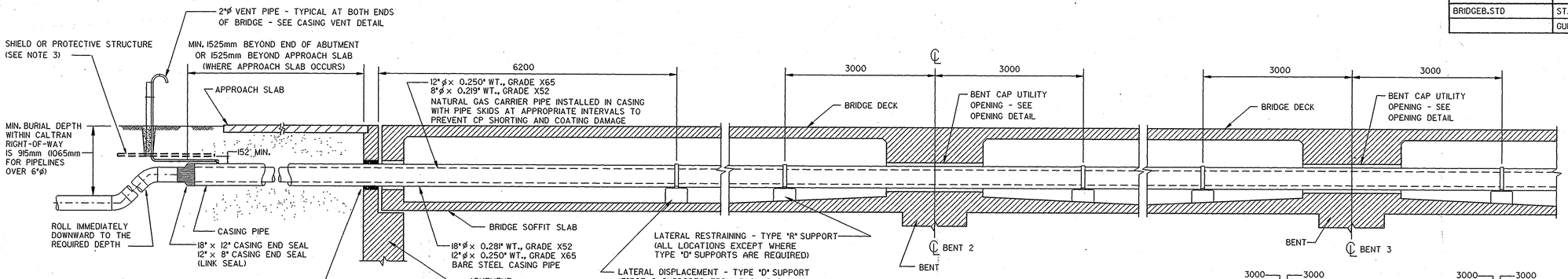
DRAWING NO.	REFERENCE DRAWING DESCRIPTION
BRIDGEB.STD	STANDARD INSTALLATION DETAILS
	GUIDELINES FOR NATURAL GAS & PIPELINES ON CALTRANS BRIDGES



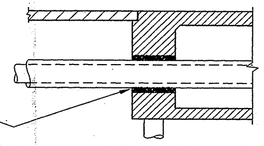
ELEVATION
BOX GIRDER BRIDGE WITH SEAT TYPE ABUTMENT

SECTION

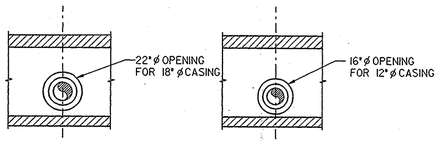
- CAST IN PLACE CASING AFTER TIGHTLY WRAPPING WITH 2 LAYERS OF #15 BUILDING PAPER, OR FIBERGLASS REINFORCED PLASTIC (FRP) SLEEVE.

  OR

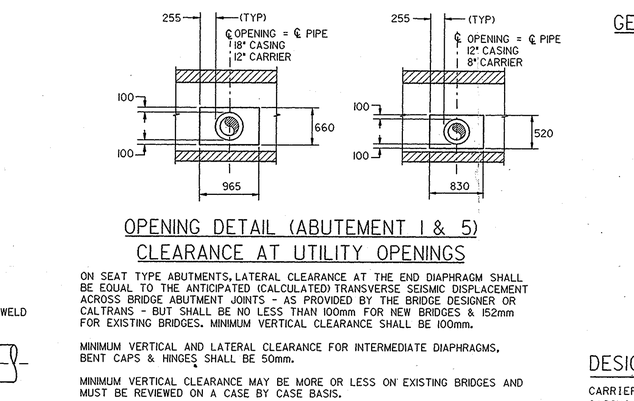
- FILL SPACES BETWEEN ABUTMENT BACKWALL OPENING AND CASING (MIN. 102mm) W/ DRY PACK OR MORTARED BRICK AFTER WRAPPING CASING WITH 2 LAYERS OF #15 BUILDING PAPER OR FRP.



BOX GIRDER BRIDGE WITH END DIAPHRAGM TYPE ABUTMENT
(SEE SEAT TYPE ABUTMENT FOR DETAILS NOT SHOWN)



OPENING DETAIL (BENT 2, 3 & 4)



CASING VENT DETAIL

SUPPORT SPACING DIAGRAM

Ⓓ = DISPLACEMENT TYPE SUPPORTS
Ⓡ = RESTRAINING TYPE SUPPORTS

OPENING DETAIL (ABUTEMENT 1 & 5)
CLEARANCE AT UTILITY OPENINGS

ON SEAT TYPE ABUTMENTS, LATERAL CLEARANCE AT THE END DIAPHRAGM SHALL BE EQUAL TO THE ANTICIPATED (CALCULATED) TRANSVERSE SEISMIC DISPLACEMENT ACROSS BRIDGE ABUTMENT JOINTS - AS PROVIDED BY THE BRIDGE DESIGNER OR CALTRANS - BUT SHALL BE NO LESS THAN 100mm FOR NEW BRIDGES & 152mm FOR EXISTING BRIDGES. MINIMUM VERTICAL CLEARANCE SHALL BE 100mm.

MINIMUM VERTICAL AND LATERAL CLEARANCE FOR INTERMEDIATE DIAPHRAGMS, BENT CAPS & HINGES SHALL BE 50mm.

MINIMUM VERTICAL CLEARANCE MAY BE MORE OR LESS ON EXISTING BRIDGES AND MUST BE REVIEWED ON A CASE BY CASE BASIS.

GENERAL NOTES:

1. THE DETAILS SHOWN ARE ACCEPTABLE TO CALTRANS AND UTILITY USERS. TO MEET REGIONAL PRACTICES, SUBSTITUTES FOR THESE DETAILS, WHICH PROVIDE EQUAL FUNCTIONS, ARE PERMISSIBLE PROVIDED THAT THEY ARE APPROVED BY CALTRANS. SUCH APPROVED SUBSTITUTES MAY BECOME REGIONAL STANDARDS.
2. ALL PIPELINE SUPPORT COMPONENTS AND HARDWARE, INCLUDING NUTS AND BOLTS, SHALL BE GALVANIZED OR STAINLESS STEEL.
3. FOR CARRIER PIPE HAVING LESS THAN MINIMUM BURIAL DEPTH BUT MORE THAN 24", USE:
   - ½" MIN. THICK STEEL PLATE FOR CARRIER PIPE UP TO 12"ø OR 1" MIN. THICK STEEL PLATE FOR CARRIER PIPE LARGER THAN 12"ø. WIDTH OF PLATE SHALL BE 3 TIMES THE DIAMETER OF CASING PIPE.

   OR
   - HALF SECTION OF CASING.

   FOR CARRIER PIPE HAVING LESS THAN 610mm BURIAL DEPTH, AN ENGINEERED PROTECTIVE STRUCTURE SHALL BE DESIGNED.
4. NITROGEN SHALL BE USED TO PRESSURE TEST CARRIER PIPES.

DESIGN LOADS

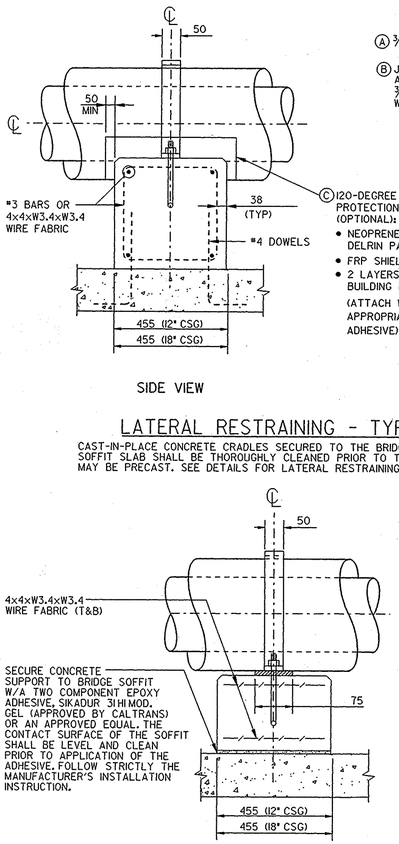
CARRIER 12" ø = 33.0 LBS/LIN. FT
CASING 18" ø = 53.0 LBS/LIN. FT
CARRIER 8" ø = 20.0 LBS/LIN. FT
CASING 12" ø = 33.0 LBS/LIN. FT

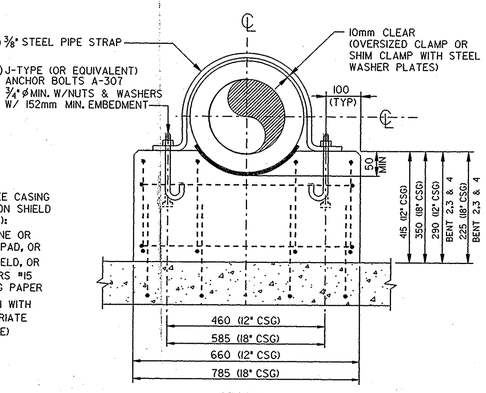
	DESIGN LOADS	
	LINE 42-54	MEDIUM PRESSURE LINE
WEIGHT OF PIPE AND HARDWARE OF EACH SUPPORT	1720 LBS	1100 LBS
DESIGN LOAD OF EACH SUPPORT, INCLUDING CONCRETE, CARRIER AND CASING	2460 LBS	1910 LBS

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

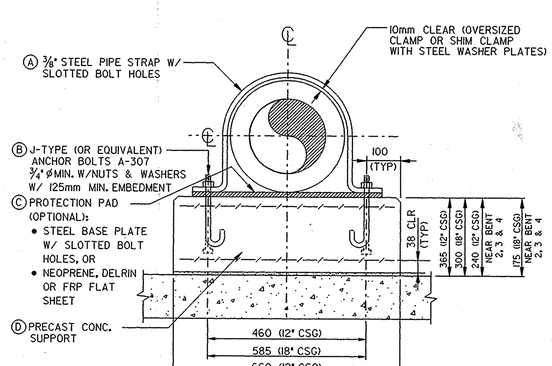
LATERAL RESTRAINING - TYPE "R" CRADLE SUPPORTS

CAST-IN-PLACE CONCRETE CRADLES SECURED TO THE BRIDGE SOFFIT WITH DOWELS. (THE CONTACT SURFACE OF THE SOFFIT SLAB SHALL BE THOROUGHLY CLEANED PRIOR TO THE PLACEMENT OF THE CONCRETE.) CONCRETE CRADLES MAY BE PRECAST. SEE DETAILS FOR LATERAL RESTRAINING TYPE "R" FLAT SUPPORT FOR BONDING TO THE BRIDGE SOFFIT.



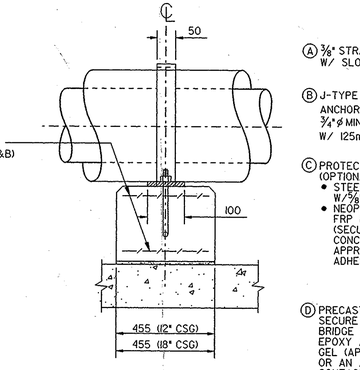


LATERAL RESTRAINING - TYPE "R" FLAT SUPPORTS



LATERAL RESTRAINING - TYPE "R" FLAT SUPPORTS

LATERAL RESTRAINING AND DISPLACEMENT SUPPORTS MAY BE PRECAST (MIN. f'c=4000psi) OR DOWELED INTO BRIDGE SOFFIT. SEE CRADLE SUPPORT FOR CAST IN PLACE DETAILS.



LATERAL DISPLACEMENT - TYPE "D" SUPPORTS

REV. NO.	DRAWN / CHECKED	PROJECT APPROVED	SO CAL APPROVED	JOB FILE NO.	DATE	DESCRIPTION
B					6-16-99	REVISED 16" CASING TO 18" CASING & ENLARGE ABUTMENT & BENT OPENINGS
A	ST			PE99-117	4-20-99	ISSUED FOR REVIEW

CONTRACTOR NAME & PROJECT NUMBER

	BY	DATE
DESIGNED	M QUITORIANO	4-16-99
DRAWN	S TIONGCO	4-19-99
CHK'D.	S CHENG	4-20-99
APPR'D.		
JOB FILE NO.	PE99-117	
C.W.O.		
DIST.		
CLASS		

Southern California Gas Company
ENGINEERING & FIELD SUPPORT — LOS ANGELES

LINE 42-54 & MEDIUM PRESSURE LINE CROWN VALLEY PARKWAY BRIDGE INSTALLATION DETAILS

SCALE: NONE

DRAWING NO. 30668-4001-D.STR REV. A

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