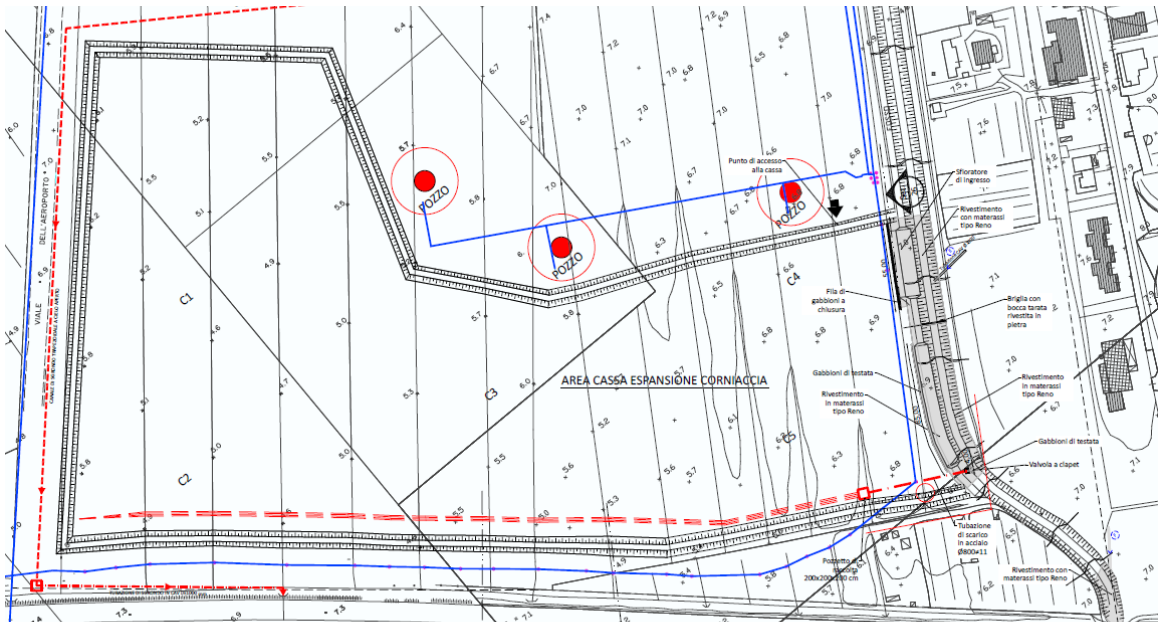
Ing. Fernando Muccetti P.le Premuda 2/F - 0565/221813 57025 PIOMBINO (LI)
C.F. MCC FNN 58R25 F656R P.IVA 01853990495 – email: f.muccetti@infol.it Cell. 335-7218898

OPERE DI MESSA IN SICUREZZA IDRAULICA IN VENTURINA TERME
LOTTO N° 3
VASCA DI LAMINAZIONE

PROGETTO DEFINITIVO - ESECUTIVO



RELAZIONE GEOTECNICA

Allegato: A03

Data: Febbraio 2017
Rev. Maggio 2020

Ing. Fernando Muccetti
Firmato con firma digitale ai sensi
dell'art. 21 c.2 D.Lgs 82/2005

1) PREMESSA:

La presente relazione geotecnica si propone di verificare la compatibilità della portanza del terreno di fondazione nei confronti delle strutture in c.c.a previste.

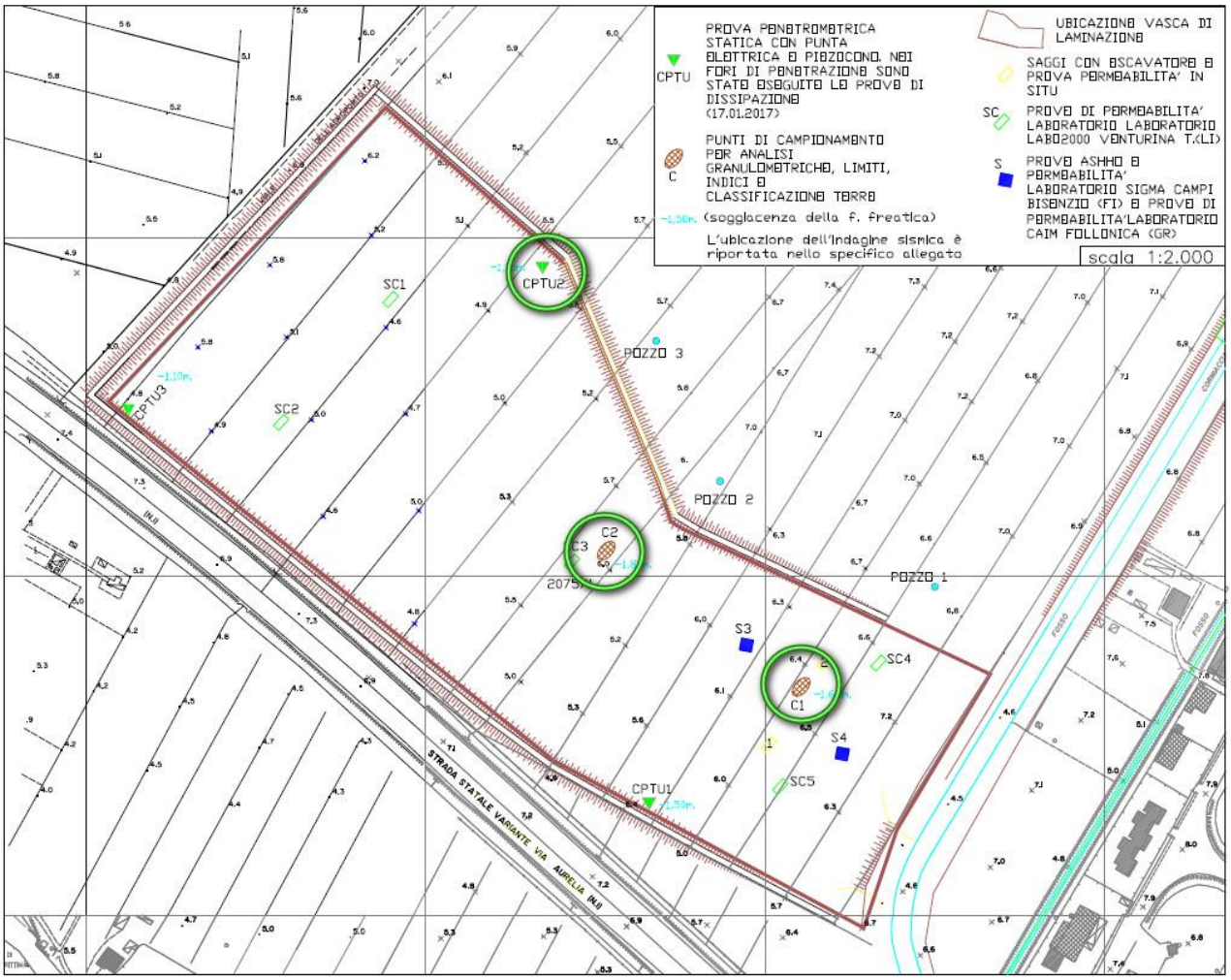
Per il dimensionamento delle opere di fondazione si fa riferimento alla relazione tecnico-geologica sottoscritta dal Dott. Geol. Fabio Melani di Venturina ed alle successive integrazioni prodotte e richiamate nella documetazione allegata al progetto generale..

Il riferimento normativo adottato è il seguente:

- D.M 17/01/2018 - Nuove Norme Tecniche per le Costruzioni;
- Circ. Ministero Infrastrutture e Trasporti 21 gennaio 2019, n. 7 Istruzioni per l'applicazione delle "Nuove norme tecniche per le costruzioni" di cui al D.M. 17 gennaio 2018;
- Eurocodice E7

In particolare dai valori indicati nella relazione geologica si ricavano i valori caratteristici e geotecnici del terreno sul quale è previsto l'intervento alla profondità di 0,50 mt. dal piano campagna, corrispondente al piano d'imposta dei nuovi manufatti.

Delle tre indagini eseguite con prove penetrometriche sono stati desunti valori medi , poi applicati al calcolo, secondo la seguente stratigrafia



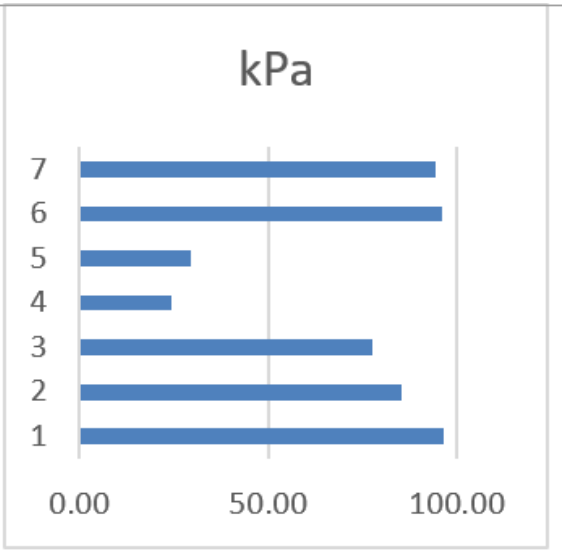
Project: Consorzio di Bonifica 5 Toscana Costa
Location: Venturina - Campiglia Marittima
CPT: CPTU 02

qc	cone resistance	*SPT*	equivalent SPT N60	*Es*	young's modulus	*OCR*	over consolidation ratio
fs	sleeve friction	*M*	constrained modulus	*Go*	shear modulus	*Vs*	estimated shear wave velocity
SBTn	soil behavior type	*Dr*	elative density	*Nkt*	undrained shear strenght number		
Ksbt	permeability	*Fi*	Friction angle (°)	*Su*	shear strenght		

In situ data **Estimations**

Depth (m)	qc (MPa)	fs (kPa)	SBTn	Ksbt (m/s)	SPT N60	M (MPa)	Dr (%)	Fi (°)	Es (MPa)	Go (MPa)	Nkt	Su (kPa)	Und. strength ratio	OCR	Vs (m/s)
0.02	0.96	68.8	9	1.44E-06	3	13.4	-	-	11.65	14.6	14	68.39	34.64	160	86.83
0.04	0.92	76.69	9	6.92E-07	3	12.99	-	-	12.89	16.16	14	66.3	25.07	115.8	91.35
0.06	0.9	83.02	9	4.45E-07	3	12.68	-	-	13.63	17.09	14	64.71	20.15	93.07	93.93
0.08	0.86	85.58	9	2.90E-07	3	12.17	-	-	14.13	17.71	14	62.09	17.07	78.86	95.64
0.1	0.82	85.47	9	2.08E-07	3	11.7	-	-	14.43	18.09	14	59.72	14.77	68.25	96.64
0.12	0.81	85.58	9	1.63E-07	3	11.39	-	-	14.68	18.4	14	58.1	13.04	60.25	97.46
0.14	0.79	85.02	9	1.37E-07	3	11.21	-	-	14.92	18.69	14	57.19	11.71	54.09	98.25
0.16	0.78	83.12	9	1.13E-07	3	10.93	-	-	15.04	18.85	14	55.76	10.58	48.9	98.66
0.18	0.75	82.57	9	9.60E-08	3	10.65	-	-	-	18.94	14	54.35	9.64	44.52	98.89

	kPa
1	96.70
2	85.16
3	77
4	24.47
5	29.68
6	96.10
7	94.31



3) VERIFICA DELLA PORTANZA DEL TERRENO CON I CARICHI DEI MANUFATTI

I manufatti oggetto di verifica, consistenti nella bocca tarata e nell'elemento di scarico, sono costituiti da una platea di fondazione di forma rettangolare la cui portanza viene determinata mediante modellazione della platea in campo elastico lineare, mentre il terreno viene modellato come un letto di molle lineari elastiche non reagenti a trazione. Quando si raggiunge il limite elastico delle molle, il calcolo del moltiplicatore dei carichi viene bloccato e preso come valore del carico limite:

Congruentemente a quanto valutato per la verifica dei corpi arginali

Material Properties

Property	Corpo Argine	Strato di fondazione
Color		
Strength Type	Mohr-Coulomb	Mohr-Coulomb
Unit Weight [kN/m3]	19	19
Cohesion [kPa]	15	13
Friction Angle [deg]	0	0
Unsaturated Shear Strength Angle [deg]	0	0
Air Entry Value [kPa]	0	0
Ks [meters/second]	3.69e-009	3.69e-008
K2/K1	1	1
K Angle [deg]	0	0
Groundwater Model	Brooks and Corey	Brooks and Corey
GW Model Properties	Pore Size Distribution Factor: 1 Bubbling Pressure: 2	Pore Size Distribution Factor: 1 Bubbling Pressure: 2

I valori adottati seono pertanto conservativi rispetto a quelli indicati nelle indafini puntuali

La verifica agli SLU viene eseguita con le seguenti combinazione dei carichi, nei due diversi approcci A1 e A2

COMBINAZIONI CARICHI - S.L.V. - A1 / S.L.D.

DESCRIZIONI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PESO STRUTTURALE	1.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Var.Par.q<30Kn	1.50	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Corr. Tors. dir. 0	0.00	1.00	-1.00	1.00	-1.00	1.00	-1.00	1.00	-1.00	-1.00	1.00	-1.00	1.00	-1.00	1.00
Corr. Tors. dir. 90	0.00	0.30	0.30	-0.30	-0.30	-0.30	-0.30	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 0	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
SISMA DIREZ. GRD 90	0.00	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30	0.30	0.30	0.30	0.30	-0.30	-0.30

DESCRIZIONI	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PESO STRUTTURALE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Var.Par.q<30Kn	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Corr. Tors. dir. 0	-1.00	1.00	0.30	-0.30	0.30	-0.30	0.30	-0.30	0.30	-0.30	-0.30	0.30	-0.30	0.30	-0.30
Corr. Tors. dir. 90	0.30	0.30	1.00	1.00	-1.00	-1.00	-1.00	-1.00	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00
SISMA DIREZ. GRD 0	-1.00	-1.00	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 90	-0.30	-0.30	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00	-1.00	1.00	1.00	1.00	1.00	-1.00

DESCRIZIONI	31	32	33
PESO STRUTTURALE	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.00	1.00	1.00
Var.Par.q<30Kn	0.60	0.60	0.60
Corr. Tors. dir. 0	0.30	-0.30	0.30
Corr. Tors. dir. 90	-1.00	1.00	1.00
SISMA DIREZ. GRD 0	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 90	-1.00	-1.00	-1.00

COMBINAZIONI CARICHI - S.L.V. - A2

DESCRIZIONI	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PESO STRUTTURALE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Var.Par.q<30Kn	1.30	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Corr. Tors. dir. 0	0.00	1.00	-1.00	1.00	-1.00	1.00	-1.00	1.00	-1.00	-1.00	1.00	-1.00	1.00	-1.00	1.00
Corr. Tors. dir. 90	0.00	0.30	0.30	-0.30	-0.30	-0.30	-0.30	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 0	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
SISMA DIREZ. GRD 90	0.00	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30	0.30	0.30	0.30	0.30	-0.30	-0.30

DESCRIZIONI	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PESO STRUTTURALE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Var.Par.q<30Kn	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Corr. Tors. dir. 0	-1.00	1.00	0.30	-0.30	0.30	-0.30	0.30	-0.30	0.30	-0.30	-0.30	0.30	-0.30	0.30	-0.30
Corr. Tors. dir. 90	0.30	0.30	1.00	1.00	-1.00	-1.00	-1.00	-1.00	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00
SISMA DIREZ. GRD 0	-1.00	-1.00	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-0.30	-0.30	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 90	-0.30	-0.30	1.00	1.00	1.00	1.00	-1.00	-1.00	-1.00	-1.00	1.00	1.00	1.00	1.00	-1.00

DESCRIZIONI	31	32	33
PESO STRUTTURALE	1.00	1.00	1.00
PERMAN.NON STRUTTURALE	1.00	1.00	1.00
Var.Par.q<30Kn	0.60	0.60	0.60
Corr. Tors. dir. 0	0.30	-0.30	0.30
Corr. Tors. dir. 90	-1.00	1.00	1.00
SISMA DIREZ. GRD 0	-0.30	-0.30	-0.30
SISMA DIREZ. GRD 90	-1.00	-1.00	-1.00

4.1) PLATEA BRIGLIA BOCCA TARATA

La platea della briglia a bocca tarata viene suddivisa in piastre caratterizzate dai quattro nodi corrispondenti agli spigoli le cui coordinate sono di seguito riportate:

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
3	6.45	0.00	1.00
9	0.95	0.00	1.00
13	5.65	0.80	1.00
17	5.65	6.10	1.00
21	0.95	10.50	1.00
25	5.65	15.80	1.00
36	6.45	4.57	1.00
46	6.45	12.02	1.00
50	2.33	0.00	1.00
54	3.21	0.80	1.00
58	4.19	0.80	1.00
62	1.75	2.13	1.00
66	1.75	4.77	1.00
70	3.70	3.45	1.00
74	4.68	2.13	1.00
78	4.68	4.77	1.00
82	5.65	8.30	1.00
86	3.70	8.30	1.00
90	4.68	10.50	1.00
94	2.72	8.30	1.00
98	0.95	7.20	1.00
102	1.75	11.82	1.00
106	1.75	14.48	1.00
110	3.70	13.15	1.00
114	4.68	11.82	1.00
118	4.68	14.48	1.00
122	5.16	15.80	1.00
126	2.24	15.80	1.00
130	3.01	16.60	1.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
4	6.45	6.10	1.00
10	3.70	0.00	1.00
14	0.95	6.10	1.00
18	5.65	10.50	1.00
22	0.95	16.60	1.00
26	3.70	16.60	1.00
40	6.45	7.20	1.00
47	6.45	13.55	1.00
51	3.01	0.00	1.00
55	4.39	0.00	1.00
59	4.68	0.80	1.00
63	0.95	3.05	1.00
67	2.72	2.13	1.00
71	2.72	4.77	1.00
75	5.65	2.13	1.00
79	5.65	4.77	1.00
83	5.65	9.40	1.00
87	4.68	8.30	1.00
91	1.75	7.20	1.00
95	1.75	9.40	1.00
99	0.95	8.30	1.00
103	0.95	13.55	1.00
107	2.72	11.82	1.00
111	2.72	14.48	1.00
115	5.65	11.82	1.00
119	5.65	14.48	1.00
123	4.39	16.60	1.00
127	3.21	15.80	1.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
6	6.45	10.50	1.00
11	1.75	0.80	1.00
15	1.75	6.10	1.00
19	3.70	10.50	1.00
23	1.75	15.80	1.00
34	6.45	1.52	1.00
41	6.45	8.30	1.00
48	6.45	15.08	1.00
52	2.24	0.80	1.00
56	5.07	0.00	1.00
60	5.16	0.80	1.00
64	1.75	3.45	1.00
68	3.70	2.13	1.00
72	3.70	4.77	1.00
76	4.68	3.45	1.00
80	4.68	6.10	1.00
84	3.70	7.20	1.00
88	3.70	9.40	1.00
92	2.72	7.20	1.00
96	2.72	9.40	1.00
100	0.95	9.40	1.00
104	1.75	13.15	1.00
108	3.70	11.82	1.00
112	3.70	14.48	1.00
116	4.68	13.15	1.00
120	4.68	15.80	1.00
124	5.07	16.60	1.00
128	1.64	16.60	1.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
8	6.45	16.60	1.00
12	3.70	0.80	1.00
16	3.70	6.10	1.00
20	1.75	10.50	1.00
24	3.70	15.80	1.00
35	6.45	3.05	1.00
42	6.45	9.40	1.00
49	1.64	0.00	1.00
53	2.72	0.80	1.00
57	5.76	0.00	1.00
61	0.95	1.52	1.00
65	0.95	4.57	1.00
69	2.72	3.45	1.00
73	2.72	6.10	1.00
77	5.65	3.45	1.00
81	5.65	7.20	1.00
85	4.68	7.20	1.00
89	4.68	9.40	1.00
93	1.75	8.30	1.00
97	2.72	10.50	1.00
101	0.95	12.02	1.00
105	0.95	15.08	1.00
109	2.72	13.15	1.00
113	2.72	15.80	1.00
117	5.65	13.15	1.00
121	4.19	15.80	1.00
125	5.76	16.60	1.00
129	2.33	16.60	1.00

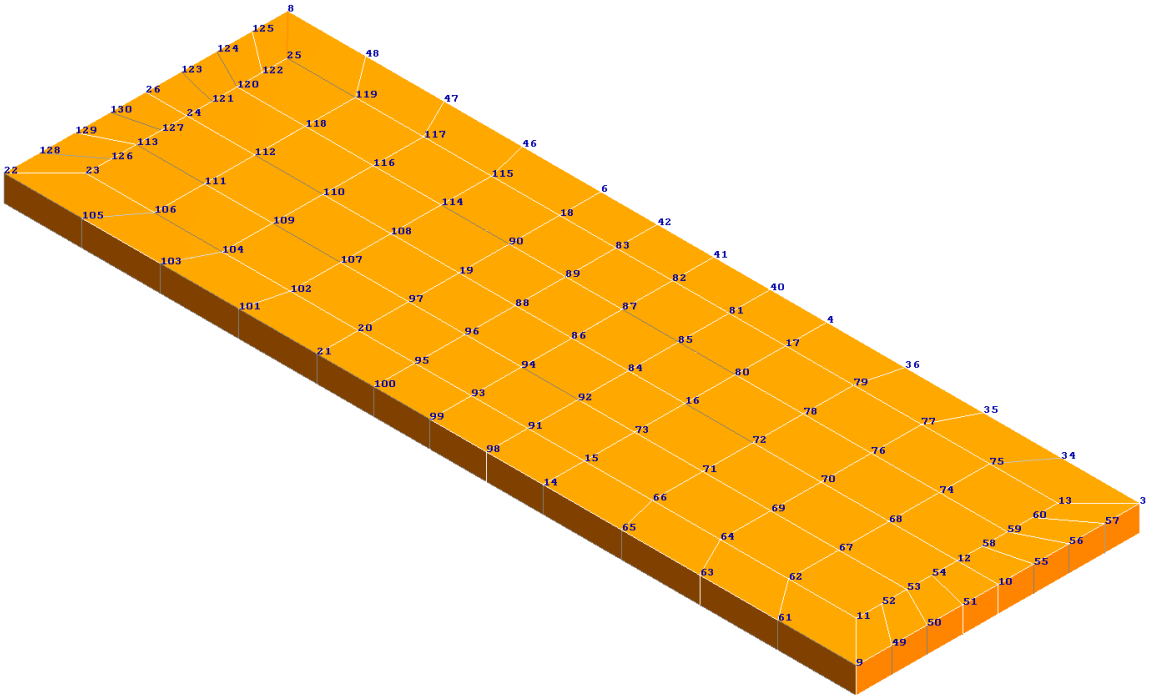
La geometria della piastra risulta individuata dai seguenti nodi:

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
4	9	10	12	11	1
8	12	13	17	16	1
12	15	16	19	20	1
16	19	18	25	24	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
5	10	3	13	12	1
9	13	3	4	17	1
13	14	15	20	21	1
17	18	6	8	25	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
6	9	11	15	14	1
10	17	4	6	18	1
14	21	20	23	22	1
18	24	25	8	26	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
7	11	12	16	15	1
11	16	17	18	19	1
15	20	19	24	23	1
19	23	24	26	22	1



Le sollecitazioni nei nodi della platea vengono calcolate in base alle diverse combinazioni di carico (si riportano solo i primi quattro nodi, omettendo gli altri 109 nodi, essendo l'entità delle sollecitazioni risultanti abbastanza similari o comunque minori a quelle qui riportate):

Nod3d N.ro	Combinazione N.ro	Fz (t)
3	A1 / 1	-1.47
	A2 / 1	-1.15
	A2 / 2	-1.14
	A2 / 3	-1.13
	A2 / 4	-1.14
	A2 / 5	-1.13
	A2 / 6	-1.15
	A2 / 7	-1.14
	A2 / 8	-1.15
	A2 / 9	-1.14
	A2 / 10	-1.03
	A2 / 11	-1.05
	A2 / 12	-1.03
	A2 / 13	-1.05
	A2 / 14	-1.04
	A2 / 15	-1.06
	A2 / 16	-1.04
	A2 / 17	-1.06
	A2 / 18	-1.09
	A2 / 19	-1.09
	A2 / 20	-1.09
	A2 / 21	-1.09
	A2 / 22	-1.12
	A2 / 23	-1.12
0	A2 / 24	-1.12
0	A2 / 25	-1.12
0	A2 / 26	-1.06
0	A2 / 27	-1.07
0	A2 / 28	-1.06
0	A2 / 29	-1.07
0	A2 / 30	-1.09
0	A2 / 31	-1.10
0	A2 / 32	-1.09
0	A2 / 33	-1.10

Nod3d N.ro	Combinazione N.ro	Fz (t)
4	A1 / 1	-1.86
	A2 / 1	-1.46
	A2 / 2	-1.40
	A2 / 3	-1.40
	A2 / 4	-1.40
	A2 / 5	-1.40
	A2 / 6	-1.40
	A2 / 7	-1.40
	A2 / 8	-1.40
	A2 / 9	-1.40
	A2 / 10	-1.31
	A2 / 11	-1.31
	A2 / 12	-1.31
	A2 / 13	-1.31
	A2 / 14	-1.30
	A2 / 15	-1.31
	A2 / 16	-1.30
	A2 / 17	-1.31
	A2 / 18	-1.37
	A2 / 19	-1.37
	A2 / 20	-1.37
	A2 / 21	-1.37
	A2 / 22	-1.36
	A2 / 23	-1.36
0	A2 / 24	-1.36
0	A2 / 25	-1.36
0	A2 / 26	-1.34
0	A2 / 27	-1.35
0	A2 / 28	-1.34
0	A2 / 29	-1.35
0	A2 / 30	-1.34
0	A2 / 31	-1.34
0	A2 / 32	-1.34
0	A2 / 33	-1.34

Nod3d N.ro	Combinazione N.ro	Fz (t)
6	A1 / 1	-1.86
	A2 / 1	-1.46
	A2 / 2	-1.40
	A2 / 3	-1.40
	A2 / 4	-1.40
	A2 / 5	-1.40
	A2 / 6	-1.40
	A2 / 7	-1.40
	A2 / 8	-1.40
	A2 / 9	-1.40
	A2 / 10	-1.31
	A2 / 11	-1.30
	A2 / 12	-1.31
	A2 / 13	-1.30
	A2 / 14	-1.31
	A2 / 15	-1.31
	A2 / 16	-1.31
	A2 / 17	-1.31
	A2 / 18	-1.36
	A2 / 19	-1.36
	A2 / 20	-1.36
	A2 / 21	-1.36
	A2 / 22	-1.37
	A2 / 23	-1.37
0	A2 / 24	-1.37
0	A2 / 25	-1.37
0	A2 / 26	-1.34
0	A2 / 27	-1.34
0	A2 / 28	-1.34
0	A2 / 29	-1.34
0	A2 / 30	-1.35
0	A2 / 31	-1.34
0	A2 / 32	-1.35
0	A2 / 33	-1.34

Nod3d N.ro	Combinazione N.ro	Fz (t)
8	A1 / 1	-1.47
	A2 / 1	-1.15
	A2 / 2	-1.14
	A2 / 3	-1.15
	A2 / 4	-1.14
	A2 / 5	-1.15
	A2 / 6	-1.13
	A2 / 7	-1.14
	A2 / 8	-1.13
	A2 / 9	-1.14
	A2 / 10	-1.06
	A2 / 11	-1.04
	A2 / 12	-1.06
	A2 / 13	-1.04
	A2 / 14	-1.05
	A2 / 15	-1.03
	A2 / 16	-1.05
	A2 / 17	-1.03
	A2 / 18	-1.12
	A2 / 19	-1.12
	A2 / 20	-1.12
	A2 / 21	-1.12
	A2 / 22	-1.09
	A2 / 23	-1.09
0	A2 / 24	-1.09
0	A2 / 25	-1.09
0	A2 / 26	-1.10
0	A2 / 27	-1.09
0	A2 / 28	-1.10
0	A2 / 29	-1.09
0	A2 / 30	-1.07
0	A2 / 31	-1.06
0	A2 / 32	-1.07
0	A2 / 33	-1.06

I parametri geotecnici delle piastre aventi un comportamento alla Winkler sono di seguito specificate (anche in questo caso si riportano i valori di identificazione, dei parametri geotecnici utilizzati in condizioni drenate e non , delle prime 23 piastre , essendo i valori le altre 90 piastre abbastanza similari) :

IDENTIFICATIVO				CONDIZIONE DRENATA							NON DRENATA	
Piast N.ro	Infiss m	Tipo Tabel	Gamma kg/mc	Fi' Grd	C' kg/cmq	Mod.El kg/cmq	Poiss on	P base kg/cmq	Indice Rigid.	IndRig Crit.	Cu kg/cmq	P base kg/cmq
1	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.74	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.17	10.63	4.64	0.13
2	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.71	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.13	10.63	4.64	0.13
3	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.71	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.13	10.63	4.64	0.13
4	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.74	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.17	10.63	4.64	0.13
5	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.74	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.17	10.63	4.64	0.13
6	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.86	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.33	10.63	4.64	0.13
7	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.65	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.06	10.63	4.64	0.13
8	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.61	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.01	10.63	4.64	0.13
9	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.65	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.06	10.63	4.64	0.13
10	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.71	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.13	10.63	4.64	0.13
11	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.56	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.95	10.63	4.64	0.13
12	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.54	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.93	10.63	4.64	0.13
13	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.56	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.95	10.63	4.64	0.13
14	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.56	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.95	10.63	4.64	0.13
15	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.54	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.93	10.63	4.64	0.13
16	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.56	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	91.95	10.63	4.64	0.13
17	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.71	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.13	10.63	4.64	0.13
18	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.74	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.17	10.63	4.64	0.13
19	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.65	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.06	10.63	4.64	0.13
20	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.61	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.01	10.63	4.64	0.13
21	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.65	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.06	10.63	4.64	0.13
22	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.86	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.33	10.63	4.64	0.13
23	0.70	M1	1900	5.00	0.65	118.00	0.20	0.13	73.69	11.21	6.50	0.13
		M2	1900	4.00	0.52	118.00	0.20	0.13	92.11	10.63	4.64	0.13

I coefficienti di portanza delle piastre aventi un comportamento alla Winkler in condizioni drenate sono di seguito specificate (anche in questo caso si riportano i coefficienti utilizzati per le prime tre piastre, omettendo quelli delle altre 109 piastre che risultano abbastanza similari) :

Piast Nro	Brinch Hansen Nc	Nq	Ng	IclTe Gc=Gq	Incl Bc	PianoPosa Bq	Bg	Igk Sism	Comb N.ro	CoeffIncl Car. IcV	IqV	IgV	Affondamento Dc	Dq	Dg	Forma Sc	Sq	Sg	Punzonamento Psic	Psiq	Psig
1	6.49	1.57	0.45	1.00	1.00	1.00	1.00	1.00	A1/1	0.95	0.98	0.97	1.34	1.12	1.00	1.24	1.09	0.60	1.00	1.00	1.00
	6.19	1.43	0.34		1.00	1.00	1.00		A2/1	0.95	0.98	0.97	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/2	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/3	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/4	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/5	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/6	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/7	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/8	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/9	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/10	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/11	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/12	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/13	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/14	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/15	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/16	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/17	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/18	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/19	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/20	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/21	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/22	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/23	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/24	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/25	0.95	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/26	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/27	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/28	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/29	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/30	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/31	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/32	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/33	0.96	0.99	0.98	1.33	1.10	1.00	1.23	1.07	0.60	1.00	1.00	1.00
2	6.49	1.57	0.45	1.00	1.00	1.00	1.00	1.00	A1/1	0.95	0.98	0.97	1.40	1.14	1.00	1.24	1.09	0.60	1.00	1.00	1.00
	6.19	1.43	0.34		1.00	1.00	1.00		A2/1	0.95	0.98	0.97	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/2	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/3	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/4	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/5	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/6	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/7	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/8	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/9	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/10	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/11	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/12	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/13	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/14	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/15	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/16	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/17	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/18	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/19	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/20	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/21	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/22	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/23	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/24	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/25	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/26	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/27	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/28	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/29	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/30	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/31	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/32	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/33	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
3	6.49	1.57	0.45	1.00	1.00	1.00	1.00	1.00	A1/1	0.95	0.98	0.97	1.40	1.14	1.00	1.24	1.09	0.60	1.00	1.00	1.00
	6.19	1.43	0.34		1.00	1.00	1.00		A2/1	0.95	0.98	0.97	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/2	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/3	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/4	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/5	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/6	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/7	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/8	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/9	0.95	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/10	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/11	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/12	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/13	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/14	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/15	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/16	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/17	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/18	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/19	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/20	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/21	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/22	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/23	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/24	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/25	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/26	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/27	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/28	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/29	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/30	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/31	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/32	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00
									A2/33	0.96	0.99	0.98	1.39	1.12	1.00	1.23	1.07	0.60	1.00	1.00	1.00

I coefficienti di portanza delle piastre aventi un comportamento alla Winkler in condizioni non drenate sono di seguito specificate (anche in questo caso si riportano i coefficienti utilizzati per le prime tre piastre , omettendo quelli delle altre 109 piastre che risultano abbastanza similari) :

Piast Nro	Brinch Hansen Nc	Nq	Ng	IclTe Gc=Gq	Incl.Piano Bc	Bq	Bg	Igk Sism	Comb N.ro	Coeff.Incl.Car. IcV	IqV	IgV	Affondamento Dc	Dq	Dg	Forma Sc	Sq	Sg	Punzonamento Psic	Psiq	Psig
1	5.14	1.00	0.00	1.00	1.00	1.00	1.00	1.00	A1/1	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
	5.14	1.00	0.00		1.00	1.00	1.00		A2/1	0.99	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/2	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/3	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/4	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/5	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/6	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/7	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/8	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/9	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/10	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/11	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/12	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/13	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/14	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/15	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/16	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/17	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/18	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/19	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/20	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/21	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/22	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/23	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/24	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/25	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/26	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/27	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/28	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/29	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/30	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/31	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/32	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
0	5.14	1.00	0.00	0.00	1.00	1.00	1.00	0.00	A2/33	1.00	1.00	0.98	1.33	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
2	5.14	1.00	0.00	1.00	1.00	1.00	1.00	1.00	A1/1	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
	5.14	1.00	0.00		1.00	1.00	1.00		A2/1	0.99	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/2	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/3	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/4	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/5	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/6	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/7	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/8	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/9	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/10	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/11	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/12	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/13	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/14	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/15	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/16	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/17	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/18	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/19	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/20	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/21	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/22	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/23	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/24	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/25	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/26	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/27	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/28	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/29	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/30	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/31	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/32	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/33	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
3	5.14	1.00	0.00	1.00	1.00	1.00	1.00	1.00	A1/1	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
	5.14	1.00	0.00		1.00	1.00	1.00		A2/1	0.99	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/2	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/3	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/4	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/5	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/6	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/7	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/8	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/9	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/10	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/11	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/12	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/13	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/14	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/15	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/16	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/17	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/18	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/19	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/20	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/21	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/22	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/23	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/24	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/25	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/26	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/27	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/28	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/29	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/30	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/31	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/32	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A2/33	1.00	1.00	0.98	1.39	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00

La verifica agli SLU delle platee di fondazione viene ricondotta ad una modellazione delle strutture in campo elastico ed il terreno come letto di molle lineari elastiche. Il modello così ottenuto è in grado di tenere di conto della eterogeneità del terreno in maniera puntuale. Il calcolo

viene interrotto quando le molle attingono al loro limite elastico, in corrispondenza del quale viene calcolato il moltiplicatore dei carichi che non deve risultare inferiore a 1 .

PORTANZA GLOBALE PIASTRE - MOLTIPLICATORI DI COLLASSO

	DRENATE				NON DRENATE				RISULTATI	
Comb N.ro	Risult (t)	Resist (t)	Moltipl. Collasso	%Pl. Moll	Risult (t)	Resist (t)	Moltipl. Collasso	%Pl. Moll	Moltipl. Minimo	STATUS (m)
A1 / 1	263	263	1.000	0	263	263	1.000	0	1.000	OK
A2 / 1	207	207	1.000	0	207	207	1.000	0		OK
A2 / 2	187	187	1.000	0	187	187	1.000	0		OK
A2 / 3	187	187	1.000	0	187	187	1.000	0		OK
A2 / 4	187	187	1.000	0	187	187	1.000	0		OK
A2 / 5	187	187	1.000	0	187	187	1.000	0		OK
A2 / 6	187	187	1.000	0	187	187	1.000	0		OK
A2 / 7	187	187	1.000	0	187	187	1.000	0		OK
A2 / 8	187	187	1.000	0	187	187	1.000	0		OK
A2 / 9	187	187	1.000	0	187	187	1.000	0		OK
A2 / 10	187	187	1.000	0	187	187	1.000	0		OK
A2 / 11	187	187	1.000	0	187	187	1.000	0		OK
A2 / 12	187	187	1.000	0	187	187	1.000	0		OK
A2 / 13	187	187	1.000	0	187	187	1.000	0		OK
A2 / 14	187	187	1.000	0	187	187	1.000	0		OK
A2 / 15	187	187	1.000	0	187	187	1.000	0		OK
A2 / 16	187	187	1.000	0	187	187	1.000	0		OK
A2 / 17	187	187	1.000	0	187	187	1.000	0		OK
A2 / 18	187	187	1.000	0	187	187	1.000	0		OK
A2 / 19	187	187	1.000	0	187	187	1.000	0		OK
A2 / 20	187	187	1.000	0	187	187	1.000	0		OK
A2 / 21	187	187	1.000	0	187	187	1.000	0		OK
A2 / 22	187	187	1.000	0	187	187	1.000	0		OK
A2 / 23	187	187	1.000	0	187	187	1.000	0		OK
A2 / 24	187	187	1.000	0	187	187	1.000	0		OK
A2 / 25	187	187	1.000	0	187	187	1.000	0		OK
A2 / 26	187	187	1.000	0	187	187	1.000	0		OK
A2 / 27	187	187	1.000	0	187	187	1.000	0		OK
A2 / 28	187	187	1.000	0	187	187	1.000	0		OK
A2 / 29	187	187	1.000	0	187	187	1.000	0		OK
A2 / 30	187	187	1.000	0	187	187	1.000	0		OK
A2 / 31	187	187	1.000	0	187	187	1.000	0		OK
A2 / 32	187	187	1.000	0	187	187	1.000	0		OK
A2 / 33	187	187	1.000	0	187	187	1.000	0		OK

VERIFICA ALLO SCORRIMENTO - CONDIZIONI DRENATE

Si riporta la tabella riepilogativa della combinazione n° A1/1 per la verifica allo scorrimento della fondazione, dove:

N = scarico totale sull'elemento strutturale

Vres = resistenza allo scorrimento dell'elemento strutturale

Fh = azione orizzontale trasmessa dall'elemento strutturale

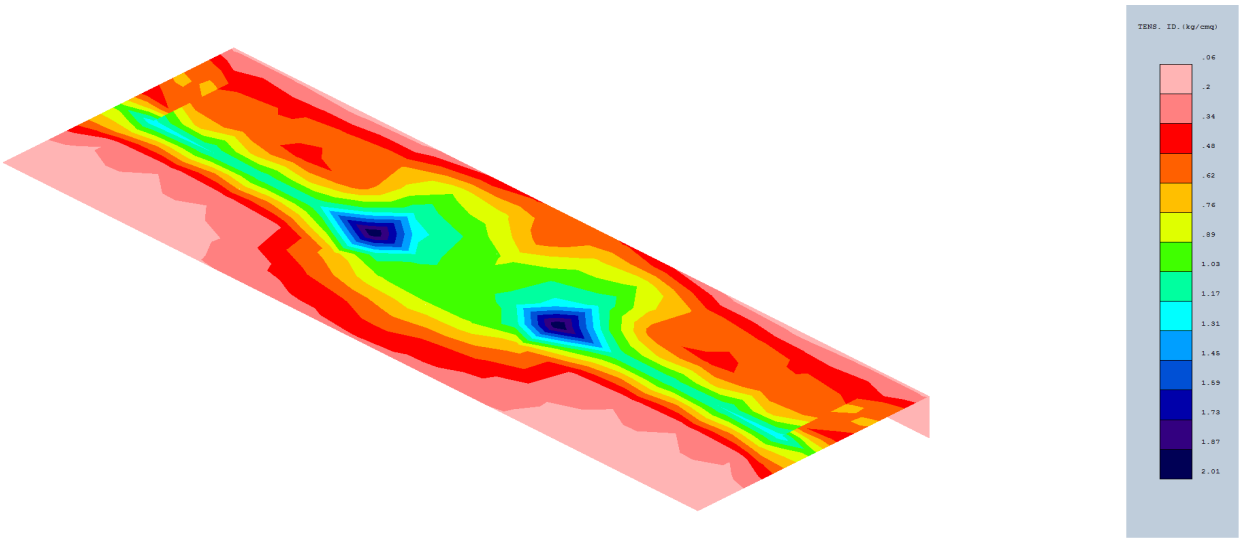
S (res) = somma dei contributi resistenti

S (fh) = somma dei contributi delle azioni orizzontali

IDENTIFICATIVO			RISULTATI									
Combinazione N.ro	Tipo Elem.	Elem N.ro	N (t)	Tg(fi)/ Gfi/Gr	C/Gc/Gr t/mq	Area mq	Vres (t)	Fh (t)	Verifica Locale	S(Vres) (t)	S(Fh) (t)	Verifica Globale
A1 / 1	PIASTRA	3	1.47	0.087	6.50	0.402	2.74	0.38	OK	2.74	0.38	
	PIASTRA	4	1.86	0.087	6.50	0.505	3.45	0.48	OK	6.19	0.86	
	PIASTRA	6	1.86	0.087	6.50	0.505	3.45	0.48	OK	9.63	1.35	
	PIASTRA	8	1.47	0.087	6.50	0.402	2.74	0.38	OK	12.38	1.73	
	PIASTRA	9	0.70	0.087	6.50	0.402	2.68	0.18	OK	15.06	1.91	
	PIASTRA	10	0.71	0.087	6.50	0.235	1.59	0.18	OK	16.65	2.09	
	PIASTRA	11	1.46	0.087	6.50	0.725	4.84	0.38	OK	21.49	2.47	
	PIASTRA	12	2.71	0.087	6.50	0.881	5.96	0.70	OK	27.45	3.17	
	PIASTRA	13	2.62	0.087	6.50	0.725	4.94	0.68	OK	32.40	3.85	
	PIASTRA	14	0.90	0.087	6.50	0.505	3.36	0.23	OK	35.76	4.09	
	PIASTRA	15	2.26	0.087	6.50	1.096	7.32	0.59	OK	43.08	4.67	
	PIASTRA	16	3.59	0.087	6.50	1.182	8.00	0.93	OK	51.08	5.61	
	PIASTRA	17	3.91	0.087	6.50	1.096	7.47	1.01	OK	58.55	6.62	
	PIASTRA	18	3.91	0.087	6.50	1.096	7.47	1.01	OK	66.01	7.63	
	PIASTRA	19	3.59	0.087	6.50	1.182	8.00	0.93	OK	74.01	8.57	
	PIASTRA	20	2.26	0.087	6.50	1.096	7.32	0.59	OK	81.33	9.15	
	PIASTRA	21	0.90	0.087	6.50	0.505	3.36	0.23	OK	84.70	9.38	
	PIASTRA	22	0.70	0.087	6.50	0.402	2.68	0.18	OK	87.37	9.57	
	PIASTRA	23	1.46	0.087	6.50	0.725	4.84	0.38	OK	92.22	9.95	
	PIASTRA	24	2.71	0.087	6.50	0.881	5.96	0.70	OK	98.18	10.65	
	PIASTRA	25	2.62	0.087	6.50	0.725	4.94	0.68	OK	103.12	11.33	
	PIASTRA	26	0.71	0.087	6.50	0.235	1.59	0.18	OK	104.71	11.51	
	PIASTRA	34	2.10	0.087	6.50	0.570	3.89	0.54	OK	108.60	12.06	
	PIASTRA	35	2.11	0.087	6.50	0.570	3.89	0.55	OK	112.49	12.60	
	PIASTRA	36	2.11	0.087	6.50	0.570	3.89	0.55	OK	116.38	13.15	
	PIASTRA	40	1.61	0.087	6.50	0.440	3.00	0.42	OK	119.38	13.57	
	PIASTRA	41	1.61	0.087	6.50	0.440	3.00	0.42	OK	122.38	13.99	
	PIASTRA	42	1.61	0.087	6.50	0.440	3.00	0.42	OK	125.38	14.40	
	PIASTRA	46	2.11	0.087	6.50	0.570	3.89	0.55	OK	129.27	14.95	

IDENTIFICATIVO			RISULTATI									
Combinazione N.ro	Tipo Elem.	Elem N.ro	N (t)	Tg(fi)/ Gfi/Gr	C/Gc/Gr t/mq	Area mq	Vres (t)	Fh (t)	Verifica Locale	S(Vres) (t)	S(Fh) (t)	Verifica Globale
A1 / 1	PIASTRA	47	2.11	0.087	6.50	0.570	3.89	0.55	OK	133.16	15.50	
	PIASTRA	48	2.10	0.087	6.50	0.570	3.89	0.54	OK	137.05	16.04	
	PIASTRA	49	0.47	0.087	6.50	0.235	1.57	0.12	OK	138.62	16.16	
	PIASTRA	50	0.54	0.087	6.50	0.235	1.57	0.14	OK	140.19	16.30	
	PIASTRA	51	0.62	0.087	6.50	0.235	1.58	0.16	OK	141.78	16.47	
	PIASTRA	52	0.53	0.087	6.50	0.235	1.57	0.14	OK	143.35	16.60	
	PIASTRA	53	2.18	0.087	6.50	0.881	5.92	0.57	OK	149.27	17.17	
	PIASTRA	54	0.65	0.087	6.50	0.235	1.58	0.17	OK	150.85	17.34	
	PIASTRA	55	0.78	0.087	6.50	0.235	1.60	0.20	OK	152.45	17.54	
	PIASTRA	56	0.82	0.087	6.50	0.235	1.60	0.21	OK	154.05	17.75	
	PIASTRA	57	0.85	0.087	6.50	0.235	1.60	0.22	OK	155.65	17.97	
	PIASTRA	58	0.78	0.087	6.50	0.235	1.60	0.20	OK	157.24	18.17	
	PIASTRA	59	3.05	0.087	6.50	0.881	5.99	0.79	OK	163.24	18.96	
	PIASTRA	60	0.83	0.087	6.50	0.235	1.60	0.22	OK	164.84	19.18	
	PIASTRA	61	0.95	0.087	6.50	0.570	3.79	0.25	OK	168.62	19.43	
	PIASTRA	62	2.40	0.087	6.50	1.216	8.11	0.62	OK	176.74	20.05	
	PIASTRA	63	0.94	0.087	6.50	0.570	3.79	0.24	OK	180.53	20.29	
	PIASTRA	64	2.39	0.087	6.50	1.216	8.11	0.62	OK	188.64	20.91	
	PIASTRA	65	0.96	0.087	6.50	0.570	3.79	0.25	OK	192.43	21.16	
	PIASTRA	66	2.44	0.087	6.50	1.216	8.12	0.63	OK	200.54	21.79	
	PIASTRA	67	3.15	0.087	6.50	1.292	8.67	0.82	OK	209.22	22.61	
	PIASTRA	68	4.02	0.087	6.50	1.292	8.75	1.04	OK	217.97	23.65	
	PIASTRA	70	4.03	0.087	6.50	1.292	8.75	1.04	OK	235.39	25.51	
	PIASTRA	71	3.16	0.087	6.50	1.292	8.67	0.82	OK	244.06	26.33	
	PIASTRA	72	4.02	0.087	6.50	1.292	8.75	1.04	OK	252.81	27.37	
	PIASTRA	73	2.93	0.087	6.50	1.182	7.94	0.76	OK	260.75	28.13	
	PIASTRA	74	4.59	0.087	6.50	1.292	8.80	1.19	OK	269.55	29.33	
	PIASTRA	75	4.45	0.087	6.50	1.216	8.29	1.15	OK	277.84	30.48	
	PIASTRA	76	4.62	0.087	6.50	1.292	8.80	1.20	OK	286.64	31.68	
	PIASTRA	77	4.47	0.087	6.50	1.216	8.29	1.16	OK	294.94	32.84	
	PIASTRA	78	4.57	0.087	6.50	1.292	8.80	1.19	OK	303.73	34.02	
	PIASTRA	79	4.43	0.087	6.50	1.216	8.29	1.15	OK	312.03	35.17	
	PIASTRA	80	4.01	0.087	6.50	1.182	8.04	1.04	OK	320.06	36.21	
	PIASTRA	81	3.40	0.087	6.50	0.976	6.64	0.88	OK	326.70	37.10	
	PIASTRA	82	3.36	0.087	6.50	0.976	6.64	0.87	OK	333.34	37.97	
	PIASTRA	83	3.40	0.087	6.50	0.976	6.64	0.88	OK	339.99	38.85	
	PIASTRA	84	3.06	0.087	6.50	1.073	7.24	0.79	OK	347.23	39.64	
	PIASTRA	85	3.43	0.087	6.50	1.073	7.27	0.89	OK	354.50	40.53	
	PIASTRA	86	2.97	0.087	6.50	1.073	7.23	0.77	OK	361.73	41.30	
	PIASTRA	87	3.33	0.087	6.50	1.073	7.26	0.86	OK	368.99	42.17	
	PIASTRA	88	3.06	0.087	6.50	1.073	7.24	0.79	OK	376.23	42.96	
	PIASTRA	89	3.43	0.087	6.50	1.073	7.27	0.89	OK	383.50	43.85	
	PIASTRA	90	4.01	0.087	6.50	1.182	8.04	1.04	OK	391.53	44.89	
	PIASTRA	91	2.04	0.087	6.50	0.976	6.52	0.53	OK	398.06	45.42	
	PIASTRA	92	2.63	0.087	6.50	1.073	7.20	0.68	OK	405.26	46.10	
	PIASTRA	93	2.05	0.087	6.50	0.976	6.52	0.53	OK	411.79	46.63	
	PIASTRA	94	2.60	0.087	6.50	1.073	7.20	0.68	OK	418.98	47.31	
	PIASTRA	95	2.04	0.087	6.50	0.976	6.52	0.53	OK	425.51	47.84	
	PIASTRA	96	2.63	0.087	6.50	1.073	7.20	0.68	OK	432.71	48.52	
	PIASTRA	97	2.93	0.087	6.50	1.182	7.94	0.76	OK	440.65	49.28	
	PIASTRA	98	0.80	0.087	6.50	0.440	2.93	0.21	OK	443.58	49.49	
	PIASTRA	99	0.81	0.087	6.50	0.440	2.93	0.21	OK	446.51	49.70	
	PIASTRA	100	0.80	0.087	6.50	0.440	2.93	0.21	OK	449.44	49.91	
	PIASTRA	101	0.96	0.087	6.50	0.570	3.79	0.25	OK	453.23	50.16	
	PIASTRA	102	2.44	0.087	6.50	1.216	8.12	0.63	OK	461.35	50.79	
	PIASTRA	103	0.94	0.087	6.50	0.570	3.79	0.24	OK	465.13	51.03	
	PIASTRA	104	2.39	0.087	6.50	1.216	8.11	0.62	OK	473.25	51.65	
	PIASTRA	105	0.95	0.087	6.50	0.570	3.79	0.25	OK	477.03	51.90	
	PIASTRA	106	2.40	0.087	6.50	1.216	8.11	0.62	OK	485.15	52.52	
	PIASTRA	107	3.16	0.087	6.50	1.292	8.67	0.82	OK	493.82	53.34	
	PIASTRA	108	4.02	0.087	6.50	1.292	8.75	1.04	OK	502.57	54.38	
	PIASTRA	109	3.13	0.087	6.50	1.292	8.67	0.81	OK	511.24	55.19	
	PIASTRA	110	4.03	0.087	6.50	1.292	8.75	1.04	OK	519.99	56.24	
	PIASTRA	111	3.15	0.087	6.50	1.292	8.67	0.82	OK	528.66	57.06	
	PIASTRA	112	4.02	0.087	6.50	1.292	8.75	1.04	OK	537.41	58.10	
	PIASTRA	113	2.18	0.087	6.50	0.881	5.92	0.57	OK	543.33	58.67	
	PIASTRA	114	4.57	0.087	6.50	1.292	8.80	1.19	OK	552.13	59.85	
	PIASTRA	115	4.43	0.087	6.50	1.216	8.29	1.15	OK	560.42	61.00	
	PIASTRA	116	4.62	0.087	6.50	1.292	8.80	1.20	OK	569.22	62.20	
	PIASTRA	117	4.47	0.087	6.50	1.216	8.29	1.16	OK	577.52	63.36	
	PIASTRA	118	4.59	0.087	6.50	1.292	8.80	1.19	OK	586.31	64.55	
	PIASTRA	119	4.45	0.087	6.50	1.216	8.29	1.15	OK	594.61	65.71	
	PIASTRA	120	3.05	0.087	6.50	0.881	5.99	0.79	OK	600.60	66.50	
	PIASTRA	121	0.78	0.087	6.50	0.235	1.60	0.20	OK	602.20	66.70	
	PIASTRA	122	0.83	0.087	6.50	0.235	1.60	0.22	OK	603.80	66.92	
	PIASTRA	123	0.78	0.087	6.50	0.235	1.60	0.20	OK	605.39	67.12	
	PIASTRA	124	0.82	0.087	6.50	0.235	1.60	0.21	OK	606.99	67.33	
	PIASTRA	125	0.85	0.087	6.50	0.235	1.60	0.22	OK	608.59	67.55	
	PIASTRA	126	0.53	0.087	6.50	0.235	1.57	0.14	OK	610.17	67.69	
	PIASTRA	127	0.65	0.087	6.50	0.235	1.58	0.17	OK	611.75	67.85	
	PIASTRA	128	0.47	0.087	6.50	0.235	1.57	0.12	OK	613.32	67.98	
	PIASTRA	129	0.54	0.087	6.50	0.235	1.57	0.14	OK	614.89	68.12	
	PIASTRA	130	0.62	0.087	6.50	0.235	1.58	0.16	OK	616.48	68.28	OK

I risultati grafici che seguono denotano uno stato tensionale massimo della piastra di fondazione di 2,01 kg/cmq. con valori medi su tutta la piastra inferiori a 1,00 kg/cmq. Tale stato tensionale risulta conforme alla portanza del terreno che raggiunge dei valori medi di 2,07 kg/cmq.



4.2) PLATEA MANUFATTO DI SCARICO CON CLAPET

La platea del manufatto di scarico con clapet viene suddivisa in piastre caratterizzate dai quattro nodi corrispondenti agli spigoli le cui coordinate sono di seguito riportate:

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
1	2.60	5.50	0.00
5	2.70	5.60	0.00
9	1.95	5.50	0.00
26	0.00	4.05	0.00
36	2.60	3.32	0.00
46	1.95	4.05	0.00
50	1.30	3.32	0.00
54	0.65	2.60	0.00
58	-0.10	3.28	0.00
62	1.30	2.50	0.00
66	2.70	4.82	0.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
2	0.00	5.50	0.00
6	-0.10	5.60	0.00
10	1.30	5.50	0.00
27	0.00	4.78	0.00
43	1.95	4.78	0.00
47	1.30	4.05	0.00
51	0.65	3.32	0.00
55	2.00	5.60	0.00
59	-0.10	4.05	0.00
63	2.00	2.50	0.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
3	2.60	2.60	0.00
7	-0.10	2.50	0.00
11	0.65	5.50	0.00
34	2.60	4.78	0.00
44	1.30	4.78	0.00
48	0.65	4.05	0.00
52	1.95	2.60	0.00
56	1.30	5.60	0.00
60	-0.10	4.82	0.00
64	2.70	3.28	0.00

IDENT.	POSIZIONE NODO		
Nodo3d N.ro	Coord.X (m)	Coord.Y (m)	Coord.Z (m)
4	0.00	2.60	0.00
8	2.70	2.50	0.00
25	0.00	3.32	0.00
35	2.60	4.05	0.00
45	0.65	4.78	0.00
49	1.95	3.32	0.00
53	1.30	2.60	0.00
57	0.60	5.60	0.00
61	0.60	2.50	0.00
65	2.70	4.05	0.00

La geometria della piastra risulta individuata dai seguenti nodi:

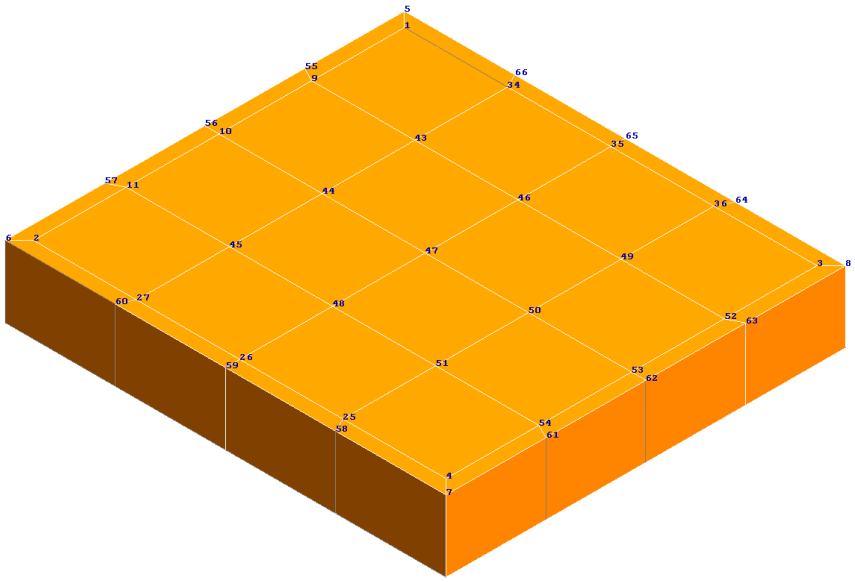
Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
1	1	2	4	3	1
5	8	5	1	3	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
2	1	5	6	2	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
3	7	4	2	6	1

Shell N.ro	Nodo 1	Nodo 2	Nodo 3	Nodo 4	Str Nro
4	7	8	3	4	1

La platea del manufatto di scarico viene suddivisa in mesch caratterizzate dai quattro nodi corrispondenti agli spigoli la cui geometria assume la seguente numerazione:



Le sollecitazioni nei nodi della platea vengono calcolate in base alle diverse combinazioni di carico (si riportano solo i primi otto nodi, omettendo gli altri 66 nodi , essendo l'entità delle sollecitazioni risultanti abbastanza similari o comunque minori a quelle qui riportate) :

Nod3d N.ro	Combinazione N.ro	Fz (t)
1	A1 / 1	-1.08
	A1 / 2	-0.75
	A1 / 3	-0.75
	A1 / 4	-0.75
	A1 / 5	-0.75
	A1 / 6	-0.74
	A1 / 7	-0.74
	A1 / 8	-0.74
	A1 / 9	-0.74
	A1 / 10	-0.70
	A1 / 11	-0.70
	A1 / 12	-0.70
	A1 / 13	-0.70
	A1 / 14	-0.68
	A1 / 15	-0.68
	A1 / 16	-0.68
	A1 / 17	-0.68
	A1 / 18	-0.75
	A1 / 19	-0.75
	A1 / 20	-0.75
	A1 / 21	-0.75
	A1 / 22	-0.70
	A1 / 23	-0.70
	A1 / 24	-0.71
	A1 / 25	-0.71
	A1 / 26	-0.73
0	A1 / 27	-0.73
0	A1 / 28	-0.73
0	A1 / 29	-0.73
0	A1 / 30	-0.69
0	A1 / 31	-0.69
0	A1 / 32	-0.69
0	A1 / 33	-0.69

Nod3d N.ro	Combinazione N.ro	Fz (t)
2	A1 / 1	-1.08
	A1 / 2	-0.70
	A1 / 3	-0.70
	A1 / 4	-0.70
	A1 / 5	-0.70
	A1 / 6	-0.68
	A1 / 7	-0.68
	A1 / 8	-0.68
	A1 / 9	-0.68
	A1 / 10	-0.75
	A1 / 11	-0.75
	A1 / 12	-0.75
	A1 / 13	-0.75
	A1 / 14	-0.74
	A1 / 15	-0.74
	A1 / 16	-0.74
	A1 / 17	-0.74
	A1 / 18	-0.73
	A1 / 19	-0.73
	A1 / 20	-0.73
	A1 / 21	-0.73
	A1 / 22	-0.69
	A1 / 23	-0.69
	A1 / 24	-0.69
	A1 / 25	-0.69
	A1 / 26	-0.75
0	A1 / 27	-0.75
0	A1 / 28	-0.75
0	A1 / 29	-0.75
0	A1 / 30	-0.71
0	A1 / 31	-0.71
0	A1 / 32	-0.70
0	A1 / 33	-0.70

Nod3d N.ro	Combinazione N.ro	Fz (t)
3	A1 / 1	-0.75
	A1 / 2	-0.46
	A1 / 3	-0.46
	A1 / 4	-0.46
	A1 / 5	-0.46
	A1 / 6	-0.47
	A1 / 7	-0.47
	A1 / 8	-0.47
	A1 / 9	-0.47
	A1 / 10	-0.42
	A1 / 11	-0.42
	A1 / 12	-0.42
	A1 / 13	-0.42
	A1 / 14	-0.43
	A1 / 15	-0.43
	A1 / 16	-0.43
	A1 / 17	-0.43
	A1 / 18	-0.43
	A1 / 19	-0.43
	A1 / 20	-0.43
	A1 / 21	-0.43
	A1 / 22	-0.47
	A1 / 23	-0.47
	A1 / 24	-0.47
	A1 / 25	-0.47
	A1 / 26	-0.42
0	A1 / 27	-0.42
0	A1 / 28	-0.42
0	A1 / 29	-0.42
0	A1 / 30	-0.46
0	A1 / 31	-0.46
0	A1 / 32	-0.46
0	A1 / 33	-0.46

Nod3d N.ro	Combinazione N.ro	Fz (t)
4	A1 / 1	-0.75
	A1 / 2	-0.42
	A1 / 3	-0.42
	A1 / 4	-0.42
	A1 / 5	-0.42
	A1 / 6	-0.43
	A1 / 7	-0.43
	A1 / 8	-0.43
	A1 / 9	-0.43
	A1 / 10	-0.46
	A1 / 11	-0.46
	A1 / 12	-0.46
	A1 / 13	-0.46
	A1 / 14	-0.47
	A1 / 15	-0.47
	A1 / 16	-0.47
	A1 / 17	-0.47
	A1 / 18	-0.42
	A1 / 19	-0.42
	A1 / 20	-0.42
	A1 / 21	-0.42
	A1 / 22	-0.46
	A1 / 23	-0.46
	A1 / 24	-0.46
	A1 / 25	-0.46
	A1 / 26	-0.43
0	A1 / 27	-0.43
0	A1 / 28	-0.43
0	A1 / 29	-0.43
0	A1 / 30	-0.47
0	A1 / 31	-0.47
0	A1 / 32	-0.47
0	A1 / 33	-0.47

Nod3d N.ro	Combinazione N.ro	Fz (t)
5	A1 / 1	-0.25
	A1 / 2	-0.18
	A1 / 3	-0.18
	A1 / 4	-0.18
	A1 / 5	-0.18
	A1 / 6	-0.17
	A1 / 7	-0.17
	A1 / 8	-0.17
	A1 / 9	-0.17
	A1 / 10	-0.16
	A1 / 11	-0.16
	A1 / 12	-0.16
	A1 / 13	-0.16
	A1 / 14	-0.16
	A1 / 15	-0.16
	A1 / 16	-0.16
	A1 / 17	-0.16
	A1 / 18	-0.18
	A1 / 19	-0.18
	A1 / 20	-0.18
	A1 / 21	-0.18
	A1 / 22	-0.17
	A1 / 23	-0.17
	A1 / 24	-0.17
	A1 / 25	-0.17
	A1 / 26	-0.17
	A1 / 27	-0.17
	A1 / 28	-0.17
	A1 / 29	-0.17
	A1 / 30	-0.16
	A1 / 31	-0.16
	A1 / 32	-0.16
	A1 / 33	-0.16

Nod3d N.ro	Combinazione N.ro	Fz (t)
6	A1 / 1	-0.25
	A1 / 2	-0.16
	A1 / 3	-0.16
	A1 / 4	-0.16
	A1 / 5	-0.16
	A1 / 6	-0.16
	A1 / 7	-0.16
	A1 / 8	-0.16
	A1 / 9	-0.16
	A1 / 10	-0.18
	A1 / 11	-0.18
	A1 / 12	-0.18
	A1 / 13	-0.18
	A1 / 14	-0.17
	A1 / 15	-0.17
	A1 / 16	-0.17
	A1 / 17	-0.17
	A1 / 18	-0.17
	A1 / 19	-0.17
	A1 / 20	-0.17
	A1 / 21	-0.17
	A1 / 22	-0.16
	A1 / 23	-0.16
	A1 / 24	-0.16
	A1 / 25	-0.16
	A1 / 26	-0.18
	A1 / 27	-0.18
	A1 / 28	-0.18
	A1 / 29	-0.18
	A1 / 30	-0.17
	A1 / 31	-0.17
	A1 / 32	-0.17
	A1 / 33	-0.17

Nod3d N.ro	Combinazione N.ro	Fz (t)
7	A1 / 1	-0.17
	A1 / 2	-0.09
	A1 / 3	-0.09
	A1 / 4	-0.09
	A1 / 5	-0.09
	A1 / 6	-0.10
	A1 / 7	-0.10
	A1 / 8	-0.10
	A1 / 9	-0.10
	A1 / 10	-0.10
	A1 / 11	-0.10
	A1 / 12	-0.10
	A1 / 13	-0.10
	A1 / 14	-0.11
	A1 / 15	-0.11
	A1 / 16	-0.11
	A1 / 17	-0.11
	A1 / 18	-0.09
	A1 / 19	-0.09
	A1 / 20	-0.09
	A1 / 21	-0.09
	A1 / 22	-0.11
	A1 / 23	-0.11
	A1 / 24	-0.11
	A1 / 25	-0.11
	A1 / 26	-0.10
	A1 / 27	-0.10
	A1 / 28	-0.10
	A1 / 29	-0.10
	A1 / 30	-0.11
	A1 / 31	-0.11
	A1 / 32	-0.11
	A1 / 33	-0.11

Nod3d N.ro	Combinazione N.ro	Fz (t)
8	A1 / 1	-0.17
	A1 / 2	-0.10
	A1 / 3	-0.10
	A1 / 4	-0.10
	A1 / 5	-0.10
	A1 / 6	-0.11
	A1 / 7	-0.11
	A1 / 8	-0.11
	A1 / 9	-0.11
	A1 / 10	-0.09
	A1 / 11	-0.09
	A1 / 12	-0.09
	A1 / 13	-0.09
	A1 / 14	-0.10
	A1 / 15	-0.10
	A1 / 16	-0.10
	A1 / 17	-0.10
	A1 / 18	-0.10
	A1 / 19	-0.10
	A1 / 20	-0.10
	A1 / 21	-0.10
	A1 / 22	-0.11
	A1 / 23	-0.11
	A1 / 24	-0.11
	A1 / 25	-0.11
	A1 / 26	-0.09
	A1 / 27	-0.09
	A1 / 28	-0.09
	A1 / 29	-0.09
	A1 / 30	-0.11
	A1 / 31	-0.11
	A1 / 32	-0.11
	A1 / 33	-0.11

I parametri geotecnici delle piastre aventi un comportamento alla Winkler sono di seguito specificate (anche in questo caso si riportano i valori di identificazione, dei parametri geotecnici utilizzati in condizioni drenate e non, delle prime 17 piastre elementari , essendo i valori le altre 24 piastre abbastanza similari) :

IDENTIFICATIVO				CONDIZIONE DRENATA							NON DRENATA	
Piast N.ro	Infiss m	Tipo Tabel	Gamma kg/mc	Fi' Grd	C' kg/cmq	Mod.El kg/cmq	Poiss on	P base kg/cmq	Indice Rigid.	IndRig Crit.	Cu kg/cmq	P base kg/cmq
1	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.53	11.21	6.50	0.19
2	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.29	11.21	6.50	0.19
3	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.45	11.21	6.50	0.19
4	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.54	11.21	6.50	0.19
5	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.35	11.21	6.50	0.19
6	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.17	11.21	6.50	0.19
7	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.54	11.21	6.50	0.19
8	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.15	11.21	6.50	0.19
9	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.38	11.21	6.50	0.19
10	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.56	11.21	6.50	0.19
11	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.23	11.21	6.50	0.19
12	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.58	11.21	6.50	0.19
13	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.46	11.21	6.50	0.19
14	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.58	11.21	6.50	0.19
15	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.23	11.21	6.50	0.19
16	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.57	11.21	6.50	0.19
17	1.00	M1	1900	5.00	0.65	118.00	0.20	0.19	73.39	11.21	6.50	0.19

I coefficienti di portanza delle piastre aventi un comportamento alla Winkler in condizioni drenate sono di seguito specificate (anche in questo caso si riportano i coefficienti utilizzati per la prima piastra, omettendo quelli delle altre 40 piastre che risultano abbastanza similari):

Piast	Brinch Hansen			IclTe	Incl.	PianoPosa		Igk	Comb	Coeff.Incl.			Affondamento			Forma			Punzonamento		
Nro	Nc	Nq	Ng	Gc=Gq	Bc	Bq	Bg	Sism	N.ro	IcV	IqV	IgV	Dc	Dq	Dg	Sc	Sq	Sg	Psic	Psiq	Psig
1	6.49	1.57	0.45	1.00	1.00	1.00	1.00	1.00	A1/1	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/2	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/3	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/4	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/5	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/6	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/7	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/8	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/9	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/10	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/11	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/12	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/13	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/14	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/15	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/16	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/17	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/18	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/19	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/20	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/21	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/22	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/23	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/24	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/25	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/26	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/27	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/28	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/29	0.99	1.00	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/30	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/31	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/32	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00
									A1/33	0.98	0.99	0.99	1.48	1.17	1.00	1.24	1.09	0.60	1.00	1.00	1.00

I coefficienti di portanza delle piastre aventi un comportamento alla Winkler in condizioni non drenate sono di seguito specificate (anche in questo caso si riportano i coefficienti utilizzati per la prima piastra, omettendo quelli delle altre 40 piastre che risultano abbastanza similari):

Piast Nro	Brinch Hansen Nc	Nq	Ng	IclTe Gc=Gq	Incl. Piano Bc	Bq	Posa Bg	Igk Sism	Comb N.ro	Coeff IcV	Incl. Car. IqV	IgV	Affondamento Dc	Dq	Dg	Forma Sc	Sq	Sg	Punzonamento Psic	Psiq	Psig
1	5.14	1.00	0.00	1.00	1.00	1.00	1.00	1.00	A1/1	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/2	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/3	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/4	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/5	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/6	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/7	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/8	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/9	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/10	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/11	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/12	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/13	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/14	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/15	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/16	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/17	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/18	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/19	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/20	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/21	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/22	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/23	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/24	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/25	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/26	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/27	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/28	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/29	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/30	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/31	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/32	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00
									A1/33	1.00	1.00	0.99	1.48	1.00	1.00	1.19	1.00	0.60	1.00	1.00	1.00

VERIFICA DELLE PIASTRE AGLI SLU

La verifica agli SLU delle platee di fondazione viene ricondotta ad una modellazione delle strutture in campo elastico ed il terreno come letto di molle lineari elastiche. Il modello così ottenuto è in grado di tenere di conto della eterogeneità del terreno in maniera puntuale. Il calcolo viene interrotto quando le molle attingono al loro limite elastico, in corrispondenza del quale viene calcolato il moltiplicatore dei carichi che non deve risultare inferiore a 1.

PORTANZA GLOBALE PIASTRE - MOLTIPLICATORI DI COLLASSO

	DRENATE				NON DRENATE				RISULTATI	
Comb N.ro	Risult (t)	Resist (t)	Moltipl. Collasso	%Pl. Moll	Risult (t)	Resist (t)	Moltipl. Collasso	%Pl. Moll	Moltipl. Minimo	STATUS (m)
A1 / 1	52	52	1.000	0	52	52	1.000	0	1.000	OK
A1 / 2	33	33	1.000	0	33	33	1.000	0		OK
A1 / 3	33	33	1.000	0	33	33	1.000	0		OK
A1 / 4	33	33	1.000	0	33	33	1.000	0		OK
A1 / 5	33	33	1.000	0	33	33	1.000	0		OK
A1 / 6	33	33	1.000	0	33	33	1.000	0		OK
A1 / 7	33	33	1.000	0	33	33	1.000	0		OK
A1 / 8	33	33	1.000	0	33	33	1.000	0		OK
A1 / 9	33	33	1.000	0	33	33	1.000	0		OK
A1 / 10	33	33	1.000	0	33	33	1.000	0		OK
A1 / 11	33	33	1.000	0	33	33	1.000	0		OK
A1 / 12	33	33	1.000	0	33	33	1.000	0		OK
A1 / 13	33	33	1.000	0	33	33	1.000	0		OK
A1 / 14	33	33	1.000	0	33	33	1.000	0		OK
A1 / 15	33	33	1.000	0	33	33	1.000	0		OK
A1 / 16	33	33	1.000	0	33	33	1.000	0		OK
A1 / 17	33	33	1.000	0	33	33	1.000	0		OK
A1 / 18	33	33	1.000	0	33	33	1.000	0		OK
A1 / 19	33	33	1.000	0	33	33	1.000	0		OK
A1 / 20	33	33	1.000	0	33	33	1.000	0		OK
A1 / 21	33	33	1.000	0	33	33	1.000	0		OK
A1 / 22	33	33	1.000	0	33	33	1.000	0		OK
A1 / 23	33	33	1.000	0	33	33	1.000	0		OK
A1 / 24	33	33	1.000	0	33	33	1.000	0		OK
A1 / 25	33	33	1.000	0	33	33	1.000	0		OK
A1 / 26	33	33	1.000	0	33	33	1.000	0		OK
A1 / 27	33	33	1.000	0	33	33	1.000	0		OK
A1 / 28	33	33	1.000	0	33	33	1.000	0		OK
A1 / 29	33	33	1.000	0	33	33	1.000	0		OK
A1 / 30	33	33	1.000	0	33	33	1.000	0		OK
A1 / 31	33	33	1.000	0	33	33	1.000	0		OK
A1 / 32	33	33	1.000	0	33	33	1.000	0		OK
A1 / 33	33	33	1.000	0	33	33	1.000	0		OK

VERIFICA ALLO SCORRIMENTO - CONDIZIONI DRENATE

Si riporta la tabella riepilogativa della combinazione n° A1/1 per la verifica allo scorrimento della fondazione, dove:

N = scarico totale sull'elemento strutturale

Vres = resistenza allo scorrimento dell'elemento strutturale

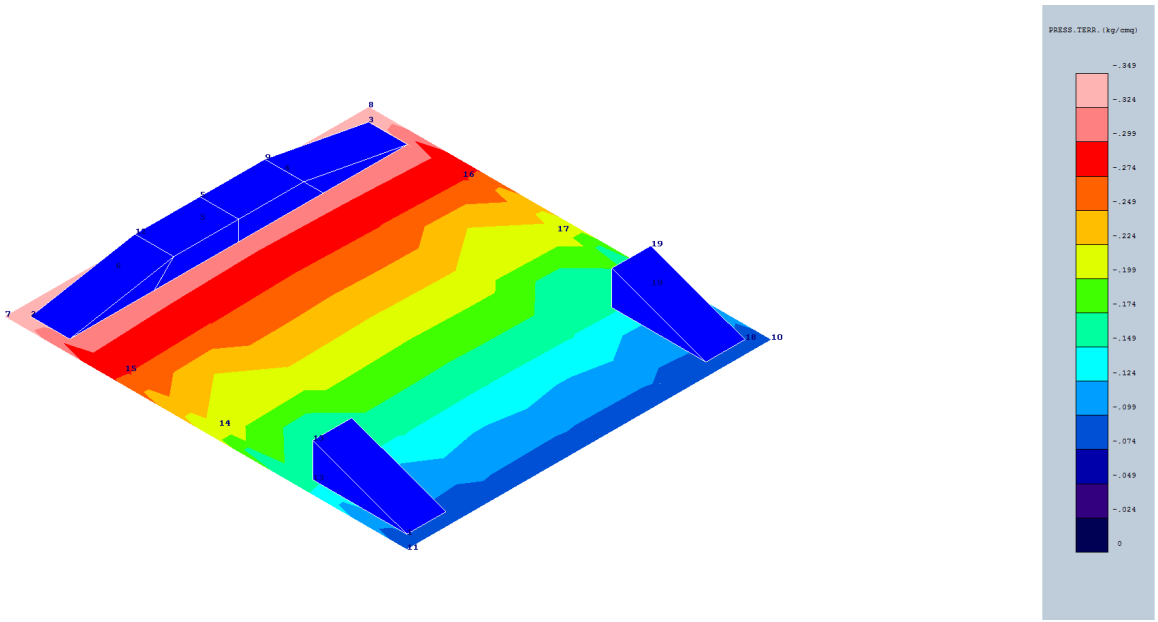
Fh = azione orizzontale trasmessa dall'elemento strutturale

S (res) = somma dei contributi resistenti

S (fh) = somma dei contributi delle azioni orizzontali

IDENTIFICATIVO			RISULTATI									
Combinazione N.ro	Tipo Elem.	Elem N.ro	N (t)	Tg(fi)/ Gfi/Gr	C/Gc/Gr t/mq	Area mq	Vres (t)	Fh (t)	Verifica Locale	S(Vres) (t)	S(Fh) (t)	Verifica Globale
A1 / 1	PIASTRA	1	1.08	0.080	5.91	0.153	0.99	0.07	OK	0.99	0.07	
	PIASTRA	2	1.08	0.080	5.91	0.153	0.99	0.07	OK	1.99	0.14	
	PIASTRA	3	0.75	0.080	5.91	0.153	0.97	0.05	OK	2.95	0.18	
	PIASTRA	4	0.75	0.080	5.91	0.153	0.97	0.05	OK	3.92	0.23	
	PIASTRA	5	0.25	0.080	5.91	0.036	0.23	0.02	OK	4.15	0.25	
	PIASTRA	6	0.25	0.080	5.91	0.036	0.23	0.02	OK	4.38	0.26	
	PIASTRA	7	0.17	0.080	5.91	0.036	0.22	0.01	OK	4.60	0.27	
	PIASTRA	8	0.17	0.080	5.91	0.036	0.22	0.01	OK	4.83	0.28	
	PIASTRA	9	1.90	0.080	5.91	0.269	1.74	0.12	OK	6.57	0.40	
	PIASTRA	10	1.90	0.080	5.91	0.269	1.74	0.12	OK	8.31	0.52	
	PIASTRA	11	1.90	0.080	5.91	0.269	1.74	0.12	OK	10.06	0.64	
	PIASTRA	25	1.48	0.080	5.91	0.273	1.73	0.09	OK	11.79	0.73	
	PIASTRA	26	1.63	0.080	5.91	0.273	1.74	0.10	OK	13.53	0.83	
	PIASTRA	27	1.78	0.080	5.91	0.273	1.76	0.11	OK	15.29	0.94	
	PIASTRA	34	1.78	0.080	5.91	0.273	1.76	0.11	OK	17.04	1.06	
	PIASTRA	35	1.63	0.080	5.91	0.273	1.74	0.10	OK	18.79	1.16	
	PIASTRA	36	1.48	0.080	5.91	0.273	1.73	0.09	OK	20.52	1.25	
	PIASTRA	43	3.07	0.080	5.91	0.471	3.03	0.19	OK	23.55	1.44	
	PIASTRA	44	3.06	0.080	5.91	0.471	3.03	0.19	OK	26.58	1.63	
	PIASTRA	45	3.07	0.080	5.91	0.471	3.03	0.19	OK	29.61	1.82	
	PIASTRA	46	2.81	0.080	5.91	0.471	3.01	0.18	OK	32.61	2.00	
	PIASTRA	47	2.80	0.080	5.91	0.471	3.01	0.17	OK	35.62	2.17	
	PIASTRA	48	2.81	0.080	5.91	0.471	3.01	0.18	OK	38.63	2.35	
	PIASTRA	49	2.56	0.080	5.91	0.471	2.99	0.16	OK	41.62	2.51	
	PIASTRA	50	2.55	0.080	5.91	0.471	2.99	0.16	OK	44.60	2.67	
	PIASTRA	51	2.56	0.080	5.91	0.471	2.99	0.16	OK	47.59	2.83	
	PIASTRA	52	1.32	0.080	5.91	0.269	1.70	0.08	OK	49.29	2.91	
	PIASTRA	53	1.31	0.080	5.91	0.269	1.70	0.08	OK	50.98	2.99	
	PIASTRA	54	1.32	0.080	5.91	0.269	1.70	0.08	OK	52.68	3.07	
	PIASTRA	55	0.24	0.080	5.91	0.034	0.22	0.02	OK	52.90	3.09	
	PIASTRA	56	0.24	0.080	5.91	0.034	0.22	0.02	OK	53.12	3.10	
	PIASTRA	57	0.24	0.080	5.91	0.034	0.22	0.02	OK	53.34	3.12	
	PIASTRA	58	0.20	0.080	5.91	0.037	0.24	0.01	OK	53.57	3.13	
	PIASTRA	59	0.22	0.080	5.91	0.037	0.24	0.01	OK	53.81	3.15	
	PIASTRA	60	0.25	0.080	5.91	0.037	0.24	0.02	OK	54.06	3.16	
	PIASTRA	61	0.16	0.080	5.91	0.034	0.21	0.01	OK	54.27	3.17	
	PIASTRA	62	0.16	0.080	5.91	0.034	0.21	0.01	OK	54.48	3.18	
	PIASTRA	63	0.16	0.080	5.91	0.034	0.21	0.01	OK	54.69	3.19	
	PIASTRA	64	0.20	0.080	5.91	0.038	0.24	0.01	OK	54.93	3.20	
	PIASTRA	65	0.22	0.080	5.91	0.038	0.24	0.01	OK	55.17	3.22	
	PIASTRA	66	0.25	0.080	5.91	0.038	0.24	0.02	OK	55.41	3.23	OK

I risultati grafici che seguono denotano uno stato tensionale massimo del terreno , trasmesso dalla piastra di fondazione di 0,85 kg/cmq. con valori medi su tutta la piastra inferiori a 0,60 kg/cmq. Tale stato tensionale risulta conforme alla portanza del terreno che raggiunge dei valori medi di 2,07 kg/cmq.



Il progettista

Ing. Fernando Muccetti
Firmato digitalmente ai sensi
dell’art. 21 c. 2 d.lgs. 82/2005