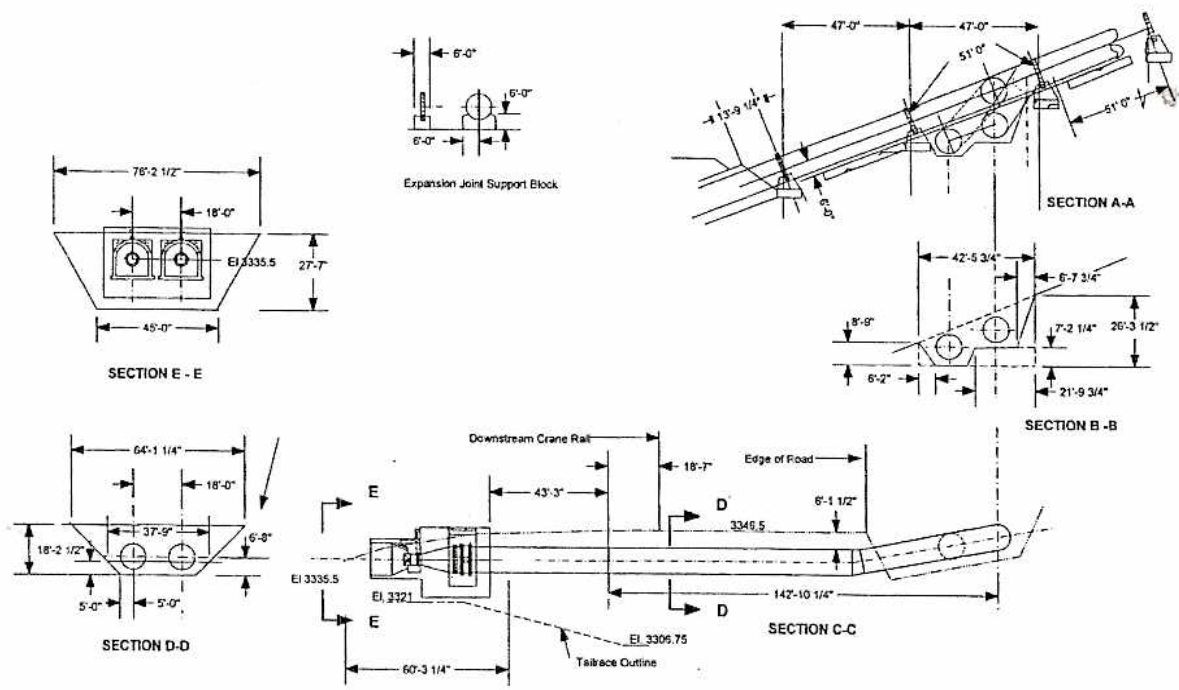
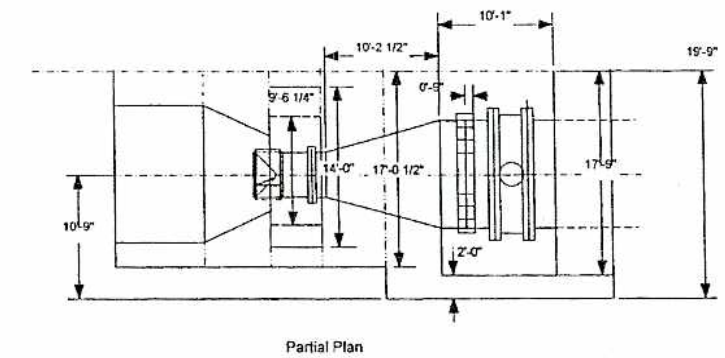


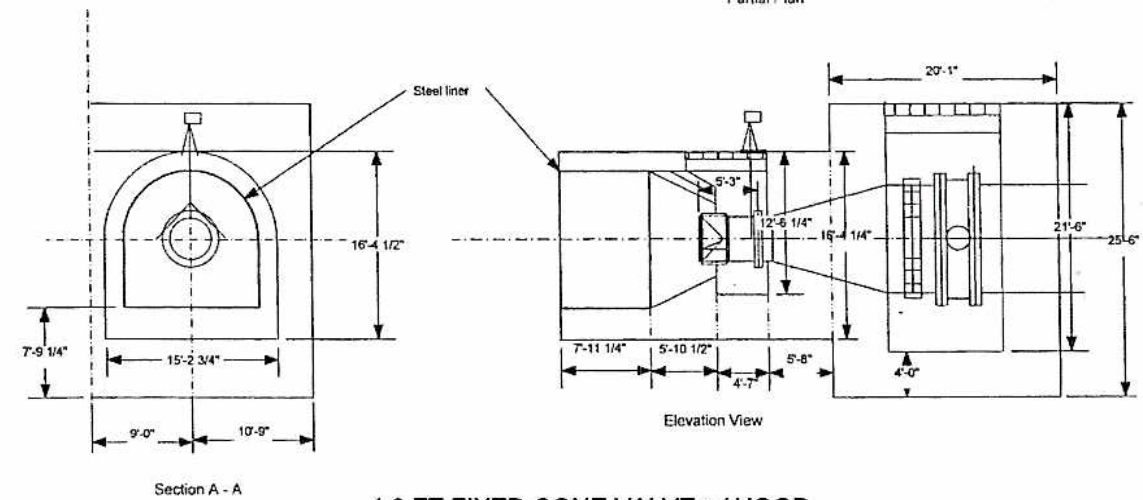
GENERAL ARRANGEMENT - PLAN
SCALE: N.T.S.



GENERAL ARRANGEMENT - SECTION
SCALE: N.T.S.



Partial Plan



Section A - A

Elevation View

4.0 FT FIXED CONE VALVE w/ HOOD
PLAN AND SECTION
SCALE: N.T.S.

PRELIMINARY DESIGN CONCEPTS
AND DRAWINGS DEVELOPED BY
BLACK & VEATCH, MAY 2002.



PACIFICORP JUNE, 2003 PORTLAND, OREGON
APPLICATION FOR KLAMATH HYDROELECTRIC PROJECT LICENSE
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KLAMATH HYDROELECTRIC PROJECT
J.C. BOYLE - SYNCHRONOUS BYPASS VALVE

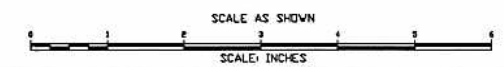


Figure 4.7-1