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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER

October 19, 2018
PLANS APPROVAL DATE

Carl W. Duan
No. C59976
Exp. 6-30-20
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED _____

DESIGN NOTES:

Specifications:

AASHTO LRFD Bridge Design Specifications, 6th Edition with California Amendments.

Earth load:

Earth pressures for two conditions:
140 pcf Vert, 36 pcf Horiz
140 pcf Vert, 120 pcf Horiz

Unit stresses:

f'c = 5.0 ksi
fy = 65.0 ksi for weld wire fabric
n = 7

Shear:

Based on

$V_c = \{2.14\sqrt{f'_c} + 4600 \frac{A_s}{bd_e}\frac{V_u d_e}{M_u}\} b.d_e \leq 4.0\sqrt{f'_c} b.d_e$ (Pounds)

V_c shall not be less than $3.00\sqrt{f'_c} b.d_e$
for frame members and $2.5\sqrt{f'_c} b.d_e$
for simply supported members.

Exclusion:

Axial loading on the members has not been considered.

GENERAL NOTES:

Designation:

Standard single or multiple precast box culverts are shown on the plans as span times height with maximum cover over roof thus: 8' x 5' RCB with 10'-0" or double 10' x 5' RCB with 20'-0", followed by alternatives.

Alternatives:

Single cell:

Standard dimensions of AASHTO Material Specification 'M259' or 'M273'.

Multiple cell:

Constructed by placing single cells adjacent to each other. Inlet and outlet ends of culvert will be rounded unless square ends are designated. Parapet will be shown unless designated in plans. Such designation may be different for inlet and outlet ends.

Limitations:

Where the overfill is less than 12", Precast RCB culverts are not to be used. Precast RCB culverts are not to be used in siphon or pressurized installations unless appropriate "watertight" jointing is provided.

Special reinforcement coverage:

Precast RCB culvert standard plans are not to be used in a corrosive environment or where there is a severe abrasive flow condition or freeze-thaw locations.

Special design:

Required for culvert with different conditions, loads or design bearing pressures greater than those given on these plans. Required for culverts where end details need higher skew angles, higher parapets or barrier sections.

CONSTRUCTION NOTES:

Cutoff walls:

4'-0" Cutoff walls are to be provided at inlet and/or outlet unless channel is lined and unless otherwise shown. These walls are to be extended if scour conditions warrant. See Standard Plans D84, D85 and D86A.

Wingwalls:

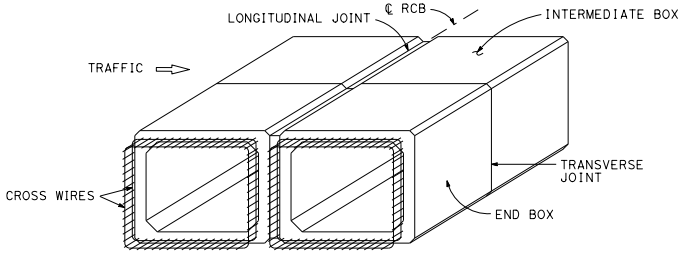
Wingwalls shall be cast-in-place and shall conform to standard plan details for box culvert wingwalls. See Standard Plans D84, D85 and D86A.

Earthwork:

See Revised Standard Plan RSP A62G.

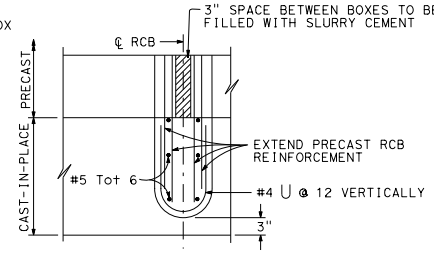
Construction loads:

Strutting may be required near temporary ends. For construction loads on culverts, See Standard Plan D88.



PRECAST RCB TERMINOLOGY

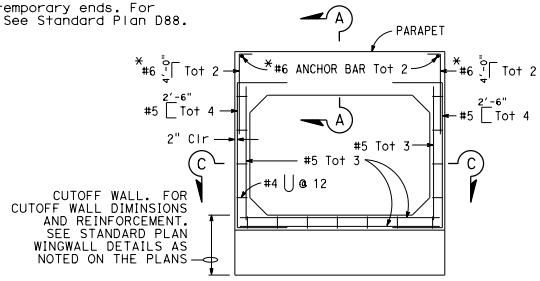
NOTE: Inner and outer reinforcement to be exposed as required to tie to cast-in-place construction. A minimum of two cross wires shall be exposed on all sides.



PARTIAL PLAN INTERIOR WALL MULTICELL CULVERT

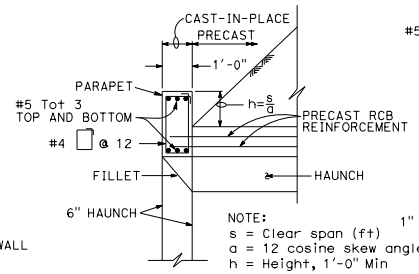
PARAPET "P" BARS			
SKEW ANGLE / SPAN	0° TO 15°	16° TO 30°	31° TO 45°
4'-0"	#5	#5	#5
5'-0"	#5	#5	#6
6'-0"	#6	#6	#6
7'-0"	#7	#7	#7
8'-0"	#7	#7	#8
10'-0"	#8	#8	#9
12'-0"	#9	#9	#10

BARRIER PARAPET REINFORCEMENT

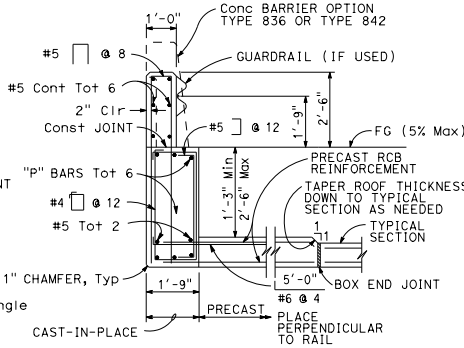


CAST-IN-PLACE END ELEVATION

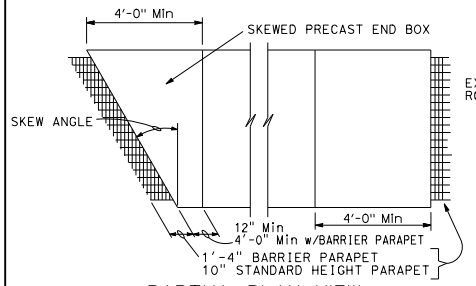
* Reinforcing required for barrier parapet application only.



SECTION A-A
(Standard Height Parapet)

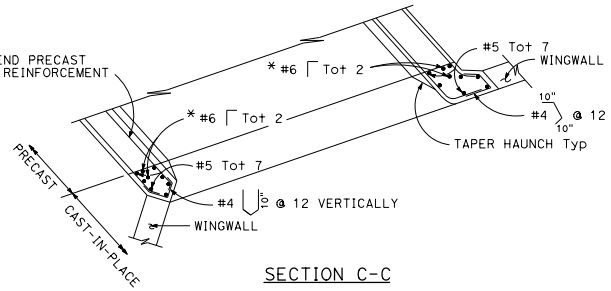


SECTION A-A
(Barrier Parapet)



PARTIAL PLAN VIEW

For illustrative purposes only.
For correct skew direction see plans.



SECTION C-C

* Reinforcing required for barrier parapet application only.

TYPICAL CULVERT END DETAILS

For wall and invert reinforcement not shown, See "End Elevation" detail.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PRECAST REINFORCED CONCRETE BOX CULVERT MISCELLANEOUS DETAILS

RSP D83B DATED OCTOBER 19, 2018 SUPERSEDES STANDARD PLAN D83B DATED MAY 31, 2018 - PAGE 225 OF THE STANDARD PLANS BOOK DATED 2018.

NO SCALE

REVISED STANDARD PLAN RSP D83B

2018 REVISED STANDARD PLAN RSP D83B

4-10-18