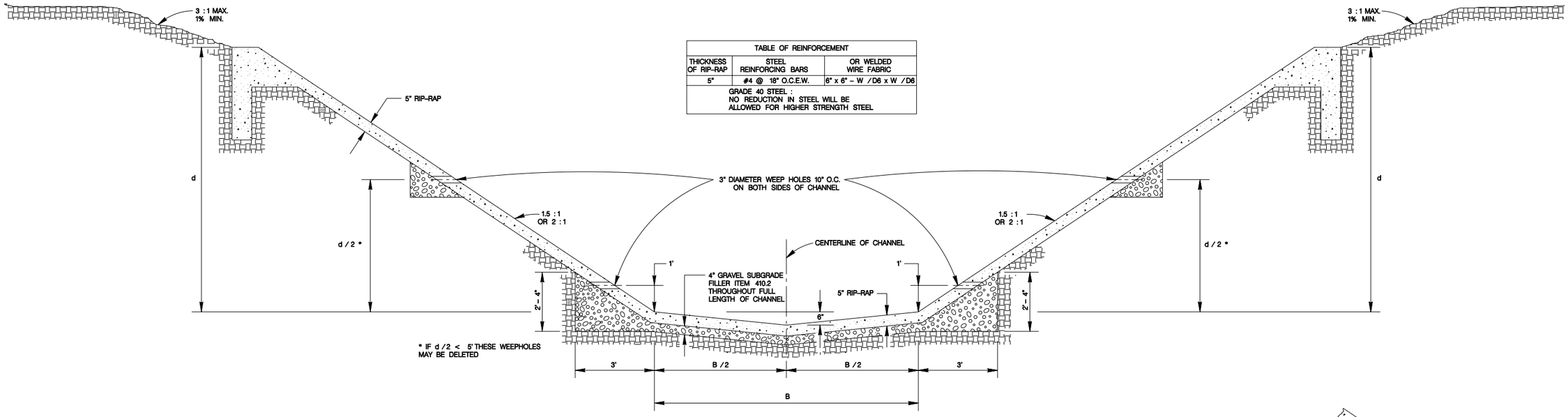
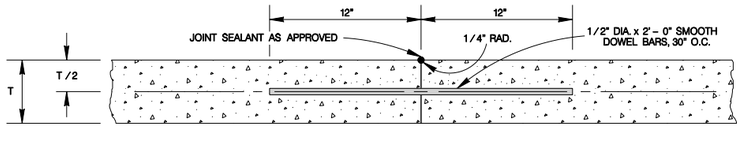
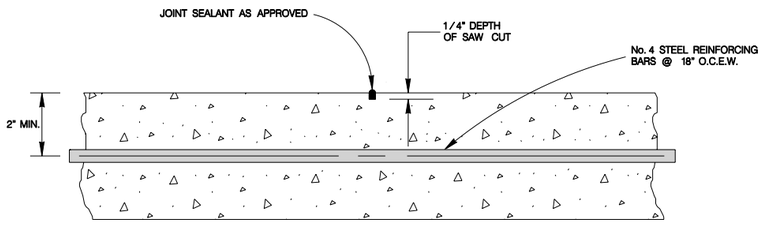
TABLE OF REINFORCEMENT		
THICKNESS OF RIP-RAP	STEEL REINFORCING BARS	OR WELDED WIRE FABRIC
5"	#4 @ 18" O.C.E.W.	6" x 6" – W /D6 x W /D6
GRADE 40 STEEL : NO REDUCTION IN STEEL WILL BE ALLOWED FOR HIGHER STRENGTH STEEL		



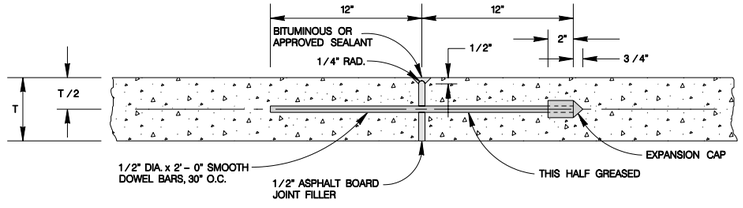
TYPICAL CHANNEL SECTION
LOOKING DOWNSTREAM
SCALE : 1" = 4'



CONVERSE CONTRACTION
OR CONSTRUCTION JOINT
SCALE : 1" = 1'



"SAW CUT" CONTRACTION JOINT
SCALE : 1" = 6"

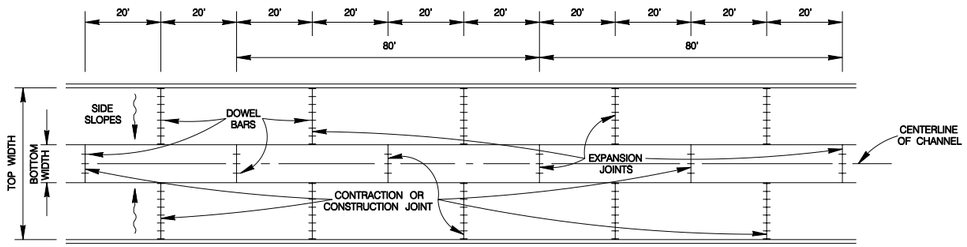


TRANSVERSE EXPANSION JOINT
SCALE : 1" = 1'

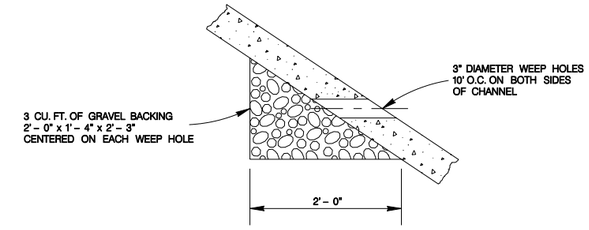
REINFORCEMENT DETAIL
TOE–DOWN
SCALE : 1" = 2'

* THIS JOINT MUST BE A VERTICAL JOINT AS SHOWN

ALL SECTIONS
SCALE : 1" = 2'



EXPANSION AND CONTRACTION JOINTS
FOR CONCRETE CHANNEL LINING
SCALE : 1" = 40'



WEEP HOLES DETAILS
FOR SIDE SLOPES
SCALE : 1" = 2'

GENERAL NOTES

1. CONCRETE FOR CHANNEL RIP-RAP SHALL BE CLASS "A" 3000 P.S.I.
2. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS UNLESS OTHERWISE SHOWN.
3. ALL REINFORCEMENT STEEL SHALL MEET ASTM DESIGNATIONS AS CALLED FOR IN THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
4. NEW RIP-RAP SHOULD BE ATTACHED TO EXISTING RIP-RAP BY NO. 4 BARS DOWELED 6" INTO EXISTING RIP-RAP. THESE BARS ARE TO BE SPACED 18" O.C. AND HAVE A LENGTH OF 18".

MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPICAL CONCRETE CHANNEL RIP–RAP STANDARDS

____% SUBMITTAL	PROJECT NO.:_____		DATE:_____
DRWN. BY: V. VASQUEZ	DSGN. BY:_____	CHKD. BY:_____	SHEET NO.:____OF____