Index 455-054 54" Precast / Post-Tensioned Concrete Cylinder Pile

Design Criteria

AASHTO LRFD Bridge Design Specifications; Structures Detailing Manual (SDM); Structures Design Guidelines (SDG)

Design Assumptions and Limitations

Standard piles are designed to have 1000 psi uniform compression after prestress losses without any applied loads.

The piles are designed to have 0.0 psi tension using a load factor of 1.5 times the pile self weight during pick-up, storage and transportation as shown in the "Table of Maximum Pile Pick-Up and Support Lengths" on the standard.

Plan Content Requirements

In the Structures Plans:

Show and label the piles on the Foundation Layout, End Bent, Intermediate Bent, Pier, Footing, Typical Section and other sheets as required.

Complete the following "Data Table" in accordance with **SDG** 3.5 and **SDM** 11.4 and include it in the contract plans with the "Foundation Layout" sheets. Modify table and notes as required to accommodate the required number of piles, piers and/or bents and use of Test Piles. When not enough space is available on one plan sheet, continuations of the Data Table and/or separate pile cut-off elevation tables are acceptable. See Introduction I.3 for more information regarding use of Data Tables.

For projects without Test Piles change column heading "TEST PILE LENGTH (ft.)" to "PILE ORDER LENGTH (ft.)".

	PILE DATA TABLE											Table Date 01/01/16										
		i	INSTALLATI	ON CRITE	RIA					Ľ	DESIGN CRI	TERIA				PILE CUT-OFF ELEVATIO						
PIER or BENT NUMBER	PILE SIZE (in.)	NOMINAL BEARING RESIST ANCE (tons)	NOMINAL UPLIFT RESISTANCE (tons)	MINIMUM TIP ELEVATION (ft.)	TEST PILE LENGTH (ft.)	REQUIRED JET ELEVATION (ft.)	REQUIRED PREFORM ELEVATION (ft.)	FACTORED DESIGN LOAD (tons)		DOWN DRAG (tons)	TOTAL SCOUR RESISTANCE (tons)	NET SCOUR RESISTANCE (tons)	100-YEAR SCOUR ELEVATION (ft.)	Ø COMPRESSION	Ø UPLIFT	LE 1 .	PILE 2	PILE 3	PILE 4	PILE 5	PILE 6	PILE
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TOTAL SCOUR NET SCOUR R	RESIST ESISTAI	the 100 y (Specify of PANCE - An esist resist resista reguira to the EVATION - Est	e side friction ear scour ele only when des, stimate of the trance provide mate of the u unce provided ed preformed scour elevatic imated elevati rm event.	vation to res ign requires ultimate stau d by the scou ltimate static by the soil f or jetting eli- on.	ist pullout uplift capa tic side fri irable soil. side fricti rom the evation	of the pile sity). stion on	,	installa Minimur Uwen a Iowered until th differ : for det	ntion activitie n Tip Elevat crequired je d to the elev he pile drivin from those s ermination d	es. ion is r tting el ation au g is cou chown o f the ru	on of all utilit equired for la evation is sho mpleted. If je n the table, th equired driving without the a	teral stability. wn, the jet sh operate at thi tting or prefo e Engineer sh g resistance.	all be is elevation orming elevat all be respo	ions nsible								
Storm event. No jetting will be allowed without the approval of the Engineer. The Contractor should not anticipate being allowed to jet piles below the 100-year scour elevation or required jet elevation, whichever is desper.																						
							At each	At each Bent, pile driving is to commence at the center of the Bent and proceed outward.														

Payment

Item number	Item Description	Unit Measure
455-36-AB	Concrete Cylinder Piles, Furnished & Driven (54" Diameter)	LF