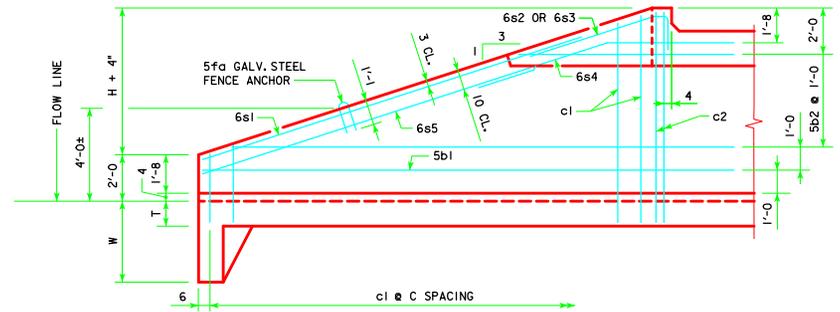
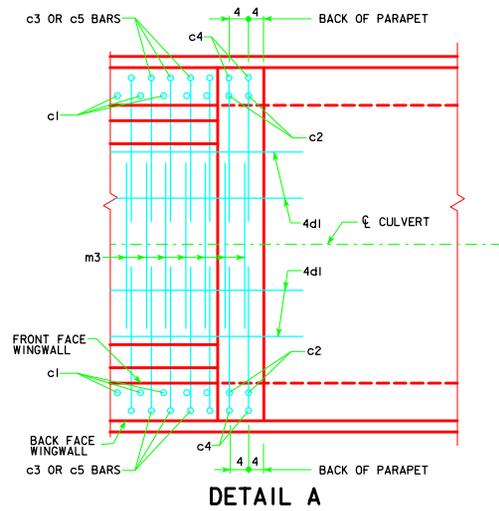
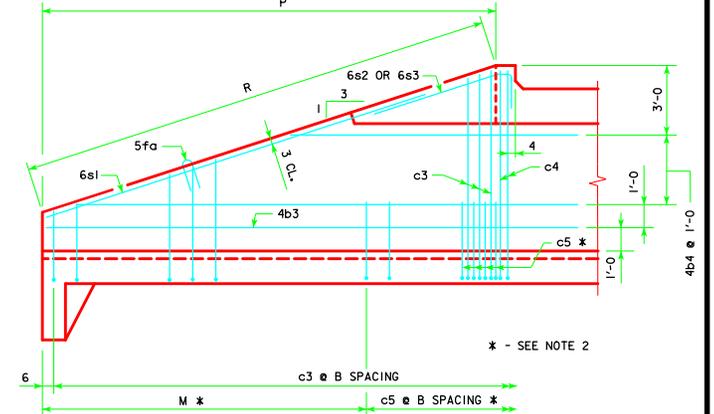


ENGLISH REDS (RINGS) IN GREEN; EQUILIBRIUM; DGN - PWH 0-3-12 - THIS SHEET ISSUED 04-12



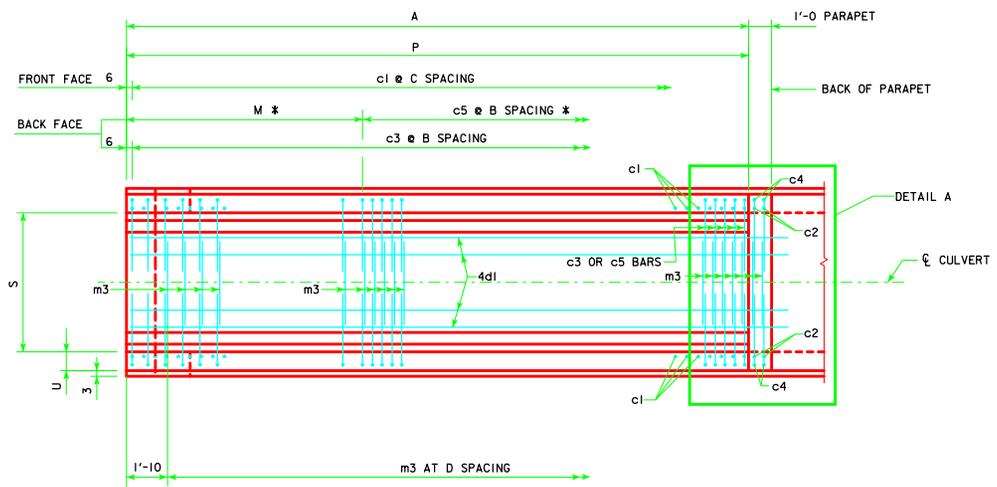
TYPICAL VIEW - FRONT FACE WINGWALL REINFORCING



TYPICAL VIEW - BACK FACE WINGWALL REINFORCING

NOTES :

1. BAR SPACINGS AND POSITIONS SHOWN ARE SIMILAR FOR ALL SIZES OF HEADWALLS IN THIS STANDARD.
2. NOT APPLICABLE FOR THE FOLLOWING HEADWALL SIZES: 12x5, 12x4, 10x6, 10x5, 10x4, 8x6, 8x5, 8x4, 6x6, 6x5, 6x4, 6x3, 5x6, 5x5, 5x4, 5x3, 4x4 AND 3x3.
3. FOR HEADWALL DIMENSIONS AND BAR SPACING SEE DRAWING PWH 0-1-12.
4. WINGWALL BARS CONSISTENTLY REFERENCED FROM END OF WING FOR ALL WINGWALLS.
5. APRON m3 BARS ARE TO BE CENTERED ON ℓ CULVERT.
6. B.F.V. (c4) AND F.F.V. (c2) BARS ARE APPROXIMATELY 4" FROM THE BACK OF PARAPET FOR ALL HEADWALLS.



PLAN VIEW - BOTTOM APRON REINFORCING

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER <i>Thomas E. M. Donnell</i>	<p>Iowa Department of Transportation Highway Division</p> <p>STANDARD DESIGN - SINGLE REINFORCED CONCRETE BOX CULVERTS</p> <p>PARALLEL WING HEADWALLS</p> <p>APRIL, 2012</p>
WINGWALL ELEVATIONS & BOTTOM APRON REINFORCING 0° SKEW		PWH 0-3-12