

NOTES

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage 1 removal to ensure the remaining portion will not be prematurely damaged.

The Precast Concrete Box Culvert Sections shall conform to the requirements of AASHTO M273

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Expansion bolts shall be 3/4" φ hooked bolts. The cost of the bolts shall be included in the cost of Box Culvert End Section.

The Contractor may substitute cast in place inserts and threaded hooked reinforcement bars for the expansion bolts.

Areas of the precast box in contact with cast in place concrete shall be sandblasted, cleaned and wetted prior to placing concrete in the field according to Article 503.09(b) of the Standard Specifications.

The joints between precast segments shall be sealed and all voids filled with a mastic joint sealer. In addition, the sides and top shall be sealed with a 12" wide external sealing band meeting the requirements of ASTM C877 Type III. The joint areas to be sealed shall be cleaned and primed according to the manufacturer's directions prior to placing the seal. The seal shall be protected during backfilling to prevent damage.

The ends of the precast box sections adjacent to the end section shall be formed without the male & female shapes specified in Article 8.1 of AASHTO M273.

End Section will be paid for at the contract unit price each for BOX CULVERT END SECTION, as outlined in Art. 540.08, which prices shall include all concrete, rebar, and all other items necessary to complete the proposed work. Precast option is not allowed.

Drain holes shall be provided in accordance with Art. 503.11.

Voids between the Precast Concrete Box Culvert and the cast-in-place toewall / cutoff wall shall be filled with Non-shrink grout.

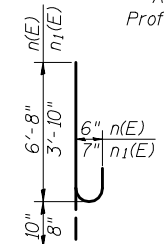
Precast End Section Alternative is not allowed.

Drawing not to scale.

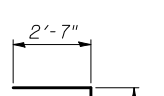
+0.06%

PROFILE GRADE

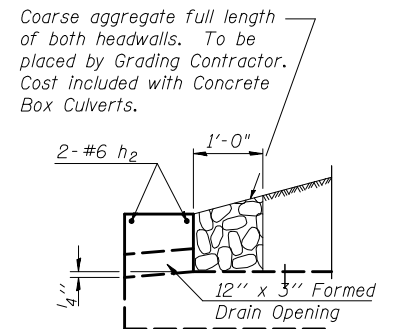
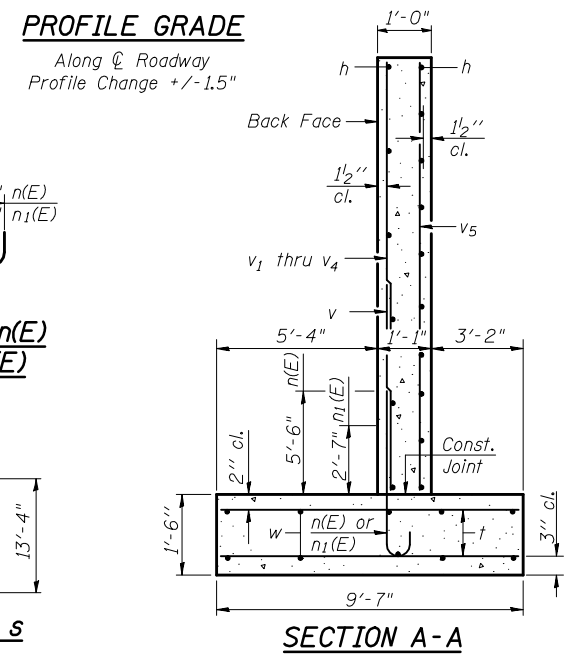
Along \bar{C} Roadway
Profile Change +/- 1.5"



BARS n(E) & n1(E)



BAR s



HEADWALL & DRAIN DETAIL

DESIGN STRESSES

"Cast-in-Place"
fy = 60,000 psi
f'c = 3,500 psi

"Precast"
fy = 60,000 psi
f'c = 5,000 psi

Max. Soil Pressure under footing = 3,522 psf

LOADING HS 20-44

BILL OF MATERIAL

(ONE END SECTION)
FOR INFORMATION ONLY

Bar	No.	Size	Length	Shape
d	30	#4	2'-8"	
d1(E)	32	#4	3'-8"	
h	50	#4	17'-8"	
h1	4	#4	28'-8"	
h2	2	#6	28'-0"	
h3	6	#4	8'-0"	
h4	8	#4	8'-9"	
h5	3	#4	28'-0"	
h6	16	#4	1'-2"	
h7	16	#4	9"	
n(E)	38	#7	7'-6"	
n1(E)	40	#6	4'-6"	
s	4	#6	15'-4"	
t	88	#6	9'-4"	
v	40	#5	7'-9"	
v1	10	#4	6'-4"	
v2	10	#4	7'-9"	
v3	10	#4	9'-2"	
v4	10	#4	10'-6"	
v5	12	#4	16'-1"	
v6(E)	8	#6	6'-10"	
v7	4	#6	13'-2"	
w	28	#5	17'-8"	
Concrete Box Culverts		Cu. Yd.	40.4	
Reinforcement Bars, Epoxy Coated		Pound	1016	
Reinforcement Bars EXPANSION BOLTS		Pound	3595	
3/4" φ		EACH	29	

Notes:
Reinforcement bars designated (E) shall be epoxy coated.

S.N. 021-2027
STA. 82+10.00

FILE NAME =	USER NAME = hoganbj	DESIGNED -	REVISED BJH 12/11/2009
ca:\pwwork\p\WIDOT\HOGANBJ\d0110229\70223\details.dgn		DRAWN -	REVISED BJH 1/28/2010
PLOT SCALE = 40.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = 1/28/2010		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE BOX CULVERT END SECTION DETAIL
PAGE 1 OF 2

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	(143BR)BR	DOUGLAS	68	14
CONTRACT NO. 70223				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				