

COMMITTENTE:



DIREZIONE LAVORI:



APPALTATORE:



PROGETTAZIONE:

MANDATARIA:

MANDANTI:



IL DIRETTORE DELLA PROGETTAZIONE:

Ing. L. LACOPO

Responsabile integrazione fra le varie prestazioni specialistiche

## PROGETTO ESECUTIVO

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO - BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

INFRASTRUTTURA DI LINEA

TR16

Muri di Sostegno in SX e DX dal km 37+311 a pk 37+616

Allegato di calcolo Muro tipo 4

APPALTATORE		SCALA:
IL DIRETTORE TECNICO  Ing. M. FERRONI		-

COMMESSA LOTTO FASE ENTE TIPO DOC. OPERA/DISCIPLINA PROGR. REV.

IF2R 22 E ZZ CL TR1605 006 A

Rev.	Descrizione	Redatto	Data	Verificato	Data	Approvato	Data	Autorizzato Data
A	EMISSIONE	C. Pinti	22/10/21	G. Coppa	22/10/21	L. Bruzzone	23/10/21	IL PROGETTISTA F. DI IULIO
								 31/10/21

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PROGETTAZIONE: Mandatario:      Mandante: <b>SYSTRA S.A.      SWS Engineering S.p.A.      SYSTRA-SOTECNI S.p.A.</b>													
Relazione di calcolo muro <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.006</td> <td>A</td> <td>1 di 120</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	1 di 120
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**1 ALLEGATO DI CALCOLO – MURO TIPO 4 HPARAMENTO = 6,0 M: ..... 2**

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## 1 ALLEGATO DI CALCOLO – MURO TIPO 4 $H_{PARAMENTO} = 6,0 M$ :

### Dati

#### Materiali

##### Simbologia adottata

n°	Indice materiale
Descr	Descrizione del materiale
<b>Calcestruzzo armato</b>	
C	Classe di resistenza del cls
A	Classe di resistenza dell'acciaio
$\gamma$	Peso specifico, espresso in [kN/mc]
R <sub>ck</sub>	Resistenza caratteristica a compressione, espressa in [kPa]
E	Modulo elastico, espresso in [kPa]
$\nu$	Coeff. di Poisson
n	Coeff. di omogenizzazione acciaio/cls
ntc	Coeff. di omogenizzazione cls tesoro/compresso

#### Calcestruzzo armato

n°	Descr	C	A	$\gamma$ [kN/mc]	R <sub>ck</sub> [kPa]	E [kPa]	$\nu$	n	ntc
1	C32/40	C32/40	B450C	24.5170	40000	33642648	0.30	15.00	0.50
2	Materiale tiranti	Rck 250	Precomp	24.5170	24517	30073438	0.30	15.00	0.50
4	C28/35	C28/35	Precomp	24.5170	35000	32587986	0.30	15.00	0.50
5	C25/30	C25/30	Precomp	24.5170	30000	31447048	0.30	15.00	0.50

#### Acciai

Descr	f <sub>yk</sub> [kPa]	f <sub>uk</sub> [kPa]
B450C	450000	540000
Precomp	1569089	1863293

#### Tipologie pali

##### Simbologia adottata

n°	Indice tipologia palo
Descr	Descrizione tipologia palo
P	Contributo portanza palo (laterale e/o punta)
T	Tecnologia costruttiva (trivellato, infisso o elica continua)
V	Vincolo palo-fondazione: Cerniera o Incastro (libero o impedito di ruotare in testa)
Imat	Indice materiale che lo costituisce
BD	usa metodo di Bustamante-Doix
PN	Portanza nota
Pp, PI	Portanza di punta e laterale caratteristica, espressa in [kN]

n°	Descr	P	T	V	Imat	BD	PN	Pp	PI
1	Tipologia palo	Laterale + Punta	Trivellato	Incastro	5	NO	NO	--	--

#### Geometria profilo terreno a monte del muro

##### Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X [m]	Y [m]	A [°]
1	0.00	-3.00	0.000
2	30.00	-3.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

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## Falda

### Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X [m]	Y [m]	A [°]
1	-5.00	-19.00	0.000
2	-0.70	-19.00	0.000
3	10.00	-19.00	0.000
4	15.00	-19.00	0.000
5	30.00	-19.00	0.000

## Geometria muro

### Geometria paramento e fondazione

Lunghezza muro 12.00 [m]

### Paramento

Materiale C32/40  
Altezza paramento 6.00 [m]  
Altezza paramento libero 5.50 [m]

## Geometria gradoni

### Simbologia adottata

n°	indice gradone (a partire dall'alto)
Bs, Bi	Base superiore ed inferiore del gradone, espressa in [m]
H	altezza del gradone, espressa in [m]
Ae, Ai	inclinazione esterna ed interna del gradone espressa in [°]

n°	X [m]	Bs [m]	Bi [m]	H [m]	Ae [°]	Ai [°]
1	0.00	0.70	0.70	3.50	0.00	0.00
2	0.31	1.01	1.01	2.50	0.00	0.00

### Fondazione

Materiale C28/35  
Lunghezza mensola di valle 1.39 [m]  
Lunghezza mensola di monte 3.40 [m]  
Lunghezza totale 5.80 [m]  
Inclinazione piano di posa 0.00 [°]  
Spessore 1.20 [m]  
Spessore magrone 0.20 [m]

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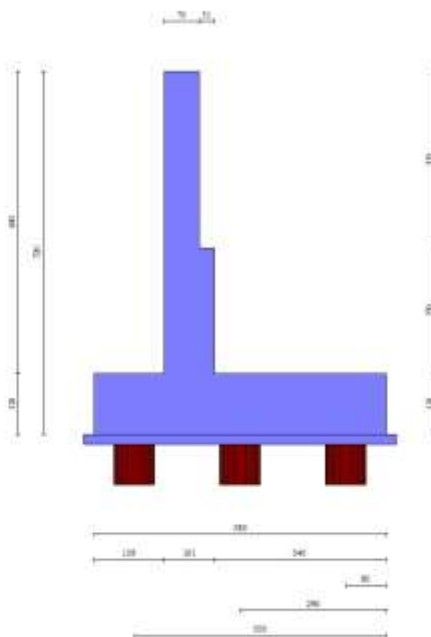


Fig. 1 - Sezione quotata del muro

### Descrizione pali di fondazione

#### Simbologia adottata

n°	numero d'ordine della fila
X	ascissa della fila misurata dallo spigolo di monte della fondazione espressa in [m]
I	interasse tra i pali, espressa in [m]
f	franco laterale (distanza minima dal bordo laterale), espressa in [m]
Np	Numero di pali della fila
D	diametro dei pali della fila espresso in [cm]
L	lunghezza dei pali della fila espressa in [m]
$\alpha$	inclinazione dei pali della fila rispetto alla verticale espressa in [°]
ALL	allineamento dei pali della fila rispetto al baricentro della fondazione (CENTRATI o SFALSATI)

n°	Tipologia	X [m]	I [m]	f [m]	Np	D [cm]	L [m]	$\alpha$ [°]	ALL
1	Tipologia palo	0.80	2.40	0.80	5	80.00	12.00	0.00	Centrati
2	Tipologia palo	2.90	2.40	0.80	4	80.00	12.00	0.00	Sfalsati
3	Tipologia palo	5.00	2.40	0.80	5	80.00	12.00	0.00	Centrati

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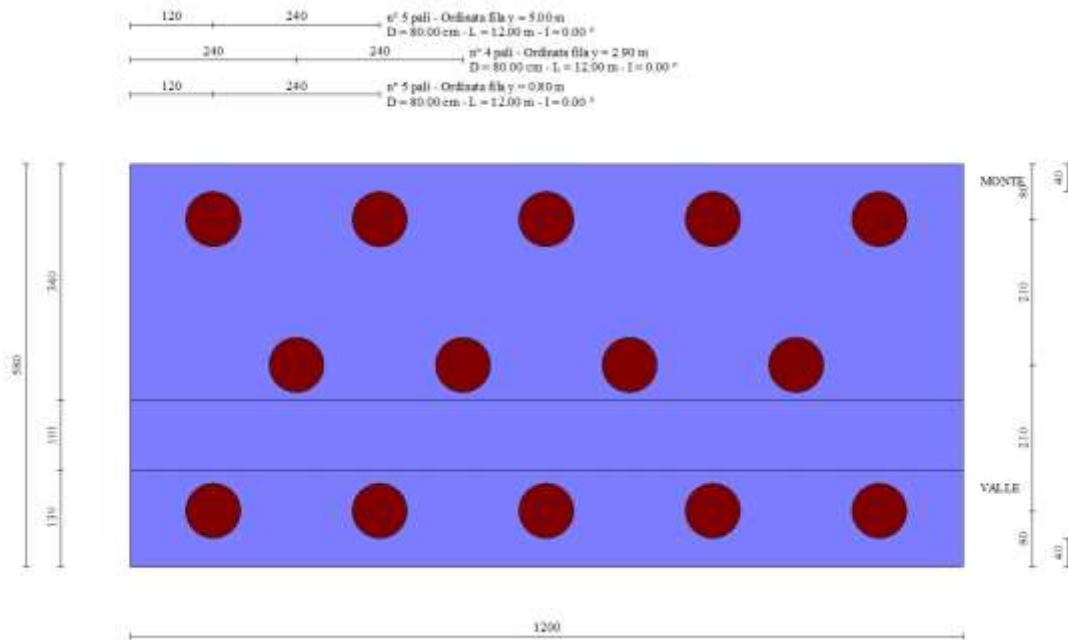


Fig. 2 - Pianta pali

## Descrizione terreni

### Parametri di resistenza

#### Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
$\gamma$	Peso di volume del terreno espresso in [kN/mc]
$\gamma_s$	Peso di volume saturo del terreno espresso in [kN/mc]
$\phi$	Angolo d'attrito interno espresso in [°]
$\delta$	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
$c_a$	Adesione terra-muro espressa in [kPa]
Per calcolo portanza con il metodo di Bustamante-Doix	
Cesp	Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)
$\tau_l$	Tensione tangenziale limite, espressa in [kPa]

n°	Descr	$\gamma$ [kN/mc]	$\gamma_{sat}$ [kN/mc]	$\phi$ [°]	$\delta$ [°]	c [kPa]	$c_a$ [kPa]	Cesp	$\tau_l$ [kPa]	
1	RILEVATO FERROVIARIO	20.0000	20.0000	38.000	0.000	0	0	1.000	0	(CAR)
				38.000	0.000	0	0			(MIN)
				38.000	0.000	0	0			(MED)
2	bc1	19.5000	19.5000	34.000	34.000	0	0	1.000	0	(CAR)
				34.000	34.000	0	0			(MIN)
				34.000	34.000	0	0			(MED)
3	bc3	19.5000	19.5000	0.000	0.000	100	100	1.000	0	(CAR)
				0.000	0.000	100	100			(MIN)
				0.000	0.000	100	100			(MED)
4	bn1	20.0000	20.0000	34.000	34.000	0	0	1.000	0	(CAR)
				34.000	34.000	0	0			(MIN)
				34.000	34.000	0	0			(MED)
5	MDL1	20.0000	20.0000	38.000	38.000	0	0	1.000	0	(CAR)
				38.000	38.000	0	0			(MIN)
				38.000	38.000	0	0			(MED)

## Stratigrafia

#### Simbologia adottata

n°	Indice dello strato
----	---------------------

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H Spessore dello strato espresso in [m]  
 $\alpha$  Inclinazione espressa in [°]  
 Terreno Terreno dello strato  
 Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm<sup>2</sup>/cm  
 Per calcolo pali (solo se presenti)  
 Kw Costante di Winkler orizzontale espressa in Kg/cm<sup>2</sup>/cm  
 Ks Coefficiente di spinta  
 Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')  
 Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H [m]	$\alpha$ [°]	Terreno	Kwn [Kg/cm <sup>2</sup> ]	Kwt [Kg/cm <sup>2</sup> ]	Kw [Kg/cm <sup>2</sup> ]	Ks	Cesp	Kststa	Kstsis
1	7.20	0.000	RILEVATO FERROVIARIO	0.000	0.000	1.000	0.000	1.000	---	---
2	4.00	0.000	bc1	0.000	0.000	10.000	0.400	1.000	---	---
3	23.00	0.000	bn1	0.000	0.000	8.000	0.400	1.000	---	---

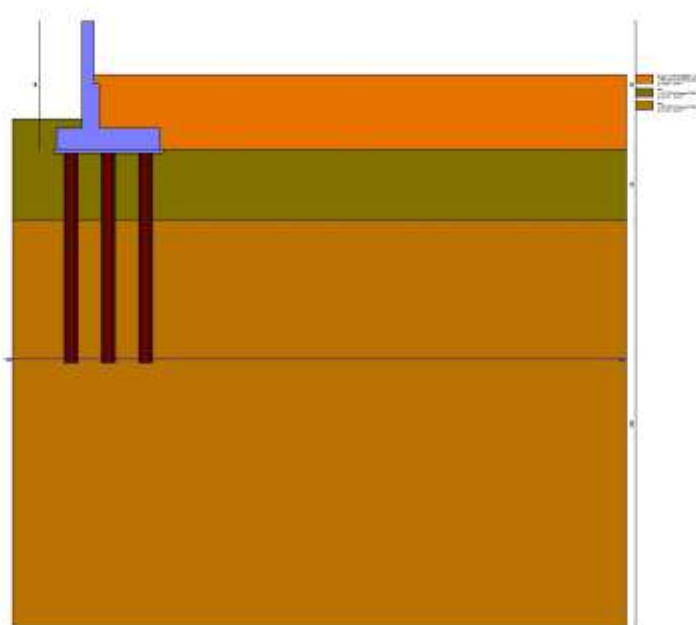


Fig. 3 - Stratigrafia

## Condizioni di carico

### Simbologia adottata

Carichi verticali positivi verso il basso.  
 Carichi orizzontali positivi verso sinistra.  
 Momento positivo senso antiorario.  
 X Ascissa del punto di applicazione del carico concentrato espressa in [m]  
 Fx Componente orizzontale del carico concentrato espressa in [kN]  
 Fy Componente verticale del carico concentrato espressa in [kN]  
 M Momento espresso in [kNm]  
 Xi Ascissa del punto iniziale del carico ripartito espressa in [m]  
 Xf Ascissa del punto finale del carico ripartito espressa in [m]  
 Qi Intensità del carico per  $x=X_i$  espressa in [kN]  
 Qf Intensità del carico per  $x=X_f$  espressa in [kN]

### Condizione n° 1 (PESO BA) - PERMANENTE

#### Carichi sul muro

n°	Tipo	Dest	X; Y [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Concentrato	Paramento	-0.35; 0.00	0.0000	5.0000	0.0000				

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Condizione n° 2 (BALLAST+ARMAMENTO+MARCIPIEDE) - PERMANENTE

*Carichi sul terreno*

n°	Tipo	X [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Distribuito					0.00	3.35	5.6000	5.6000
2	Distribuito					3.35	8.00	14.4000	14.4000

Condizione n° 3 (LM71) - VARIABILE TF

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=0.75 - \Psi_2=0.20$

*Carichi sul terreno*

n°	Tipo	X [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Distribuito					3.35	8.00	57.2900	57.2900

Condizione n° 4 (VENTO+PA) - VARIABILE TF

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=0.75 - \Psi_2=0.00$

*Carichi sul muro*

n°	Tipo	Dest	X; Y [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Concentrato	Paramento	-0.35; 0.00	7.0000	0.0000	2.0000				

Condizione n° 5 (INERZIA BARRIERA) - VARIABILE

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=1.00 - \Psi_2=1.00$

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=1.00 - \Psi_2=1.00$

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=1.00 - \Psi_2=1.00$

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione  $\Psi_0=1.00 - \Psi_1=1.00 - \Psi_2=1.00$

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2008 (D.M. 14.01.2008) - Approccio 2 + Circolare C.S.LL.PP. 02/02/2009 n.617**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche				Combinazioni sismiche			
			HYD	UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1, fav}$	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1, sfav}$	1.00	1.10	1.30	1.30	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2, fav}$	0.00	0.80	0.80	0.80	0.80	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2, sfav}$	1.00	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q, fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q, sfav}$	1.00	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT, fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT, sfav}$	1.00	1.50	1.45	1.45	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi)}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_c$	1.00	1.25	1.00	1.00
Resistenza non drenata	$\gamma_{cu}$	1.00	1.40	1.00	1.00
Peso nell'unità di volume	$\gamma_\gamma$	1.00	1.00	1.00	1.00

Coeff. parziali  $\gamma_R$  per le verifiche agli stati limite ultimi STR e GEO



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Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltamento	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Carichi verticali. Coeff. parziali  $\gamma_R$  da applicare alle resistenze caratteristiche

Resistenza		Pali infissi			Pali trivellati			Pali ad elica continua		
		R1	R2	R3	R1	R2	R3	R1	R2	R3
Punta	$\gamma_b$	--	--	1.15	--	--	1.35	--	--	1.30
Laterale compressione	$\gamma_s$	--	--	1.15	--	--	1.15	--	--	1.15
Totale compressione	$\gamma_t$	--	--	1.15	--	--	1.30	--	--	1.25
Laterale trazione	$\gamma_{st}$	--	--	1.25	--	--	1.25	--	--	1.25

Carichi trasversali. Coeff. parziali  $\gamma_R$  da applicare alle resistenze caratteristiche

		R1	R2	R3
Trasversale	$\gamma_t$	--	--	1.30

Coefficienti di riduzione  $\zeta$  per la determinazione della resistenza caratteristica dei pali

Numero di verticali indagate 1

$\zeta_3=1.70$   $\zeta_4=1.70$

### Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \dots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \dots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \dots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \dots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \dots$$

I valori dei coeff.  $\Psi_{0,j}$ ,  $\Psi_{1,j}$ ,  $\Psi_{2,j}$  sono definiti nelle singole condizioni variabili, per i valori dei coeff.  $\gamma_G$  e  $\gamma_Q$ , sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

### Simbologia adottata

$\gamma$  Coefficiente di partecipazione della condizione  
 $\Psi$  Coefficiente di combinazione della condizione

### Combinazione n° 1 - STR (A1-M1-R3)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
PESO BA	1.30	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIAPIEDE	1.30	--	Sfavorevole
LM71	1.45	1.00	Sfavorevole

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Condizione	$\gamma$	$\Psi$	Effetto
VENTO+PA	1.45	1.00	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3) H

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Favorevole
PESO BA	1.00	--	Favorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Favorevole
LM71	1.00	0.20	Favorevole

Combinazione n° 3 - GEO (A2-M2-R2)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole
LM71	1.15	1.00	Sfavorevole
VENTO+PA	1.15	1.00	Sfavorevole

Combinazione n° 4 - GEO (A2-M2-R2) H

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole
LM71	1.00	0.20	Sfavorevole

Combinazione n° 5 - SLER

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole
LM71	1.00	1.00	Sfavorevole
VENTO+PA	1.00	1.00	Sfavorevole

Combinazione n° 6 - SLEF

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole
LM71	1.00	0.75	Sfavorevole

Combinazione n° 7 - SLEQ

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole

Combinazione n° 8 - SLEF

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIPIEDE	1.00	--	Sfavorevole
LM71	1.00	0.20	Sfavorevole
VENTO+PA	1.00	0.75	Sfavorevole

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### Dati sismici

Comune	Ponte
Provincia	Benevento
Regione	Campania
Latitudine	41.213973
Longitudine	14.693540
Indice punti di interpolazione	31431 - 31653 - 31654 - 31432
Vita nominale	75 anni
Classe d'uso	III
Tipo costruzione	Normali affollamenti
Vita di riferimento	113 anni

	Simbolo	U.M.	SLU	SLE
Accelerazione al suolo	a <sub>g</sub>	[m/s <sup>2</sup> ]	3.600	1.248
Accelerazione al suolo	a <sub>g</sub> /g	[%]	0.367	0.127
Massimo fattore amplificazione spettro orizzontale	F0		2.347	2.332
Periodo inizio tratto spettro a velocità costante	Tc*		0.395	0.326
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		B	1.055
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000

Stato limite ...	Coeff. di riduzione β <sub>m</sub>	kh	kv
Ultimo	0.620	24.005	12.002
Esercizio	1.000	15.261	7.630

Nel calcolo non è stato portato in conto il sisma verticale  
 Forma diagramma incremento sismico  **Rettangolare**

### **Opzioni di calcolo**

#### Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta a riposo
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

#### Stabilità globale

Metodo di calcolo della stabilità globale	Bishop
---	--------

#### Altro

Partecipazione spinta passiva terreno antistante	0.00
Partecipazione resistenza passiva dente di fondazione	50.00
Componente verticale della spinta nel calcolo delle sollecitazioni	NO
Considera terreno sulla fondazione di valle	NO
Considera spinta e peso acqua fondazione di valle	NO

#### Spostamenti

Modello a blocchi	
Non è stato richiesto il calcolo degli spostamenti	
Spostamento limite	5.00 [cm]

#### Opzioni calcolo pali

##### *Portanza verticale*

Metodo di calcolo della portanza alla punta	Berezantzev
Metodo di calcolo della portanza alla laterale	Integrazione delle tensioni tangenziali (k <sub>s</sub> σ <sub>v</sub> tan(δ)+c <sub>a</sub> )
Correzione angolo di attrito in funzione del tipo di palo (infisso/trivellato)	Attiva
Andamento pressione verticale nel calcolo della portanza alla punta σ <sub>v</sub> con la profondità	Pressione geostatica
Andamento pressione verticale nel calcolo della portanza laterale	Pressione geostatica

##### *Portanza trasversale*

Costante di Winkler: da strato	criterio rottura palo-terreno
- Spostamento limite	Non attivo
- Pressione limite	Pressione passiva con moltiplicatore M=3.00
- Palo infinitamente elastico	Non attivo

##### *Cedimenti*

Metodo di calcolo	Metodo agli elementi finiti
-------------------	-----------------------------

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Spostamento limite alla punta 1.00 [cm]  
Spostamento limite laterale 0.50 [cm]

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

**Paramento e fondazione muro**

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali Aggressive  
Armatura ad aderenza migliorata SI

*Verifica a fessurazione*

Sensibilità armatura Poco sensibile  
Metodo di calcolo aperture delle fessure Circ. Min. 252 (15/10/96) - NTC 2008 I Formulazione

Valori limite aperture delle fessure:

w<sub>1</sub>=0.20  
w<sub>2</sub>=0.30  
w<sub>3</sub>=0.40

*Verifica delle tensioni*

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f <sub>ck</sub>	0.80 f <sub>yk</sub>
Frequente	1.00 f <sub>ck</sub>	1.00 f <sub>yk</sub>
Quasi permanente	0.45 f <sub>ck</sub>	1.00 f <sub>yk</sub>

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## Risultati per inviluppo

### Spinta e forze

#### Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
Cx, Cy	Componente in direzione X ed Y dell'azione, espressa in [kN]
Px, Py	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V [kN]	I [°]	Cx [kN]	Cy [kN]	Px [m]	Py [m]
1	Spinta statica	189.84	0.00	189.84	0.00	3.71	-5.30
	Peso/Inerzia muro			0.00	292.61/0.00	0.36	-5.21
	Peso/Inerzia terrapieno			0.00	268.13/0.00	1.97	-4.48
	Peso dell'acqua sulla fondazione di valle				0.00	0.00	0.00
	Risultante forze sul muro			10.15	6.50	--	--
	Resistenza pali			-699.96			

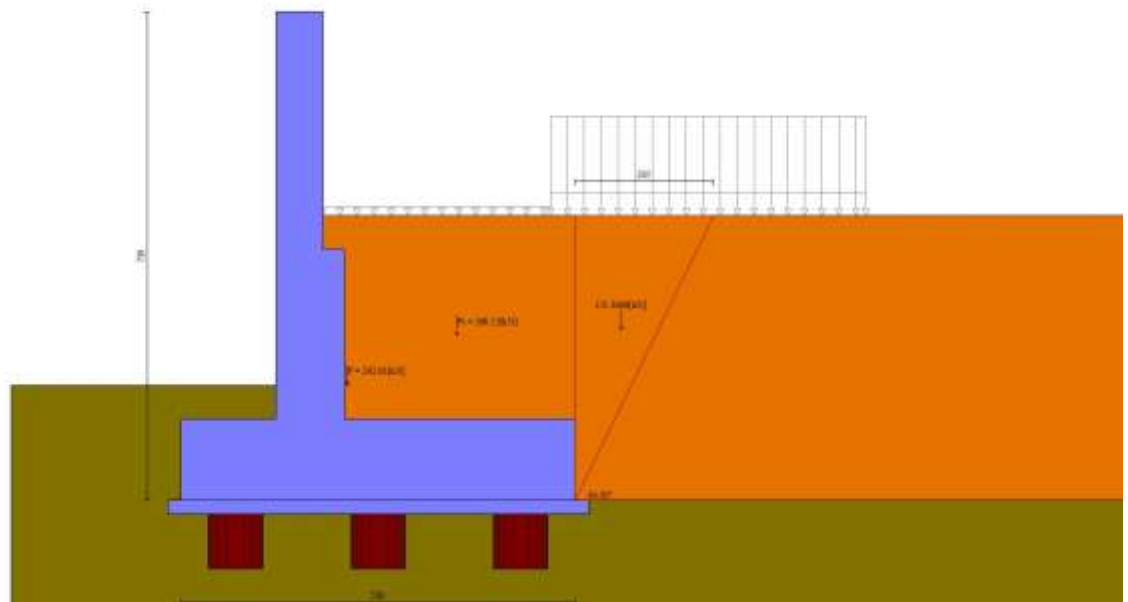


Fig. 4 - Cuneo di spinta (combinazione statica) (Combinazione n° 1)

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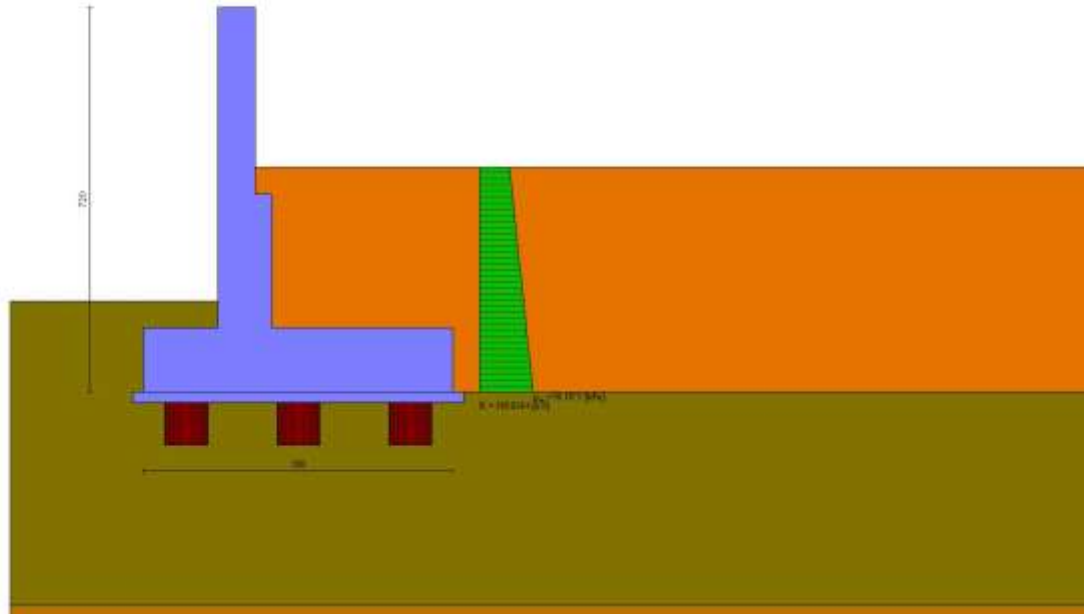


Fig. 5 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 1)

## Risultanti globali

### Simbologia adottata

Cmb	Indice/Tipo combinazione
N	Componente normale al piano di posa, espressa in [kN]
T	Componente parallela al piano di posa, espressa in [kN]
M <sub>r</sub>	Momento ribaltante, espresso in [kNm]
M <sub>s</sub>	Momento stabilizzante, espresso in [kNm]
ecc	Eccentricità risultante, espressa in [m]

Ic	N [kN]	T [kN]	M <sub>r</sub> [kNm]	M <sub>s</sub> [kNm]	ecc [m]
1 - STR (A1-M1-R3)	567.24	199.99	436.46	1817.40	0.466
2 - STR (A1-M1-R3)	532.78	278.58	589.16	1680.60	0.851
3 - GEO (A2-M2-R2)	552.37	194.53	413.95	1760.93	0.461
4 - GEO (A2-M2-R2)	532.78	278.58	589.16	1680.60	0.851
5 - SLEP	549.28	146.43	315.82	1748.25	0.292
6 - SLEF	544.12	125.12	233.37	1727.11	0.155
7 - SLEQ	528.65	82.19	143.22	1663.69	0.024
8 - SLEF	532.78	98.88	206.56	1680.60	0.133

## Scarichi in testa ai pali

### Simbologia adottata

Cmb	Indice/Tipo combinazione
I <sub>p</sub>	Indice palo
N	Sforzo normale, espresso in [kN]
M	Momento, espresso in [kNm]
T	Taglio, espresso in [kN]

Cmb	I <sub>p</sub>	N [kN]	M [kNm]	T [kN]
1 - STR (A1-M1-R3)	1	212.59	-184.08	-171.42
	2	486.21	-184.08	-171.42
	3	759.83	-184.08	-171.42

## Verifiche geotecniche

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### Quadro riassuntivo coeff. di sicurezza calcolati

#### Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS <sub>SCO</sub>	Coeff. di sicurezza allo scorrimento
FS <sub>RIB</sub>	Coeff. di sicurezza al ribaltamento
FS <sub>QLIM</sub>	Coeff. di sicurezza a carico limite
FS <sub>STAB</sub>	Coeff. di sicurezza a stabilità globale
FS <sub>HYD</sub>	Coeff. di sicurezza a sifonamento
FS <sub>UPL</sub>	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS <sub>SCO</sub>	FS <sub>RIB</sub>	FS <sub>QLIM</sub>	FS <sub>STAB</sub>	FS <sub>HYD</sub>	FS <sub>UPL</sub>
1 - STR (A1-M1-R3)		3.500					
2 - STR (A1-M1-R3)	H	2.572					
3 - GEO (A2-M2-R2)					4.571		
4 - GEO (A2-M2-R2)	H				3.688		

### Verifiche portanza trasversale (scorrimento)

#### Simbologia adottata

Ic	Indice/Tipo combinazione
Ip	Indice palo
T	Carico orizzontale agente alla testa del palo, espresso in [kN]
Td	Portanza trasversale di progetto, espresso in [kN]
FS <sub>O</sub>	Fattore di sicurezza (Td/T)

Ic	Ip	T [kN]	Td [kN]	FS <sub>O</sub>
2 - STR (A1-M1-R3) H	1	-238.78	614.18	2.572
	2	-238.78	614.18	2.572
	3	-238.78	614.18	2.572

### Verifiche portanza verticale

#### Simbologia adottata

Ic	Indice/Tipo combinazione
Ip	Indice palo
N	Carico verticale agente alla testa del palo, espresso in [kN]
Pd	Portanza di progetto, espresso in [kN]
FS <sub>V</sub>	Fattore di sicurezza (Pd/N)

Ic	Ip	N [kN]	Pd [kN]	FS <sub>V</sub>
1 - STR (A1-M1-R3)	1	212.59	2317.04	10.899
	2	486.21	2317.04	4.766
	3	759.83	2317.04	3.049
2 - STR (A1-M1-R3) H	1	15.57	2317.04	148.806
	2	456.67	2317.04	5.074
	3	897.77	2317.04	2.581

### Verifica stabilità globale muro + terreno

#### Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C [m]	R [m]	FS
4 - GEO (A2-M2-R2) H	-3.50; 3.50	12.91	3.688

### Dettagli strisce verifiche stabilità

#### Simbologia adottata

Le ascisse X sono considerate positive verso monte

APPALTATORE:

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II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	15 di 120

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W peso della striscia espresso in [kN]

Qy carico sulla striscia espresso in [kN]

Qf carico acqua sulla striscia espresso in [kN]

 $\alpha$  angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario) $\phi$  angolo d'attrito del terreno lungo la base della striscia

c coesione del terreno lungo la base della striscia espressa in [kPa]

b larghezza della striscia espressa in [m]

u pressione neutra lungo la base della striscia espressa in [kPa]

Tx; Ty Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	$\alpha$ [°]	$\phi$ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	9.97	21.14	0.00	7.67 - 0.82	56.154	38.000	0	0.0	
2	28.03	21.14	0.00	0.82	50.437	38.000	0	0.0	
3	42.81	21.14	0.00	0.82	45.021	38.000	0	0.0	
4	55.13	21.14	0.00	0.82	40.082	38.000	0	0.0	
5	64.66	21.14	0.00	0.82	35.482	38.000	0	0.0	
6	78.62	9.25	0.00	0.82	31.134	34.000	0	0.0	
7	85.87	4.58	0.00	0.82	26.978	34.000	0	0.0	
8	91.95	4.58	0.00	0.82	22.971	34.000	0	0.0	
9	189.51	4.58	0.00	0.82	19.081	34.000	0	0.0	
10	148.73	6.74	0.00	0.82	15.280	34.000	0	0.0	
11	79.95	0.00	0.00	0.82	11.547	34.000	0	0.0	
12	65.18	0.00	0.00	0.82	7.864	34.000	0	0.0	
13	62.42	0.00	0.00	0.82	4.213	34.000	0	0.0	
14	62.96	0.00	0.00	0.82	0.579	34.000	0	0.0	
15	62.68	0.00	0.00	0.82	-3.052	34.000	0	0.0	
16	61.57	0.00	0.00	0.82	-6.696	34.000	0	0.0	
17	59.61	0.00	0.00	0.82	-10.367	34.000	0	0.0	
18	56.78	0.00	0.00	0.82	-14.082	34.000	0	0.0	
19	53.05	0.00	0.00	0.82	-17.859	34.000	0	0.0	
20	48.35	0.00	0.00	0.82	-21.718	34.000	0	0.0	
21	42.62	0.00	0.00	0.82	-25.685	34.000	0	0.0	
22	35.75	0.00	0.00	0.82	-29.789	34.000	0	0.0	
23	27.58	0.00	0.00	0.82	-34.070	34.000	0	0.0	
24	17.75	0.00	0.00	0.82	-38.582	34.000	0	0.0	
25	6.10	0.00	0.00	-12.77 - 0.82	-42.889	34.000	0	0.0	

Resistenza al taglio pali 1061.32 [kN]

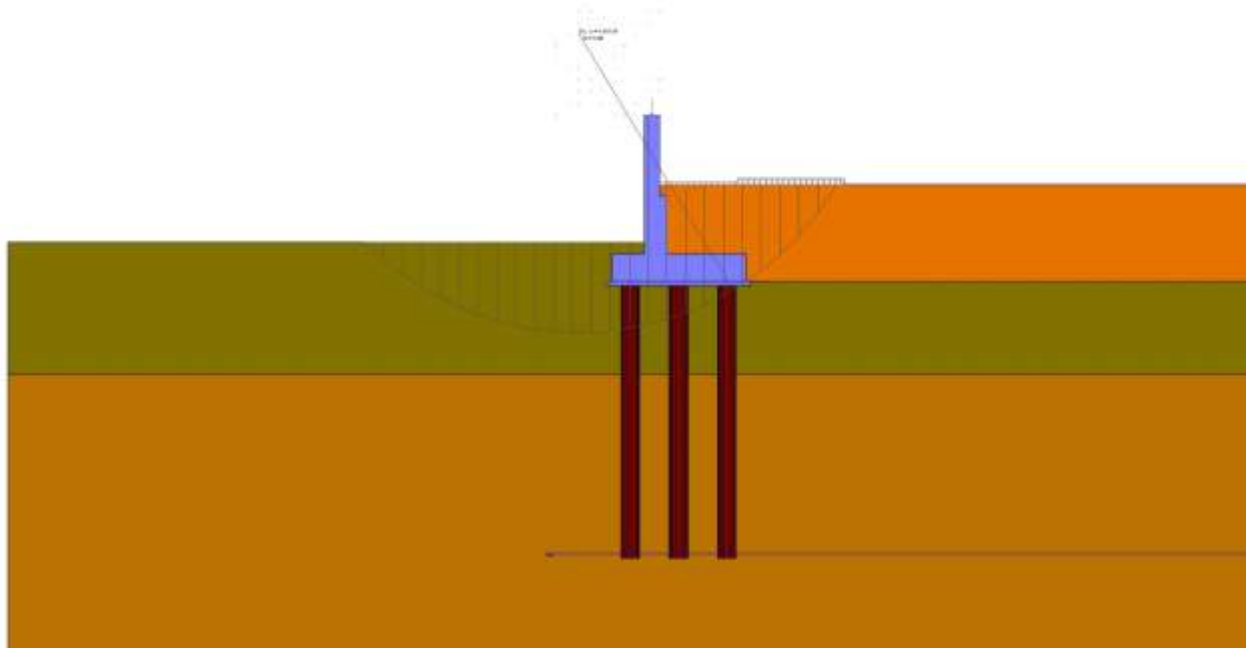


Fig. 6 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 4)



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PROGETTAZIONE: Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.	<b>PROGETTO ESECUTIVO</b>					
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.006	REV. A	FOGLIO 16 di 120

## Sollecitazioni

### Elementi calcolati a trave

#### Simbologia adottata

N	Sforzo normale, espresso in [kN]. Positivo se di compressione.
T	Taglio, espresso in [kN]. Positivo se diretto da monte verso valle
M	Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

### Elementi calcolati a piastra

#### Simbologia adottata

Mx, My	Momenti flettenti, espresso in [kNm]
Mxy	Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle
Tx, Ty	Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte)

I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

## Paramento

n°	X [m]	Nmin [kN]	Nmax [kN]	Tmin [kN]	Tmax [kN]	Mmin [kNm]	Mmax [kNm]
1	0.00	5.00	6.50	0.00	10.15	0.00	2.90
2	-0.10	6.72	8.22	0.00	10.15	0.00	3.91
3	-0.20	8.43	9.93	0.00	10.15	0.00	4.93
4	-0.30	10.15	11.65	0.00	10.15	0.00	5.94
5	-0.40	11.86	13.36	0.00	10.15	0.00	6.96
6	-0.50	13.58	15.08	0.00	10.15	0.00	7.97
7	-0.60	15.29	16.79	0.00	10.15	0.00	8.99
8	-0.70	17.01	18.51	0.00	10.15	0.00	10.00
9	-0.80	18.73	20.23	0.00	10.15	0.00	11.02
10	-0.90	20.44	21.94	0.00	10.15	0.00	12.03
11	-1.00	22.16	23.66	0.00	10.15	0.00	13.05
12	-1.10	23.87	25.37	0.00	10.15	0.00	14.06
13	-1.20	25.59	27.09	0.00	10.15	0.00	15.08
14	-1.30	27.30	28.80	0.00	10.15	0.00	16.09
15	-1.40	29.02	30.52	0.00	10.15	0.00	17.11
16	-1.50	30.74	32.24	0.00	10.15	0.00	18.12
17	-1.60	32.45	33.95	0.00	10.15	0.00	19.14
18	-1.70	34.17	35.67	0.00	10.15	0.00	20.15
19	-1.80	35.88	37.38	0.00	10.15	0.00	21.16
20	-1.90	37.60	39.10	0.00	10.15	0.00	22.18
21	-2.00	39.31	40.81	0.00	10.15	0.00	23.19
22	-2.10	41.03	42.53	0.00	10.15	0.00	24.21
23	-2.20	42.75	44.25	0.00	10.26	0.00	25.22
24	-2.30	44.46	45.96	0.00	10.67	0.00	26.24
25	-2.40	46.18	47.68	0.00	11.08	0.00	27.25
26	-2.50	47.89	49.39	0.00	11.50	0.00	28.27
27	-2.60	49.61	51.11	0.00	11.91	0.00	29.28
28	-2.70	51.32	52.82	0.00	12.32	0.00	30.30
29	-2.80	53.04	54.54	0.00	12.73	0.00	31.31
30	-2.90	54.76	56.26	0.00	13.14	0.00	32.33
31	-3.00	56.47	57.97	0.00	13.56	0.00	33.34
32	-3.10	58.19	59.69	0.59	15.37	0.03	34.39
33	-3.20	59.90	61.40	1.24	17.25	0.12	35.53
34	-3.30	61.62	63.12	1.93	19.17	0.28	36.75
35	-3.40	63.33	64.83	2.66	21.14	0.51	38.06
36	-3.50	65.05	66.55	3.45	23.16	0.81	39.47
37	-3.50	69.93	71.95	3.50	24.39	9.21	47.94
38	-3.60	72.40	74.42	6.72	29.02	9.73	49.63
39	-3.70	74.87	76.90	9.20	32.92	10.53	51.68
40	-3.80	77.35	79.37	10.97	36.11	11.54	54.01
41	-3.90	79.82	81.84	12.04	38.59	12.70	56.53
42	-4.00	82.30	84.32	12.91	40.87	13.94	59.16
43	-4.10	84.77	86.79	13.87	43.24	15.28	61.91
44	-4.20	87.24	89.26	14.90	45.68	16.72	65.56
45	-4.30	89.72	91.74	15.99	48.19	18.26	70.24
46	-4.40	92.19	94.21	17.15	50.76	19.91	75.19
47	-4.50	94.66	96.69	18.36	53.39	21.69	80.39
48	-4.60	97.14	99.16	19.63	56.07	23.58	85.85
49	-4.70	99.61	101.63	20.95	58.80	25.61	91.59
50	-4.80	102.09	104.11	22.32	61.59	27.77	97.61
51	-4.90	104.56	106.58	23.75	64.43	30.07	103.90
52	-5.00	107.03	109.05	25.22	67.32	32.52	110.48
53	-5.10	109.51	111.53	26.75	70.26	35.11	117.35
54	-5.20	111.98	114.00	28.33	73.24	37.86	124.52
55	-5.30	114.45	116.48	29.95	76.28	40.77	131.99
56	-5.40	116.93	118.95	31.63	79.37	43.85	139.76
57	-5.50	119.40	121.42	33.35	82.51	47.09	147.85
58	-5.50	119.45	121.47	33.38	82.57	47.16	148.01

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PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	17 di 120

n°	X [m]	Nmin [kN]	Nmax [kN]	Tmin [kN]	Tmax [kN]	Mmin [kNm]	Mmax [kNm]
59	-5.60	121.92	123.94	35.15	85.75	50.58	156.41
60	-5.70	124.39	126.42	36.97	88.98	54.18	165.13
61	-5.80	126.87	128.89	38.84	92.26	57.96	174.17
62	-5.90	129.34	131.36	40.76	95.59	61.93	183.55
63	-6.00	131.81	133.83	42.72	98.97	66.10	193.26

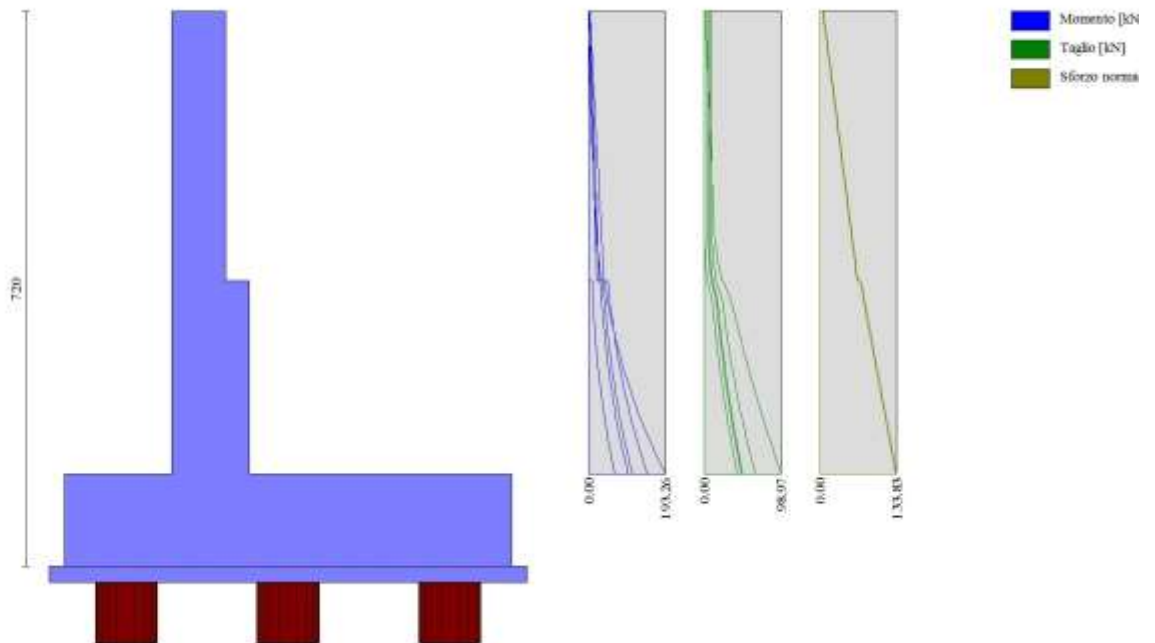


Fig. 7 - Paramento

*Piastra fondazione*

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
1	-1.13	2.76	-1.85	0.96	21.26	MAX
	-1.48	0.81	-5.23	-20.95	4.35	MIN
2	-14.58	-9.37	-3.12	1.05	-6.25	MAX
	-27.32	-24.13	-8.72	-28.95	-8.50	MIN
3	3.59	-3.74	-3.88	59.50	-18.94	MAX
	-0.43	-15.26	-11.79	39.88	-25.51	MIN
4	3.21	0.35	-0.05	24.42	9.96	MAX
	1.37	-3.64	-0.49	15.45	-2.70	MIN
5	-31.71	0.24	-8.55	0.20	31.61	MAX
	-59.43	-2.93	-23.63	-28.26	23.80	MIN
6	-41.43	-31.16	-11.49	45.12	-15.64	MAX
	-76.14	-74.03	-31.96	35.10	-31.84	MIN
7	7.65	6.46	7.74	82.18	-51.57	MAX
	4.97	-6.68	5.47	43.39	-86.47	MIN
8	10.20	11.48	3.72	38.18	-13.35	MAX
	5.31	8.48	3.10	18.96	-19.36	MIN
9	14.52	-9.94	-12.03	461.25	-74.87	MAX
	9.63	-39.58	-55.16	260.00	-132.20	MIN
10	-35.68	43.70	0.76	-11.11	9.51	MAX
	-63.13	15.13	0.36	-18.45	-18.24	MIN
11	-31.77	166.32	2.47	-9.42	208.77	MAX
	-41.54	53.44	1.36	-15.60	161.96	MIN
12	-174.49	-164.11	4.24	-7.39	-199.77	MAX
	-315.05	-329.99	2.49	-11.69	-471.29	MIN
13	8.34	28.96	17.05	90.12	-78.89	MAX
	3.77	24.65	13.17	42.70	-144.05	MIN
14	9.93	44.01	17.71	19.14	-19.30	MAX
	6.55	32.58	11.46	7.26	-44.69	MIN
15	-12.08	9.78	11.94	148.37	-163.56	MAX
	-24.17	-8.54	4.33	71.64	-304.37	MIN

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PROGETTAZIONE:		
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Relazione di calcolo		
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<b>ITINERARIO NAPOLI – BARI</b>					
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<b>PROGETTO ESECUTIVO</b>					
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	18 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
16	-42.67	-38.85	5.21	-4.94	-533.22	MAX
	-107.35	-234.95	3.18	-7.67	-1034.73	MIN
17	-20.18	0.47	25.30	-9.65	31.72	MAX
	-38.59	-1.97	9.27	-23.28	23.47	MIN
18	-31.23	-30.77	37.20	-52.80	-16.57	MAX
	-59.33	-73.16	14.27	-74.36	-32.57	MIN
19	27.49	-7.87	64.37	-274.28	-77.00	MAX
	18.28	-36.16	17.42	-483.20	-135.09	MIN
20	-6.50	14.24	7.76	-81.09	-166.52	MAX
	-16.02	-1.83	-3.87	-162.56	-309.29	MIN
21	23.35	77.82	25.10	0.00	-84.88	MAX
	15.04	50.14	17.15	0.00	-159.93	MIN
22	23.80	79.32	28.63	0.00	-20.55	MAX
	15.84	52.79	19.53	0.00	-54.25	MIN
23	28.81	96.04	13.96	0.00	-232.47	MAX
	22.63	75.44	11.37	0.00	-439.65	MIN
24	22.29	74.31	4.98	0.00	-352.48	MAX
	3.50	11.68	3.09	0.00	-691.11	MIN
25	31.07	103.55	0.12	0.00	-235.67	MAX
	24.08	80.25	-6.09	0.00	-445.26	MIN
26	15.76	-8.92	9.97	-5.89	-7.76	MAX
	7.97	-21.84	3.57	-20.53	-10.63	MIN
27	34.06	-3.78	16.04	-52.47	-23.94	MAX
	18.21	-15.21	5.98	-79.77	-32.12	MIN
28	32.70	8.99	0.86	-54.59	-61.07	MAX
	22.11	-2.74	-0.42	-98.43	-101.39	MIN
29	25.98	40.44	-4.25	-50.63	-90.96	MAX
	22.14	33.07	-5.24	-101.31	-164.19	MIN
30	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
31	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
32	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
33	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
34	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
35	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
36	29.25	97.49	-6.53	0.00	-97.98	MAX
	18.70	62.33	-8.95	0.00	-182.07	MIN
37	55.29	1.27	-0.26	-4.80	-4.33	MAX
	27.89	0.32	-0.41	-7.76	-8.56	MIN
38	39.66	1.03	-0.22	-3.16	-22.32	MAX
	24.37	-4.95	-0.34	-5.17	-28.96	MIN
39	42.96	18.20	-0.21	-1.97	-48.68	MAX
	28.44	15.34	-0.32	-3.24	-78.85	MIN
40	36.76	48.29	-0.15	-0.99	-65.51	MAX
	25.87	36.16	-0.22	-1.65	-118.76	MIN
41	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
42	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
43	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
44	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
45	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
46	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
47	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
48	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
49	25.19	83.98	-0.08	0.00	-70.50	MAX
	16.67	55.55	-0.12	0.00	-132.74	MIN
50	20.37	-8.79	-4.00	9.74	-7.18	MAX
	10.78	-21.61	-10.64	-10.18	-10.23	MIN
51	38.42	-3.62	-6.25	68.61	-23.13	MAX
	20.86	-14.92	-16.44	45.65	-30.80	MIN
52	35.76	8.96	0.26	91.17	-59.38	MAX
	23.97	-2.75	-1.06	50.17	-98.64	MIN
53	27.45	40.16	5.25	97.44	-88.61	MAX
	23.17	32.86	4.32	48.27	-160.36	MIN
54	28.79	95.98	9.18	0.00	-95.39	MAX
	18.41	61.36	6.65	0.00	-177.86	MIN
55	28.79	95.98	9.18	0.00	-95.39	MAX
	18.41	61.36	6.65	0.00	-177.86	MIN
56	28.79	95.98	9.18	0.00	-95.39	MAX
	18.41	61.36	6.65	0.00	-177.86	MIN

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	19 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
57	-31.86	-106.19	17.61	0.00	-160.73	MAX
	-113.84	-379.46	-8.22	0.00	-289.26	MIN
58	-30.13	-100.42	59.93	0.00	-182.18	MAX
	-119.08	-396.94	0.79	0.00	-226.72	MIN
59	-27.78	-92.61	0.54	0.00	-135.74	MAX
	-115.00	-383.35	-12.66	0.00	-284.31	MIN
60	-22.52	-75.08	-9.79	0.00	-106.54	MAX
	-111.33	-371.09	-15.49	0.00	-260.57	MIN
61	-17.46	-58.20	-19.15	0.00	-61.50	MAX
	-108.34	-361.13	-20.24	0.00	-214.37	MIN
62	-2.80	-9.35	-27.29	0.00	65.20	MAX
	-84.08	-280.28	-43.73	0.00	-109.66	MIN
63	26.51	88.38	-5.65	0.00	179.45	MAX
	-15.15	-50.49	-5.99	0.00	-57.72	MIN
64	1.04	3.46	31.88	0.00	75.85	MAX
	-79.83	-266.11	15.18	0.00	-93.13	MIN
65	-13.80	0.79	-9.47	11.37	32.83	MAX
	-28.06	-1.41	-25.55	-8.14	24.15	MIN
66	-25.29	-30.37	-14.02	60.92	-15.08	MAX
	-49.56	-72.45	-36.70	44.62	-30.10	MIN
67	34.39	-7.69	-16.76	473.85	-73.93	MAX
	22.54	-35.78	-63.20	268.53	-130.05	MIN
68	-4.06	14.26	4.88	157.09	-162.25	MAX
	-12.07	-1.69	-6.07	77.70	-302.32	MIN
69	30.44	101.47	7.22	0.00	-230.94	MAX
	23.67	78.89	1.60	0.00	-437.59	MIN
70	30.44	101.47	7.22	0.00	-230.94	MAX
	23.67	78.89	1.60	0.00	-437.59	MIN
71	30.44	101.47	7.22	0.00	-230.94	MAX
	23.67	78.89	1.60	0.00	-437.59	MIN
72	-9.33	-31.12	7.19	0.00	-35.86	MAX
	-99.71	-332.38	5.31	0.00	-177.57	MIN
73	-9.08	-64.97	10.51	21.67	-146.33	MAX
	-44.47	-306.56	-9.38	2.52	-274.14	MIN
74	-0.95	-55.24	26.05	25.86	-174.72	MAX
	-16.96	-301.45	-4.54	5.36	-226.84	MIN
75	-11.68	-57.76	-0.73	12.98	-123.32	MAX
	-71.51	-309.83	-14.06	-1.77	-270.35	MIN
76	-8.69	-48.26	-9.49	6.51	-96.71	MAX
	-76.15	-306.72	-15.91	-1.43	-248.93	MIN
77	2.60	-36.68	-19.78	22.75	-52.21	MAX
	-58.40	-292.37	-21.71	14.04	-202.84	MIN
78	-23.57	-45.48	-28.55	50.92	18.72	MAX
	-101.22	-303.59	-48.95	28.47	-140.38	MIN
79	-25.19	86.15	-6.20	-3.72	318.31	MAX
	-61.61	-3.84	-6.58	-5.61	47.07	MIN
80	-18.34	-35.33	35.95	-34.99	29.17	MAX
	-97.60	-293.57	15.33	-61.79	-124.38	MIN
81	13.45	-15.76	8.28	-17.18	-27.27	MAX
	-51.34	-272.32	4.74	-31.51	-167.40	MIN
82	-24.28	44.72	-0.17	-1.43	10.38	MAX
	-43.97	15.65	-0.28	-2.33	-16.66	MIN
83	-21.29	167.63	-0.24	-0.56	211.90	MAX
	-24.87	54.15	-0.39	-0.92	163.73	MIN
84	-166.83	-163.32	-0.33	-0.09	-196.23	MAX
	-302.82	-328.57	-0.53	-0.16	-465.30	MIN
85	-38.07	-37.72	-0.35	0.15	-528.29	MAX
	-100.10	-232.94	-0.56	0.10	-1026.70	MIN
86	22.16	73.86	-0.30	0.00	-347.02	MAX
	3.38	11.27	-0.48	0.00	-682.35	MIN
87	22.16	73.86	-0.30	0.00	-347.02	MAX
	3.38	11.27	-0.48	0.00	-682.35	MIN
88	22.16	73.86	-0.30	0.00	-347.02	MAX
	3.38	11.27	-0.48	0.00	-682.35	MIN
89	-8.91	-29.70	-1.92	0.00	-54.65	MAX
	-97.40	-324.68	-2.80	0.00	-195.05	MIN
90	8.09	-16.10	-2.16	-2.62	-47.67	MAX
	-66.56	-277.81	-3.15	-2.87	-186.80	MIN
91	-2.37	-34.56	-0.62	23.89	-114.16	MAX
	-23.37	-253.04	-10.92	1.55	-240.09	MIN
92	0.14	-30.94	-5.20	21.41	-154.27	MAX
	-4.52	-233.11	-10.44	2.29	-235.51	MIN
93	-2.59	-30.11	-4.87	22.07	-95.05	MAX
	-41.64	-249.61	-13.73	0.42	-238.44	MIN
94	-0.49	-26.15	-8.21	21.36	-75.02	MAX
	-52.27	-250.26	-13.08	7.25	-223.41	MIN
95	-0.02	-25.73	-8.04	40.71	-46.43	MAX
	-59.11	-248.27	-10.93	31.75	-192.62	MIN
96	5.89	-32.27	-25.48	246.06	-30.39	MAX
	-58.63	-256.46	-67.93	224.63	-174.01	MIN
97	-151.03	-140.77	-5.94	-3.47	-4.39	MAX
	-207.83	-325.76	-6.31	-7.12	-310.29	MIN

APPALTATORE:

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**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

## PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 20 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
98	11.61	-25.43	55.56	-237.76	-20.85	MAX
	-55.92	-250.38	12.98	-253.55	-160.03	MIN
99	11.49	-12.25	-2.84	-38.30	-24.50	MAX
	-54.53	-236.57	-4.05	-42.11	-162.40	MIN
100	16.28	-7.30	-2.24	-3.73	-34.56	MAX
	-48.88	-235.34	-3.24	-4.02	-172.41	MIN
101	-13.51	0.80	25.00	3.07	33.21	MAX
	-27.58	-1.40	9.13	-14.76	24.38	MIN
102	-25.06	-30.45	35.93	-45.95	-14.64	MAX
	-49.17	-72.58	13.54	-63.11	-29.39	MIN
103	34.55	-8.01	62.18	-268.88	-73.14	MAX
	22.63	-36.30	16.13	-474.44	-128.76	MIN
104	-4.12	13.65	5.00	-77.60	-161.24	MAX
	-12.16	-2.60	-5.58	-156.95	-300.69	MIN
105	30.01	100.05	-2.52	0.00	-229.87	MAX
	23.40	78.01	-7.84	0.00	-435.85	MIN
106	30.01	100.05	-2.52	0.00	-229.87	MAX
	23.40	78.01	-7.84	0.00	-435.85	MIN
107	30.01	100.05	-2.52	0.00	-229.87	MAX
	23.40	78.01	-7.84	0.00	-435.85	MIN
108	-8.08	-26.94	-9.40	0.00	-34.84	MAX
	-97.74	-325.81	-12.95	0.00	-173.16	MIN
109	15.44	-11.86	-9.33	26.05	-26.16	MAX
	-49.20	-266.86	-14.74	11.47	-163.02	MIN
110	13.90	-9.03	-1.89	34.56	-23.18	MAX
	-52.42	-232.40	-2.56	31.00	-158.18	MIN
111	1.26	3.79	-8.93	15.72	-76.96	MAX
	-7.06	-158.39	-11.46	0.59	-203.36	MIN
112	0.65	3.35	-9.67	10.57	-121.41	MAX
	0.11	-150.46	-11.41	-0.23	-239.62	MIN
113	2.16	4.75	-9.54	24.10	-60.97	MAX
	-17.10	-158.20	-13.31	4.11	-202.49	MIN
114	1.94	3.76	-6.69	36.60	-50.29	MAX
	-29.43	-160.65	-9.62	14.27	-198.70	MIN
115	-3.54	-2.69	-5.31	78.97	-45.49	MAX
	-50.88	-170.89	-9.41	46.35	-193.12	MIN
116	-28.62	-20.05	-3.69	77.29	-64.69	MAX
	-71.59	-185.02	-17.12	41.95	-223.09	MIN
117	-34.46	-35.43	-5.87	-0.13	-286.51	MAX
	-103.97	-327.99	-6.27	-6.07	-540.08	MIN
118	-22.95	-17.32	5.08	-52.45	-57.35	MAX
	-70.73	-184.02	-8.40	-74.84	-213.10	MIN
119	7.07	1.84	-2.10	-50.70	-29.81	MAX
	-51.38	-170.06	-6.94	-66.87	-172.80	MIN
120	14.79	7.83	-2.58	-3.20	-24.83	MAX
	-37.77	-162.45	-3.67	-4.36	-168.28	MIN
121	9.97	4.11	1.58	60.84	-28.34	MAX
	-49.46	-167.73	-5.30	42.07	-169.08	MIN
122	21.67	-8.76	10.09	3.92	-6.41	MAX
	11.57	-21.57	3.66	-13.93	-9.72	MIN
123	39.52	-3.76	15.75	-47.65	-22.22	MAX
	21.52	-15.14	5.82	-71.89	-29.33	MIN
124	36.33	8.30	0.18	-51.06	-57.74	MAX
	24.31	-3.73	-0.83	-92.64	-95.97	MIN
125	27.44	38.64	-5.21	-48.52	-86.51	MAX
	23.16	31.78	-5.93	-97.86	-156.94	MIN
126	27.95	93.16	-7.11	0.00	-93.14	MAX
	17.88	59.62	-9.92	0.00	-174.18	MIN
127	27.95	93.16	-7.11	0.00	-93.14	MAX
	17.88	59.62	-9.92	0.00	-174.18	MIN
128	27.95	93.16	-7.11	0.00	-93.14	MAX
	17.88	59.62	-9.92	0.00	-174.18	MIN
129	3.72	12.39	-20.06	0.00	78.65	MAX
	-75.78	-252.59	-38.09	0.00	-83.48	MIN
130	-14.15	-27.12	-20.76	55.87	32.12	MAX
	-93.27	-282.47	-42.89	29.43	-114.82	MIN
131	16.63	-18.79	-18.44	246.29	-17.56	MAX
	-51.71	-242.03	-62.54	229.68	-150.92	MIN
132	-17.01	-12.83	2.46	70.09	-53.95	MAX
	-67.01	-179.57	-12.64	43.92	-205.24	MIN
133	0.20	24.21	-11.31	4.75	-39.32	MAX
	-1.51	-80.62	-12.93	0.84	-167.75	MIN
134	-0.80	20.13	-8.61	1.47	-80.60	MAX
	-1.05	-83.02	-12.49	-0.75	-214.04	MIN
135	-0.35	26.68	-12.23	14.02	-25.22	MAX
	-5.08	-76.36	-13.15	4.79	-172.01	MIN
136	-2.01	26.28	-6.50	32.88	-20.67	MAX
	-13.36	-76.48	-7.15	11.56	-180.86	MIN
137	-6.91	20.07	-0.83	47.23	-29.17	MAX
	-26.75	-86.41	-3.59	15.78	-188.11	MIN
138	-10.43	15.44	-0.73	37.79	-64.76	MAX
	-40.30	-108.55	-7.35	11.15	-230.34	MIN

APPALTATORE:

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PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	21 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
139	-12.93	7.63	-5.28	2.83	-75.61	MAX
	-52.08	-136.95	-5.68	-4.19	-252.38	MIN
140	-5.51	15.58	-3.42	-18.00	-60.38	MAX
	-41.04	-110.36	-9.98	-29.69	-225.18	MIN
141	1.85	19.63	-6.63	-17.65	-20.85	MAX
	-30.36	-90.81	-9.41	-31.25	-179.09	MIN
142	7.78	23.92	-2.76	-1.96	-10.50	MAX
	-24.98	-85.03	-3.86	-3.96	-172.30	MIN
143	4.97	20.96	3.78	27.81	-19.49	MAX
	-28.79	-89.93	-1.06	9.85	-176.22	MIN
144	0.77	18.08	4.01	27.85	-57.42	MAX
	-38.14	-108.88	-4.17	10.71	-219.32	MIN
145	58.17	1.38	-0.05	-0.27	-3.19	MAX
	29.65	0.39	-0.09	-0.45	-7.80	MIN
146	42.24	0.88	-0.09	-0.01	-20.94	MAX
	25.93	-5.15	-0.14	-0.01	-26.99	MIN
147	44.51	17.14	-0.12	0.18	-46.11	MAX
	29.37	14.08	-0.20	0.11	-74.66	MIN
148	37.19	45.97	-0.14	0.19	-62.16	MAX
	26.13	34.72	-0.22	0.12	-113.31	MIN
149	23.98	79.93	-0.12	0.00	-66.89	MAX
	15.91	53.04	-0.20	0.00	-126.85	MIN
150	23.98	79.93	-0.12	0.00	-66.89	MAX
	15.91	53.04	-0.20	0.00	-126.85	MIN
151	23.98	79.93	-0.12	0.00	-66.89	MAX
	15.91	53.04	-0.20	0.00	-126.85	MIN
152	31.44	104.82	-0.55	0.00	185.75	MAX
	-9.32	-31.08	-1.11	0.00	-40.92	MIN
153	-18.38	100.58	-0.63	-0.94	324.77	MAX
	-54.85	12.15	-1.26	-1.32	63.62	MIN
154	-143.01	-130.34	-0.69	-1.45	2.32	MAX
	-201.62	-313.28	-1.35	-1.83	-294.84	MIN
155	-25.23	-28.87	-0.88	-1.78	-280.19	MAX
	-98.86	-321.92	-1.63	-1.90	-527.26	MIN
156	-3.45	10.92	-1.03	-1.47	-70.60	MAX
	-48.45	-135.46	-1.85	-1.89	-243.38	MIN
157	1.41	25.23	-12.23	4.76	-7.77	MAX
	-3.52	-25.10	-14.61	-12.66	-124.44	MIN
158	0.86	22.75	-8.05	2.99	-42.20	MAX
	-0.06	-30.71	-12.07	-11.07	-161.17	MIN
159	2.82	35.06	-15.09	7.53	17.98	MAX
	-8.11	-5.45	-19.06	-4.20	-147.92	MIN
160	4.66	45.06	-4.95	18.37	15.00	MAX
	-10.33	15.07	-5.53	4.05	-181.08	MIN
161	-7.87	32.47	6.59	35.66	10.64	MAX
	-11.63	-12.36	4.66	-1.60	-167.70	MIN
162	-3.88	20.74	2.65	30.62	-15.77	MAX
	-16.40	-40.21	1.76	-3.98	-155.27	MIN
163	2.72	20.74	-4.44	4.06	-25.27	MAX
	-17.52	-45.59	-4.79	-3.04	-157.57	MIN
164	0.27	19.89	-10.84	-1.16	-13.86	MAX
	-18.03	-42.76	-11.89	-21.09	-153.94	MIN
165	-1.59	30.51	-12.96	-0.87	13.55	MAX
	-12.38	-17.73	-15.37	-22.17	-166.82	MIN
166	-0.36	40.93	-2.70	-0.84	16.69	MAX
	-8.02	8.31	-3.78	-3.45	-185.08	MIN
167	1.54	31.14	8.16	20.97	14.60	MAX
	-11.28	-17.73	7.45	-5.84	-164.92	MIN
168	6.52	20.98	6.02	21.38	-11.70	MAX
	-16.09	-43.00	3.71	-4.92	-150.23	MIN
169	11.95	21.93	-1.10	-1.03	-21.94	MAX
	-15.39	-46.57	-1.94	-1.77	-152.37	MIN
170	21.55	-8.77	-3.78	13.23	-6.29	MAX
	11.50	-21.58	-10.28	-4.97	-9.63	MIN
171	39.37	-3.81	-6.01	71.78	-22.09	MAX
	21.43	-15.23	-16.05	47.59	-29.12	MIN
172	36.17	8.14	0.55	92.96	-57.53	MAX
	24.21	-3.96	-0.61	51.26	-95.63	MIN
173	27.29	38.31	5.58	98.23	-86.27	MAX
	23.05	31.55	4.75	48.75	-156.54	MIN
174	27.80	92.66	9.52	0.00	-92.89	MAX
	17.79	59.31	6.86	0.00	-173.78	MIN
175	27.80	92.66	9.52	0.00	-92.89	MAX
	17.79	59.31	6.86	0.00	-173.78	MIN
176	27.80	92.66	9.52	0.00	-92.89	MAX
	17.79	59.31	6.86	0.00	-173.78	MIN
177	4.07	13.56	35.81	0.00	78.36	MAX
	-75.00	-250.00	18.88	0.00	-82.35	MIN
178	-13.51	-25.89	40.30	-32.10	31.87	MAX
	-92.38	-280.17	19.41	-57.83	-113.67	MIN
179	17.45	-17.65	59.78	-232.69	-17.66	MAX
	-50.79	-240.12	16.97	-249.78	-149.75	MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	22 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
180	-15.93	-11.83	9.32	-47.64	-53.87	MAX
	-66.07	-178.24	-4.30	-73.75	-204.09	MIN
181	2.04	18.84	0.45	-14.46	-57.22	MAX
	-37.24	-108.08	-6.15	-30.70	-218.30	MIN
182	7.92	21.49	-7.58	1.38	-11.45	MAX
	-15.29	-42.62	-8.43	-23.32	-149.43	MIN
183	13.24	19.63	-12.09	27.96	9.38	MAX
	1.46	6.12	-16.13	-27.31	-73.38	MIN
184	1.72	16.42	-5.36	10.52	-14.38	MAX
	0.87	-1.19	-7.55	-13.67	-94.00	MIN
185	0.09	14.76	-19.07	24.37	33.66	MAX
	-30.26	-0.49	-27.90	-33.07	-101.56	MIN
186	30.76	191.99	-3.76	8.48	155.42	MAX
	-21.89	77.77	-4.22	-0.35	-234.84	MIN
187	-3.19	11.07	19.61	46.31	30.15	MAX
	-27.58	-3.10	11.17	-26.45	-112.59	MIN
188	9.50	16.62	8.07	33.36	7.36	MAX
	7.12	1.39	5.00	-32.09	-87.57	MIN
189	12.42	16.81	-3.55	4.06	0.51	MAX
	-0.22	-1.51	-3.85	-2.61	-86.08	MIN
190	11.83	15.53	-12.04	27.28	7.78	MAX
	7.54	-0.29	-15.57	-24.80	-88.33	MIN
191	-7.39	6.99	-17.90	22.55	30.34	MAX
	-20.69	-6.39	-26.84	-37.04	-115.36	MIN
192	24.43	185.93	-2.43	0.03	154.27	MAX
	-12.19	75.38	-3.49	-2.97	-242.02	MIN
193	-6.75	6.62	20.00	37.47	31.02	MAX
	-17.64	-6.59	13.04	-28.32	-114.34	MIN
194	17.45	15.69	9.15	26.37	9.10	MAX
	8.54	-0.81	7.19	-32.49	-86.47	MIN
195	21.21	16.73	-1.06	-0.60	2.34	MAX
	0.58	-2.84	-1.89	-1.63	-83.84	MIN
196	18.93	15.98	-9.46	29.26	9.33	MAX
	9.23	-0.63	-12.91	-27.45	-85.92	MIN
197	-13.62	0.79	-9.27	13.75	33.48	MAX
	-27.75	-1.41	-25.23	-4.59	24.55	MIN
198	-25.22	-30.55	-13.75	62.72	-14.35	MAX
	-49.43	-72.75	-36.27	45.72	-28.92	MIN
199	34.27	-8.30	-16.42	474.61	-72.67	MAX
	22.45	-36.78	-62.65	268.99	-128.00	MIN
200	-4.31	13.13	5.24	157.26	-160.70	MAX
	-12.47	-3.37	-5.50	77.80	-299.81	MIN
201	29.70	99.00	7.54	0.00	-229.31	MAX
	23.21	77.37	2.08	0.00	-434.93	MIN
202	29.70	99.00	7.54	0.00	-229.31	MAX
	23.21	77.37	2.08	0.00	-434.93	MIN
203	29.70	99.00	7.54	0.00	-229.31	MAX
	23.21	77.37	2.08	0.00	-434.93	MIN
204	-7.32	-24.41	10.48	0.00	-35.27	MAX
	-96.15	-320.49	7.95	0.00	-170.69	MIN
205	16.79	-9.24	11.94	-14.23	-26.50	MAX
	-47.38	-262.16	7.69	-28.27	-160.52	MIN
206	15.62	-6.65	0.13	-34.72	-23.24	MAX
	-50.53	-228.52	-0.38	-38.18	-155.64	MIN
207	12.21	6.13	1.85	-46.03	-28.06	MAX
	-47.56	-165.09	-3.70	-64.36	-166.63	MIN
208	7.57	22.46	-2.72	-13.71	-18.98	MAX
	-27.01	-88.40	-6.16	-30.37	-174.08	MIN
209	4.39	32.13	-9.96	2.30	15.16	MAX
	-9.71	-17.04	-11.76	-22.53	-163.26	MIN
210	-5.46	6.79	-15.31	25.16	31.51	MAX
	-14.67	-6.29	-23.68	-38.16	-113.23	MIN
211	2.48	21.47	-4.69	44.24	7.71	MAX
	-0.78	5.36	-8.75	-4.11	-30.21	MIN
212	2.22	11.56	-2.84	19.44	-0.10	MAX
	-1.18	5.35	-6.31	-4.85	-30.80	MIN
213	4.52	29.99	-23.54	205.48	8.18	MAX
	-7.50	-7.60	-75.02	5.11	-51.76	MIN
214	-1.74	25.38	-2.39	4.11	-58.20	MAX
	-146.57	-118.05	-2.85	-2.17	-279.68	MIN
215	4.15	28.24	70.27	0.69	7.06	MAX
	-3.44	-8.31	18.27	-210.47	-56.00	MIN
216	7.71	18.40	4.47	6.20	8.28	MAX
	3.35	4.07	0.17	-49.63	-34.95	MIN
217	14.98	14.15	-2.69	3.92	7.43	MAX
	2.55	7.42	-3.09	-2.35	-31.64	MIN
218	11.12	17.23	-5.54	45.02	8.07	MAX
	1.33	3.47	-10.53	1.54	-36.29	MIN
219	3.28	25.97	-23.34	206.01	6.37	MAX
	0.29	-9.34	-76.02	6.40	-59.23	MIN
220	-6.67	22.07	-1.98	0.91	-59.59	MAX
	-136.54	-119.46	-3.00	-2.47	-285.27	MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	23 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
221	6.21	25.59	70.16	-4.32	6.72	MAX
	0.52	-9.32	19.41	-210.82	-58.85	MIN
222	16.89	16.42	5.08	1.26	8.72	MAX
	1.56	3.35	1.71	-49.42	-35.72	MIN
223	23.37	12.80	-0.90	-0.08	8.21	MAX
	2.32	6.90	-1.68	-1.41	-31.24	MIN
224	18.40	16.42	-3.54	46.64	8.89	MAX
	2.11	3.48	-8.42	-1.29	-35.41	MIN
225	9.23	25.55	-21.31	208.14	7.07	MAX
	1.53	-9.06	-73.38	4.64	-58.26	MIN
226	-24.33	44.71	0.00	0.00	10.65	MAX
	-44.04	15.64	0.00	0.00	-16.21	MIN
227	-21.42	167.38	0.00	0.00	212.69	MAX
	-25.05	54.00	0.00	0.00	164.21	MIN
228	-167.02	-163.77	0.00	0.00	-195.43	MAX
	-303.13	-329.30	0.00	0.00	-463.99	MIN
229	-38.32	-38.47	0.00	0.00	-527.33	MAX
	-100.51	-234.15	0.00	0.00	-1025.14	MIN
230	21.82	72.72	0.00	0.00	-346.03	MAX
	2.87	9.57	0.00	0.00	-680.72	MIN
231	21.82	72.72	0.00	0.00	-346.03	MAX
	2.87	9.57	0.00	0.00	-680.72	MIN
232	21.82	72.72	0.00	0.00	-346.03	MAX
	2.87	9.57	0.00	0.00	-680.72	MIN
233	-7.62	-25.41	0.00	0.00	-54.88	MAX
	-94.90	-316.32	0.00	0.00	-190.77	MIN
234	10.31	-11.78	0.00	0.00	-47.76	MAX
	-63.72	-270.52	0.00	0.00	-182.50	MIN
235	19.08	-3.47	0.00	0.00	-34.25	MAX
	-45.98	-229.43	0.00	0.00	-168.10	MIN
236	18.36	10.95	0.00	0.00	-24.06	MAX
	-34.90	-158.57	0.00	0.00	-164.22	MIN
237	11.85	26.13	0.00	0.00	-9.47	MAX
	-22.36	-82.93	0.00	0.00	-168.86	MIN
238	3.90	42.31	0.00	0.00	17.69	MAX
	-4.98	9.30	0.00	0.00	-182.50	MIN
239	26.17	186.03	0.00	0.00	155.07	MAX
	-7.69	76.12	0.00	0.00	-240.38	MIN
240	-5.38	21.89	0.00	0.00	-59.05	MAX
	-132.02	-119.14	0.00	0.00	-284.43	MIN
241	-6.93	14.78	-1.43	49.10	2.27	MAX
	-7.88	0.77	-12.26	26.09	-6.41	MIN
242	0.42	6.94	-0.26	20.65	6.33	MAX
	-0.18	1.59	-2.65	8.06	-1.87	MIN
243	5.64	29.23	-2.20	52.85	-25.11	MAX
	-36.46	-11.17	-25.34	40.14	-36.39	MIN
244	-29.70	-34.08	-1.18	4.20	-181.30	MAX
	-49.86	-147.66	-1.50	-2.01	-225.65	MIN
245	4.24	28.35	23.35	-32.71	-25.28	MAX
	-32.64	-11.61	-0.52	-56.91	-37.18	MIN
246	-0.09	13.62	10.76	-21.17	3.22	MAX
	-8.51	0.08	-0.76	-52.74	-5.69	MIN
247	11.14	11.08	-1.62	5.11	5.81	MAX
	0.28	2.65	-2.01	-1.50	-2.98	MIN
248	3.24	13.19	-2.45	49.68	2.86	MAX
	-10.52	-0.15	-14.68	31.04	-6.51	MIN
249	0.45	27.50	-2.49	53.66	-25.92	MAX
	-26.02	-12.03	-27.01	41.47	-38.94	MIN
250	-34.69	-34.70	-1.22	2.69	-184.33	MAX
	-40.44	-148.98	-1.97	-1.57	-226.59	MIN
251	0.44	27.29	23.16	-35.97	-25.79	MAX
	-23.17	-12.06	0.07	-56.71	-38.90	MIN
252	8.83	12.76	11.11	-25.25	3.05	MAX
	-10.75	-0.22	0.10	-52.49	-6.50	MIN
253	19.28	10.42	-0.57	0.98	5.97	MAX
	-0.52	2.49	-1.12	-0.96	-3.18	MIN
254	10.36	12.73	-1.26	50.60	3.16	MAX
	-10.28	-0.17	-13.32	27.29	-6.40	MIN
255	1.28	27.21	-1.25	54.94	-25.60	MAX
	-20.13	-11.97	-25.29	38.26	-38.70	MIN
256	-33.70	-34.60	0.00	0.00	-184.06	MAX
	-36.74	-149.14	0.00	0.00	-226.32	MIN
257	-13.62	0.79	25.23	4.59	33.48	MAX
	-27.75	-1.41	9.27	-13.75	24.55	MIN
258	-25.22	-30.55	36.27	-45.72	-14.35	MAX
	-49.43	-72.75	13.75	-62.72	-28.92	MIN
259	34.27	-8.30	62.65	-268.99	-72.67	MAX
	22.45	-36.78	16.42	-474.61	-128.00	MIN
260	-4.31	13.13	5.50	-77.80	-160.70	MAX
	-12.47	-3.37	-5.24	-157.26	-299.81	MIN
261	29.70	99.00	-2.08	0.00	-229.31	MAX
	23.21	77.37	-7.54	0.00	-434.93	MIN



APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 24 di 120


In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
262	29.70	99.00	-2.08	0.00	-229.31	MAX
	23.21	77.37	-7.54	0.00	-434.93	MIN
263	29.70	99.00	-2.08	0.00	-229.31	MAX
	23.21	77.37	-7.54	0.00	-434.93	MIN
264	-7.32	-24.41	-7.95	0.00	-35.27	MAX
	-96.15	-320.49	-10.48	0.00	-170.69	MIN
265	16.79	-9.24	-7.69	28.27	-26.50	MAX
	-47.38	-262.16	-11.94	14.23	-160.52	MIN
266	15.62	-6.65	0.38	38.18	-23.24	MAX
	-50.53	-228.52	-0.13	34.72	-155.64	MIN
267	12.21	6.13	3.70	64.36	-28.06	MAX
	-47.56	-165.09	-1.85	46.03	-166.63	MIN
268	7.57	22.46	6.16	30.37	-18.98	MAX
	-27.01	-88.40	2.72	13.71	-174.08	MIN
269	4.39	32.13	11.76	22.53	15.16	MAX
	-9.71	-17.04	9.96	-2.30	-163.26	MIN
270	-5.46	6.79	23.68	38.16	31.51	MAX
	-14.67	-6.29	15.31	-25.16	-113.23	MIN
271	9.23	25.55	73.38	-4.64	7.07	MAX
	1.53	-9.06	21.31	-208.14	-58.26	MIN
272	1.28	27.21	25.29	-38.26	-25.60	MAX
	-20.13	-11.97	1.25	-54.94	-38.70	MIN
273	4.58	15.51	-0.89	66.72	3.70	MAX
	-11.19	0.20	-7.67	39.58	0.18	MIN
274	0.15	-0.59	-0.77	47.64	15.45	MAX
	-1.14	-1.57	-4.91	28.35	2.92	MIN
275	8.04	5.91	-2.06	66.28	-34.45	MAX
	-26.44	3.43	-18.31	39.68	-42.95	MIN
276	0.65	-4.34	-0.70	7.51	-58.01	MAX
	-35.96	-33.96	-0.80	0.16	-84.62	MIN
277	4.18	4.96	17.20	-38.41	-34.50	MAX
	-23.10	3.11	0.78	-49.97	-42.96	MIN
278	-5.35	12.53	6.78	-37.07	5.55	MAX
	-7.02	-0.68	-0.14	-47.92	1.53	MIN
279	5.61	-0.34	-0.88	10.69	6.90	MAX
	-17.22	-0.43	-1.33	1.70	2.28	MIN
280	-2.44	12.47	-1.58	68.59	4.95	MAX
	-8.79	-0.72	-9.37	40.88	1.09	MIN
281	0.83	4.84	-2.36	68.55	-35.73	MAX
	-16.24	3.03	-19.58	41.32	-43.93	MIN
282	-4.12	-4.48	-0.65	8.06	-58.62	MAX
	-25.75	-34.29	-1.25	0.96	-86.31	MIN
283	0.87	4.77	17.14	-38.87	-35.79	MAX
	-13.39	3.01	1.07	-52.55	-43.96	MIN
284	3.17	12.34	7.09	-38.49	4.78	MAX
	-8.91	-0.76	0.32	-53.02	0.98	MIN
285	13.79	-0.48	-0.30	3.99	6.53	MAX
	-17.82	-0.53	-0.69	0.24	2.26	MIN
286	4.68	12.32	-0.93	61.02	4.82	MAX
	-8.43	-0.75	-8.46	39.44	1.03	MIN
287	1.72	4.74	-1.70	60.60	-35.73	MAX
	-10.37	3.03	-18.47	40.09	-43.88	MIN
288	-3.09	-4.47	0.00	0.00	-58.48	MAX
	-21.27	-34.36	0.00	0.00	-86.25	MIN
289	1.72	4.74	18.47	-40.09	-35.73	MAX
	-10.37	3.03	1.70	-60.60	-43.88	MIN
290	21.55	-8.77	10.28	4.97	-6.29	MAX
	11.50	-21.58	3.78	-13.23	-9.63	MIN
291	39.37	-3.81	16.05	-47.59	-22.09	MAX
	21.43	-15.23	6.01	-71.78	-29.12	MIN
292	36.17	8.14	0.61	-51.26	-57.53	MAX
	24.21	-3.96	-0.55	-92.96	-95.63	MIN
293	27.29	38.31	-4.75	-48.75	-86.27	MAX
	23.05	31.55	-5.58	-98.23	-156.54	MIN
294	27.80	92.66	-6.86	0.00	-92.89	MAX
	17.79	59.31	-9.52	0.00	-173.78	MIN
295	27.80	92.66	-6.86	0.00	-92.89	MAX
	17.79	59.31	-9.52	0.00	-173.78	MIN
296	27.80	92.66	-6.86	0.00	-92.89	MAX
	17.79	59.31	-9.52	0.00	-173.78	MIN
297	4.07	13.56	-18.88	0.00	78.36	MAX
	-75.00	-250.00	-35.81	0.00	-82.35	MIN
298	-13.51	-25.89	-19.41	57.83	31.87	MAX
	-92.38	-280.17	-40.30	32.10	-113.67	MIN
299	17.45	-17.65	-16.97	249.78	-17.66	MAX
	-50.79	-240.12	-59.78	232.69	-149.75	MIN
300	-15.93	-11.83	4.30	73.75	-53.87	MAX
	-66.07	-178.24	-9.32	47.64	-204.09	MIN
301	2.04	18.84	6.15	30.70	-57.22	MAX
	-37.24	-108.08	-0.45	14.46	-218.30	MIN
302	7.92	21.49	8.43	23.32	-11.45	MAX
	-15.29	-42.62	7.58	-1.38	-149.43	MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	25 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
303	18.93 9.23	15.98 -0.63	12.91 9.46	27.45 -29.26	9.33 -85.92	MAX MIN
304	18.40 2.11	16.42 3.48	8.42 3.54	1.29 -46.64	8.89 -35.41	MAX MIN
305	10.36 -10.28	12.73 -0.17	13.32 1.26	-27.29 -50.60	3.16 -6.40	MAX MIN
306	4.68 -8.43	12.32 -0.75	8.46 0.93	-39.44 -61.02	4.82 1.03	MAX MIN
307	58.17 29.65	1.38 0.39	0.09 0.05	0.45 0.27	-3.19 -7.80	MAX MIN
308	42.24 25.93	0.88 -5.15	0.14 0.09	0.01 0.01	-20.94 -26.99	MAX MIN
309	44.51 29.37	17.14 14.08	0.20 0.12	-0.11 -0.18	-46.11 -74.66	MAX MIN
310	37.19 26.13	45.97 34.72	0.22 0.14	-0.12 -0.19	-62.16 -113.31	MAX MIN
311	23.98 15.91	79.93 53.04	0.20 0.12	0.00 0.00	-66.89 -126.85	MAX MIN
312	23.98 15.91	79.93 53.04	0.20 0.12	0.00 0.00	-66.89 -126.85	MAX MIN
313	23.98 15.91	79.93 53.04	0.20 0.12	0.00 0.00	-66.89 -126.85	MAX MIN
314	31.44 -9.32	104.82 -31.08	1.11 0.55	0.00 0.00	185.75 -40.92	MAX MIN
315	-18.38 -54.85	100.58 12.15	1.26 0.63	1.32 0.94	324.77 63.62	MAX MIN
316	-143.01 -201.62	-130.34 -313.28	1.35 0.69	1.83 1.45	2.32 -294.84	MAX MIN
317	-25.23 -98.86	-28.87 -321.92	1.63 0.88	1.90 1.78	-280.19 -527.26	MAX MIN
318	-3.45 -48.45	10.92 -135.46	1.85 1.03	1.89 1.47	-70.60 -243.38	MAX MIN
319	11.95 -15.39	21.93 -46.57	1.94 1.10	1.77 1.03	-21.94 -152.37	MAX MIN
320	21.21 0.58	16.73 -2.84	1.89 1.06	1.63 0.60	2.34 -83.84	MAX MIN
321	23.37 2.32	12.80 6.90	1.68 0.90	1.41 0.08	8.21 -31.24	MAX MIN
322	19.28 -0.52	10.42 2.49	1.12 0.57	0.96 -0.98	5.97 -3.18	MAX MIN
323	13.79 -17.82	-0.48 -0.53	0.69 0.30	-0.24 -3.99	6.53 2.26	MAX MIN
324	21.67 11.57	-8.76 -21.57	-3.66 -10.09	13.93 -3.92	-6.41 -9.72	MAX MIN
325	39.52 21.52	-3.76 -15.14	-5.82 -15.75	71.89 47.65	-22.22 -29.33	MAX MIN
326	36.33 24.31	8.30 -3.73	0.83 -0.18	92.64 51.06	-57.74 -95.97	MAX MIN
327	27.44 23.16	38.64 31.78	5.93 5.21	97.86 48.52	-86.51 -156.94	MAX MIN
328	27.95 17.88	93.16 59.62	9.92 7.11	0.00 0.00	-93.14 -174.18	MAX MIN
329	27.95 17.88	93.16 59.62	9.92 7.11	0.00 0.00	-93.14 -174.18	MAX MIN
330	27.95 17.88	93.16 59.62	9.92 7.11	0.00 0.00	-93.14 -174.18	MAX MIN
331	3.72 -75.78	12.39 -252.59	38.09 20.06	0.00 0.00	78.65 -83.48	MAX MIN
332	-14.15 -93.27	-27.12 -282.47	42.89 20.76	-29.43 -55.87	32.12 -114.82	MAX MIN
333	16.63 -51.71	-18.79 -242.03	62.54 18.44	-229.68 -246.29	-17.56 -150.92	MAX MIN
334	-17.01 -67.01	-12.83 -179.57	12.64 -2.46	-43.92 -70.09	-53.95 -205.24	MAX MIN
335	0.77 -38.14	18.08 -108.88	4.17 -4.01	-10.71 -27.85	-57.42 -219.32	MAX MIN
336	6.52 -16.09	20.98 -43.00	-3.71 -6.02	4.92 -21.38	-11.70 -150.23	MAX MIN
337	17.45 8.54	15.69 -0.81	-7.19 -9.15	32.49 -26.37	9.10 -86.47	MAX MIN
338	16.89 1.56	16.42 3.35	-1.71 -5.08	49.42 -1.26	8.72 -35.72	MAX MIN
339	8.83 -10.75	12.76 -0.22	-0.10 -11.11	52.49 25.25	3.05 -6.50	MAX MIN
340	3.17 -8.91	12.34 -0.76	-0.32 -7.09	53.02 38.49	4.78 0.98	MAX MIN
341	-13.51 -27.58	0.80 -1.40	-9.13 -25.00	14.76 -3.07	33.21 24.38	MAX MIN
342	-25.06 -49.17	-30.45 -72.58	-13.54 -35.93	63.11 45.95	-14.64 -29.39	MAX MIN
343	34.55 22.63	-8.01 -36.30	-16.13 -62.18	474.44 268.88	-73.14 -128.76	MAX MIN

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata	
PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	26 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
344	-4.12	13.65	5.58	156.95	-161.24	MAX
	-12.16	-2.60	-5.00	77.60	-300.69	MIN
345	30.01	100.05	7.84	0.00	-229.87	MAX
	23.40	78.01	2.52	0.00	-435.85	MIN
346	30.01	100.05	7.84	0.00	-229.87	MAX
	23.40	78.01	2.52	0.00	-435.85	MIN
347	30.01	100.05	7.84	0.00	-229.87	MAX
	23.40	78.01	2.52	0.00	-435.85	MIN
348	-8.08	-26.94	12.95	0.00	-34.84	MAX
	-97.74	-325.81	9.40	0.00	-173.16	MIN
349	15.44	-11.86	14.74	-11.47	-26.16	MAX
	-49.20	-266.86	9.33	-26.05	-163.02	MIN
350	13.90	-9.03	2.56	-31.00	-23.18	MAX
	-52.42	-232.40	1.89	-34.56	-158.18	MIN
351	9.97	4.11	5.30	-42.07	-28.34	MAX
	-49.46	-167.73	-1.58	-60.84	-169.08	MIN
352	4.97	20.96	1.06	-9.85	-19.49	MAX
	-28.79	-89.93	-3.78	-27.81	-176.22	MIN
353	1.54	31.14	-7.45	5.84	14.60	MAX
	-11.28	-17.73	-8.16	-20.97	-164.92	MIN
354	-6.75	6.62	-13.04	28.32	31.02	MAX
	-17.64	-6.59	-20.00	-37.47	-114.34	MIN
355	6.21	25.59	-19.41	210.82	6.72	MAX
	0.52	-9.32	-70.16	4.32	-58.85	MIN
356	0.44	27.29	-0.07	56.71	-25.79	MAX
	-23.17	-12.06	-23.16	35.97	-38.90	MIN
357	0.87	4.77	-1.07	52.55	-35.79	MAX
	-13.39	3.01	-17.14	38.87	-43.96	MIN
358	-24.28	44.72	0.28	2.33	10.38	MAX
	-43.97	15.65	0.17	1.43	-16.66	MIN
359	-21.29	167.63	0.39	0.92	211.90	MAX
	-24.87	54.15	0.24	0.56	163.73	MIN
360	-166.83	-163.32	0.53	0.16	-196.23	MAX
	-302.82	-328.57	0.33	0.09	-465.30	MIN
361	-38.07	-37.72	0.56	-0.10	-528.29	MAX
	-100.10	-232.94	0.35	-0.15	-1026.70	MIN
362	22.16	73.86	0.48	0.00	-347.02	MAX
	3.38	11.27	0.30	0.00	-682.35	MIN
363	22.16	73.86	0.48	0.00	-347.02	MAX
	3.38	11.27	0.30	0.00	-682.35	MIN
364	22.16	73.86	0.48	0.00	-347.02	MAX
	3.38	11.27	0.30	0.00	-682.35	MIN
365	-8.91	-29.70	2.80	0.00	-54.65	MAX
	-97.40	-324.68	1.92	0.00	-195.05	MIN
366	8.09	-16.10	3.15	2.87	-47.67	MAX
	-66.56	-277.81	2.16	2.62	-186.80	MIN
367	16.28	-7.30	3.24	4.02	-34.56	MAX
	-48.88	-235.34	2.24	3.73	-172.41	MIN
368	14.79	7.83	3.67	4.36	-24.83	MAX
	-37.77	-162.45	2.58	3.20	-168.28	MIN
369	7.78	23.92	3.86	3.96	-10.50	MAX
	-24.98	-85.03	2.76	1.96	-172.30	MIN
370	-0.36	40.93	3.78	3.45	16.69	MAX
	-8.02	8.31	2.70	0.84	-185.08	MIN
371	24.43	185.93	3.49	2.97	154.27	MAX
	-12.19	75.38	2.43	-0.03	-242.02	MIN
372	-6.67	22.07	3.00	2.47	-59.59	MAX
	-136.54	-119.46	1.98	-0.91	-285.27	MIN
373	-34.69	-34.70	1.97	1.57	-184.33	MAX
	-40.44	-148.98	1.22	-2.69	-226.59	MIN
374	-4.12	-4.48	1.25	-0.96	-58.62	MAX
	-25.75	-34.29	0.65	-8.06	-86.31	MIN
375	-13.80	0.79	25.55	8.14	32.83	MAX
	-28.06	-1.41	9.47	-11.37	24.15	MIN
376	-25.29	-30.37	36.70	-44.62	-15.08	MAX
	-49.56	-72.45	14.02	-60.92	-30.10	MIN
377	34.39	-7.69	63.20	-268.53	-73.93	MAX
	22.54	-35.78	16.76	-473.85	-130.05	MIN
378	-4.06	14.26	6.07	-77.70	-162.25	MAX
	-12.07	-1.69	-4.88	-157.09	-302.32	MIN
379	30.44	101.47	-1.60	0.00	-230.94	MAX
	23.67	78.89	-7.22	0.00	-437.59	MIN
380	30.44	101.47	-1.60	0.00	-230.94	MAX
	23.67	78.89	-7.22	0.00	-437.59	MIN
381	30.44	101.47	-1.60	0.00	-230.94	MAX
	23.67	78.89	-7.22	0.00	-437.59	MIN
382	-9.33	-31.12	-5.31	0.00	-35.86	MAX
	-99.71	-332.38	-7.19	0.00	-177.57	MIN
383	13.45	-15.76	-4.74	31.51	-27.27	MAX
	-51.34	-272.32	-8.28	17.18	-167.40	MIN
384	11.49	-12.25	4.05	42.11	-24.50	MAX
	-54.53	-236.57	2.84	38.30	-162.40	MIN

APPALTATORE:	<b>TELESE S.c.a r.l.</b> <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	27 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
385	7.07	1.84	6.94	66.87	-29.81	MAX
	-51.38	-170.06	2.10	50.70	-172.80	MIN
386	1.85	19.63	9.41	31.25	-20.85	MAX
	-30.36	-90.81	6.63	17.65	-179.09	MIN
387	-1.59	30.51	15.37	22.17	13.55	MAX
	-12.38	-17.73	12.96	0.87	-166.82	MIN
388	-7.39	6.99	26.84	37.04	30.34	MAX
	-20.69	-6.39	17.90	-22.55	-115.36	MIN
389	3.28	25.97	76.02	-6.40	6.37	MAX
	0.29	-9.34	23.34	-206.01	-59.23	MIN
390	0.45	27.50	27.01	-41.47	-25.92	MAX
	-26.02	-12.03	2.49	-53.66	-38.94	MIN
391	0.83	4.84	19.58	-41.32	-35.73	MAX
	-16.24	3.03	2.36	-68.55	-43.93	MIN
392	20.37	-8.79	10.64	10.18	-7.18	MAX
	10.78	-21.61	4.00	-9.74	-10.23	MIN
393	38.42	-3.62	16.44	-45.65	-23.13	MAX
	20.86	-14.92	6.25	-68.61	-30.80	MIN
394	35.76	8.96	1.06	-50.17	-59.38	MAX
	23.97	-2.75	-0.26	-91.17	-98.64	MIN
395	27.45	40.16	-4.32	-48.27	-88.61	MAX
	23.17	32.86	-5.25	-97.44	-160.36	MIN
396	28.79	95.98	-6.65	0.00	-95.39	MAX
	18.41	61.36	-9.18	0.00	-177.86	MIN
397	28.79	95.98	-6.65	0.00	-95.39	MAX
	18.41	61.36	-9.18	0.00	-177.86	MIN
398	28.79	95.98	-6.65	0.00	-95.39	MAX
	18.41	61.36	-9.18	0.00	-177.86	MIN
399	1.04	3.46	-15.18	0.00	75.85	MAX
	-79.83	-266.11	-31.88	0.00	-93.13	MIN
400	-18.34	-35.33	-15.33	61.79	29.17	MAX
	-97.60	-293.57	-35.95	34.99	-124.38	MIN
401	11.61	-25.43	-12.98	253.55	-20.85	MAX
	-55.92	-250.38	-55.56	237.76	-160.03	MIN
402	-22.95	-17.32	8.40	74.84	-57.35	MAX
	-70.73	-184.02	-5.08	52.45	-213.10	MIN
403	-5.51	15.58	9.98	29.69	-60.38	MAX
	-41.04	-110.36	3.42	18.00	-225.18	MIN
404	0.27	19.89	11.89	21.09	-13.86	MAX
	-18.03	-42.76	10.84	1.16	-153.94	MIN
405	11.83	15.53	15.57	24.80	7.78	MAX
	7.54	-0.29	12.04	-27.28	-88.33	MIN
406	11.12	17.23	10.53	-1.54	8.07	MAX
	1.33	3.47	5.54	-45.02	-36.29	MIN
407	3.24	13.19	14.68	-31.04	2.86	MAX
	-10.52	-0.15	2.45	-49.68	-6.51	MIN
408	-2.44	12.47	9.37	-40.88	4.95	MAX
	-8.79	-0.72	1.58	-68.59	1.09	MIN
409	55.29	1.27	0.41	7.76	-4.33	MAX
	27.89	0.32	0.26	4.80	-8.56	MIN
410	39.66	1.03	0.34	5.17	-22.32	MAX
	24.37	-4.95	0.22	3.16	-28.96	MIN
411	42.96	18.20	0.32	3.24	-48.68	MAX
	28.44	15.34	0.21	1.97	-78.85	MIN
412	36.76	48.29	0.22	1.65	-65.51	MAX
	25.87	36.16	0.15	0.99	-118.76	MIN
413	25.19	83.98	0.12	0.00	-70.50	MAX
	16.67	55.55	0.08	0.00	-132.74	MIN
414	25.19	83.98	0.12	0.00	-70.50	MAX
	16.67	55.55	0.08	0.00	-132.74	MIN
415	25.19	83.98	0.12	0.00	-70.50	MAX
	16.67	55.55	0.08	0.00	-132.74	MIN
416	26.51	88.38	5.99	0.00	179.45	MAX
	-15.15	-50.49	5.65	0.00	-57.72	MIN
417	-25.19	86.15	6.58	5.61	318.31	MAX
	-61.61	-3.84	6.20	3.72	47.07	MIN
418	-151.03	-140.77	6.31	7.12	-4.39	MAX
	-207.83	-325.76	5.94	3.47	-310.29	MIN
419	-34.46	-35.43	6.27	6.07	-286.51	MAX
	-103.97	-327.99	5.87	0.13	-540.08	MIN
420	-12.93	7.63	5.68	4.19	-75.61	MAX
	-52.08	-136.95	5.28	-2.83	-252.38	MIN
421	2.72	20.74	4.79	3.04	-25.27	MAX
	-17.52	-45.59	4.44	-4.06	-157.57	MIN
422	12.42	16.81	3.85	2.61	0.51	MAX
	-0.22	-1.51	3.55	-4.06	-86.08	MIN
423	14.98	14.15	3.09	2.35	7.43	MAX
	2.55	7.42	2.69	-3.92	-31.64	MIN
424	11.14	11.08	2.01	1.50	5.81	MAX
	0.28	2.65	1.62	-5.11	-2.98	MIN
425	5.61	-0.34	1.33	-1.70	6.90	MAX
	-17.22	-0.43	0.88	-10.69	2.28	MIN

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	28 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
426	15.76 7.97	-8.92 -21.84	-3.57 -9.97	20.53 5.89	-7.76 -10.63	MAX MIN
427	34.06 18.21	-3.78 -15.21	-5.98 -16.04	79.77 52.47	-23.94 -32.12	MAX MIN
428	32.70 22.11	8.99 -2.74	0.42 -0.86	98.43 54.59	-61.07 -101.39	MAX MIN
429	25.98 22.14	40.44 33.07	5.24 4.25	101.31 50.63	-90.96 -164.19	MAX MIN
430	29.25 18.70	97.49 62.33	8.95 6.53	0.00 0.00	-97.98 -182.07	MAX MIN
431	29.25 18.70	97.49 62.33	8.95 6.53	0.00 0.00	-97.98 -182.07	MAX MIN
432	29.25 18.70	97.49 62.33	8.95 6.53	0.00 0.00	-97.98 -182.07	MAX MIN
433	-2.80 -84.08	-9.35 -280.28	43.73 27.29	0.00 0.00	65.20 -109.66	MAX MIN
434	-23.57 -101.22	-45.48 -303.59	48.95 28.55	-28.47 -50.92	18.72 -140.38	MAX MIN
435	5.89 -58.63	-32.27 -256.46	67.93 25.48	-224.63 -246.06	-30.39 -174.01	MAX MIN
436	-28.62 -71.59	-20.05 -185.02	17.12 3.69	-41.95 -77.29	-64.69 -223.09	MAX MIN
437	-10.43 -40.30	15.44 -108.55	7.35 0.73	-11.15 -37.79	-64.76 -230.34	MAX MIN
438	-3.88 -16.40	20.74 -40.21	-1.76 -2.65	3.98 -30.62	-15.77 -155.27	MAX MIN
439	9.50 7.12	16.62 1.39	-5.00 -8.07	32.09 -33.36	7.36 -87.57	MAX MIN
440	7.71 3.35	18.40 4.07	-0.17 -4.47	49.63 -6.20	8.28 -34.95	MAX MIN
441	-0.09 -8.51	13.62 0.08	0.76 -10.76	52.74 21.17	3.22 -5.69	MAX MIN
442	-5.35 -7.02	12.53 -0.68	0.14 -6.78	47.92 37.07	5.55 1.53	MAX MIN
443	-20.18 -38.59	0.47 -1.97	-9.27 -25.30	23.28 9.65	31.72 23.47	MAX MIN
444	-31.23 -59.33	-30.77 -73.16	-14.27 -37.20	74.36 52.80	-16.57 -32.57	MAX MIN
445	27.49 18.28	-7.87 -36.16	-17.42 -64.37	483.20 274.28	-77.00 -135.09	MAX MIN
446	-6.50 -16.02	14.24 -1.83	3.87 -7.76	162.56 81.09	-166.52 -309.29	MAX MIN
447	31.07 24.08	103.55 80.25	6.09 -0.12	0.00 0.00	-235.67 -445.26	MAX MIN
448	31.07 24.08	103.55 80.25	6.09 -0.12	0.00 0.00	-235.67 -445.26	MAX MIN
449	31.07 24.08	103.55 80.25	6.09 -0.12	0.00 0.00	-235.67 -445.26	MAX MIN
450	-17.46 -108.34	-58.20 -361.13	20.24 19.15	0.00 0.00	-61.50 -214.37	MAX MIN
451	2.60 -58.40	-36.68 -292.37	21.71 19.78	-14.04 -22.75	-52.21 -202.84	MAX MIN
452	-0.02 -59.11	-25.73 -248.27	10.93 8.04	-31.75 -40.71	-46.43 -192.62	MAX MIN
453	-3.54 -50.88	-2.69 -170.89	9.41 5.31	-46.35 -78.97	-45.49 -193.12	MAX MIN
454	-6.91 -26.75	20.07 -86.41	3.59 0.83	-15.78 -47.23	-29.17 -188.11	MAX MIN
455	-7.87 -11.63	32.47 -12.36	-4.66 -6.59	1.60 -35.66	10.64 -167.70	MAX MIN
456	-3.19 -27.58	11.07 -3.10	-11.17 -19.61	26.45 -46.31	30.15 -112.59	MAX MIN
457	4.15 -3.44	28.24 -8.31	-18.27 -70.27	210.47 -0.69	7.06 -56.00	MAX MIN
458	4.24 -32.64	28.35 -11.61	0.52 -23.35	56.91 32.71	-25.28 -37.18	MAX MIN
459	4.18 -23.10	4.96 3.11	-0.78 -17.20	49.97 38.41	-34.50 -42.96	MAX MIN
460	-35.68 -63.13	43.70 15.13	-0.36 -0.76	18.45 11.11	9.51 -18.24	MAX MIN
461	-31.77 -41.54	166.32 53.44	-1.36 -2.47	15.60 9.42	208.77 161.96	MAX MIN
462	-174.49 -315.05	-164.11 -329.99	-2.49 -4.24	11.69 7.39	-199.77 -471.29	MAX MIN
463	-42.67 -107.35	-38.85 -234.95	-3.18 -5.21	7.67 4.94	-533.22 -1034.73	MAX MIN
464	22.29 3.50	74.31 11.68	-3.09 -4.98	0.00 0.00	-352.48 -691.11	MAX MIN
465	22.29 3.50	74.31 11.68	-3.09 -4.98	0.00 0.00	-352.48 -691.11	MAX MIN
466	22.29 3.50	74.31 11.68	-3.09 -4.98	0.00 0.00	-352.48 -691.11	MAX MIN

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

## PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 29 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
467	-22.52	-75.08	15.49	0.00	-106.54	MAX
	-111.33	-371.09	9.79	0.00	-260.57	MIN
468	-8.69	-48.26	15.91	1.43	-96.71	MAX
	-76.15	-306.72	9.49	-6.51	-248.93	MIN
469	-0.49	-26.15	13.08	-7.25	-75.02	MAX
	-52.27	-250.26	8.21	-21.36	-223.41	MIN
470	1.94	3.76	9.62	-14.27	-50.29	MAX
	-29.43	-160.65	6.69	-36.60	-198.70	MIN
471	-2.01	26.28	7.15	-11.56	-20.67	MAX
	-13.36	-76.48	6.50	-32.88	-180.86	MIN
472	4.66	45.06	5.53	-4.05	15.00	MAX
	-10.33	15.07	4.95	-18.37	-181.08	MIN
473	30.76	191.99	4.22	0.35	155.42	MAX
	-21.89	77.77	3.76	-8.48	-234.84	MIN
474	-1.74	25.38	2.85	2.17	-58.20	MAX
	-146.57	-118.05	2.39	-4.11	-279.68	MIN
475	-29.70	-34.08	1.50	2.01	-181.30	MAX
	-49.86	-147.66	1.18	-4.20	-225.65	MIN
476	0.65	-4.34	0.80	-0.16	-58.01	MAX
	-35.96	-33.96	0.70	-7.51	-84.62	MIN
477	-31.71	0.24	23.63	28.26	31.61	MAX
	-59.43	-2.93	8.55	-0.20	23.80	MIN
478	-41.43	-31.16	31.96	-35.10	-15.64	MAX
	-76.14	-74.03	11.49	-45.12	-31.84	MIN
479	14.52	-9.94	55.16	-260.00	-74.87	MAX
	9.63	-39.58	12.03	-461.25	-132.20	MIN
480	-12.08	9.78	-4.33	-71.64	-163.56	MAX
	-24.17	-8.54	-11.94	-148.37	-304.37	MIN
481	28.81	96.04	-11.37	0.00	-232.47	MAX
	22.63	75.44	-13.96	0.00	-439.65	MIN
482	28.81	96.04	-11.37	0.00	-232.47	MAX
	22.63	75.44	-13.96	0.00	-439.65	MIN
483	28.81	96.04	-11.37	0.00	-232.47	MAX
	22.63	75.44	-13.96	0.00	-439.65	MIN
484	-27.78	-92.61	12.66	0.00	-135.74	MAX
	-115.00	-383.35	-0.54	0.00	-284.31	MIN
485	-11.68	-57.76	14.06	1.77	-123.32	MAX
	-71.51	-309.83	0.73	-12.98	-270.35	MIN
486	-2.59	-30.11	13.73	-0.42	-95.05	MAX
	-41.64	-249.61	4.87	-22.07	-238.44	MIN
487	2.16	4.75	13.31	-4.11	-60.97	MAX
	-17.10	-158.20	9.54	-24.10	-202.49	MIN
488	-0.35	26.68	13.15	-4.79	-25.22	MAX
	-5.08	-76.36	12.23	-14.02	-172.01	MIN
489	2.82	35.06	19.06	4.20	17.98	MAX
	-8.11	-5.45	15.09	-7.53	-147.92	MIN
490	0.09	14.76	27.90	33.07	33.66	MAX
	-30.26	-0.49	19.07	-24.37	-101.56	MIN
491	4.52	29.99	75.02	-5.11	8.18	MAX
	-7.50	-7.60	23.54	-205.48	-51.76	MIN
492	5.64	29.23	25.34	-40.14	-25.11	MAX
	-36.46	-11.17	2.20	-52.85	-36.39	MIN
493	8.04	5.91	18.31	-39.68	-34.45	MAX
	-26.44	3.43	2.06	-66.28	-42.95	MIN
494	-14.58	-9.37	8.72	28.95	-6.25	MAX
	-27.32	-24.13	3.12	-1.05	-8.50	MIN
495	3.59	-3.74	11.79	-39.88	-18.94	MAX
	-0.43	-15.26	3.88	-59.50	-25.51	MIN
496	7.65	6.46	-5.47	-43.39	-51.57	MAX
	4.97	-6.68	-7.74	-82.18	-86.47	MIN
497	8.34	28.96	-13.17	-42.70	-78.89	MAX
	3.77	24.65	-17.05	-90.12	-144.05	MIN
498	23.35	77.82	-17.15	0.00	-84.88	MAX
	15.04	50.14	-25.10	0.00	-159.93	MIN
499	23.35	77.82	-17.15	0.00	-84.88	MAX
	15.04	50.14	-25.10	0.00	-159.93	MIN
500	23.35	77.82	-17.15	0.00	-84.88	MAX
	15.04	50.14	-25.10	0.00	-159.93	MIN
501	-31.86	-106.19	8.22	0.00	-160.73	MAX
	-113.84	-379.46	-17.61	0.00	-289.26	MIN
502	-9.08	-64.97	9.38	-2.52	-146.33	MAX
	-44.47	-306.56	-10.51	-21.67	-274.14	MIN
503	-2.37	-34.56	10.92	-1.55	-114.16	MAX
	-23.37	-253.04	0.62	-23.89	-240.09	MIN
504	1.26	3.79	11.46	-0.59	-76.96	MAX
	-7.06	-158.39	8.93	-15.72	-203.36	MIN
505	0.20	24.21	12.93	-0.84	-39.32	MAX
	-1.51	-80.62	11.31	-4.75	-167.75	MIN
506	1.41	25.23	14.61	12.66	-7.77	MAX
	-3.52	-25.10	12.23	-4.76	-124.44	MIN
507	13.24	19.63	16.13	27.31	9.38	MAX
	1.46	6.12	12.09	-27.96	-73.38	MIN

APPALTATORE: **TELESE S.c.a r.l.**  
 Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:  
 Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo  
 IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

ITINERARIO NAPOLI – BARI  
 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
 II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
 2° SUBLOTTO TELESE – SAN LORENZO

PROGETTO ESECUTIVO

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	30 di 120

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
508	2.48	21.47	8.75	4.11	7.71	MAX
	-0.78	5.36	4.69	-44.24	-30.21	MIN
509	-6.93	14.78	12.26	-26.09	2.27	MAX
	-7.88	0.77	1.43	-49.10	-6.41	MIN
510	4.58	15.51	7.67	-39.58	3.70	MAX
	-11.19	0.20	0.89	-66.72	0.18	MIN
511	-1.13	2.76	5.23	20.95	21.26	MAX
	-1.48	0.81	1.85	-0.96	4.35	MIN
512	3.21	0.35	0.49	-15.45	9.96	MAX
	1.37	-3.64	0.05	-24.42	-2.70	MIN
513	10.20	11.48	-3.10	-18.96	-13.35	MAX
	5.31	8.48	-3.72	-38.18	-19.36	MIN
514	9.93	44.01	-11.46	-7.26	-19.30	MAX
	6.55	32.58	-17.71	-19.14	-44.69	MIN
515	23.80	79.32	-19.53	0.00	-20.55	MAX
	15.84	52.79	-28.63	0.00	-54.25	MIN
516	23.80	79.32	-19.53	0.00	-20.55	MAX
	15.84	52.79	-28.63	0.00	-54.25	MIN
517	23.80	79.32	-19.53	0.00	-20.55	MAX
	15.84	52.79	-28.63	0.00	-54.25	MIN
518	-30.13	-100.42	-0.79	0.00	-182.18	MAX
	-119.08	-396.94	-59.93	0.00	-226.72	MIN
519	-0.95	-55.24	4.54	-5.36	-174.72	MAX
	-16.96	-301.45	-26.05	-25.86	-226.84	MIN
520	0.14	-30.94	10.44	-2.29	-154.27	MAX
	-4.52	-233.11	5.20	-21.41	-235.51	MIN
521	0.65	3.35	11.41	0.23	-121.41	MAX
	0.11	-150.46	9.67	-10.57	-239.62	MIN
522	-0.80	20.13	12.49	0.75	-80.60	MAX
	-1.05	-83.02	8.61	-1.47	-214.04	MIN
523	0.86	22.75	12.07	11.07	-42.20	MAX
	-0.06	-30.71	8.05	-2.99	-161.17	MIN
524	1.72	16.42	7.55	13.67	-14.38	MAX
	0.87	-1.19	5.36	-10.52	-94.00	MIN
525	2.22	11.56	6.31	4.85	-0.10	MAX
	-1.18	5.35	2.84	-19.44	-30.80	MIN
526	0.42	6.94	2.65	-8.06	6.33	MAX
	-0.18	1.59	0.26	-20.65	-1.87	MIN
527	0.15	-0.59	4.91	-28.35	15.45	MAX
	-1.14	-1.57	0.77	-47.64	2.92	MIN

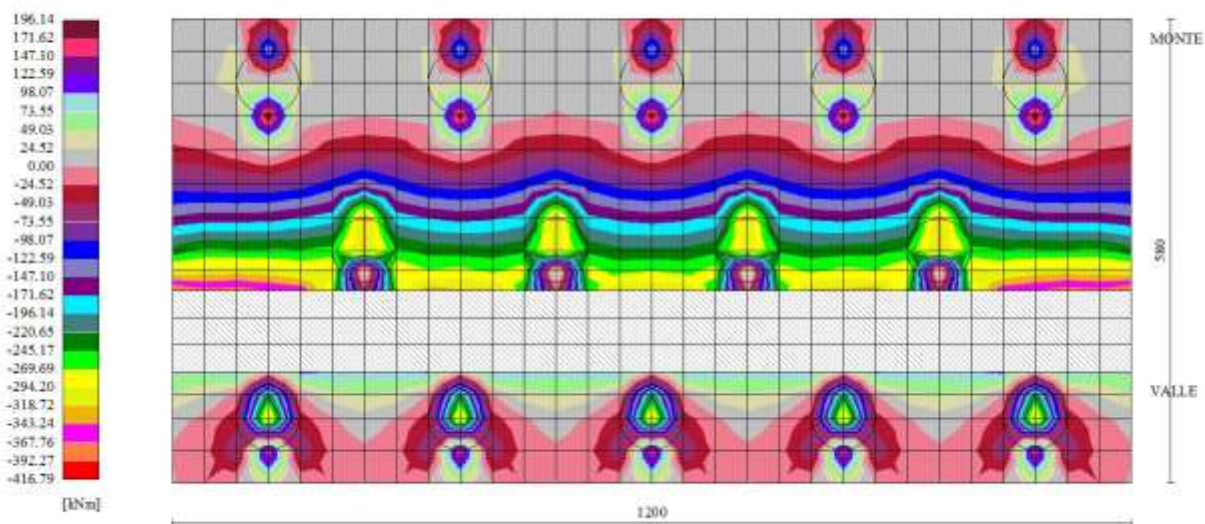


Fig. 8 - Piastra fondazione - Momento My (Combinazione n° 2)

APPALTATORE: <b>TELESE</b> S.c.a r.l. Consorzio Telese Società Consortile a Responsabilità Limitata	ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO					
PROGETTAZIONE: Mandatario: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	31 di 120

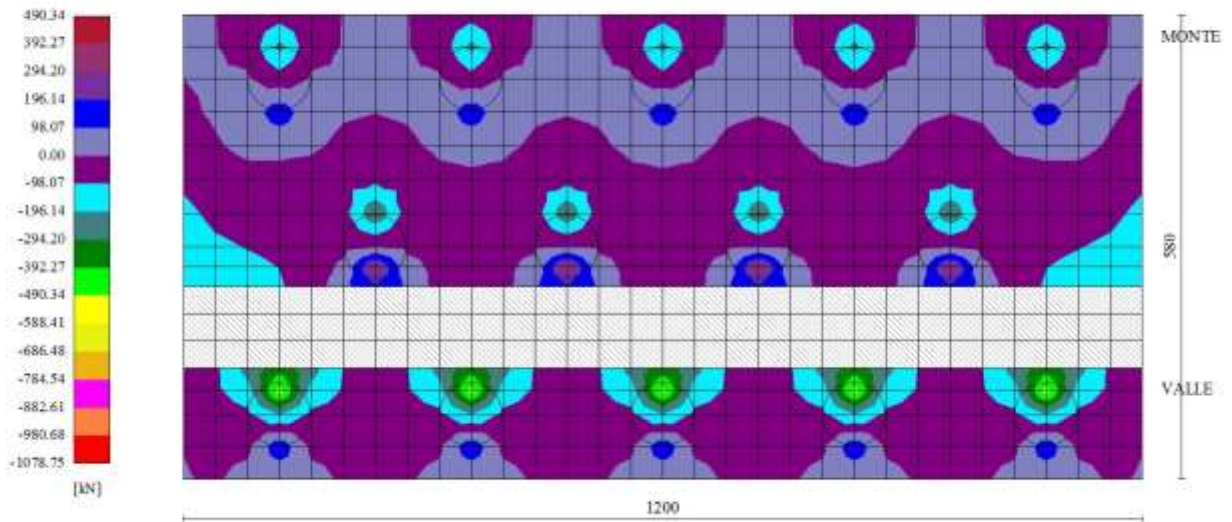


Fig. 9 - Piastra fondazione - Taglio  $T_{yMAX}$  (Combinazione n° 7)

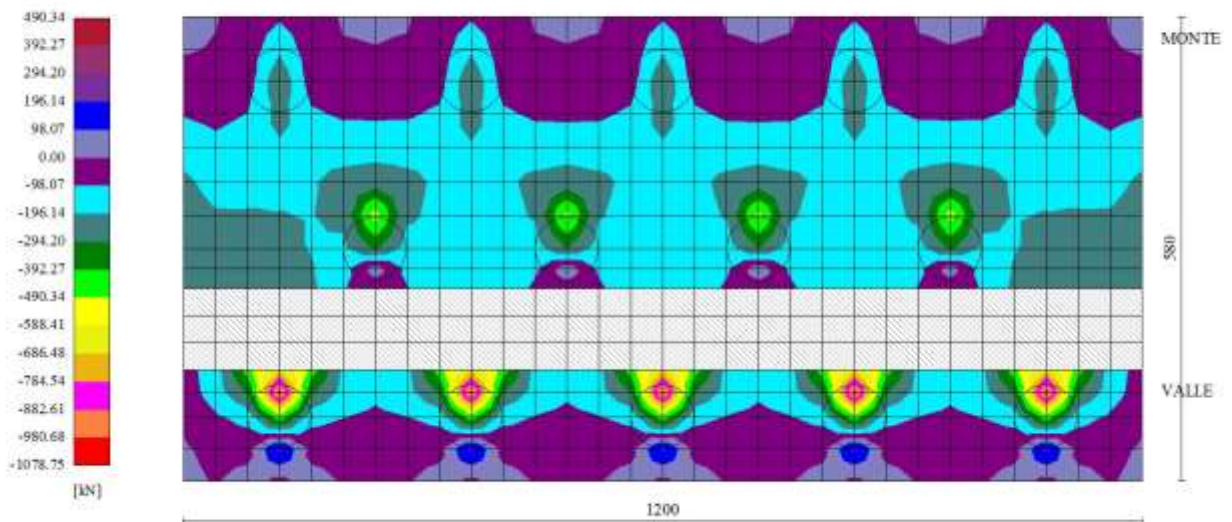


Fig. 10 - Piastra fondazione - Taglio  $T_{yMIN}$  (Combinazione n° 2)

### Sollecitazioni pali

Simbologia adottata



APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	32 di 120

N Sforzo normale, espresso in [kN]. Positivo se di compressione.  
T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle  
M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	212.59	5314.68	-171.42	-779.95	-184.08	-837.58
27	3.12	246.81	5247.82	1.73	-283.76	75.81	1096.57
42	4.92	262.70	5150.52	19.61	251.79	50.55	1103.56
101	12.00	297.25	4361.19	-0.06	-0.05	0.00	0.00

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	486.21	5489.60	-171.42	-779.95	-184.08	-837.58
27	3.12	517.22	5422.76	1.73	-283.76	75.81	1096.57
42	4.92	528.34	5325.48	19.61	251.79	50.55	1103.56
67	7.92	535.61	5065.90	7.11	192.22	7.02	276.44

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	759.83	5489.77	-171.42	-779.95	-184.08	-837.58
27	3.12	787.64	5422.92	1.73	-283.76	75.81	1096.57
42	4.92	793.98	5325.63	19.61	251.79	50.55	1103.56
48	5.64	794.48	5274.45	18.10	309.01	36.75	900.38
101	12.00	748.52	4536.44	-0.06	-0.05	0.00	0.00

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	15.57	389.27	-238.78	-798.43	-272.83	-912.27
27	3.12	52.10	378.72	1.63	-302.00	120.47	1079.11
42	4.92	71.43	364.30	31.16	244.75	81.20	1113.82
101	12.00	134.79	263.66	-0.10	0.02	0.00	0.00

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	456.67	5489.47	-238.78	-798.43	-272.83	-912.27
27	3.12	488.03	5422.64	1.63	-302.00	120.47	1079.11
42	4.92	499.66	5325.37	31.16	244.75	81.20	1113.82
71	8.40	508.45	5012.93	8.22	156.33	6.60	198.67

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	897.77	5489.34	-238.78	-798.43	-272.83	-912.27
27	3.12	923.96	5422.51	1.63	-302.00	120.47	1079.11
42	4.92	927.89	5325.24	31.16	244.75	81.20	1113.82
101	12.00	862.26	4536.19	-0.10	0.02	0.00	0.00

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	292.92	5489.47	-125.51	-767.94	-129.28	-791.03
27	3.12	326.20	5422.64	1.09	-272.02	50.37	1106.13
42	4.92	340.69	5325.36	13.03	255.98	33.64	1095.48
96	11.40	363.67	4611.75	-0.25	2.84	-0.10	0.60

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	470.81	5489.54	-125.51	-767.94	-129.28	-791.03
27	3.12	502.01	5422.71	1.09	-272.02	50.37	1106.13
42	4.92	513.39	5325.44	13.03	255.98	33.64	1095.48
69	8.16	521.43	5039.82	4.03	169.63	3.59	225.90

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	33 di 120

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	648.70	5489.65	-125.51	-767.94	-129.28	-791.03
27	3.12	677.81	5422.79	1.09	-272.02	50.37	1106.13
42	4.92	686.09	5325.50	13.03	255.98	33.64	1095.48
54	6.36	688.14	5216.10	9.95	300.78	16.38	667.38

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	342.83	5489.53	-107.24	-774.82	-113.16	-817.55
28	3.24	376.55	5417.54	1.34	-240.84	39.28	1134.31
42	4.92	389.14	5325.40	10.14	253.61	27.10	1100.34
87	10.32	406.46	4770.20	0.11	31.76	-0.16	18.56

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	466.39	5489.57	-107.24	-774.82	-113.16	-817.55
28	3.24	498.55	5417.59	1.34	-240.84	39.28	1134.31
42	4.92	509.10	5325.46	10.14	253.61	27.10	1100.34
70	8.28	517.36	5026.53	3.06	161.33	2.72	208.63

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	589.95	5489.34	-107.24	-774.82	-113.16	-817.55
28	3.24	620.55	5417.36	1.34	-240.84	39.28	1134.31
42	4.92	629.06	5325.23	10.14	253.61	27.10	1100.34
58	6.84	632.49	5173.16	6.70	275.57	9.88	532.58

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	395.58	5489.42	-70.44	-779.30	-75.50	-835.25
29	3.36	429.60	5412.11	0.81	-205.92	22.59	1160.43
43	5.04	441.04	5317.27	5.81	267.40	15.58	1072.94
78	9.24	453.11	4912.86	0.84	90.35	0.47	86.18

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	453.13	5489.44	-70.44	-779.30	-75.50	-835.25
29	3.36	486.37	5412.13	0.81	-205.92	22.59	1160.43
43	5.04	496.84	5317.30	5.81	267.40	15.58	1072.94
71	8.40	505.22	5012.90	1.76	152.56	1.60	191.11

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	510.69	5489.86	-70.44	-779.30	-75.50	-835.25
29	3.36	543.14	5412.52	0.81	-205.92	22.59	1160.43
43	5.04	552.63	5317.64	5.81	267.40	15.58	1072.94
65	7.68	558.27	5091.27	2.75	212.11	3.27	325.85

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	358.63	5489.54	-84.76	-763.87	-86.18	-776.72
27	3.12	391.14	5422.70	0.01	-267.90	30.28	1107.66
42	4.92	404.48	5325.43	7.83	257.09	20.72	1090.98
84	9.96	420.30	4819.62	0.29	46.37	-0.06	32.21

Palo n° 2

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**ITINERARIO NAPOLI – BARI  
 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
 II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
 2° SUBLOTTO TELESE – SAN LORENZO  
 PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	34 di 120

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	456.67	5489.46	-84.76	-763.87	-86.18	-776.72
27	3.12	488.03	5422.63	0.01	-267.90	30.28	1107.66
42	4.92	499.66	5325.35	7.83	257.09	20.72	1090.98
71	8.40	508.45	5012.92	2.13	148.99	1.76	184.32

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	554.71	5489.42	-84.76	-763.87	-86.18	-776.72
27	3.12	584.92	5422.59	0.01	-267.90	30.28	1107.66
42	4.92	594.84	5325.31	7.83	257.09	20.72	1090.98
61	7.20	599.35	5139.17	4.38	247.05	5.74	428.09

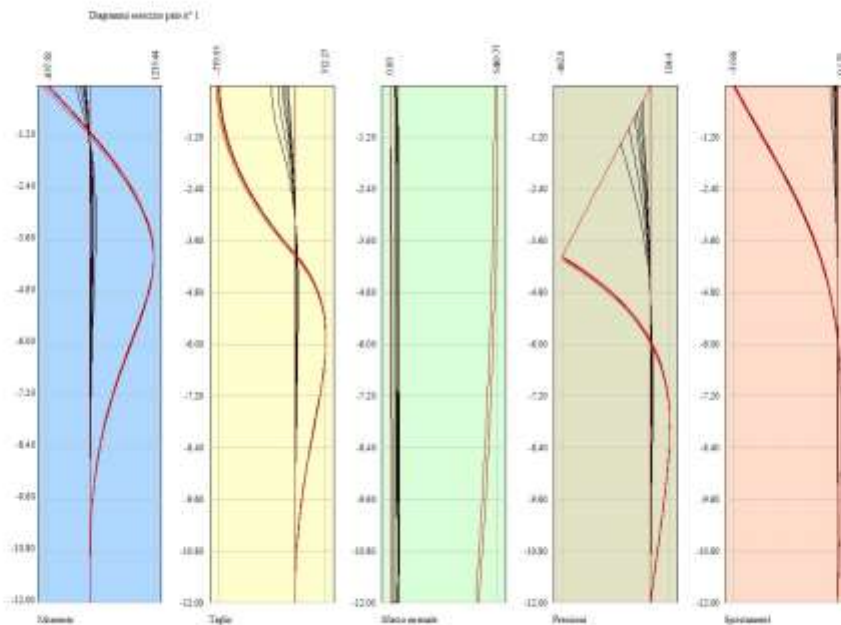


Fig. 11 - Sollecitazioni palo (Palo n° 1) (Inviluppo)

APPALTATORE:

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PROGETTAZIONE:

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SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	35 di 120

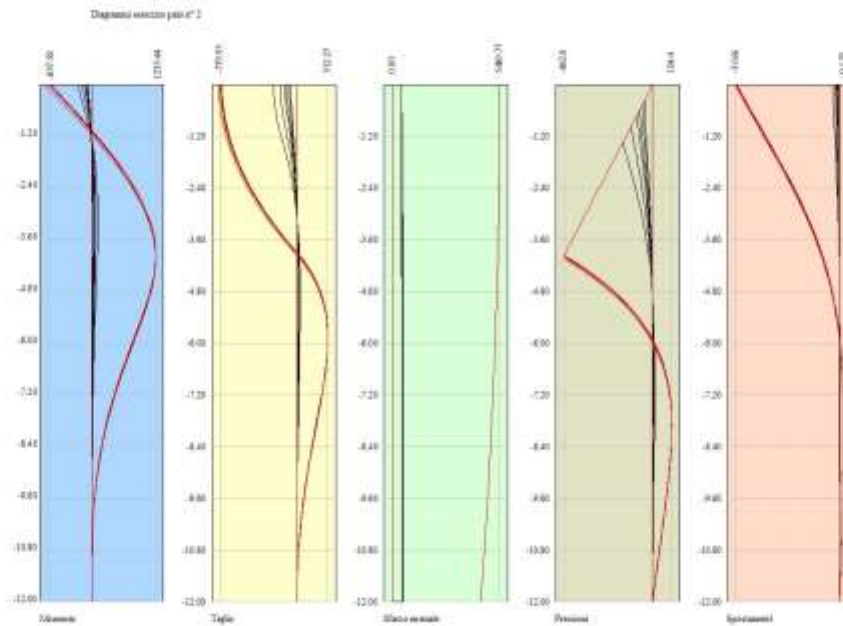


Fig. 12 - Sollecitazioni palo (Palo n° 2) (Inviluppo)

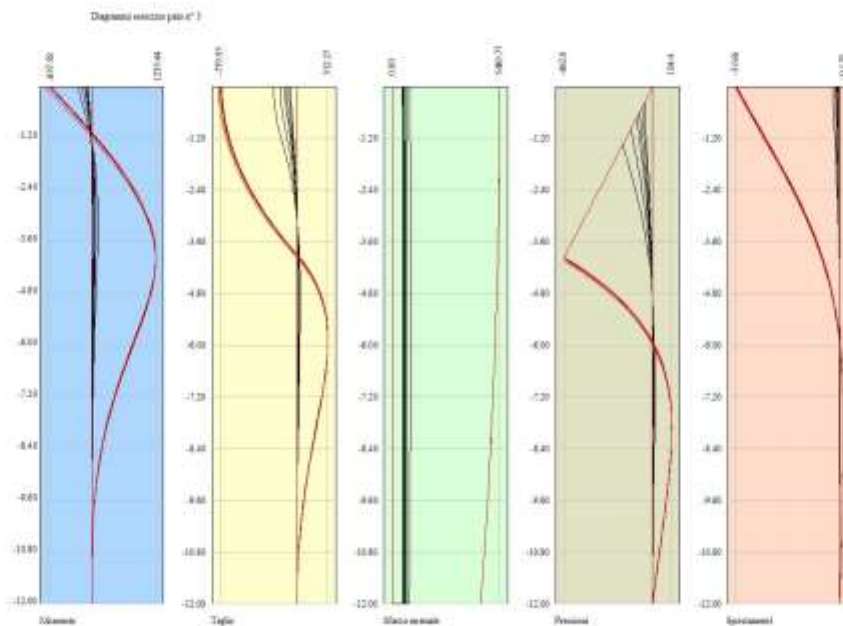


Fig. 13 - Sollecitazioni palo (Palo n° 3) (Inviluppo)

Verifiche strutturali

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE: Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.						
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.006	REV. A	FOGLIO 36 di 120

### Verifiche a flessione

#### Elementi calcolati a trave

##### Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mu	momento ultimi espresso in [kNm]
Nu	sforzo normale ultimo espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

#### Elementi calcolati a piastra

##### Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi, Afs	area ferri inferiori e superiori, espresso in [cmq]
Mp, Mn	momento positivo e negativo agente espressa in [kNm]
Mu	momento ultimi espresso in [kNm]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

### Paramento

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
1	100	70	10.05	15.71	2.90	6.50	992.83	2225.31	342.355
2	100	70	10.05	15.71	3.91	8.22	928.17	1947.93	237.099
3	100	70	10.05	15.71	4.93	9.93	893.93	1801.01	181.345
4	100	70	10.05	15.71	5.94	11.65	869.53	1703.79	146.285
5	100	70	10.05	15.71	6.96	13.36	849.66	1631.58	122.099
6	100	70	10.05	15.71	7.97	15.08	835.43	1579.86	104.775
7	100	70	10.05	15.71	8.99	16.79	824.74	1540.99	91.757
8	100	70	10.05	15.71	10.00	18.51	816.41	1510.71	81.616
9	100	70	10.05	15.71	11.02	20.23	809.73	1486.46	73.494
10	100	70	10.05	15.71	12.03	21.94	804.27	1466.60	66.842
11	100	70	10.05	15.71	13.05	23.66	799.71	1450.03	61.294
12	100	70	10.05	15.71	14.06	25.37	795.85	1436.01	56.597
13	100	70	10.05	15.71	15.08	27.09	792.54	1423.98	52.568
14	100	70	10.05	15.71	16.09	28.80	789.67	1413.55	49.075
15	100	70	10.05	15.71	17.11	30.52	787.16	1404.42	46.017
16	100	70	10.05	15.71	18.12	32.24	784.94	1396.36	43.317
17	100	70	10.05	15.71	19.14	33.95	782.97	1389.19	40.917
18	100	70	10.05	15.71	20.15	35.67	781.20	1382.78	38.769
19	100	70	10.05	15.71	21.16	37.38	779.61	1377.01	36.835
20	100	70	10.05	15.71	22.18	39.10	778.18	1371.78	35.085
21	100	70	10.05	15.71	23.19	40.81	776.87	1367.03	33.494
22	100	70	10.05	15.71	24.21	42.53	775.68	1362.69	32.041
23	100	70	10.05	15.71	25.22	44.25	774.58	1358.71	30.709
24	100	70	10.05	15.71	26.24	45.96	773.57	1355.05	29.483
25	100	70	10.05	15.71	27.25	47.68	772.64	1351.67	28.351
26	100	70	10.05	15.71	28.27	49.39	771.78	1348.54	27.303
27	100	70	10.05	15.71	29.28	51.11	770.98	1345.64	26.329
28	100	70	10.05	15.71	30.30	52.82	770.24	1342.93	25.423
29	100	70	10.05	15.71	31.31	54.54	769.54	1340.41	24.577
30	100	70	10.05	15.71	32.33	56.26	768.89	1338.04	23.785
31	100	70	10.05	15.71	33.34	57.97	768.28	1335.83	23.043
32	100	70	10.05	15.71	34.39	59.69	766.94	1330.95	22.299
33	100	70	10.05	15.71	35.53	61.40	764.11	1320.65	21.508
34	100	70	10.05	15.71	36.75	63.12	759.85	1305.18	20.678
35	100	70	10.05	15.71	38.06	64.83	754.28	1284.93	19.819
36	100	70	10.05	15.71	39.47	66.55	747.52	1260.36	18.939
37	100	101	10.05	15.71	47.94	71.95	1548.90	2324.46	32.307
38	100	101	10.05	15.71	49.63	74.42	1547.21	2320.21	31.176
39	100	101	10.05	15.71	51.68	76.90	1529.40	2275.49	29.592
40	100	101	10.05	15.71	54.01	79.37	1502.35	2207.56	27.814
41	100	101	10.05	15.71	56.53	81.84	1471.82	2130.87	26.036
42	100	101	10.05	15.71	59.16	84.32	1441.18	2053.92	24.359
43	100	101	10.05	15.71	61.11	84.77	1392.35	1931.27	22.783
44	100	101	10.05	15.71	65.56	87.24	1326.04	1764.73	20.228
45	100	101	10.05	15.71	70.24	89.72	1268.45	1620.09	18.058
46	100	101	10.05	15.71	75.19	92.19	1218.07	1493.56	16.201
47	100	101	10.05	15.71	80.39	94.66	1173.72	1382.17	14.601
48	100	101	10.05	15.71	85.85	97.14	1134.45	1283.55	13.214
49	100	101	10.05	15.71	91.59	99.61	1099.51	1195.79	12.004

APPALTATORE:

**TELESE** S.c.a r.l.

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PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA CANCELLO-BENEVENTO

II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO

2° SUBLOTTO TELESE – SAN LORENZO

PROGETTO ESECUTIVO

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	37 di 120

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
50	100	101	10.05	15.71	97.61	102.09	1068.26	1117.30	10.945
51	100	101	10.05	15.71	103.90	104.56	1035.48	1042.06	9.966
52	100	101	10.05	15.71	110.48	107.03	1005.09	973.74	9.098
53	100	101	10.05	15.71	117.35	109.51	977.84	912.49	8.333
54	100	101	10.05	15.71	124.52	111.98	953.31	857.32	7.656
55	100	101	10.05	15.71	131.99	114.45	931.12	807.44	7.055
56	100	101	10.05	15.71	139.76	116.93	910.97	762.15	6.518
57	100	101	10.05	15.71	147.85	119.40	892.62	720.89	6.037
58	100	101	10.05	15.71	148.01	119.45	892.27	720.10	6.028
59	100	101	10.05	15.71	156.41	121.92	875.54	682.49	5.598
60	100	101	10.05	15.71	165.13	124.39	860.20	648.00	5.209
61	100	101	10.05	15.71	174.17	126.87	846.09	616.28	4.858
62	100	101	10.05	15.71	183.55	129.34	833.08	587.03	4.539
63	100	101	10.05	15.71	193.26	131.81	821.05	559.99	4.249

## Fondazione

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
1-1-P	12.57	12.57	1.95	-0.39	1883.46	100.000 (1)
1-2-P	12.57	12.57	1.49	-2.88	1883.46	100.000 (1)
1-3-P	12.57	12.57	0.22	-10.81	1883.46	100.000 (1)
1-4-P	12.57	12.57	0.63	-35.81	-1883.46	52.589 (2)
1-5-P	12.57	12.57	0.28	-51.57	-1883.46	36.522 (2)
1-6-P	12.57	12.57	0.07	-58.60	-1883.46	32.142 (2)
1-7-P	12.57	12.57	0.43	-36.90	-1883.46	51.048 (2)
1-8-P	12.57	12.57	2.68	-10.44	1883.46	100.000 (1)
1-9-P	12.57	12.57	20.70	-0.83	1883.46	90.995 (2)
1-10-P	12.57	12.57	26.90	-0.04	1883.46	70.024 (2)
1-11-P	12.57	12.57	29.00	-0.02	1883.46	64.943 (2)
1-12-P	12.57	12.57	24.36	-0.52	1883.46	77.315 (2)
1-13-P	12.57	12.57	6.44	-5.14	1883.46	100.000 (1)
1-14-P	12.57	12.57	0.94	-25.73	-1883.46	73.188 (2)
1-15-P	12.57	12.57	0.21	-43.79	-1883.46	43.010 (2)
1-16-P	12.57	12.57	0.43	-40.10	-1883.46	46.969 (2)
1-17-P	12.57	12.57	3.24	-24.03	-1883.46	78.393 (2)
1-18-P	12.57	12.57	9.24	-2.95	1883.46	100.000 (1)
1-19-P	12.57	12.57	26.15	-0.29	1883.46	72.016 (2)
1-20-P	12.57	12.57	31.63	0.00	1883.46	59.543 (2)
1-21-P	12.57	12.57	28.22	-0.10	1883.46	66.745 (2)
1-22-P	12.57	12.57	19.36	-1.45	1883.46	97.303 (2)
1-23-P	12.57	12.57	3.22	-10.69	1883.46	100.000 (1)
1-24-P	12.57	12.57	0.90	-33.17	-1883.46	56.781 (2)
1-25-P	12.57	12.57	0.00	-51.24	-1883.46	36.761 (2)
1-26-P	12.57	12.57	0.90	-33.17	-1883.46	56.781 (2)
1-27-P	12.57	12.57	3.22	-10.69	1883.46	100.000 (1)
1-28-P	12.57	12.57	19.36	-1.45	1883.46	97.303 (2)
1-29-P	12.57	12.57	28.22	-0.10	1883.46	66.745 (2)
1-30-P	12.57	12.57	31.63	0.00	1883.46	59.543 (2)
1-31-P	12.57	12.57	26.15	-0.29	1883.46	72.016 (2)
1-32-P	12.57	12.57	9.24	-2.95	1883.46	100.000 (1)
1-33-P	12.57	12.57	3.24	-24.03	-1883.46	78.393 (2)
1-34-P	12.57	12.57	0.43	-40.10	-1883.46	46.969 (2)
1-35-P	12.57	12.57	0.21	-43.79	-1883.46	43.010 (2)
1-36-P	12.57	12.57	0.94	-25.73	-1883.46	73.188 (2)
1-37-P	12.57	12.57	6.44	-5.14	1883.46	100.000 (1)
1-38-P	12.57	12.57	24.36	-0.52	1883.46	77.315 (2)
1-39-P	12.57	12.57	29.00	-0.02	1883.46	64.943 (2)
1-40-P	12.57	12.57	26.90	-0.04	1883.46	70.024 (2)
1-41-P	12.57	12.57	20.70	-0.83	1883.46	90.995 (2)
1-42-P	12.57	12.57	2.68	-10.44	1883.46	100.000 (1)
1-43-P	12.57	12.57	0.43	-36.90	-1883.46	51.048 (2)
1-44-P	12.57	12.57	0.07	-58.60	-1883.46	32.142 (2)
1-45-P	12.57	12.57	0.28	-51.57	-1883.46	36.522 (2)
1-46-P	12.57	12.57	0.63	-35.81	-1883.46	52.589 (2)
1-47-P	12.57	12.57	0.22	-10.81	1883.46	100.000 (1)
1-48-P	12.57	12.57	1.49	-2.88	1883.46	100.000 (1)
1-49-P	12.57	12.57	1.95	-0.39	1883.46	100.000 (1)
2-1-P	12.57	12.57	7.97	0.00	1883.46	100.000 (1)
2-2-P	12.57	12.57	7.28	0.00	1883.46	100.000 (1)
2-3-P	12.57	12.57	5.96	-0.55	1883.46	100.000 (1)
2-4-P	12.57	12.57	6.57	-4.79	1883.46	100.000 (1)
2-5-P	12.57	12.57	0.29	-54.30	-1883.46	34.686 (2)
2-6-P	12.57	12.57	0.06	-92.94	-1883.46	20.265 (2)
2-7-P	12.57	12.57	1.30	-23.89	-1883.46	63.067 (2)
2-8-P	12.57	12.57	12.46	-1.22	1883.46	100.000 (1)
2-9-P	12.57	12.57	19.76	0.00	1883.46	95.298 (2)
2-10-P	12.57	12.57	23.26	0.00	1883.46	80.971 (2)
2-11-P	12.57	12.57	24.28	0.00	1883.46	77.566 (2)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	38 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
2-12-P	12.57	12.57	21.53	0.00	1883.46	87.489 (2)
2-13-P	12.57	12.57	15.21	-0.53	1883.46	100.000 (1)
2-14-P	12.57	12.57	4.40	-6.50	1883.46	100.000 (1)
2-15-P	12.57	12.57	0.17	-74.31	-1883.46	24.138 (2)
2-16-P	12.57	12.57	0.00	-60.79	-1883.46	30.985 (2)
2-17-P	12.57	12.57	12.17	-3.08	1883.46	100.000 (1)
2-18-P	12.57	12.57	16.28	-0.21	1883.46	100.000 (1)
2-19-P	12.57	12.57	22.19	0.00	1883.46	84.865 (2)
2-20-P	12.57	12.57	25.15	0.00	1883.46	74.903 (2)
2-21-P	12.57	12.57	23.32	0.00	1883.46	80.772 (2)
2-22-P	12.57	12.57	19.37	-0.06	1883.46	97.243 (2)
2-23-P	12.57	12.57	13.17	-1.45	1883.46	100.000 (1)
2-24-P	12.57	12.57	0.60	-33.87	-1883.46	44.487 (2)
2-25-P	12.57	12.57	0.00	-101.95	-1883.46	18.475 (2)
2-26-P	12.57	12.57	0.60	-33.87	-1883.46	44.487 (2)
2-27-P	12.57	12.57	13.17	-1.45	1883.46	100.000 (1)
2-28-P	12.57	12.57	19.37	-0.06	1883.46	97.243 (2)
2-29-P	12.57	12.57	23.32	0.00	1883.46	80.772 (2)
2-30-P	12.57	12.57	25.15	0.00	1883.46	74.903 (2)
2-31-P	12.57	12.57	22.19	0.00	1883.46	84.865 (2)
2-32-P	12.57	12.57	16.28	-0.21	1883.46	100.000 (1)
2-33-P	12.57	12.57	12.17	-3.08	1883.46	100.000 (1)
2-34-P	12.57	12.57	0.00	-60.79	-1883.46	30.985 (2)
2-35-P	12.57	12.57	0.17	-74.31	-1883.46	24.138 (2)
2-36-P	12.57	12.57	4.40	-6.50	1883.46	100.000 (1)
2-37-P	12.57	12.57	15.21	-0.53	1883.46	100.000 (1)
2-38-P	12.57	12.57	21.53	0.00	1883.46	87.489 (2)
2-39-P	12.57	12.57	24.28	0.00	1883.46	77.566 (2)
2-40-P	12.57	12.57	23.26	0.00	1883.46	80.971 (2)
2-41-P	12.57	12.57	19.76	0.00	1883.46	95.298 (2)
2-42-P	12.57	12.57	12.46	-1.22	1883.46	100.000 (1)
2-43-P	12.57	12.57	1.30	-23.89	-1883.46	63.067 (2)
2-44-P	12.57	12.57	0.06	-92.94	-1883.46	20.265 (2)
2-45-P	12.57	12.57	0.29	-54.30	-1883.46	34.686 (2)
2-46-P	12.57	12.57	6.57	-4.79	1883.46	100.000 (1)
2-47-P	12.57	12.57	5.96	-0.55	1883.46	100.000 (1)
2-48-P	12.57	12.57	7.28	0.00	1883.46	100.000 (1)
2-49-P	12.57	12.57	7.97	0.00	1883.46	100.000 (1)
5-1-P	15.71	15.71	0.01	-17.10	-2353.12	100.000 (1)
5-2-P	15.71	15.71	0.00	-29.01	-2353.12	81.125 (2)
5-3-P	15.71	15.71	0.00	-37.66	-2353.12	62.489 (2)
5-4-P	15.71	15.71	0.00	-46.65	-2353.12	50.446 (2)
5-5-P	15.71	15.71	0.00	-51.45	-2353.12	45.739 (2)
5-6-P	15.71	15.71	0.00	-54.52	-2353.12	43.161 (2)
5-7-P	15.71	15.71	0.00	-54.88	-2353.12	42.881 (2)
5-8-P	15.71	15.71	0.00	-58.96	-2353.12	39.909 (2)
5-9-P	15.71	15.71	0.00	-65.54	-2353.12	35.905 (2)
5-10-P	15.71	15.71	0.00	-86.18	-2353.12	27.306 (2)
5-11-P	15.71	15.71	0.00	-89.69	-2353.12	26.236 (2)
5-12-P	15.71	15.71	0.00	-67.52	-2353.12	34.850 (2)
5-13-P	15.71	15.71	0.00	-56.91	-2353.12	41.347 (2)
5-14-P	15.71	15.71	0.00	-50.70	-2353.12	46.416 (2)
5-15-P	15.71	15.71	0.00	-50.49	-2353.12	46.606 (2)
5-16-P	15.71	15.71	0.00	-49.87	-2353.12	47.183 (2)
5-17-P	15.71	15.71	0.00	-48.98	-2353.12	48.041 (2)
5-18-P	15.71	15.71	0.00	-55.60	-2353.12	42.322 (2)
5-19-P	15.71	15.71	0.00	-68.01	-2353.12	34.600 (2)
5-20-P	15.71	15.71	0.01	-89.12	-2353.12	26.405 (2)
5-21-P	15.71	15.71	0.00	-76.07	-2353.12	30.935 (2)
5-22-P	15.71	15.71	0.00	-57.39	-2353.12	41.005 (2)
5-23-P	15.71	15.71	0.00	-50.27	-2353.12	46.807 (2)
5-24-P	15.71	15.71	0.00	-47.65	-2353.12	49.388 (2)
5-25-P	15.71	15.71	0.00	-48.01	-2353.12	49.014 (2)
5-26-P	15.71	15.71	0.00	-47.65	-2353.12	49.388 (2)
5-27-P	15.71	15.71	0.00	-50.27	-2353.12	46.807 (2)
5-28-P	15.71	15.71	0.00	-57.39	-2353.12	41.005 (2)
5-29-P	15.71	15.71	0.00	-76.07	-2353.12	30.935 (2)
5-30-P	15.71	15.71	0.01	-89.12	-2353.12	26.405 (2)
5-31-P	15.71	15.71	0.00	-68.01	-2353.12	34.600 (2)
5-32-P	15.71	15.71	0.00	-55.60	-2353.12	42.322 (2)
5-33-P	15.71	15.71	0.00	-48.98	-2353.12	48.041 (2)
5-34-P	15.71	15.71	0.00	-49.87	-2353.12	47.183 (2)
5-35-P	15.71	15.71	0.00	-50.49	-2353.12	46.606 (2)
5-36-P	15.71	15.71	0.00	-50.70	-2353.12	46.416 (2)
5-37-P	15.71	15.71	0.00	-56.91	-2353.12	41.347 (2)
5-38-P	15.71	15.71	0.00	-67.52	-2353.12	34.850 (2)
5-39-P	15.71	15.71	0.00	-89.69	-2353.12	26.236 (2)
5-40-P	15.71	15.71	0.00	-86.18	-2353.12	27.306 (2)
5-41-P	15.71	15.71	0.00	-65.54	-2353.12	35.905 (2)
5-42-P	15.71	15.71	0.00	-58.96	-2353.12	39.909 (2)
5-43-P	15.71	15.71	0.00	-54.88	-2353.12	42.881 (2)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	39 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
5-44-P	15.71	15.71	0.00	-54.52	-2353.12	43.161 (2)
5-45-P	15.71	15.71	0.00	-51.45	-2353.12	45.739 (2)
5-46-P	15.71	15.71	0.00	-46.65	-2353.12	50.446 (2)
5-47-P	15.71	15.71	0.00	-37.66	-2353.12	62.489 (2)
5-48-P	15.71	15.71	0.00	-29.01	-2353.12	81.125 (2)
5-49-P	15.71	15.71	0.01	-17.10	-2353.12	100.000 (1)
6-1-P	15.71	15.71	1.55	-1.80	2353.12	100.000 (1)
6-2-P	15.71	15.71	1.03	-2.56	2353.12	100.000 (1)
6-3-P	15.71	15.71	0.91	-4.21	2353.12	100.000 (1)
6-4-P	15.71	15.71	0.84	-6.65	2353.12	100.000 (1)
6-5-P	15.71	15.71	0.24	-9.44	2353.12	100.000 (1)
6-6-P	15.71	15.71	0.00	-13.37	-2353.12	100.000 (1)
6-7-P	15.71	15.71	0.00	-19.79	-2353.12	100.000 (1)
6-8-P	15.71	15.71	0.00	-31.51	-2353.12	74.671 (2)
6-9-P	15.71	15.71	0.00	-39.51	-2353.12	59.561 (2)
6-10-P	15.71	15.71	0.00	-48.51	-2353.12	48.506 (2)
6-11-P	15.71	15.71	0.00	-50.44	-2353.12	46.652 (2)
6-12-P	15.71	15.71	0.00	-41.56	-2353.12	56.620 (2)
6-13-P	15.71	15.71	0.00	-34.43	-2353.12	68.349 (2)
6-14-P	15.71	15.71	0.00	-28.12	-2353.12	83.667 (2)
6-15-P	15.71	15.71	0.00	-23.55	-2353.12	99.906 (2)
6-16-P	15.71	15.71	0.00	-23.96	-2353.12	98.221 (2)
6-17-P	15.71	15.71	0.00	-27.68	-2353.12	85.017 (2)
6-18-P	15.71	15.71	0.00	-33.67	-2353.12	69.882 (2)
6-19-P	15.71	15.71	0.00	-40.57	-2353.12	57.998 (2)
6-20-P	15.71	15.71	0.00	-49.07	-2353.12	47.958 (2)
6-21-P	15.71	15.71	0.00	-43.52	-2353.12	54.067 (2)
6-22-P	15.71	15.71	0.00	-35.21	-2353.12	66.826 (2)
6-23-P	15.71	15.71	0.00	-28.75	-2353.12	81.856 (2)
6-24-P	15.71	15.71	0.00	-23.66	-2353.12	99.467 (2)
6-25-P	15.71	15.71	0.00	-12.56	-2353.12	100.000 (1)
6-26-P	15.71	15.71	0.00	-23.66	-2353.12	99.467 (2)
6-27-P	15.71	15.71	0.00	-28.75	-2353.12	81.856 (2)
6-28-P	15.71	15.71	0.00	-35.21	-2353.12	66.826 (2)
6-29-P	15.71	15.71	0.00	-43.52	-2353.12	54.067 (2)
6-30-P	15.71	15.71	0.00	-49.07	-2353.12	47.958 (2)
6-31-P	15.71	15.71	0.00	-40.57	-2353.12	57.998 (2)
6-32-P	15.71	15.71	0.00	-33.67	-2353.12	69.882 (2)
6-33-P	15.71	15.71	0.00	-27.68	-2353.12	85.017 (2)
6-34-P	15.71	15.71	0.00	-23.96	-2353.12	98.221 (2)
6-35-P	15.71	15.71	0.00	-23.55	-2353.12	99.906 (2)
6-36-P	15.71	15.71	0.00	-28.12	-2353.12	83.667 (2)
6-37-P	15.71	15.71	0.00	-34.43	-2353.12	68.349 (2)
6-38-P	15.71	15.71	0.00	-41.56	-2353.12	56.620 (2)
6-39-P	15.71	15.71	0.00	-50.44	-2353.12	46.652 (2)
6-40-P	15.71	15.71	0.00	-48.51	-2353.12	48.506 (2)
6-41-P	15.71	15.71	0.00	-39.51	-2353.12	59.561 (2)
6-42-P	15.71	15.71	0.00	-31.51	-2353.12	74.671 (2)
6-43-P	15.71	15.71	0.00	-19.79	-2353.12	100.000 (1)
6-44-P	15.71	15.71	0.00	-13.37	-2353.12	100.000 (1)
6-45-P	15.71	15.71	0.24	-9.44	2353.12	100.000 (1)
6-46-P	15.71	15.71	0.84	-6.65	2353.12	100.000 (1)
6-47-P	15.71	15.71	0.91	-4.21	2353.12	100.000 (1)
6-48-P	15.71	15.71	1.03	-2.56	2353.12	100.000 (1)
6-49-P	15.71	15.71	1.55	-1.80	2353.12	100.000 (1)
7-1-P	15.71	15.71	3.66	-2.86	2353.12	100.000 (1)
7-2-P	15.71	15.71	5.90	-3.60	2353.12	100.000 (1)
7-3-P	15.71	15.71	7.42	-6.90	2353.12	100.000 (1)
7-4-P	15.71	15.71	8.52	-14.68	2353.12	100.000 (1)
7-5-P	15.71	15.71	3.04	-12.56	2353.12	100.000 (1)
7-6-P	15.71	15.71	0.25	-11.67	2353.12	100.000 (1)
7-7-P	15.71	15.71	2.49	-12.82	2353.12	100.000 (1)
7-8-P	15.71	15.71	3.63	-9.71	2353.12	100.000 (1)
7-9-P	15.71	15.71	3.52	-3.22	2353.12	100.000 (1)
7-10-P	15.71	15.71	2.87	-2.74	2353.12	100.000 (1)
7-11-P	15.71	15.71	3.29	-3.17	2353.12	100.000 (1)
7-12-P	15.71	15.71	5.10	-4.76	2353.12	100.000 (1)
7-13-P	15.71	15.71	5.59	-10.50	2353.12	100.000 (1)
7-14-P	15.71	15.71	5.80	-16.31	2353.12	100.000 (1)
7-15-P	15.71	15.71	0.67	-12.77	2353.12	100.000 (1)
7-16-P	15.71	15.71	0.30	-11.52	2353.12	100.000 (1)
7-17-P	15.71	15.71	4.80	-13.67	2353.12	100.000 (1)
7-18-P	15.71	15.71	4.18	-5.71	2353.12	100.000 (1)
7-19-P	15.71	15.71	4.85	-1.87	2353.12	100.000 (1)
7-20-P	15.71	15.71	4.47	-1.21	2353.12	100.000 (1)
7-21-P	15.71	15.71	5.32	-1.81	2353.12	100.000 (1)
7-22-P	15.71	15.71	6.15	-3.81	2353.12	100.000 (1)
7-23-P	15.71	15.71	5.95	-10.45	2353.12	100.000 (1)
7-24-P	15.71	15.71	2.86	-11.22	2353.12	100.000 (1)
7-25-P	15.71	15.71	0.95	-11.29	2353.12	100.000 (1)
7-26-P	15.71	15.71	2.86	-11.22	2353.12	100.000 (1)



APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 40 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
7-27-P	15.71	15.71	5.95	-10.45	2353.12	100.000 (1)
7-28-P	15.71	15.71	6.15	-3.81	2353.12	100.000 (1)
7-29-P	15.71	15.71	5.32	-1.81	2353.12	100.000 (1)
7-30-P	15.71	15.71	4.47	-1.21	2353.12	100.000 (1)
7-31-P	15.71	15.71	4.85	-1.87	2353.12	100.000 (1)
7-32-P	15.71	15.71	4.18	-5.71	2353.12	100.000 (1)
7-33-P	15.71	15.71	4.80	-13.67	2353.12	100.000 (1)
7-34-P	15.71	15.71	0.30	-11.52	2353.12	100.000 (1)
7-35-P	15.71	15.71	0.67	-12.77	2353.12	100.000 (1)
7-36-P	15.71	15.71	5.80	-16.31	2353.12	100.000 (1)
7-37-P	15.71	15.71	5.59	-10.50	2353.12	100.000 (1)
7-38-P	15.71	15.71	5.10	-4.76	2353.12	100.000 (1)
7-39-P	15.71	15.71	3.29	-3.17	2353.12	100.000 (1)
7-40-P	15.71	15.71	2.87	-2.74	2353.12	100.000 (1)
7-41-P	15.71	15.71	3.52	-3.22	2353.12	100.000 (1)
7-42-P	15.71	15.71	3.63	-9.71	2353.12	100.000 (1)
7-43-P	15.71	15.71	2.49	-12.82	2353.12	100.000 (1)
7-44-P	15.71	15.71	0.25	-11.67	2353.12	100.000 (1)
7-45-P	15.71	15.71	3.04	-12.56	2353.12	100.000 (1)
7-46-P	15.71	15.71	8.52	-14.68	2353.12	100.000 (1)
7-47-P	15.71	15.71	7.42	-6.90	2353.12	100.000 (1)
7-48-P	15.71	15.71	5.90	-3.60	2353.12	100.000 (1)
7-49-P	15.71	15.71	3.66	-2.86	2353.12	100.000 (1)
8-1-P	15.71	15.71	1.28	-1.09	2353.12	100.000 (1)
8-2-P	15.71	15.71	1.53	-3.38	2353.12	100.000 (1)
8-3-P	15.71	15.71	3.34	-7.59	2353.12	100.000 (1)
8-4-P	15.71	15.71	7.13	-14.34	2353.12	100.000 (1)
8-5-P	15.71	15.71	0.00	-23.12	2353.12	100.000 (1)
8-6-P	15.71	15.71	0.00	-34.47	2353.12	100.000 (1)
8-7-P	15.71	15.71	1.77	-16.41	2353.12	100.000 (1)
8-8-P	15.71	15.71	4.96	-9.51	2353.12	100.000 (1)
8-9-P	15.71	15.71	1.74	-2.68	2353.12	100.000 (1)
8-10-P	15.71	15.71	2.76	-0.62	2353.12	100.000 (1)
8-11-P	15.71	15.71	3.52	-0.74	2353.12	100.000 (1)
8-12-P	15.71	15.71	3.05	-3.30	2353.12	100.000 (1)
8-13-P	15.71	15.71	5.85	-9.47	2353.12	100.000 (1)
8-14-P	15.71	15.71	5.55	-15.83	2353.12	100.000 (1)
8-15-P	15.71	15.71	0.00	-29.68	2353.12	100.000 (1)
8-16-P	15.71	15.71	0.00	-25.45	2353.12	100.000 (1)
8-17-P	15.71	15.71	7.44	-12.90	2353.12	100.000 (1)
8-18-P	15.71	15.71	4.31	-5.82	2353.12	100.000 (1)
8-19-P	15.71	15.71	3.09	-0.87	2353.12	100.000 (1)
8-20-P	15.71	15.71	5.63	-0.05	2353.12	100.000 (1)
8-21-P	15.71	15.71	4.36	-0.42	2353.12	100.000 (1)
8-22-P	15.71	15.71	4.22	-3.31	2353.12	100.000 (1)
8-23-P	15.71	15.71	7.37	-9.99	2353.12	100.000 (1)
8-24-P	15.71	15.71	0.62	-16.43	2353.12	100.000 (1)
8-25-P	15.71	15.71	0.00	-35.45	-2353.12	100.000 (1)
8-26-P	15.71	15.71	0.62	-16.43	2353.12	100.000 (1)
8-27-P	15.71	15.71	7.37	-9.99	2353.12	100.000 (1)
8-28-P	15.71	15.71	4.22	-3.31	2353.12	100.000 (1)
8-29-P	15.71	15.71	4.36	-0.42	2353.12	100.000 (1)
8-30-P	15.71	15.71	5.63	-0.05	2353.12	100.000 (1)
8-31-P	15.71	15.71	3.09	-0.87	2353.12	100.000 (1)
8-32-P	15.71	15.71	4.31	-5.82	2353.12	100.000 (1)
8-33-P	15.71	15.71	7.44	-12.90	2353.12	100.000 (1)
8-34-P	15.71	15.71	0.00	-25.45	2353.12	100.000 (1)
8-35-P	15.71	15.71	0.00	-29.68	2353.12	100.000 (1)
8-36-P	15.71	15.71	5.55	-15.83	2353.12	100.000 (1)
8-37-P	15.71	15.71	5.85	-9.47	2353.12	100.000 (1)
8-38-P	15.71	15.71	3.05	-3.30	2353.12	100.000 (1)
8-39-P	15.71	15.71	3.52	-0.74	2353.12	100.000 (1)
8-40-P	15.71	15.71	2.76	-0.62	2353.12	100.000 (1)
8-41-P	15.71	15.71	1.74	-2.68	2353.12	100.000 (1)
8-42-P	15.71	15.71	4.96	-9.51	2353.12	100.000 (1)
8-43-P	15.71	15.71	1.77	-16.41	2353.12	100.000 (1)
8-44-P	15.71	15.71	0.00	-34.47	2353.12	100.000 (1)
8-45-P	15.71	15.71	0.00	-23.12	2353.12	100.000 (1)
8-46-P	15.71	15.71	7.13	-14.34	2353.12	100.000 (1)
8-47-P	15.71	15.71	3.34	-7.59	2353.12	100.000 (1)
8-48-P	15.71	15.71	1.53	-3.38	2353.12	100.000 (1)
8-49-P	15.71	15.71	1.28	-1.09	2353.12	100.000 (1)
9-1-S	18.85	18.85	1.82	-7.49	2822.43	100.000 (1)
9-2-S	18.85	18.85	0.06	-12.85	2822.43	100.000 (1)
9-3-S	18.85	18.85	0.17	-18.36	2822.43	100.000 (1)
9-4-S	18.85	18.85	1.63	-31.15	-2822.43	72.493 (2)
9-5-S	18.85	18.85	9.33	-14.38	-2822.43	97.137 (1)
9-6-S	18.85	18.85	30.03	-1.87	2822.43	81.168 (1)
9-7-S	18.85	18.85	80.98	0.00	2822.43	34.855 (2)
9-8-S	18.85	18.85	0.00	-383.89	-2822.43	7.352 (2)
9-9-S	18.85	18.85	0.00	-308.90	-2822.43	9.137 (2)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	41 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
9-10-S	18.85	18.85	0.00	-251.09	-2822.43	11.240 (2)
9-11-S	18.85	18.85	0.00	-198.26	-2822.43	14.236 (2)
9-12-S	18.85	18.85	0.00	-147.37	-2822.43	19.153 (2)
9-13-S	18.85	18.85	0.00	-102.58	-2822.43	27.513 (2)
9-14-S	18.85	18.85	0.05	-62.08	-2822.43	45.461 (2)
9-15-S	18.85	18.85	2.30	-19.88	2822.43	100.000 (1)
9-16-S	18.85	18.85	7.85	-10.35	2822.43	100.000 (1)
9-17-S	18.85	18.85	14.39	-5.75	2822.43	100.000 (1)
9-18-S	18.85	18.85	13.95	-7.17	2822.43	100.000 (1)
9-19-S	18.85	18.85	13.16	-8.35	2822.43	100.000 (1)
9-20-S	18.85	18.85	7.86	-5.25	2822.43	100.000 (1)
9-21-S	18.85	18.85	6.18	-3.58	2822.43	100.000 (1)
9-22-S	18.85	18.85	5.71	-1.92	2822.43	100.000 (1)
10-1-S	18.85	18.85	12.44	-5.14	2822.43	100.000 (1)
10-2-S	18.85	18.85	31.81	-14.75	2822.43	70.980 (2)
10-3-S	18.85	18.85	20.39	-22.68	2822.43	83.044 (2)
10-4-S	18.85	18.85	2.78	-94.66	-2822.43	29.816 (2)
10-5-S	18.85	18.85	3.09	-111.27	-2822.43	20.292 (2)
10-6-S	18.85	18.85	14.25	-58.85	-2822.43	28.775 (2)
10-7-S	18.85	18.85	81.36	0.00	2822.43	40.434 (1)
10-8-S	18.85	18.85	0.00	-349.59	-2822.43	8.074 (2)
10-9-S	18.85	18.85	0.00	-301.90	-2822.43	9.349 (2)
10-10-S	18.85	18.85	0.00	-253.52	-2822.43	11.133 (2)
10-11-S	18.85	18.85	0.00	-206.50	-2822.43	13.668 (2)
10-12-S	18.85	18.85	0.00	-159.38	-2822.43	17.709 (2)
10-13-S	18.85	18.85	0.00	-111.59	-2822.43	25.292 (2)
10-14-S	18.85	18.85	0.00	-64.48	-2822.43	43.774 (2)
10-15-S	18.85	18.85	1.24	-12.80	2822.43	100.000 (1)
10-16-S	18.85	18.85	33.19	-4.92	2822.43	68.022 (2)
10-17-S	18.85	18.85	74.34	-1.51	2822.43	37.966 (2)
10-18-S	18.85	18.85	48.90	-3.87	2822.43	57.724 (2)
10-19-S	18.85	18.85	7.86	-23.98	2822.43	100.000 (1)
10-20-S	18.85	18.85	11.96	-34.93	-2822.43	80.791 (2)
10-21-S	18.85	18.85	8.16	-32.90	-2822.43	85.788 (2)
10-22-S	18.85	18.85	3.04	-6.99	2822.43	100.000 (1)
11-1-S	18.85	18.85	0.64	-9.28	2822.43	100.000 (1)
11-2-S	18.85	18.85	0.95	-9.63	2822.43	100.000 (1)
11-3-S	18.85	18.85	1.11	-7.09	2822.43	100.000 (1)
11-4-S	18.85	18.85	6.03	-1.99	2822.43	100.000 (1)
11-5-S	18.85	18.85	22.78	0.00	2822.43	100.000 (1)
11-6-S	18.85	18.85	51.00	0.00	2822.43	55.399 (1)
11-7-S	18.85	18.85	91.75	0.00	2822.43	30.764 (2)
11-8-S	18.85	18.85	0.00	-181.13	-2822.43	15.582 (2)
11-9-S	18.85	18.85	2.49	-160.82	-2822.43	17.550 (2)
11-10-S	18.85	18.85	0.00	-274.06	-2822.43	10.299 (2)
11-11-S	18.85	18.85	0.00	-259.41	-2822.43	10.880 (2)
11-12-S	18.85	18.85	0.00	-226.34	-2822.43	12.470 (2)
11-13-S	18.85	18.85	0.00	-156.01	-2822.43	18.091 (2)
11-14-S	18.85	18.85	0.00	-98.03	-2822.43	28.790 (2)
11-15-S	18.85	18.85	0.00	-53.21	-2822.43	53.047 (2)
11-16-S	18.85	18.85	0.36	-16.98	2822.43	100.000 (1)
11-17-S	18.85	18.85	3.52	-4.16	2822.43	100.000 (1)
11-18-S	18.85	18.85	6.06	-1.93	2822.43	100.000 (1)
11-19-S	18.85	18.85	8.53	-1.27	2822.43	100.000 (1)
11-20-S	18.85	18.85	7.55	-1.05	2822.43	100.000 (1)
11-21-S	18.85	18.85	6.07	-0.91	2822.43	100.000 (1)
11-22-S	18.85	18.85	4.22	-0.71	2822.43	100.000 (1)
12-1-S	18.85	18.85	15.23	-3.34	2822.43	100.000 (1)
12-2-S	18.85	18.85	33.45	-11.39	2822.43	67.511 (2)
12-3-S	18.85	18.85	20.41	-22.13	2822.43	82.972 (2)
12-4-S	18.85	18.85	2.01	-106.69	-2822.43	26.453 (2)
12-5-S	18.85	18.85	1.88	-127.93	-2822.43	22.063 (2)
12-6-S	18.85	18.85	5.56	-64.22	-2822.43	35.158 (2)
12-7-S	18.85	18.85	79.50	0.00	2822.43	43.581 (1)
12-8-S	18.85	18.85	0.00	-324.67	-2822.43	8.693 (2)
12-9-S	18.85	18.85	0.00	-275.92	-2822.43	10.229 (2)
12-10-S	18.85	18.85	0.00	-238.14	-2822.43	11.852 (2)
12-11-S	18.85	18.85	0.00	-198.55	-2822.43	14.215 (2)
12-12-S	18.85	18.85	0.00	-157.70	-2822.43	17.897 (2)
12-13-S	18.85	18.85	0.00	-112.63	-2822.43	25.059 (2)
12-14-S	18.85	18.85	0.00	-66.53	-2822.43	42.423 (2)
12-15-S	18.85	18.85	0.00	-12.87	-2822.43	100.000 (1)
12-16-S	18.85	18.85	33.56	-3.79	2822.43	84.097 (2)
12-17-S	18.85	18.85	80.29	-2.56	2822.43	35.153 (2)
12-18-S	18.85	18.85	52.24	-6.12	2822.43	54.031 (2)
12-19-S	18.85	18.85	8.24	-29.73	2822.43	100.000 (1)
12-20-S	18.85	18.85	9.99	-39.32	-2822.43	71.782 (2)
12-21-S	18.85	18.85	5.73	-36.45	-2822.43	77.430 (2)
12-22-S	18.85	18.85	2.48	-8.11	2822.43	100.000 (1)
13-1-S	18.85	18.85	1.46	-8.47	2822.43	100.000 (1)
13-2-S	18.85	18.85	0.67	-12.90	2822.43	100.000 (1)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	42 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
13-3-S	18.85	18.85	0.83	-13.82	2822.43	100.000 (1)
13-4-S	18.85	18.85	6.09	-8.03	2822.43	100.000 (1)
13-5-S	18.85	18.85	18.53	-1.80	2822.43	100.000 (1)
13-6-S	18.85	18.85	45.58	0.00	2822.43	64.045 (1)
13-7-S	18.85	18.85	89.88	0.00	2822.43	31.402 (2)
13-8-S	18.85	18.85	0.00	-184.85	-2822.43	15.268 (2)
13-9-S	18.85	18.85	4.50	-163.00	-2822.43	17.316 (2)
13-10-S	18.85	18.85	0.00	-258.81	-2822.43	10.905 (2)
13-11-S	18.85	18.85	0.00	-244.25	-2822.43	11.555 (2)
13-12-S	18.85	18.85	0.00	-213.15	-2822.43	13.242 (2)
13-13-S	18.85	18.85	0.00	-148.06	-2822.43	19.063 (2)
13-14-S	18.85	18.85	0.00	-93.39	-2822.43	30.223 (2)
13-15-S	18.85	18.85	0.00	-49.92	-2822.43	56.542 (2)
13-16-S	18.85	18.85	0.04	-16.08	2822.43	100.000 (1)
13-17-S	18.85	18.85	2.48	-4.96	2822.43	100.000 (1)
13-18-S	18.85	18.85	6.34	-3.67	2822.43	100.000 (1)
13-19-S	18.85	18.85	9.66	-3.40	2822.43	100.000 (1)
13-20-S	18.85	18.85	7.65	-1.56	2822.43	100.000 (1)
13-21-S	18.85	18.85	5.93	-0.92	2822.43	100.000 (1)
13-22-S	18.85	18.85	4.27	-0.86	2822.43	100.000 (1)
14-1-S	18.85	18.85	8.56	-7.88	2822.43	100.000 (1)
14-2-S	18.85	18.85	12.09	-12.95	2822.43	100.000 (1)
14-3-S	18.85	18.85	6.98	-18.13	2822.43	100.000 (1)
14-4-S	18.85	18.85	2.70	-62.94	-2822.43	44.841 (2)
14-5-S	18.85	18.85	5.88	-66.66	-2822.43	25.405 (2)
14-6-S	18.85	18.85	23.01	-32.64	-2822.43	34.584 (2)
14-7-S	18.85	18.85	82.74	0.00	2822.43	36.193 (1)
14-8-S	18.85	18.85	0.00	-279.89	-2822.43	10.084 (2)
14-9-S	18.85	18.85	0.00	-254.56	-2822.43	11.088 (2)
14-10-S	18.85	18.85	0.00	-237.95	-2822.43	11.861 (2)
14-11-S	18.85	18.85	0.00	-203.91	-2822.43	13.841 (2)
14-12-S	18.85	18.85	0.00	-166.47	-2822.43	16.954 (2)
14-13-S	18.85	18.85	0.00	-120.40	-2822.43	23.443 (2)
14-14-S	18.85	18.85	0.00	-75.69	-2822.43	37.288 (2)
14-15-S	18.85	18.85	0.00	-32.46	-2822.43	86.943 (2)
14-16-S	18.85	18.85	11.83	-9.81	2822.43	100.000 (1)
14-17-S	18.85	18.85	44.35	-3.87	2822.43	63.644 (2)
14-18-S	18.85	18.85	34.60	-5.52	2822.43	81.563 (2)
14-19-S	18.85	18.85	9.55	-17.27	2822.43	100.000 (1)
14-20-S	18.85	18.85	5.70	-18.41	2822.43	100.000 (1)
14-21-S	18.85	18.85	4.68	-13.60	2822.43	100.000 (1)
14-22-S	18.85	18.85	4.45	-4.81	2822.43	100.000 (1)
15-1-S	18.85	18.85	8.56	-7.88	2822.43	100.000 (1)
15-2-S	18.85	18.85	12.09	-12.95	2822.43	100.000 (1)
15-3-S	18.85	18.85	6.98	-18.13	2822.43	100.000 (1)
15-4-S	18.85	18.85	2.70	-62.94	-2822.43	44.841 (2)
15-5-S	18.85	18.85	5.88	-66.66	-2822.43	25.405 (2)
15-6-S	18.85	18.85	23.01	-32.64	-2822.43	34.584 (2)
15-7-S	18.85	18.85	82.74	0.00	2822.43	36.193 (1)
15-8-S	18.85	18.85	0.00	-279.89	-2822.43	10.084 (2)
15-9-S	18.85	18.85	0.00	-254.56	-2822.43	11.088 (2)
15-10-S	18.85	18.85	0.00	-237.95	-2822.43	11.861 (2)
15-11-S	18.85	18.85	0.00	-203.91	-2822.43	13.841 (2)
15-12-S	18.85	18.85	0.00	-166.47	-2822.43	16.954 (2)
15-13-S	18.85	18.85	0.00	-120.40	-2822.43	23.443 (2)
15-14-S	18.85	18.85	0.00	-75.69	-2822.43	37.288 (2)
15-15-S	18.85	18.85	0.00	-32.46	-2822.43	86.943 (2)
15-16-S	18.85	18.85	11.83	-9.81	2822.43	100.000 (1)
15-17-S	18.85	18.85	44.35	-3.87	2822.43	63.644 (2)
15-18-S	18.85	18.85	34.60	-5.52	2822.43	81.563 (2)
15-19-S	18.85	18.85	9.55	-17.27	2822.43	100.000 (1)
15-20-S	18.85	18.85	5.70	-18.41	2822.43	100.000 (1)
15-21-S	18.85	18.85	4.68	-13.60	2822.43	100.000 (1)
15-22-S	18.85	18.85	4.45	-4.81	2822.43	100.000 (1)
16-1-S	18.85	18.85	1.46	-8.47	2822.43	100.000 (1)
16-2-S	18.85	18.85	0.67	-12.90	2822.43	100.000 (1)
16-3-S	18.85	18.85	0.83	-13.82	2822.43	100.000 (1)
16-4-S	18.85	18.85	6.09	-8.03	2822.43	100.000 (1)
16-5-S	18.85	18.85	18.53	-1.80	2822.43	100.000 (1)
16-6-S	18.85	18.85	45.58	0.00	2822.43	64.045 (1)
16-7-S	18.85	18.85	89.88	0.00	2822.43	31.402 (2)
16-8-S	18.85	18.85	0.00	-184.85	-2822.43	15.268 (2)
16-9-S	18.85	18.85	4.50	-163.00	-2822.43	17.316 (2)
16-10-S	18.85	18.85	0.00	-258.81	-2822.43	10.905 (2)
16-11-S	18.85	18.85	0.00	-244.25	-2822.43	11.555 (2)
16-12-S	18.85	18.85	0.00	-213.15	-2822.43	13.242 (2)
16-13-S	18.85	18.85	0.00	-148.06	-2822.43	19.063 (2)
16-14-S	18.85	18.85	0.00	-93.39	-2822.43	30.223 (2)
16-15-S	18.85	18.85	0.00	-49.92	-2822.43	56.542 (2)
16-16-S	18.85	18.85	0.04	-16.08	2822.43	100.000 (1)
16-17-S	18.85	18.85	2.48	-4.96	2822.43	100.000 (1)

APPALTATORE:

**TELESE** S.c.a r.l.  
 Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
 II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
 2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	43 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
16-18-S	18.85	18.85	6.34	-3.67	2822.43	100.000 (1)
16-19-S	18.85	18.85	9.66	-3.40	2822.43	100.000 (1)
16-20-S	18.85	18.85	7.65	-1.56	2822.43	100.000 (1)
16-21-S	18.85	18.85	5.93	-0.92	2822.43	100.000 (1)
16-22-S	18.85	18.85	4.27	-0.86	2822.43	100.000 (1)
17-1-S	18.85	18.85	15.23	-3.34	2822.43	100.000 (1)
17-2-S	18.85	18.85	33.45	-11.39	2822.43	67.511 (2)
17-3-S	18.85	18.85	20.41	-22.13	2822.43	82.972 (2)
17-4-S	18.85	18.85	2.01	-106.69	-2822.43	26.453 (2)
17-5-S	18.85	18.85	1.88	-127.93	-2822.43	22.063 (2)
17-6-S	18.85	18.85	5.56	-64.22	-2822.43	35.158 (2)
17-7-S	18.85	18.85	79.50	0.00	2822.43	43.581 (1)
17-8-S	18.85	18.85	0.00	-324.67	-2822.43	8.693 (2)
17-9-S	18.85	18.85	0.00	-275.92	-2822.43	10.229 (2)
17-10-S	18.85	18.85	0.00	-238.14	-2822.43	11.852 (2)
17-11-S	18.85	18.85	0.00	-198.55	-2822.43	14.215 (2)
17-12-S	18.85	18.85	0.00	-157.70	-2822.43	17.897 (2)
17-13-S	18.85	18.85	0.00	-112.63	-2822.43	25.059 (2)
17-14-S	18.85	18.85	0.00	-66.53	-2822.43	42.423 (2)
17-15-S	18.85	18.85	0.00	-12.87	-2822.43	100.000 (1)
17-16-S	18.85	18.85	33.56	-3.79	2822.43	84.097 (2)
17-17-S	18.85	18.85	80.29	-2.56	2822.43	35.153 (2)
17-18-S	18.85	18.85	52.24	-6.12	2822.43	54.031 (2)
17-19-S	18.85	18.85	8.24	-29.73	2822.43	100.000 (1)
17-20-S	18.85	18.85	9.99	-39.32	-2822.43	71.782 (2)
17-21-S	18.85	18.85	5.73	-36.45	-2822.43	77.430 (2)
17-22-S	18.85	18.85	2.48	-8.11	2822.43	100.000 (1)
18-1-S	18.85	18.85	0.64	-9.28	2822.43	100.000 (1)
18-2-S	18.85	18.85	0.95	-9.63	2822.43	100.000 (1)
18-3-S	18.85	18.85	1.11	-7.09	2822.43	100.000 (1)
18-4-S	18.85	18.85	6.03	-1.99	2822.43	100.000 (1)
18-5-S	18.85	18.85	22.78	0.00	2822.43	100.000 (1)
18-6-S	18.85	18.85	51.00	0.00	2822.43	55.399 (1)
18-7-S	18.85	18.85	91.75	0.00	2822.43	30.764 (2)
18-8-S	18.85	18.85	0.00	-181.13	-2822.43	15.582 (2)
18-9-S	18.85	18.85	2.49	-160.82	-2822.43	17.550 (2)
18-10-S	18.85	18.85	0.00	-274.06	-2822.43	10.299 (2)
18-11-S	18.85	18.85	0.00	-259.41	-2822.43	10.880 (2)
18-12-S	18.85	18.85	0.00	-226.34	-2822.43	12.470 (2)
18-13-S	18.85	18.85	0.00	-156.01	-2822.43	18.091 (2)
18-14-S	18.85	18.85	0.00	-98.03	-2822.43	28.790 (2)
18-15-S	18.85	18.85	0.00	-53.21	-2822.43	53.047 (2)
18-16-S	18.85	18.85	0.36	-16.98	2822.43	100.000 (1)
18-17-S	18.85	18.85	3.52	-4.16	2822.43	100.000 (1)
18-18-S	18.85	18.85	6.06	-1.93	2822.43	100.000 (1)
18-19-S	18.85	18.85	8.53	-1.27	2822.43	100.000 (1)
18-20-S	18.85	18.85	7.55	-1.05	2822.43	100.000 (1)
18-21-S	18.85	18.85	6.07	-0.91	2822.43	100.000 (1)
18-22-S	18.85	18.85	4.22	-0.71	2822.43	100.000 (1)
19-1-S	18.85	18.85	12.44	-5.14	2822.43	100.000 (1)
19-2-S	18.85	18.85	31.81	-14.75	2822.43	70.980 (2)
19-3-S	18.85	18.85	20.39	-22.68	2822.43	83.044 (2)
19-4-S	18.85	18.85	2.78	-94.66	-2822.43	29.816 (2)
19-5-S	18.85	18.85	3.09	-111.27	-2822.43	20.292 (2)
19-6-S	18.85	18.85	14.25	-58.85	-2822.43	28.775 (2)
19-7-S	18.85	18.85	81.36	0.00	2822.43	40.434 (1)
19-8-S	18.85	18.85	0.00	-349.59	-2822.43	8.074 (2)
19-9-S	18.85	18.85	0.00	-301.90	-2822.43	9.349 (2)
19-10-S	18.85	18.85	0.00	-253.52	-2822.43	11.133 (2)
19-11-S	18.85	18.85	0.00	-206.50	-2822.43	13.668 (2)
19-12-S	18.85	18.85	0.00	-159.38	-2822.43	17.709 (2)
19-13-S	18.85	18.85	0.00	-111.59	-2822.43	25.292 (2)
19-14-S	18.85	18.85	0.00	-64.48	-2822.43	43.774 (2)
19-15-S	18.85	18.85	1.24	-12.80	2822.43	100.000 (1)
19-16-S	18.85	18.85	33.19	-4.92	2822.43	68.022 (2)
19-17-S	18.85	18.85	74.34	-1.51	2822.43	37.966 (2)
19-18-S	18.85	18.85	48.90	-3.87	2822.43	57.724 (2)
19-19-S	18.85	18.85	7.86	-23.98	2822.43	100.000 (1)
19-20-S	18.85	18.85	11.96	-34.93	-2822.43	80.791 (2)
19-21-S	18.85	18.85	8.16	-32.90	-2822.43	85.788 (2)
19-22-S	18.85	18.85	3.04	-6.99	2822.43	100.000 (1)
20-1-S	18.85	18.85	1.82	-7.49	2822.43	100.000 (1)
20-2-S	18.85	18.85	0.06	-12.85	2822.43	100.000 (1)
20-3-S	18.85	18.85	0.17	-18.36	2822.43	100.000 (1)
20-4-S	18.85	18.85	1.63	-31.15	-2822.43	72.493 (2)
20-5-S	18.85	18.85	9.33	-14.38	-2822.43	97.137 (1)
20-6-S	18.85	18.85	30.03	-1.87	2822.43	81.168 (1)
20-7-S	18.85	18.85	80.98	0.00	2822.43	34.855 (2)
20-8-S	18.85	18.85	0.00	-383.89	-2822.43	7.352 (2)
20-9-S	18.85	18.85	0.00	-308.90	-2822.43	9.137 (2)
20-10-S	18.85	18.85	0.00	-251.09	-2822.43	11.240 (2)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	44 di 120

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
20-11-S	18.85	18.85	0.00	-198.26	-2822.43	14.236 (2)
20-12-S	18.85	18.85	0.00	-147.37	-2822.43	19.153 (2)
20-13-S	18.85	18.85	0.00	-102.58	-2822.43	27.513 (2)
20-14-S	18.85	18.85	0.05	-62.08	-2822.43	45.461 (2)
20-15-S	18.85	18.85	2.30	-19.88	2822.43	100.000 (1)
20-16-S	18.85	18.85	7.85	-10.35	2822.43	100.000 (1)
20-17-S	18.85	18.85	14.39	-5.75	2822.43	100.000 (1)
20-18-S	18.85	18.85	13.95	-7.17	2822.43	100.000 (1)
20-19-S	18.85	18.85	13.16	-8.35	2822.43	100.000 (1)
20-20-S	18.85	18.85	7.86	-5.25	2822.43	100.000 (1)
20-21-S	18.85	18.85	6.18	-3.58	2822.43	100.000 (1)
20-22-S	18.85	18.85	5.71	-1.92	2822.43	100.000 (1)

## Pali in c.a.

Ip	Is	Ar [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
1	1	62.83	272.83	15.57	1172.71	66.93	4.298
2	1	62.83	272.83	456.67	1107.66	1854.04	4.060
3	1	62.83	272.83	897.77	1047.77	3447.77	3.840

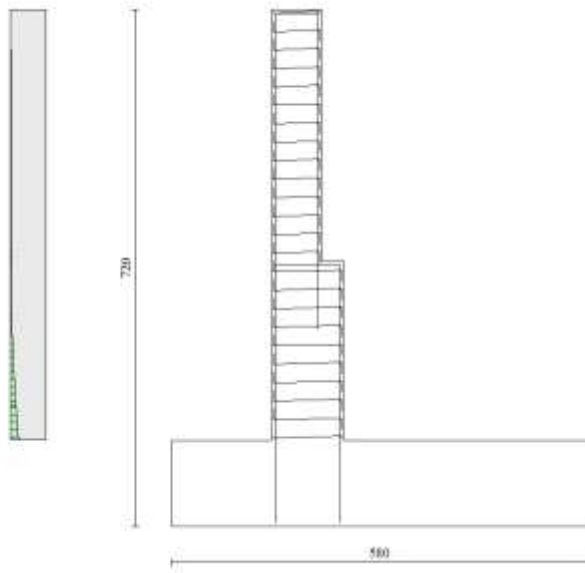


Fig. 14 - Paramento (Inviluppo)

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>												
PROGETTAZIONE: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.													
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.006</td> <td>A</td> <td>45 di 120</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	45 di 120
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	45 di 120								

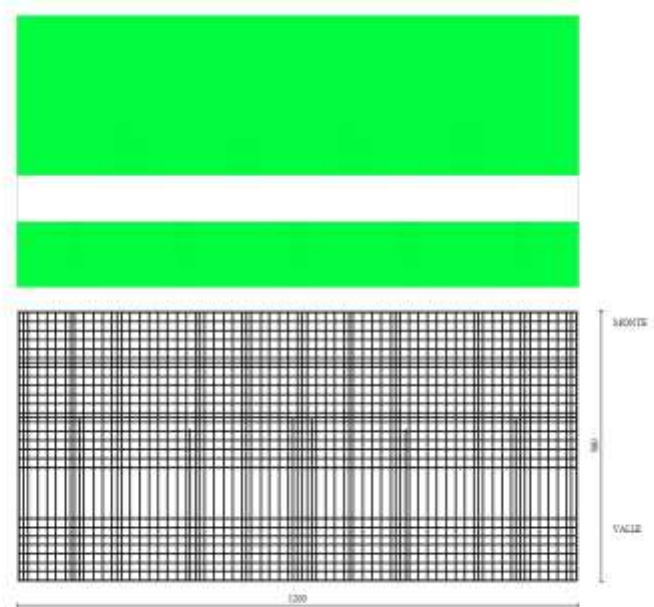


Fig. 15 - Piastra fondazione dir. X (Inviluppo)

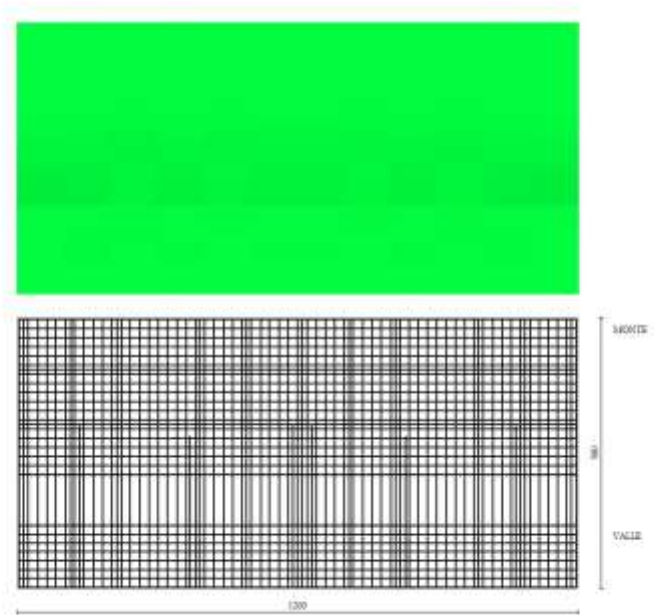


Fig. 16 - Piastra fondazione dir. Y (Inviluppo)

APPALTATORE: **TELESE S.c.a r.l.**  
 Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:  
 Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo  
 IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

ITINERARIO NAPOLI – BARI  
 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
 II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
 2° SUBLOTTO TELESE – SAN LORENZO  
 PROGETTO ESECUTIVO

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	46 di 120

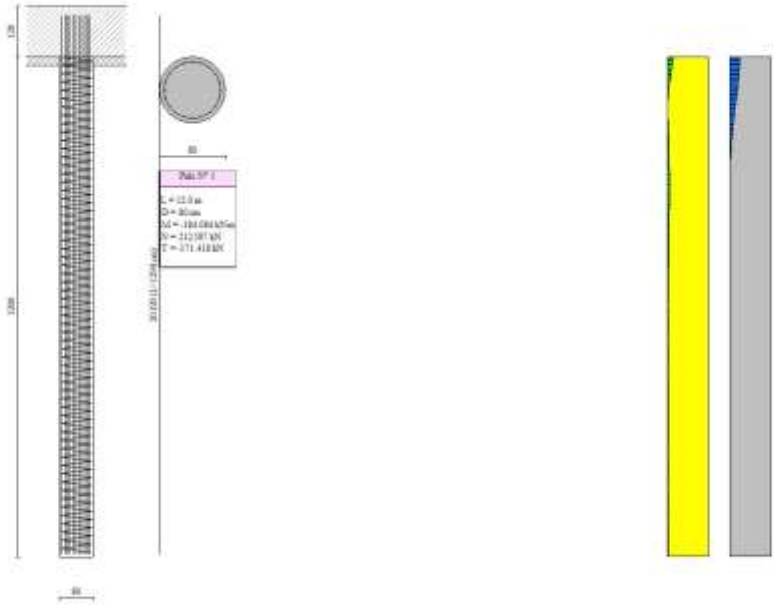


Fig. 17 - Pali (Palo n° 1) (Inviluppo)

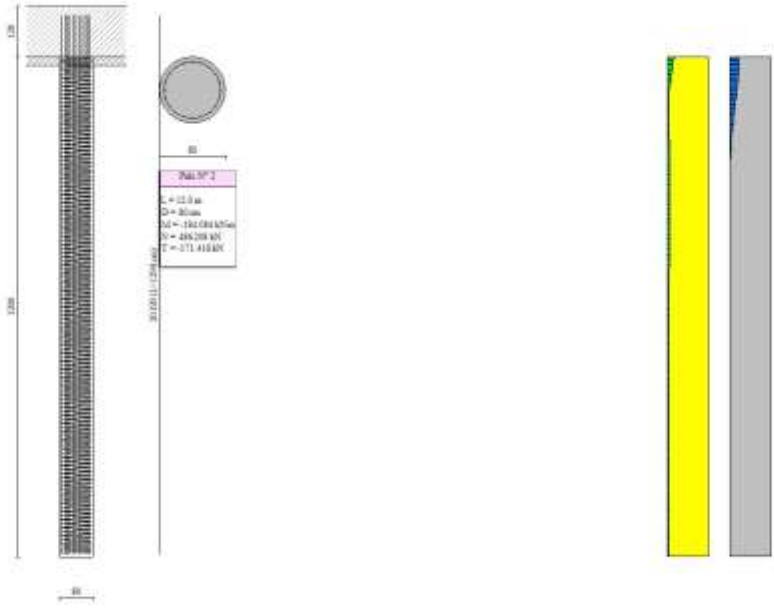


Fig. 18 - Pali (Palo n° 2) (Inviluppo)

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE: Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.						
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.006	REV. A	FOGLIO 47 di 120

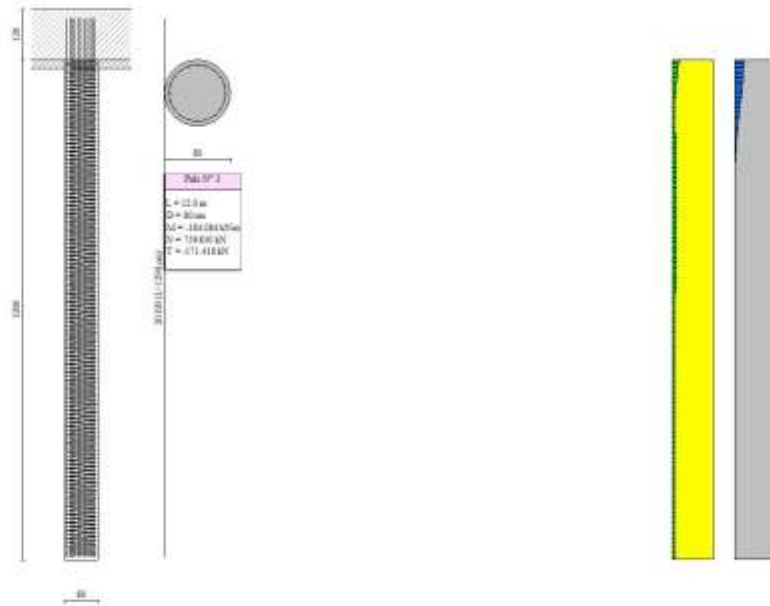


Fig. 19 - Pali (Palo n° 3) (Inviluppo)

### Verifiche a taglio

#### Simbologia adottata

Is	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espressa in [cm]
H	altezza sezione espressa in [cm]
A <sub>sw</sub>	area ferri a taglio espresso in [cm <sup>2</sup> ]
cotθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V <sub>Rcd</sub>	resistenza di progetto a 'taglio compressione' espressa in [kN]
V <sub>Rsd</sub>	resistenza di progetto a 'taglio trazione' espressa in [kN]
V <sub>Rd</sub>	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A <sub>sw</sub> >0.0) V <sub>Rd</sub> =min(V <sub>Rcd</sub> , V <sub>Rsd</sub> ).
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

### Paramento

n°	B [cm]	H [cm]	A <sub>sw</sub> [cm <sup>2</sup> ]	cotθ	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
1	100	70	0.00	--	0.00	0.00	291.44	10.15	28.713
2	100	70	0.00	--	0.00	0.00	291.68	10.15	28.737
3	100	70	0.00	--	0.00	0.00	291.92	10.15	28.761
4	100	70	0.00	--	0.00	0.00	292.16	10.15	28.785
5	100	70	0.00	--	0.00	0.00	292.41	10.15	28.808
6	100	70	0.00	--	0.00	0.00	292.65	10.15	28.832
7	100	70	0.00	--	0.00	0.00	292.89	10.15	28.856
8	100	70	0.00	--	0.00	0.00	293.13	10.15	28.880
9	100	70	0.00	--	0.00	0.00	293.38	10.15	28.904
10	100	70	0.00	--	0.00	0.00	293.62	10.15	28.928
11	100	70	0.00	--	0.00	0.00	293.86	10.15	28.952
12	100	70	0.00	--	0.00	0.00	294.10	10.15	28.976
13	100	70	0.00	--	0.00	0.00	294.35	10.15	29.000
14	100	70	0.00	--	0.00	0.00	294.59	10.15	29.024
15	100	70	0.00	--	0.00	0.00	294.83	10.15	29.048
16	100	70	0.00	--	0.00	0.00	295.08	10.15	29.071
17	100	70	0.00	--	0.00	0.00	295.32	10.15	29.095
18	100	70	0.00	--	0.00	0.00	295.56	10.15	29.119
19	100	70	0.00	--	0.00	0.00	295.80	10.15	29.143
20	100	70	0.00	--	0.00	0.00	296.05	10.15	29.167
21	100	70	0.00	--	0.00	0.00	296.29	10.15	29.191



APPALTATORE:

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**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 48 di 120

n°	B [cm]	H [cm]	A <sub>sw</sub> [cmq]	cotθ	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
22	100	70	0.00	--	0.00	0.00	296.53	10.15	29.215
23	100	70	0.00	--	0.00	0.00	296.56	10.26	28.902
24	100	70	0.00	--	0.00	0.00	296.80	10.67	27.810
25	100	70	0.00	--	0.00	0.00	297.05	11.08	26.798
26	100	70	0.00	--	0.00	0.00	297.29	11.50	25.859
27	100	70	0.00	--	0.00	0.00	297.53	11.91	24.985
28	100	70	0.00	--	0.00	0.00	297.77	12.32	24.170
29	100	70	0.00	--	0.00	0.00	298.02	12.73	23.407
30	100	70	0.00	--	0.00	0.00	298.26	13.14	22.692
31	100	70	0.00	--	0.00	0.00	298.50	13.56	22.021
32	100	70	0.00	--	0.00	0.00	298.75	13.97	21.395
33	100	70	0.00	--	0.00	0.00	298.99	14.38	20.815
34	100	70	0.00	--	0.00	0.00	299.23	14.79	20.280
35	100	70	0.00	--	0.00	0.00	299.47	15.20	19.790
36	100	70	0.00	--	0.00	0.00	299.72	15.61	19.345
37	100	101	0.00	--	0.00	0.00	362.26	24.39	14.853
38	100	101	0.00	--	0.00	0.00	362.62	24.80	14.494
39	100	101	0.00	--	0.00	0.00	362.98	25.21	14.166
40	100	101	0.00	--	0.00	0.00	363.33	25.62	13.865
41	100	101	0.00	--	0.00	0.00	363.69	26.03	13.590
42	100	101	0.00	--	0.00	0.00	364.04	26.44	13.330
43	100	101	0.00	--	0.00	0.00	364.40	26.85	13.085
44	100	101	0.00	--	0.00	0.00	364.76	27.26	12.855
45	100	101	0.00	--	0.00	0.00	365.11	27.67	12.640
46	100	101	0.00	--	0.00	0.00	365.47	28.08	12.440
47	100	101	0.00	--	0.00	0.00	365.83	28.49	12.255
48	100	101	0.00	--	0.00	0.00	366.18	28.90	12.085
49	100	101	0.00	--	0.00	0.00	366.54	29.31	11.930
50	100	101	0.00	--	0.00	0.00	366.90	29.72	11.790
51	100	101	0.00	--	0.00	0.00	367.25	30.13	11.665
52	100	101	0.00	--	0.00	0.00	367.61	30.54	11.555
53	100	101	0.00	--	0.00	0.00	367.96	30.95	11.460
54	100	101	0.00	--	0.00	0.00	368.32	31.36	11.380
55	100	101	0.00	--	0.00	0.00	368.68	31.77	11.310
56	100	101	0.00	--	0.00	0.00	369.03	32.18	11.250
57	100	101	0.00	--	0.00	0.00	369.39	32.59	11.200
58	100	101	0.00	--	0.00	0.00	369.75	33.00	11.160
59	100	101	0.00	--	0.00	0.00	369.75	33.41	11.130
60	100	101	0.00	--	0.00	0.00	370.11	33.82	11.110
61	100	101	0.00	--	0.00	0.00	370.47	34.23	11.100
62	100	101	0.00	--	0.00	0.00	370.82	34.64	11.100
63	100	101	0.00	--	0.00	0.00	371.18	35.05	11.110

## Fondazione

Is	B [cm]	H [cm]	A <sub>sw</sub> [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
1-1-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-2-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-3-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-4-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-5-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-6-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-7-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-8-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-9-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-10-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-11-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-12-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-13-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-14-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-15-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-16-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-17-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-18-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-19-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-20-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-21-P	69	120	0.00	2.500	0.00	0.00	258.74	18.39	14.068 (1)
1-22-P	69	120	0.00	2.500	0.00	0.00	258.74	18.39	14.068 (1)
1-23-P	69	120	0.00	2.500	0.00	0.00	258.74	18.39	14.068 (1)
1-24-P	69	120	0.00	2.500	0.00	0.00	258.74	18.39	14.068 (1)
1-25-P	69	120	0.00	2.500	0.00	0.00	258.74	18.39	14.068 (1)
1-26-P	69	120	0.00	2.500	0.00	0.00	258.74	46.76	5.534 (1)
1-27-P	69	120	0.00	2.500	0.00	0.00	258.74	46.76	5.534 (1)
1-28-P	69	120	0.00	2.500	0.00	0.00	258.74	46.76	5.534 (1)
1-29-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-30-P	69	120	0.00	2.500	0.00	0.00	258.74	28.74	9.002 (1)
1-31-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-32-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 49 di 120

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
1-33-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-34-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-35-P	69	120	0.00	2.500	0.00	0.00	258.74	3.20	80.808 (1)
1-36-P	69	120	0.00	2.500	0.00	0.00	258.74	64.05	4.039 (1)
1-37-P	69	120	0.00	2.500	0.00	0.00	258.74	64.05	4.039 (1)
1-38-P	69	120	0.00	2.500	0.00	0.00	258.74	64.05	4.039 (1)
1-39-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-40-P	69	120	0.00	2.500	0.00	0.00	258.74	20.02	12.927 (1)
1-41-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-42-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-43-P	69	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
1-44-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
1-45-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
1-46-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
1-47-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
1-48-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
1-49-P	69	120	0.00	2.500	0.00	0.00	258.74	9.08	28.491 (1)
2-1-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-2-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-3-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-4-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-5-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-6-P	70	120	0.00	2.500	0.00	0.00	258.74	161.57	1.601 (1)
2-7-P	70	120	0.00	2.500	0.00	0.00	258.74	161.57	1.601 (1)
2-8-P	70	120	0.00	2.500	0.00	0.00	258.74	161.57	1.601 (1)
2-9-P	70	120	0.00	2.500	0.00	0.00	258.74	161.57	1.601 (1)
2-10-P	70	120	0.00	2.500	0.00	0.00	258.74	161.57	1.601 (1)
2-11-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-12-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-13-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-14-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-15-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-16-P	70	120	0.00	2.500	0.00	0.00	258.74	60.59	4.270 (1)
2-17-P	70	120	0.00	2.500	0.00	0.00	258.74	60.59	4.270 (1)
2-18-P	70	120	0.00	2.500	0.00	0.00	258.74	60.59	4.270 (1)
2-19-P	70	120	0.00	2.500	0.00	0.00	258.74	60.59	4.270 (1)
2-20-P	70	120	0.00	2.500	0.00	0.00	258.74	60.59	4.270 (1)
2-21-P	70	120	0.00	2.500	0.00	0.00	258.74	26.16	9.889 (1)
2-22-P	70	120	0.00	2.500	0.00	0.00	258.74	26.16	9.889 (1)
2-23-P	70	120	0.00	2.500	0.00	0.00	258.74	26.16	9.889 (1)
2-24-P	70	120	0.00	2.500	0.00	0.00	258.74	26.16	9.889 (1)
2-25-P	70	120	0.00	2.500	0.00	0.00	258.74	26.16	9.889 (1)
2-26-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-27-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-28-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-29-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-30-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-31-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-32-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-33-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-34-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-35-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-36-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-37-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-38-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-39-P	70	120	0.00	2.500	0.00	0.00	258.74	25.15	10.286 (1)
2-40-P	70	120	0.00	2.500	0.00	0.00	258.74	25.15	10.286 (1)
2-41-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-42-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-43-P	70	120	0.00	2.500	0.00	0.00	258.74	0.00	100.000 (1)
2-44-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
2-45-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
2-46-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
2-47-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
2-48-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
2-49-P	70	120	0.00	2.500	0.00	0.00	258.74	15.15	17.074 (1)
5-1-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-2-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-3-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-4-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-5-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-6-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-7-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-8-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-9-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-10-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-11-P	85	120	0.00	2.500	0.00	0.00	316.44	101.60	3.115 (1)
5-12-P	85	120	0.00	2.500	0.00	0.00	316.44	101.60	3.115 (1)
5-13-P	85	120	0.00	2.500	0.00	0.00	316.44	101.60	3.115 (1)
5-14-P	85	120	0.00	2.500	0.00	0.00	316.44	101.60	3.115 (1)
5-15-P	85	120	0.00	2.500	0.00	0.00	316.44	101.60	3.115 (1)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	50 di 120

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
5-16-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-17-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-18-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-19-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-20-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-21-P	85	120	0.00	2.500	0.00	0.00	316.44	52.49	6.029 (1)
5-22-P	85	120	0.00	2.500	0.00	0.00	316.44	52.49	6.029 (1)
5-23-P	85	120	0.00	2.500	0.00	0.00	316.44	52.49	6.029 (1)
5-24-P	85	120	0.00	2.500	0.00	0.00	316.44	52.49	6.029 (1)
5-25-P	85	120	0.00	2.500	0.00	0.00	316.44	52.49	6.029 (1)
5-26-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-27-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-28-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-29-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-30-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-31-P	85	120	0.00	2.500	0.00	0.00	316.44	74.34	4.257 (1)
5-32-P	85	120	0.00	2.500	0.00	0.00	316.44	74.34	4.257 (1)
5-33-P	85	120	0.00	2.500	0.00	0.00	316.44	74.34	4.257 (1)
5-34-P	85	120	0.00	2.500	0.00	0.00	316.44	28.71	11.021 (1)
5-35-P	85	120	0.00	2.500	0.00	0.00	316.44	28.71	11.021 (1)
5-36-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-37-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-38-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
5-39-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-40-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-41-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-42-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-43-P	85	120	0.00	2.500	0.00	0.00	316.44	15.75	20.086 (1)
5-44-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
5-45-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
5-46-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
5-47-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
5-48-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
5-49-P	85	120	0.00	2.500	0.00	0.00	316.44	15.06	21.013 (1)
6-1-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-2-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-3-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-4-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-5-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-6-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-7-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-8-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-9-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-10-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-11-P	85	120	0.00	2.500	0.00	0.00	316.44	8.06	39.256 (1)
6-12-P	85	120	0.00	2.500	0.00	0.00	316.44	8.06	39.256 (1)
6-13-P	85	120	0.00	2.500	0.00	0.00	316.44	8.06	39.256 (1)
6-14-P	85	120	0.00	2.500	0.00	0.00	316.44	8.06	39.256 (1)
6-15-P	85	120	0.00	2.500	0.00	0.00	316.44	8.06	39.256 (1)
6-16-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-17-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-18-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-19-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-20-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-21-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-22-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-23-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-24-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-25-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-26-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-27-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-28-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-29-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-30-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-31-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-32-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-33-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-34-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-35-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-36-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-37-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-38-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-39-P	85	120	0.00	2.500	0.00	0.00	316.44	29.36	10.779 (1)
6-40-P	85	120	0.00	2.500	0.00	0.00	316.44	29.36	10.779 (1)
6-41-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-42-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-43-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
6-44-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)
6-45-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)
6-46-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)
6-47-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)

APPALTATORE: **TELESE S.c.a r.l.**  
Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:  
Mandataria: \_\_\_\_\_ Mandante: \_\_\_\_\_

**SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.**

Relazione di calcolo  
**IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX**

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	51 di 120

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
6-48-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)
6-49-P	85	120	0.00	2.500	0.00	0.00	316.44	3.98	79.536 (1)
7-1-P	85	120	0.00	2.500	0.00	0.00	316.44	42.31	7.479 (1)
7-2-P	85	120	0.00	2.500	0.00	0.00	316.44	42.31	7.479 (1)
7-3-P	85	120	0.00	2.500	0.00	0.00	316.44	42.31	7.479 (1)
7-4-P	85	120	0.00	2.500	0.00	0.00	316.44	42.31	7.479 (1)
7-5-P	85	120	0.00	2.500	0.00	0.00	316.44	42.31	7.479 (1)
7-6-P	85	120	0.00	2.500	0.00	0.00	316.44	4.04	78.412 (1)
7-7-P	85	120	0.00	2.500	0.00	0.00	316.44	4.04	78.412 (1)
7-8-P	85	120	0.00	2.500	0.00	0.00	316.44	4.04	78.412 (1)
7-9-P	85	120	0.00	2.500	0.00	0.00	316.44	4.04	78.412 (1)
7-10-P	85	120	0.00	2.500	0.00	0.00	316.44	4.04	78.412 (1)
7-11-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-12-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-13-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-14-P	85	120	0.00	2.500	0.00	0.00	316.44	5.90	53.593 (1)
7-15-P	85	120	0.00	2.500	0.00	0.00	316.44	5.90	53.593 (1)
7-16-P	85	120	0.00	2.500	0.00	0.00	316.44	7.68	41.189 (1)
7-17-P	85	120	0.00	2.500	0.00	0.00	316.44	7.68	41.189 (1)
7-18-P	85	120	0.00	2.500	0.00	0.00	316.44	7.68	41.189 (1)
7-19-P	85	120	0.00	2.500	0.00	0.00	316.44	13.27	23.844 (1)
7-20-P	85	120	0.00	2.500	0.00	0.00	316.44	13.27	23.844 (1)
7-21-P	85	120	0.00	2.500	0.00	0.00	316.44	4.56	69.332 (1)
7-22-P	85	120	0.00	2.500	0.00	0.00	316.44	4.56	69.332 (1)
7-23-P	85	120	0.00	2.500	0.00	0.00	316.44	4.56	69.332 (1)
7-24-P	85	120	0.00	2.500	0.00	0.00	316.44	4.56	69.332 (1)
7-25-P	85	120	0.00	2.500	0.00	0.00	316.44	4.56	69.332 (1)
7-26-P	85	120	0.00	2.500	0.00	0.00	316.44	13.27	23.844 (1)
7-27-P	85	120	0.00	2.500	0.00	0.00	316.44	13.27	23.844 (1)
7-28-P	85	120	0.00	2.500	0.00	0.00	316.44	13.27	23.844 (1)
7-29-P	85	120	0.00	2.500	0.00	0.00	316.44	7.68	41.189 (1)
7-30-P	85	120	0.00	2.500	0.00	0.00	316.44	7.68	41.189 (1)
7-31-P	85	120	0.00	2.500	0.00	0.00	316.44	5.90	53.593 (1)
7-32-P	85	120	0.00	2.500	0.00	0.00	316.44	5.90	53.593 (1)
7-33-P	85	120	0.00	2.500	0.00	0.00	316.44	5.90	53.593 (1)
7-34-P	85	120	0.00	2.500	0.00	0.00	316.44	2.16	100.000 (1)
7-35-P	85	120	0.00	2.500	0.00	0.00	316.44	2.16	100.000 (1)
7-36-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-37-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-38-P	85	120	0.00	2.500	0.00	0.00	316.44	17.85	17.728 (1)
7-39-P	85	120	0.00	2.500	0.00	0.00	316.44	11.71	27.024 (1)
7-40-P	85	120	0.00	2.500	0.00	0.00	316.44	11.71	27.024 (1)
7-41-P	85	120	0.00	2.500	0.00	0.00	316.44	11.71	27.024 (1)
7-42-P	85	120	0.00	2.500	0.00	0.00	316.44	11.71	27.024 (1)
7-43-P	85	120	0.00	2.500	0.00	0.00	316.44	11.71	27.024 (1)
7-44-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
7-45-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
7-46-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
7-47-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
7-48-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
7-49-P	85	120	0.00	2.500	0.00	0.00	316.44	2.02	100.000 (1)
8-1-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-2-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-3-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-4-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-5-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-6-P	85	120	0.00	2.500	0.00	0.00	316.44	5.48	57.748 (1)
8-7-P	85	120	0.00	2.500	0.00	0.00	316.44	5.48	57.748 (1)
8-8-P	85	120	0.00	2.500	0.00	0.00	316.44	5.48	57.748 (1)
8-9-P	85	120	0.00	2.500	0.00	0.00	316.44	5.48	57.748 (1)
8-10-P	85	120	0.00	2.500	0.00	0.00	316.44	5.48	57.748 (1)
8-11-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-12-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-13-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-14-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-15-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-16-P	85	120	0.00	2.500	0.00	0.00	316.44	20.23	15.643 (1)
8-17-P	85	120	0.00	2.500	0.00	0.00	316.44	20.23	15.643 (1)
8-18-P	85	120	0.00	2.500	0.00	0.00	316.44	20.23	15.643 (1)
8-19-P	85	120	0.00	2.500	0.00	0.00	316.44	20.23	15.643 (1)
8-20-P	85	120	0.00	2.500	0.00	0.00	316.44	20.23	15.643 (1)
8-21-P	85	120	0.00	2.500	0.00	0.00	316.44	16.63	19.023 (1)
8-22-P	85	120	0.00	2.500	0.00	0.00	316.44	16.63	19.023 (1)
8-23-P	85	120	0.00	2.500	0.00	0.00	316.44	16.63	19.023 (1)
8-24-P	85	120	0.00	2.500	0.00	0.00	316.44	16.63	19.023 (1)
8-25-P	85	120	0.00	2.500	0.00	0.00	316.44	16.63	19.023 (1)
8-26-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-27-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-28-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-29-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-30-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	52 di 120

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
8-31-P	85	120	0.00	2.500	0.00	0.00	316.44	23.71	13.349 (1)
8-32-P	85	120	0.00	2.500	0.00	0.00	316.44	23.71	13.349 (1)
8-33-P	85	120	0.00	2.500	0.00	0.00	316.44	23.71	13.349 (1)
8-34-P	85	120	0.00	2.500	0.00	0.00	316.44	10.87	29.114 (1)
8-35-P	85	120	0.00	2.500	0.00	0.00	316.44	10.87	29.114 (1)
8-36-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-37-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-38-P	85	120	0.00	2.500	0.00	0.00	316.44	0.00	100.000 (1)
8-39-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-40-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-41-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-42-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-43-P	85	120	0.00	2.500	0.00	0.00	316.44	1.44	100.000 (1)
8-44-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
8-45-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
8-46-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
8-47-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
8-48-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
8-49-P	85	120	0.00	2.500	0.00	0.00	316.44	3.16	100.000 (1)
9-1-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-2-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-3-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-4-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-5-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-6-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
9-7-S	100	120	0.00	2.500	0.00	0.00	372.29	206.29	1.805 (1)
9-8-S	100	120	0.00	2.500	0.00	0.00	372.29	206.29	1.805 (1)
9-9-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-10-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-11-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-12-S	100	120	0.00	2.500	0.00	0.00	372.29	94.83	3.926 (1)
9-13-S	100	120	0.00	2.500	0.00	0.00	372.29	94.83	3.926 (1)
9-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
9-17-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
9-18-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
9-19-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
9-20-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
9-21-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
9-22-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
10-1-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
10-2-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
10-3-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
10-4-S	100	120	0.00	2.500	0.00	0.00	372.29	369.56	1.007 (1)
10-5-S	100	120	0.00	2.500	0.00	0.00	372.29	369.56	1.007 (1)
10-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	522.00	2.728 (1)
10-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	522.00	2.728 (1)
10-8-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
10-9-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
10-10-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
10-11-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
10-12-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
10-13-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
10-14-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
10-15-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
10-16-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
10-17-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
10-18-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
10-19-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
10-20-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
10-21-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
10-22-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
11-1-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-2-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-3-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-4-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-5-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-6-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-7-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-8-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-9-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
11-10-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
11-11-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
11-12-S	100	120	0.00	2.500	0.00	0.00	372.29	87.90	4.235 (1)
11-13-S	100	120	0.00	2.500	0.00	0.00	372.29	87.90	4.235 (1)
11-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
11-17-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
11-18-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	53 di 120

Is	B [cm]	H [cm]	A <sub>sw</sub> [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
11-19-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
11-20-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
11-21-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
11-22-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
12-1-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
12-2-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
12-3-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
12-4-S	100	120	0.00	2.500	0.00	0.00	372.29	175.92	2.116 (1)
12-5-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
12-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
12-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
12-8-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
12-9-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
12-10-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
12-11-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
12-12-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
12-13-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
12-14-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
12-15-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
12-16-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
12-17-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
12-18-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
12-19-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
12-20-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
12-21-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
12-22-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
13-1-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-2-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-3-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-4-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-5-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-6-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-7-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
13-8-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
13-9-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-10-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-11-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
13-12-S	100	120	0.00	2.500	0.00	0.00	372.29	90.38	4.119 (1)
13-13-S	100	120	0.00	2.500	0.00	0.00	372.29	90.38	4.119 (1)
13-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
13-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
13-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
13-17-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
13-18-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
13-19-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
13-20-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
13-21-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
13-22-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
14-1-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
14-2-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
14-3-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
14-4-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
14-5-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
14-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	383.66	3.711 (1)
14-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	0.00	100.000 (1)
14-8-S	100	120	0.00	2.500	0.00	0.00	372.29	196.64	1.893 (1)
14-9-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-10-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-11-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-12-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-13-S	100	120	0.00	2.500	0.00	0.00	372.29	193.57	1.923 (1)
14-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
14-17-S	100	120	0.00	2.500	0.00	0.00	372.29	5.25	70.901 (1)
14-18-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
14-19-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
14-20-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
14-21-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
14-22-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
15-1-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
15-2-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
15-3-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
15-4-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
15-5-S	100	120	0.00	2.500	0.00	0.00	372.29	268.88	1.385 (1)
15-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	383.66	3.711 (1)
15-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	0.00	100.000 (1)
15-8-S	100	120	0.00	2.500	0.00	0.00	372.29	196.64	1.893 (1)
15-9-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-10-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-11-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

## PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 54 di 120

Is	B [cm]	H [cm]	A <sub>sw</sub> [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
15-12-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-13-S	100	120	0.00	2.500	0.00	0.00	372.29	193.57	1.923 (1)
15-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
15-17-S	100	120	0.00	2.500	0.00	0.00	372.29	5.25	70.901 (1)
15-18-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
15-19-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
15-20-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
15-21-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
15-22-S	100	120	0.00	2.500	0.00	0.00	372.29	107.81	3.453 (1)
16-1-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-2-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-3-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-4-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-5-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-6-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-7-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
16-8-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
16-9-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-10-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-11-S	100	120	0.00	2.500	0.00	0.00	372.29	104.00	3.580 (1)
16-12-S	100	120	0.00	2.500	0.00	0.00	372.29	90.38	4.119 (1)
16-13-S	100	120	0.00	2.500	0.00	0.00	372.29	90.38	4.119 (1)
16-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
16-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
16-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
16-17-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
16-18-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
16-19-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
16-20-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
16-21-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
16-22-S	100	120	0.00	2.500	0.00	0.00	372.29	5.81	64.113 (1)
17-1-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
17-2-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
17-3-S	100	120	0.00	2.500	0.00	0.00	372.29	76.52	4.865 (1)
17-4-S	100	120	0.00	2.500	0.00	0.00	372.29	175.92	2.116 (1)
17-5-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
17-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
17-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	571.23	2.493 (1)
17-8-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
17-9-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
17-10-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
17-11-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
17-12-S	100	120	0.00	2.500	0.00	0.00	372.29	179.48	2.074 (1)
17-13-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
17-14-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
17-15-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
17-16-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
17-17-S	100	120	0.00	2.500	0.00	0.00	372.29	176.35	2.111 (1)
17-18-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
17-19-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
17-20-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
17-21-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
17-22-S	100	120	0.00	2.500	0.00	0.00	372.29	154.97	2.402 (1)
18-1-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-2-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-3-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-4-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-5-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-6-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-7-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-8-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-9-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
18-10-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
18-11-S	100	120	0.00	2.500	0.00	0.00	372.29	71.21	5.228 (1)
18-12-S	100	120	0.00	2.500	0.00	0.00	372.29	87.90	4.235 (1)
18-13-S	100	120	0.00	2.500	0.00	0.00	372.29	87.90	4.235 (1)
18-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
18-17-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
18-18-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
18-19-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
18-20-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
18-21-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
18-22-S	100	120	0.00	2.500	0.00	0.00	372.29	6.08	61.261 (1)
19-1-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
19-2-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
19-3-S	100	120	0.00	2.500	0.00	0.00	372.29	73.67	5.053 (1)
19-4-S	100	120	0.00	2.500	0.00	0.00	372.29	369.56	1.007 (1)

APPALTATORE:	<b>TELESE</b> S.c.a r.l. Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b>					
PROGETTAZIONE:	Mandatario: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.	<b>PROGETTO ESECUTIVO</b>					
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.006	REV. A	FOGLIO 55 di 120	

Is	B [cm]	H [cm]	A <sub>sw</sub> [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
19-5-S	100	120	0.00	2.500	0.00	0.00	372.29	369.56	1.007 (1)
19-6-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	522.00	2.728 (1)
19-7-S	100	120	4.52	2.500	2963.34	1423.96	1423.96	522.00	2.728 (1)
19-8-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
19-9-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
19-10-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
19-11-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
19-12-S	100	120	0.00	2.500	0.00	0.00	372.29	213.12	1.747 (1)
19-13-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
19-14-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
19-15-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
19-16-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
19-17-S	100	120	0.00	2.500	0.00	0.00	372.29	195.71	1.902 (1)
19-18-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
19-19-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
19-20-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
19-21-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
19-22-S	100	120	0.00	2.500	0.00	0.00	372.29	138.01	2.697 (1)
20-1-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-2-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-3-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-4-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-5-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-6-S	100	120	0.00	2.500	0.00	0.00	372.29	263.18	1.415 (1)
20-7-S	100	120	0.00	2.500	0.00	0.00	372.29	206.29	1.805 (1)
20-8-S	100	120	0.00	2.500	0.00	0.00	372.29	206.29	1.805 (1)
20-9-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-10-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-11-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-12-S	100	120	0.00	2.500	0.00	0.00	372.29	94.83	3.926 (1)
20-13-S	100	120	0.00	2.500	0.00	0.00	372.29	94.83	3.926 (1)
20-14-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-15-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-16-S	100	120	0.00	2.500	0.00	0.00	372.29	0.00	100.000 (1)
20-17-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
20-18-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
20-19-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
20-20-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
20-21-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)
20-22-S	100	120	0.00	2.500	0.00	0.00	372.29	31.27	11.904 (1)

### Pali in c.a.

La verifica a taglio sui pali circolari in c.a. viene eseguita considerando una sezione quadrata inscritta nella circonferenza. Se D è il diametro del palo, il lato della sezione quadrata sulla quale si esegue la verifica è  $L = 2^{0.5}/2 D$ .

Ip	Is	L [cm]	A <sub>sw</sub> [cmq]	s [cm]	cotgθ	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
1	1	56.57	2.26	10	2.500	628.90	1755.74	628.90	238.78	2.634
2	1	56.57	2.26	10	2.500	690.09	3511.48	690.09	238.78	2.890
3	1	56.57	2.26	10	2.500	751.28	3511.48	751.28	238.78	3.146



APPALTATORE: <b>TELESE S.c.a r.l.</b> <i>Consorzio Telese Società Consortile a Responsabilità Limitata</i>	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>					
PROGETTAZIONE: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	56 di 120

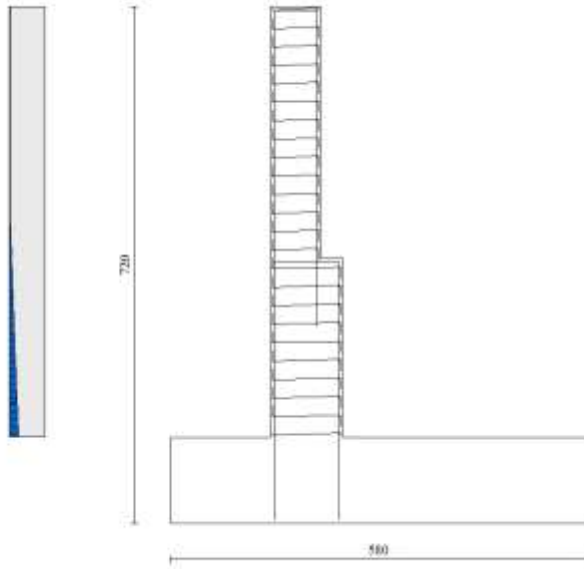


Fig. 20 - Paramento (Inviluppo)

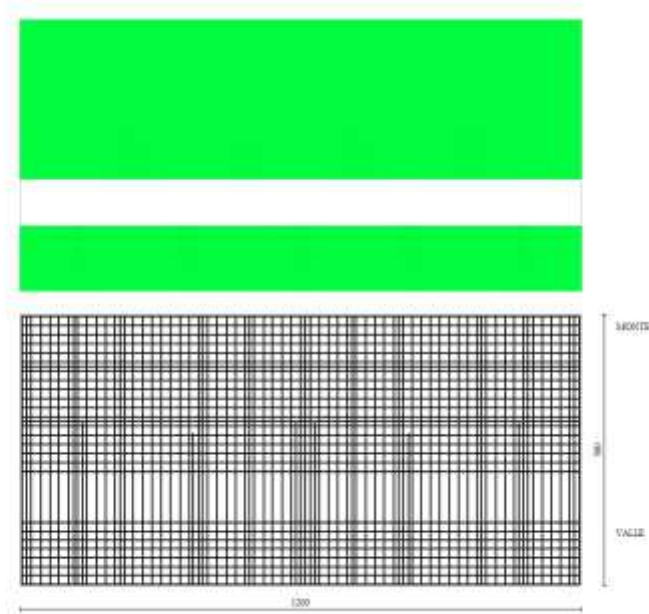


Fig. 21 - Piastra fondazione dir. X (Inviluppo)

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>					
PROGETTAZIONE: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	57 di 120

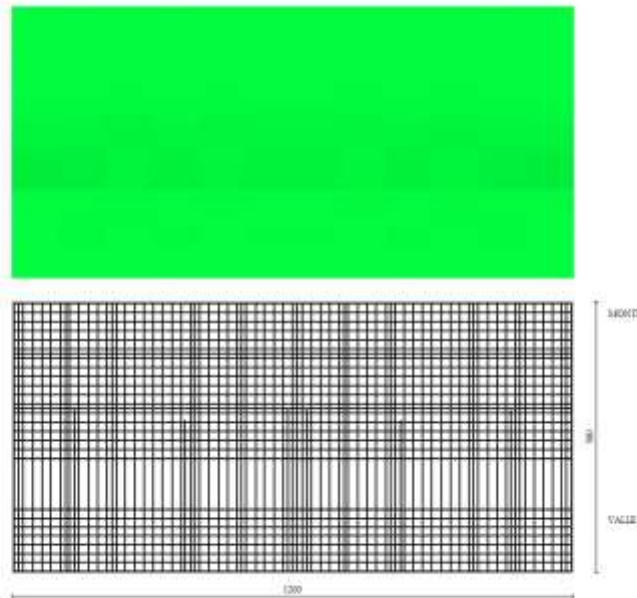


Fig. 22 - Piastra fondazione dir. Y (Inviluppo)

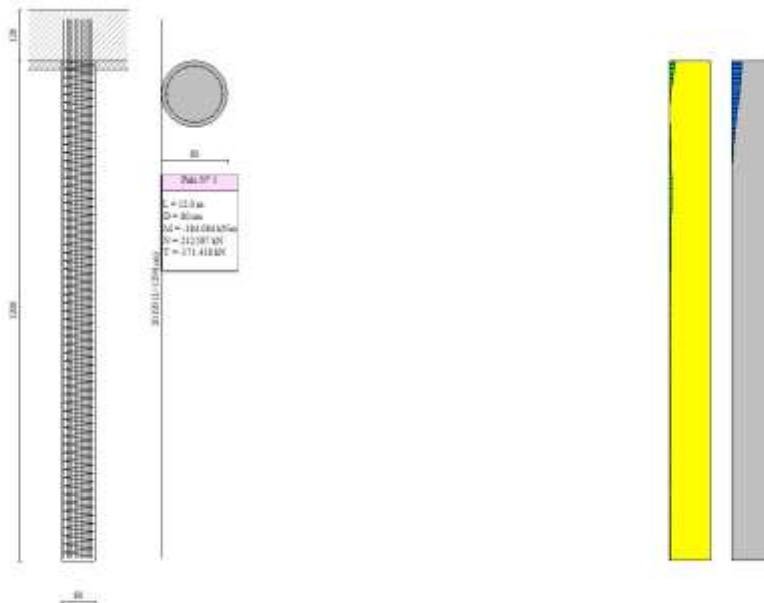


Fig. 23 - Pali (Palo n° 1) (Inviluppo)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO  
PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	58 di 120

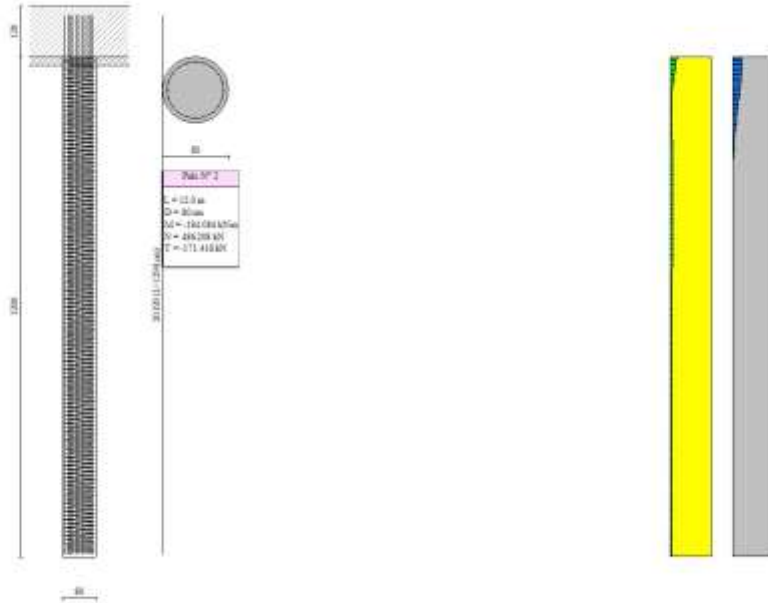


Fig. 24 - Pali (Palo n° 2) (Inviluppo)

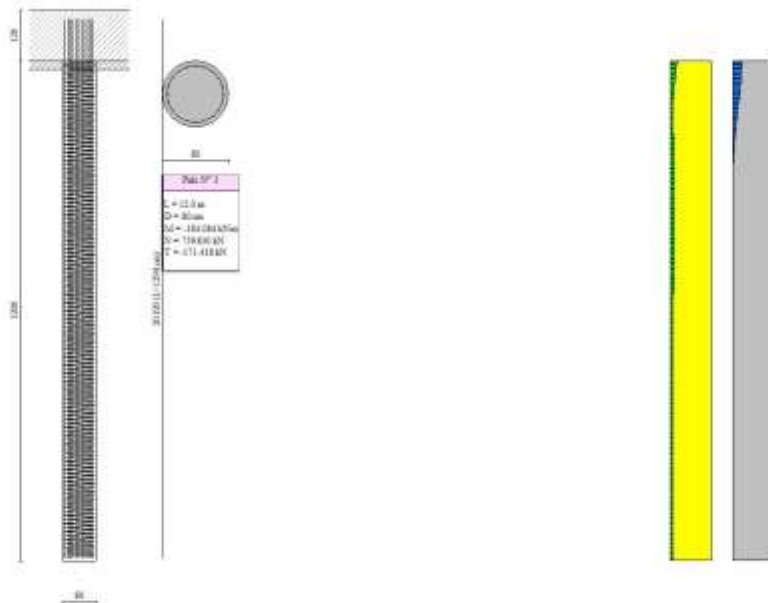


Fig. 25 - Pali (Palo n° 3) (Inviluppo)

*Verifica delle tensioni*

Simbologia adottata

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	59 di 120

n° indice sezione  
 Y ordinata sezione, espressa in [m]  
 B larghezza sezione, espresso in [cm]  
 H altezza sezione, espressa in [cm]  
 Afi area ferri inferiori, espresso in [cmq]  
 Afs area ferri superiori, espressa in [cmq]  
 M momento agente, espressa in [kNm]  
 N sforzo normale agente, espressa in [kN]  
 σc tensione di compressione nel cls, espressa in [kPa]  
 σfi tensione nei ferri inferiori, espressa in [kPa]  
 σfs tensione nei ferri superiori, espressa in [kPa]

**Combinazioni SLER**Paramento

Tensione massima di compressione nel calcestruzzo 19920 [kPa]  
 Tensione massima di trazione dell'acciaio 360000 [kPa]

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
1	100	70	10.05	15.71	2.00	5.00	41 (5)	799 (5)	503 (5)
2	100	70	10.05	15.71	2.70	6.72	55 (5)	1085 (5)	679 (5)
3	100	70	10.05	15.71	3.40	8.43	69 (5)	1372 (5)	855 (5)
4	100	70	10.05	15.71	4.10	10.15	84 (5)	1658 (5)	1031 (5)
5	100	70	10.05	15.71	4.80	11.86	98 (5)	1945 (5)	1207 (5)
6	100	70	10.05	15.71	5.50	13.58	112 (5)	2232 (5)	1383 (5)
7	100	70	10.05	15.71	6.20	15.29	127 (5)	2518 (5)	1559 (5)
8	100	70	10.05	15.71	6.90	17.01	141 (5)	2805 (5)	1735 (5)
9	100	70	10.05	15.71	7.60	18.73	155 (5)	3091 (5)	1911 (5)
10	100	70	10.05	15.71	8.30	20.44	169 (5)	3378 (5)	2087 (5)
11	100	70	10.05	15.71	9.00	22.16	184 (5)	3664 (5)	2263 (5)
12	100	70	10.05	15.71	9.70	23.87	198 (5)	3951 (5)	2438 (5)
13	100	70	10.05	15.71	10.40	25.59	212 (5)	4238 (5)	2614 (5)
14	100	70	10.05	15.71	11.10	27.30	227 (5)	4524 (5)	2790 (5)
15	100	70	10.05	15.71	11.80	29.02	241 (5)	4811 (5)	2966 (5)
16	100	70	10.05	15.71	12.50	30.74	255 (5)	5097 (5)	3142 (5)
17	100	70	10.05	15.71	13.20	32.45	270 (5)	5384 (5)	3318 (5)
18	100	70	10.05	15.71	13.90	34.17	284 (5)	5671 (5)	3494 (5)
19	100	70	10.05	15.71	14.60	35.88	298 (5)	5957 (5)	3670 (5)
20	100	70	10.05	15.71	15.30	37.60	312 (5)	6244 (5)	3846 (5)
21	100	70	10.05	15.71	16.00	39.31	327 (5)	6530 (5)	4022 (5)
22	100	70	10.05	15.71	16.70	41.03	341 (5)	6817 (5)	4198 (5)
23	100	70	10.05	15.71	17.40	42.75	355 (5)	7104 (5)	4374 (5)
24	100	70	10.05	15.71	18.10	44.46	370 (5)	7390 (5)	4550 (5)
25	100	70	10.05	15.71	18.80	46.18	384 (5)	7677 (5)	4726 (5)
26	100	70	10.05	15.71	19.50	47.89	398 (5)	7963 (5)	4901 (5)
27	100	70	10.05	15.71	20.19	49.61	413 (5)	8250 (5)	5077 (5)
28	100	70	10.05	15.71	20.89	51.32	427 (5)	8536 (5)	5253 (5)
29	100	70	10.05	15.71	21.59	53.04	441 (5)	8823 (5)	5429 (5)
30	100	70	10.05	15.71	22.29	54.76	455 (5)	9110 (5)	5605 (5)
31	100	70	10.05	15.71	22.99	56.47	470 (5)	9396 (5)	5781 (5)
32	100	70	10.05	15.71	23.72	58.19	485 (5)	9710 (5)	5964 (5)
33	100	70	10.05	15.71	24.51	59.90	501 (5)	10081 (5)	6162 (5)
34	100	70	10.05	15.71	25.37	61.62	519 (5)	10514 (5)	6375 (5)
35	100	70	10.05	15.71	26.30	63.33	538 (5)	11015 (5)	6606 (5)
36	100	70	10.05	15.71	27.30	65.05	559 (5)	11587 (5)	6854 (5)
37	100	101	10.05	15.71	35.72	69.93	372 (5)	7415 (5)	4902 (5)
38	100	101	10.05	15.71	36.93	72.40	384 (5)	7650 (5)	5068 (5)
39	100	101	10.05	15.71	38.43	74.87	401 (5)	8047 (5)	5277 (5)
40	100	101	10.05	15.71	40.15	77.35	419 (5)	8566 (5)	5518 (5)
41	100	101	10.05	15.71	42.00	79.82	440 (5)	9168 (5)	5779 (5)
42	100	101	10.05	15.71	43.95	82.30	462 (5)	9825 (5)	6054 (5)
43	100	101	10.05	15.71	45.98	84.77	485 (5)	10540 (5)	6342 (5)
44	100	101	10.05	15.71	48.12	87.24	509 (5)	11318 (5)	6644 (5)
45	100	101	10.05	15.71	50.36	89.72	534 (5)	12163 (5)	6962 (5)
46	100	101	10.05	15.71	52.71	92.19	561 (5)	13082 (5)	7295 (5)
47	100	101	10.05	15.71	55.19	94.66	589 (5)	14078 (5)	7645 (5)
48	100	101	10.05	15.71	57.78	97.14	619 (5)	15156 (5)	8013 (5)
49	100	101	10.05	15.71	60.51	99.61	650 (5)	16320 (5)	8398 (5)
50	100	101	10.05	15.71	63.37	102.09	683 (5)	17575 (5)	8802 (5)
51	100	101	10.05	15.71	66.37	104.56	718 (5)	18925 (5)	9224 (5)
52	100	101	10.05	15.71	69.51	107.03	754 (5)	20375 (5)	9666 (5)
53	100	101	10.05	15.71	72.81	109.51	793 (5)	21928 (5)	10128 (5)
54	100	101	10.05	15.71	76.26	111.98	833 (5)	23588 (5)	10611 (5)
55	100	101	10.05	15.71	79.87	114.45	875 (5)	25359 (5)	11114 (5)
56	100	101	10.05	15.71	83.64	116.93	918 (5)	27246 (5)	11639 (5)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	60 di 120

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
57	100	101	10.05	15.71	87.59	119.40	964 (5)	29251 (5)	12185 (5)
58	100	101	10.05	15.71	87.67	119.45	965 (5)	29292 (5)	12196 (5)
59	100	101	10.05	15.71	91.79	121.92	1013 (5)	31421 (5)	12764 (5)
60	100	101	10.05	15.71	96.08	124.39	1063 (5)	33676 (5)	13355 (5)
61	100	101	10.05	15.71	100.56	126.87	1115 (5)	36060 (5)	13970 (5)
62	100	101	10.05	15.71	105.24	129.34	1169 (5)	38579 (5)	14607 (5)
63	100	101	10.05	15.71	110.10	131.81	1225 (5)	41234 (5)	15269 (5)

**Piastra fondazione**

Tensione massima di compressione nel calcestruzzo

17430

[kPa]

Tensione massima di trazione dell'acciaio

1255271

[kPa]

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
1-1-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
1-2-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-3-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-4-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-5-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-6-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-7-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-8-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-9-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-10-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-11-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)
1-12-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-13-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-14-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-15-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-16-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-17-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-18-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-19-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-20-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-21-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-22-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-23-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-24-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-25-P	69	120	12.57	12.57	0.00	-38.81	355 (5)	4294 (5)	24577 (5)
1-26-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-27-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-28-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-29-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-30-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-31-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-32-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-33-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-34-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-35-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-36-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-37-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-38-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-39-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)
1-40-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-41-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-42-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-43-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-44-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-45-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-46-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-47-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-48-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-49-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
2-1-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
2-2-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-3-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-4-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-5-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-6-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-7-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)
2-8-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-9-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-10-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-11-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-12-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-13-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

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PROGETTAZIONE:

Mandataria:                      Mandante:

**SYSTRA S.A.**    **SWS Engineering S.p.A.**    **SYSTRA-SOTECNI S.p.A.**

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Relazione di calcolo  
**IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX**

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

**PROGETTO ESECUTIVO**

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COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	61 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-14-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-15-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-16-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-17-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-18-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-19-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-20-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)
2-21-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-22-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-23-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-24-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-25-P	70	120	12.57	12.57	0.69	-65.93	661 (5)	7993 (5)	45744 (5)
2-26-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-27-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-28-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-29-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-30-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)
2-31-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-32-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-33-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-34-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-35-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-36-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-37-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)
2-38-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-39-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-40-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-41-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-42-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-43-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)
2-44-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-45-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-46-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-47-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-48-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-49-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
5-1-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
5-2-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-3-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-4-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-5-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)
5-6-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-7-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-8-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-9-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-10-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-11-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-12-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-13-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-14-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-15-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-16-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-17-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-18-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-19-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-20-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-21-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-22-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-23-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-24-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-25-P	85	120	15.71	15.71	10.98	-0.40	68 (7)	4650 (7)	1173 (7)
5-26-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-27-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-28-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-29-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-30-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-31-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-32-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-33-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-34-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-35-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-36-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-37-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-38-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-39-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-40-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-41-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-42-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-43-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-44-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-45-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	62 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
5-46-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-47-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-48-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-49-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
6-1-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
6-2-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-3-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-4-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-5-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-6-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-7-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-8-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-9-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-10-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-11-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-12-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-13-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)
6-14-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-15-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-16-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-17-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-18-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-19-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-20-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-21-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-22-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-23-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-24-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)
6-25-P	85	120	15.71	15.71	10.59	0.00	57 (7)	3928 (7)	695 (7)
6-26-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)
6-27-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-28-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-29-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-30-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-31-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-32-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-33-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-34-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-35-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-36-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-37-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)
6-38-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-39-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-40-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-41-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-42-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-43-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-44-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-45-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-46-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-47-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-48-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-49-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
7-1-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
7-2-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-3-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-4-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-5-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)
7-6-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-7-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-8-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-9-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-10-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-11-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-12-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-13-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-14-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-15-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-16-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-17-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-18-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-19-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-20-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-21-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-22-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)
7-23-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-24-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-25-P	85	120	15.71	15.71	0.82	-15.64	216 (5)	2621 (5)	14811 (5)
7-26-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-27-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-28-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO****PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	63 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
7-29-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-30-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-31-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-32-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-33-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-34-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-35-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-36-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-37-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-38-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-39-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-40-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-41-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-42-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-43-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-44-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-45-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)
7-46-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-47-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-48-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-49-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
8-1-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
8-2-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-3-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-4-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-5-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-6-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-7-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-8-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-9-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)
8-10-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-11-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-12-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-13-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-14-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-15-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-16-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-17-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-18-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-19-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-20-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-21-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-22-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-23-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-24-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-25-P	85	120	15.71	15.71	0.00	-51.35	404 (7)	4900 (7)	27693 (7)
8-26-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-27-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-28-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-29-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-30-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-31-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-32-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-33-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-34-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-35-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-36-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-37-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-38-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-39-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-40-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-41-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)
8-42-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-43-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-44-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-45-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-46-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-47-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-48-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-49-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
9-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
9-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
9-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
9-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
9-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
9-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
9-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
9-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
9-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
9-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
9-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)



APPALTATORE:

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PROGETTAZIONE:

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SYSTRA S.A.

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**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
9-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)
9-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
9-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
9-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
9-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
9-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
9-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
9-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
9-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
9-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
9-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)
10-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
10-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
10-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
10-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
10-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
10-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)
10-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
10-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
10-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
10-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
10-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
10-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
10-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
10-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
10-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
10-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
10-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
10-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
10-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)
10-20-S	100	120	18.85	18.85	1.81	-24.74	162 (5)	1964 (5)	10975 (5)
10-21-S	100	120	18.85	18.85	1.20	-15.57	80 (5)	977 (5)	5460 (5)
10-22-S	100	120	18.85	18.85	1.62	-3.72	11 (5)	701 (5)	755 (5)
11-1-S	100	120	18.85	18.85	0.48	-7.21	40 (5)	480 (5)	2683 (5)
11-2-S	100	120	18.85	18.85	0.72	-6.90	34 (5)	412 (5)	2304 (5)
11-3-S	100	120	18.85	18.85	1.50	-2.63	31 (8)	727 (8)	2121 (8)
11-4-S	100	120	18.85	18.85	7.80	-0.20	56 (8)	3776 (8)	676 (8)
11-5-S	100	120	18.85	18.85	22.87	0.00	159 (5)	10815 (5)	1936 (5)
11-6-S	100	120	18.85	18.85	47.14	0.00	308 (5)	20877 (5)	3736 (5)
11-7-S	100	120	18.85	18.85	75.60	0.00	476 (5)	32298 (5)	5780 (5)
11-8-S	100	120	18.85	18.85	36.01	-3.37	161 (7)	10561 (7)	10954 (7)
11-9-S	100	120	18.85	18.85	20.02	-24.30	201 (6)	12057 (6)	13646 (6)
11-10-S	100	120	18.85	18.85	0.00	-124.66	671 (5)	8149 (5)	45531 (5)
11-11-S	100	120	18.85	18.85	0.00	-104.35	505 (5)	6130 (5)	34250 (5)
11-12-S	100	120	18.85	18.85	0.00	-75.54	300 (5)	3642 (5)	20353 (5)
11-13-S	100	120	18.85	18.85	0.00	-40.88	117 (5)	1419 (5)	7927 (5)
11-14-S	100	120	18.85	18.85	15.53	-0.63	29 (7)	1962 (7)	1040 (7)
11-15-S	100	120	18.85	18.85	20.07	-0.33	77 (7)	5224 (7)	935 (7)
11-16-S	100	120	18.85	18.85	18.33	-0.27	87 (7)	5872 (7)	1051 (7)
11-17-S	100	120	18.85	18.85	11.41	-0.75	81 (8)	5526 (8)	1804 (8)
11-18-S	100	120	18.85	18.85	7.94	-0.83	57 (8)	3845 (8)	2000 (8)
11-19-S	100	120	18.85	18.85	4.85	-0.89	35 (8)	2347 (8)	2153 (8)
11-20-S	100	120	18.85	18.85	2.08	-0.67	17 (7)	1167 (7)	792 (7)
11-21-S	100	120	18.85	18.85	1.07	-0.43	8 (8)	516 (8)	527 (8)
11-22-S	100	120	18.85	18.85	0.28	-0.68	4 (7)	285 (7)	239 (7)
12-1-S	100	120	18.85	18.85	11.58	-2.43	62 (5)	4198 (5)	834 (5)
12-2-S	100	120	18.85	18.85	16.40	-6.44	100 (5)	6769 (5)	2357 (5)
12-3-S	100	120	18.85	18.85	7.80	-13.82	80 (5)	4995 (5)	5397 (5)
12-4-S	100	120	18.85	18.85	1.06	-67.71	391 (5)	4754 (5)	26561 (5)
12-5-S	100	120	18.85	18.85	1.08	-65.96	427 (5)	5189 (5)	28994 (5)
12-6-S	100	120	18.85	18.85	13.59	-2.94	162 (8)	10968 (8)	1963 (8)
12-7-S	100	120	18.85	18.85	81.02	0.00	573 (5)	38878 (5)	6958 (5)
12-8-S	100	120	18.85	18.85	0.00	-105.14	441 (5)	5356 (5)	29929 (5)
12-9-S	100	120	18.85	18.85	0.00	-84.45	333 (5)	4047 (5)	22613 (5)
12-10-S	100	120	18.85	18.85	0.00	-70.88	268 (5)	3255 (5)	18190 (5)
12-11-S	100	120	18.85	18.85	0.00	-54.90	188 (5)	2278 (5)	12730 (5)
12-12-S	100	120	18.85	18.85	0.00	-38.05	103 (5)	1252 (5)	6996 (5)
12-13-S	100	120	18.85	18.85	16.32	-0.21	22 (7)	933 (7)	1489 (7)
12-14-S	100	120	18.85	18.85	24.97	-0.15	90 (7)	6095 (7)	1091 (7)
12-15-S	100	120	18.85	18.85	32.09	-0.20	166 (7)	11273 (7)	2017 (7)
12-16-S	100	120	18.85	18.85	38.02	-0.85	204 (6)	13832 (6)	2475 (6)
12-17-S	100	120	18.85	18.85	45.00	-2.45	226 (5)	15338 (5)	2745 (5)
12-18-S	100	120	18.85	18.85	1.54	-20.38	124 (7)	2035 (7)	8403 (7)
12-19-S	100	120	18.85	18.85	1.05	-48.02	314 (7)	3812 (7)	21298 (7)
12-20-S	100	120	18.85	18.85	1.25	-29.22	194 (5)	2355 (5)	13158 (5)
12-21-S	100	120	18.85	18.85	0.76	-18.25	96 (5)	1171 (5)	6541 (5)
12-22-S	100	120	18.85	18.85	1.38	-4.35	13 (5)	774 (5)	869 (5)
13-1-S	100	120	18.85	18.85	1.11	-6.48	35 (5)	423 (5)	2366 (5)
13-2-S	100	120	18.85	18.85	0.51	-9.53	49 (5)	596 (5)	3329 (5)
13-3-S	100	120	18.85	18.85	0.83	-9.72	82 (5)	1000 (5)	5588 (5)
13-4-S	100	120	18.85	18.85	6.54	-2.93	52 (8)	3165 (8)	3552 (8)

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
<b>IF2R</b>	<b>2.2.E.ZZ</b>	<b>CL</b>	<b>TR.16.0.5.006</b>	<b>A</b>	<b>65 di 120</b>

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
13-5-S	100	120	18.85	18.85	18.34	-0.48	130 (5)	8802 (5)	1575 (5)
13-6-S	100	120	18.85	18.85	42.75	0.00	282 (5)	19163 (5)	3429 (5)
13-7-S	100	120	18.85	18.85	75.88	0.00	482 (5)	32703 (5)	5853 (5)
13-8-S	100	120	18.85	18.85	34.95	-16.17	243 (6)	16463 (6)	15059 (6)
13-9-S	100	120	18.85	18.85	15.26	-44.91	183 (5)	12398 (5)	12208 (5)
13-10-S	100	120	18.85	18.85	0.09	-108.36	558 (5)	6780 (5)	37886 (5)
13-11-S	100	120	18.85	18.85	0.00	-90.78	415 (5)	5042 (5)	28172 (5)
13-12-S	100	120	18.85	18.85	0.00	-65.63	239 (5)	2901 (5)	16210 (5)
13-13-S	100	120	18.85	18.85	7.00	-0.15	80 (7)	973 (7)	5435 (7)
13-14-S	100	120	18.85	18.85	18.19	0.00	33 (7)	2254 (7)	403 (7)
13-15-S	100	120	18.85	18.85	22.34	0.00	88 (7)	5958 (7)	1066 (7)
13-16-S	100	120	18.85	18.85	18.59	-0.16	86 (7)	5823 (7)	1042 (7)
13-17-S	100	120	18.85	18.85	12.80	-0.89	69 (7)	4670 (7)	1454 (7)
13-18-S	100	120	18.85	18.85	8.12	-1.62	49 (7)	3357 (7)	2436 (7)
13-19-S	100	120	18.85	18.85	4.35	-2.49	44 (8)	2107 (8)	3017 (8)
13-20-S	100	120	18.85	18.85	1.49	-2.21	31 (7)	988 (7)	2097 (7)
13-21-S	100	120	18.85	18.85	0.36	-1.31	16 (7)	358 (7)	1060 (7)
13-22-S	100	120	18.85	18.85	2.13	-0.35	5 (5)	360 (5)	119 (5)
14-1-S	100	120	18.85	18.85	6.51	-5.96	35 (5)	2358 (5)	2149 (5)
14-2-S	100	120	18.85	18.85	8.65	-9.80	53 (5)	3583 (5)	3534 (5)
14-3-S	100	120	18.85	18.85	3.72	-12.43	74 (6)	1975 (6)	5016 (6)
14-4-S	100	120	18.85	18.85	2.42	-37.25	261 (5)	3173 (5)	17727 (5)
14-5-S	100	120	18.85	18.85	8.25	-24.20	432 (8)	6658 (8)	29301 (8)
14-6-S	100	120	18.85	18.85	25.67	-1.65	229 (8)	15538 (8)	2781 (8)
14-7-S	100	120	18.85	18.85	79.06	0.00	532 (5)	36066 (5)	6455 (5)
14-8-S	100	120	18.85	18.85	9.56	-14.59	301 (7)	3904 (7)	20416 (7)
14-9-S	100	120	18.85	18.85	0.00	-74.56	288 (5)	3497 (5)	19538 (5)
14-10-S	100	120	18.85	18.85	0.07	-74.90	304 (5)	3696 (5)	20654 (5)
14-11-S	100	120	18.85	18.85	0.00	-60.31	225 (5)	2729 (5)	15248 (5)
14-12-S	100	120	18.85	18.85	5.00	-3.22	134 (7)	1627 (7)	9089 (7)
14-13-S	100	120	18.85	18.85	14.87	-0.19	36 (7)	1341 (7)	2424 (7)
14-14-S	100	120	18.85	18.85	23.66	0.00	77 (7)	5222 (7)	935 (7)
14-15-S	100	120	18.85	18.85	28.43	0.00	135 (7)	9168 (7)	1641 (7)
14-16-S	100	120	18.85	18.85	27.83	-0.34	148 (6)	10056 (6)	1800 (6)
14-17-S	100	120	18.85	18.85	29.21	-1.59	148 (6)	10024 (6)	1794 (6)
14-18-S	100	120	18.85	18.85	4.27	-10.90	87 (7)	2437 (7)	5925 (7)
14-19-S	100	120	18.85	18.85	2.21	-25.39	210 (7)	2546 (7)	14227 (7)
14-20-S	100	120	18.85	18.85	3.05	-15.49	131 (5)	1594 (5)	8907 (5)
14-21-S	100	120	18.85	18.85	2.09	-9.62	66 (5)	800 (5)	4469 (5)
14-22-S	100	120	18.85	18.85	2.42	-2.59	10 (5)	649 (5)	529 (5)
15-1-S	100	120	18.85	18.85	6.51	-5.96	35 (5)	2358 (5)	2149 (5)
15-2-S	100	120	18.85	18.85	8.65	-9.80	53 (5)	3583 (5)	3534 (5)
15-3-S	100	120	18.85	18.85	3.72	-12.43	74 (6)	1975 (6)	5016 (6)
15-4-S	100	120	18.85	18.85	2.42	-37.25	261 (5)	3173 (5)	17727 (5)
15-5-S	100	120	18.85	18.85	8.25	-24.20	432 (8)	6658 (8)	29301 (8)
15-6-S	100	120	18.85	18.85	25.67	-1.65	229 (8)	15538 (8)	2781 (8)
15-7-S	100	120	18.85	18.85	79.06	0.00	532 (5)	36066 (5)	6455 (5)
15-8-S	100	120	18.85	18.85	9.56	-14.59	301 (7)	3904 (7)	20416 (7)
15-9-S	100	120	18.85	18.85	0.00	-74.56	288 (5)	3497 (5)	19538 (5)
15-10-S	100	120	18.85	18.85	0.07	-74.90	304 (5)	3696 (5)	20654 (5)
15-11-S	100	120	18.85	18.85	0.00	-60.31	225 (5)	2729 (5)	15248 (5)
15-12-S	100	120	18.85	18.85	5.00	-3.22	134 (7)	1627 (7)	9089 (7)
15-13-S	100	120	18.85	18.85	14.87	-0.19	36 (7)	1341 (7)	2424 (7)
15-14-S	100	120	18.85	18.85	23.66	0.00	77 (7)	5222 (7)	935 (7)
15-15-S	100	120	18.85	18.85	28.43	0.00	135 (7)	9168 (7)	1641 (7)
15-16-S	100	120	18.85	18.85	27.83	-0.34	148 (6)	10056 (6)	1800 (6)
15-17-S	100	120	18.85	18.85	29.21	-1.59	148 (6)	10024 (6)	1794 (6)
15-18-S	100	120	18.85	18.85	4.27	-10.90	87 (7)	2437 (7)	5925 (7)
15-19-S	100	120	18.85	18.85	2.21	-25.39	210 (7)	2546 (7)	14227 (7)
15-20-S	100	120	18.85	18.85	3.05	-15.49	131 (5)	1594 (5)	8907 (5)
15-21-S	100	120	18.85	18.85	2.09	-9.62	66 (5)	800 (5)	4469 (5)
15-22-S	100	120	18.85	18.85	2.42	-2.59	10 (5)	649 (5)	529 (5)
16-1-S	100	120	18.85	18.85	1.11	-6.48	35 (5)	423 (5)	2366 (5)
16-2-S	100	120	18.85	18.85	0.51	-9.53	49 (5)	596 (5)	3329 (5)
16-3-S	100	120	18.85	18.85	0.83	-9.72	82 (5)	1000 (5)	5588 (5)
16-4-S	100	120	18.85	18.85	6.54	-2.93	52 (8)	3165 (8)	3552 (8)
16-5-S	100	120	18.85	18.85	18.34	-0.48	130 (5)	8802 (5)	1575 (5)
16-6-S	100	120	18.85	18.85	42.75	0.00	282 (5)	19163 (5)	3429 (5)
16-7-S	100	120	18.85	18.85	75.88	0.00	482 (5)	32703 (5)	5853 (5)
16-8-S	100	120	18.85	18.85	34.95	-16.17	243 (6)	16463 (6)	15059 (6)
16-9-S	100	120	18.85	18.85	15.26	-44.91	183 (5)	12398 (5)	12208 (5)
16-10-S	100	120	18.85	18.85	0.09	-108.36	558 (5)	6780 (5)	37886 (5)
16-11-S	100	120	18.85	18.85	0.00	-90.78	415 (5)	5042 (5)	28172 (5)
16-12-S	100	120	18.85	18.85	0.00	-65.63	239 (5)	2901 (5)	16210 (5)
16-13-S	100	120	18.85	18.85	7.00	-0.15	80 (7)	973 (7)	5435 (7)
16-14-S	100	120	18.85	18.85	18.19	0.00	33 (7)	2254 (7)	403 (7)
16-15-S	100	120	18.85	18.85	22.34	0.00	88 (7)	5958 (7)	1066 (7)
16-16-S	100	120	18.85	18.85	18.59	-0.16	86 (7)	5823 (7)	1042 (7)
16-17-S	100	120	18.85	18.85	12.80	-0.89	69 (7)	4670 (7)	1454 (7)
16-18-S	100	120	18.85	18.85	8.12	-1.62	49 (7)	3357 (7)	2436 (7)
16-19-S	100	120	18.85	18.85	4.35	-2.49	44 (8)	2107 (8)	3017 (8)

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		
PROGETTAZIONE:	Mandataria:                      Mandante:		
	SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	66 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
16-20-S	100	120	18.85	18.85	1.49	-2.21	31 (7)	988 (7)	2097 (7)
16-21-S	100	120	18.85	18.85	0.36	-1.31	16 (7)	358 (7)	1060 (7)
16-22-S	100	120	18.85	18.85	2.13	-0.35	5 (5)	360 (5)	119 (5)
17-1-S	100	120	18.85	18.85	11.58	-2.43	62 (5)	4198 (5)	834 (5)
17-2-S	100	120	18.85	18.85	16.40	-6.44	100 (5)	6769 (5)	2357 (5)
17-3-S	100	120	18.85	18.85	7.80	-13.82	80 (5)	4995 (5)	5397 (5)
17-4-S	100	120	18.85	18.85	1.06	-67.71	391 (5)	4754 (5)	26561 (5)
17-5-S	100	120	18.85	18.85	1.08	-65.96	427 (5)	5189 (5)	28994 (5)
17-6-S	100	120	18.85	18.85	13.59	-2.94	162 (8)	10968 (8)	1963 (8)
17-7-S	100	120	18.85	18.85	81.02	0.00	573 (5)	38878 (5)	6958 (5)
17-8-S	100	120	18.85	18.85	0.00	-105.14	441 (5)	5356 (5)	29929 (5)
17-9-S	100	120	18.85	18.85	0.00	-84.45	333 (5)	4047 (5)	22613 (5)
17-10-S	100	120	18.85	18.85	0.00	-70.88	268 (5)	3255 (5)	18190 (5)
17-11-S	100	120	18.85	18.85	0.00	-54.90	188 (5)	2278 (5)	12730 (5)
17-12-S	100	120	18.85	18.85	0.00	-38.05	103 (5)	1252 (5)	6996 (5)
17-13-S	100	120	18.85	18.85	16.32	-0.21	22 (7)	933 (7)	1489 (7)
17-14-S	100	120	18.85	18.85	24.97	-0.15	90 (7)	6095 (7)	1091 (7)
17-15-S	100	120	18.85	18.85	32.09	-0.20	166 (7)	11273 (7)	2017 (7)
17-16-S	100	120	18.85	18.85	38.02	-0.85	204 (6)	13832 (6)	2475 (6)
17-17-S	100	120	18.85	18.85	45.00	-2.45	226 (5)	15338 (5)	2745 (5)
17-18-S	100	120	18.85	18.85	1.54	-20.38	124 (7)	2035 (7)	8403 (7)
17-19-S	100	120	18.85	18.85	1.05	-48.02	314 (7)	3812 (7)	21298 (7)
17-20-S	100	120	18.85	18.85	1.25	-29.22	194 (5)	2355 (5)	13158 (5)
17-21-S	100	120	18.85	18.85	0.76	-18.25	96 (5)	1171 (5)	6541 (5)
17-22-S	100	120	18.85	18.85	1.38	-4.35	13 (5)	774 (5)	869 (5)
18-1-S	100	120	18.85	18.85	0.48	-7.21	40 (5)	480 (5)	2683 (5)
18-2-S	100	120	18.85	18.85	0.72	-6.90	34 (5)	412 (5)	2304 (5)
18-3-S	100	120	18.85	18.85	1.50	-2.63	31 (8)	727 (8)	2121 (8)
18-4-S	100	120	18.85	18.85	7.80	-0.20	56 (8)	3776 (8)	676 (8)
18-5-S	100	120	18.85	18.85	22.87	0.00	159 (5)	10815 (5)	1936 (5)
18-6-S	100	120	18.85	18.85	47.14	0.00	308 (5)	20877 (5)	3736 (5)
18-7-S	100	120	18.85	18.85	75.60	0.00	476 (5)	32298 (5)	5780 (5)
18-8-S	100	120	18.85	18.85	36.01	-3.37	161 (7)	10561 (7)	10954 (7)
18-9-S	100	120	18.85	18.85	20.02	-24.30	201 (6)	12057 (6)	13646 (6)
18-10-S	100	120	18.85	18.85	0.00	-124.66	671 (5)	8149 (5)	45531 (5)
18-11-S	100	120	18.85	18.85	0.00	-104.35	505 (5)	6130 (5)	34250 (5)
18-12-S	100	120	18.85	18.85	0.00	-75.54	300 (5)	3642 (5)	20353 (5)
18-13-S	100	120	18.85	18.85	0.00	-40.88	117 (5)	1419 (5)	7927 (5)
18-14-S	100	120	18.85	18.85	15.53	-0.63	29 (7)	1962 (7)	1040 (7)
18-15-S	100	120	18.85	18.85	20.07	-0.33	77 (7)	5224 (7)	935 (7)
18-16-S	100	120	18.85	18.85	18.33	-0.27	87 (7)	5872 (7)	1051 (7)
18-17-S	100	120	18.85	18.85	11.41	-0.75	81 (8)	5526 (8)	1804 (8)
18-18-S	100	120	18.85	18.85	7.94	-0.83	57 (8)	3845 (8)	2000 (8)
18-19-S	100	120	18.85	18.85	4.85	-0.89	35 (8)	2347 (8)	2153 (8)
18-20-S	100	120	18.85	18.85	2.08	-0.67	17 (7)	1167 (7)	792 (7)
18-21-S	100	120	18.85	18.85	1.07	-0.43	8 (8)	516 (8)	527 (8)
18-22-S	100	120	18.85	18.85	0.28	-0.68	4 (7)	285 (7)	239 (7)
19-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
19-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
19-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
19-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
19-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
19-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)
19-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
19-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
19-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
19-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
19-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
19-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
19-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
19-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
19-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
19-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
19-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
19-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
19-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)
19-20-S	100	120	18.85	18.85	1.81	-24.74	162 (5)	1964 (5)	10975 (5)
19-21-S	100	120	18.85	18.85	1.20	-15.57	80 (5)	977 (5)	5460 (5)
19-22-S	100	120	18.85	18.85	1.62	-3.72	11 (5)	701 (5)	755 (5)
20-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
20-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
20-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
20-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
20-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
20-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
20-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
20-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
20-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
20-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
20-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)
20-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	67 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	$\sigma_c$ [kPa]	ofi [kPa]	ofs [kPa]
20-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
20-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
20-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
20-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
20-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
20-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
20-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
20-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
20-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
20-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	1	62.83	3575	52876		
1	2	62.83	3134	41653		
1	3	62.83	2698	32310		
1	4	62.83	2276	27828		
1	5	62.83	1883	23566		
1	6	62.83	1538	19730		
1	7	62.83	1274	17007		
1	8	62.83	1119	15166		
1	9	62.83	987	13872		
1	10	62.83	907	12925		
1	11	62.83	834	12060		
1	12	62.83	767	11274		
1	13	62.83	707	10562		
1	14	62.83	805	11213		
1	15	62.83	900	12353		
1	16	62.83	984	13363		
1	17	62.83	1058	14252		
1	18	62.83	1124	15036		
1	19	62.83	1183	15741		
1	20	62.83	1235	16363		
1	21	62.83	1280	16900		
1	22	62.83	1318	17348		
1	23	62.83	1348	17710		
1	24	62.83	1371	17987		
1	25	62.83	1388	18183		
1	26	62.83	1398	18304		
1	27	62.83	1401	18356		
1	28	62.83	1400	18345		
1	29	62.83	1394	18278		
1	30	62.83	1383	18163		
1	31	62.83	1369	18006		
1	32	62.83	1352	17813		
1	33	62.83	1333	17591		
1	34	62.83	1311	17346		
1	35	62.83	1288	17083		
1	36	62.83	1265	16811		
1	37	62.83	1241	16533		
1	38	62.83	1217	16251		
1	39	62.83	1192	15969		
1	40	62.83	1168	15688		
1	41	62.83	1144	15407		
1	42	62.83	1120	15126		
1	43	62.83	1096	14867		
1	44	62.83	1073	14650		
1	45	62.83	1049	14434		
1	46	62.83	1025	14220		
1	47	62.83	1004	14008		
1	48	62.83	986	13800		
1	49	62.83	969	13595		
1	50	62.83	952	13395		
1	51	62.83	935	13235		
1	52	62.83	919	13127		
1	53	62.83	903	13022		
1	54	62.83	889	12920		
1	55	62.83	881	12822		
1	56	62.83	872	12726		
1	57	62.83	865	12635		
1	58	62.83	857	12547		
1	59	62.83	850	12463		
1	60	62.83	843	12383		
1	61	62.83	836	12306		
1	62	62.83	830	12234		
1	63	62.83	824	12165		
1	64	62.83	819	12100		

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	68 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	65	62.83	813	12038		
1	66	62.83	808	11981		
1	67	62.83	804	11927		
1	68	62.83	800	11876		
1	69	62.83	796	11829		
1	70	62.83	792	11785		
1	71	62.83	788	11744		
1	72	62.83	785	11707		
1	73	62.83	782	11672		
1	74	62.83	779	11641		
1	75	62.83	777	11611		
1	76	62.83	775	11585		
1	77	62.83	773	11561		
1	78	62.83	771	11539		
1	79	62.83	769	11519		
1	80	62.83	768	11502		
1	81	62.83	766	11486		
1	82	62.83	765	11471		
1	83	62.83	764	11459		
1	84	62.83	763	11447		
1	85	62.83	763	11438		
1	86	62.83	763	11430		
1	87	62.83	763	11424		
1	88	62.83	763	11417		
1	89	62.83	763	11408		
1	90	62.83	762	11399		
1	91	62.83	762	11389		
1	92	62.83	761	11379		
1	93	62.83	761	11368		
1	94	62.83	760	11357		
1	95	62.83	759	11345		
1	96	62.83	759	11334		
1	97	62.83	758	11323		
1	98	62.83	757	11315		
1	99	62.83	756	11305		
1	100	62.83	756	11298		
1	101	62.83	755	11291		
2	1	62.83	3463	42545		
2	2	62.83	3043	37979		
2	3	62.83	2647	33615		
2	4	62.83	2292	29618		
2	5	62.83	1989	26135		
2	6	62.83	1740	23226		
2	7	62.83	1535	20793		
2	8	62.83	1350	18591		
2	9	62.83	1186	16616		
2	10	62.83	1057	15089		
2	11	62.83	940	13698		
2	12	62.83	879	12998		
2	13	62.83	998	14419		
2	14	62.83	1104	15694		
2	15	62.83	1199	16832		
2	16	62.83	1283	17840		
2	17	62.83	1357	18726		
2	18	62.83	1421	19498		
2	19	62.83	1476	20163		
2	20	62.83	1523	20728		
2	21	62.83	1562	21200		
2	22	62.83	1594	21586		
2	23	62.83	1619	21892		
2	24	62.83	1639	22125		
2	25	62.83	1652	22291		
2	26	62.83	1660	22396		
2	27	62.83	1664	22444		
2	28	62.83	1664	22442		
2	29	62.83	1659	22394		
2	30	62.83	1651	22305		
2	31	62.83	1640	22180		
2	32	62.83	1627	22022		
2	33	62.83	1611	21835		
2	34	62.83	1593	21625		
2	35	62.83	1573	21393		
2	36	62.83	1552	21146		
2	37	62.83	1530	20888		
2	38	62.83	1507	20620		
2	39	62.83	1484	20344		
2	40	62.83	1460	20063		
2	41	62.83	1436	19777		
2	42	62.83	1411	19490		
2	43	62.83	1387	19201		
2	44	62.83	1363	18914		

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.							
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	69 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	45	62.83	1338	18628		
2	46	62.83	1314	18345		
2	47	62.83	1291	18066		
2	48	62.83	1268	17792		
2	49	62.83	1245	17523		
2	50	62.83	1223	17261		
2	51	62.83	1201	17006		
2	52	62.83	1180	16758		
2	53	62.83	1160	16518		
2	54	62.83	1140	16287		
2	55	62.83	1121	16063		
2	56	62.83	1103	15849		
2	57	62.83	1086	15643		
2	58	62.83	1069	15447		
2	59	62.83	1054	15259		
2	60	62.83	1039	15081		
2	61	62.83	1024	14912		
2	62	62.83	1011	14751		
2	63	62.83	998	14600		
2	64	62.83	986	14457		
2	65	62.83	975	14323		
2	66	62.83	964	14198		
2	67	62.83	954	14081		
2	68	62.83	945	13971		
2	69	62.83	937	13870		
2	70	62.83	929	13776		
2	71	62.83	921	13689		
2	72	62.83	915	13609		
2	73	62.83	909	13536		
2	74	62.83	903	13469		
2	75	62.83	898	13408		
2	76	62.83	893	13353		
2	77	62.83	889	13303		
2	78	62.83	886	13258		
2	79	62.83	882	13218		
2	80	62.83	880	13183		
2	81	62.83	877	13151		
2	82	62.83	875	13131		
2	83	62.83	876	13141		
2	84	62.83	877	13145		
2	85	62.83	877	13146		
2	86	62.83	877	13144		
2	87	62.83	877	13138		
2	88	62.83	876	13129		
2	89	62.83	875	13118		
2	90	62.83	874	13104		
2	91	62.83	873	13088		
2	92	62.83	872	13071		
2	93	62.83	871	13052		
2	94	62.83	869	13032		
2	95	62.83	868	13012		
2	96	62.83	866	12991		
2	97	62.83	865	12970		
2	98	62.83	863	12949		
2	99	62.83	862	12928		
2	100	62.83	861	12909		
2	101	62.83	859	12890		
3	1	62.83	3455	44123		
3	2	62.83	3095	40061		
3	3	62.83	2773	36358		
3	4	62.83	2492	33084		
3	5	62.83	2252	30241		
3	6	62.83	2036	27681		
3	7	62.83	1835	25285		
3	8	62.83	1650	23081		
3	9	62.83	1480	21063		
3	10	62.83	1325	19221		
3	11	62.83	1184	17548		
3	12	62.83	1178	17483		
3	13	62.83	1297	18902		
3	14	62.83	1403	20176		
3	15	62.83	1498	21311		
3	16	62.83	1581	22317		
3	17	62.83	1655	23201		
3	18	62.83	1719	23970		
3	19	62.83	1774	24632		
3	20	62.83	1821	25194		
3	21	62.83	1860	25663		
3	22	62.83	1892	26046		
3	23	62.83	1917	26349		
3	24	62.83	1935	26579		

APPALTATORE: <b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>												
PROGETTAZIONE: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.													
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	<table border="1"> <tr> <td>COMMESSA</td> <td>LOTTO</td> <td>CODIFICA</td> <td>DOCUMENTO</td> <td>REV.</td> <td>FOGLIO</td> </tr> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.006</td> <td>A</td> <td>70 di 120</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	70 di 120
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	70 di 120								

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	25	62.83	1949	26741		
3	26	62.83	1957	26842		
3	27	62.83	1960	26886		
3	28	62.83	1959	26880		
3	29	62.83	1955	26828		
3	30	62.83	1947	26734		
3	31	62.83	1935	26604		
3	32	62.83	1921	26441		
3	33	62.83	1905	26250		
3	34	62.83	1887	26034		
3	35	62.83	1867	25797		
3	36	62.83	1845	25545		
3	37	62.83	1823	25281		
3	38	62.83	1800	25008		
3	39	62.83	1776	24726		
3	40	62.83	1752	24439		
3	41	62.83	1727	24147		
3	42	62.83	1702	23853		
3	43	62.83	1677	23558		
3	44	62.83	1653	23264		
3	45	62.83	1628	22971		
3	46	62.83	1604	22682		
3	47	62.83	1579	22395		
3	48	62.83	1556	22114		
3	49	62.83	1533	21838		
3	50	62.83	1510	21568		
3	51	62.83	1488	21305		
3	52	62.83	1466	21050		
3	53	62.83	1445	20801		
3	54	62.83	1425	20561		
3	55	62.83	1406	20330		
3	56	62.83	1387	20107		
3	57	62.83	1369	19892		
3	58	62.83	1352	19687		
3	59	62.83	1336	19491		
3	60	62.83	1320	19303		
3	61	62.83	1305	19124		
3	62	62.83	1291	18954		
3	63	62.83	1278	18793		
3	64	62.83	1265	18641		
3	65	62.83	1253	18497		
3	66	62.83	1242	18361		
3	67	62.83	1231	18234		
3	68	62.83	1221	18114		
3	69	62.83	1212	18002		
3	70	62.83	1203	17897		
3	71	62.83	1195	17799		
3	72	62.83	1188	17708		
3	73	62.83	1181	17623		
3	74	62.83	1175	17545		
3	75	62.83	1169	17472		
3	76	62.83	1164	17405		
3	77	62.83	1159	17344		
3	78	62.83	1154	17287		
3	79	62.83	1150	17235		
3	80	62.83	1147	17187		
3	81	62.83	1143	17143		
3	82	62.83	1141	17110		
3	83	62.83	1141	17106		
3	84	62.83	1140	17098		
3	85	62.83	1140	17086		
3	86	62.83	1139	17070		
3	87	62.83	1138	17051		
3	88	62.83	1136	17028		
3	89	62.83	1134	17003		
3	90	62.83	1133	16975		
3	91	62.83	1131	16945		
3	92	62.83	1128	16913		
3	93	62.83	1126	16880		
3	94	62.83	1124	16846		
3	95	62.83	1121	16810		
3	96	62.83	1119	16774		
3	97	62.83	1116	16738		
3	98	62.83	1114	16702		
3	99	62.83	1111	16666		
3	100	62.83	1109	16631		
3	101	62.83	1106	16597		

**Combinazioni SLEF**

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>												
PROGETTAZIONE: Mandatario: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.													
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	<table border="1"> <tr> <td>COMMESSA</td> <td>LOTTO</td> <td>CODIFICA</td> <td>DOCUMENTO</td> <td>REV.</td> <td>FOGLIO</td> </tr> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.006</td> <td>A</td> <td>71 di 120</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	71 di 120
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	71 di 120								

### Paramento

Tensione massima di compressione nel calcestruzzo 33200 [kPa]  
Tensione massima di trazione dell'acciaio 450000 [kPa]

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
1	100	70	10.05	15.71	1.50	5.00	30 (8)	373 (8)	380 (8)
2	100	70	10.05	15.71	2.02	6.72	40 (8)	509 (8)	513 (8)
3	100	70	10.05	15.71	2.55	8.43	50 (8)	644 (8)	646 (8)
4	100	70	10.05	15.71	3.07	10.15	61 (8)	780 (8)	779 (8)
5	100	70	10.05	15.71	3.60	11.86	71 (8)	916 (8)	912 (8)
6	100	70	10.05	15.71	4.12	13.58	81 (8)	1051 (8)	1044 (8)
7	100	70	10.05	15.71	4.65	15.29	92 (8)	1187 (8)	1177 (8)
8	100	70	10.05	15.71	5.17	17.01	102 (8)	1323 (8)	1310 (8)
9	100	70	10.05	15.71	5.70	18.73	112 (8)	1459 (8)	1443 (8)
10	100	70	10.05	15.71	6.22	20.44	123 (8)	1594 (8)	1576 (8)
11	100	70	10.05	15.71	6.75	22.16	133 (8)	1730 (8)	1709 (8)
12	100	70	10.05	15.71	7.27	23.87	143 (8)	1866 (8)	1842 (8)
13	100	70	10.05	15.71	7.80	25.59	154 (8)	2001 (8)	1975 (8)
14	100	70	10.05	15.71	8.32	27.30	164 (8)	2137 (8)	2108 (8)
15	100	70	10.05	15.71	8.85	29.02	174 (8)	2273 (8)	2241 (8)
16	100	70	10.05	15.71	9.37	30.74	185 (8)	2409 (8)	2373 (8)
17	100	70	10.05	15.71	9.90	32.45	195 (8)	2544 (8)	2506 (8)
18	100	70	10.05	15.71	10.42	34.17	206 (8)	2680 (8)	2639 (8)
19	100	70	10.05	15.71	10.95	35.88	216 (8)	2816 (8)	2772 (8)
20	100	70	10.05	15.71	11.47	37.60	226 (8)	2951 (8)	2905 (8)
21	100	70	10.05	15.71	12.00	39.31	237 (8)	3087 (8)	3038 (8)
22	100	70	10.05	15.71	12.52	41.03	247 (8)	3223 (8)	3171 (8)
23	100	70	10.05	15.71	13.05	42.75	257 (8)	3359 (8)	3304 (8)
24	100	70	10.05	15.71	13.57	44.46	268 (8)	3494 (8)	3437 (8)
25	100	70	10.05	15.71	14.10	46.18	278 (8)	3630 (8)	3570 (8)
26	100	70	10.05	15.71	14.62	47.89	288 (8)	3766 (8)	3702 (8)
27	100	70	10.05	15.71	15.15	49.61	299 (8)	3901 (8)	3835 (8)
28	100	70	10.05	15.71	15.67	51.32	309 (8)	4037 (8)	3968 (8)
29	100	70	10.05	15.71	16.20	53.04	319 (8)	4173 (8)	4101 (8)
30	100	70	10.05	15.71	16.72	54.76	330 (8)	4309 (8)	4234 (8)
31	100	70	10.05	15.71	17.25	56.47	340 (8)	4444 (8)	4367 (8)
32	100	70	10.05	15.71	17.80	58.19	351 (8)	4602 (8)	4507 (8)
33	100	70	10.05	15.71	18.42	59.90	363 (8)	4808 (8)	4663 (8)
34	100	70	10.05	15.71	19.10	61.62	377 (8)	5066 (8)	4835 (8)
35	100	70	10.05	15.71	19.85	63.33	393 (8)	5381 (8)	5026 (8)
36	100	70	10.05	15.71	20.68	65.05	410 (8)	5758 (8)	5235 (8)
37	100	101	10.05	15.71	29.09	69.93	289 (8)	3989 (8)	3903 (8)
38	100	101	10.05	15.71	30.13	72.40	299 (8)	4136 (8)	4043 (8)
39	100	101	10.05	15.71	31.46	74.87	313 (8)	4413 (8)	4226 (8)
40	100	101	10.05	15.71	33.00	77.35	330 (8)	4791 (8)	4440 (8)
41	100	101	10.05	15.71	34.68	79.82	348 (8)	5244 (8)	4676 (8)
42	100	101	10.05	15.71	36.45	82.30	368 (8)	5747 (8)	4926 (8)
43	100	101	10.05	15.71	38.31	84.77	388 (8)	6302 (8)	5190 (8)
44	100	101	10.05	15.71	40.27	87.24	410 (8)	6917 (8)	5469 (8)
45	100	101	10.05	15.71	42.33	89.72	433 (8)	7598 (8)	5764 (8)
46	100	101	10.05	15.71	44.51	92.19	458 (8)	8348 (8)	6076 (8)
47	100	101	10.05	15.71	46.81	94.66	484 (8)	9175 (8)	6405 (8)
48	100	101	10.05	15.71	49.23	97.14	512 (8)	10083 (8)	6752 (8)
49	100	101	10.05	15.71	51.78	99.61	541 (8)	11077 (8)	7118 (8)
50	100	101	10.05	15.71	54.47	102.09	572 (8)	12162 (8)	7503 (8)
51	100	101	10.05	15.71	57.29	104.56	605 (8)	13342 (8)	7908 (8)
52	100	101	10.05	15.71	60.26	107.03	640 (8)	14622 (8)	8333 (8)
53	100	101	10.05	15.71	63.38	109.51	676 (8)	16007 (8)	8778 (8)
54	100	101	10.05	15.71	66.66	111.98	714 (8)	17501 (8)	9244 (8)
55	100	101	10.05	15.71	70.09	114.45	754 (8)	19108 (8)	9732 (8)
56	100	101	10.05	15.71	73.69	116.93	797 (8)	20832 (8)	10241 (8)
57	100	101	10.05	15.71	77.46	119.40	841 (8)	22677 (8)	10772 (8)
58	100	101	10.05	15.71	77.54	119.45	842 (8)	22715 (8)	10783 (8)
59	100	101	10.05	15.71	81.48	121.92	888 (8)	24685 (8)	11336 (8)
60	100	101	10.05	15.71	85.61	124.39	936 (8)	26783 (8)	11912 (8)
61	100	101	10.05	15.71	89.91	126.87	986 (8)	29013 (8)	12512 (8)
62	100	101	10.05	15.71	94.41	129.34	1039 (8)	31379 (8)	13135 (8)
63	100	101	10.05	15.71	99.10	131.81	1093 (8)	33883 (8)	13782 (8)

### Piastra fondazione

Tensione massima di compressione nel calcestruzzo 17430 [kPa]  
Tensione massima di trazione dell'acciaio 1255271 [kPa]



APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	72 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
1-1-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
1-2-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-3-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-4-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-5-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-6-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-7-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-8-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-9-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-10-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-11-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)
1-12-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-13-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-14-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-15-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-16-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-17-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-18-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-19-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-20-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-21-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-22-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-23-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-24-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-25-P	69	120	12.57	12.57	0.00	-38.81	355 (5)	4294 (5)	24577 (5)
1-26-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-27-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-28-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-29-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-30-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-31-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-32-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-33-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-34-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-35-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-36-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-37-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-38-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-39-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)
1-40-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-41-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-42-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-43-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-44-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-45-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-46-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-47-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-48-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-49-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
2-1-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
2-2-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-3-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-4-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-5-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-6-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-7-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)
2-8-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-9-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-10-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-11-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-12-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-13-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)
2-14-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-15-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-16-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-17-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-18-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-19-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-20-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)
2-21-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-22-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-23-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-24-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-25-P	70	120	12.57	12.57	0.69	-65.93	661 (5)	7993 (5)	45744 (5)
2-26-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-27-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-28-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-29-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-30-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-31-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-32-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-33-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-34-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-35-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-36-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-37-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)
2-38-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-39-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-40-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-41-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-42-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-43-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)
2-44-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-45-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-46-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-47-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-48-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-49-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
5-1-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
5-2-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-3-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-4-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-5-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)
5-6-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-7-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-8-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-9-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-10-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-11-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-12-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-13-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-14-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-15-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-16-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-17-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-18-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-19-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-20-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-21-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-22-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-23-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-24-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-25-P	85	120	15.71	15.71	10.98	-0.40	68 (7)	4650 (7)	1173 (7)
5-26-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-27-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-28-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-29-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-30-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-31-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-32-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-33-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-34-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-35-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-36-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-37-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-38-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-39-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-40-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-41-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-42-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-43-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-44-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-45-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)
5-46-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-47-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-48-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-49-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
6-1-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
6-2-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-3-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-4-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-5-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-6-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-7-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-8-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-9-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-10-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-11-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-12-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-13-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)

APPALTATORE:

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**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

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FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-14-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-15-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-16-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-17-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-18-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-19-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-20-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-21-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-22-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-23-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-24-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)
6-25-P	85	120	15.71	15.71	10.59	0.00	57 (7)	3928 (7)	695 (7)
6-26-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)
6-27-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-28-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-29-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-30-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-31-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-32-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-33-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-34-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-35-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-36-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-37-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)
6-38-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-39-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-40-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-41-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-42-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-43-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-44-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-45-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-46-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-47-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-48-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-49-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
7-1-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
7-2-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-3-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-4-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-5-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)
7-6-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-7-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-8-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-9-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-10-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-11-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-12-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-13-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-14-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-15-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-16-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-17-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-18-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-19-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-20-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-21-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-22-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)
7-23-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-24-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-25-P	85	120	15.71	15.71	0.82	-15.64	216 (5)	2621 (5)	14811 (5)
7-26-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-27-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-28-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)
7-29-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-30-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-31-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-32-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-33-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-34-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-35-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-36-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-37-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-38-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-39-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-40-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-41-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-42-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-43-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-44-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-45-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
7-46-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-47-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-48-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-49-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
8-1-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
8-2-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-3-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-4-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-5-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-6-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-7-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-8-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-9-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)
8-10-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-11-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-12-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-13-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-14-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-15-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-16-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-17-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-18-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-19-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-20-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-21-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-22-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-23-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-24-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-25-P	85	120	15.71	15.71	0.00	-51.35	404 (7)	4900 (7)	27693 (7)
8-26-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-27-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-28-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-29-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-30-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-31-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-32-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-33-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-34-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-35-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-36-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-37-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-38-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-39-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-40-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-41-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)
8-42-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-43-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-44-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-45-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-46-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-47-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-48-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-49-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
9-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
9-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
9-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
9-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
9-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
9-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
9-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
9-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
9-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
9-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
9-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)
9-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)
9-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
9-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
9-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
9-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
9-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
9-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
9-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
9-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
9-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
9-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)
10-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
10-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
10-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
10-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
10-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
10-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)

APPALTATORE:

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**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

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IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
10-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
10-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
10-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
10-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
10-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
10-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
10-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
10-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
10-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
10-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
10-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
10-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
10-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)
10-20-S	100	120	18.85	18.85	1.81	-24.74	162 (5)	1964 (5)	10975 (5)
10-21-S	100	120	18.85	18.85	1.20	-15.57	80 (5)	977 (5)	5460 (5)
10-22-S	100	120	18.85	18.85	1.62	-3.72	11 (5)	701 (5)	755 (5)
11-1-S	100	120	18.85	18.85	0.48	-7.21	40 (5)	480 (5)	2683 (5)
11-2-S	100	120	18.85	18.85	0.72	-6.90	34 (5)	412 (5)	2304 (5)
11-3-S	100	120	18.85	18.85	1.50	-2.63	31 (8)	727 (8)	2121 (8)
11-4-S	100	120	18.85	18.85	7.80	-0.20	56 (8)	3776 (8)	676 (8)
11-5-S	100	120	18.85	18.85	22.87	0.00	159 (5)	10815 (5)	1936 (5)
11-6-S	100	120	18.85	18.85	47.14	0.00	308 (5)	20877 (5)	3736 (5)
11-7-S	100	120	18.85	18.85	75.60	0.00	476 (5)	32298 (5)	5780 (5)
11-8-S	100	120	18.85	18.85	36.01	-3.37	161 (7)	10561 (7)	10954 (7)
11-9-S	100	120	18.85	18.85	20.02	-24.30	201 (6)	12057 (6)	13646 (6)
11-10-S	100	120	18.85	18.85	0.00	-124.66	671 (5)	8149 (5)	45531 (5)
11-11-S	100	120	18.85	18.85	0.00	-104.35	505 (5)	6130 (5)	34250 (5)
11-12-S	100	120	18.85	18.85	0.00	-75.54	300 (5)	3642 (5)	20353 (5)
11-13-S	100	120	18.85	18.85	0.00	-40.88	117 (5)	1419 (5)	7927 (5)
11-14-S	100	120	18.85	18.85	15.53	-0.63	29 (7)	1962 (7)	1040 (7)
11-15-S	100	120	18.85	18.85	20.07	-0.33	77 (7)	5224 (7)	935 (7)
11-16-S	100	120	18.85	18.85	18.33	-0.27	87 (7)	5872 (7)	1051 (7)
11-17-S	100	120	18.85	18.85	11.41	-0.75	81 (8)	5526 (8)	1804 (8)
11-18-S	100	120	18.85	18.85	7.94	-0.83	57 (8)	3845 (8)	2000 (8)
11-19-S	100	120	18.85	18.85	4.85	-0.89	35 (8)	2347 (8)	2153 (8)
11-20-S	100	120	18.85	18.85	2.08	-0.67	17 (7)	1167 (7)	792 (7)
11-21-S	100	120	18.85	18.85	1.07	-0.43	8 (8)	516 (8)	527 (8)
11-22-S	100	120	18.85	18.85	0.28	-0.68	4 (7)	285 (7)	239 (7)
12-1-S	100	120	18.85	18.85	11.58	-2.43	62 (5)	4198 (5)	834 (5)
12-2-S	100	120	18.85	18.85	16.40	-6.44	100 (5)	6769 (5)	2357 (5)
12-3-S	100	120	18.85	18.85	7.80	-13.82	80 (5)	4995 (5)	5397 (5)
12-4-S	100	120	18.85	18.85	1.06	-67.71	391 (5)	4754 (5)	26561 (5)
12-5-S	100	120	18.85	18.85	1.08	-65.96	427 (5)	5189 (5)	28994 (5)
12-6-S	100	120	18.85	18.85	13.59	-2.94	162 (8)	10968 (8)	1963 (8)
12-7-S	100	120	18.85	18.85	81.02	0.00	573 (5)	38878 (5)	6958 (5)
12-8-S	100	120	18.85	18.85	0.00	-105.14	441 (5)	5356 (5)	29929 (5)
12-9-S	100	120	18.85	18.85	0.00	-84.45	333 (5)	4047 (5)	22613 (5)
12-10-S	100	120	18.85	18.85	0.00	-70.88	268 (5)	3255 (5)	18190 (5)
12-11-S	100	120	18.85	18.85	0.00	-54.90	188 (5)	2278 (5)	12730 (5)
12-12-S	100	120	18.85	18.85	0.00	-38.05	103 (5)	1252 (5)	6996 (5)
12-13-S	100	120	18.85	18.85	16.32	-0.21	22 (7)	933 (7)	1489 (7)
12-14-S	100	120	18.85	18.85	24.97	-0.15	90 (7)	6095 (7)	1091 (7)
12-15-S	100	120	18.85	18.85	32.09	-0.20	166 (7)	11273 (7)	2017 (7)
12-16-S	100	120	18.85	18.85	38.02	-0.85	204 (6)	13832 (6)	2475 (6)
12-17-S	100	120	18.85	18.85	45.00	-2.45	226 (5)	15338 (5)	2745 (5)
12-18-S	100	120	18.85	18.85	1.54	-20.38	124 (7)	2035 (7)	8403 (7)
12-19-S	100	120	18.85	18.85	1.05	-48.02	314 (7)	3812 (7)	21298 (7)
12-20-S	100	120	18.85	18.85	1.25	-29.22	194 (5)	2355 (5)	13158 (5)
12-21-S	100	120	18.85	18.85	0.76	-18.25	96 (5)	1171 (5)	6541 (5)
12-22-S	100	120	18.85	18.85	1.38	-4.35	13 (5)	774 (5)	869 (5)
13-1-S	100	120	18.85	18.85	1.11	-6.48	35 (5)	423 (5)	2366 (5)
13-2-S	100	120	18.85	18.85	0.51	-9.53	49 (5)	596 (5)	3329 (5)
13-3-S	100	120	18.85	18.85	0.83	-9.72	82 (5)	1000 (5)	5588 (5)
13-4-S	100	120	18.85	18.85	6.54	-2.93	52 (8)	3165 (8)	3552 (8)
13-5-S	100	120	18.85	18.85	18.34	-0.48	130 (5)	8802 (5)	1575 (5)
13-6-S	100	120	18.85	18.85	42.75	0.00	282 (5)	19163 (5)	3429 (5)
13-7-S	100	120	18.85	18.85	75.88	0.00	482 (5)	32703 (5)	5853 (5)
13-8-S	100	120	18.85	18.85	34.95	-16.17	243 (6)	16463 (6)	15059 (6)
13-9-S	100	120	18.85	18.85	15.26	-44.91	183 (5)	12398 (5)	12208 (5)
13-10-S	100	120	18.85	18.85	0.09	-108.36	558 (5)	6780 (5)	37886 (5)
13-11-S	100	120	18.85	18.85	0.00	-90.78	415 (5)	5042 (5)	28172 (5)
13-12-S	100	120	18.85	18.85	0.00	-65.63	239 (5)	2901 (5)	16210 (5)
13-13-S	100	120	18.85	18.85	7.00	-0.15	80 (7)	973 (7)	5435 (7)
13-14-S	100	120	18.85	18.85	18.19	0.00	33 (7)	2254 (7)	403 (7)
13-15-S	100	120	18.85	18.85	22.34	0.00	88 (7)	5958 (7)	1066 (7)
13-16-S	100	120	18.85	18.85	18.59	-0.16	86 (7)	5823 (7)	1042 (7)
13-17-S	100	120	18.85	18.85	12.80	-0.89	69 (7)	4670 (7)	1454 (7)
13-18-S	100	120	18.85	18.85	8.12	-1.62	49 (7)	3357 (7)	2436 (7)
13-19-S	100	120	18.85	18.85	4.35	-2.49	44 (8)	2107 (8)	3017 (8)
13-20-S	100	120	18.85	18.85	1.49	-2.21	31 (7)	988 (7)	2097 (7)
13-21-S	100	120	18.85	18.85	0.36	-1.31	16 (7)	358 (7)	1060 (7)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
13-22-S	100	120	18.85	18.85	2.13	-0.35	5 (5)	360 (5)	119 (5)
14-1-S	100	120	18.85	18.85	6.51	-5.96	35 (5)	2358 (5)	2149 (5)
14-2-S	100	120	18.85	18.85	8.65	-9.80	53 (5)	3583 (5)	3534 (5)
14-3-S	100	120	18.85	18.85	3.72	-12.43	74 (6)	1975 (6)	5016 (6)
14-4-S	100	120	18.85	18.85	2.42	-37.25	261 (5)	3173 (5)	17727 (5)
14-5-S	100	120	18.85	18.85	8.25	-24.20	432 (8)	6658 (8)	29301 (8)
14-6-S	100	120	18.85	18.85	25.67	-1.65	229 (8)	15538 (8)	2781 (8)
14-7-S	100	120	18.85	18.85	79.06	0.00	532 (5)	36066 (5)	6455 (5)
14-8-S	100	120	18.85	18.85	9.56	-14.59	301 (7)	3904 (7)	20416 (7)
14-9-S	100	120	18.85	18.85	0.00	-74.56	288 (5)	3497 (5)	19538 (5)
14-10-S	100	120	18.85	18.85	0.07	-74.90	304 (5)	3696 (5)	20654 (5)
14-11-S	100	120	18.85	18.85	0.00	-60.31	225 (5)	2729 (5)	15248 (5)
14-12-S	100	120	18.85	18.85	5.00	-3.22	134 (7)	1627 (7)	9089 (7)
14-13-S	100	120	18.85	18.85	14.87	-0.19	36 (7)	1341 (7)	2424 (7)
14-14-S	100	120	18.85	18.85	23.66	0.00	77 (7)	5222 (7)	935 (7)
14-15-S	100	120	18.85	18.85	28.43	0.00	135 (7)	9168 (7)	1641 (7)
14-16-S	100	120	18.85	18.85	27.83	-0.34	148 (6)	10056 (6)	1800 (6)
14-17-S	100	120	18.85	18.85	29.21	-1.59	148 (6)	10024 (6)	1794 (6)
14-18-S	100	120	18.85	18.85	4.27	-10.90	87 (7)	2437 (7)	5925 (7)
14-19-S	100	120	18.85	18.85	2.21	-25.39	210 (7)	2546 (7)	14227 (7)
14-20-S	100	120	18.85	18.85	3.05	-15.49	131 (5)	1594 (5)	8907 (5)
14-21-S	100	120	18.85	18.85	2.09	-9.62	66 (5)	800 (5)	4469 (5)
14-22-S	100	120	18.85	18.85	2.42	-2.59	10 (5)	649 (5)	529 (5)
15-1-S	100	120	18.85	18.85	6.51	-5.96	35 (5)	2358 (5)	2149 (5)
15-2-S	100	120	18.85	18.85	8.65	-9.80	53 (5)	3583 (5)	3534 (5)
15-3-S	100	120	18.85	18.85	3.72	-12.43	74 (6)	1975 (6)	5016 (6)
15-4-S	100	120	18.85	18.85	2.42	-37.25	261 (5)	3173 (5)	17727 (5)
15-5-S	100	120	18.85	18.85	8.25	-24.20	432 (8)	6658 (8)	29301 (8)
15-6-S	100	120	18.85	18.85	25.67	-1.65	229 (8)	15538 (8)	2781 (8)
15-7-S	100	120	18.85	18.85	79.06	0.00	532 (5)	36066 (5)	6455 (5)
15-8-S	100	120	18.85	18.85	9.56	-14.59	301 (7)	3904 (7)	20416 (7)
15-9-S	100	120	18.85	18.85	0.00	-74.56	288 (5)	3497 (5)	19538 (5)
15-10-S	100	120	18.85	18.85	0.07	-74.90	304 (5)	3696 (5)	20654 (5)
15-11-S	100	120	18.85	18.85	0.00	-60.31	225 (5)	2729 (5)	15248 (5)
15-12-S	100	120	18.85	18.85	5.00	-3.22	134 (7)	1627 (7)	9089 (7)
15-13-S	100	120	18.85	18.85	14.87	-0.19	36 (7)	1341 (7)	2424 (7)
15-14-S	100	120	18.85	18.85	23.66	0.00	77 (7)	5222 (7)	935 (7)
15-15-S	100	120	18.85	18.85	28.43	0.00	135 (7)	9168 (7)	1641 (7)
15-16-S	100	120	18.85	18.85	27.83	-0.34	148 (6)	10056 (6)	1800 (6)
15-17-S	100	120	18.85	18.85	29.21	-1.59	148 (6)	10024 (6)	1794 (6)
15-18-S	100	120	18.85	18.85	4.27	-10.90	87 (7)	2437 (7)	5925 (7)
15-19-S	100	120	18.85	18.85	2.21	-25.39	210 (7)	2546 (7)	14227 (7)
15-20-S	100	120	18.85	18.85	3.05	-15.49	131 (5)	1594 (5)	8907 (5)
15-21-S	100	120	18.85	18.85	2.09	-9.62	66 (5)	800 (5)	4469 (5)
15-22-S	100	120	18.85	18.85	2.42	-2.59	10 (5)	649 (5)	529 (5)
16-1-S	100	120	18.85	18.85	1.11	-6.48	35 (5)	423 (5)	2366 (5)
16-2-S	100	120	18.85	18.85	0.51	-9.53	49 (5)	596 (5)	3329 (5)
16-3-S	100	120	18.85	18.85	0.83	-9.72	82 (5)	1000 (5)	5588 (5)
16-4-S	100	120	18.85	18.85	6.54	-2.93	52 (8)	3165 (8)	3552 (8)
16-5-S	100	120	18.85	18.85	18.34	-0.48	130 (5)	8802 (5)	1575 (5)
16-6-S	100	120	18.85	18.85	42.75	0.00	282 (5)	19163 (5)	3429 (5)
16-7-S	100	120	18.85	18.85	75.88	0.00	482 (5)	32703 (5)	5853 (5)
16-8-S	100	120	18.85	18.85	34.95	-16.17	243 (6)	16463 (6)	15059 (6)
16-9-S	100	120	18.85	18.85	15.26	-44.91	183 (5)	12398 (5)	12208 (5)
16-10-S	100	120	18.85	18.85	0.09	-108.36	558 (5)	6780 (5)	37886 (5)
16-11-S	100	120	18.85	18.85	0.00	-90.78	415 (5)	5042 (5)	28172 (5)
16-12-S	100	120	18.85	18.85	0.00	-65.63	239 (5)	2901 (5)	16210 (5)
16-13-S	100	120	18.85	18.85	7.00	-0.15	80 (7)	973 (7)	5435 (7)
16-14-S	100	120	18.85	18.85	18.19	0.00	33 (7)	2254 (7)	403 (7)
16-15-S	100	120	18.85	18.85	22.34	0.00	88 (7)	5958 (7)	1066 (7)
16-16-S	100	120	18.85	18.85	18.59	-0.16	86 (7)	5823 (7)	1042 (7)
16-17-S	100	120	18.85	18.85	12.80	-0.89	69 (7)	4670 (7)	1454 (7)
16-18-S	100	120	18.85	18.85	8.12	-1.62	49 (7)	3357 (7)	2436 (7)
16-19-S	100	120	18.85	18.85	4.35	-2.49	44 (8)	2107 (8)	3017 (8)
16-20-S	100	120	18.85	18.85	1.49	-2.21	31 (7)	988 (7)	2097 (7)
16-21-S	100	120	18.85	18.85	0.36	-1.31	16 (7)	358 (7)	1060 (7)
16-22-S	100	120	18.85	18.85	2.13	-0.35	5 (5)	360 (5)	119 (5)
17-1-S	100	120	18.85	18.85	11.58	-2.43	62 (5)	4198 (5)	834 (5)
17-2-S	100	120	18.85	18.85	16.40	-6.44	100 (5)	6769 (5)	2357 (5)
17-3-S	100	120	18.85	18.85	7.80	-13.82	80 (5)	4995 (5)	5397 (5)
17-4-S	100	120	18.85	18.85	1.06	-67.71	391 (5)	4754 (5)	26561 (5)
17-5-S	100	120	18.85	18.85	1.08	-65.96	427 (5)	5189 (5)	28994 (5)
17-6-S	100	120	18.85	18.85	13.59	-2.94	162 (8)	10968 (8)	1963 (8)
17-7-S	100	120	18.85	18.85	81.02	0.00	573 (5)	38878 (5)	6958 (5)
17-8-S	100	120	18.85	18.85	0.00	-105.14	441 (5)	5356 (5)	29929 (5)
17-9-S	100	120	18.85	18.85	0.00	-84.45	333 (5)	4047 (5)	22613 (5)
17-10-S	100	120	18.85	18.85	0.00	-70.88	268 (5)	3255 (5)	18190 (5)
17-11-S	100	120	18.85	18.85	0.00	-54.90	188 (5)	2278 (5)	12730 (5)
17-12-S	100	120	18.85	18.85	0.00	-38.05	103 (5)	1252 (5)	6996 (5)
17-13-S	100	120	18.85	18.85	16.32	-0.21	22 (7)	933 (7)	1489 (7)
17-14-S	100	120	18.85	18.85	24.97	-0.15	90 (7)	6095 (7)	1091 (7)

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ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA CANCELLO-BENEVENTO

II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA

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DOCUMENTO

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FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
17-15-S	100	120	18.85	18.85	32.09	-0.20	166 (7)	11273 (7)	2017 (7)
17-16-S	100	120	18.85	18.85	38.02	-0.85	204 (6)	13832 (6)	2475 (6)
17-17-S	100	120	18.85	18.85	45.00	-2.45	226 (5)	15338 (5)	2745 (5)
17-18-S	100	120	18.85	18.85	1.54	-20.38	124 (7)	2035 (7)	8403 (7)
17-19-S	100	120	18.85	18.85	1.05	-48.02	314 (7)	3812 (7)	21298 (7)
17-20-S	100	120	18.85	18.85	1.25	-29.22	194 (5)	2355 (5)	13158 (5)
17-21-S	100	120	18.85	18.85	0.76	-18.25	96 (5)	1171 (5)	6541 (5)
17-22-S	100	120	18.85	18.85	1.38	-4.35	13 (5)	774 (5)	869 (5)
18-1-S	100	120	18.85	18.85	0.48	-7.21	40 (5)	480 (5)	2683 (5)
18-2-S	100	120	18.85	18.85	0.72	-6.90	34 (5)	412 (5)	2304 (5)
18-3-S	100	120	18.85	18.85	1.50	-2.63	31 (8)	727 (8)	2121 (8)
18-4-S	100	120	18.85	18.85	7.80	-0.20	56 (8)	3776 (8)	676 (8)
18-5-S	100	120	18.85	18.85	22.87	0.00	159 (5)	10815 (5)	1936 (5)
18-6-S	100	120	18.85	18.85	47.14	0.00	308 (5)	20877 (5)	3736 (5)
18-7-S	100	120	18.85	18.85	75.60	0.00	476 (5)	32298 (5)	5780 (5)
18-8-S	100	120	18.85	18.85	36.01	-3.37	161 (7)	10561 (7)	10954 (7)
18-9-S	100	120	18.85	18.85	20.02	-24.30	201 (6)	12057 (6)	13646 (6)
18-10-S	100	120	18.85	18.85	0.00	-124.66	671 (5)	8149 (5)	45531 (5)
18-11-S	100	120	18.85	18.85	0.00	-104.35	505 (5)	6130 (5)	34250 (5)
18-12-S	100	120	18.85	18.85	0.00	-75.54	300 (5)	3642 (5)	20353 (5)
18-13-S	100	120	18.85	18.85	0.00	-40.88	117 (5)	1419 (5)	7927 (5)
18-14-S	100	120	18.85	18.85	15.53	-0.63	29 (7)	1962 (7)	1040 (7)
18-15-S	100	120	18.85	18.85	20.07	-0.33	77 (7)	5224 (7)	935 (7)
18-16-S	100	120	18.85	18.85	18.33	-0.27	87 (7)	5872 (7)	1051 (7)
18-17-S	100	120	18.85	18.85	11.41	-0.75	81 (8)	5526 (8)	1804 (8)
18-18-S	100	120	18.85	18.85	7.94	-0.83	57 (8)	3845 (8)	2000 (8)
18-19-S	100	120	18.85	18.85	4.85	-0.89	35 (8)	2347 (8)	2153 (8)
18-20-S	100	120	18.85	18.85	2.08	-0.67	17 (7)	1167 (7)	792 (7)
18-21-S	100	120	18.85	18.85	1.07	-0.43	8 (8)	516 (8)	527 (8)
18-22-S	100	120	18.85	18.85	0.28	-0.68	4 (7)	285 (7)	239 (7)
19-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
19-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
19-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
19-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
19-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
19-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)
19-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
19-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
19-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
19-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
19-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
19-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
19-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
19-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
19-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
19-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
19-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
19-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
19-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)
19-20-S	100	120	18.85	18.85	1.81	-24.74	162 (5)	1964 (5)	10975 (5)
19-21-S	100	120	18.85	18.85	1.20	-15.57	80 (5)	977 (5)	5460 (5)
19-22-S	100	120	18.85	18.85	1.62	-3.72	11 (5)	701 (5)	755 (5)
20-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
20-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
20-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
20-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
20-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
20-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
20-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
20-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
20-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
20-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
20-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)
20-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)
20-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
20-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
20-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
20-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
20-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
20-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
20-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
20-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
20-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
20-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
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APPALTATORE:

**TELESE** S.c.a r.l.  
 Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
 II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
 2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	79 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	1	62.83	3575	52876		
1	2	62.83	3134	41653		
1	3	62.83	2698	32310		
1	4	62.83	2276	27828		
1	5	62.83	1883	23566		
1	6	62.83	1538	19730		
1	7	62.83	1274	17007		
1	8	62.83	1119	15166		
1	9	62.83	987	13872		
1	10	62.83	907	12925		
1	11	62.83	834	12060		
1	12	62.83	767	11274		
1	13	62.83	707	10562		
1	14	62.83	805	11213		
1	15	62.83	900	12353		
1	16	62.83	984	13363		
1	17	62.83	1058	14252		
1	18	62.83	1124	15036		
1	19	62.83	1183	15741		
1	20	62.83	1235	16363		
1	21	62.83	1280	16900		
1	22	62.83	1318	17348		
1	23	62.83	1348	17710		
1	24	62.83	1371	17987		
1	25	62.83	1388	18183		
1	26	62.83	1398	18304		
1	27	62.83	1401	18356		
1	28	62.83	1400	18345		
1	29	62.83	1394	18278		
1	30	62.83	1383	18163		
1	31	62.83	1369	18006		
1	32	62.83	1352	17813		
1	33	62.83	1333	17591		
1	34	62.83	1311	17346		
1	35	62.83	1288	17083		
1	36	62.83	1265	16811		
1	37	62.83	1241	16533		
1	38	62.83	1217	16251		
1	39	62.83	1192	15969		
1	40	62.83	1168	15688		
1	41	62.83	1144	15407		
1	42	62.83	1120	15126		
1	43	62.83	1096	14867		
1	44	62.83	1073	14650		
1	45	62.83	1049	14434		
1	46	62.83	1025	14220		
1	47	62.83	1004	14008		
1	48	62.83	986	13800		
1	49	62.83	969	13595		
1	50	62.83	952	13395		
1	51	62.83	935	13235		
1	52	62.83	919	13127		
1	53	62.83	903	13022		
1	54	62.83	889	12920		
1	55	62.83	881	12822		
1	56	62.83	872	12726		
1	57	62.83	865	12635		
1	58	62.83	857	12547		
1	59	62.83	850	12463		
1	60	62.83	843	12383		
1	61	62.83	836	12306		
1	62	62.83	830	12234		
1	63	62.83	824	12165		
1	64	62.83	819	12100		
1	65	62.83	813	12038		
1	66	62.83	808	11981		
1	67	62.83	804	11927		
1	68	62.83	800	11876		
1	69	62.83	796	11829		
1	70	62.83	792	11785		
1	71	62.83	788	11744		
1	72	62.83	785	11707		
1	73	62.83	782	11672		
1	74	62.83	779	11641		
1	75	62.83	777	11611		
1	76	62.83	775	11585		
1	77	62.83	773	11561		
1	78	62.83	771	11539		
1	79	62.83	769	11519		
1	80	62.83	768	11502		
1	81	62.83	766	11486		



APPALTATORE:	 <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria:      Mandante: <b>SYSTRA S.A.      SWS Engineering S.p.A.      SYSTRA-SOTECNI S.p.A.</b>							
Relazione di calcolo	<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX</b>		<b>COMMESSA</b> <b>IF2R</b>	<b>LOTTO</b> <b>2.2.E.ZZ</b>	<b>CODIFICA</b> <b>CL</b>	<b>DOCUMENTO</b> <b>TR.16.0.5.006</b>	<b>REV.</b> <b>A</b>	<b>FOGLIO</b> <b>80 di 120</b>

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	82	62.83	765	11471		
1	83	62.83	764	11459		
1	84	62.83	763	11447		
1	85	62.83	763	11438		
1	86	62.83	763	11440		
1	87	62.83	763	11440		
1	88	62.83	763	11438		
1	89	62.83	763	11435		
1	90	62.83	762	11430		
1	91	62.83	762	11424		
1	92	62.83	761	11417		
1	93	62.83	761	11408		
1	94	62.83	760	11399		
1	95	62.83	759	11389		
1	96	62.83	759	11379		
1	97	62.83	758	11368		
1	98	62.83	757	11357		
1	99	62.83	756	11345		
1	100	62.83	756	11334		
1	101	62.83	755	11323		
2	1	62.83	3463	42545		
2	2	62.83	3043	37979		
2	3	62.83	2647	33615		
2	4	62.83	2292	29618		
2	5	62.83	1989	26135		
2	6	62.83	1740	23226		
2	7	62.83	1535	20793		
2	8	62.83	1350	18591		
2	9	62.83	1186	16616		
2	10	62.83	1057	15089		
2	11	62.83	940	13698		
2	12	62.83	879	12998		
2	13	62.83	998	14419		
2	14	62.83	1104	15694		
2	15	62.83	1199	16832		
2	16	62.83	1283	17840		
2	17	62.83	1357	18726		
2	18	62.83	1421	19498		
2	19	62.83	1476	20163		
2	20	62.83	1523	20728		
2	21	62.83	1562	21200		
2	22	62.83	1594	21586		
2	23	62.83	1619	21892		
2	24	62.83	1639	22125		
2	25	62.83	1652	22291		
2	26	62.83	1660	22396		
2	27	62.83	1664	22444		
2	28	62.83	1664	22442		
2	29	62.83	1659	22394		
2	30	62.83	1651	22305		
2	31	62.83	1640	22180		
2	32	62.83	1627	22022		
2	33	62.83	1611	21835		
2	34	62.83	1593	21625		
2	35	62.83	1573	21393		
2	36	62.83	1552	21146		
2	37	62.83	1530	20888		
2	38	62.83	1507	20620		
2	39	62.83	1484	20344		
2	40	62.83	1460	20063		
2	41	62.83	1436	19777		
2	42	62.83	1411	19490		
2	43	62.83	1387	19201		
2	44	62.83	1363	18914		
2	45	62.83	1338	18628		
2	46	62.83	1314	18345		
2	47	62.83	1291	18066		
2	48	62.83	1268	17792		
2	49	62.83	1245	17523		
2	50	62.83	1223	17261		
2	51	62.83	1201	17006		
2	52	62.83	1180	16758		
2	53	62.83	1160	16518		
2	54	62.83	1140	16287		
2	55	62.83	1121	16063		
2	56	62.83	1103	15849		
2	57	62.83	1086	15643		
2	58	62.83	1069	15447		
2	59	62.83	1054	15259		
2	60	62.83	1039	15081		
2	61	62.83	1024	14912		

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.


**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	81 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	62	62.83	1011	14751		
2	63	62.83	998	14600		
2	64	62.83	986	14457		
2	65	62.83	975	14323		
2	66	62.83	964	14198		
2	67	62.83	954	14081		
2	68	62.83	945	13971		
2	69	62.83	937	13870		
2	70	62.83	929	13776		
2	71	62.83	921	13689		
2	72	62.83	915	13609		
2	73	62.83	909	13536		
2	74	62.83	903	13469		
2	75	62.83	898	13408		
2	76	62.83	893	13353		
2	77	62.83	889	13303		
2	78	62.83	886	13258		
2	79	62.83	882	13218		
2	80	62.83	880	13183		
2	81	62.83	877	13151		
2	82	62.83	875	13131		
2	83	62.83	876	13141		
2	84	62.83	877	13145		
2	85	62.83	877	13146		
2	86	62.83	877	13144		
2	87	62.83	877	13138		
2	88	62.83	876	13129		
2	89	62.83	875	13118		
2	90	62.83	874	13104		
2	91	62.83	873	13088		
2	92	62.83	872	13071		
2	93	62.83	871	13052		
2	94	62.83	869	13032		
2	95	62.83	868	13012		
2	96	62.83	866	12991		
2	97	62.83	865	12970		
2	98	62.83	863	12949		
2	99	62.83	862	12928		
2	100	62.83	861	12909		
2	101	62.83	859	12890		
3	1	62.83	3455	44123		
3	2	62.83	3095	40061		
3	3	62.83	2773	36358		
3	4	62.83	2492	33084		
3	5	62.83	2252	30241		
3	6	62.83	2036	27681		
3	7	62.83	1835	25285		
3	8	62.83	1650	23081		
3	9	62.83	1480	21063		
3	10	62.83	1325	19221		
3	11	62.83	1184	17548		
3	12	62.83	1178	17483		
3	13	62.83	1297	18902		
3	14	62.83	1403	20176		
3	15	62.83	1498	21311		
3	16	62.83	1581	22317		
3	17	62.83	1655	23201		
3	18	62.83	1719	23970		
3	19	62.83	1774	24632		
3	20	62.83	1821	25194		
3	21	62.83	1860	25663		
3	22	62.83	1892	26046		
3	23	62.83	1917	26349		
3	24	62.83	1935	26579		
3	25	62.83	1949	26741		
3	26	62.83	1957	26842		
3	27	62.83	1960	26886		
3	28	62.83	1959	26880		
3	29	62.83	1955	26828		
3	30	62.83	1947	26734		
3	31	62.83	1935	26604		
3	32	62.83	1921	26441		
3	33	62.83	1905	26250		
3	34	62.83	1887	26034		
3	35	62.83	1867	25797		
3	36	62.83	1845	25545		
3	37	62.83	1823	25281		
3	38	62.83	1800	25008		
3	39	62.83	1776	24726		
3	40	62.83	1752	24439		
3	41	62.83	1727	24147		

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	82 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	42	62.83	1702	23853		
3	43	62.83	1677	23558		
3	44	62.83	1653	23264		
3	45	62.83	1628	22971		
3	46	62.83	1604	22682		
3	47	62.83	1579	22395		
3	48	62.83	1556	22114		
3	49	62.83	1533	21838		
3	50	62.83	1510	21568		
3	51	62.83	1488	21305		
3	52	62.83	1466	21050		
3	53	62.83	1445	20801		
3	54	62.83	1425	20561		
3	55	62.83	1406	20330		
3	56	62.83	1387	20107		
3	57	62.83	1369	19892		
3	58	62.83	1352	19687		
3	59	62.83	1336	19491		
3	60	62.83	1320	19303		
3	61	62.83	1305	19124		
3	62	62.83	1291	18954		
3	63	62.83	1278	18793		
3	64	62.83	1265	18641		
3	65	62.83	1253	18497		
3	66	62.83	1242	18361		
3	67	62.83	1231	18234		
3	68	62.83	1221	18114		
3	69	62.83	1212	18002		
3	70	62.83	1203	17897		
3	71	62.83	1195	17799		
3	72	62.83	1188	17708		
3	73	62.83	1181	17623		
3	74	62.83	1175	17545		
3	75	62.83	1169	17472		
3	76	62.83	1164	17405		
3	77	62.83	1159	17344		
3	78	62.83	1154	17287		
3	79	62.83	1150	17235		
3	80	62.83	1147	17187		
3	81	62.83	1143	17143		
3	82	62.83	1141	17110		
3	83	62.83	1141	17106		
3	84	62.83	1140	17098		
3	85	62.83	1140	17086		
3	86	62.83	1139	17070		
3	87	62.83	1138	17051		
3	88	62.83	1136	17028		
3	89	62.83	1134	17003		
3	90	62.83	1133	16975		
3	91	62.83	1131	16945		
3	92	62.83	1128	16913		
3	93	62.83	1126	16880		
3	94	62.83	1124	16846		
3	95	62.83	1121	16810		
3	96	62.83	1119	16774		
3	97	62.83	1116	16738		
3	98	62.83	1114	16702		
3	99	62.83	1111	16666		
3	100	62.83	1109	16631		
3	101	62.83	1106	16597		

### Combinazioni SLEQ

#### Paramento

Tensione massima di compressione nel calcestruzzo                      14940                      [kPa]  
 Tensione massima di trazione dell'acciaio                                      450000                      [kPa]

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\sigma_s$ [kPa]
1	100	70	10.05	15.71	0.00	5.00	7 (7)	99 (7)	104 (7)
2	100	70	10.05	15.71	0.00	6.72	9 (7)	133 (7)	140 (7)
3	100	70	10.05	15.71	0.00	8.43	12 (7)	167 (7)	175 (7)
4	100	70	10.05	15.71	0.00	10.15	14 (7)	201 (7)	211 (7)
5	100	70	10.05	15.71	0.00	11.86	17 (7)	235 (7)	247 (7)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO  
PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 83 di 120

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
6	100	70	10.05	15.71	0.00	13.58	19 (7)	269 (7)	282 (7)
7	100	70	10.05	15.71	0.00	15.29	21 (7)	303 (7)	318 (7)
8	100	70	10.05	15.71	0.00	17.01	24 (7)	337 (7)	354 (7)
9	100	70	10.05	15.71	0.00	18.73	26 (7)	371 (7)	389 (7)
10	100	70	10.05	15.71	0.00	20.44	28 (7)	405 (7)	425 (7)
11	100	70	10.05	15.71	0.00	22.16	31 (7)	439 (7)	461 (7)
12	100	70	10.05	15.71	0.00	23.87	33 (7)	473 (7)	496 (7)
13	100	70	10.05	15.71	0.00	25.59	36 (7)	507 (7)	532 (7)
14	100	70	10.05	15.71	0.00	27.30	38 (7)	541 (7)	568 (7)
15	100	70	10.05	15.71	0.00	29.02	40 (7)	575 (7)	604 (7)
16	100	70	10.05	15.71	0.00	30.74	43 (7)	609 (7)	639 (7)
17	100	70	10.05	15.71	0.00	32.45	45 (7)	643 (7)	675 (7)
18	100	70	10.05	15.71	0.00	34.17	48 (7)	678 (7)	711 (7)
19	100	70	10.05	15.71	0.00	35.88	50 (7)	712 (7)	746 (7)
20	100	70	10.05	15.71	0.00	37.60	52 (7)	746 (7)	782 (7)
21	100	70	10.05	15.71	0.00	39.31	55 (7)	780 (7)	818 (7)
22	100	70	10.05	15.71	0.00	41.03	57 (7)	814 (7)	853 (7)
23	100	70	10.05	15.71	0.00	42.75	59 (7)	848 (7)	889 (7)
24	100	70	10.05	15.71	0.00	44.46	62 (7)	882 (7)	925 (7)
25	100	70	10.05	15.71	0.00	46.18	64 (7)	916 (7)	960 (7)
26	100	70	10.05	15.71	0.00	47.89	67 (7)	950 (7)	996 (7)
27	100	70	10.05	15.71	0.00	49.61	69 (7)	984 (7)	1032 (7)
28	100	70	10.05	15.71	0.00	51.32	71 (7)	1018 (7)	1067 (7)
29	100	70	10.05	15.71	0.00	53.04	74 (7)	1052 (7)	1103 (7)
30	100	70	10.05	15.71	0.00	54.76	76 (7)	1086 (7)	1139 (7)
31	100	70	10.05	15.71	0.00	56.47	79 (7)	1120 (7)	1174 (7)
32	100	70	10.05	15.71	0.03	58.19	81 (7)	1150 (7)	1214 (7)
33	100	70	10.05	15.71	0.12	59.90	85 (7)	1171 (7)	1263 (7)
34	100	70	10.05	15.71	0.28	61.62	89 (7)	1183 (7)	1321 (7)
35	100	70	10.05	15.71	0.51	63.33	94 (7)	1186 (7)	1389 (7)
36	100	70	10.05	15.71	0.81	65.05	99 (7)	1177 (7)	1468 (7)
37	100	101	10.05	15.71	9.21	69.93	118 (7)	317 (7)	1694 (7)
38	100	101	10.05	15.71	9.73	72.40	123 (7)	315 (7)	1768 (7)
39	100	101	10.05	15.71	10.53	74.87	130 (7)	292 (7)	1863 (7)
40	100	101	10.05	15.71	11.54	77.35	138 (7)	253 (7)	1974 (7)
41	100	101	10.05	15.71	12.70	79.82	147 (7)	205 (7)	2094 (7)
42	100	101	10.05	15.71	13.94	82.30	156 (7)	150 (7)	2222 (7)
43	100	101	10.05	15.71	15.28	84.77	165 (7)	87 (7)	2356 (7)
44	100	101	10.05	15.71	16.72	87.24	176 (7)	9 (7)	2501 (7)
45	100	101	10.05	15.71	18.26	89.72	187 (7)	88 (7)	2659 (7)
46	100	101	10.05	15.71	19.91	92.19	200 (7)	210 (7)	2831 (7)
47	100	101	10.05	15.71	21.69	94.66	214 (7)	361 (7)	3020 (7)
48	100	101	10.05	15.71	23.58	97.14	229 (7)	550 (7)	3228 (7)
49	100	101	10.05	15.71	25.61	99.61	246 (7)	783 (7)	3456 (7)
50	100	101	10.05	15.71	27.77	102.09	265 (7)	1071 (7)	3707 (7)
51	100	101	10.05	15.71	30.07	104.56	285 (7)	1425 (7)	3984 (7)
52	100	101	10.05	15.71	32.52	107.03	308 (7)	1857 (7)	4289 (7)
53	100	101	10.05	15.71	35.11	109.51	334 (7)	2383 (7)	4623 (7)
54	100	101	10.05	15.71	37.86	111.98	362 (7)	3014 (7)	4989 (7)
55	100	101	10.05	15.71	40.77	114.45	393 (7)	3767 (7)	5387 (7)
56	100	101	10.05	15.71	43.85	116.93	426 (7)	4653 (7)	5817 (7)
57	100	101	10.05	15.71	47.09	119.40	462 (7)	5683 (7)	6280 (7)
58	100	101	10.05	15.71	47.16	119.45	463 (7)	5705 (7)	6290 (7)
59	100	101	10.05	15.71	50.58	121.92	502 (7)	6891 (7)	6784 (7)
60	100	101	10.05	15.71	54.18	124.39	544 (7)	8241 (7)	7309 (7)
61	100	101	10.05	15.71	57.96	126.87	589 (7)	9754 (7)	7863 (7)
62	100	101	10.05	15.71	61.93	129.34	636 (7)	11435 (7)	8446 (7)
63	100	101	10.05	15.71	66.10	131.81	686 (7)	13287 (7)	9056 (7)

Piastra fondazione

Tensione massima di compressione nel calcestruzzo

17430

[kPa]

Tensione massima di trazione dell'acciaio

1255271

[kPa]

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
1-1-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
1-2-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-3-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-4-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-5-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-6-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-7-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-8-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-9-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-10-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-11-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)

APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

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REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.006

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
1-12-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-13-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-14-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-15-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-16-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-17-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-18-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-19-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-20-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-21-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-22-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-23-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-24-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-25-P	69	120	12.57	12.57	0.00	-38.81	355 (5)	4294 (5)	24577 (5)
1-26-P	69	120	12.57	12.57	0.34	-23.30	207 (5)	2502 (5)	14317 (5)
1-27-P	69	120	12.57	12.57	2.47	-8.36	68 (5)	2260 (5)	4718 (5)
1-28-P	69	120	12.57	12.57	13.67	-0.58	121 (5)	8406 (5)	1469 (5)
1-29-P	69	120	12.57	12.57	20.55	-0.03	185 (5)	12784 (5)	2234 (5)
1-30-P	69	120	12.57	12.57	23.26	0.00	210 (5)	14523 (5)	2538 (5)
1-31-P	69	120	12.57	12.57	18.86	-0.09	169 (5)	11686 (5)	2042 (5)
1-32-P	69	120	12.57	12.57	7.66	-2.07	67 (5)	4617 (5)	1011 (5)
1-33-P	69	120	12.57	12.57	1.73	-15.09	127 (5)	2288 (5)	8799 (5)
1-34-P	69	120	12.57	12.57	0.15	-29.31	265 (5)	3201 (5)	18319 (5)
1-35-P	69	120	12.57	12.57	0.09	-32.50	295 (5)	3569 (5)	20424 (5)
1-36-P	69	120	12.57	12.57	0.13	-16.83	146 (5)	1769 (5)	10123 (5)
1-37-P	69	120	12.57	12.57	5.20	-3.78	44 (5)	3036 (5)	1968 (5)
1-38-P	69	120	12.57	12.57	17.40	-0.19	155 (5)	10739 (5)	1876 (5)
1-39-P	69	120	12.57	12.57	21.23	0.00	191 (5)	13237 (5)	2313 (5)
1-40-P	69	120	12.57	12.57	19.60	-0.01	176 (5)	12195 (5)	2131 (5)
1-41-P	69	120	12.57	12.57	14.49	-0.32	128 (5)	8873 (5)	1550 (5)
1-42-P	69	120	12.57	12.57	2.04	-8.34	70 (5)	1844 (5)	4823 (5)
1-43-P	69	120	12.57	12.57	0.10	-25.94	230 (5)	2787 (5)	15952 (5)
1-44-P	69	120	12.57	12.57	0.03	-44.06	402 (5)	4858 (5)	27804 (5)
1-45-P	69	120	12.57	12.57	0.09	-37.70	340 (5)	4111 (5)	23527 (5)
1-46-P	69	120	12.57	12.57	0.00	-24.54	217 (5)	2621 (5)	14999 (5)
1-47-P	69	120	12.57	12.57	0.10	-9.21	82 (5)	997 (5)	5705 (5)
1-48-P	69	120	12.57	12.57	1.08	-2.46	28 (5)	926 (5)	1913 (5)
1-49-P	69	120	12.57	12.57	1.20	-0.24	13 (8)	872 (8)	431 (8)
2-1-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
2-2-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-3-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-4-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-5-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-6-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-7-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)
2-8-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-9-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-10-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-11-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-12-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-13-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)
2-14-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-15-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-16-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-17-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-18-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-19-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-20-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)
2-21-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-22-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-23-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-24-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-25-P	70	120	12.57	12.57	0.69	-65.93	661 (5)	7993 (5)	45744 (5)
2-26-P	70	120	12.57	12.57	2.00	-17.03	223 (8)	3637 (8)	15455 (8)
2-27-P	70	120	12.57	12.57	11.71	-0.72	110 (5)	7588 (5)	1326 (5)
2-28-P	70	120	12.57	12.57	17.23	0.00	165 (5)	11431 (5)	1997 (5)
2-29-P	70	120	12.57	12.57	19.90	0.00	188 (5)	13030 (5)	2277 (5)
2-30-P	70	120	12.57	12.57	20.95	0.00	197 (5)	13619 (5)	2380 (5)
2-31-P	70	120	12.57	12.57	19.26	0.00	183 (5)	12683 (5)	2216 (5)
2-32-P	70	120	12.57	12.57	14.94	-0.08	143 (5)	9912 (5)	1732 (5)
2-33-P	70	120	12.57	12.57	10.14	-1.49	92 (5)	6354 (5)	1154 (5)
2-34-P	70	120	12.57	12.57	1.18	-38.90	417 (5)	5041 (5)	28850 (5)
2-35-P	70	120	12.57	12.57	1.05	-47.68	504 (5)	6102 (5)	34922 (5)
2-36-P	70	120	12.57	12.57	3.73	-4.32	48 (5)	2330 (5)	3298 (5)
2-37-P	70	120	12.57	12.57	13.79	-0.23	132 (5)	9123 (5)	1594 (5)
2-38-P	70	120	12.57	12.57	18.87	0.00	180 (5)	12462 (5)	2178 (5)
2-39-P	70	120	12.57	12.57	20.42	0.00	192 (5)	13307 (5)	2325 (5)
2-40-P	70	120	12.57	12.57	19.75	0.00	187 (5)	12910 (5)	2256 (5)
2-41-P	70	120	12.57	12.57	17.64	0.00	169 (5)	11709 (5)	2046 (5)
2-42-P	70	120	12.57	12.57	11.19	-0.58	106 (5)	7344 (5)	1283 (5)
2-43-P	70	120	12.57	12.57	2.16	-11.68	153 (8)	3928 (8)	10600 (8)

APPALTATORE:

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PROGETTAZIONE:

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**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

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TR.16.0.5.006

A


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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-44-P	70	120	12.57	12.57	0.82	-60.51	608 (5)	7357 (5)	42105 (5)
2-45-P	70	120	12.57	12.57	1.20	-35.26	382 (5)	4621 (5)	26447 (5)
2-46-P	70	120	12.57	12.57	5.55	-3.38	50 (5)	3452 (5)	2163 (5)
2-47-P	70	120	12.57	12.57	4.92	-0.25	56 (7)	3899 (7)	900 (7)
2-48-P	70	120	12.57	12.57	6.73	0.00	65 (5)	4483 (5)	783 (5)
2-49-P	70	120	12.57	12.57	6.98	0.00	64 (5)	4426 (5)	773 (5)
5-1-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
5-2-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-3-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-4-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-5-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)
5-6-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-7-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-8-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-9-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-10-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-11-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-12-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-13-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-14-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-15-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-16-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-17-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-18-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-19-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-20-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-21-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-22-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-23-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-24-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-25-P	85	120	15.71	15.71	10.98	-0.40	68 (7)	4650 (7)	1173 (7)
5-26-P	85	120	15.71	15.71	10.81	-0.47	54 (7)	3720 (7)	986 (7)
5-27-P	85	120	15.71	15.71	9.08	-1.28	34 (7)	2345 (7)	1261 (7)
5-28-P	85	120	15.71	15.71	6.71	-4.94	63 (7)	2654 (7)	4301 (7)
5-29-P	85	120	15.71	15.71	0.59	-40.33	294 (5)	3559 (5)	20112 (5)
5-30-P	85	120	15.71	15.71	0.88	-59.28	523 (5)	6337 (5)	35816 (5)
5-31-P	85	120	15.71	15.71	0.12	-27.98	175 (5)	2391 (5)	11984 (5)
5-32-P	85	120	15.71	15.71	7.01	-3.72	47 (7)	2513 (7)	3208 (7)
5-33-P	85	120	15.71	15.71	9.77	-0.89	42 (7)	2857 (7)	1132 (7)
5-34-P	85	120	15.71	15.71	9.24	-0.64	44 (7)	2990 (7)	1270 (7)
5-35-P	85	120	15.71	15.71	8.66	-0.58	43 (7)	2928 (7)	1384 (7)
5-36-P	85	120	15.71	15.71	7.89	-0.70	29 (7)	1960 (7)	1275 (7)
5-37-P	85	120	15.71	15.71	3.39	-1.87	49 (7)	994 (7)	3338 (7)
5-38-P	85	120	15.71	15.71	0.00	-25.93	149 (5)	1808 (5)	10217 (5)
5-39-P	85	120	15.71	15.71	0.19	-58.06	480 (5)	5823 (5)	32906 (5)
5-40-P	85	120	15.71	15.71	0.85	-53.85	396 (5)	4799 (5)	27124 (5)
5-41-P	85	120	15.71	15.71	4.13	-12.60	135 (7)	1767 (7)	9275 (7)
5-42-P	85	120	15.71	15.71	0.00	-18.75	92 (5)	1110 (5)	6271 (5)
5-43-P	85	120	15.71	15.71	2.59	-5.34	74 (7)	903 (7)	5102 (7)
5-44-P	85	120	15.71	15.71	2.12	-6.63	87 (7)	1051 (7)	5941 (7)
5-45-P	85	120	15.71	15.71	2.03	-7.93	95 (7)	1155 (7)	6529 (7)
5-46-P	85	120	15.71	15.71	1.86	-8.78	99 (7)	1204 (7)	6806 (7)
5-47-P	85	120	15.71	15.71	1.43	-8.29	90 (7)	1088 (7)	6147 (7)
5-48-P	85	120	15.71	15.71	1.38	-7.11	74 (7)	893 (7)	5047 (7)
5-49-P	85	120	15.71	15.71	1.72	-5.58	56 (7)	1011 (7)	3815 (7)
6-1-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
6-2-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-3-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-4-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-5-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-6-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-7-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-8-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-9-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-10-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-11-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-12-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-13-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)
6-14-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-15-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-16-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-17-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-18-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-19-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-20-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-21-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-22-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-23-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-24-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)
6-25-P	85	120	15.71	15.71	10.59	0.00	57 (7)	3928 (7)	695 (7)
6-26-P	85	120	15.71	15.71	8.52	0.00	39 (7)	2666 (7)	472 (7)

APPALTATORE:	<b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	
PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

<b>ITINERARIO NAPOLI – BARI</b>					
<b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b>					
<b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b>					
<b>2° SUBLOTTO TELESE – SAN LORENZO</b>					
<b>PROGETTO ESECUTIVO</b>					
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	86 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-27-P	85	120	15.71	15.71	4.85	-0.02	21 (7)	1464 (7)	779 (7)
6-28-P	85	120	15.71	15.71	2.14	-3.41	58 (7)	1226 (7)	3973 (7)
6-29-P	85	120	15.71	15.71	0.14	-15.67	94 (5)	1138 (5)	6433 (5)
6-30-P	85	120	15.71	15.71	0.02	-18.60	126 (5)	1529 (5)	8643 (5)
6-31-P	85	120	15.71	15.71	0.00	-14.41	77 (5)	938 (5)	5303 (5)
6-32-P	85	120	15.71	15.71	1.41	-1.70	43 (7)	580 (7)	2943 (7)
6-33-P	85	120	15.71	15.71	5.12	0.00	16 (7)	1096 (7)	441 (7)
6-34-P	85	120	15.71	15.71	6.44	0.00	23 (7)	1589 (7)	281 (7)
6-35-P	85	120	15.71	15.71	6.05	0.00	26 (7)	1780 (7)	412 (7)
6-36-P	85	120	15.71	15.71	4.11	-0.99	30 (7)	1653 (7)	2050 (7)
6-37-P	85	120	15.71	15.71	1.53	-8.16	71 (6)	1382 (6)	4891 (6)
6-38-P	85	120	15.71	15.71	0.22	-18.78	121 (5)	1472 (5)	8319 (5)
6-39-P	85	120	15.71	15.71	0.02	-24.06	153 (5)	1856 (5)	10488 (5)
6-40-P	85	120	15.71	15.71	0.00	-24.08	155 (5)	1882 (5)	10639 (5)
6-41-P	85	120	15.71	15.71	0.00	-20.67	139 (5)	1687 (5)	9536 (5)
6-42-P	85	120	15.71	15.71	0.02	-14.69	94 (5)	1139 (5)	6437 (5)
6-43-P	85	120	15.71	15.71	0.01	-9.51	58 (5)	698 (5)	3945 (5)
6-44-P	85	120	15.71	15.71	1.75	-4.04	42 (7)	583 (7)	2903 (7)
6-45-P	85	120	15.71	15.71	2.80	-5.33	45 (8)	1626 (8)	3098 (8)
6-46-P	85	120	15.71	15.71	4.34	-5.81	49 (8)	2519 (8)	3376 (8)
6-47-P	85	120	15.71	15.71	4.25	-4.97	42 (8)	2468 (8)	2890 (8)
6-48-P	85	120	15.71	15.71	4.10	-4.31	36 (6)	2274 (6)	2463 (6)
6-49-P	85	120	15.71	15.71	3.51	-3.68	30 (6)	1973 (6)	2063 (6)
7-1-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
7-2-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-3-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-4-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-5-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)
7-6-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-7-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-8-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-9-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-10-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-11-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-12-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-13-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-14-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-15-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-16-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-17-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-18-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-19-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-20-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-21-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-22-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)
7-23-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-24-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-25-P	85	120	15.71	15.71	0.82	-15.64	216 (5)	2621 (5)	14811 (5)
7-26-P	85	120	15.71	15.71	1.18	-12.19	99 (7)	1201 (7)	6786 (7)
7-27-P	85	120	15.71	15.71	6.54	-6.98	48 (5)	3077 (5)	3298 (5)
7-28-P	85	120	15.71	15.71	10.95	0.00	77 (7)	5273 (7)	933 (7)
7-29-P	85	120	15.71	15.71	14.42	0.00	102 (7)	7020 (7)	1242 (7)
7-30-P	85	120	15.71	15.71	15.34	0.00	109 (7)	7441 (7)	1317 (7)
7-31-P	85	120	15.71	15.71	12.78	0.00	90 (7)	6181 (7)	1094 (7)
7-32-P	85	120	15.71	15.71	5.79	-0.65	44 (7)	2989 (7)	849 (7)
7-33-P	85	120	15.71	15.71	4.58	-10.49	81 (5)	1762 (5)	5517 (5)
7-34-P	85	120	15.71	15.71	0.08	-19.56	155 (7)	1874 (7)	10591 (7)
7-35-P	85	120	15.71	15.71	0.31	-23.16	182 (7)	2203 (7)	12452 (7)
7-36-P	85	120	15.71	15.71	4.65	-13.90	116 (5)	1623 (5)	7920 (5)
7-37-P	85	120	15.71	15.71	6.19	-8.07	60 (5)	3021 (5)	4081 (5)
7-38-P	85	120	15.71	15.71	7.45	-0.62	58 (7)	3976 (7)	1464 (7)
7-39-P	85	120	15.71	15.71	7.90	0.00	56 (7)	3821 (7)	1085 (7)
7-40-P	85	120	15.71	15.71	6.48	0.00	45 (7)	3097 (7)	833 (7)
7-41-P	85	120	15.71	15.71	4.19	-0.78	30 (6)	2074 (6)	1510 (6)
7-42-P	85	120	15.71	15.71	1.52	-9.09	77 (8)	935 (8)	5283 (8)
7-43-P	85	120	15.71	15.71	0.21	-19.97	156 (7)	1889 (7)	10676 (7)
7-44-P	85	120	15.71	15.71	0.06	-33.17	250 (7)	3026 (7)	17101 (7)
7-45-P	85	120	15.71	15.71	0.80	-26.68	203 (7)	2459 (7)	13894 (7)
7-46-P	85	120	15.71	15.71	2.99	-17.04	136 (7)	2005 (7)	9321 (7)
7-47-P	85	120	15.71	15.71	3.35	-7.71	63 (7)	2197 (7)	4289 (7)
7-48-P	85	120	15.71	15.71	3.28	-2.91	28 (8)	1904 (8)	1689 (8)
7-49-P	85	120	15.71	15.71	2.45	-1.57	18 (5)	1223 (5)	646 (5)
8-1-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
8-2-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-3-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-4-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-5-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-6-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-7-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-8-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-9-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		
PROGETTAZIONE:	Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.		
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	87 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
8-10-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-11-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-12-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-13-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-14-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-15-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-16-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-17-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-18-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-19-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-20-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-21-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-22-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-23-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-24-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-25-P	85	120	15.71	15.71	0.00	-51.35	404 (7)	4900 (7)	27693 (7)
8-26-P	85	120	15.71	15.71	0.00	-24.20	190 (7)	2305 (7)	13027 (7)
8-27-P	85	120	15.71	15.71	2.95	-6.46	55 (7)	3028 (7)	3798 (7)
8-28-P	85	120	15.71	15.71	7.53	-0.03	54 (7)	3699 (7)	655 (7)
8-29-P	85	120	15.71	15.71	13.01	0.00	96 (7)	6547 (7)	1158 (7)
8-30-P	85	120	15.71	15.71	15.34	0.00	114 (7)	7801 (7)	1380 (7)
8-31-P	85	120	15.71	15.71	10.38	0.00	75 (7)	5141 (7)	910 (7)
8-32-P	85	120	15.71	15.71	3.02	-1.70	40 (7)	2710 (7)	1173 (7)
8-33-P	85	120	15.71	15.71	1.83	-12.31	101 (7)	2187 (7)	6899 (7)
8-34-P	85	120	15.71	15.71	0.00	-38.42	302 (7)	3655 (7)	20657 (7)
8-35-P	85	120	15.71	15.71	0.00	-44.62	350 (7)	4244 (7)	23984 (7)
8-36-P	85	120	15.71	15.71	0.05	-18.25	145 (7)	1760 (7)	9949 (7)
8-37-P	85	120	15.71	15.71	2.35	-6.82	58 (8)	2271 (8)	3962 (8)
8-38-P	85	120	15.71	15.71	4.56	-0.24	33 (7)	2292 (7)	406 (7)
8-39-P	85	120	15.71	15.71	7.91	0.00	59 (7)	4013 (7)	710 (7)
8-40-P	85	120	15.71	15.71	6.12	0.00	45 (7)	3103 (7)	549 (7)
8-41-P	85	120	15.71	15.71	1.92	-1.19	16 (7)	950 (7)	1129 (7)
8-42-P	85	120	15.71	15.71	0.77	-12.13	94 (7)	1144 (7)	6463 (7)
8-43-P	85	120	15.71	15.71	0.00	-29.89	228 (7)	2765 (7)	15628 (7)
8-44-P	85	120	15.71	15.71	0.00	-58.07	450 (7)	5449 (7)	30794 (7)
8-45-P	85	120	15.71	15.71	0.00	-42.77	329 (7)	3982 (7)	22503 (7)
8-46-P	85	120	15.71	15.71	0.95	-20.73	160 (7)	1937 (7)	10945 (7)
8-47-P	85	120	15.71	15.71	0.58	-10.12	78 (7)	951 (7)	5376 (7)
8-48-P	85	120	15.71	15.71	0.36	-3.57	28 (7)	345 (7)	1948 (7)
8-49-P	85	120	15.71	15.71	0.70	-0.20	6 (7)	390 (7)	313 (7)
9-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
9-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
9-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
9-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
9-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
9-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
9-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
9-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
9-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
9-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
9-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)
9-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)
9-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
9-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
9-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
9-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
9-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
9-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
9-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
9-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
9-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
9-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)
10-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
10-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
10-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
10-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
10-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
10-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)
10-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
10-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
10-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
10-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
10-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
10-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
10-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
10-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
10-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
10-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
10-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
10-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
10-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)







APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**
**PROGETTO ESECUTIVO**

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	90 di 120

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
18-6-S	100	120	18.85	18.85	47.14	0.00	308 (5)	20877 (5)	3736 (5)
18-7-S	100	120	18.85	18.85	75.60	0.00	476 (5)	32298 (5)	5780 (5)
18-8-S	100	120	18.85	18.85	36.01	-3.37	161 (7)	10561 (7)	10954 (7)
18-9-S	100	120	18.85	18.85	20.02	-24.30	201 (6)	12057 (6)	13646 (6)
18-10-S	100	120	18.85	18.85	0.00	-124.66	671 (5)	8149 (5)	45531 (5)
18-11-S	100	120	18.85	18.85	0.00	-104.35	505 (5)	6130 (5)	34250 (5)
18-12-S	100	120	18.85	18.85	0.00	-75.54	300 (5)	3642 (5)	20353 (5)
18-13-S	100	120	18.85	18.85	0.00	-40.88	117 (5)	1419 (5)	7927 (5)
18-14-S	100	120	18.85	18.85	15.53	-0.63	29 (7)	1962 (7)	1040 (7)
18-15-S	100	120	18.85	18.85	20.07	-0.33	77 (7)	5224 (7)	935 (7)
18-16-S	100	120	18.85	18.85	18.33	-0.27	87 (7)	5872 (7)	1051 (7)
18-17-S	100	120	18.85	18.85	11.41	-0.75	81 (8)	5526 (8)	1804 (8)
18-18-S	100	120	18.85	18.85	7.94	-0.83	57 (8)	3845 (8)	2000 (8)
18-19-S	100	120	18.85	18.85	4.85	-0.89	35 (8)	2347 (8)	2153 (8)
18-20-S	100	120	18.85	18.85	2.08	-0.67	17 (7)	1167 (7)	792 (7)
18-21-S	100	120	18.85	18.85	1.07	-0.43	8 (8)	516 (8)	527 (8)
18-22-S	100	120	18.85	18.85	0.28	-0.68	4 (7)	285 (7)	239 (7)
19-1-S	100	120	18.85	18.85	9.36	-3.81	49 (5)	3343 (5)	1341 (5)
19-2-S	100	120	18.85	18.85	15.77	-8.24	130 (5)	8834 (5)	3046 (5)
19-3-S	100	120	18.85	18.85	7.82	-13.14	73 (5)	3337 (5)	4920 (5)
19-4-S	100	120	18.85	18.85	1.53	-59.15	339 (5)	4121 (5)	23026 (5)
19-5-S	100	120	18.85	18.85	4.21	-58.23	506 (5)	6140 (5)	34309 (5)
19-6-S	100	120	18.85	18.85	18.21	-3.30	217 (8)	14703 (8)	2662 (8)
19-7-S	100	120	18.85	18.85	81.16	0.00	565 (5)	38328 (5)	6860 (5)
19-8-S	100	120	18.85	18.85	0.00	-133.08	637 (5)	7738 (5)	43235 (5)
19-9-S	100	120	18.85	18.85	0.00	-112.21	525 (5)	6370 (5)	35594 (5)
19-10-S	100	120	18.85	18.85	0.00	-88.36	391 (5)	4745 (5)	26512 (5)
19-11-S	100	120	18.85	18.85	0.00	-65.87	266 (5)	3235 (5)	18077 (5)
19-12-S	100	120	18.85	18.85	0.00	-43.22	144 (5)	1750 (5)	9779 (5)
19-13-S	100	120	18.85	18.85	14.34	-0.23	30 (7)	1777 (7)	2034 (7)
19-14-S	100	120	18.85	18.85	25.11	-0.08	90 (7)	6138 (7)	1099 (7)
19-15-S	100	120	18.85	18.85	32.15	-0.08	167 (7)	11336 (7)	2029 (7)
19-16-S	100	120	18.85	18.85	37.21	-0.25	200 (6)	13594 (6)	2433 (6)
19-17-S	100	120	18.85	18.85	42.64	-1.15	216 (5)	14656 (5)	2623 (5)
19-18-S	100	120	18.85	18.85	2.18	-15.85	94 (7)	2688 (7)	6394 (7)
19-19-S	100	120	18.85	18.85	0.95	-40.28	264 (7)	3202 (7)	17890 (7)
19-20-S	100	120	18.85	18.85	1.81	-24.74	162 (5)	1964 (5)	10975 (5)
19-21-S	100	120	18.85	18.85	1.20	-15.57	80 (5)	977 (5)	5460 (5)
19-22-S	100	120	18.85	18.85	1.62	-3.72	11 (5)	701 (5)	755 (5)
20-1-S	100	120	18.85	18.85	1.41	-5.63	39 (5)	2621 (5)	2012 (5)
20-2-S	100	120	18.85	18.85	0.05	-9.84	53 (5)	646 (5)	3610 (5)
20-3-S	100	120	18.85	18.85	0.15	-13.83	93 (5)	1131 (5)	6321 (5)
20-4-S	100	120	18.85	18.85	2.42	-15.54	134 (5)	1626 (5)	9086 (5)
20-5-S	100	120	18.85	18.85	10.20	-6.39	228 (8)	6177 (8)	15478 (8)
20-6-S	100	120	18.85	18.85	30.15	-0.72	214 (5)	14545 (5)	2603 (5)
20-7-S	100	120	18.85	18.85	73.34	0.00	477 (5)	32332 (5)	5786 (5)
20-8-S	100	120	18.85	18.85	0.00	-174.65	930 (5)	11292 (5)	63097 (5)
20-9-S	100	120	18.85	18.85	0.00	-126.83	633 (5)	7690 (5)	42968 (5)
20-10-S	100	120	18.85	18.85	0.00	-91.45	417 (5)	5067 (5)	28312 (5)
20-11-S	100	120	18.85	18.85	0.00	-61.90	245 (5)	2978 (5)	16638 (5)
20-12-S	100	120	18.85	18.85	9.61	-3.09	100 (7)	1211 (7)	6766 (7)
20-13-S	100	120	18.85	18.85	19.24	-0.96	50 (7)	3401 (7)	2074 (7)
20-14-S	100	120	18.85	18.85	26.32	-0.66	108 (7)	7342 (7)	1314 (7)
20-15-S	100	120	18.85	18.85	29.16	-0.79	149 (7)	10100 (7)	1808 (7)
20-16-S	100	120	18.85	18.85	24.86	-1.43	135 (6)	9154 (6)	1638 (6)
20-17-S	100	120	18.85	18.85	20.82	-2.24	104 (6)	7052 (6)	1355 (6)
20-18-S	100	120	18.85	18.85	7.91	-4.98	52 (7)	3560 (7)	2364 (7)
20-19-S	100	120	18.85	18.85	4.16	-9.15	62 (7)	2748 (7)	4182 (7)
20-20-S	100	120	18.85	18.85	0.99	-5.97	39 (7)	1038 (7)	2615 (7)
20-21-S	100	120	18.85	18.85	0.30	-2.96	18 (7)	468 (7)	1253 (7)
20-22-S	100	120	18.85	18.85	3.21	-0.82	11 (5)	723 (5)	129 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	1	62.83	3575	52876		
1	2	62.83	3134	41653		
1	3	62.83	2698	32310		
1	4	62.83	2276	27828		
1	5	62.83	1883	23566		
1	6	62.83	1538	19730		
1	7	62.83	1274	17007		
1	8	62.83	1119	15166		
1	9	62.83	987	13872		
1	10	62.83	907	12925		
1	11	62.83	834	12060		
1	12	62.83	767	11274		
1	13	62.83	707	10562		

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.							
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	91 di 120

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	14	62.83	805	11213		
1	15	62.83	900	12353		
1	16	62.83	984	13363		
1	17	62.83	1058	14252		
1	18	62.83	1124	15036		
1	19	62.83	1183	15741		
1	20	62.83	1235	16363		
1	21	62.83	1280	16900		
1	22	62.83	1318	17348		
1	23	62.83	1348	17710		
1	24	62.83	1371	17987		
1	25	62.83	1388	18183		
1	26	62.83	1398	18304		
1	27	62.83	1401	18356		
1	28	62.83	1400	18345		
1	29	62.83	1394	18278		
1	30	62.83	1383	18163		
1	31	62.83	1369	18006		
1	32	62.83	1352	17813		
1	33	62.83	1333	17591		
1	34	62.83	1311	17346		
1	35	62.83	1288	17083		
1	36	62.83	1265	16811		
1	37	62.83	1241	16533		
1	38	62.83	1217	16251		
1	39	62.83	1192	15969		
1	40	62.83	1168	15688		
1	41	62.83	1144	15407		
1	42	62.83	1120	15126		
1	43	62.83	1096	14867		
1	44	62.83	1073	14650		
1	45	62.83	1049	14434		
1	46	62.83	1025	14220		
1	47	62.83	1004	14008		
1	48	62.83	986	13800		
1	49	62.83	969	13595		
1	50	62.83	952	13395		
1	51	62.83	935	13235		
1	52	62.83	919	13127		
1	53	62.83	903	13022		
1	54	62.83	889	12920		
1	55	62.83	881	12822		
1	56	62.83	872	12726		
1	57	62.83	865	12635		
1	58	62.83	857	12547		
1	59	62.83	850	12463		
1	60	62.83	843	12383		
1	61	62.83	836	12306		
1	62	62.83	830	12234		
1	63	62.83	824	12165		
1	64	62.83	819	12100		
1	65	62.83	813	12038		
1	66	62.83	808	11981		
1	67	62.83	804	11927		
1	68	62.83	800	11876		
1	69	62.83	796	11829		
1	70	62.83	792	11785		
1	71	62.83	788	11744		
1	72	62.83	785	11707		
1	73	62.83	782	11672		
1	74	62.83	779	11641		
1	75	62.83	777	11611		
1	76	62.83	775	11585		
1	77	62.83	773	11561		
1	78	62.83	771	11539		
1	79	62.83	769	11519		
1	80	62.83	768	11502		
1	81	62.83	766	11486		
1	82	62.83	765	11471		
1	83	62.83	764	11459		
1	84	62.83	763	11447		
1	85	62.83	763	11438		
1	86	62.83	763	11440		
1	87	62.83	763	11440		
1	88	62.83	763	11438		
1	89	62.83	763	11435		
1	90	62.83	762	11430		
1	91	62.83	762	11424		
1	92	62.83	761	11417		
1	93	62.83	761	11408		
1	94	62.83	760	11399		

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.							
Relazione di calcolo	IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	92 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	95	62.83	759	11389		
1	96	62.83	759	11379		
1	97	62.83	758	11368		
1	98	62.83	757	11357		
1	99	62.83	756	11345		
1	100	62.83	756	11334		
1	101	62.83	755	11323		
2	1	62.83	3463	42545		
2	2	62.83	3043	37979		
2	3	62.83	2647	33615		
2	4	62.83	2292	29618		
2	5	62.83	1989	26135		
2	6	62.83	1740	23226		
2	7	62.83	1535	20793		
2	8	62.83	1350	18591		
2	9	62.83	1186	16616		
2	10	62.83	1057	15089		
2	11	62.83	940	13698		
2	12	62.83	879	12998		
2	13	62.83	998	14419		
2	14	62.83	1104	15694		
2	15	62.83	1199	16832		
2	16	62.83	1283	17840		
2	17	62.83	1357	18726		
2	18	62.83	1421	19498		
2	19	62.83	1476	20163		
2	20	62.83	1523	20728		
2	21	62.83	1562	21200		
2	22	62.83	1594	21586		
2	23	62.83	1619	21892		
2	24	62.83	1639	22125		
2	25	62.83	1652	22291		
2	26	62.83	1660	22396		
2	27	62.83	1664	22444		
2	28	62.83	1664	22442		
2	29	62.83	1659	22394		
2	30	62.83	1651	22305		
2	31	62.83	1640	22180		
2	32	62.83	1627	22022		
2	33	62.83	1611	21835		
2	34	62.83	1593	21625		
2	35	62.83	1573	21393		
2	36	62.83	1552	21146		
2	37	62.83	1530	20888		
2	38	62.83	1507	20620		
2	39	62.83	1484	20344		
2	40	62.83	1460	20063		
2	41	62.83	1436	19777		
2	42	62.83	1411	19490		
2	43	62.83	1387	19201		
2	44	62.83	1363	18914		
2	45	62.83	1338	18628		
2	46	62.83	1314	18345		
2	47	62.83	1291	18066		
2	48	62.83	1268	17792		
2	49	62.83	1245	17523		
2	50	62.83	1223	17261		
2	51	62.83	1201	17006		
2	52	62.83	1180	16758		
2	53	62.83	1160	16518		
2	54	62.83	1140	16287		
2	55	62.83	1121	16063		
2	56	62.83	1103	15849		
2	57	62.83	1086	15643		
2	58	62.83	1069	15447		
2	59	62.83	1054	15259		
2	60	62.83	1039	15081		
2	61	62.83	1024	14912		
2	62	62.83	1011	14751		
2	63	62.83	998	14600		
2	64	62.83	986	14457		
2	65	62.83	975	14323		
2	66	62.83	964	14198		
2	67	62.83	954	14081		
2	68	62.83	945	13971		
2	69	62.83	937	13870		
2	70	62.83	929	13776		
2	71	62.83	921	13689		
2	72	62.83	915	13609		
2	73	62.83	909	13536		
2	74	62.83	903	13469		

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI  
RADDOPPIO TRATTA CANCELLO-BENEVENTO  
II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	93 di 120

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	75	62.83	898	13408		
2	76	62.83	893	13353		
2	77	62.83	889	13303		
2	78	62.83	886	13258		
2	79	62.83	882	13218		
2	80	62.83	880	13183		
2	81	62.83	877	13151		
2	82	62.83	875	13131		
2	83	62.83	876	13141		
2	84	62.83	877	13145		
2	85	62.83	877	13146		
2	86	62.83	877	13144		
2	87	62.83	877	13138		
2	88	62.83	876	13129		
2	89	62.83	875	13118		
2	90	62.83	874	13104		
2	91	62.83	873	13088		
2	92	62.83	872	13071		
2	93	62.83	871	13052		
2	94	62.83	869	13032		
2	95	62.83	868	13012		
2	96	62.83	866	12991		
2	97	62.83	865	12970		
2	98	62.83	863	12949		
2	99	62.83	862	12928		
2	100	62.83	861	12909		
2	101	62.83	859	12890		
3	1	62.83	3455	44123		
3	2	62.83	3095	40061		
3	3	62.83	2773	36358		
3	4	62.83	2492	33084		
3	5	62.83	2252	30241		
3	6	62.83	2036	27681		
3	7	62.83	1835	25285		
3	8	62.83	1650	23081		
3	9	62.83	1480	21063		
3	10	62.83	1325	19221		
3	11	62.83	1184	17548		
3	12	62.83	1178	17483		
3	13	62.83	1297	18902		
3	14	62.83	1403	20176		
3	15	62.83	1498	21311		
3	16	62.83	1581	22317		
3	17	62.83	1655	23201		
3	18	62.83	1719	23970		
3	19	62.83	1774	24632		
3	20	62.83	1821	25194		
3	21	62.83	1860	25663		
3	22	62.83	1892	26046		
3	23	62.83	1917	26349		
3	24	62.83	1935	26579		
3	25	62.83	1949	26741		
3	26	62.83	1957	26842		
3	27	62.83	1960	26886		
3	28	62.83	1959	26880		
3	29	62.83	1955	26828		
3	30	62.83	1947	26734		
3	31	62.83	1935	26604		
3	32	62.83	1921	26441		
3	33	62.83	1905	26250		
3	34	62.83	1887	26034		
3	35	62.83	1867	25797		
3	36	62.83	1845	25545		
3	37	62.83	1823	25281		
3	38	62.83	1800	25008		
3	39	62.83	1776	24726		
3	40	62.83	1752	24439		
3	41	62.83	1727	24147		
3	42	62.83	1702	23853		
3	43	62.83	1677	23558		
3	44	62.83	1653	23264		
3	45	62.83	1628	22971		
3	46	62.83	1604	22682		
3	47	62.83	1579	22395		
3	48	62.83	1556	22114		
3	49	62.83	1533	21838		
3	50	62.83	1510	21568		
3	51	62.83	1488	21305		
3	52	62.83	1466	21050		
3	53	62.83	1445	20801		
3	54	62.83	1425	20561		

APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>												
PROGETTAZIONE: Mandataria: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.													
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	<table border="1"> <tr> <td>COMMESSA</td> <td>LOTTO</td> <td>CODIFICA</td> <td>DOCUMENTO</td> <td>REV.</td> <td>FOGLIO</td> </tr> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.006</td> <td>A</td> <td>94 di 120</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	94 di 120
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	94 di 120								

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	55	62.83	1406	20330		
3	56	62.83	1387	20107		
3	57	62.83	1369	19892		
3	58	62.83	1352	19687		
3	59	62.83	1336	19491		
3	60	62.83	1320	19303		
3	61	62.83	1305	19124		
3	62	62.83	1291	18954		
3	63	62.83	1278	18793		
3	64	62.83	1265	18641		
3	65	62.83	1253	18497		
3	66	62.83	1242	18361		
3	67	62.83	1231	18234		
3	68	62.83	1221	18114		
3	69	62.83	1212	18002		
3	70	62.83	1203	17897		
3	71	62.83	1195	17799		
3	72	62.83	1188	17708		
3	73	62.83	1181	17623		
3	74	62.83	1175	17545		
3	75	62.83	1169	17472		
3	76	62.83	1164	17405		
3	77	62.83	1159	17344		
3	78	62.83	1154	17287		
3	79	62.83	1150	17235		
3	80	62.83	1147	17187		
3	81	62.83	1143	17143		
3	82	62.83	1141	17110		
3	83	62.83	1141	17106		
3	84	62.83	1140	17098		
3	85	62.83	1140	17086		
3	86	62.83	1139	17070		
3	87	62.83	1138	17051		
3	88	62.83	1136	17028		
3	89	62.83	1134	17003		
3	90	62.83	1133	16975		
3	91	62.83	1131	16945		
3	92	62.83	1128	16913		
3	93	62.83	1126	16880		
3	94	62.83	1124	16846		
3	95	62.83	1121	16810		
3	96	62.83	1119	16774		
3	97	62.83	1116	16738		
3	98	62.83	1114	16702		
3	99	62.83	1111	16666		
3	100	62.83	1109	16631		
3	101	62.83	1106	16597		

### Verifica a fessurazione

#### Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espressa in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espressa in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di prima fessurazione espressa in [kNm]
$\varepsilon$	deformazione espressa in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

### Combinazioni SLER

#### Paramento

Apertura limite fessure  $w_{lim}=0.20$

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	$\varepsilon$ [%]	Sm [mm]	w [mm]
1	100	70	15.71	2000.00	2.00	344.70	0.000000	0.00	0.000 (5)
2	100	70	15.71	2000.00	2.70	344.90	0.000000	0.00	0.000 (5)
3	100	70	15.71	2000.00	3.40	345.12	0.000000	0.00	0.000 (5)

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria: Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

ITINERARIO NAPOLI – BARI

RADDOPPIO TRATTA CANCELLO-BENEVENTO

II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO

2° SUBLOTTO TELESE – SAN LORENZO

PROGETTO ESECUTIVO

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	95 di 120

n°	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
4	100	70	15.71	2000.00	4.10	345.33	0.000000	0.00	0.000 (5)
5	100	70	15.71	2000.00	4.80	345.54	0.000000	0.00	0.000 (5)
6	100	70	15.71	2000.00	5.50	345.75	0.000000	0.00	0.000 (5)
7	100	70	15.71	2000.00	6.20	345.95	0.000000	0.00	0.000 (5)
8	100	70	15.71	2000.00	6.90	346.17	0.000000	0.00	0.000 (5)
9	100	70	15.71	2000.00	7.60	346.37	0.000000	0.00	0.000 (5)
10	100	70	15.71	2000.00	8.30	346.58	0.000000	0.00	0.000 (5)
11	100	70	15.71	2000.00	9.00	346.80	0.000000	0.00	0.000 (5)
12	100	70	15.71	2000.00	9.70	347.00	0.000000	0.00	0.000 (5)
13	100	70	15.71	2000.00	10.40	347.22	0.000000	0.00	0.000 (5)
14	100	70	15.71	2000.00	11.10	347.42	0.000000	0.00	0.000 (5)
15	100	70	15.71	2000.00	11.80	347.62	0.000000	0.00	0.000 (5)
16	100	70	15.71	2000.00	12.50	347.84	0.000000	0.00	0.000 (5)
17	100	70	15.71	2000.00	13.20	348.05	0.000000	0.00	0.000 (5)
18	100	70	15.71	2000.00	13.90	348.25	0.000000	0.00	0.000 (5)
19	100	70	15.71	2000.00	14.60	348.47	0.000000	0.00	0.000 (5)
20	100	70	15.71	2000.00	15.30	348.67	0.000000	0.00	0.000 (5)
21	100	70	15.71	2000.00	16.00	348.89	0.000000	0.00	0.000 (5)
22	100	70	15.71	2000.00	16.70	349.09	0.000000	0.00	0.000 (5)
23	100	70	15.71	2000.00	17.40	349.29	0.000000	0.00	0.000 (5)
24	100	70	15.71	2000.00	18.10	349.52	0.000000	0.00	0.000 (5)
25	100	70	15.71	2000.00	18.80	349.72	0.000000	0.00	0.000 (5)
26	100	70	15.71	2000.00	19.50	349.93	0.000000	0.00	0.000 (5)
27	100	70	15.71	2000.00	20.19	350.14	0.000000	0.00	0.000 (5)
28	100	70	15.71	2000.00	20.89	350.34	0.000000	0.00	0.000 (5)
29	100	70	15.71	2000.00	21.59	350.56	0.000000	0.00	0.000 (5)
30	100	70	15.71	2000.00	22.29	350.76	0.000000	0.00	0.000 (5)
31	100	70	15.71	2000.00	22.99	350.97	0.000000	0.00	0.000 (5)
32	100	70	15.71	2000.00	23.72	351.18	0.000000	0.00	0.000 (5)
33	100	70	15.71	2000.00	24.51	351.39	0.000000	0.00	0.000 (5)
34	100	70	15.71	2000.00	25.37	351.60	0.000000	0.00	0.000 (5)
35	100	70	15.71	2000.00	26.30	351.80	0.000000	0.00	0.000 (5)
36	100	70	15.71	2000.00	27.30	352.02	0.000000	0.00	0.000 (5)
37	100	101	15.71	2000.00	35.72	708.52	0.000000	0.00	0.000 (5)
38	100	101	15.71	2000.00	36.93	708.93	0.000000	0.00	0.000 (5)
39	100	101	15.71	2000.00	38.43	709.38	0.000000	0.00	0.000 (5)
40	100	101	15.71	2000.00	40.15	709.81	0.000000	0.00	0.000 (5)
41	100	101	15.71	2000.00	42.00	710.24	0.000000	0.00	0.000 (5)
42	100	101	15.71	2000.00	43.95	710.67	0.000000	0.00	0.000 (5)
43	100	101	15.71	2000.00	45.98	711.12	0.000000	0.00	0.000 (5)
44	100	101	15.71	2000.00	48.12	711.53	0.000000	0.00	0.000 (5)
45	100	101	15.71	2000.00	50.36	711.97	0.000000	0.00	0.000 (5)
46	100	101	15.71	2000.00	52.71	712.41	0.000000	0.00	0.000 (5)
47	100	101	15.71	2000.00	55.19	712.85	0.000000	0.00	0.000 (5)
48	100	101	15.71	2000.00	57.78	713.27	0.000000	0.00	0.000 (5)
49	100	101	15.71	2000.00	60.51	713.69	0.000000	0.00	0.000 (5)
50	100	101	15.71	2000.00	63.37	714.14	0.000000	0.00	0.000 (5)
51	100	101	15.71	2000.00	66.37	714.57	0.000000	0.00	0.000 (5)
52	100	101	15.71	2000.00	69.51	715.00	0.000000	0.00	0.000 (5)
53	100	101	15.71	2000.00	72.81	715.42	0.000000	0.00	0.000 (5)
54	100	101	15.71	2000.00	76.26	715.88	0.000000	0.00	0.000 (5)
55	100	101	15.71	2000.00	79.87	716.31	0.000000	0.00	0.000 (5)
56	100	101	15.71	2000.00	83.64	716.72	0.000000	0.00	0.000 (5)
57	100	101	15.71	2000.00	87.59	717.18	0.000000	0.00	0.000 (5)
58	100	101	15.71	2000.00	91.79	717.62	0.000000	0.00	0.000 (5)
59	100	101	15.71	2000.00	96.08	718.05	0.000000	0.00	0.000 (5)
60	100	101	15.71	2000.00	100.56	718.47	0.000000	0.00	0.000 (5)
61	100	101	15.71	2000.00	105.24	718.89	0.000000	0.00	0.000 (5)
62	100	101	15.71	2000.00	110.10	719.35	0.000000	0.00	0.000 (5)
63	100	101	15.71	2000.00					

### Piastra fondazione

Apertura limite fessure  $w_{lim}=0.20$ 

Is	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1-1-P	69	120	12.57	3452.10	1.53	-632.11	0.000000	0.00	0.000
1-2-P	69	120	12.57	3452.10	-2.46	-632.11	0.000000	0.00	0.000
1-3-P	69	120	12.57	3452.10	-9.21	-632.11	0.000000	0.00	0.000
1-4-P	69	120	12.57	3452.10	-24.54	-632.11	0.000000	0.00	0.000
1-5-P	69	120	12.57	3452.10	-37.70	-632.11	0.000000	0.00	0.000
1-6-P	69	120	12.57	3452.10	-44.06	-632.11	0.000000	0.00	0.000
1-7-P	69	120	12.57	3452.10	-25.94	-632.11	0.000000	0.00	0.000
1-8-P	69	120	12.57	3452.10	-8.34	-632.11	0.000000	0.00	0.000
1-9-P	69	120	12.57	3452.10	14.49	-632.11	0.000000	0.00	0.000
1-10-P	69	120	12.57	3452.10	19.60	-632.11	0.000000	0.00	0.000
1-11-P	69	120	12.57	3452.10	21.23	-632.11	0.000000	0.00	0.000





APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 97 di 120

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
2-44-P	70	120	12.57	3452.10	-60.51	-632.11	0.000000	0.00	0.000
2-45-P	70	120	12.57	3452.10	-35.26	-632.11	0.000000	0.00	0.000
2-46-P	70	120	12.57	3452.10	5.55	-632.11	0.000000	0.00	0.000
2-47-P	70	120	12.57	3452.10	5.67	-632.11	0.000000	0.00	0.000
2-48-P	70	120	12.57	1390.00	6.73	632.11	0.000000	0.00	0.000
2-49-P	70	120	12.57	1390.00	6.98	632.11	0.000000	0.00	0.000
5-1-P	85	120	15.71	4214.38	-8.64	-774.82	0.000000	0.00	0.000
5-2-P	85	120	15.71	4214.38	-11.91	-774.82	0.000000	0.00	0.000
5-3-P	85	120	15.71	4214.38	-14.99	-774.82	0.000000	0.00	0.000
5-4-P	85	120	15.71	4214.38	-17.37	-774.82	0.000000	0.00	0.000
5-5-P	85	120	15.71	4214.38	-17.83	-774.82	0.000000	0.00	0.000
5-6-P	85	120	15.71	4214.38	-17.57	-774.82	0.000000	0.00	0.000
5-7-P	85	120	15.71	4214.38	-16.34	-774.82	0.000000	0.00	0.000
5-8-P	85	120	15.71	4214.38	-18.75	-774.82	0.000000	0.00	0.000
5-9-P	85	120	15.71	4214.38	-23.72	-774.82	0.000000	0.00	0.000
5-10-P	85	120	15.71	4214.38	-53.85	-774.82	0.000000	0.00	0.000
5-11-P	85	120	15.71	4214.38	-58.06	-774.82	0.000000	0.00	0.000
5-12-P	85	120	15.71	4214.38	-25.93	-774.82	0.000000	0.00	0.000
5-13-P	85	120	15.71	4214.38	-13.68	-774.82	0.000000	0.00	0.000
5-14-P	85	120	15.71	4214.38	-7.66	-774.82	0.000000	0.00	0.000
5-15-P	85	120	15.71	4214.38	-6.92	-774.82	0.000000	0.00	0.000
5-16-P	85	120	15.71	4214.38	-6.36	-774.82	0.000000	0.00	0.000
5-17-P	85	120	15.71	4214.38	-5.95	-774.82	0.000000	0.00	0.000
5-18-P	85	120	15.71	4214.38	-12.17	-774.82	0.000000	0.00	0.000
5-19-P	85	120	15.71	4214.38	-27.98	-774.82	0.000000	0.00	0.000
5-20-P	85	120	15.71	4214.38	-59.28	-774.82	0.000000	0.00	0.000
5-21-P	85	120	15.71	4214.38	-40.33	-774.82	0.000000	0.00	0.000
5-22-P	85	120	15.71	4214.38	-14.17	-774.82	0.000000	0.00	0.000
5-23-P	85	120	15.71	4214.38	-7.12	-774.82	0.000000	0.00	0.000
5-24-P	85	120	15.71	4214.38	-4.47	-774.82	0.000000	0.00	0.000
5-25-P	85	120	15.71	4214.38	-5.67	-774.82	0.000000	0.00	0.000
5-26-P	85	120	15.71	4214.38	-4.47	-774.82	0.000000	0.00	0.000
5-27-P	85	120	15.71	4214.38	-7.12	-774.82	0.000000	0.00	0.000
5-28-P	85	120	15.71	4214.38	-14.17	-774.82	0.000000	0.00	0.000
5-29-P	85	120	15.71	4214.38	-40.33	-774.82	0.000000	0.00	0.000
5-30-P	85	120	15.71	4214.38	-59.28	-774.82	0.000000	0.00	0.000
5-31-P	85	120	15.71	4214.38	-27.98	-774.82	0.000000	0.00	0.000
5-32-P	85	120	15.71	4214.38	-12.17	-774.82	0.000000	0.00	0.000
5-33-P	85	120	15.71	4214.38	-5.95	-774.82	0.000000	0.00	0.000
5-34-P	85	120	15.71	4214.38	-6.36	-774.82	0.000000	0.00	0.000
5-35-P	85	120	15.71	4214.38	-6.92	-774.82	0.000000	0.00	0.000
5-36-P	85	120	15.71	4214.38	-7.66	-774.82	0.000000	0.00	0.000
5-37-P	85	120	15.71	4214.38	-13.68	-774.82	0.000000	0.00	0.000
5-38-P	85	120	15.71	4214.38	-25.93	-774.82	0.000000	0.00	0.000
5-39-P	85	120	15.71	4214.38	-58.06	-774.82	0.000000	0.00	0.000
5-40-P	85	120	15.71	4214.38	-53.85	-774.82	0.000000	0.00	0.000
5-41-P	85	120	15.71	4214.38	-23.72	-774.82	0.000000	0.00	0.000
5-42-P	85	120	15.71	4214.38	-18.75	-774.82	0.000000	0.00	0.000
5-43-P	85	120	15.71	4214.38	-16.34	-774.82	0.000000	0.00	0.000
5-44-P	85	120	15.71	4214.38	-17.57	-774.82	0.000000	0.00	0.000
5-45-P	85	120	15.71	4214.38	-17.83	-774.82	0.000000	0.00	0.000
5-46-P	85	120	15.71	4214.38	-17.37	-774.82	0.000000	0.00	0.000
5-47-P	85	120	15.71	4214.38	-14.99	-774.82	0.000000	0.00	0.000
5-48-P	85	120	15.71	4214.38	-11.91	-774.82	0.000000	0.00	0.000
5-49-P	85	120	15.71	4214.38	-8.64	-774.82	0.000000	0.00	0.000
6-1-P	85	120	15.71	4214.38	-3.34	-774.82	0.000000	0.00	0.000
6-2-P	85	120	15.71	4214.38	-3.97	-774.82	0.000000	0.00	0.000
6-3-P	85	120	15.71	4214.38	-4.66	-774.82	0.000000	0.00	0.000
6-4-P	85	120	15.71	4214.38	-5.48	-774.82	0.000000	0.00	0.000
6-5-P	85	120	15.71	4214.38	-5.09	-774.82	0.000000	0.00	0.000
6-6-P	85	120	15.71	4214.38	-5.85	-774.82	0.000000	0.00	0.000
6-7-P	85	120	15.71	4214.38	-9.51	-774.82	0.000000	0.00	0.000
6-8-P	85	120	15.71	4214.38	-14.69	-774.82	0.000000	0.00	0.000
6-9-P	85	120	15.71	4214.38	-20.67	-774.82	0.000000	0.00	0.000
6-10-P	85	120	15.71	4214.38	-24.08	-774.82	0.000000	0.00	0.000
6-11-P	85	120	15.71	4214.38	-24.06	-774.82	0.000000	0.00	0.000
6-12-P	85	120	15.71	4214.38	-18.78	-774.82	0.000000	0.00	0.000
6-13-P	85	120	15.71	4214.38	-12.29	-774.82	0.000000	0.00	0.000
6-14-P	85	120	15.71	4214.38	-6.13	-774.82	0.000000	0.00	0.000
6-15-P	85	120	15.71	4214.38	-2.12	-774.82	0.000000	0.00	0.000
6-16-P	85	120	15.71	4214.38	-1.50	-774.82	0.000000	0.00	0.000
6-17-P	85	120	15.71	4214.38	-3.91	-774.82	0.000000	0.00	0.000
6-18-P	85	120	15.71	4214.38	-9.62	-774.82	0.000000	0.00	0.000
6-19-P	85	120	15.71	4214.38	-14.41	-774.82	0.000000	0.00	0.000
6-20-P	85	120	15.71	4214.38	-18.60	-774.82	0.000000	0.00	0.000
6-21-P	85	120	15.71	4214.38	-15.67	-774.82	0.000000	0.00	0.000
6-22-P	85	120	15.71	4214.38	-11.08	-774.82	0.000000	0.00	0.000
6-23-P	85	120	15.71	4214.38	-5.06	-774.82	0.000000	0.00	0.000
6-24-P	85	120	15.71	4214.38	0.85	-774.82	0.000000	0.00	0.000
6-25-P	85	120	15.71	1700.00	2.86	774.82	0.000000	0.00	0.000
6-26-P	85	120	15.71	4214.38	0.85	-774.82	0.000000	0.00	0.000

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-27-P	85	120	15.71	4214.38	-5.06	-774.82	0.000000	0.00	0.000
6-28-P	85	120	15.71	4214.38	-11.08	-774.82	0.000000	0.00	0.000
6-29-P	85	120	15.71	4214.38	-15.67	-774.82	0.000000	0.00	0.000
6-30-P	85	120	15.71	4214.38	-18.60	-774.82	0.000000	0.00	0.000
6-31-P	85	120	15.71	4214.38	-14.41	-774.82	0.000000	0.00	0.000
6-32-P	85	120	15.71	4214.38	-9.62	-774.82	0.000000	0.00	0.000
6-33-P	85	120	15.71	4214.38	-3.91	-774.82	0.000000	0.00	0.000
6-34-P	85	120	15.71	4214.38	-1.50	-774.82	0.000000	0.00	0.000
6-35-P	85	120	15.71	4214.38	-2.12	-774.82	0.000000	0.00	0.000
6-36-P	85	120	15.71	4214.38	-6.13	-774.82	0.000000	0.00	0.000
6-37-P	85	120	15.71	4214.38	-12.29	-774.82	0.000000	0.00	0.000
6-38-P	85	120	15.71	4214.38	-18.78	-774.82	0.000000	0.00	0.000
6-39-P	85	120	15.71	4214.38	-24.06	-774.82	0.000000	0.00	0.000
6-40-P	85	120	15.71	4214.38	-24.08	-774.82	0.000000	0.00	0.000
6-41-P	85	120	15.71	4214.38	-20.67	-774.82	0.000000	0.00	0.000
6-42-P	85	120	15.71	4214.38	-14.69	-774.82	0.000000	0.00	0.000
6-43-P	85	120	15.71	4214.38	-9.51	-774.82	0.000000	0.00	0.000
6-44-P	85	120	15.71	4214.38	-5.85	-774.82	0.000000	0.00	0.000
6-45-P	85	120	15.71	4214.38	-5.09	-774.82	0.000000	0.00	0.000
6-46-P	85	120	15.71	4214.38	-5.48	-774.82	0.000000	0.00	0.000
6-47-P	85	120	15.71	4214.38	-4.66	-774.82	0.000000	0.00	0.000
6-48-P	85	120	15.71	4214.38	-3.97	-774.82	0.000000	0.00	0.000
6-49-P	85	120	15.71	4214.38	-3.34	-774.82	0.000000	0.00	0.000
7-1-P	85	120	15.71	4214.38	2.45	-774.82	0.000000	0.00	0.000
7-2-P	85	120	15.71	4214.38	3.91	-774.82	0.000000	0.00	0.000
7-3-P	85	120	15.71	4214.38	-6.78	-774.82	0.000000	0.00	0.000
7-4-P	85	120	15.71	4214.38	-15.14	-774.82	0.000000	0.00	0.000
7-5-P	85	120	15.71	4214.38	-18.24	-774.82	0.000000	0.00	0.000
7-6-P	85	120	15.71	4214.38	-21.12	-774.82	0.000000	0.00	0.000
7-7-P	85	120	15.71	4214.38	-15.11	-774.82	0.000000	0.00	0.000
7-8-P	85	120	15.71	4214.38	-8.91	-774.82	0.000000	0.00	0.000
7-9-P	85	120	15.71	4214.38	3.76	-774.82	0.000000	0.00	0.000
7-10-P	85	120	15.71	4214.38	4.50	-774.82	0.000000	0.00	0.000
7-11-P	85	120	15.71	4214.38	5.61	-774.82	0.000000	0.00	0.000
7-12-P	85	120	15.71	4214.38	6.60	-774.82	0.000000	0.00	0.000
7-13-P	85	120	15.71	4214.38	-8.07	-774.82	0.000000	0.00	0.000
7-14-P	85	120	15.71	4214.38	-13.90	-774.82	0.000000	0.00	0.000
7-15-P	85	120	15.71	4214.38	-16.03	-774.82	0.000000	0.00	0.000
7-16-P	85	120	15.71	4214.38	-13.63	-774.82	0.000000	0.00	0.000
7-17-P	85	120	15.71	4214.38	-10.49	-774.82	0.000000	0.00	0.000
7-18-P	85	120	15.71	4214.38	5.43	-774.82	0.000000	0.00	0.000
7-19-P	85	120	15.71	4214.38	8.98	-774.82	0.000000	0.00	0.000
7-20-P	85	120	15.71	1700.00	10.25	774.82	0.000000	0.00	0.000
7-21-P	85	120	15.71	4214.38	10.05	-774.82	0.000000	0.00	0.000
7-22-P	85	120	15.71	4214.38	8.55	-774.82	0.000000	0.00	0.000
7-23-P	85	120	15.71	4214.38	-6.98	-774.82	0.000000	0.00	0.000
7-24-P	85	120	15.71	4214.38	-9.50	-774.82	0.000000	0.00	0.000
7-25-P	85	120	15.71	4214.38	-15.64	-774.82	0.000000	0.00	0.000
7-26-P	85	120	15.71	4214.38	-9.50	-774.82	0.000000	0.00	0.000
7-27-P	85	120	15.71	4214.38	-6.98	-774.82	0.000000	0.00	0.000
7-28-P	85	120	15.71	4214.38	8.55	-774.82	0.000000	0.00	0.000
7-29-P	85	120	15.71	4214.38	10.05	-774.82	0.000000	0.00	0.000
7-30-P	85	120	15.71	1700.00	10.25	774.82	0.000000	0.00	0.000
7-31-P	85	120	15.71	4214.38	8.98	-774.82	0.000000	0.00	0.000
7-32-P	85	120	15.71	4214.38	5.43	-774.82	0.000000	0.00	0.000
7-33-P	85	120	15.71	4214.38	-10.49	-774.82	0.000000	0.00	0.000
7-34-P	85	120	15.71	4214.38	-13.63	-774.82	0.000000	0.00	0.000
7-35-P	85	120	15.71	4214.38	-16.03	-774.82	0.000000	0.00	0.000
7-36-P	85	120	15.71	4214.38	-13.90	-774.82	0.000000	0.00	0.000
7-37-P	85	120	15.71	4214.38	-8.07	-774.82	0.000000	0.00	0.000
7-38-P	85	120	15.71	4214.38	6.60	-774.82	0.000000	0.00	0.000
7-39-P	85	120	15.71	4214.38	5.61	-774.82	0.000000	0.00	0.000
7-40-P	85	120	15.71	4214.38	4.50	-774.82	0.000000	0.00	0.000
7-41-P	85	120	15.71	4214.38	3.76	-774.82	0.000000	0.00	0.000
7-42-P	85	120	15.71	4214.38	-8.91	-774.82	0.000000	0.00	0.000
7-43-P	85	120	15.71	4214.38	-15.11	-774.82	0.000000	0.00	0.000
7-44-P	85	120	15.71	4214.38	-21.12	-774.82	0.000000	0.00	0.000
7-45-P	85	120	15.71	4214.38	-18.24	-774.82	0.000000	0.00	0.000
7-46-P	85	120	15.71	4214.38	-15.14	-774.82	0.000000	0.00	0.000
7-47-P	85	120	15.71	4214.38	-6.78	-774.82	0.000000	0.00	0.000
7-48-P	85	120	15.71	4214.38	3.91	-774.82	0.000000	0.00	0.000
7-49-P	85	120	15.71	4214.38	2.45	-774.82	0.000000	0.00	0.000
8-1-P	85	120	15.71	4214.38	0.65	-774.82	0.000000	0.00	0.000
8-2-P	85	120	15.71	4214.38	-3.32	-774.82	0.000000	0.00	0.000
8-3-P	85	120	15.71	4214.38	-8.50	-774.82	0.000000	0.00	0.000
8-4-P	85	120	15.71	4214.38	-16.67	-774.82	0.000000	0.00	0.000
8-5-P	85	120	15.71	4214.38	-32.28	-774.82	0.000000	0.00	0.000
8-6-P	85	120	15.71	4214.38	-45.29	-774.82	0.000000	0.00	0.000
8-7-P	85	120	15.71	4214.38	-22.04	-774.82	0.000000	0.00	0.000
8-8-P	85	120	15.71	4214.38	-10.58	-774.82	0.000000	0.00	0.000
8-9-P	85	120	15.71	4214.38	-2.10	-774.82	0.000000	0.00	0.000







APPALTATORE:

**TELESE** S.c.a r.l.

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	102 di 120

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
18-6-S	100	120	18.85	2000.00	47.14	913.46	0.000000	0.00	0.000
18-7-S	100	120	18.85	2000.00	75.60	913.46	0.000000	0.00	0.000
18-8-S	100	120	18.85	4949.92	-32.02	-913.46	0.000000	0.00	0.000
18-9-S	100	120	18.85	4949.92	-46.63	-913.46	0.000000	0.00	0.000
18-10-S	100	120	18.85	4949.92	-124.66	-913.46	0.000000	0.00	0.000
18-11-S	100	120	18.85	4949.92	-104.35	-913.46	0.000000	0.00	0.000
18-12-S	100	120	18.85	4949.92	-75.54	-913.46	0.000000	0.00	0.000
18-13-S	100	120	18.85	4949.92	-40.88	-913.46	0.000000	0.00	0.000
18-14-S	100	120	18.85	4949.92	-15.41	-913.46	0.000000	0.00	0.000
18-15-S	100	120	18.85	4949.92	2.98	-913.46	0.000000	0.00	0.000
18-16-S	100	120	18.85	4949.92	8.60	-913.46	0.000000	0.00	0.000
18-17-S	100	120	18.85	4949.92	12.00	-913.46	0.000000	0.00	0.000
18-18-S	100	120	18.85	4949.92	10.33	-913.46	0.000000	0.00	0.000
18-19-S	100	120	18.85	4949.92	8.33	-913.46	0.000000	0.00	0.000
18-20-S	100	120	18.85	4949.92	5.53	-913.46	0.000000	0.00	0.000
18-21-S	100	120	18.85	4949.92	3.58	-913.46	0.000000	0.00	0.000
18-22-S	100	120	18.85	4949.92	2.14	-913.46	0.000000	0.00	0.000
19-1-S	100	120	18.85	4949.92	9.36	-913.46	0.000000	0.00	0.000
19-2-S	100	120	18.85	4949.92	15.77	-913.46	0.000000	0.00	0.000
19-3-S	100	120	18.85	4949.92	-13.14	-913.46	0.000000	0.00	0.000
19-4-S	100	120	18.85	4949.92	-59.15	-913.46	0.000000	0.00	0.000
19-5-S	100	120	18.85	4949.92	-58.23	-913.46	0.000000	0.00	0.000
19-6-S	100	120	18.85	4949.92	17.21	-913.46	0.000000	0.00	0.000
19-7-S	100	120	18.85	2000.00	81.16	913.46	0.000000	0.00	0.000
19-8-S	100	120	18.85	4949.92	-133.08	-913.46	0.000000	0.00	0.000
19-9-S	100	120	18.85	4949.92	-112.21	-913.46	0.000000	0.00	0.000
19-10-S	100	120	18.85	4949.92	-88.36	-913.46	0.000000	0.00	0.000
19-11-S	100	120	18.85	4949.92	-65.87	-913.46	0.000000	0.00	0.000
19-12-S	100	120	18.85	4949.92	-43.22	-913.46	0.000000	0.00	0.000
19-13-S	100	120	18.85	4949.92	-19.73	-913.46	0.000000	0.00	0.000
19-14-S	100	120	18.85	4949.92	3.96	-913.46	0.000000	0.00	0.000
19-15-S	100	120	18.85	4949.92	18.94	-913.46	0.000000	0.00	0.000
19-16-S	100	120	18.85	4949.92	31.95	-913.46	0.000000	0.00	0.000
19-17-S	100	120	18.85	4949.92	42.64	-913.46	0.000000	0.00	0.000
19-18-S	100	120	18.85	4949.92	6.15	-913.46	0.000000	0.00	0.000
19-19-S	100	120	18.85	4949.92	-28.65	-913.46	0.000000	0.00	0.000
19-20-S	100	120	18.85	4949.92	-24.74	-913.46	0.000000	0.00	0.000
19-21-S	100	120	18.85	4949.92	-15.57	-913.46	0.000000	0.00	0.000
19-22-S	100	120	18.85	4949.92	-3.72	-913.46	0.000000	0.00	0.000
20-1-S	100	120	18.85	4949.92	-5.63	-913.46	0.000000	0.00	0.000
20-2-S	100	120	18.85	4949.92	-9.84	-913.46	0.000000	0.00	0.000
20-3-S	100	120	18.85	4949.92	-13.83	-913.46	0.000000	0.00	0.000
20-4-S	100	120	18.85	4949.92	-15.54	-913.46	0.000000	0.00	0.000
20-5-S	100	120	18.85	4949.92	9.81	-913.46	0.000000	0.00	0.000
20-6-S	100	120	18.85	4949.92	30.15	-913.46	0.000000	0.00	0.000
20-7-S	100	120	18.85	2000.00	73.34	913.46	0.000000	0.00	0.000
20-8-S	100	120	18.85	4949.92	-174.65	-913.46	0.000000	0.00	0.000
20-9-S	100	120	18.85	4949.92	-126.83	-913.46	0.000000	0.00	0.000
20-10-S	100	120	18.85	4949.92	-91.45	-913.46	0.000000	0.00	0.000
20-11-S	100	120	18.85	4949.92	-61.90	-913.46	0.000000	0.00	0.000
20-12-S	100	120	18.85	4949.92	-34.69	-913.46	0.000000	0.00	0.000
20-13-S	100	120	18.85	4949.92	-15.37	-913.46	0.000000	0.00	0.000
20-14-S	100	120	18.85	4949.92	7.35	-913.46	0.000000	0.00	0.000
20-15-S	100	120	18.85	4949.92	16.27	-913.46	0.000000	0.00	0.000
20-16-S	100	120	18.85	4949.92	18.70	-913.46	0.000000	0.00	0.000
20-17-S	100	120	18.85	4949.92	18.54	-913.46	0.000000	0.00	0.000
20-18-S	100	120	18.85	4949.92	12.94	-913.46	0.000000	0.00	0.000
20-19-S	100	120	18.85	4949.92	8.72	-913.46	0.000000	0.00	0.000
20-20-S	100	120	18.85	4949.92	-4.79	-913.46	0.000000	0.00	0.000
20-21-S	100	120	18.85	4949.92	3.11	-913.46	0.000000	0.00	0.000
20-22-S	100	120	18.85	4949.92	3.21	-913.46	0.000000	0.00	0.000

Pali in c.a.

Apertura limite fessure  $w_{lim}=0.200$  mm

Ip	Is	Af [cmq]	Aeff [cmq]	Mpf [kNm]	M [kNm]	N [kN]	ε [%]	Sm [mm]	wm [mm]
1	1	34.56	3617.50	219.26	-184.08	212.59	0.000000	0.00	0.00
2	1	34.56	3617.50	237.70	-184.08	486.21	0.000000	0.00	0.00
3	1	34.56	3617.50	256.14	-184.08	759.83	0.000000	0.00	0.00

Combinazioni SLEF

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>		<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:								
Mandatario:	Mandante:							
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX			IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	103 di 120

### Paramento

Apertura limite fessure  $w_{lim}=0.30$

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	100	70	0.00	0.00	0.00	0.00	0.000024	---	0.000 (6)
2	100	70	0.00	0.00	0.00	0.00	0.000032	---	0.000 (6)
3	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
4	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
5	100	70	0.00	0.00	0.00	0.00	0.000057	---	0.000 (6)
6	100	70	0.00	0.00	0.00	0.00	0.000065	---	0.000 (6)
7	100	70	0.00	0.00	0.00	0.00	0.000074	---	0.000 (6)
8	100	70	0.00	0.00	0.00	0.00	0.000082	---	0.000 (6)
9	100	70	0.00	0.00	0.00	0.00	0.000090	---	0.000 (6)
10	100	70	0.00	0.00	0.00	0.00	0.000098	---	0.000 (6)
11	100	70	0.00	0.00	0.00	0.00	0.000107	---	0.000 (6)
12	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
13	100	70	0.00	0.00	0.00	0.00	0.000123	---	0.000 (6)
14	100	70	0.00	0.00	0.00	0.00	0.000131	---	0.000 (6)
15	100	70	0.00	0.00	0.00	0.00	0.000140	---	0.000 (6)
16	100	70	0.00	0.00	0.00	0.00	0.000148	---	0.000 (6)
17	100	70	0.00	0.00	0.00	0.00	0.000156	---	0.000 (6)
18	100	70	0.00	0.00	0.00	0.00	0.000164	---	0.000 (6)
19	100	70	0.00	0.00	0.00	0.00	0.000173	---	0.000 (6)
20	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
21	100	70	0.00	0.00	0.00	0.00	0.000189	---	0.000 (6)
22	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
23	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
24	100	70	0.00	0.00	0.00	0.00	0.000214	---	0.000 (6)
25	100	70	0.00	0.00	0.00	0.00	0.000222	---	0.000 (6)
26	100	70	0.00	0.00	0.00	0.00	0.000230	---	0.000 (6)
27	100	70	0.00	0.00	0.00	0.00	0.000239	---	0.000 (6)
28	100	70	0.00	0.00	0.00	0.00	0.000247	---	0.000 (6)
29	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
30	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
31	100	70	0.00	0.00	0.00	0.00	0.000272	---	0.000 (6)
32	100	70	15.71	2000.00	0.03	351.18	0.000000	0.00	0.000 (6)
33	100	70	15.71	2000.00	0.12	351.38	0.000000	0.00	0.000 (6)
34	100	70	15.71	2000.00	0.28	351.60	0.000000	0.00	0.000 (6)
35	100	70	15.71	2000.00	0.51	351.81	0.000000	0.00	0.000 (6)
36	100	70	15.71	2000.00	0.81	352.02	0.000000	0.00	0.000 (6)
37	100	101	15.71	2000.00	9.21	708.52	0.000000	0.00	0.000 (6)
38	100	101	15.71	2000.00	9.73	708.96	0.000000	0.00	0.000 (6)
39	100	101	15.71	2000.00	10.53	709.38	0.000000	0.00	0.000 (6)
40	100	101	15.71	2000.00	11.54	709.82	0.000000	0.00	0.000 (6)
41	100	101	15.71	2000.00	12.70	710.24	0.000000	0.00	0.000 (6)
42	100	101	15.71	2000.00	13.94	710.69	0.000000	0.00	0.000 (6)
43	100	101	15.71	2000.00	15.28	711.10	0.000000	0.00	0.000 (6)
44	100	101	15.71	2000.00	16.72	711.54	0.000000	0.00	0.000 (6)
45	100	101	15.71	2000.00	18.26	711.97	0.000000	0.00	0.000 (6)
46	100	101	15.71	2000.00	19.91	712.40	0.000000	0.00	0.000 (6)
47	100	101	15.71	2000.00	21.69	712.84	0.000000	0.00	0.000 (6)
48	100	101	15.71	2000.00	23.58	713.28	0.000000	0.00	0.000 (6)
49	100	101	15.71	2000.00	25.61	713.69	0.000000	0.00	0.000 (6)
50	100	101	15.71	2000.00	27.77	714.13	0.000000	0.00	0.000 (6)
51	100	101	15.71	2000.00	30.07	714.56	0.000000	0.00	0.000 (6)
52	100	101	15.71	2000.00	32.52	715.01	0.000000	0.00	0.000 (6)
53	100	101	15.71	2000.00	35.11	715.42	0.000000	0.00	0.000 (6)
54	100	101	15.71	2000.00	37.86	715.87	0.000000	0.00	0.000 (6)
55	100	101	15.71	2000.00	40.77	716.29	0.000000	0.00	0.000 (6)
56	100	101	15.71	2000.00	43.85	716.73	0.000000	0.00	0.000 (6)
57	100	101	15.71	2000.00	47.09	717.17	0.000000	0.00	0.000 (6)
58	100	101	15.71	2000.00	47.16	717.16	0.000000	0.00	0.000 (6)
59	100	101	15.71	2000.00	50.58	717.60	0.000000	0.00	0.000 (6)
60	100	101	15.71	2000.00	54.18	718.05	0.000000	0.00	0.000 (6)
61	100	101	15.71	2000.00	57.96	718.47	0.000000	0.00	0.000 (6)
62	100	101	15.71	2000.00	61.93	718.91	0.000000	0.00	0.000 (6)
63	100	101	15.71	2000.00	66.10	719.32	0.000000	0.00	0.000 (6)

### Piastra fondazione

Apertura limite fessure  $w_{lim}=0.30$

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-1-P	69	120	12.57	3452.10	1.38	-632.11	0.000000	0.00	0.000
1-2-P	69	120	12.57	3452.10	-2.23	-632.11	0.000000	0.00	0.000
1-3-P	69	120	12.57	3452.10	-8.36	-632.11	0.000000	0.00	0.000















APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**  
**PROGETTO ESECUTIVO**

PROGETTAZIONE:

Mandatario:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 110 di 120

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
17-20-S	100	120	18.85	4949.92	-28.84	-913.46	0.000000	0.00	0.000
17-21-S	100	120	18.85	4949.92	-16.22	-913.46	0.000000	0.00	0.000
17-22-S	100	120	18.85	4949.92	-3.15	-913.46	0.000000	0.00	0.000
18-1-S	100	120	18.85	4949.92	-6.44	-913.46	0.000000	0.00	0.000
18-2-S	100	120	18.85	4949.92	-6.15	-913.46	0.000000	0.00	0.000
18-3-S	100	120	18.85	4949.92	-3.92	-913.46	0.000000	0.00	0.000
18-4-S	100	120	18.85	4949.92	6.43	-913.46	0.000000	0.00	0.000
18-5-S	100	120	18.85	2000.00	20.47	913.46	0.000000	0.00	0.000
18-6-S	100	120	18.85	2000.00	42.08	913.46	0.000000	0.00	0.000
18-7-S	100	120	18.85	2000.00	67.28	913.46	0.000000	0.00	0.000
18-8-S	100	120	18.85	4949.92	28.30	-913.46	0.000000	0.00	0.000
18-9-S	100	120	18.85	4949.92	-24.30	-913.46	0.000000	0.00	0.000
18-10-S	100	120	18.85	4949.92	-90.79	-913.46	0.000000	0.00	0.000
18-11-S	100	120	18.85	4949.92	-71.90	-913.46	0.000000	0.00	0.000
18-12-S	100	120	18.85	4949.92	-45.80	-913.46	0.000000	0.00	0.000
18-13-S	100	120	18.85	4949.92	-17.15	-913.46	0.000000	0.00	0.000
18-14-S	100	120	18.85	4949.92	4.58	-913.46	0.000000	0.00	0.000
18-15-S	100	120	18.85	4949.92	13.88	-913.46	0.000000	0.00	0.000
18-16-S	100	120	18.85	4949.92	16.14	-913.46	0.000000	0.00	0.000
18-17-S	100	120	18.85	4949.92	16.08	-913.46	0.000000	0.00	0.000
18-18-S	100	120	18.85	4949.92	12.09	-913.46	0.000000	0.00	0.000
18-19-S	100	120	18.85	4949.92	8.30	-913.46	0.000000	0.00	0.000
18-20-S	100	120	18.85	4949.92	4.76	-913.46	0.000000	0.00	0.000
18-21-S	100	120	18.85	4949.92	2.66	-913.46	0.000000	0.00	0.000
18-22-S	100	120	18.85	4949.92	1.41	-913.46	0.000000	0.00	0.000
19-1-S	100	120	18.85	4949.92	8.31	-913.46	0.000000	0.00	0.000
19-2-S	100	120	18.85	4949.92	13.82	-913.46	0.000000	0.00	0.000
19-3-S	100	120	18.85	4949.92	-11.89	-913.46	0.000000	0.00	0.000
19-4-S	100	120	18.85	4949.92	-53.70	-913.46	0.000000	0.00	0.000
19-5-S	100	120	18.85	4949.92	-52.19	-913.46	0.000000	0.00	0.000
19-6-S	100	120	18.85	4949.92	15.51	-913.46	0.000000	0.00	0.000
19-7-S	100	120	18.85	2000.00	73.74	913.46	0.000000	0.00	0.000
19-8-S	100	120	18.85	4949.92	-89.39	-913.46	0.000000	0.00	0.000
19-9-S	100	120	18.85	4949.92	-73.17	-913.46	0.000000	0.00	0.000
19-10-S	100	120	18.85	4949.92	-54.04	-913.46	0.000000	0.00	0.000
19-11-S	100	120	18.85	4949.92	-35.79	-913.46	0.000000	0.00	0.000
19-12-S	100	120	18.85	4949.92	-18.10	-913.46	0.000000	0.00	0.000
19-13-S	100	120	18.85	4949.92	4.13	-913.46	0.000000	0.00	0.000
19-14-S	100	120	18.85	4949.92	17.36	-913.46	0.000000	0.00	0.000
19-15-S	100	120	18.85	4949.92	29.94	-913.46	0.000000	0.00	0.000
19-16-S	100	120	18.85	4949.92	37.21	-913.46	0.000000	0.00	0.000
19-17-S	100	120	18.85	4949.92	42.03	-913.46	0.000000	0.00	0.000
19-18-S	100	120	18.85	4949.92	-6.83	-913.46	0.000000	0.00	0.000
19-19-S	100	120	18.85	4949.92	-33.28	-913.46	0.000000	0.00	0.000
19-20-S	100	120	18.85	4949.92	-23.93	-913.46	0.000000	0.00	0.000
19-21-S	100	120	18.85	4949.92	-13.51	-913.46	0.000000	0.00	0.000
19-22-S	100	120	18.85	4949.92	-2.71	-913.46	0.000000	0.00	0.000
20-1-S	100	120	18.85	4949.92	-5.01	-913.46	0.000000	0.00	0.000
20-2-S	100	120	18.85	4949.92	-8.86	-913.46	0.000000	0.00	0.000
20-3-S	100	120	18.85	4949.92	-12.51	-913.46	0.000000	0.00	0.000
20-4-S	100	120	18.85	4949.92	-14.03	-913.46	0.000000	0.00	0.000
20-5-S	100	120	18.85	4949.92	-8.66	-913.46	0.000000	0.00	0.000
20-6-S	100	120	18.85	4949.92	27.00	-913.46	0.000000	0.00	0.000
20-7-S	100	120	18.85	2000.00	65.61	913.46	0.000000	0.00	0.000
20-8-S	100	120	18.85	4949.92	-132.82	-913.46	0.000000	0.00	0.000
20-9-S	100	120	18.85	4949.92	-89.88	-913.46	0.000000	0.00	0.000
20-10-S	100	120	18.85	4949.92	-58.46	-913.46	0.000000	0.00	0.000
20-11-S	100	120	18.85	4949.92	-33.25	-913.46	0.000000	0.00	0.000
20-12-S	100	120	18.85	4949.92	-12.32	-913.46	0.000000	0.00	0.000
20-13-S	100	120	18.85	4949.92	9.59	-913.46	0.000000	0.00	0.000
20-14-S	100	120	18.85	4949.92	19.40	-913.46	0.000000	0.00	0.000
20-15-S	100	120	18.85	4949.92	26.27	-913.46	0.000000	0.00	0.000
20-16-S	100	120	18.85	4949.92	24.86	-913.46	0.000000	0.00	0.000
20-17-S	100	120	18.85	4949.92	20.82	-913.46	0.000000	0.00	0.000
20-18-S	100	120	18.85	4949.92	12.72	-913.46	0.000000	0.00	0.000
20-19-S	100	120	18.85	4949.92	7.77	-913.46	0.000000	0.00	0.000
20-20-S	100	120	18.85	4949.92	-4.86	-913.46	0.000000	0.00	0.000
20-21-S	100	120	18.85	4949.92	-2.46	-913.46	0.000000	0.00	0.000
20-22-S	100	120	18.85	4949.92	2.43	-913.46	0.000000	0.00	0.000

Pali in c.a.

Apertura limite fessure  $w_{lim}=0.400$  mm

Ip	Is	Af [cmq]	Aeff [cmq]	Mpf [kNm]	M [kNm]	N [kN]	ε [%]	Sm [mm]	wm [mm]
1	1	34.56	3617.50	219.26	-184.08	212.59	0.000000	0.00	0.00
2	1	34.56	3617.50	237.70	-184.08	486.21	0.000000	0.00	0.00

APPALTATORE:

**TELESE** S.c.a r.l.  
Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
**RADDOPPIO TRATTA CANCELLO-BENEVENTO**  
**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
**2° SUBLOTTO TELESE – SAN LORENZO**

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A. SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.

PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.006	A	111 di 120

Ip	Is	Af [cmq]	Aeff [cmq]	Mpf [kNm]	M [kNm]	N [kN]	ε [%]	Sm [mm]	wm [mm]
3	1	34.56	3617.50	256.14	-184.08	759.83	0.000000	0.00	0.00

## Combinazioni SLEQ

### Paramento

Apertura limite fessure  $w_{lim}=0.20$ 

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	100	70	0.00	0.00	0.00	0.00	0.000024	---	0.000 (7)
2	100	70	0.00	0.00	0.00	0.00	0.000032	---	0.000 (7)
3	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
4	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
5	100	70	0.00	0.00	0.00	0.00	0.000057	---	0.000 (7)
6	100	70	0.00	0.00	0.00	0.00	0.000065	---	0.000 (7)
7	100	70	0.00	0.00	0.00	0.00	0.000074	---	0.000 (7)
8	100	70	0.00	0.00	0.00	0.00	0.000082	---	0.000 (7)
9	100	70	0.00	0.00	0.00	0.00	0.000090	---	0.000 (7)
10	100	70	0.00	0.00	0.00	0.00	0.000098	---	0.000 (7)
11	100	70	0.00	0.00	0.00	0.00	0.000107	---	0.000 (7)
12	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
13	100	70	0.00	0.00	0.00	0.00	0.000123	---	0.000 (7)
14	100	70	0.00	0.00	0.00	0.00	0.000131	---	0.000 (7)
15	100	70	0.00	0.00	0.00	0.00	0.000140	---	0.000 (7)
16	100	70	0.00	0.00	0.00	0.00	0.000148	---	0.000 (7)
17	100	70	0.00	0.00	0.00	0.00	0.000156	---	0.000 (7)
18	100	70	0.00	0.00	0.00	0.00	0.000164	---	0.000 (7)
19	100	70	0.00	0.00	0.00	0.00	0.000173	---	0.000 (7)
20	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
21	100	70	0.00	0.00	0.00	0.00	0.000189	---	0.000 (7)
22	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
23	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
24	100	70	0.00	0.00	0.00	0.00	0.000214	---	0.000 (7)
25	100	70	0.00	0.00	0.00	0.00	0.000222	---	0.000 (7)
26	100	70	0.00	0.00	0.00	0.00	0.000230	---	0.000 (7)
27	100	70	0.00	0.00	0.00	0.00	0.000239	---	0.000 (7)
28	100	70	0.00	0.00	0.00	0.00	0.000247	---	0.000 (7)
29	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
30	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
31	100	70	0.00	0.00	0.00	0.00	0.000272	---	0.000 (7)
32	100	70	15.71	2000.00	0.03	351.18	0.000000	0.00	0.000 (7)
33	100	70	15.71	2000.00	0.12	351.38	0.000000	0.00	0.000 (7)
34	100	70	15.71	2000.00	0.28	351.60	0.000000	0.00	0.000 (7)
35	100	70	15.71	2000.00	0.51	351.81	0.000000	0.00	0.000 (7)
36	100	70	15.71	2000.00	0.81	352.02	0.000000	0.00	0.000 (7)
37	100	101	15.71	2000.00	9.21	708.52	0.000000	0.00	0.000 (7)
38	100	101	15.71	2000.00	9.73	708.96	0.000000	0.00	0.000 (7)
39	100	101	15.71	2000.00	10.53	709.38	0.000000	0.00	0.000 (7)
40	100	101	15.71	2000.00	11.54	709.82	0.000000	0.00	0.000 (7)
41	100	101	15.71	2000.00	12.70	710.24	0.000000	0.00	0.000 (7)
42	100	101	15.71	2000.00	13.94	710.69	0.000000	0.00	0.000 (7)
43	100	101	15.71	2000.00	15.28	711.10	0.000000	0.00	0.000 (7)
44	100	101	15.71	2000.00	16.72	711.54	0.000000	0.00	0.000 (7)
45	100	101	15.71	2000.00	18.26	711.97	0.000000	0.00	0.000 (7)
46	100	101	15.71	2000.00	19.91	712.40	0.000000	0.00	0.000 (7)
47	100	101	15.71	2000.00	21.69	712.84	0.000000	0.00	0.000 (7)
48	100	101	15.71	2000.00	23.58	713.28	0.000000	0.00	0.000 (7)
49	100	101	15.71	2000.00	25.61	713.69	0.000000	0.00	0.000 (7)
50	100	101	15.71	2000.00	27.77	714.13	0.000000	0.00	0.000 (7)
51	100	101	15.71	2000.00	30.07	714.56	0.000000	0.00	0.000 (7)
52	100	101	15.71	2000.00	32.52	715.01	0.000000	0.00	0.000 (7)
53	100	101	15.71	2000.00	35.11	715.42	0.000000	0.00	0.000 (7)
54	100	101	15.71	2000.00	37.86	715.87	0.000000	0.00	0.000 (7)
55	100	101	15.71	2000.00	40.77	716.29	0.000000	0.00	0.000 (7)
56	100	101	15.71	2000.00	43.85	716.73	0.000000	0.00	0.000 (7)
57	100	101	15.71	2000.00	47.09	717.17	0.000000	0.00	0.000 (7)
58	100	101	15.71	2000.00	47.16	717.16	0.000000	0.00	0.000 (7)
59	100	101	15.71	2000.00	50.58	717.60	0.000000	0.00	0.000 (7)
60	100	101	15.71	2000.00	54.18	718.05	0.000000	0.00	0.000 (7)
61	100	101	15.71	2000.00	57.96	718.47	0.000000	0.00	0.000 (7)
62	100	101	15.71	2000.00	61.93	718.91	0.000000	0.00	0.000 (7)
63	100	101	15.71	2000.00	66.10	719.32	0.000000	0.00	0.000 (7)



APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>
PROGETTAZIONE: Mandataria: SYSTRA S.A.    Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.	COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO IF2R 2.2.E.ZZ CL TR.16.0.5.006 A 112 di 120

Piastra fondazione

Apertura limite fessure  $w_{lim}=0.20$

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-1-P	69	120	12.57	3452.10	1.09	-632.11	0.000000	0.00	0.000
1-2-P	69	120	12.57	3452.10	-1.93	-632.11	0.000000	0.00	0.000
1-3-P	69	120	12.57	3452.10	-7.23	-632.11	0.000000	0.00	0.000
1-4-P	69	120	12.57	3452.10	-18.97	-632.11	0.000000	0.00	0.000
1-5-P	69	120	12.57	3452.10	-29.87	-632.11	0.000000	0.00	0.000
1-6-P	69	120	12.57	3452.10	-35.37	-632.11	0.000000	0.00	0.000
1-7-P	69	120	12.57	3452.10	-20.21	-632.11	0.000000	0.00	0.000
1-8-P	69	120	12.57	3452.10	-6.04	-632.11	0.000000	0.00	0.000
1-9-P	69	120	12.57	3452.10	11.20	-632.11	0.000000	0.00	0.000
1-10-P	69	120	12.57	3452.10	15.44	-632.11	0.000000	0.00	0.000
1-11-P	69	120	12.57	3452.10	16.77	-632.11	0.000000	0.00	0.000
1-12-P	69	120	12.57	3452.10	13.58	-632.11	0.000000	0.00	0.000
1-13-P	69	120	12.57	3452.10	3.78	-632.11	0.000000	0.00	0.000
1-14-P	69	120	12.57	3452.10	-12.80	-632.11	0.000000	0.00	0.000
1-15-P	69	120	12.57	3452.10	-25.99	-632.11	0.000000	0.00	0.000
1-16-P	69	120	12.57	3452.10	-23.29	-632.11	0.000000	0.00	0.000
1-17-P	69	120	12.57	3452.10	-11.05	-632.11	0.000000	0.00	0.000
1-18-P	69	120	12.57	3452.10	5.80	-632.11	0.000000	0.00	0.000
1-19-P	69	120	12.57	3452.10	14.78	-632.11	0.000000	0.00	0.000
1-20-P	69	120	12.57	1390.00	18.40	632.11	0.000000	0.00	0.000
1-21-P	69	120	12.57	3452.10	16.19	-632.11	0.000000	0.00	0.000
1-22-P	69	120	12.57	3452.10	10.61	-632.11	0.000000	0.00	0.000
1-23-P	69	120	12.57	3452.10	-5.89	-632.11	0.000000	0.00	0.000
1-24-P	69	120	12.57	3452.10	-18.16	-632.11	0.000000	0.00	0.000
1-25-P	69	120	12.57	3452.10	-31.31	-632.11	0.000000	0.00	0.000
1-26-P	69	120	12.57	3452.10	-18.16	-632.11	0.000000	0.00	0.000
1-27-P	69	120	12.57	3452.10	-5.89	-632.11	0.000000	0.00	0.000
1-28-P	69	120	12.57	3452.10	10.61	-632.11	0.000000	0.00	0.000
1-29-P	69	120	12.57	3452.10	16.19	-632.11	0.000000	0.00	0.000
1-30-P	69	120	12.57	1390.00	18.40	632.11	0.000000	0.00	0.000
1-31-P	69	120	12.57	3452.10	14.78	-632.11	0.000000	0.00	0.000
1-32-P	69	120	12.57	3452.10	5.80	-632.11	0.000000	0.00	0.000
1-33-P	69	120	12.57	3452.10	-11.05	-632.11	0.000000	0.00	0.000
1-34-P	69	120	12.57	3452.10	-23.29	-632.11	0.000000	0.00	0.000
1-35-P	69	120	12.57	3452.10	-25.99	-632.11	0.000000	0.00	0.000
1-36-P	69	120	12.57	3452.10	-12.80	-632.11	0.000000	0.00	0.000
1-37-P	69	120	12.57	3452.10	3.78	-632.11	0.000000	0.00	0.000
1-38-P	69	120	12.57	3452.10	13.58	-632.11	0.000000	0.00	0.000
1-39-P	69	120	12.57	3452.10	16.77	-632.11	0.000000	0.00	0.000
1-40-P	69	120	12.57	3452.10	15.44	-632.11	0.000000	0.00	0.000
1-41-P	69	120	12.57	3452.10	11.20	-632.11	0.000000	0.00	0.000
1-42-P	69	120	12.57	3452.10	-6.04	-632.11	0.000000	0.00	0.000
1-43-P	69	120	12.57	3452.10	-20.21	-632.11	0.000000	0.00	0.000
1-44-P	69	120	12.57	3452.10	-35.37	-632.11	0.000000	0.00	0.000
1-45-P	69	120	12.57	3452.10	-29.87	-632.11	0.000000	0.00	0.000
1-46-P	69	120	12.57	3452.10	-18.97	-632.11	0.000000	0.00	0.000
1-47-P	69	120	12.57	3452.10	-7.23	-632.11	0.000000	0.00	0.000
1-48-P	69	120	12.57	3452.10	-1.93	-632.11	0.000000	0.00	0.000
1-49-P	69	120	12.57	3452.10	1.09	-632.11	0.000000	0.00	0.000
2-1-P	70	120	12.57	1390.00	5.55	632.11	0.000000	0.00	0.000
2-2-P	70	120	12.57	1390.00	5.65	632.11	0.000000	0.00	0.000
2-3-P	70	120	12.57	3452.10	4.92	-632.11	0.000000	0.00	0.000
2-4-P	70	120	12.57	3452.10	4.31	-632.11	0.000000	0.00	0.000
2-5-P	70	120	12.57	3452.10	-26.77	-632.11	0.000000	0.00	0.000
2-6-P	70	120	12.57	3452.10	-45.59	-632.11	0.000000	0.00	0.000
2-7-P	70	120	12.57	3452.10	-10.75	-632.11	0.000000	0.00	0.000
2-8-P	70	120	12.57	3452.10	9.23	-632.11	0.000000	0.00	0.000
2-9-P	70	120	12.57	1390.00	14.82	632.11	0.000000	0.00	0.000
2-10-P	70	120	12.57	1390.00	16.32	632.11	0.000000	0.00	0.000
2-11-P	70	120	12.57	1390.00	16.81	632.11	0.000000	0.00	0.000
2-12-P	70	120	12.57	1390.00	15.77	632.11	0.000000	0.00	0.000
2-13-P	70	120	12.57	3452.10	11.50	-632.11	0.000000	0.00	0.000
2-14-P	70	120	12.57	3452.10	2.81	-632.11	0.000000	0.00	0.000
2-15-P	70	120	12.57	3452.10	-35.72	-632.11	0.000000	0.00	0.000
2-16-P	70	120	12.57	3452.10	-29.18	-632.11	0.000000	0.00	0.000
2-17-P	70	120	12.57	3452.10	7.91	-632.11	0.000000	0.00	0.000
2-18-P	70	120	12.57	3452.10	12.52	-632.11	0.000000	0.00	0.000
2-19-P	70	120	12.57	1390.00	16.04	632.11	0.000000	0.00	0.000
2-20-P	70	120	12.57	1390.00	17.21	632.11	0.000000	0.00	0.000
2-21-P	70	120	12.57	1390.00	16.47	632.11	0.000000	0.00	0.000
2-22-P	70	120	12.57	1390.00	14.46	632.11	0.000000	0.00	0.000
2-23-P	70	120	12.57	3452.10	9.53	-632.11	0.000000	0.00	0.000
2-24-P	70	120	12.57	3452.10	-15.65	-632.11	0.000000	0.00	0.000
2-25-P	70	120	12.57	3452.10	-49.51	-632.11	0.000000	0.00	0.000
2-26-P	70	120	12.57	3452.10	-15.65	-632.11	0.000000	0.00	0.000
2-27-P	70	120	12.57	3452.10	9.53	-632.11	0.000000	0.00	0.000













APPALTATORE: <b>TELESE S.c.a r.l.</b> <i>Consorzio Telese Società Consortile a Responsabilità Limitata</i>	<b>ITINERARIO NAPOLI – BARI RADDOPPIO TRATTA CANCELLO-BENEVENTO II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO 2° SUBLOTTO TELESE – SAN LORENZO PROGETTO ESECUTIVO</b>					
PROGETTAZIONE: <u>Mandatario:</u> SYSTRA S.A. <u>Mandante:</u> SWS Engineering S.p.A.    SYSTRA-SOTECNI S.p.A.						
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.006.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.006	REV. A	FOGLIO 119 di 120

Apertura limite fessure  $w_{lim}=0.300$  mm

<b>Ip</b>	<b>Is</b>	<b>Af</b> [cmq]	<b>Aeff</b> [cmq]	<b>Mpf</b> [kNm]	<b>M</b> [kNm]	<b>N</b> [kN]	<b>ε</b> [%]	<b>Sm</b> [mm]	<b>wm</b> [mm]
1	1	34.56	3617.50	219.26	-184.08	212.59	0.000000	0.00	0.00
2	1	34.56	3617.50	237.70	-184.08	486.21	0.000000	0.00	0.00
3	1	34.56	3617.50	256.14	-184.08	759.83	0.000000	0.00	0.00