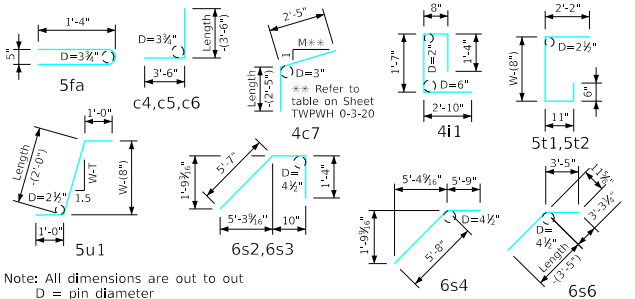


ENGLISH REDSIGNED WINCULVERTS.DGN - TWPWH 0-8-20 - THIS SHEET ISSUED 07-2020.

Bill of Reinforcing for One Headwall 0° Skew Span x Culvert Height

Table with columns for Location, Shape, and reinforcement details for various span sizes (8' x 10', 8' x 9', 8' x 8', 8' x 7', 8' x 6', 8' x 5', 8' x 4').

Bent Bar Details



Δ Includes top of wingwall quantities. \* Assumes apron and floor are equal thickness, adjust concrete quantities for transition where apron and floor thickness are not equal.

Note: Weight of bars over 40'-0" long include an allowance of 2'-5" for lap.

(L) - Indicates bar located at left corner. (R) - Indicates bar located at right corner. Refer to Sheet TWPWH 0-1-20 for left and right corner locations.

Headwall Notes:

- 1. This headwall is based on a 3:1 slope normal to centerline of roadway.
2. The sides of the apron are to be formed to ensure correct line and grade.
3. All apron reinforcing steel is to be supported by bar chairs at intervals of not more than 3'-0" in either direction as outlined in the Standard Specifications.
4. Clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown. Clearance to the bottom ends of vertical bars shall be 3 inches.
5. Concrete quantities are estimated from back of parapet.
6. Horizontal tails of bars "b" & "s" estimated to extend 2'-5" beyond back of parapet (into end of barrel). Longitudinal bars "4d1" and "6f1" estimated to project into end section of barrel a minimum of 2'-5" beyond back of parapet. The "length" column reflects total number of feet necessary to meet these requirements.
7. Dimensions are in feet and inches unless otherwise noted.

Approval stamp area including IOWA DOT Highway Division logo, project name 'Parallel Wing Headwalls', date 'July, 2020', and 'Quantity Tabulation 8'-0" Span 0° Skew TWPWH 0-8-20'.