



SECTION SHOWING TOP OF WING WALL

- Note:
UNO - Unless Noted Otherwise
EB 1 - End Bent 1
EB 8 - End Bent 8
- Construction joint. Cast bottom portion of Wing Wall with End Bent Cap. Cast top portion of Wing Wall after Deck slab and Approach slab have been constructed. See Sh. 4 for Construction Joint detail.
 - Level in longitudinal direction. Slope in transverse direction, see "Section Showing Top of Wing Wall" for detail.
 - EB 1: 1'-11³/₄" @ Outside Face
EB 8: 1'-8³/₄" @ Outside Face
 - End Bent 1: 2 Sp. @ 8" = 1'-4". End Bent 8: 2 Sp. @ 6¹/₂" = 1'-1".
 - Space C1901 with A1901 (Inside Face) in bottom portion of Wing Walls (below construction joint).

GEOTECHNICAL NOTES

PILE BEARING END BENTS 1 and 8	
Factored Axial Compression Load	105 Tons
Geotechnical Resistance Factor	0.65
Nominal Resistance	162 Tons
Estimated loss of Resistance due to Scour	0 Tons
Estimated loss of Resistance due to Downdrag	0 Tons
Required Driving Resistance	162 Tons

Method of controlling installation of piles and verifying their capacity: Dynamic Testing with PDA and CAPWAP analysis

GOVERNING CONDITIONS	
Loading Type	Loading Direction
Static	Axial (Compression)

The following estimated parameters were used for performing a driveability analysis:

DRIVEABILITY PARAMETERS			
Skin Quake (QS)	0.10 in	% Skin Friction	54%
Toe Quake (QT)	0.10 in	Distribution Shape No.	0.00
Skin Damping (SD)	0.05 s/ft	Pile Penetration	100%
Toe Damping (TD)	0.15 s/ft	Bearing Graph	Proportional

Note: GRLWEAP (2010-6) was used to perform the wave equation analysis.

A pile hammer having a rated energy between 29 kip-feet and 65 kip-feet should be suitable for driven pile installation. However, the Contractor is responsible for selecting a hammer, based on a wave equation analysis that accurately reflects the Contractor's proposed pile driving system, which will properly install the piling.

The estimated pile tip elevation to achieve axial capacity (static) for the HP 14x73 steel H-pile for End Bents 1 and 8 is 79 feet-msl. The required minimum tip elevation to achieve critical depth (lateral stability) for the HP 14x73 steel H-pile is 90 feet-msl for End Bents 1 and 8. Piles must be installed as shown on plans.

Pile Driving Analyzer (PDA) testing shall be performed on the first production pile driven at End Bent 1 and End Bent 8. These piles shall include an additional two feet of HP14x73 steel H-pile length in order to accommodate the initial PDA testing. If a CAPWAP analysis determines that capacity has not been achieved, a restrike of one of the production piles may be required. The restrike shall be performed on the production pile exhibiting the lowest blows per foot. PDA testing shall also be performed on the restrike. The time between initial driving and restrike will be determined by the Engineer, but should be between a minimum of 3 days and a maximum of 7 days. Within seven days of completion of the PDA testing (on initial drive and/or restrike, if required), the results will be evaluated by the RPG3 GDS. Construction of the bent caps shall not proceed until the end bent piles have been accepted by the RPG3 GDS.

Reference the 2007 SCDOT Standard Specifications for Driven Pile Foundation (Section 711). Notes included in these plans are in addition to the requirements of the Standard Specifications.

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END BENT DETAILS

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