



**RSPile**

# **Driven Pile**

Verification Manual

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# 1. Example 1

Table 1.0

Depth (ft)	Cohesionless		Cohesive Cu (psf)	General Properties	
	Friction Angle (Skin Friction, deg)	Friction Angle (End Bearing, deg)		Unit Weight (pcf)	Driving Loss (%)
0-25	33	38	--	120	10
25-50	--	--	2800	110	40

Table 2.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 10ft Restrike / Driving = 10ft Ultimate = 0ft	Precast Concrete Side = 12in	5ft local scour

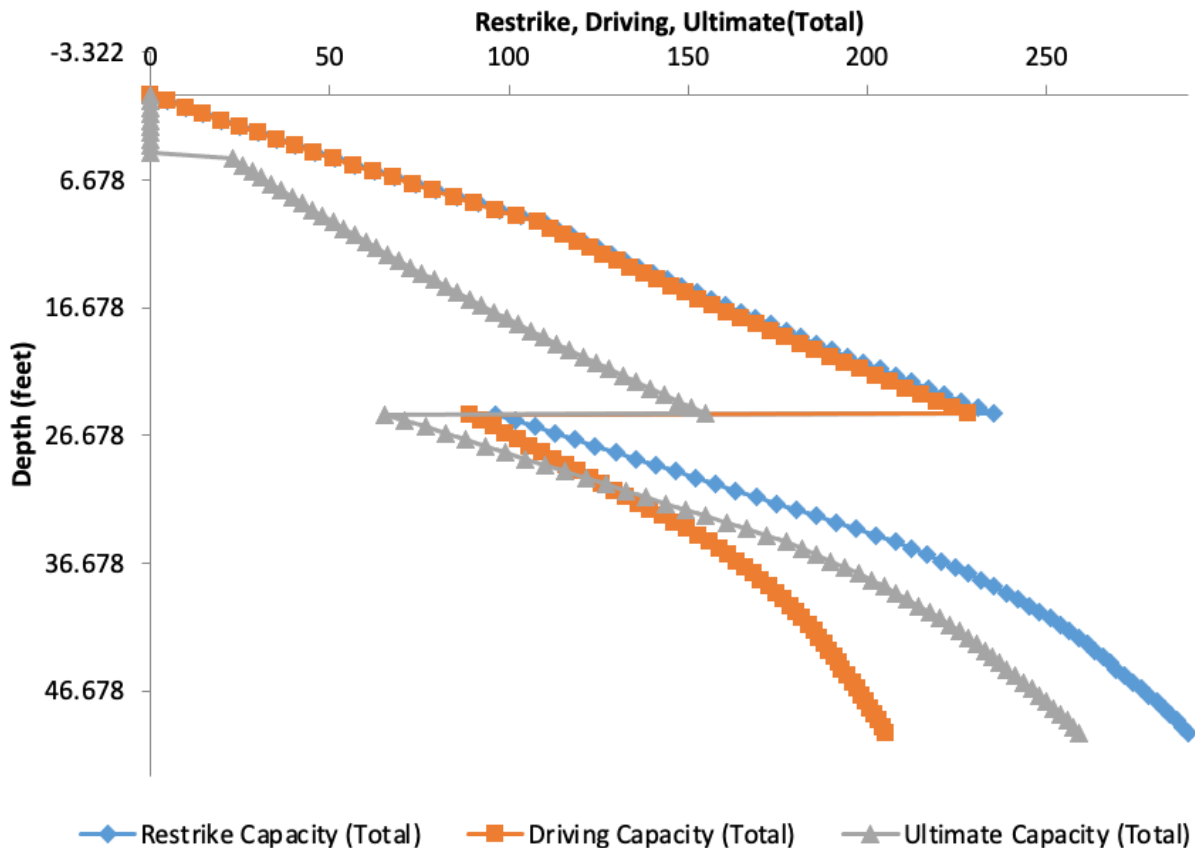


Figure 1.0: Adhesion Type = Piles Driven Through Overlying Sands or Sandy Gravels (Tomlinson, 1980)

## 2. Example 2

Table 3.0

Cohesionless			General Properties	
Depth (m)	Friction Angle (Skin Friction, deg)	Friction Angle (End Bearing, deg)	Unit Weight (kN/m <sup>3</sup> )	Driving Loss(%)
0-5	30	30	18	20
5-10	35	35	20	10

Table 4.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 0m Restrike / Driving = 3m Ultimate = 1m	Closed end pipe Diameter = 508mm	2m long term scour

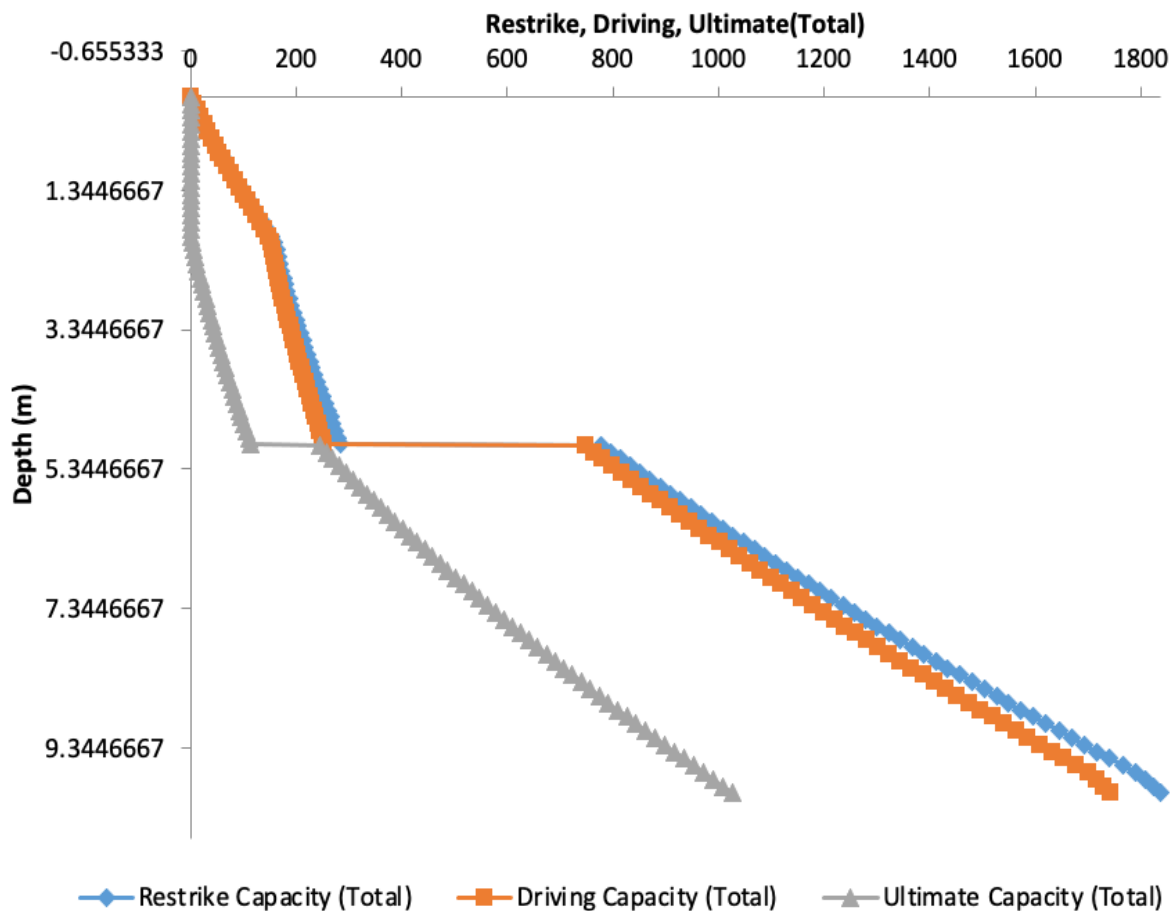


Figure 2.0

### 3. Example 3

Table 5.0

Cohesionless			Cohesive	General Properties	
Depth (ft)	Depth (ft)	N Value	Cu (psf)	Unit Weight (pcf)	Driving Loss (%)
2-15	--	--	900	110	40
15-45	20	22	--	118	10
--	25	14	--	--	--
--	30	18	--	--	--
--	35	23	--	--	--
--	45	26	--	--	--

Table 6.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 5ft Restrike / Driving = 10ft Ultimate = 1ft	H Pile HP 12x63 Top of pile = 2ft	8ft soft soil – downdrag condition Soil Layer 2: N values corrected for effective overburden pressure

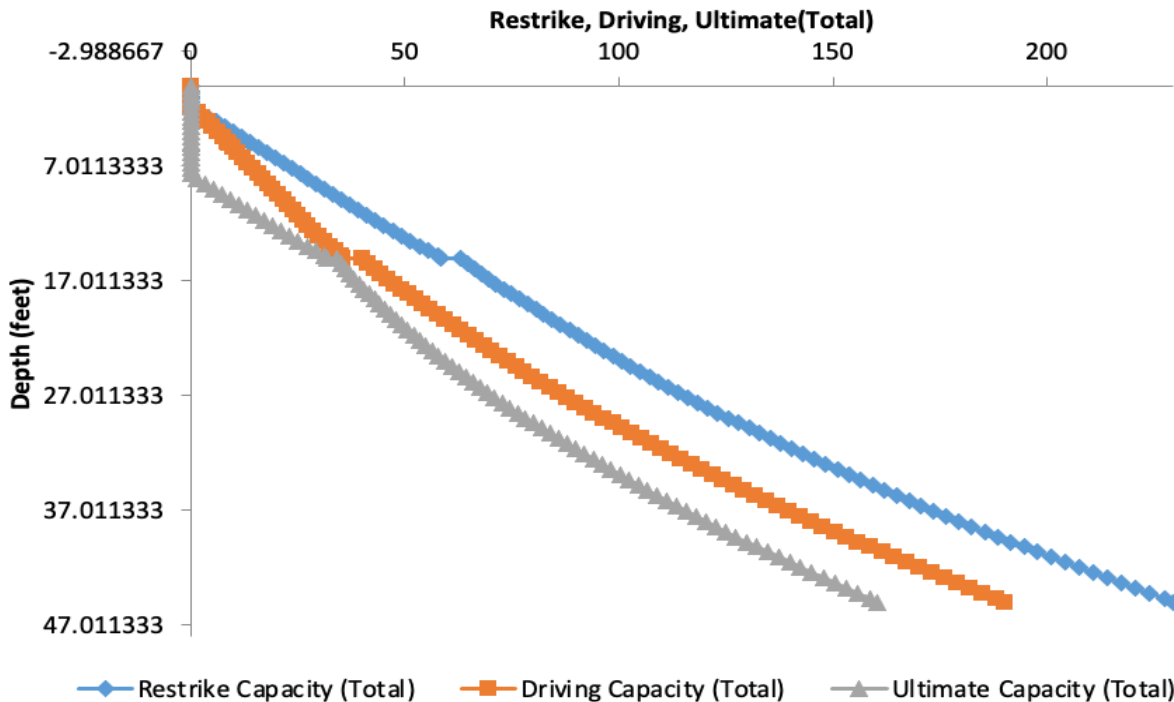


Figure 3.0

# 4. Example 4

Table 7.0

Cohesionless		Cohesive		General Properties	
Depth (m)	Friction Angle (Skin Friction, deg)	Friction Angle (End Bearing, deg)	Cu (kPa)	Unit Weight (kN/m <sup>3</sup> )	Driving Loss (%)
0-25	--	--	50	14	40
25-40	33	33	--	18	10

Table 8.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 0m	Square concrete Side = 610mm	4m soft soil
Restrike / Driving = 3m		4m negative skin friction
Ultimate = 0m		

\*slight difference in results due to different calculation method of Ca in DRIVEN

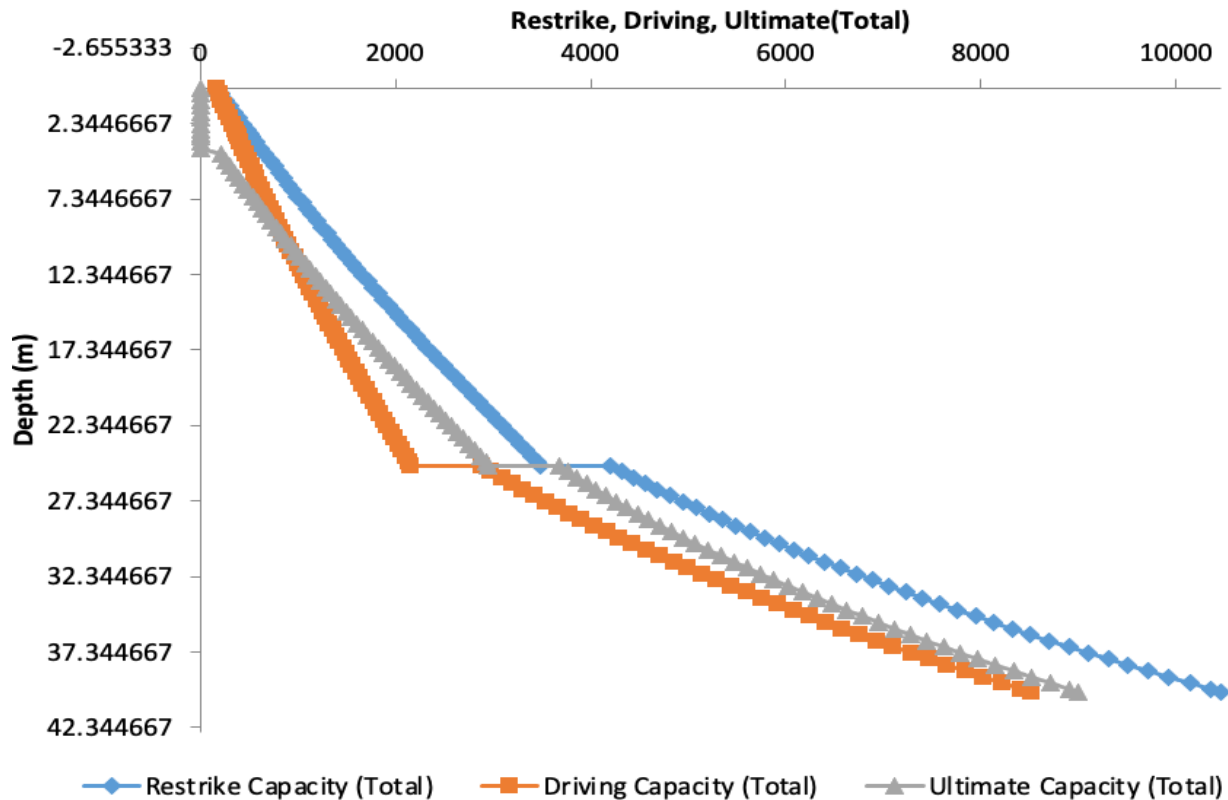


Figure 4.0

# 5. Example 5

Table 9.0

Depth (m)	Cohesionless		Cohesive	General Properties	
	Friction Angle (Skin Friction, deg)	Friction Angle (End Bearing, deg)	Cu (kPa)	Unit Weight (kN/m <sup>3</sup> )	Driving Loss (%)
1-10	--	--	100	18	17
10-17	32	32	--	18.5	8
17-24	36	36	--	18.5	8
24-31	38	38	--	19	5

Table 10.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 2m	Opened end pipe	1.5m soft soil
Restrike / Driving = 2m	Diameter = 508mm	
Ultimate = 0m	Shell thickness = 6.35mm	

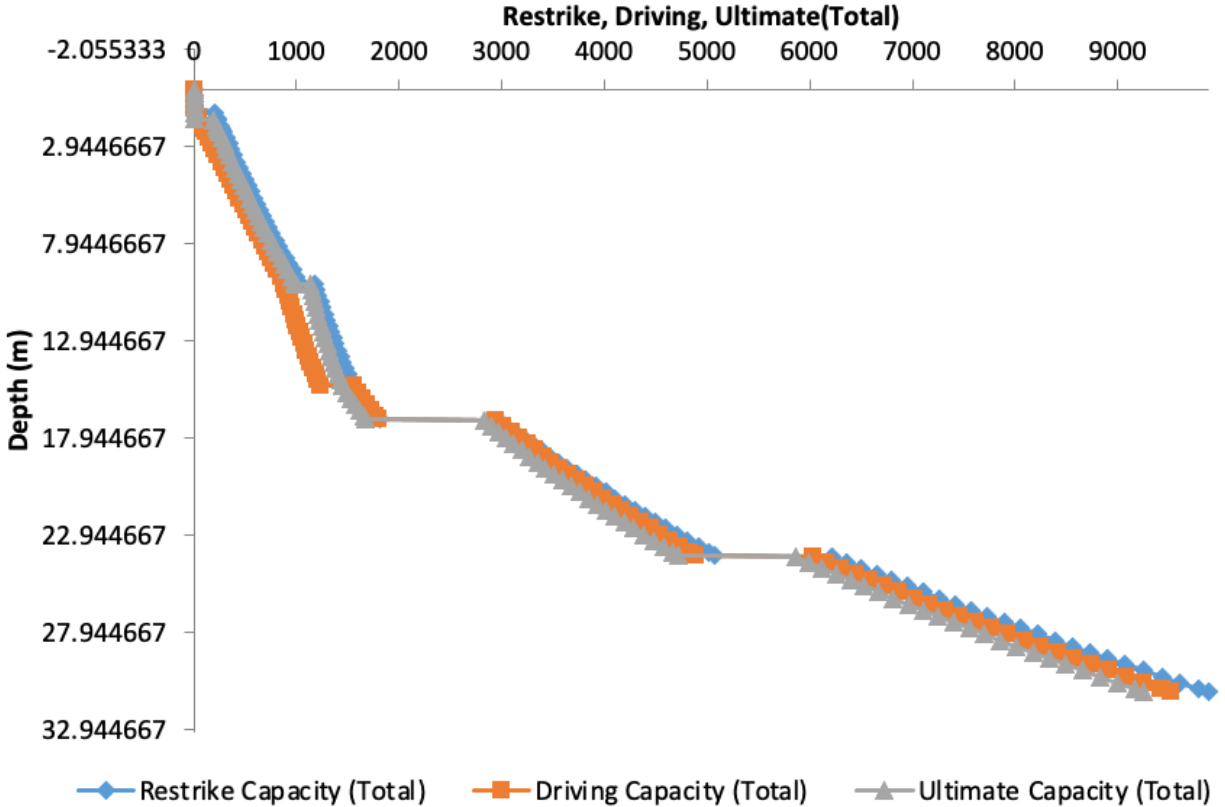


Figure 5.0

# 6. Example 6

Table 11.0

Cohesionless		Cohesive		General Properties	
Depth (ft)	Depth (ft)	N Value	Cu (psf)	Unit Weight (pcf)	Driving Loss (%)
0-15	5	12	--	120	15
--	10	17	--	--	--
15-35	15	14	--	120	10
--	20	21	--	--	--
--	25	27	--	--	--
--	30	28	--	--	--
--	35	31	--	--	--
35-70	--	--	2500	120	40

Table 12.0

Water Table Levels	Pile Type	Other Design Considerations
Drilling = 6ft Restrike / Driving = 3ft Ultimate = 1ft	Open ended pipe Diameter = 36in Wall thickness = 0.5in	1ft local scour 3ft long term scour

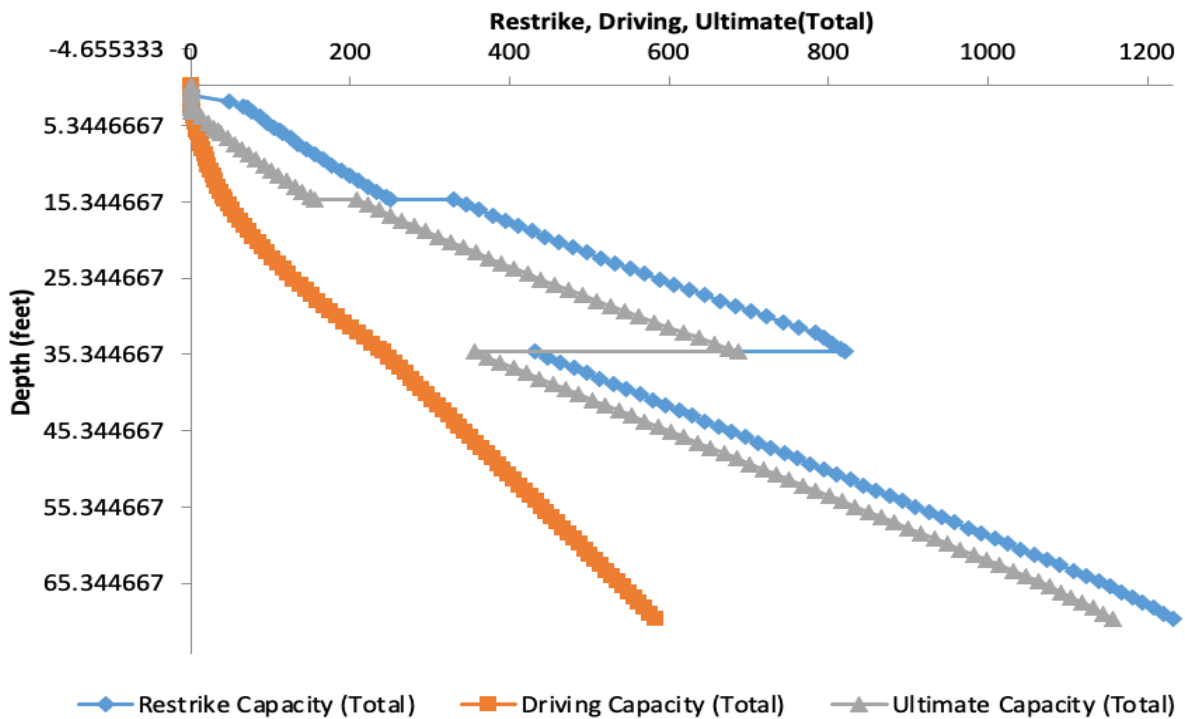


Figure 6.0