SWC 2022 overview test piles for prediction event

revision 0

date 16-07-2022

event part			A			B-2				C-1		C-2		Remarks / comments
pile ID on plan			S33	S34	S35	S05	S06	S07	S08	S13	S14	S31	S32	*S13, S14 & S31, S32 swappped with S19,S21 & S23, S24 because of closer proximity borehole 03 / SPT05*
CPT series			FNSL-xxx (Fugro)			FNSL-xxx (Fugro)				IGR 22120-yyy		VdS-zzz		
CPT nr.			S33	S34	S35	S05	S06	S07	S08	S13	S14	S31	S32	
closest borehole						*B01*	*B01*	*B02*	*B02*	*B03*	*B03*	*B03*	*B03*	
closest SPT				SPT03	SPT03	SPT01	SPT01	SPT02	SPT02	SPT04	SPT05	SPT04	SPT05	
pile type														
	open steel casing		X	X	X	X	X	X	X					
	precast concrete									X	X			
	bored cast in situ (CFA)											X	X	
	precast octagon													
dimensions		unit	interval											
	ground level m to Ref (NAP)	m	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	variation ground level approx. 0,2 m
	L	m	-	20.0	20.0	tba	17.0	17.0	17.0	17.0	17.0	15.5	15.5	wall thickness top 2,0 m of piles S33 & S34 20 mm
	D	mm	-	1220	1220	tba	610	610	610	610	#350	#350	500	500	pile lengths and possible variations of cross section piles part D not be disclosed before demonstration day
	t	mm	-	13.5	13.5	tba	10.7	10.7	10.7	10.7	n/a	n/a	n/a	n/a	
	toe level to Ref (NAP)	m	-	-13.5	-13.5	tba	-11.0	-11.0	-11.0	-11.0	-11.0	-11.0	-10.5	-10.5	
	final penetration below ground level	m	-	18.5	18.5	tba	16.0	16.0	16.0	16.0	16.0	16.0	15.5	15.5	
installation method														
	impact	-	-		X						X	X			
	impact after vibro	-	-				X								
	full vibro	-	-	X				X							
	resonator	-	-						X						
	GDP shaker	-	-							X					
	bored	-	-			X							X	X	
installation equipment														
	Cape Holland CV-80-VLT-U	-	-	X											
	IHC S-280	-	-		X										
	PVE 12VM	-	-				X								
	IHC S-70	-	-				X								
	PVE 32VM	-	-					X							
	Junttan HHK-7A @100%	-	-								X	X			anvil, helmet and cushioning specified separately
	Junttan HHK-7A @80% (option)	-	-								X	X			might be needed to controll stresses during driving, to be considered by participants
Instrumentation														
	VDA sensors during installation at 1.0 - 2.0*D below pile head	-	-	X			X	X	X?						sensor level specified as window because of practical considerations (sleeve length, required maximum stick up, etc.)
	PDA sensors during installation and/or DLT at 1.0 - 2.0*D below pile head	-	-		X		X					X	X		idem
	embedded strain sensors at 3 levels	-	-									X	X	X	X	1,0 m below pile head, 4 m ¬ NAP , 4*D_{eq} above pile toe
	embedded PDA sensors at 2 levels	-	-									X	X		
Monitoring during installation														
	regular installation record (blowcount, hammer settings, concrete consumption, etc.)	-	-	X	X	X	X	X	X	X	X	X	X		
	VDA	-	-	X			X	X	X?						
	PDA	-	-		X		X								
Load testing before SWC 2022														
	standard SLT (kentledge)						X					X			
	embedded sensors during SLT											X			
	standard RLT (StatRapid or PSPLT)						X	X	X			X	X		
	embedded sensors during RLT											X	X		
	standard DLT (drop mass or impact hammer)						X	X		X		X	X		
Load testing during SWC 2022 demo day														
	SLT (kentledge)														
	RLT (StatRapid or PSPLT)									X					
	DLT (drop mass or impact hammer)								X						
installation predictions: VDP (vibro driving)														
	penetration depth at refusal (if expected)	m to GL	-	X			X	X							all results to be reported in SI units
	peak compression stresses vs.penetration depth at VDA sensor level	MPa	0.25m	X			X	X							
	peak tension stresses vs. penetration depth at VDA sensor level	MPa	0.25m	X			X	X							
installation predictions: PDP (impact driving)														
	blowcount as function of penetration depth	bls / 0.25m	0.25m		X		X				X	opt.			
	enthru vs. penetration depth at PDA sensor level	kNm	0.25m		X		X				X	opt.			
	peak compression stresses vs. penetration depth at PDA sensor level	MPa	0.25m		X		X				X	opt.			
	peak tension stresses vs. penetration depth at PDA sensor level	MPa	0.25m		X		X				X	opt.			
in-place static capacity predictions (A - SLT)														
	ultimate total static capacity based on CPT/SPT data	kN	-				X	X			X		X		ultimate capacity to be specified as load where pile shows continuing displacement under constant load, so NOT as load at 0.1*D or 0.2*D displacement
	ultimate shaft capacity	kN	-				X	X			X		X		
	ultimate toe capacity	kN	-				X	X			X		X		
	static diagram load - pile head displacement	kN - mm	-				X	X			X		X		
	*ultimate capacity to be specified as load where pile shows continuing displacement under constant load, so NOT as load at 0.1*D or 0.2*D displacement*														
in-place static capacity predictions (B - DLT)														
	mobilized total static capacity based on numeric DLT data	kN	-				X	opt.	opt.		X	opt.	X	opt.	sesnors at toe level may be included in analysis, if applicable
	mobilized shaft capacity	kN	-				X	opt.	opt.		X	opt.	X	opt.	
	mobilized toe capacity	kN	-				X	opt.	opt.		X	opt.	X	opt.	
	ultimate static capacity based on numeric DLT data (if different from mobilized)	kN	-				X	opt.	opt.		X	opt.	X	opt.	
	static diagram load - pile head displacement	kN - mm	-				X	opt.	opt.		X	opt.	X	opt.	
in-place static capacity predictions (C - RLT)														
	mobilized total static capacity based on numeric RLT data	kN	-				X	opt.	opt.		X	opt.	X	opt.	
	ultimate static capacity based on numeric RLT data (if different from mobilized)	kN	-				X	opt.	opt.		X	opt.	X	opt.	
	static diagram load - pile head displacement	kN - mm	-				X	opt.	opt.		X	opt.	X	opt.	