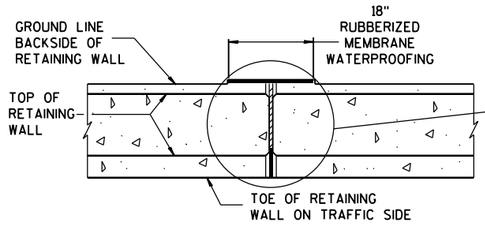
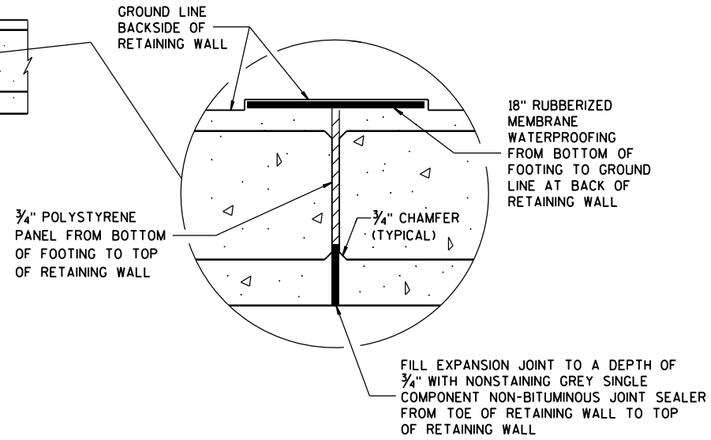
SDD 14B41-a Single Slope Roadside Retaining Wall - Cross Section and Steel Details



VERTICAL EXPANSION JOINT
PLAN VIEW



DELINEATION

GENERAL NOTES

PROVIDE EXPANSION JOINTS WHERE THERE ARE EXISTING EXPANSION JOINTS OR AT THE END OF EACH POUR.

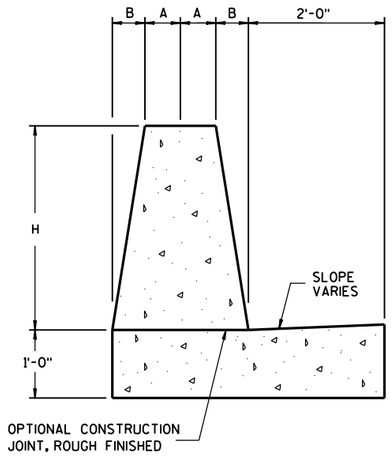
NO HORIZONTAL STEEL CROSSES EXPANSION JOINTS.

CONSTRUCT PER STANDARD SPECIFICATION 603. SPLICES OF LONGITUDINAL BARS TO BE 2' LONG AND FIRMLY TIED AND FASETENED TOGETHER UNLESS NOTED OTHERWISES.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

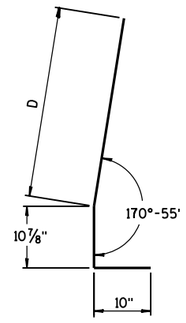
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR.



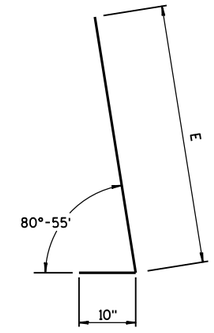
ROADSIDE RETAINING WALL

BARRIER WALL DIMENSIONS

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



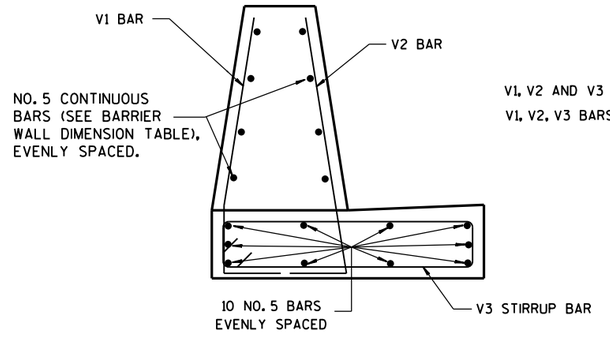
V1 BAR
BENDING DETAIL



V2 BAR
BENDING DETAIL

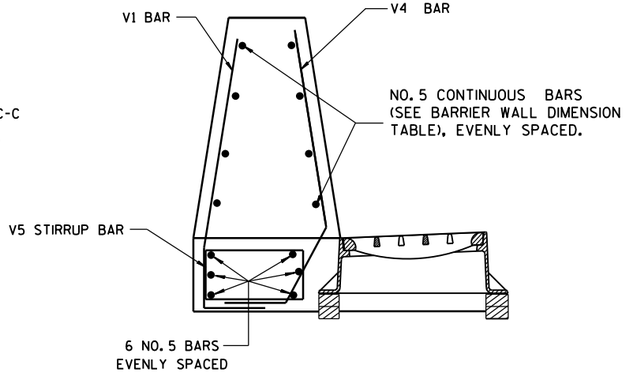
BAR CHART
ROADSIDE RETAINING WALL

BARRIER HEIGHT	V1 BAR D	V2 BAR E	V4 BAR F
32"	2'-5½"	3'-4½"	2'-6½"
36"	2'-9½"	3'-9¾"	2'-10¾"
42"	3'-3½"	4'-2½"	3'-4¾"
56"	4'-5¾"	5'-4¾"	4'-6¾"

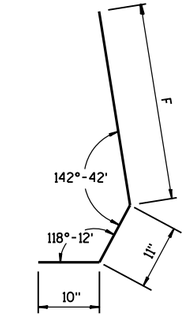


V1, V2 AND V3 ARE SPACED 18" C-C
V1, V2, V3 BARS ARE NO. 5 BARS

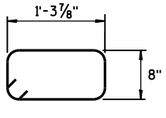
ROADSIDE RETAINING WALL
NORMAL BAR PLACEMENT



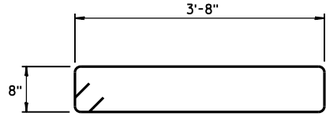
ROADSIDE RETAINING WALL
BAR PLACEMENT NEAR
INLET



V4 BAR
BENDING DETAIL



V5 STIRRUP BAR
BENDING DETAIL



V3 STIRRUP BAR
BENDING DETAIL

SINGLE SLOPE
ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

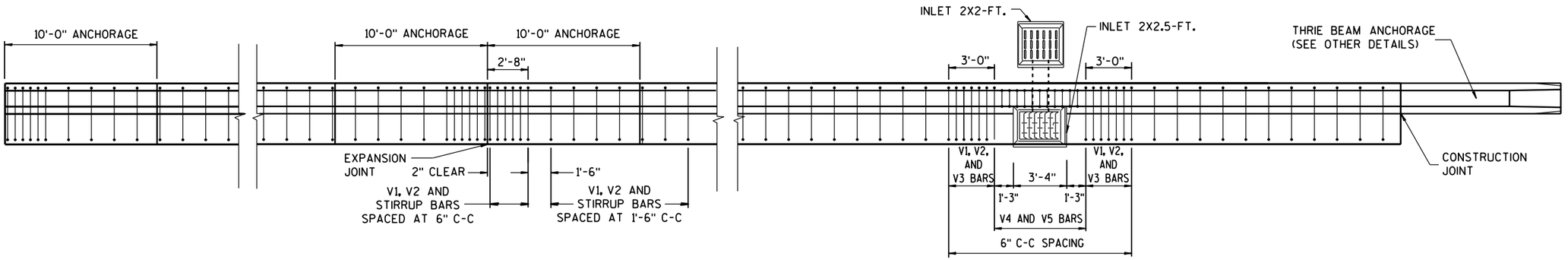
6

S.D.D. 14 B 41-3a

6

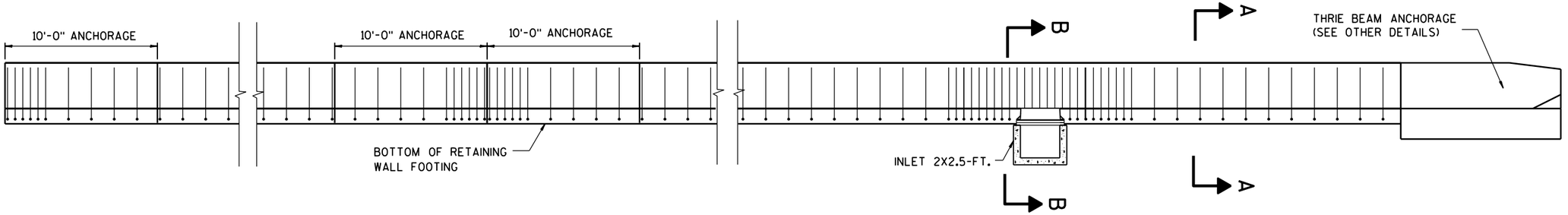
S.D.D. 14 B 41-3a

SDD 14B41-b Single Slope Roadside Retaining Wall - Placement and Drainage



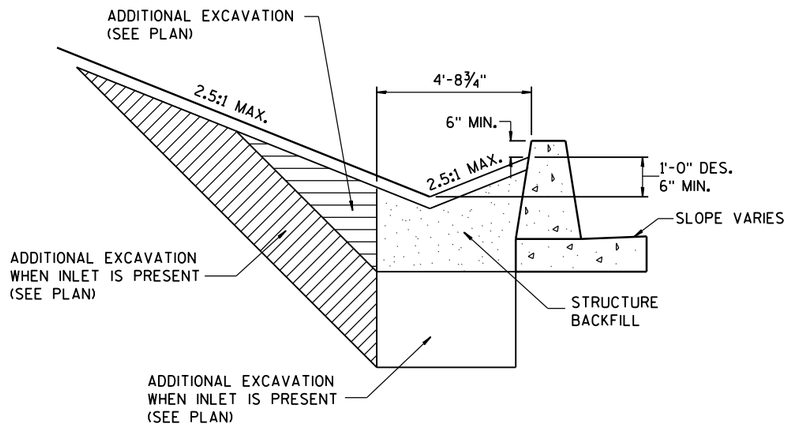
PLAN VIEW

NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.

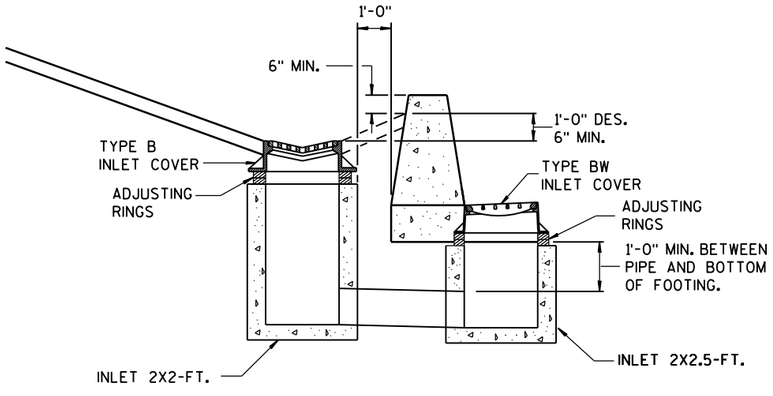


ELEVATION VIEW

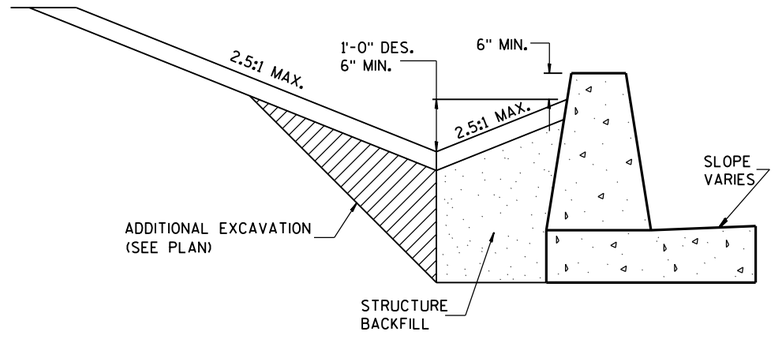
NOTE: HORIZONTAL BARS ARE NOT SHOWN. SEE OTHER DETAILS FOR HORIZONTAL BARS.



SECTION A-A



SECTION B-B



MINIMUM DESIGN OF EARTH WORK

MINIMUM DESIGN OF EARTH WORK FOR INLET

SINGLE SLOPE ROADSIDE RETAINING WALL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

6

S.D.D. 14 B 41-3b

6

S.D.D. 14 B 41-3b

Single Slope Roadside Retaining Wall

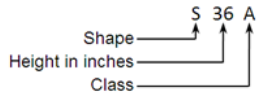
References:

Standard Spec 603
FDM 11-45-30

Bid items associated with this drawing:

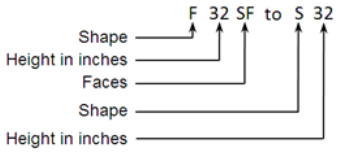
Bid items for single slope barrier and associated transitions are encoded as follows:

BARRIER BID ITEM TYPES



example: Concrete Barrier Type S36A is a 36" single sloped median retaining wall barrier

TRANSITION BID ITEM TYPES



example: Concrete Barrier Transition Type F32SF to S32 is a transition from 32" single faced F barrier to a 32" single sloped barrier

	DESCRIPTION	CODE
SHAPE	New Jersey shape	NJ
	F shape	F
	Vertical	V
	Single slope barrier	S
CLASS	Standard barrier section	none
	Median retaining wall	A
	Short barrier section	B
	Roadside retaining wall	C
FACES	Double faced barrier	DF
	Single faced barrier	SF

ITEM NUMBER	DESCRIPTION	UNIT
210.1100	Backfill Structure Type A	CY
210.1500	Backfill Structure Type A	TON
210.2100	Backfill Structure Type B	CY
210.2500	Backfill Structure Type B	TON
516.0500	Rubberized Membrane Waterproofing	SY
603.1436	Concrete Barrier Type S36C	LF
603.1442	Concrete Barrier Type S42C	LF
603.1456	Concrete Barrier Type S56C	LF
611.0606	Inlet Covers Type B	EACH
611.0610	Inlet Covers Type BW	EACH
611.3003	Inlets 3-FT Diameter	EACH
611.3220	Inlets 2x2-FT	EACH

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
NONE	

Other SDDs associated with this drawing:

SDD 8A5	Inlet Covers
SDD 8C7	Inlets 2x2-FT, 2x2.5-FT, & 2.5x3-FT
SDD 14B20	Steel Thrie Beam Structure Approach
SDD 14B32	Concrete Barrier Single Slope
SDD 14B34	Single Slope Barrier Runs under 40 feet
SDD 14B45	Midwest Guardrail System Transitions (MGS)

Design Notes:

An individual site analysis by a structural or soils engineer is required to determine if the barrier design will satisfy the structural needs of the retaining wall.

Soils engineer or structural engineer are to select backfill item to be used.

FDM 11-45-30.3.6.4.4 discusses using concrete barrier as a retaining wall. Also, refer to the Bridge Manual Chapter 14 - Retaining Walls) and FDM 11-55-5 Retaining Walls) for modified designs.

Contact Person:

Erik Emerson (608) 266-2842