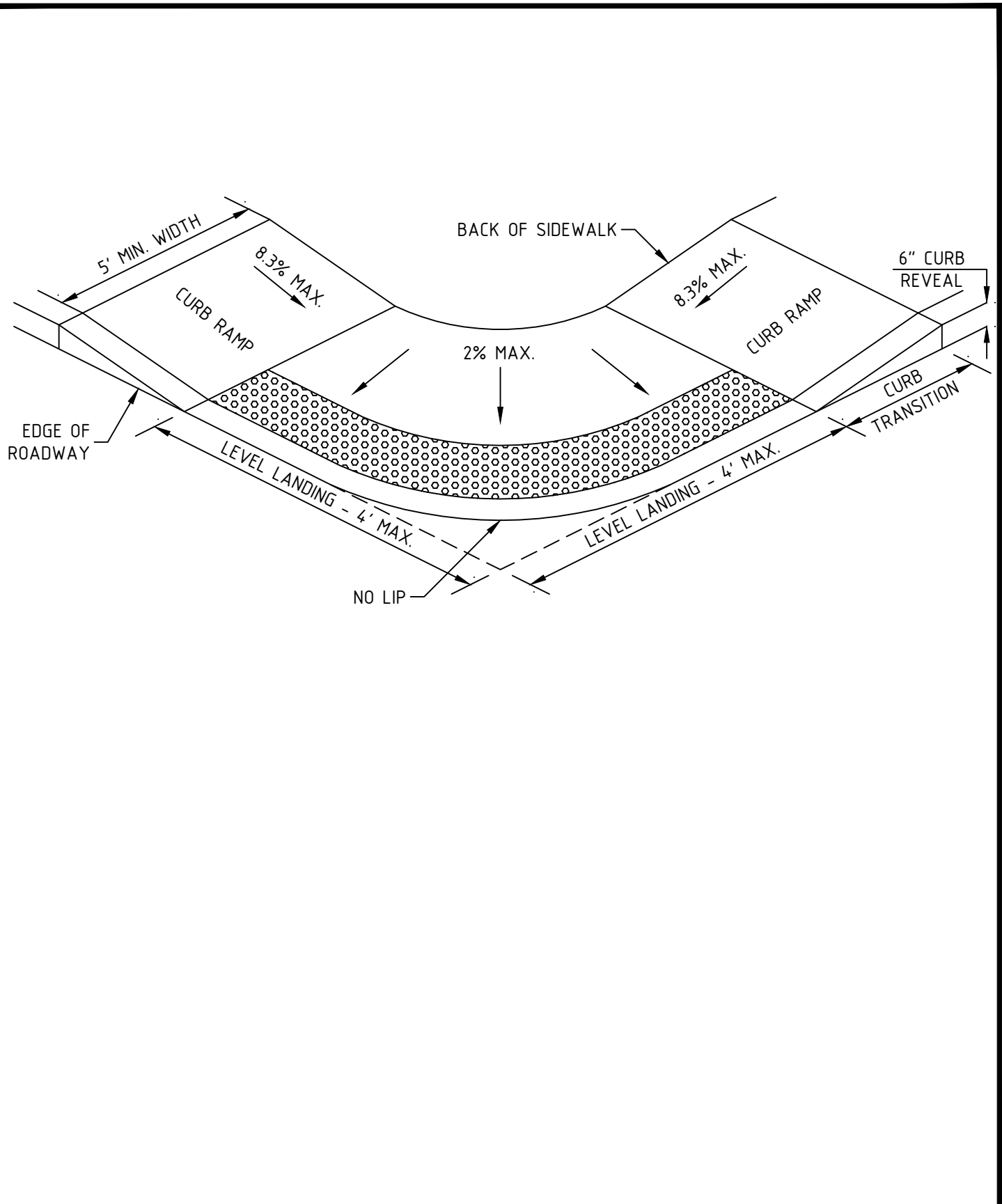
APPROVED BY:  
RR



Town of Durham Engineering Division

**CURB RAMP TYPE D.1  
(PERPENDICULAR RAMP)**

SECTION:		ROADS
DWG #:		RS-13
DATE:	JAN 2022	PAGE:
		39



CHECKED BY:  
AT

APPROVED BY:  
RR



Town of Durham Engineering Division

**CURB RAMP TYPE E  
(APEX RAMP)**

SECTION:	ROADS
DWG #:	RS-14
DATE:	JAN 2022
PAGE:	38

NOTES:

1. ALL RAMPS TO BE CONSTRUCTED OF CEMENT CONCRETE.
2. ALL RAMPS TO HAVE DETECTABLE WARNING PANELS CONFORMING TO TOWN DETAILS.
3. FIELD LOCATION OF CURB RAMPS TO BE APPROVED BY TOWN ENGINEER AND/OR DIRECTOR OF PUBLIC WORKS PRIOR TO CONSTRUCTION.

TABLE OF TRANSITION LENGTHS

ROADWAY PROFILE GRADE (%)	HIGH SIDE TRANSITION LENGTH
0	6'-6"
>0-1	7'-8"
>1-2	9'-0"
>2-3	11'-0"
>3-4	14'-0"
>4	15'-0" MAX.

\*BASED ON A DESIGN SLOPE OF 7.5% AND 6" OF CURB REVEAL.

CHECKED BY:

AT

APPROVED BY:

RR



Town of Durham Engineering Division

**CURB RAMPS NOTES AND TABLE  
OF TRANSITION LENGTHS**

SECTION:

ROADS

DWG #:

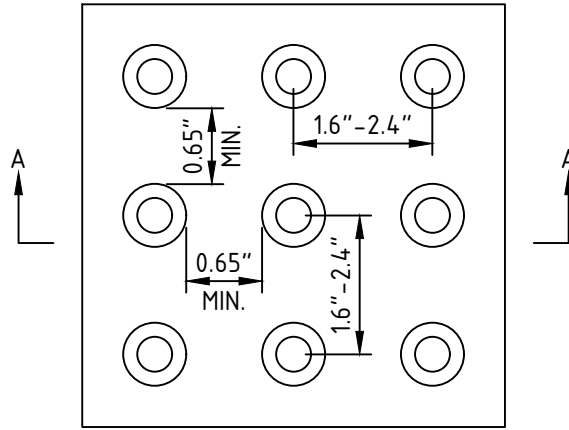
RS-15

DATE:

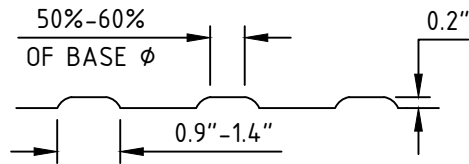
JAN 2022

PAGE:

37



PLAN VIEW



SECTION A-A

NOTES:

1. WARNING SURFACE SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES.
2. DETECTABLE WARNING PANEL TO BE CAST IRON.
3. EJ CATALOG NO. 00700571 OR APPROVED EQUAL.

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AT

APPROVED BY:

RR



Town of Durham Engineering Division

**DETECTABLE WARNING SURFACES**

SECTION:

ROADS

DWG #:

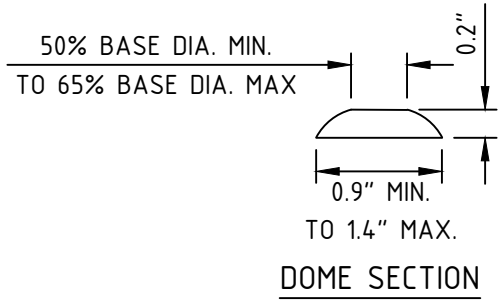
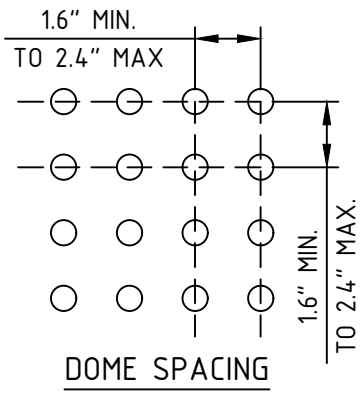
RS-16

DATE:

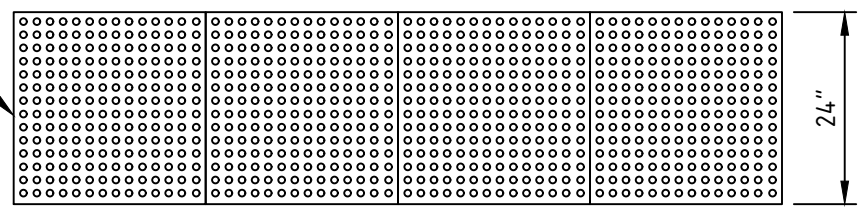
JAN 2022

PAGE:

35

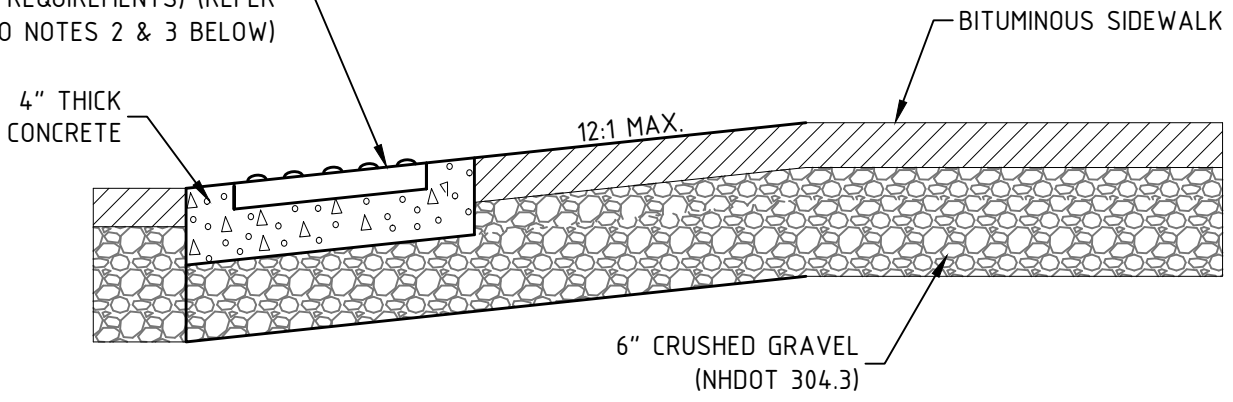


(4) 24" SQUARE CAST IRON  
 DETECTABLE WARNING MAT  
 (SEE DOME SPACING AND  
 REQUIREMENTS) (REFER TO  
 NOTES 2 & 3 BELOW)



PLAN VIEW

24" SQUARE CAST IRON  
 DETECTABLE WARNING MAT  
 (SEE DOME SPACING AND  
 SIZE REQUIREMENTS) (REFER  
 TO NOTES 2 & 3 BELOW)



SECTION VIEW

- NOTES:
1. MAXIMUM CROSS SLOPE OF SIDEWALK TO BE 2%.
  2. CONCRETE TO BE 4,000 PSF.
  3. REFER TO MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION OF DETECTABLE WARNING MATS.

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 AT

APPROVED BY:  
 RR



Town of Durham Engineering Division

**DETECTABLE WARNING  
 SURFACES ADD'L**

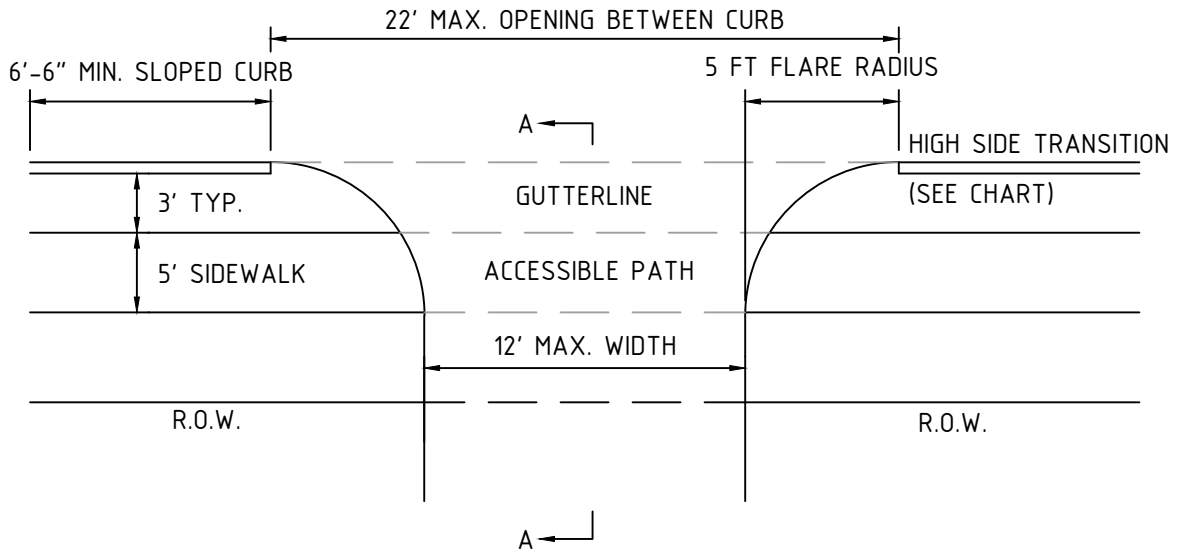
SECTION:  
 ROADS

DWG #:  
 RS-16A

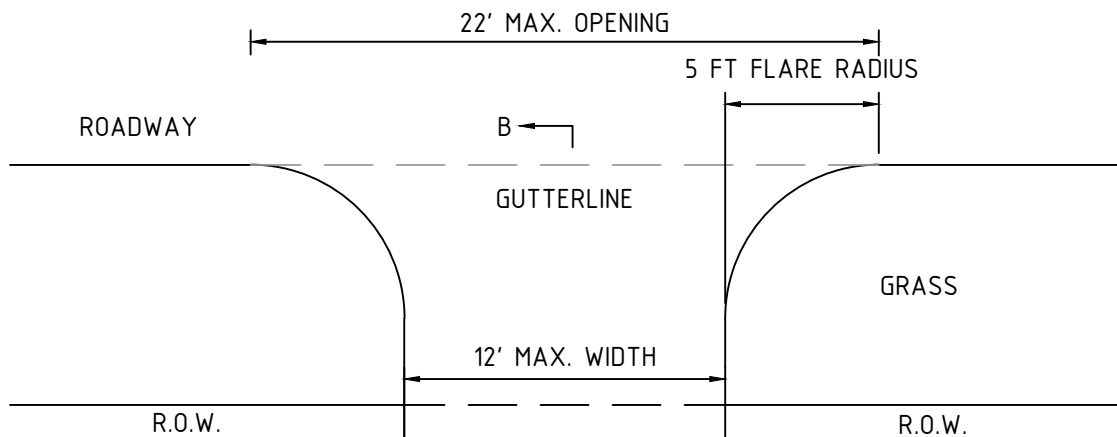
DATE:  
 JAN 2022

PAGE:  
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## RESIDENTIAL DRIVEWAYS WITH CURB/BERM

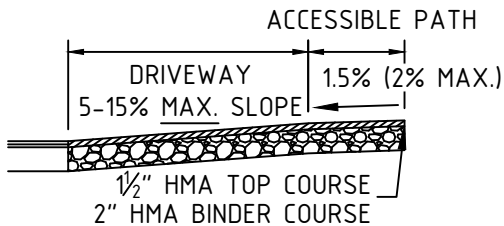


## RESIDENTIAL DRIVEWAYS WITH NO CURB/BERM

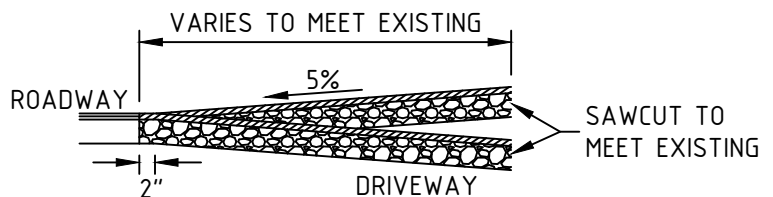


NOTE:  
TACK COAT VERTICAL FACES AND CRACK  
SEAL ALL JOINTS PER TOWN  
SPECIFICATIONS AND DETAIL RS-2  
4' MIN.

NOTE:  
SLOPE APRON TO PREVENT RUNOFF FROM  
LEAVING ROADWAY. FOR GRADE BREAKS  
OVER 5% USE 10' VERTICAL CURVE.



SECTION A-A  
WITH SIDEWALK



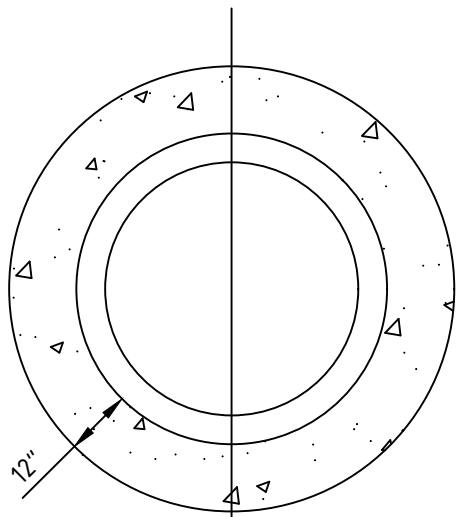
SECTION B-B  
WITHOUT SIDEWALK

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AT  
APPROVED BY:  
RR

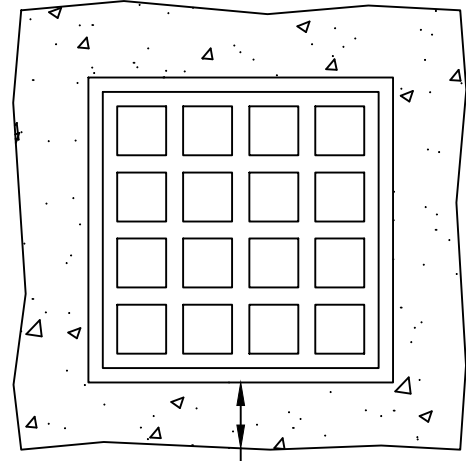


Town of Durham Engineering Division  
**TYPICAL DRIVEWAY DETAIL**

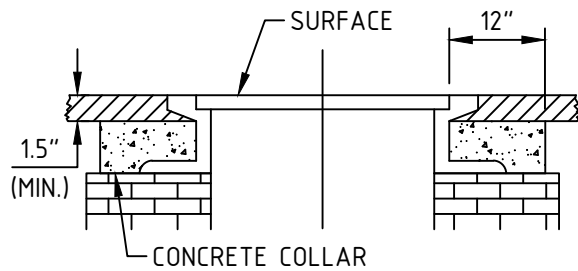
SECTION:		ROADS
DWG #:		RS-17
DATE:	JAN 2022	PAGE: 34



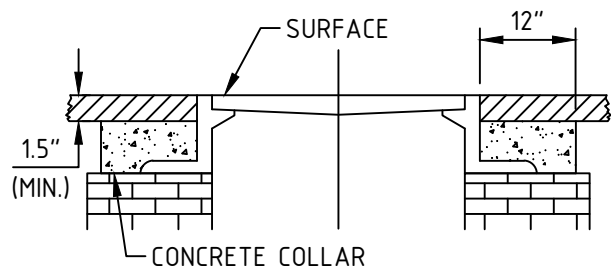
PLAN



PLAN



SECTION  
MANHOLES



SECTION  
CATCH BASINS

USE BRICK COURSES AS  
NEEDED TO BRING RIM TO  
REQUIRED ELEVATION

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AT

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RR



Town of Durham Engineering Division

DETAILS FOR RAISING CASTINGS  
DRAINAGE STRUCTURES

SECTION:

ROADWAY

DWG #:

RS-19

DATE:

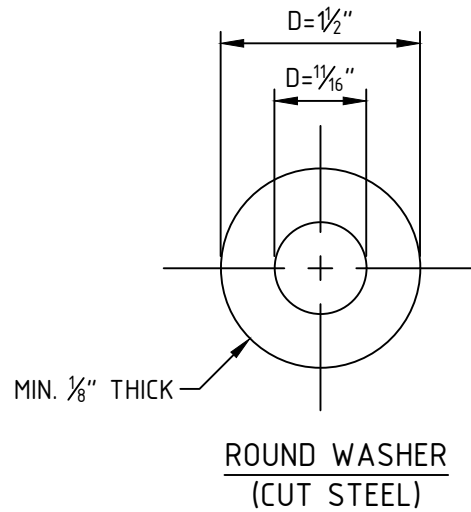
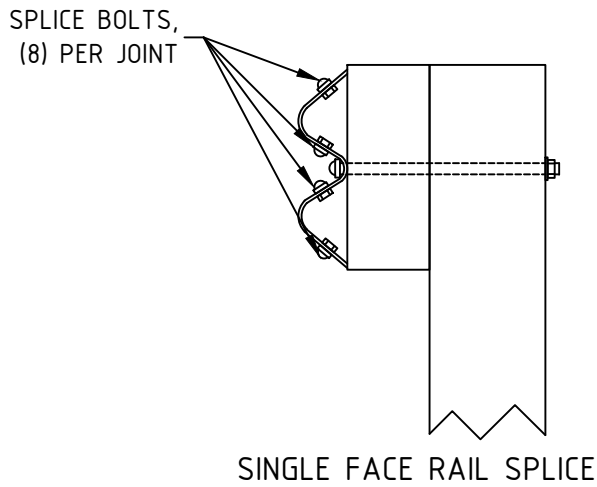
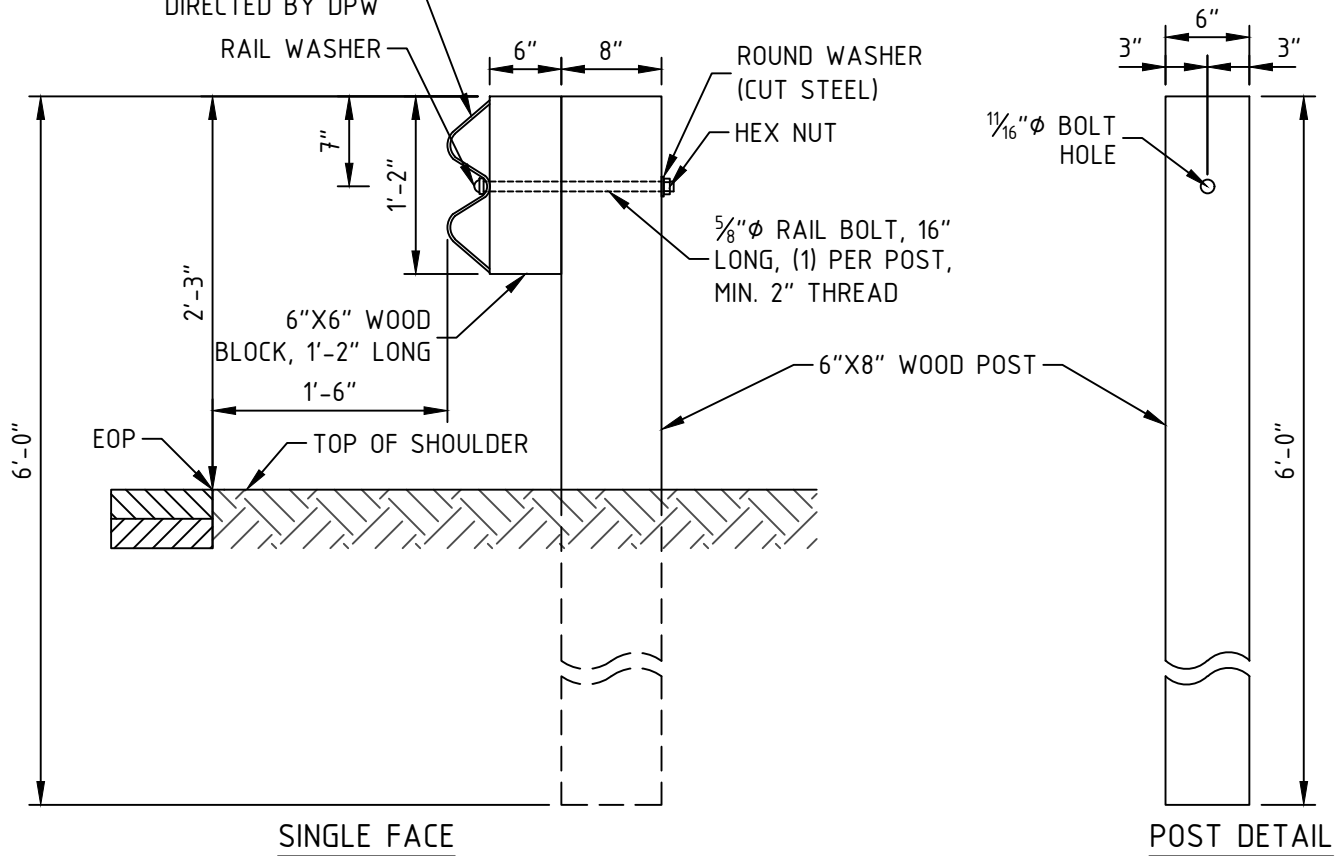
JAN 2022

PAGE:

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GALVANIZED STEEL, POWDER COATED STEEL, OR WEATHERING STEEL BEAM RAIL WITH CATHODIC PROTECTION AS DIRECTED BY DPW



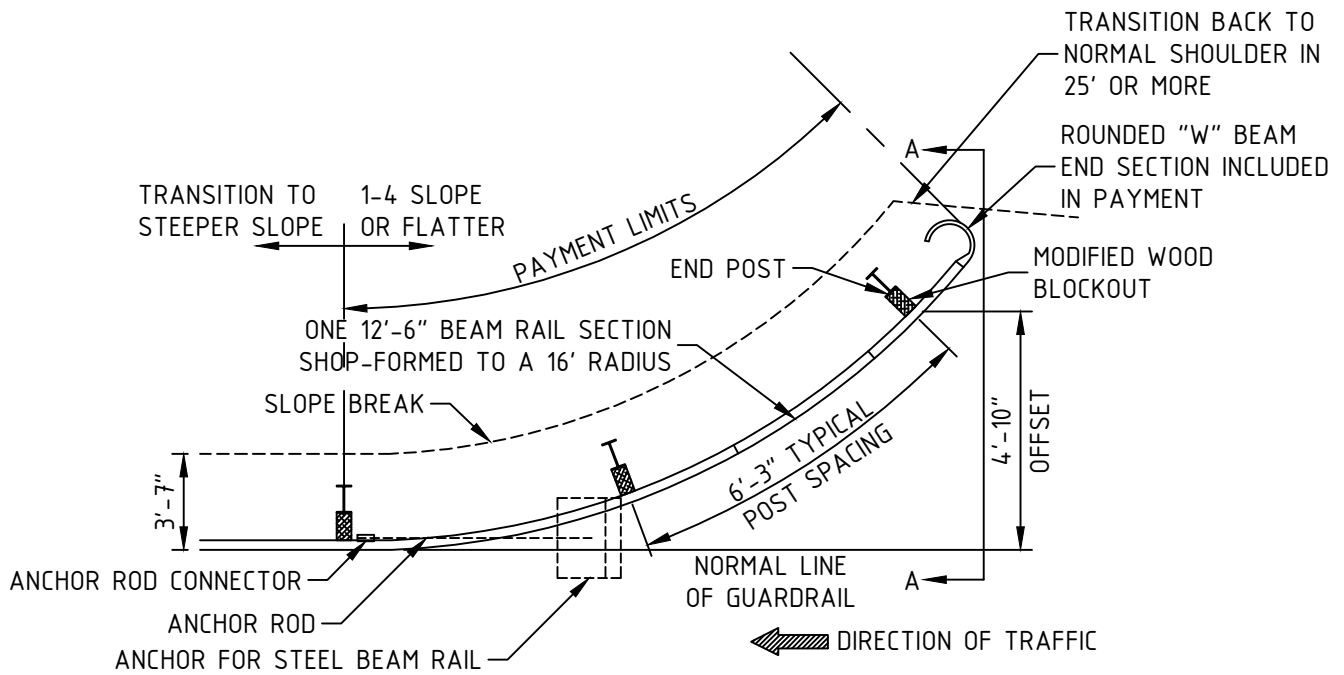
NOTE:  
ALL HARDWARE TO BE GALVANIZED STEEL. DELINEATOR EVERY OTHER POST.

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APPROVED BY:  
RR



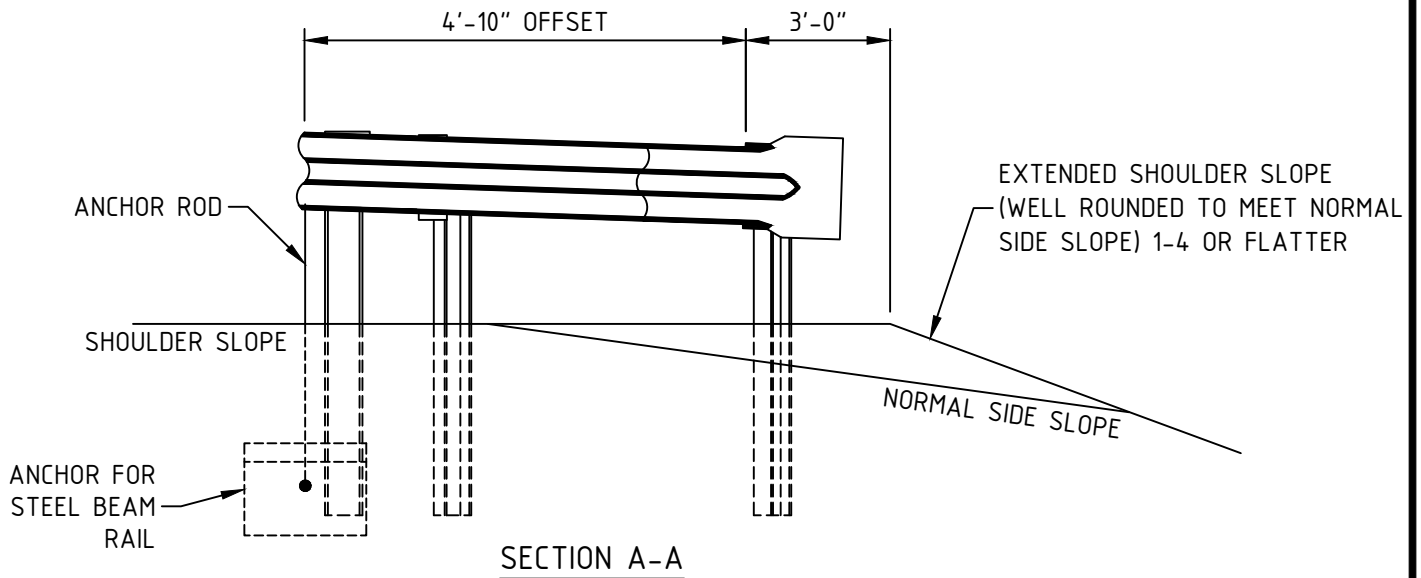
Town of Durham Engineering Division  
**GUARDRAIL**

SECTION: ROADWAY  
DWG #: RS-21  
DATE: JAN 2022 PAGE: 90



**APPROACH END DETAIL**

NHS APPROVED FOR USE WHERE DESIGN SPEED IS 40 OR LESS MPH.  
 NON-NHS APPROVED FOR USE WHERE DESIGN SPEED IS 50 OR LESS MPH.

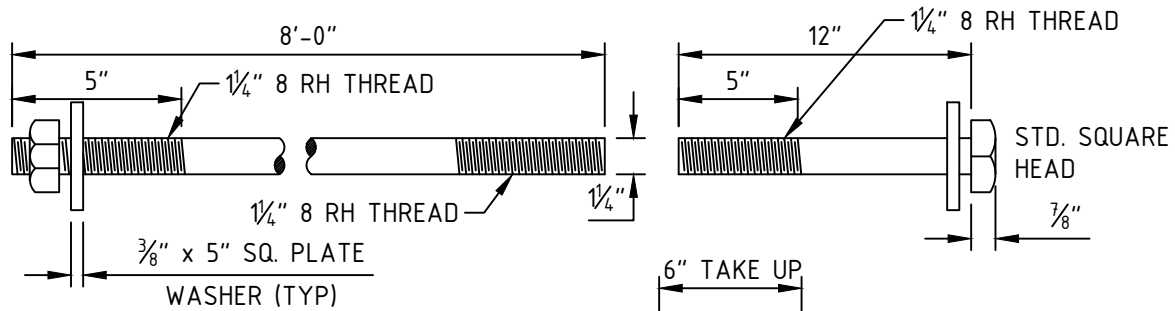


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AT  
APPROVED BY:  
RR

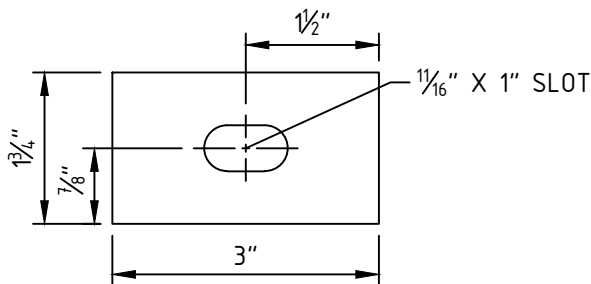
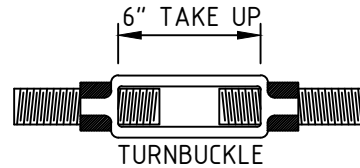


Town of Durham Engineering Division  
**W BEAM COR-TEN VT LOW  
 SPEED END TREATMENT DETAIL**

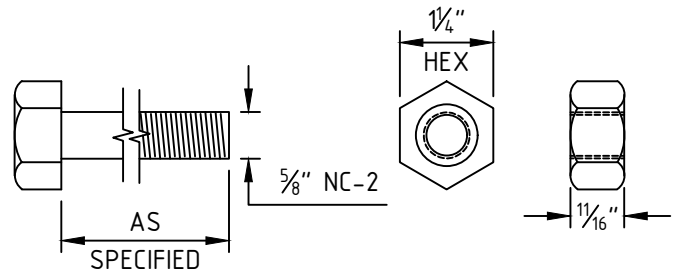
SECTION:	ROADWAY
DWG #:	RS-22
DATE:	PAGE:
JAN 2022	91



MIN. TENSILE STRENGTH: 60,000 LBS.  
LOAD APPLIED THROUGH ASSEMBLY



RECTANGULAR GUARDRAIL PLATE WASHER  
(ARTBA F-12-73)



5/8" HEX NUT AND BOLT "F"  
(ARTBA F-8-76)

FASTENER DETAILS

GENERAL NOTES:

1. ALL METAL PARTS SHALL BE WEATHERED STEEL
2. ALL WOOD POSTS SHALL BE GIVEN A PRESERVATIVE TREATMENT

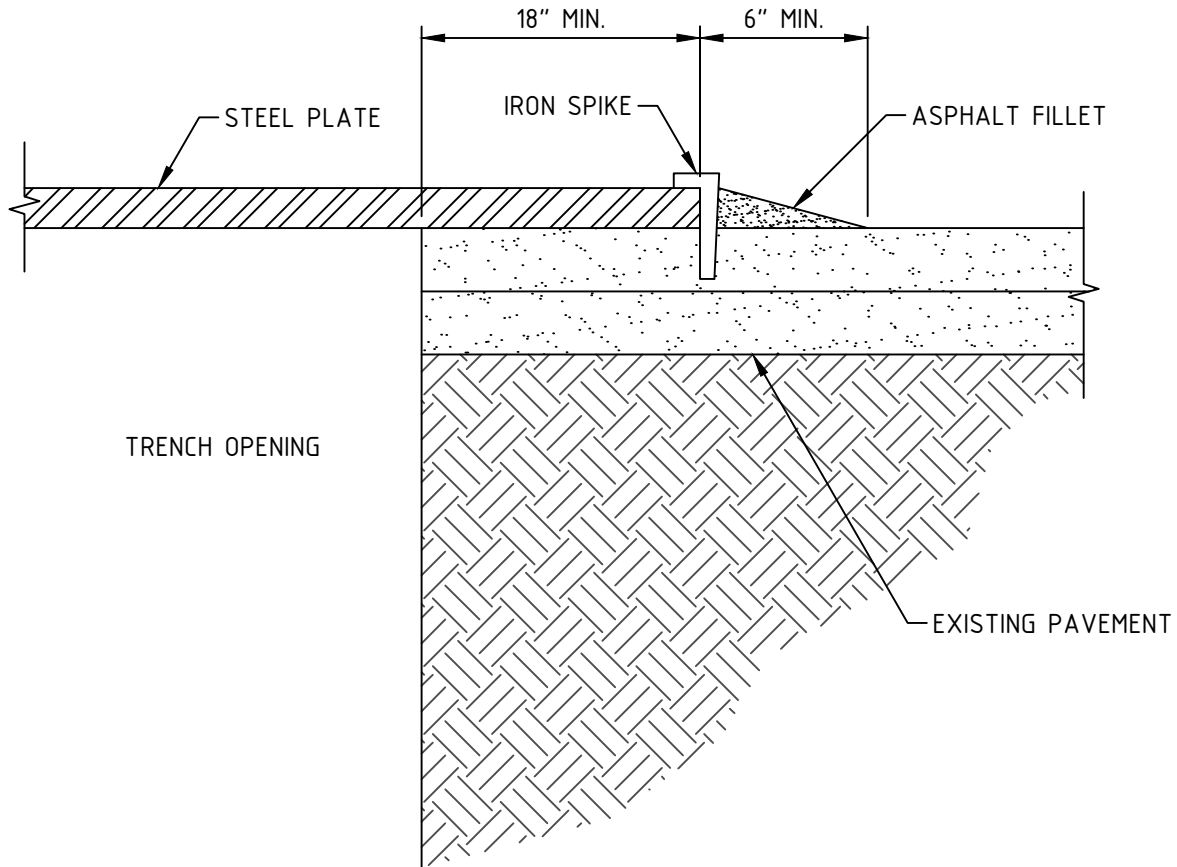
CHECKED BY:  
AT  
APPROVED BY:  
RR



Town of Durham Engineering Division

W BEAM COR-TEN VT LOW  
SPEED END TREATMENT DETAIL

SECTION:	ROADWAY
DWG #:	RS-22B
DATE:	JAN 2022
PAGE:	93



NOTES:

1. USE OF STEEL PLATES ALLOWED ON A CASE BY CASE BASIS, PENDING WRITTEN APPROVAL BY TOWN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES OR CLAIMS RESULTING FROM THE USE OF STEEL PLATES.
3. MUTCD COMPLIANT RETROREFLECTIVE ORANGE CONSTRUCTION WARNING SIGNS (48"X48") WITH WORDING "STEEL PLATE AHEAD" SHALL BE INSTALLED IN ADVANCE OF STEEL PLATE INSTALLATION.
4. THE CONTRACTOR SHALL DESIGN AND UTILIZE STEEL PLATES OF ADEQUATE DIMENSIONS AND THICKNESS FOR INTENDED USE AND LOADING. MAXIMUM ALLOWABLE DEFLECTION SHALL BE 0.025". IRON SPIKE FASTENERS SHALL BE INSTALLED AROUND THE PERIMETER OF THE STEEL PLATE.

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AT

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RR



Town of Durham Engineering Division

STEEL PLATE DETAIL

SECTION:

ROADWAY

DWG #:

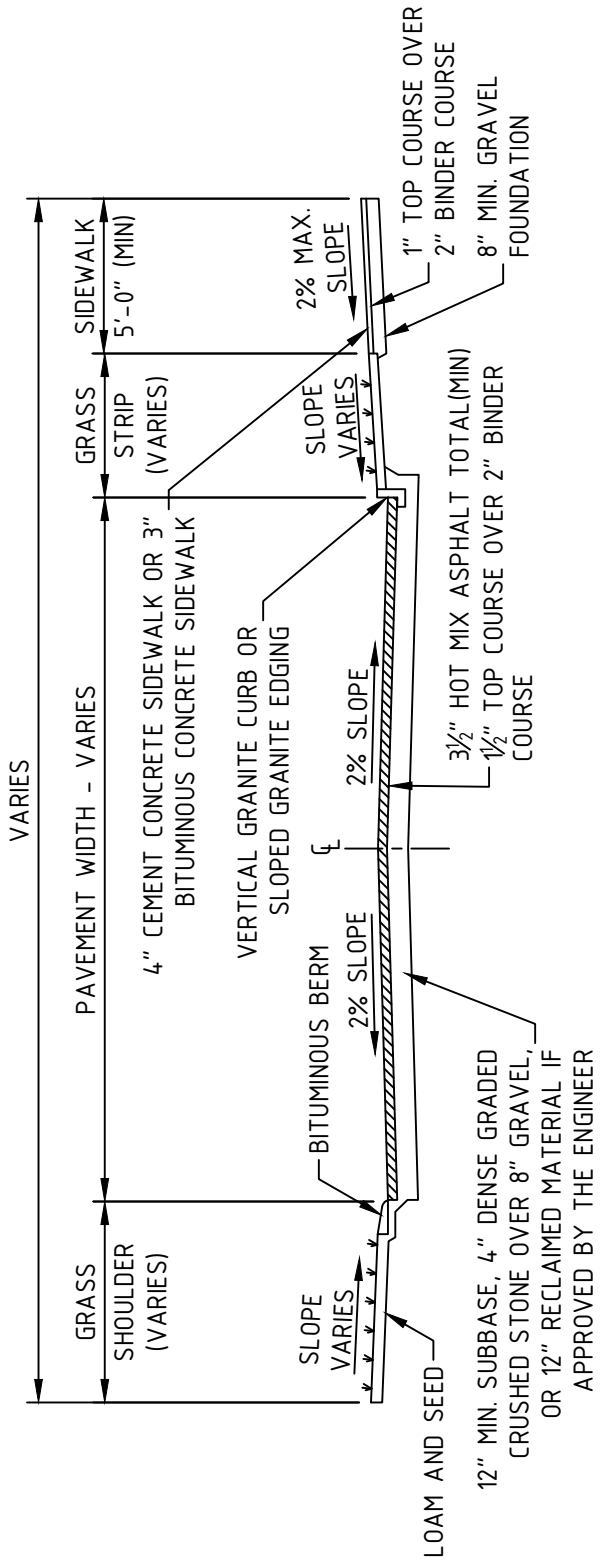
RS-23

DATE:

JAN 2022

PAGE:

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Town of Durham Engineering Division

# TYPICAL ROADWAY CROSS SECTION

SECTION:

ROADWAY

DWG #:

RS-24

DATE:

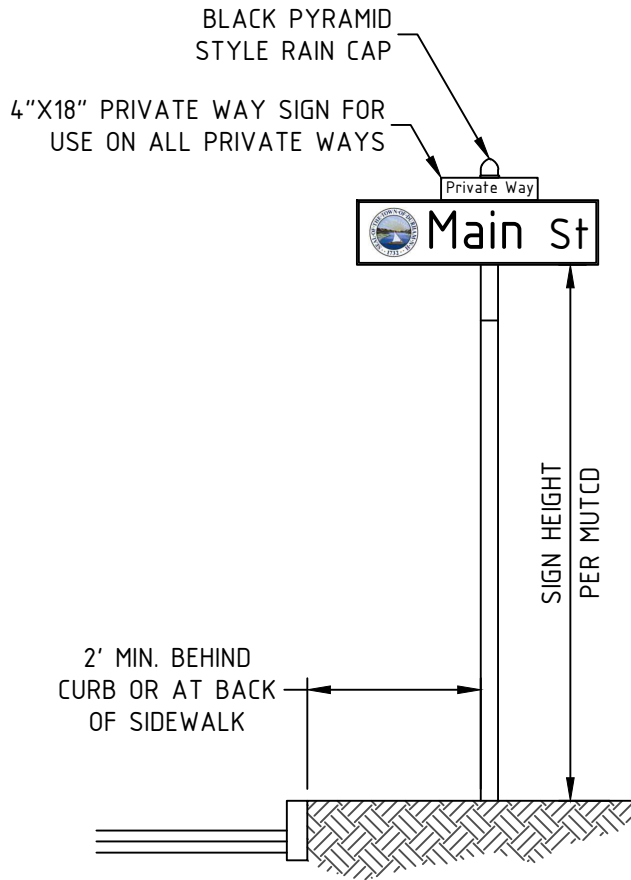
JAN 2022

PAGE:

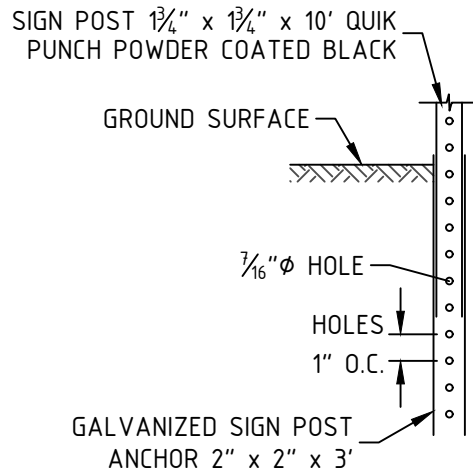
95

**ABBREVIATIONS**

STREET =	ST
AVENUE =	AVE
PLACE =	PL
WAY =	WAY
BOULEVARD =	BLVD
PARKWAY =	PKWY
LANE =	LN
COURT =	CT
DRIVE =	DR
ROAD =	RD
CIRCLE =	CIR
RIDGE =	RDG
OTHER ABBREVIATIONS USE MUTCD TABLE 1A-1	



SIGN INSTALLATION



P-5 TELESCOPIC POST

NOTES:

1. ALL STREET NAME SIGNS SHALL CONSIST OF 1 DOUBLE SIDED SIGN, 9" x VARIES, FLAT ALUMINUM, 0.080 GAUGE.
2. BACKGROUND AND COPY: 6" WHITE LETTERS ON GREEN BACKGROUND WITH WHITE BORDER. HIGH INTENSITY PRISMATIC SHEETING.
3. ALL STREET NAME SIGNS SHALL HAVE THE DURHAM TOWN SEAL IN FULL COLOR TO THE LEFT OF THE STREET NAME.

CHECKED BY:  
AT

APPROVED BY:  
RR



Town of Durham Engineering Division

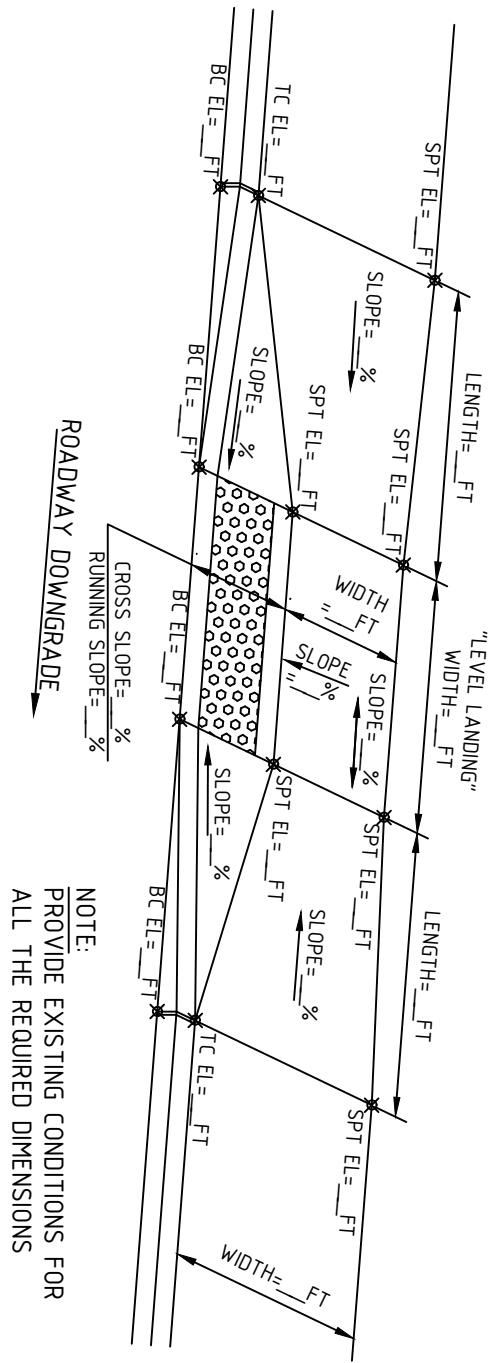
**STREET NAME SIGNS**

SECTION: ROADWAY

DWG #: RS-25

DATE: JAN 2022

PAGE: 96



NOTE:  
 PROVIDE EXISTING CONDITIONS FOR  
 ALL THE REQUIRED DIMENSIONS

CHECKED BY:  
 AT

APPROVED BY:  
 RR



Town of Durham Engineering Division

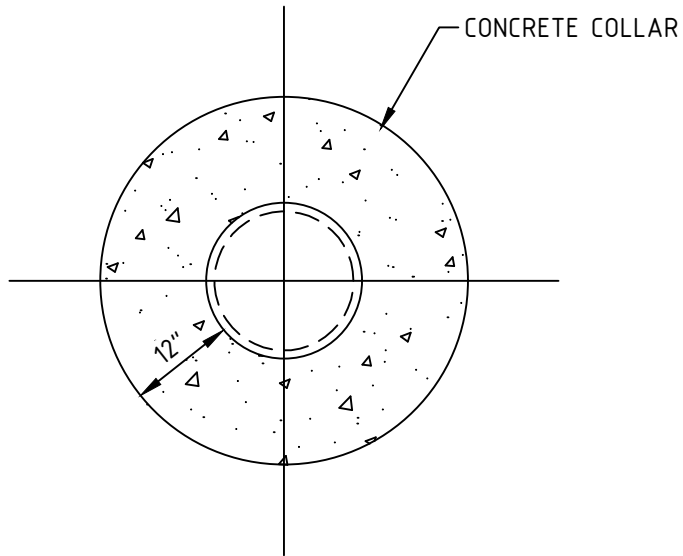
# CURB RAMP SUBMITTAL DETAIL

SECTION: ROADWAY

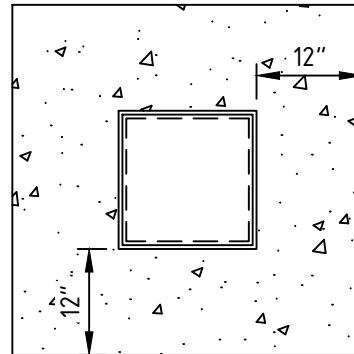
DWG #: RS-26

DATE: JAN 2022

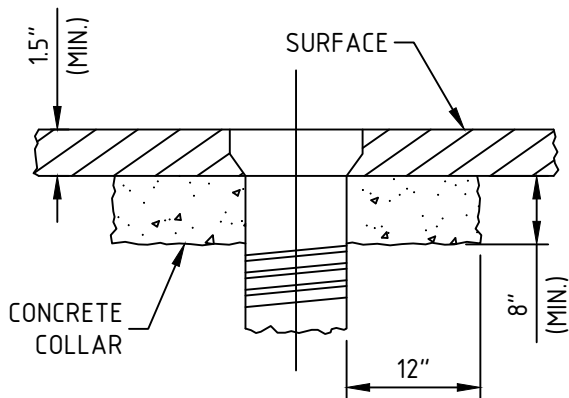
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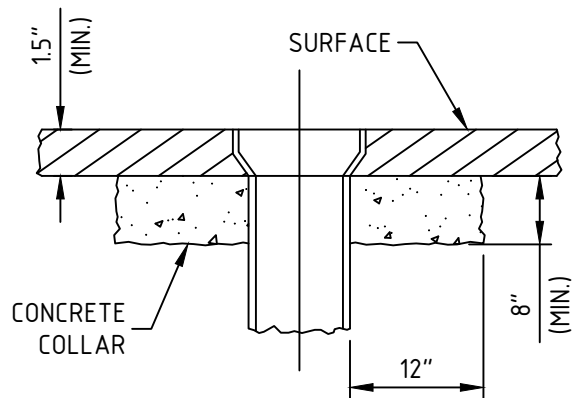
PLAN



PLAN



SECTION



SECTION

CHECKED BY:

AT

APPROVED BY:

RR



Town of Durham Engineering Division

DETAILS FOR RAISING CASTINGS  
WATER SERVICE BOXES

SECTION:

ROADS

DWG #:

RS-11

DATE:

JAN 2022

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