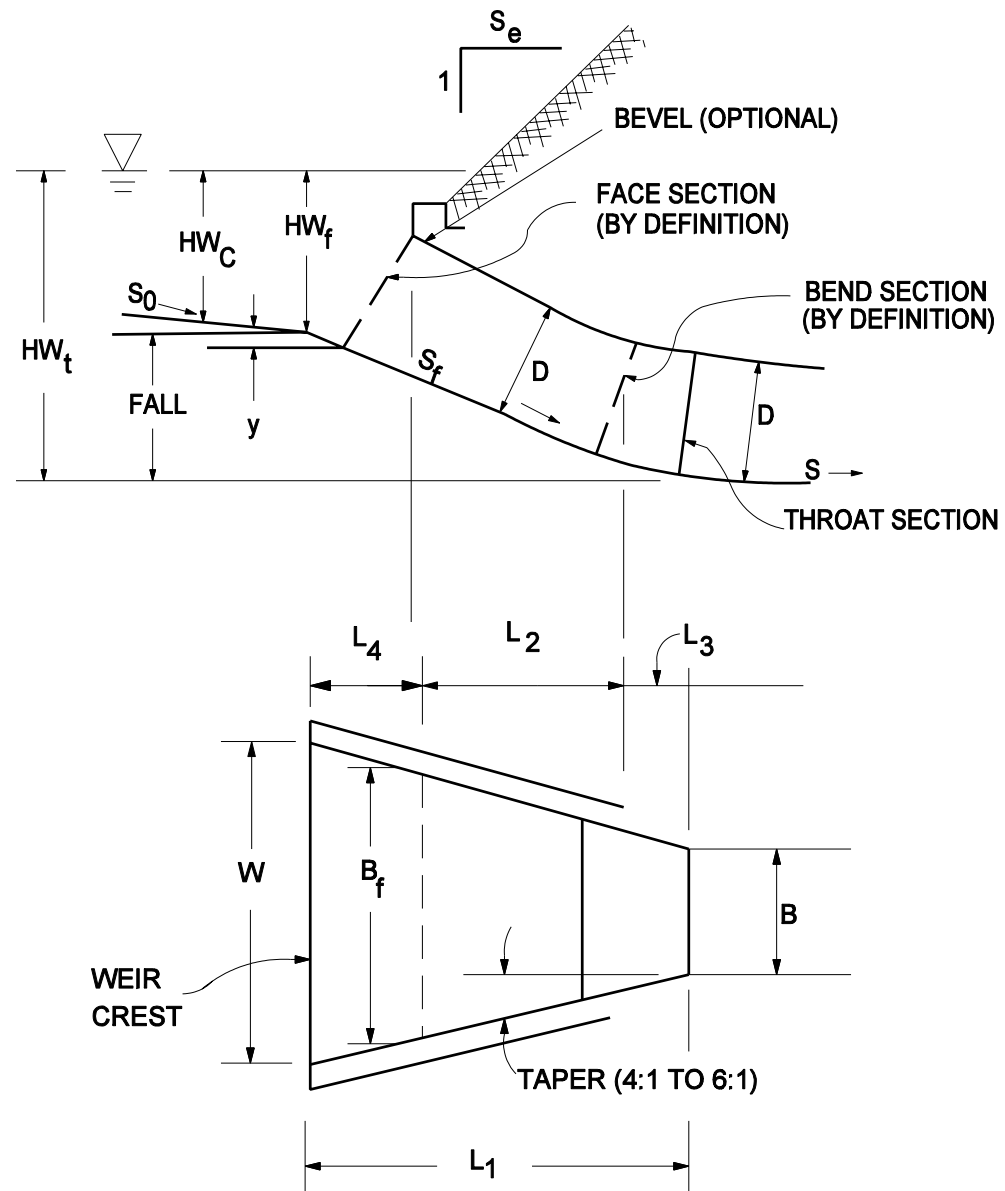


ROUTE: _____ DES. NO.: _____ PROJECT NO.: _____ PROJECT DESCRIPTION: _____										STATION: _____ SHEET _____ OF _____					CULVERT DESIGN FORM – MITERED INLET									
DESIGN DATA: Q _____ = _____ m ³ /s; EL. _{hl} _____ (m) EL. Throat Invert _____ (m) EL. Stream Bed at Face _____ (m) FALL _____ (m); TAPER _____ :1 (4H:1V to 6H:1V) STREAM SLOPE, S _c = _____ (m/m) SLOPE OF BARREL, S = _____ (m/m) S _r _____ :1 (2H:1V to 3H:1V) Barrel Shape and Material: _____ N = _____; B = _____; D = _____ Inlet Edge Description: _____																				COMMENTS: <div style="height: 150px;"></div>				
Q (m ³ /s)	EL. _{hl}	EL. Throat Invert	y (1)	EL. Face Invert (2)	HW _f (3)	HW _f E (4)	Q B _f (5)	Min. B _f (6)	Selected B _f	Min. L ₃ (7)	L ₄ (8)	L ₂ (9)	Check L ₂ (10)	Adj. L ₃ (11)	Adj. Taper (12)	L ₁ (13)	EL. Crest Inv. (14)	HW _c (14)	Min. W (15)	W (16)				

TECHNICAL FOOTNOTES: (1) $y = \left[\frac{(S_o - S_f) - 1}{(S_o - S_f)(S_f + 1)} \right] - D$ (2) EL. Face Invert = EL. Stream Bed at Crest – y (3) HW _f = EL. _{hl} – EL. Face Invert (4) 1.1D ≥ E ≥ D (5) From Design Charts (6) Min. B _f = Q / (Q/B _f) (7) Min. L ₃ = 0.5NB (8) L ₄ = yS _f + D/S _f (9) L ₂ = S _r (EL. Crest Invert – EL. Throat Invert) If negative, do not use mitered inlet. (10) Check $L_2 = 0.5(B_r - NB)Taper - L_3$										(11) If (10) > (9), Adj. $L_3 = 0.5(B_r - NB)Taper - L_3$ (12) If (9) ≥ (10), Adj. Taper = $\frac{L_2 + L_3}{0.5(B_r - NB)}$ (13) L ₁ = L ₂ + L ₃ + L ₄ (14) HW _c = EL. _{hl} – EL. Crest Invert (15) Min. $W = \frac{0.634Q}{HW_c}$ (16) $W = NB + \left(\frac{2L_1}{Taper} \right)$ If W < Min. W, adjust taper.										SELECTED DESIGN: B _f _____ L ₁ _____ L ₂ _____ L ₃ _____ L ₄ _____ Bevels Angle _____ ° b = _____ d = _____ Taper _____ :1V S _r = _____ :1V									
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SLOPE-TAPERED INLET/MITERED FACE