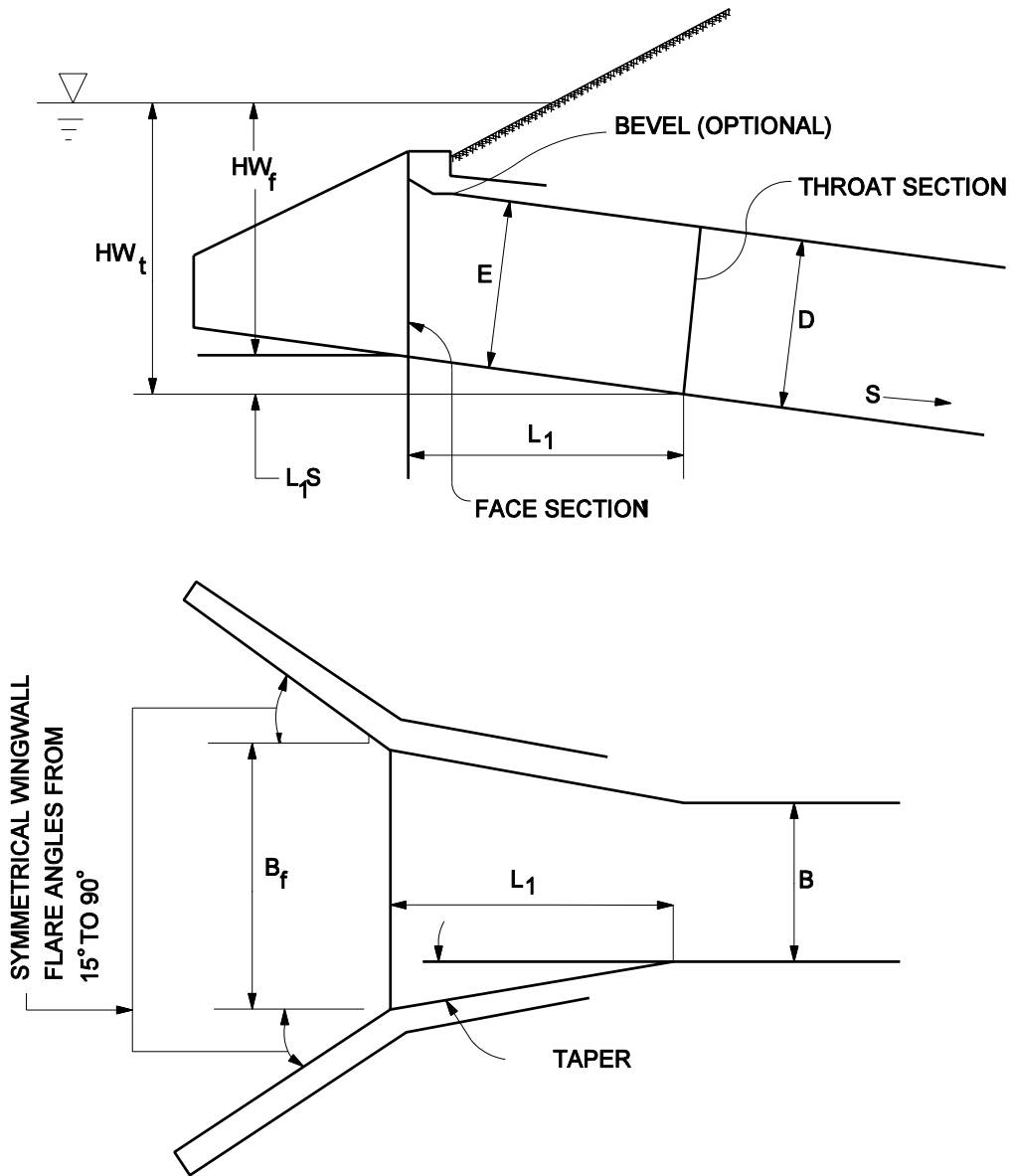
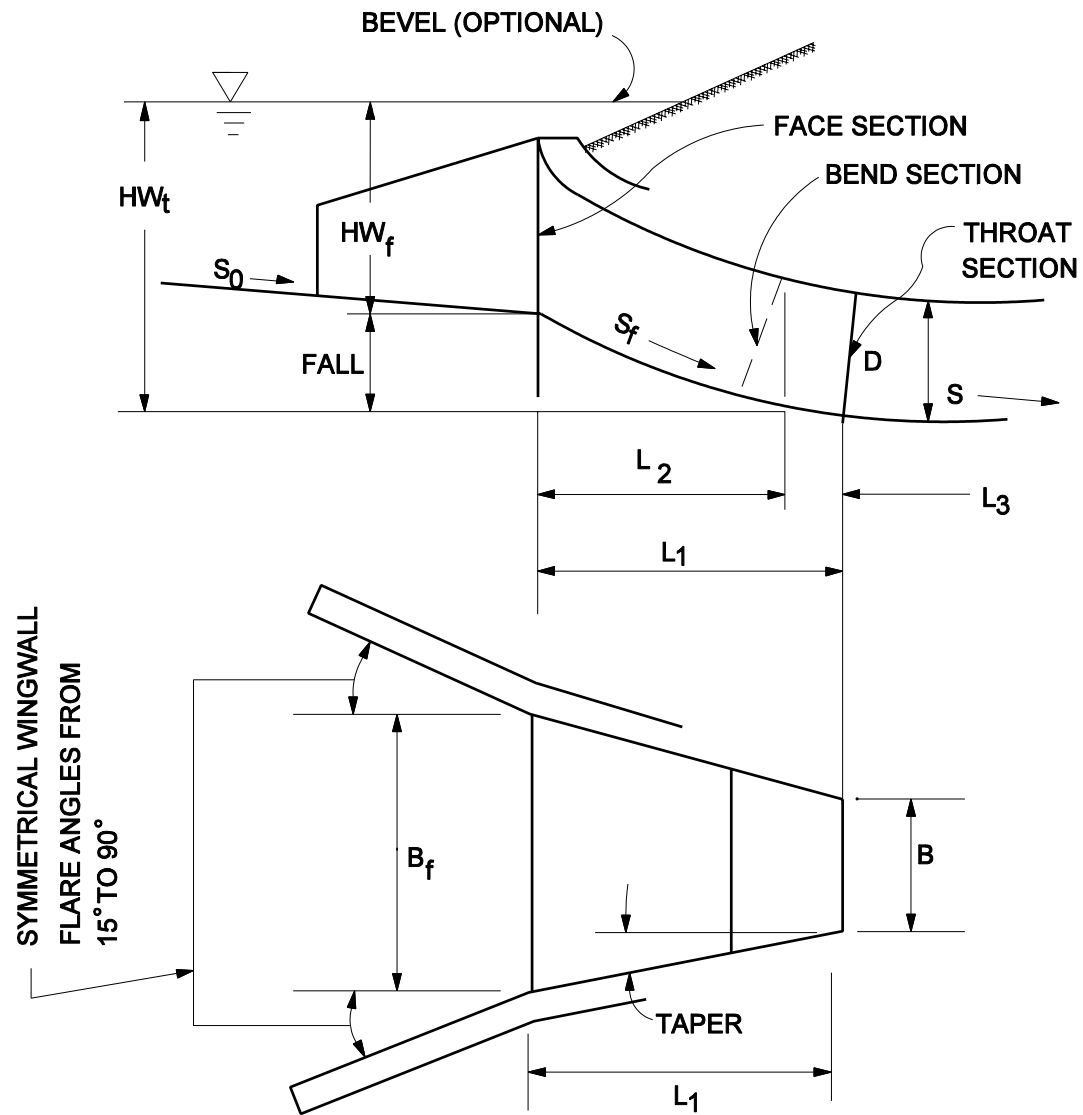


ROUTE: _____ DES. NO.: _____ PROJECT NO.: _____ PROJECT DESCRIPTION: _____								STATION: _____ SHEET _____ OF _____				CULVERT DESIGN FORM – TAPERED INLET					
												DESIGNER: _____ DATE: _____ REVIEWER: _____ DATE: _____					
DESIGN DATA: Q _____ = _____ m³/s; EL. _{hl} _____ (m) EL. Throat 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>					
								SLOPE-TAPERED ONLY				SIDE-TAPERED w/ FALL					
Q (m³/s)	EL. _{hl}	EL. Throat Invert	EL. Face Invert (1)	HW _f (2)	$\frac{HW_f}{E}$ (3)	$\frac{Q}{B_f}$ (4)	Min. B _f (5)	Sel- Ected B _f	Min. L ₃ (6)	L ₂ (7)	Check L ₂ (8)	Adj. L ₃ (9)	Adj. Taper (10)	L ₁ (11)	EL. Crest Invert	HW _c (12)	Min. W (13)

TECHNICAL FOOTNOTES: (1) Slope-Tapered: EL. Face Invert = EL. Stream Bed at Face Side-Tapered: EL. Face Invert = EL. Throat Invert + 0.3 m (approx.) (2) HW _f = EL. _{hl} – EL. Face Invert (3) 1.1D ≥ E ≥ D (4) From Design Charts (5) Min. B _f = Q / (Q/B _f) (6) Min. L ₃ = 0.5NB (7) L ₂ = S _r (EL. Face Invert – EL. Throat Invert) (8) Check $L_2 = 0.5(B_r - NB)Taper - L_3$	(9) If (8) > (7), Adj. $L_3 = 0.5(B_r - NB)Taper - L_3$ (10) If (7) ≤ (8), Adj. Taper = $\frac{L_2 + L_3}{0.5(B_r - NB)}$ (11) Slope-Tapered: L ₁ = L ₂ + L ₃ Side-Tapered: $L = 0.5(B_r - NB)Taper$ (12) HW _c = EL. _{hl} – EL. Crest Invert (13) Min. $W = \frac{0.634Q}{HW_c}$	SELECTED DESIGN: B _f _____ L ₁ _____ L ₂ _____ L ₃ _____ Bevels Angle _____ ° b = _____ d = _____ Taper _____ :1V S _r = _____ :1V
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SIDE - TAPERED END TREATMENT



SLOPE - TAPERED END TREATMENT