



SOIL PARAMETERS FOR WING WALL DESIGN

Allowable Soil Bearing Pressure	2000 psf
Equivalent Fluid Pressure	40 pcf
Friction Factor (β)	0.6
Angle Of Friction Wingwall Footing & Foundation (β)	17°
Angle Of Internal Friction Of the Foundation Soil (β)	30°
Ultimate Cohesion Foundation Soil	0 psf
Ultimate Adhesion Between Foundation Soil and Concrete (α)	0 psf

- GENERAL NOTES**
- Precast box culvert section shall be in accordance with section 714 of the 1999 Indiana Department of Transportation Standard Specifications.
 - Materials for box culverts shall be in accordance with section 907.05 of the 1999 Indiana Department of Transportation Standard Specifications.
 - Box sections shall be in accordance with AASHTO M259.
 - Concrete for wingwalls, and headwalls shall be Class "A" in accordance with section 702 of the 1999 Indiana Department of Transportation Standard Specifications except for coarse aggregate shall be size 91 in accordance with section 904.02.
 - Concrete for footings shall be class "B" in accordance with section 702 of the 1999 Indiana Department of Transportation Standard Specifications.
 - All reinforcing steel shall be in accordance with 910.01.
 - Steel used in bolted connection shall be in accordance with ASTM A 709M grade 250 (ASTM A709 grade 36), and galvanized after fabrication in accordance with ASTM A 153M (ASTM 153).
 - Bolts shall be in accordance with ASTM A307 and galvanized in accordance with ASTM A 153M (ASTM A 153).
 - The cost of designing, curing, testing reinforcing steel, excavating, repairs, plugging core, wall finishing and mortar, sealer and necessary incidentals shall be included in the cost of the wall stems. (Only the footings will be paid for under separate items.)
 - The cost structural backfill, geotextile, drain tile and Stone Surround shall also be considered incidental to the square foot price of the wall.
 - The cost for the headwall shall be paid for as an each item. All cost associated with the headwall including all anchoring shall be incidental to the headwall.
 - All precast box sections will be paid for by the linear foot installed. All infilled transition box culvert sections will be paid for as reinforcing steel (lbs.) and concrete class "A" (cyds.).

Precast Panels Shall Be Joined With Galvanized Gusset Plates Or Other Approved Fastener As Required Per Design

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Num.	Description	Date



BOX CULVERT & WALL DETAIL
 FOR
HARLAN AVE. EXTENSION
 VANDERBURGH COUNTY, INDIANA

Prepared By: **BERNARDIN LOCHMUELLER & ASSOC., INC.**
 Planners - Engineers - Surveyors

DATE: _____
 PROJECT NO.: _____
 ISSUED: _____

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