

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 5

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

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

I F 2 R    2 2    E    Z Z    C L    T R 1 6 0 5    0 0 7    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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**1 ALLEGATO DI CALCOLO – MURO TIPO 5 HPARAMENTO = 5,50 M: ..... 2**

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## 1 ALLEGATO DI CALCOLO – MURO TIPO 5 $H_{PARAMENTO} = 5,50 M$ :

### 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]
$R_{ck}$	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]	$R_{ck}$ [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	$f_{yk}$ [kPa]	$f_{uk}$ [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 5.50 [m]  
Altezza paramento libero 5.00 [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	2.00	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 1.10 [m]  
Spessore magrone 0.20 [m]

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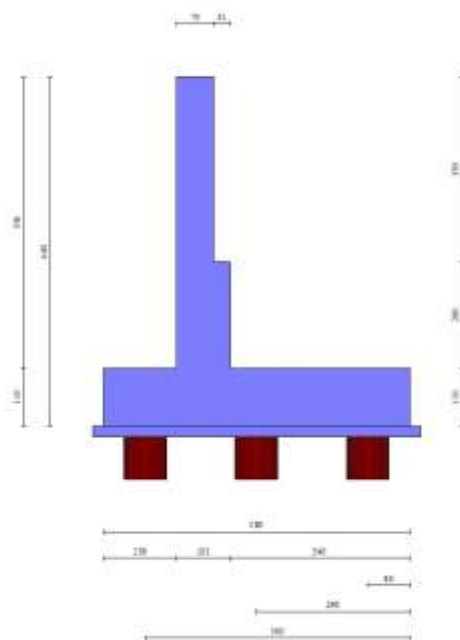


Fig. 1 - Sezione quotata del muro

### 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	10.00	0.00	Centrati
2	Tipologia palo	2.90	2.40	0.80	4	80.00	10.00	0.00	Sfalsati
3	Tipologia palo	5.00	2.40	0.80	5	80.00	10.00	0.00	Centrati

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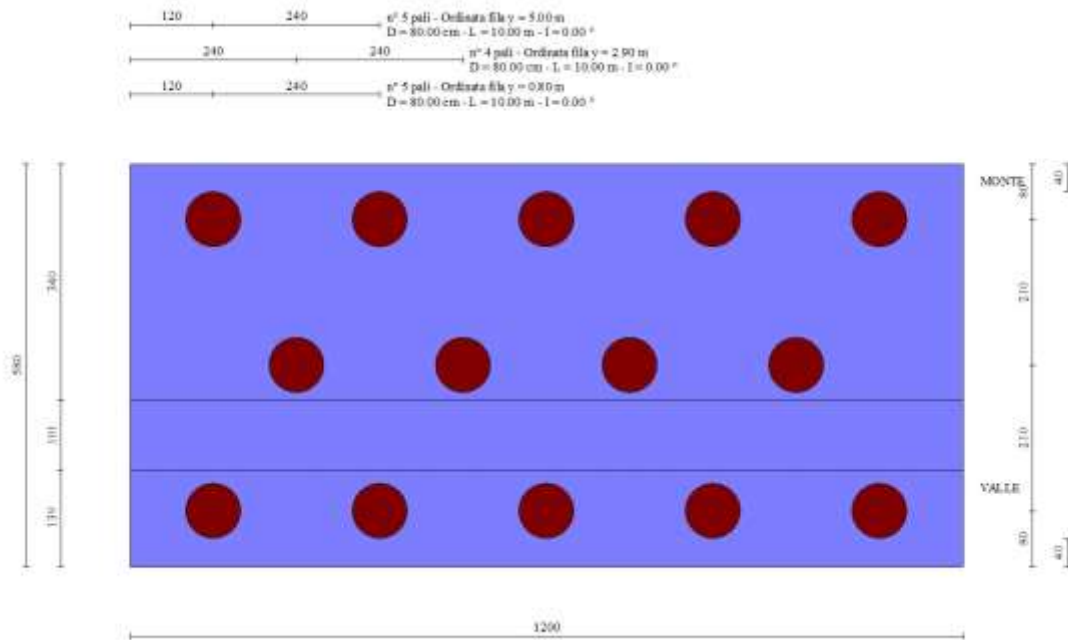


Fig. 2 - Pianta pali

## 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			0 (MIN)
				38.000	0.000	0	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			0 (MIN)
				34.000	34.000	0	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			0 (MIN)
				0.000	0.000	100	100			0 (MED)
4	bn1	20.0000	20.0000	34.000	34.000	0	0	1.000		0 (CAR)
				34.000	34.000	0	0			0 (MIN)
				34.000	34.000	0	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			0 (MIN)
				38.000	38.000	0	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	6.60	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	---	---

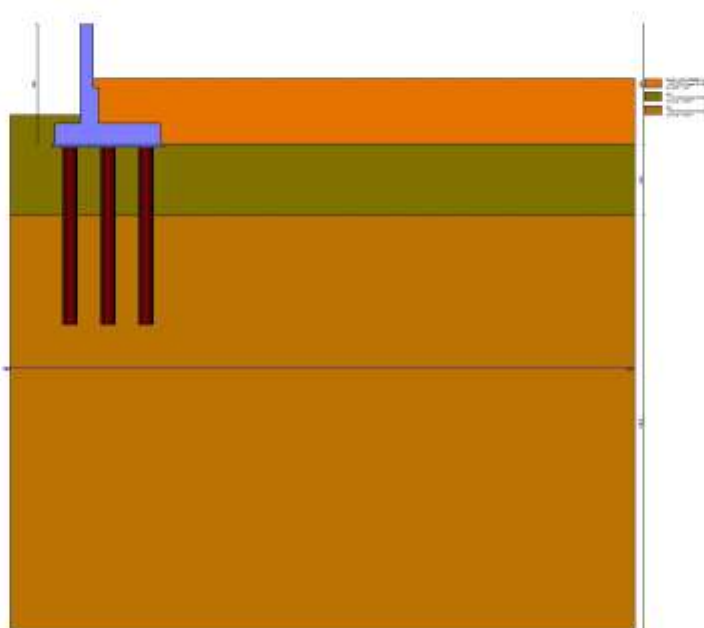


Fig. 3 - Stratigrafia

## 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=Xi espressa in [kN]  
 Qf Intensità del carico per x=Xf 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	$a_g$	[m/s <sup>2</sup> ]	3.600	1.248
Accelerazione al suolo	$a_g/g$	[%]	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 $\beta_m$	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 ( $k_s \sigma_v \tan(\delta) + c_a$ )
Correzione angolo di attrito in funzione del tipo di palo (infisso/trivellato)	Attiva
Andamento pressione verticale nel calcolo della portanza alla punta $\sigma_v$ 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:

$w_1=0.20$   
 $w_2=0.30$   
 $w_3=0.40$

*Verifica delle tensioni*

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 $f_{ck}$	0.80 $f_{yk}$
Frequente	1.00 $f_{ck}$	1.00 $f_{yk}$
Quasi permanente	0.45 $f_{ck}$	1.00 $f_{yk}$

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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	151.93	0.00	151.93	0.00	3.71	-4.96
	Peso/Inerzia muro			0.00	266.01/0.00	0.36	-4.79
	Peso/Inerzia terrapieno			0.00	234.13/0.00	1.97	-4.23
	Peso dell'acqua sulla fondazione di valle				0.00	0.00	0.00
	Risultante forze sul muro			10.15	6.50	--	--
	Resistenza pali			-686.49			

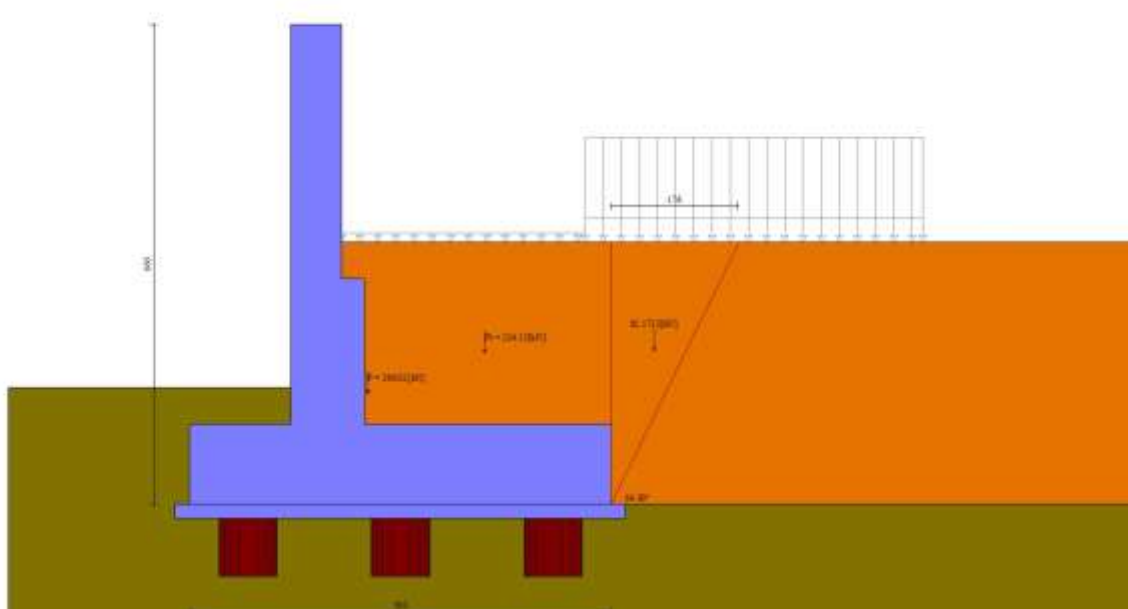


Fig. 4 - Cuneo di spinta (combinazione statica) (Combinazione n° 1)

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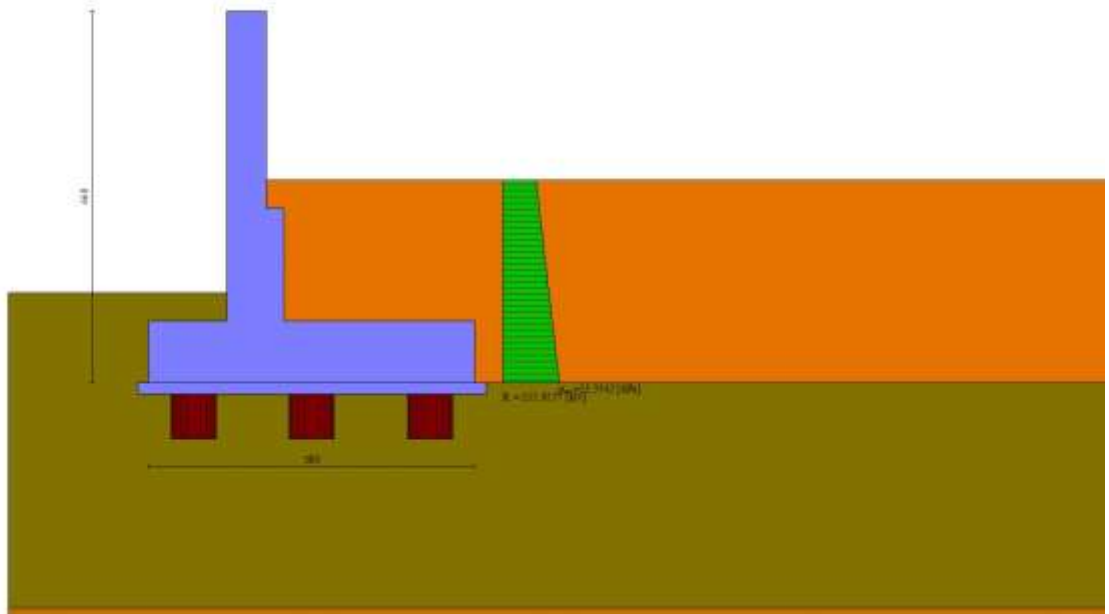


Fig. 5 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 1)

## 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)	506.64	162.08	319.32	1613.30	0.346
2 - STR (A1-M1-R3)	472.18	229.15	428.06	1476.50	0.680
3 - GEO (A2-M2-R2)	491.77	157.74	301.00	1556.83	0.346
4 - GEO (A2-M2-R2)	472.18	229.15	428.06	1476.50	0.680
5 - SLEF	488.68	118.21	229.88	1544.15	0.211
6 - SLEF	483.52	98.94	159.60	1523.01	0.080
7 - SLEQ	468.05	62.14	93.37	1459.59	-0.019
8 - SLEF	472.18	77.21	147.18	1476.50	0.085

## Scarichi in testa ai pali

### Simbologia adottata

Cmb	Indice/Tipo combinazione
Ip	Indice palo
N	Sforzo normale, espresso in [kN]
M	Momento, espresso in [kNm]
T	Taglio, espresso in [kN]

Cmb	Ip	N [kN]	M [kNm]	T [kN]
1 - STR (A1-M1-R3)	1	240.04	-141.09	-138.92
	2	434.26	-141.09	-138.92
	3	628.49	-141.09	-138.92

## 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)		4.236					
2 - STR (A1-M1-R3)	H	3.043					
3 - GEO (A2-M2-R2)					5.179		
4 - GEO (A2-M2-R2)	H				3.692		

### 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	-196.41	541.99	2.759
	2	-196.41	597.73	3.043
	3	-196.41	597.73	3.043

### 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	240.04	1872.65	7.801
	2	434.26	1872.65	4.312
	3	628.49	1872.65	2.980
2 - STR (A1-M1-R3) H	1	82.03	1872.65	22.830
	2	404.72	1872.65	4.627
	3	727.42	1872.65	2.574

### 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	-0.50; 4.50	21.37	3.692

### Dettagli strisce verifiche stabilità

#### Simbologia adottata

Le ascisse X sono considerate positive verso monte

APPALTATORE:

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**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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
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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	51.35	0.00	0.00	19.53 - 1.57	64.438	38.000	0	0.0	
2	138.39	0.00	0.00	1.57	55.966	34.000	0	0.0	
3	201.42	0.00	0.00	1.57	49.007	34.000	0	0.0	
4	251.67	0.00	0.00	1.57	42.933	34.000	0	0.0	
5	293.30	0.00	0.00	1.57	37.417	34.000	0	0.0	
6	327.61	0.00	0.00	1.57	32.286	34.000	0	0.0	
7	355.87	0.00	0.00	1.57	27.433	34.000	0	0.0	
8	378.94	26.17	0.00	1.57	22.787	34.000	0	0.0	
9	397.38	40.52	0.00	1.57	18.295	34.000	0	0.0	
10	411.58	40.52	0.00	1.57	13.918	34.000	0	0.0	
11	426.87	18.98	0.00	1.57	9.622	34.000	0	0.0	
12	436.10	8.78	0.00	1.57	5.381	34.000	0	0.0	
13	426.54	9.03	0.00	1.57	1.169	34.000	0	0.0	
14	373.81	0.00	0.00	1.57	-3.036	34.000	0	0.0	
15	363.21	0.00	0.00	1.57	-7.258	34.000	0	0.0	
16	355.07	0.00	0.00	1.57	-11.520	34.000	0	0.0	
17	343.09	0.00	0.00	1.57	-15.849	34.000	0	0.0	
18	327.05	0.00	0.00	1.57	-20.272	34.000	0	0.0	
19	306.62	0.00	0.00	1.57	-24.827	34.000	0	0.0	
20	281.33	0.00	0.00	1.57	-29.558	34.000	0	0.0	
21	250.50	0.00	0.00	1.57	-34.524	34.000	0	0.0	
22	213.14	0.00	0.00	1.57	-39.810	34.000	0	0.0	
23	167.86	0.00	0.00	1.57	-45.546	34.000	0	0.0	
24	112.75	0.00	0.00	1.57	-51.957	34.000	0	0.0	
25	41.09	0.00	0.00	-19.65 - 1.57	-59.372	34.000	0	0.0	

Resistenza al taglio pali 0.00 [kN]

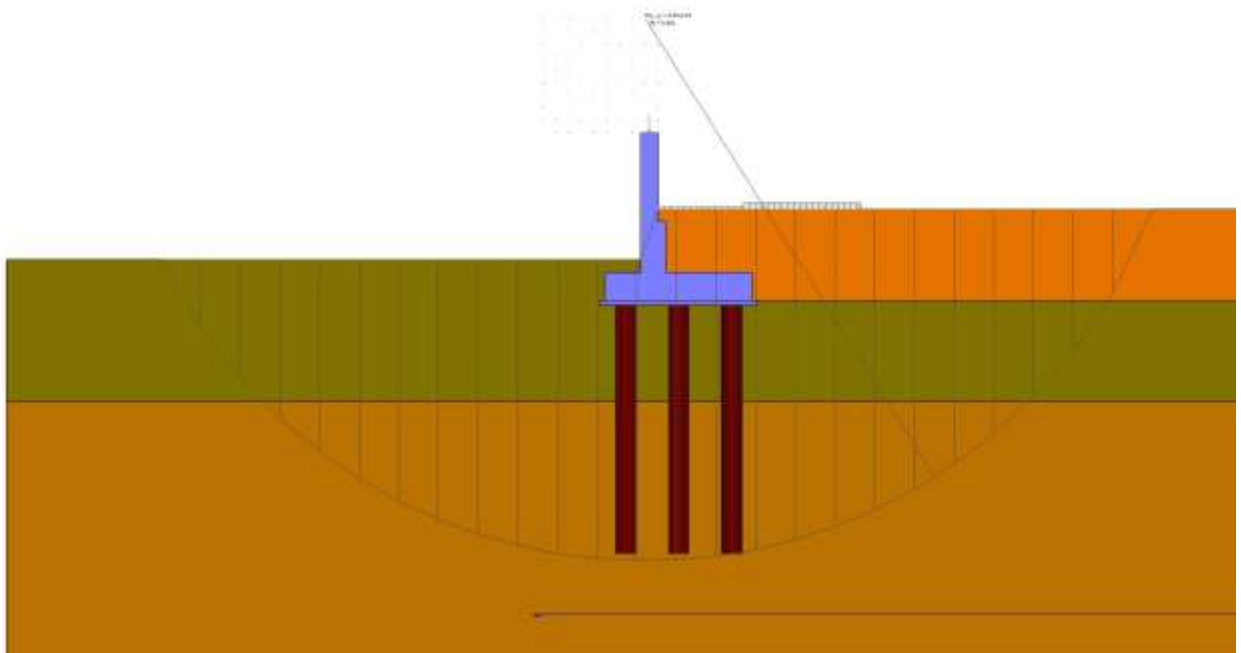


Fig. 6 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 4)



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.16.0.5.007.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.007	REV. A	FOGLIO 16 di 119

## 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]	N <sub>min</sub> [kN]	N <sub>max</sub> [kN]	T <sub>min</sub> [kN]	T <sub>max</sub> [kN]	M <sub>min</sub> [kNm]	M <sub>max</sub> [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	0.52	15.19	0.03	34.39
33	-3.20	59.90	61.40	1.09	16.88	0.11	35.51
34	-3.30	61.62	63.12	1.71	18.62	0.24	36.70
35	-3.40	63.33	64.83	2.37	20.41	0.45	37.98
36	-3.50	65.05	66.55	3.09	22.24	0.72	39.35
37	-3.50	69.93	71.95	3.12	23.47	9.12	47.82
38	-3.60	72.40	74.42	5.86	27.51	9.57	49.43
39	-3.70	74.87	76.89	8.03	30.98	10.27	51.35
40	-3.80	77.35	79.37	9.64	33.89	11.16	53.51
41	-3.90	79.82	81.84	10.70	36.25	12.18	55.85
42	-4.00	82.29	84.31	11.52	38.38	13.29	58.31
43	-4.10	84.76	86.79	12.42	40.58	14.48	60.88
44	-4.20	87.24	89.26	13.39	42.85	15.77	63.81
45	-4.30	89.71	91.73	14.42	45.19	17.16	68.21
46	-4.40	92.18	94.20	15.51	47.58	18.65	72.84
47	-4.50	94.66	96.68	16.66	50.03	20.26	77.71
48	-4.60	97.13	99.15	17.86	52.53	21.98	82.83
49	-4.70	99.60	101.62	19.11	55.09	23.83	88.21
50	-4.80	102.08	104.10	20.42	57.70	25.80	93.84
51	-4.90	104.55	106.57	21.78	60.36	27.91	99.73
52	-5.00	107.02	109.04	23.18	63.07	30.15	105.89
53	-5.00	107.07	109.09	23.21	63.12	30.20	106.02
54	-5.10	109.54	111.56	24.67	65.88	32.59	112.46
55	-5.20	112.01	114.03	26.17	68.68	35.12	119.17
56	-5.30	114.48	116.51	27.72	71.54	37.81	126.17
57	-5.40	116.96	118.98	29.33	74.44	40.66	133.45
58	-5.50	119.43	121.45	30.98	77.40	43.67	141.03

APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	17 di 119

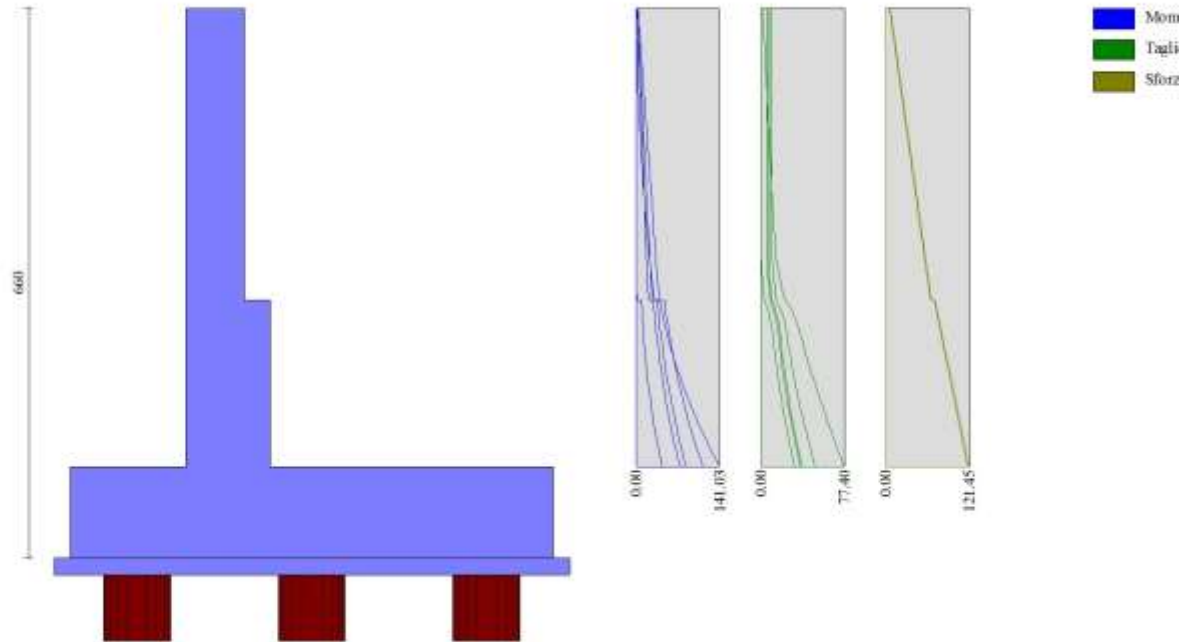



Fig. 7 - Paramento

## Piastra fondazione

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
1	-0.93	1.85	-1.39	1.38	17.27	MAX
	-1.33	0.62	-3.93	-16.65	3.63	MIN
2	-11.65	-7.30	-2.39	1.69	-2.96	MAX
	-20.46	-18.04	-6.60	-23.20	-6.51	MIN
3	2.89	-2.85	-2.87	46.25	-15.16	MAX
	-0.37	-11.75	-8.73	33.32	-18.97	MIN
4	2.52	0.36	0.10	19.06	9.65	MAX
	1.19	-3.41	-0.18	12.79	-1.51	MIN
5	-25.16	0.43	-6.70	0.94	26.03	MAX
	-43.41	-1.68	-18.04	-22.72	20.54	MIN
6	-34.01	-25.29	-8.97	34.72	-12.15	MAX
	-58.85	-57.30	-24.27	29.42	-22.29	MIN
7	6.58	5.69	6.70	63.89	-42.14	MAX
	4.42	-5.48	4.84	35.25	-65.49	MIN
8	7.91	9.18	3.33	28.74	-7.99	MAX
	4.33	5.04	2.84	14.77	-11.26	MIN
9	12.56	-7.46	-8.38	370.36	-62.02	MAX
	8.66	-29.94	-41.22	219.06	-101.02	MIN
10	-28.33	32.82	0.49	-9.31	8.55	MAX
	-45.65	11.68	0.25	-14.39	-16.59	MIN
11	-26.65	126.46	1.73	-8.06	162.32	MAX
	-32.05	41.05	1.03	-12.46	137.37	MIN
12	-147.08	-136.84	3.00	-6.59	-170.51	MAX
	-252.98	-261.66	1.89	-9.79	-395.08	MIN
13	7.75	23.49	14.57	70.74	-64.44	MAX
	4.39	18.93	11.47	34.25	-110.72	MIN
14	7.80	33.00	14.44	13.04	-9.97	MAX
	5.33	25.99	9.77	4.55	-25.46	MIN
15	-9.92	9.72	11.04	119.70	-137.88	MAX
	-19.15	-4.52	5.38	59.28	-243.00	MIN
16	-34.55	-23.40	3.70	-4.56	-453.76	MAX
	-84.57	-171.62	2.41	-6.67	-847.82	MIN
17	-15.80	0.59	19.13	-6.67	25.99	MAX
	-27.88	-1.07	7.22	-20.18	20.22	MIN
18	-25.47	-24.90	27.98	-44.63	-12.95	MAX
	-45.71	-56.55	11.11	-57.59	-22.94	MIN
19	23.11	-5.61	47.87	-231.96	-63.72	MAX

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.16.0.5.007.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.16.0.5.007	A	18 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
20	16.05	-27.11	12.57	-389.04	-103.19	MIN
	-5.07	13.59	3.46	-68.13	-140.11	MAX
	-12.36	0.92	-4.68	-132.31	-246.46	MIN
21	17.82	59.39	20.39	0.00	-69.02	MAX
	12.31	41.05	14.44	0.00	-122.87	MIN
22	16.91	56.37	22.52	0.00	-9.65	MAX
	12.25	40.83	16.15	0.00	-31.02	MIN
23	25.00	83.35	12.25	0.00	-196.57	MAX
	19.87	66.23	10.22	0.00	-354.56	MIN
24	21.58	71.94	3.49	0.00	-300.31	MAX
	7.84	26.15	2.30	0.00	-566.06	MIN
25	26.71	89.02	-1.95	0.00	-198.91	MAX
	21.09	70.28	-6.22	0.00	-358.42	MIN
26	11.41	-7.07	7.40	-3.58	-4.30	MAX
	6.51	-16.61	2.70	-17.78	-8.45	MIN
27	26.87	-2.80	11.78	-44.20	-19.46	MAX
	15.35	-11.58	4.51	-62.59	-24.30	MIN
28	27.25	8.12	-0.31	-45.55	-50.13	MAX
	19.22	-1.98	-0.85	-78.11	-77.20	MIN
29	22.96	33.48	-4.81	-41.86	-74.52	MAX
	19.61	28.21	-5.29	-81.03	-126.43	MIN
30	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
31	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
32	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
33	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
34	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
35	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
36	22.73	75.76	-5.94	0.00	-79.99	MAX
	15.55	51.85	-8.18	0.00	-140.17	MIN
37	40.62	0.65	-0.25	-4.08	-2.24	MAX
	22.36	0.16	-0.37	-6.18	-6.94	MIN
38	31.41	1.13	-0.24	-2.52	-18.16	MAX
	20.66	-3.85	-0.36	-3.85	-22.36	MIN
39	35.32	14.93	-0.26	-1.52	-39.37	MAX
	24.44	11.63	-0.38	-2.34	-58.94	MIN
40	30.47	38.40	-0.22	-0.73	-52.27	MAX
	22.26	30.20	-0.32	-1.13	-88.92	MIN
41	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
42	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
43	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
44	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
45	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
46	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
47	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
48	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
49	19.08	63.61	-0.16	0.00	-55.84	MAX
	13.66	45.54	-0.23	0.00	-99.12	MIN
50	14.76	-6.96	-3.14	8.62	-3.83	MAX
	8.70	-16.43	-8.05	-9.20	-8.11	MIN
51	30.03	-2.67	-4.86	54.19	-18.74	MAX
	17.41	-11.38	-12.28	38.70	-23.32	MIN
52	29.45	8.05	0.51	72.74	-48.61	MAX
	20.65	-2.06	-0.13	42.05	-74.88	MIN
53	24.01	33.10	5.04	78.23	-72.36	MAX
	20.37	27.92	4.55	40.04	-123.14	MIN
54	22.29	74.30	8.06	0.00	-77.59	MAX
	15.26	50.86	5.85	0.00	-136.53	MIN
55	22.29	74.30	8.06	0.00	-77.59	MAX
	15.26	50.86	5.85	0.00	-136.53	MIN
56	22.29	74.30	8.06	0.00	-77.59	MAX
	15.26	50.86	5.85	0.00	-136.53	MIN
57	-23.30	-77.67	9.97	0.00	-134.22	MAX
	-84.32	-281.06	-8.33	0.00	-231.25	MIN
58	-21.96	-73.18	40.65	0.00	-159.78	MAX
	-87.05	-290.15	-2.28	0.00	-190.62	MIN
59	-19.08	-63.60	-2.37	0.00	-109.87	MAX
	-84.20	-280.67	-11.33	0.00	-222.39	MIN
60	-14.12	-47.08	-9.72	0.00	-83.05	MAX

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	19 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
61	-80.38	-267.92	-13.64	0.00	-198.97	MIN
	-9.32	-31.08	-16.15	0.00	-42.04	MAX
	-77.07	-256.88	-17.22	0.00	-155.67	MIN
62	3.19	10.62	-22.44	0.00	72.02	MAX
	-57.66	-192.18	-35.05	0.00	-59.99	MIN
63	29.39	97.97	-4.49	0.00	174.49	MAX
	-3.21	-10.70	-4.94	0.00	-13.01	MIN
64	6.52	21.72	24.97	0.00	80.68	MAX
	-53.80	-179.33	12.80	0.00	-46.06	MIN
65	-10.79	0.86	-7.45	10.13	26.86	MAX
	-20.18	-0.65	-19.44	-7.38	20.78	MIN
66	-20.79	-24.57	-11.03	47.24	-11.64	MAX
	-38.51	-56.02	-27.80	37.89	-20.92	MIN
67	28.18	-5.53	-12.21	381.74	-60.92	MAX
	19.38	-26.95	-47.27	227.16	-98.91	MIN
68	-3.20	13.39	5.34	127.99	-136.13	MAX
	-9.52	0.71	-2.50	65.27	-240.41	MIN
69	26.11	87.03	6.92	0.00	-194.48	MAX
	20.64	68.81	2.95	0.00	-351.71	MIN
70	26.11	87.03	6.92	0.00	-194.48	MAX
	20.64	68.81	2.95	0.00	-351.71	MIN
71	26.11	87.03	6.92	0.00	-194.48	MAX
	20.64	68.81	2.95	0.00	-351.71	MIN
72	-2.21	-7.37	5.90	0.00	-20.67	MAX
	-69.14	-230.48	4.81	0.00	-124.07	MIN
73	-6.15	-43.17	5.03	17.19	-121.29	MAX
	-32.65	-222.70	-9.19	0.75	-217.55	MIN
74	-0.18	-35.65	16.71	21.57	-153.55	MAX
	-11.48	-217.56	-5.65	3.78	-190.30	MIN
75	-6.89	-35.43	-3.56	8.62	-99.04	MAX
	-51.75	-223.27	-12.73	-3.75	-210.19	MIN
76	-3.52	-26.16	-9.75	2.90	-74.56	MAX
	-54.27	-218.83	-14.18	-3.60	-188.95	MIN
77	6.33	-15.64	-16.82	17.87	-34.15	MAX
	-39.72	-206.19	-18.67	9.91	-145.99	MIN
78	-15.38	-23.20	-23.51	43.43	30.72	MAX
	-73.65	-216.42	-39.14	23.22	-86.97	MIN
79	-16.80	87.46	-5.02	-4.43	296.51	MAX
	-45.06	16.10	-5.53	-5.77	78.50	MIN
80	-10.68	-14.26	27.89	-31.41	39.27	MAX
	-69.91	-207.07	12.79	-54.41	-73.44	MIN
81	16.15	2.91	6.62	-15.46	-13.24	MAX
	-32.28	-187.30	4.29	-27.39	-115.46	MIN
82	-19.29	33.56	-0.15	-1.20	9.26	MAX
	-31.53	12.10	-0.23	-1.83	-15.41	MIN
83	-18.25	127.46	-0.22	-0.37	164.53	MAX
	-20.44	41.65	-0.33	-0.57	138.92	MIN
84	-140.92	-136.24	-0.29	0.03	-167.23	MAX
	-243.73	-260.68	-0.44	0.02	-389.95	MIN
85	-30.86	-22.67	-0.30	0.24	-449.03	MAX
	-79.10	-170.42	-0.45	0.16	-840.64	MIN
86	21.33	71.10	-0.25	0.00	-295.01	MAX
	7.54	25.12	-0.38	0.00	-558.11	MIN
87	21.33	71.10	-0.25	0.00	-295.01	MAX
	7.54	25.12	-0.38	0.00	-558.11	MIN
88	21.33	71.10	-0.25	0.00	-295.01	MAX
	7.54	25.12	-0.38	0.00	-558.11	MIN
89	-2.05	-6.83	-1.39	0.00	-38.41	MAX
	-67.44	-224.82	-2.11	0.00	-141.15	MIN
90	11.87	2.72	-1.59	-2.38	-32.26	MAX
	-43.78	-191.10	-2.43	-2.78	-134.04	MIN
91	-1.07	-17.62	-2.72	18.09	-92.52	MAX
	-16.82	-179.87	-10.11	-0.49	-186.86	MIN
92	0.12	-16.13	-5.72	16.78	-134.01	MAX
	-3.25	-166.97	-9.68	0.75	-191.80	MIN
93	-0.15	-13.16	-6.23	15.54	-74.35	MAX
	-29.70	-176.46	-12.45	-2.21	-182.28	MIN
94	2.71	-9.14	-8.49	15.05	-55.90	MAX
	-36.40	-176.04	-11.88	3.72	-167.05	MIN
95	3.91	-8.65	-7.66	32.88	-29.79	MAX
	-40.67	-174.43	-9.69	25.67	-138.05	MIN
96	9.71	-14.49	-19.99	216.76	-13.92	MAX
	-38.81	-182.01	-52.71	196.68	-117.71	MIN
97	-129.34	-112.72	-4.92	-4.62	9.88	MAX
	-173.77	-251.24	-5.41	-7.21	-239.32	MIN
98	14.92	-8.39	41.80	-210.09	-5.96	MAX
	-35.57	-176.19	9.62	-226.55	-105.74	MIN
99	14.52	3.44	-2.17	-34.41	-11.17	MAX
	-34.74	-163.15	-3.38	-37.79	-111.79	MIN
100	18.51	7.96	-1.72	-3.39	-20.75	MAX
	-30.00	-161.28	-2.57	-3.67	-121.69	MIN
101	-10.63	0.86	18.97	3.40	27.16	MAX

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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	20 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-19.93	-0.65	7.14	-12.97	20.99	MIN
102	-20.67	-24.65	27.14	-38.81	-11.27	MAX
	-38.33	-56.14	10.60	-48.67	-20.35	MIN
103	28.21	-5.83	46.42	-227.26	-60.25	MAX
	19.40	-27.39	11.65	-381.90	-97.89	MIN
104	-3.29	12.84	1.62	-65.04	-135.28	MAX
	-9.65	-0.06	-5.97	-127.65	-239.12	MIN
105	25.79	85.97	-3.69	0.00	-193.58	MAX
	20.41	68.04	-7.45	0.00	-350.33	MIN
106	25.79	85.97	-3.69	0.00	-193.58	MAX
	20.41	68.04	-7.45	0.00	-350.33	MIN
107	25.79	85.97	-3.69	0.00	-193.58	MAX
	20.41	68.04	-7.45	0.00	-350.33	MIN
108	-1.22	-4.06	-7.80	0.00	-20.24	MAX
	-67.53	-225.09	-10.28	0.00	-120.93	MIN
109	17.79	6.10	-7.72	22.44	-12.72	MAX
	-30.39	-182.70	-11.64	9.86	-112.31	MIN
110	16.54	6.14	-1.49	30.42	-10.37	MAX
	-32.77	-159.57	-1.91	27.18	-108.66	MIN
111	1.55	12.89	-8.37	11.30	-59.47	MAX
	-4.65	-107.49	-10.54	-0.83	-153.91	MIN
112	0.54	12.08	-8.59	7.58	-102.93	MAX
	0.06	-102.94	-10.07	-1.12	-191.44	MIN
113	3.10	13.87	-9.17	17.63	-44.53	MAX
	-11.38	-107.11	-12.22	1.68	-150.70	MIN
114	3.83	13.08	-6.64	28.28	-34.60	MAX
	-19.66	-109.28	-8.85	10.44	-145.70	MIN
115	0.10	7.51	-4.37	65.74	-29.82	MAX
	-35.40	-117.95	-7.71	38.77	-139.45	MIN
116	-22.37	-8.06	-2.33	65.38	-45.78	MAX
	-55.56	-131.23	-12.55	35.60	-163.52	MIN
117	-26.42	-14.60	-5.02	-1.82	-241.21	MAX
	-80.24	-233.43	-5.48	-6.05	-443.87	MIN
118	-17.08	-5.50	1.71	-46.38	-39.52	MAX
	-53.55	-129.94	-8.00	-66.78	-154.81	MIN
119	10.21	11.81	-2.85	-44.44	-16.29	MAX
	-33.04	-116.41	-6.20	-59.01	-121.48	MIN
120	16.66	17.09	-2.07	-3.29	-12.28	MAX
	-21.86	-109.77	-3.01	-4.02	-118.14	MIN
121	12.70	13.78	1.87	52.67	-15.26	MAX
	-31.08	-114.30	-3.27	36.67	-118.62	MIN
122	15.53	-6.95	7.57	4.25	-3.22	MAX
	9.20	-16.41	2.83	-12.15	-7.67	MIN
123	30.66	-2.80	11.67	-40.20	-17.96	MAX
	17.82	-11.58	4.45	-56.48	-22.25	MIN
124	29.70	7.45	-0.64	-42.60	-47.20	MAX
	20.82	-2.89	-1.06	-73.60	-72.75	MIN
125	23.88	31.77	-5.14	-40.09	-70.57	MAX
	20.27	26.95	-5.74	-78.33	-120.41	MIN
126	21.59	71.96	-6.27	0.00	-75.67	MAX
	14.80	49.32	-8.70	0.00	-133.60	MIN
127	21.59	71.96	-6.27	0.00	-75.67	MAX
	14.80	49.32	-8.70	0.00	-133.60	MIN
128	21.59	71.96	-6.27	0.00	-75.67	MAX
	14.80	49.32	-8.70	0.00	-133.60	MIN
129	8.67	28.89	-16.47	0.00	82.18	MAX
	-50.44	-168.12	-29.83	0.00	-39.01	MIN
130	-7.19	-7.50	-16.96	48.89	40.96	MAX
	-66.03	-197.64	-33.43	25.73	-66.39	MIN
131	19.17	-2.80	-13.94	219.15	-3.79	MAX
	-31.58	-168.97	-47.51	202.47	-98.85	MIN
132	-11.92	-1.58	3.13	61.29	-37.02	MAX
	-49.68	-125.87	-8.08	38.53	-148.67	MIN
133	0.55	27.58	-10.04	3.16	-26.33	MAX
	-0.74	-49.80	-11.33	-0.07	-122.32	MIN
134	-0.58	24.37	-7.58	0.67	-65.83	MAX
	-0.74	-51.92	-10.33	-1.17	-166.77	MIN
135	0.62	29.40	-10.65	10.49	-13.14	MAX
	-2.99	-46.94	-11.62	3.26	-123.40	MIN
136	-0.62	28.86	-5.77	25.68	-8.63	MAX
	-8.74	-47.64	-6.45	8.73	-129.13	MIN
137	-4.49	23.57	-0.60	37.42	-15.98	MAX
	-19.48	-55.67	-2.78	12.24	-135.25	MIN
138	-7.28	20.67	-0.24	29.71	-47.15	MAX
	-30.62	-70.92	-5.31	8.50	-172.52	MIN
139	-9.05	15.27	-4.61	0.86	-56.74	MAX
	-39.65	-91.05	-5.03	-4.28	-192.19	MIN
140	-2.59	20.93	-4.44	-15.76	-43.34	MAX
	-29.91	-72.21	-9.08	-25.92	-167.86	MIN
141	4.03	23.43	-6.43	-15.26	-8.67	MAX
	-19.74	-58.98	-8.34	-26.93	-126.91	MIN
142	9.37	27.09	-2.28	-2.29	0.45	MAX

APPALTATORE:

**TELESE** S.c.a r.l.  
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II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
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PROGETTAZIONE:

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**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 21 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-14.22	-54.43	-3.23	-3.63	-120.52	MIN
143	6.76	24.64	3.66	22.71	-7.63	MAX
	-17.98	-58.08	-0.04	8.19	-124.63	MIN
144	2.96	23.21	4.06	22.89	-41.02	MAX
	-26.51	-70.64	-2.06	9.00	-163.15	MIN
145	42.49	0.72	-0.05	-0.22	-1.33	MAX
	23.58	0.21	-0.07	-0.34	-6.29	MIN
146	33.05	0.98	-0.07	0.04	-16.97	MAX
	21.72	-4.05	-0.11	0.03	-20.72	MIN
147	36.23	14.14	-0.10	0.19	-37.14	MAX
	25.03	10.54	-0.15	0.12	-55.57	MIN
148	30.59	36.57	-0.11	0.19	-49.37	MAX
	22.33	28.86	-0.16	0.12	-84.50	MIN
149	18.06	60.19	-0.09	0.00	-52.70	MAX
	12.98	43.28	-0.14	0.00	-94.35	MIN
150	18.06	60.19	-0.09	0.00	-52.70	MAX
	12.98	43.28	-0.14	0.00	-94.35	MIN
151	18.06	60.19	-0.09	0.00	-52.70	MAX
	12.98	43.28	-0.14	0.00	-94.35	MIN
152	33.46	111.52	-0.36	0.00	178.60	MAX
	1.69	5.63	-0.78	0.00	-0.29	MIN
153	-10.67	99.66	-0.42	-0.79	300.86	MAX
	-38.93	29.90	-0.91	-1.17	91.13	MIN
154	-122.45	-103.86	-0.49	-1.22	14.73	MAX
	-167.21	-240.30	-1.01	-1.63	-227.27	MIN
155	-18.31	-8.82	-0.66	-1.52	-236.34	MAX
	-74.65	-227.78	-1.27	-1.69	-433.62	MIN
156	-0.58	18.30	-0.81	-1.43	-52.72	MAX
	-34.99	-89.33	-1.47	-1.68	-184.82	MIN
157	0.82	26.04	-10.76	4.62	0.79	MAX
	-3.14	-10.74	-12.57	-9.23	-85.75	MIN
158	0.73	24.13	-7.05	2.95	-32.34	MAX
	0.00	-14.23	-9.87	-8.16	-122.09	MIN
159	1.79	35.24	-13.07	6.81	25.27	MAX
	-7.20	3.61	-15.60	-2.55	-99.68	MIN
160	2.81	43.12	-4.40	13.94	23.39	MAX
	-9.23	19.63	-4.85	2.68	-126.37	MIN
161	-6.44	32.42	5.06	26.22	19.16	MAX
	-9.43	-1.70	3.85	-3.20	-115.50	MIN
162	-2.51	21.87	2.29	22.15	-5.52	MAX
	-12.70	-21.91	1.34	-5.10	-109.95	MIN
163	3.53	22.25	-3.91	2.08	-14.28	MAX
	-12.85	-25.31	-4.29	-3.17	-113.45	MIN
164	1.49	21.22	-9.53	-0.43	-3.81	MAX
	-12.86	-23.94	-10.51	-16.78	-108.56	MIN
165	0.08	30.48	-11.13	-0.02	21.82	MAX
	-7.86	-6.02	-12.85	-17.38	-114.18	MIN
166	1.29	39.82	-2.26	-1.37	25.08	MAX
	-4.52	14.17	-3.19	-3.16	-128.76	MIN
167	2.88	31.07	7.01	15.00	22.66	MAX
	-6.40	-5.89	6.48	-6.17	-112.63	MIN
168	7.10	22.29	5.41	15.57	-2.06	MAX
	-10.13	-23.90	3.40	-5.28	-105.50	MIN
169	11.88	23.46	-0.88	-1.10	-11.53	MAX
	-9.32	-25.79	-1.56	-1.60	-109.09	MIN
170	15.40	-6.96	-2.93	11.59	-3.12	MAX
	9.11	-16.42	-7.73	-5.05	-7.60	MIN
171	30.51	-2.85	-4.61	56.49	-17.86	MAX
	17.72	-11.65	-11.91	40.21	-22.10	MIN
172	29.56	7.31	0.83	73.95	-47.04	MAX
	20.72	-3.07	0.31	42.84	-72.50	MIN
173	23.75	31.50	5.43	78.69	-70.38	MAX
	20.18	26.75	4.91	40.34	-120.13	MIN
174	21.47	71.58	8.40	0.00	-75.48	MAX
	14.72	49.07	6.07	0.00	-133.31	MIN
175	21.47	71.58	8.40	0.00	-75.48	MAX
	14.72	49.07	6.07	0.00	-133.31	MIN
176	21.47	71.58	8.40	0.00	-75.48	MAX
	14.72	49.07	6.07	0.00	-133.31	MIN
177	8.91	29.71	28.22	0.00	81.74	MAX
	-49.84	-166.14	15.68	0.00	-38.37	MIN
178	-6.69	-6.57	31.55	-28.13	40.57	MAX
	-65.30	-195.82	16.03	-50.55	-65.72	MIN
179	19.83	-1.90	45.44	-205.01	-4.04	MAX
	-30.79	-167.42	12.88	-222.26	-98.11	MIN
180	-11.03	-0.75	5.49	-41.70	-37.07	MAX
	-48.82	-124.74	-4.53	-64.68	-147.89	MIN
181	4.03	23.87	-0.93	-12.26	-40.93	MAX
	-25.63	-69.92	-5.75	-25.70	-162.42	MIN
182	8.31	22.75	-6.55	2.15	-1.89	MAX
	-9.28	-23.52	-7.40	-17.70	-104.90	MIN
183	9.54	19.29	-10.56	26.49	14.09	MAX

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 22 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	0.71	8.99	-13.24	-16.84	-45.71	MIN
184	1.61	17.92	-4.78	10.10	-9.50	MAX
	0.93	4.82	-6.43	-8.56	-68.92	MIN
185	-4.06	11.85	-16.38	23.24	38.03	MAX
	-27.63	-0.26	-22.49	-22.95	-61.60	MIN
186	19.78	148.87	-3.42	5.99	153.23	MAX
	-21.28	62.03	-3.80	-0.89	-151.06	MIN
187	-6.36	9.19	15.08	31.97	35.02	MAX
	-24.98	-1.61	9.16	-26.14	-70.53	MIN
188	7.79	16.78	5.99	20.23	12.60	MAX
	6.17	5.35	4.06	-30.97	-56.59	MIN
189	11.63	17.67	-3.14	2.19	5.92	MAX
	1.03	4.00	-3.47	-2.73	-57.49	MIN
190	11.03	15.91	-10.27	25.86	13.02	MAX
	6.69	3.99	-12.70	-15.42	-57.04	MIN
191	-7.86	5.90	-15.11	21.87	35.29	MAX
	-18.30	-4.26	-21.49	-26.39	-72.48	MIN
192	17.20	144.09	-2.06	-0.68	152.36	MAX
	-11.90	60.11	-2.95	-2.78	-156.54	MIN
193	-6.75	5.67	15.69	25.33	35.86	MAX
	-15.54	-4.34	10.95	-27.29	-71.62	MIN
194	16.39	16.18	7.21	15.28	14.13	MAX
	8.71	3.72	6.11	-30.85	-55.45	MIN
195	19.68	17.79	-0.86	-0.79	7.47	MAX
	3.51	3.07	-1.54	-1.47	-55.54	MIN
196	17.70	16.47	-7.97	27.93	14.30	MAX
	9.49	3.92	-10.28	-16.77	-55.03	MIN
197	-10.77	0.84	-7.26	12.14	27.38	MAX
	-20.14	-0.67	-19.16	-4.57	21.13	MIN
198	-20.84	-24.74	-10.78	48.48	-11.03	MAX
	-38.59	-56.28	-27.42	38.69	-19.99	MIN
199	27.94	-6.08	-11.89	382.15	-59.88	MAX
	19.22	-27.77	-46.79	227.42	-97.32	MIN
200	-3.47	12.40	5.69	127.98	-134.86	MAX
	-9.92	-0.67	-2.02	65.26	-238.48	MIN
201	25.57	85.23	7.21	0.00	-193.15	MAX
	20.25	67.50	3.35	0.00	-349.67	MIN
202	25.57	85.23	7.21	0.00	-193.15	MAX
	20.25	67.50	3.35	0.00	-349.67	MIN
203	25.57	85.23	7.21	0.00	-193.15	MAX
	20.25	67.50	3.35	0.00	-349.67	MIN
204	-0.67	-2.23	8.49	0.00	-21.00	MAX
	-66.29	-220.98	6.80	0.00	-119.47	MIN
205	18.85	8.10	9.57	-12.41	-13.37	MAX
	-28.88	-178.97	6.55	-24.37	-110.80	MIN
206	17.92	8.03	0.19	-30.63	-10.73	MAX
	-31.14	-156.42	-0.35	-33.75	-107.02	MIN
207	14.56	15.47	0.52	-40.11	-15.25	MAX
	-29.33	-112.04	-3.52	-56.05	-116.93	MIN
208	8.97	25.95	-3.04	-11.59	-7.35	MAX
	-16.21	-56.70	-5.58	-25.35	-123.07	MIN
209	5.38	32.01	-8.55	3.00	23.05	MAX
	-4.72	-5.20	-9.79	-16.87	-111.37	MIN
210	-5.23	5.91	-12.87	24.40	36.23	MAX
	-12.92	-3.99	-18.73	-26.54	-70.75	MIN
211	1.66	16.99	-4.03	41.21	9.89	MAX
	-0.74	3.93	-6.77	4.81	-15.44	MIN
212	2.22	11.50	-2.49	18.12	1.69	MAX
	-0.23	5.48	-5.07	-0.14	-21.27	MIN
213	1.91	19.83	-18.24	190.78	12.09	MAX
	-7.12	-8.90	-57.14	40.14	-28.27	MIN
214	-27.44	-3.44	-2.35	2.32	-46.18	MAX
	-136.19	-111.53	-2.72	-2.41	-230.64	MIN
215	2.24	18.61	52.38	-37.36	10.99	MAX
	-3.24	-9.48	13.21	-196.11	-31.93	MIN
216	7.33	14.60	2.43	-4.76	10.41	MAX
	3.62	2.75	-0.31	-46.73	-18.98	MIN
217	14.15	12.60	-2.40	2.11	9.17	MAX
	4.36	6.26	-2.76	-2.49	-17.74	MIN
218	10.62	13.64	-4.49	41.84	10.27	MAX
	2.93	2.26	-7.83	8.93	-19.99	MIN
219	3.30	16.79	-17.76	191.39	10.45	MAX
	0.92	-10.32	-57.53	41.14	-34.44	MIN
220	-28.90	-6.00	-1.69	0.00	-47.36	MAX
	-126.56	-112.66	-2.54	-2.38	-235.14	MIN
221	5.93	16.52	52.55	-40.93	10.76	MAX
	1.71	-10.27	14.39	-196.05	-34.11	MIN
222	15.92	13.04	3.18	-8.12	10.83	MAX
	4.33	2.22	1.18	-46.17	-19.46	MIN
223	21.89	11.58	-0.74	-0.41	9.85	MAX
	6.00	6.08	-1.38	-1.30	-17.31	MIN
224	17.26	13.07	-2.70	43.58	10.97	MAX

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.16.0.5.007.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.16.0.5.007	A	23 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	5.03	2.34	-5.91	7.39	-19.22	MIN
225	8.62	16.54	-15.98	193.53	11.05	MAX
	3.06	-10.01	-55.23	40.47	-33.63	MIN
226	-19.41	33.54	0.00	0.00	9.49	MAX
	-31.72	12.08	0.00	0.00	-15.05	MIN
227	-18.44	127.26	0.00	0.00	165.08	MAX
	-20.69	41.51	0.00	0.00	139.32	MIN
228	-141.13	-136.64	0.00	0.00	-166.58	MAX
	-244.05	-261.28	0.00	0.00	-388.96	MIN
229	-31.11	-23.32	0.00	0.00	-448.26	MAX
	-79.47	-171.41	0.00	0.00	-839.48	MIN
230	21.04	70.14	0.00	0.00	-294.22	MAX
	7.13	23.78	0.00	0.00	-556.89	MIN
231	21.04	70.14	0.00	0.00	-294.22	MAX
	7.13	23.78	0.00	0.00	-556.89	MIN
232	21.04	70.14	0.00	0.00	-294.22	MAX
	7.13	23.78	0.00	0.00	-556.89	MIN
233	-1.09	-3.65	0.00	0.00	-39.21	MAX
	-65.48	-218.26	0.00	0.00	-138.48	MIN
234	13.63	6.08	0.00	0.00	-32.91	MAX
	-41.40	-185.23	0.00	0.00	-131.29	MIN
235	20.78	11.04	0.00	0.00	-20.97	MAX
	-27.45	-156.41	0.00	0.00	-118.80	MIN
236	19.64	19.73	0.00	0.00	-11.96	MAX
	-19.16	-106.42	0.00	0.00	-115.25	MIN
237	12.85	29.03	0.00	0.00	1.10	MAX
	-11.56	-52.49	0.00	0.00	-117.96	MIN
238	5.16	41.12	0.00	0.00	25.80	MAX
	-1.45	15.04	0.00	0.00	-126.77	MIN
239	19.36	144.31	0.00	0.00	152.98	MAX
	-7.92	60.82	0.00	0.00	-155.23	MIN
240	-27.05	-6.07	0.00	0.00	-46.91	MAX
	-122.51	-112.33	0.00	0.00	-234.45	MIN
241	-6.27	10.57	-0.77	44.85	4.01	MAX
	-7.07	-0.09	-8.79	29.14	-1.86	MIN
242	0.51	6.15	-0.19	18.85	5.77	MAX
	0.12	1.38	-1.95	9.58	-0.78	MIN
243	-3.98	18.06	-0.75	49.48	-20.94	MAX
	-34.39	-12.10	-17.94	41.37	-28.28	MIN
244	-32.25	-24.23	-1.30	2.19	-182.73	MAX
	-45.63	-110.05	-1.54	-2.28	-209.23	MIN
245	-3.88	17.46	15.57	-37.71	-21.25	MAX
	-30.54	-12.45	-1.98	-52.79	-29.16	MIN
246	0.89	9.58	6.86	-27.12	4.74	MAX
	-5.29	-0.78	-1.46	-48.87	-1.39	MIN
247	11.03	8.54	-1.46	3.12	6.68	MAX
	3.31	1.82	-1.80	-1.73	0.44	MIN
248	4.10	9.23	-1.44	45.37	4.46	MAX
	-6.00	-0.96	-10.38	33.09	-2.02	MIN
249	-5.11	16.80	-0.76	50.19	-21.77	MAX
	-24.14	-12.79	-18.89	42.83	-30.56	MIN
250	-33.55	-24.72	-1.06	1.43	-185.27	MAX
	-37.06	-111.02	-1.68	-1.63	-211.40	MIN
251	-4.52	16.64	15.60	-39.87	-21.65	MAX
	-21.52	-12.80	-1.33	-52.75	-30.50	MIN
252	9.26	8.90	7.31	-29.86	4.66	MAX
	-4.98	-1.00	-0.61	-48.34	-1.97	MIN
253	18.58	8.02	-0.48	0.42	6.86	MAX
	4.46	1.73	-0.92	-0.95	0.34	MIN
254	10.62	8.88	-0.36	46.48	4.76	MAX
	-4.34	-0.95	-9.14	30.76	-1.87	MIN
255	-3.30	16.60	0.33	51.24	-21.48	MAX
	-18.80	-12.71	-17.38	40.97	-30.32	MIN
256	-30.94	-24.61	0.00	0.00	-185.04	MAX
	-34.19	-111.12	0.00	0.00	-211.17	MIN
257	-10.77	0.84	19.16	4.57	27.38	MAX
	-20.14	-0.67	7.26	-12.14	21.13	MIN
258	-20.84	-24.74	27.42	-38.69	-11.03	MAX
	-38.59	-56.28	10.78	-48.48	-19.99	MIN
259	27.94	-6.08	46.79	-227.42	-59.88	MAX
	19.22	-27.77	11.89	-382.15	-97.32	MIN
260	-3.47	12.40	2.02	-65.26	-134.86	MAX
	-9.92	-0.67	-5.69	-127.98	-238.48	MIN
261	25.57	85.23	-3.35	0.00	-193.15	MAX
	20.25	67.50	-7.21	0.00	-349.67	MIN
262	25.57	85.23	-3.35	0.00	-193.15	MAX
	20.25	67.50	-7.21	0.00	-349.67	MIN
263	25.57	85.23	-3.35	0.00	-193.15	MAX
	20.25	67.50	-7.21	0.00	-349.67	MIN
264	-0.67	-2.23	-6.80	0.00	-21.00	MAX
	-66.29	-220.98	-8.49	0.00	-119.47	MIN
265	18.85	8.10	-6.55	24.37	-13.37	MAX



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.16.0.5.007.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.16.0.5.007	A	24 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-28.88	-178.97	-9.57	12.41	-110.80	MIN
266	17.92	8.03	0.35	33.75	-10.73	MAX
	-31.14	-156.42	-0.19	30.63	-107.02	MIN
267	14.56	15.47	3.52	56.05	-15.25	MAX
	-29.33	-112.04	-0.52	40.11	-116.93	MIN
268	8.97	25.95	5.58	25.35	-7.35	MAX
	-16.21	-56.70	3.04	11.59	-123.07	MIN
269	5.38	32.01	9.79	16.87	23.05	MAX
	-4.72	-5.20	8.55	-3.00	-111.37	MIN
270	-5.23	5.91	18.73	26.54	36.23	MAX
	-12.92	-3.99	12.87	-24.40	-70.75	MIN
271	8.62	16.54	55.23	-40.47	11.05	MAX
	3.06	-10.01	15.98	-193.53	-33.63	MIN
272	-3.30	16.60	17.38	-40.97	-21.48	MAX
	-18.80	-12.71	-0.33	-51.24	-30.32	MIN
273	0.47	10.41	-0.47	56.79	5.14	MAX
	-10.67	-0.70	-5.55	34.11	0.84	MIN
274	0.20	-0.32	-0.51	40.13	11.72	MAX
	-0.95	-0.78	-3.63	24.19	1.56	MIN
275	-2.20	4.33	-1.00	56.89	-32.19	MAX
	-25.58	2.74	-13.18	34.52	-38.95	MIN
276	-10.11	-2.05	-0.71	5.41	-51.31	MAX
	-34.23	-23.94	-0.83	0.06	-75.60	MIN
277	-3.30	3.78	11.87	-33.84	-32.48	MAX
	-21.90	2.53	-0.32	-45.40	-39.29	MIN
278	-3.62	8.42	4.45	-32.64	6.39	MAX
	-4.98	-1.33	-0.60	-43.62	1.42	MIN
279	7.27	-0.07	-0.79	8.30	6.78	MAX
	-7.75	-0.35	-1.16	1.40	1.87	MIN
280	-1.03	8.36	-0.95	59.64	5.91	MAX
	-4.94	-1.37	-6.72	35.69	1.22	MIN
281	-4.22	3.70	-1.13	59.69	-33.49	MAX
	-15.34	2.47	-13.98	36.13	-40.14	MIN
282	-11.10	-2.15	-0.57	6.23	-51.87	MAX
	-24.38	-24.13	-1.06	0.70	-77.06	MIN
283	-3.60	3.64	11.91	-34.32	-33.53	MAX
	-12.73	2.45	0.01	-47.32	-40.16	MIN
284	4.12	8.25	4.78	-33.91	5.79	MAX
	-3.87	-1.40	-0.15	-47.60	1.26	MIN
285	14.82	-0.23	-0.25	3.05	6.50	MAX
	-6.50	-0.40	-0.57	0.12	1.87	MIN
286	5.48	8.24	-0.37	53.73	5.82	MAX
	-3.23	-1.39	-5.92	34.49	1.31	MIN
287	-2.39	3.62	-0.54	53.51	-33.47	MAX
	-10.02	2.47	-13.02	35.16	-40.08	MIN
288	-9.46	-2.13	0.00	0.00	-51.73	MAX
	-20.35	-24.18	0.00	0.00	-77.00	MIN
289	-2.39	3.62	13.02	-35.16	-33.47	MAX
	-10.02	2.47	0.54	-53.51	-40.08	MIN
290	15.40	-6.96	7.73	5.05	-3.12	MAX
	9.11	-16.42	2.93	-11.59	-7.60	MIN
291	30.51	-2.85	11.91	-40.21	-17.86	MAX
	17.72	-11.65	4.61	-56.49	-22.10	MIN
292	29.56	7.31	-0.31	-42.84	-47.04	MAX
	20.72	-3.07	-0.83	-73.95	-72.50	MIN
293	23.75	31.50	-4.91	-40.34	-70.38	MAX
	20.18	26.75	-5.43	-78.69	-120.13	MIN
294	21.47	71.58	-6.07	0.00	-75.48	MAX
	14.72	49.07	-8.40	0.00	-133.31	MIN
295	21.47	71.58	-6.07	0.00	-75.48	MAX
	14.72	49.07	-8.40	0.00	-133.31	MIN
296	21.47	71.58	-6.07	0.00	-75.48	MAX
	14.72	49.07	-8.40	0.00	-133.31	MIN
297	8.91	29.71	-15.68	0.00	81.74	MAX
	-49.84	-166.14	-28.22	0.00	-38.37	MIN
298	-6.69	-6.57	-16.03	50.55	40.57	MAX
	-65.30	-195.82	-31.55	28.13	-65.72	MIN
299	19.83	-1.90	-12.88	222.26	-4.04	MAX
	-30.79	-167.42	-45.44	205.01	-98.11	MIN
300	-11.03	-0.75	4.53	64.68	-37.07	MAX
	-48.82	-124.74	-5.49	41.70	-147.89	MIN
301	4.03	23.87	5.75	25.70	-40.93	MAX
	-25.63	-69.92	0.93	12.26	-162.42	MIN
302	8.31	22.75	7.40	17.70	-1.89	MAX
	-9.28	-23.52	6.55	-2.15	-104.90	MIN
303	17.70	16.47	10.28	16.77	14.30	MAX
	9.49	3.92	7.97	-27.93	-55.03	MIN
304	17.26	13.07	5.91	-7.39	10.97	MAX
	5.03	2.34	2.70	-43.58	-19.22	MIN
305	10.62	8.88	9.14	-30.76	4.76	MAX
	-4.34	-0.95	0.36	-46.48	-1.87	MIN
306	5.48	8.24	5.92	-34.49	5.82	MAX

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.16.0.5.007.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.16.0.5.007	A	25 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-3.23	-1.39	0.37	-53.73	1.31	MIN
307	42.49	0.72	0.07	0.34	-1.33	MAX
	23.58	0.21	0.05	0.22	-6.29	MIN
308	33.05	0.98	0.11	-0.03	-16.97	MAX
	21.72	-4.05	0.07	-0.04	-20.72	MIN
309	36.23	14.14	0.15	-0.12	-37.14	MAX
	25.03	10.54	0.10	-0.19	-55.57	MIN
310	30.59	36.57	0.16	-0.12	-49.37	MAX
	22.33	28.86	0.11	-0.19	-84.50	MIN
311	18.06	60.19	0.14	0.00	-52.70	MAX
	12.98	43.28	0.09	0.00	-94.35	MIN
312	18.06	60.19	0.14	0.00	-52.70	MAX
	12.98	43.28	0.09	0.00	-94.35	MIN
313	18.06	60.19	0.14	0.00	-52.70	MAX
	12.98	43.28	0.09	0.00	-94.35	MIN
314	33.46	111.52	0.78	0.00	178.60	MAX
	1.69	5.63	0.36	0.00	-0.29	MIN
315	-10.67	99.66	0.91	1.17	300.86	MAX
	-38.93	29.90	0.42	0.79	91.13	MIN
316	-122.45	-103.86	1.01	1.63	14.73	MAX
	-167.21	-240.30	0.49	1.22	-227.27	MIN
317	-18.31	-8.82	1.27	1.69	-236.34	MAX
	-74.65	-227.78	0.66	1.52	-433.62	MIN
318	-0.58	18.30	1.47	1.68	-52.72	MAX
	-34.99	-89.33	0.81	1.43	-184.82	MIN
319	11.88	23.46	1.56	1.60	-11.53	MAX
	-9.32	-25.79	0.88	1.10	-109.09	MIN
320	19.68	17.79	1.54	1.47	7.47	MAX
	3.51	3.07	0.86	0.79	-55.54	MIN
321	21.89	11.58	1.38	1.30	9.85	MAX
	6.00	6.08	0.74	0.41	-17.31	MIN
322	18.58	8.02	0.92	0.95	6.86	MAX
	4.46	1.73	0.48	-0.42	0.34	MIN
323	14.82	-0.23	0.57	-0.12	6.50	MAX
	-6.50	-0.40	0.25	-3.05	1.87	MIN
324	15.53	-6.95	-2.83	12.15	-3.22	MAX
	9.20	-16.41	-7.57	-4.25	-7.67	MIN
325	30.66	-2.80	-4.45	56.48	-17.96	MAX
	17.82	-11.58	-11.67	40.20	-22.25	MIN
326	29.70	7.45	1.06	73.60	-47.20	MAX
	20.82	-2.89	0.64	42.60	-72.75	MIN
327	23.88	31.77	5.74	78.33	-70.57	MAX
	20.27	26.95	5.14	40.09	-120.41	MIN
328	21.59	71.96	8.70	0.00	-75.67	MAX
	14.80	49.32	6.27	0.00	-133.60	MIN
329	21.59	71.96	8.70	0.00	-75.67	MAX
	14.80	49.32	6.27	0.00	-133.60	MIN
330	21.59	71.96	8.70	0.00	-75.67	MAX
	14.80	49.32	6.27	0.00	-133.60	MIN
331	8.67	28.89	29.83	0.00	82.18	MAX
	-50.44	-168.12	16.47	0.00	-39.01	MIN
332	-7.19	-7.50	33.43	-25.73	40.96	MAX
	-66.03	-197.64	16.96	-48.89	-66.39	MIN
333	19.17	-2.80	47.51	-202.47	-3.79	MAX
	-31.58	-168.97	13.94	-219.15	-98.85	MIN
334	-11.92	-1.58	8.08	-38.53	-37.02	MAX
	-49.68	-125.87	-3.13	-61.29	-148.67	MIN
335	2.96	23.21	2.06	-9.00	-41.02	MAX
	-26.51	-70.64	-4.06	-22.89	-163.15	MIN
336	7.10	22.29	-3.40	5.28	-2.06	MAX
	-10.13	-23.90	-5.41	-15.57	-105.50	MIN
337	16.39	16.18	-6.11	30.85	14.13	MAX
	8.71	3.72	-7.21	-15.28	-55.45	MIN
338	15.92	13.04	-1.18	46.17	10.83	MAX
	4.33	2.22	-3.18	8.12	-19.46	MIN
339	9.26	8.90	0.61	48.34	4.66	MAX
	-4.98	-1.00	-7.31	29.86	-1.97	MIN
340	4.12	8.25	0.15	47.60	5.79	MAX
	-3.87	-1.40	-4.78	33.91	1.26	MIN
341	-10.63	0.86	-7.14	12.97	27.16	MAX
	-19.93	-0.65	-18.97	-3.40	20.99	MIN
342	-20.67	-24.65	-10.60	48.67	-11.27	MAX
	-38.33	-56.14	-27.14	38.81	-20.35	MIN
343	28.21	-5.83	-11.65	381.90	-60.25	MAX
	19.40	-27.39	-46.42	227.26	-97.89	MIN
344	-3.29	12.84	5.97	127.65	-135.28	MAX
	-9.65	-0.06	-1.62	65.04	-239.12	MIN
345	25.79	85.97	7.45	0.00	-193.58	MAX
	20.41	68.04	3.69	0.00	-350.33	MIN
346	25.79	85.97	7.45	0.00	-193.58	MAX
	20.41	68.04	3.69	0.00	-350.33	MIN
347	25.79	85.97	7.45	0.00	-193.58	MAX

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 26 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	20.41	68.04	3.69	0.00	-350.33	MIN
348	-1.22	-4.06	10.28	0.00	-20.24	MAX
	-67.53	-225.09	7.80	0.00	-120.93	MIN
349	17.79	6.10	11.64	-9.86	-12.72	MAX
	-30.39	-182.70	7.72	-22.44	-112.31	MIN
350	16.54	6.14	1.91	-27.18	-10.37	MAX
	-32.77	-159.57	1.49	-30.42	-108.66	MIN
351	12.70	13.78	3.27	-36.67	-15.26	MAX
	-31.08	-114.30	-1.87	-52.67	-118.62	MIN
352	6.76	24.64	0.04	-8.19	-7.63	MAX
	-17.98	-58.08	-3.66	-22.71	-124.63	MIN
353	2.88	31.07	-6.48	6.17	22.66	MAX
	-6.40	-5.89	-7.01	-15.00	-112.63	MIN
354	-6.75	5.67	-10.95	27.29	35.86	MAX
	-15.54	-4.34	-15.69	-25.33	-71.62	MIN
355	5.93	16.52	-14.39	196.05	10.76	MAX
	1.71	-10.27	-52.55	40.93	-34.11	MIN
356	-4.52	16.64	1.33	52.75	-21.65	MAX
	-21.52	-12.80	-15.60	39.87	-30.50	MIN
357	-3.60	3.64	-0.01	47.32	-33.53	MAX
	-12.73	2.45	-11.91	34.32	-40.16	MIN
358	-19.29	33.56	0.23	1.83	9.26	MAX
	-31.53	12.10	0.15	1.20	-15.41	MIN
359	-18.25	127.46	0.33	0.57	164.53	MAX
	-20.44	41.65	0.22	0.37	138.92	MIN
360	-140.92	-136.24	0.44	-0.02	-167.23	MAX
	-243.73	-260.68	0.29	-0.03	-389.95	MIN
361	-30.86	-22.67	0.45	-0.16	-449.03	MAX
	-79.10	-170.42	0.30	-0.24	-840.64	MIN
362	21.33	71.10	0.38	0.00	-295.01	MAX
	7.54	25.12	0.25	0.00	-558.11	MIN
363	21.33	71.10	0.38	0.00	-295.01	MAX
	7.54	25.12	0.25	0.00	-558.11	MIN
364	21.33	71.10	0.38	0.00	-295.01	MAX
	7.54	25.12	0.25	0.00	-558.11	MIN
365	-2.05	-6.83	2.11	0.00	-38.41	MAX
	-67.44	-224.82	1.39	0.00	-141.15	MIN
366	11.87	2.72	2.43	2.78	-32.26	MAX
	-43.78	-191.10	1.59	2.38	-134.04	MIN
367	18.51	7.96	2.57	3.67	-20.75	MAX
	-30.00	-161.28	1.72	3.39	-121.69	MIN
368	16.66	17.09	3.01	4.02	-12.28	MAX
	-21.86	-109.77	2.07	3.29	-118.14	MIN
369	9.37	27.09	3.23	3.63	0.45	MAX
	-14.22	-54.43	2.28	2.29	-120.52	MIN
370	1.29	39.82	3.19	3.16	25.08	MAX
	-4.52	14.17	2.26	1.37	-128.76	MIN
371	17.20	144.09	2.95	2.78	152.36	MAX
	-11.90	60.11	2.06	0.68	-156.54	MIN
372	-28.90	-6.00	2.54	2.38	-47.36	MAX
	-126.56	-112.66	1.69	0.00	-235.14	MIN
373	-33.55	-24.72	1.68	1.63	-185.27	MAX
	-37.06	-111.02	1.06	-1.43	-211.40	MIN
374	-11.10	-2.15	1.06	-0.70	-51.87	MAX
	-24.38	-24.13	0.57	-6.23	-77.06	MIN
375	-10.79	0.86	19.44	7.38	26.86	MAX
	-20.18	-0.65	7.45	-10.13	20.78	MIN
376	-20.79	-24.57	27.80	-37.89	-11.64	MAX
	-38.51	-56.02	11.03	-47.24	-20.92	MIN
377	28.18	-5.53	47.27	-227.16	-60.92	MAX
	19.38	-26.95	12.21	-381.74	-98.91	MIN
378	-3.20	13.39	2.50	-65.27	-136.13	MAX
	-9.52	0.71	-5.34	-127.99	-240.41	MIN
379	26.11	87.03	-2.95	0.00	-194.48	MAX
	20.64	68.81	-6.92	0.00	-351.71	MIN
380	26.11	87.03	-2.95	0.00	-194.48	MAX
	20.64	68.81	-6.92	0.00	-351.71	MIN
381	26.11	87.03	-2.95	0.00	-194.48	MAX
	20.64	68.81	-6.92	0.00	-351.71	MIN
382	-2.21	-7.37	-4.81	0.00	-20.67	MAX
	-69.14	-230.48	-5.90	0.00	-124.07	MIN
383	16.15	2.91	-4.29	27.39	-13.24	MAX
	-32.28	-187.30	-6.62	15.46	-115.46	MIN
384	14.52	3.44	3.38	37.79	-11.17	MAX
	-34.74	-163.15	2.17	34.41	-111.79	MIN
385	10.21	11.81	6.20	59.01	-16.29	MAX
	-33.04	-116.41	2.85	44.44	-121.48	MIN
386	4.03	23.43	8.34	26.93	-8.67	MAX
	-19.74	-58.98	6.43	15.26	-126.91	MIN
387	0.08	30.48	12.85	17.38	21.82	MAX
	-7.86	-6.02	11.13	0.02	-114.18	MIN
388	-7.86	5.90	21.49	26.39	35.29	MAX

APPALTATORE:

**TELESE** S.c.a r.l.  
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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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 27 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-18.30	-4.26	15.11	-21.87	-72.48	MIN
389	3.30	16.79	57.53	-41.14	10.45	MAX
	0.92	-10.32	17.76	-191.39	-34.44	MIN
390	-5.11	16.80	18.89	-42.83	-21.77	MAX
	-24.14	-12.79	0.76	-50.19	-30.56	MIN
391	-4.22	3.70	13.98	-36.13	-33.49	MAX
	-15.34	2.47	1.13	-59.69	-40.14	MIN
392	14.76	-6.96	8.05	9.20	-3.83	MAX
	8.70	-16.43	3.14	-8.62	-8.11	MIN
393	30.03	-2.67	12.28	-38.70	-18.74	MAX
	17.41	-11.38	4.86	-54.19	-23.32	MIN
394	29.45	8.05	0.13	-42.05	-48.61	MAX
	20.65	-2.06	-0.51	-72.74	-74.88	MIN
395	24.01	33.10	-4.55	-40.04	-72.36	MAX
	20.37	27.92	-5.04	-78.23	-123.14	MIN
396	22.29	74.30	-5.85	0.00	-77.59	MAX
	15.26	50.86	-8.06	0.00	-136.53	MIN
397	22.29	74.30	-5.85	0.00	-77.59	MAX
	15.26	50.86	-8.06	0.00	-136.53	MIN
398	22.29	74.30	-5.85	0.00	-77.59	MAX
	15.26	50.86	-8.06	0.00	-136.53	MIN
399	6.52	21.72	-12.80	0.00	80.68	MAX
	-53.80	-179.33	-24.97	0.00	-46.06	MIN
400	-10.68	-14.26	-12.79	54.41	39.27	MAX
	-69.91	-207.07	-27.89	31.41	-73.44	MIN
401	14.92	-8.39	-9.62	226.55	-5.96	MAX
	-35.57	-176.19	-41.80	210.09	-105.74	MIN
402	-17.08	-5.50	8.00	66.78	-39.52	MAX
	-53.55	-129.94	-1.71	46.38	-154.81	MIN
403	-2.59	20.93	9.08	25.92	-43.34	MAX
	-29.91	-72.21	4.44	15.76	-167.86	MIN
404	1.49	21.22	10.51	16.78	-3.81	MAX
	-12.86	-23.94	9.53	0.43	-108.56	MIN
405	11.03	15.91	12.70	15.42	13.02	MAX
	6.69	3.99	10.27	-25.86	-57.04	MIN
406	10.62	13.64	7.83	-8.93	10.27	MAX
	2.93	2.26	4.49	-41.84	-19.99	MIN
407	4.10	9.23	10.38	-33.09	4.46	MAX
	-6.00	-0.96	1.44	-45.37	-2.02	MIN
408	-1.03	8.36	6.72	-35.69	5.91	MAX
	-4.94	-1.37	0.95	-59.64	1.22	MIN
409	40.62	0.65	0.37	6.18	-2.24	MAX
	22.36	0.16	0.25	4.08	-6.94	MIN
410	31.41	1.13	0.36	3.85	-18.16	MAX
	20.66	-3.85	0.24	2.52	-22.36	MIN
411	35.32	14.93	0.38	2.34	-39.37	MAX
	24.44	11.63	0.26	1.52	-58.94	MIN
412	30.47	38.40	0.32	1.13	-52.27	MAX
	22.26	30.20	0.22	0.73	-88.92	MIN
413	19.08	63.61	0.23	0.00	-55.84	MAX
	13.66	45.54	0.16	0.00	-99.12	MIN
414	19.08	63.61	0.23	0.00	-55.84	MAX
	13.66	45.54	0.16	0.00	-99.12	MIN
415	19.08	63.61	0.23	0.00	-55.84	MAX
	13.66	45.54	0.16	0.00	-99.12	MIN
416	29.39	97.97	4.94	0.00	174.49	MAX
	-3.21	-10.70	4.49	0.00	-13.01	MIN
417	-16.80	87.46	5.53	5.77	296.51	MAX
	-45.06	16.10	5.02	4.43	78.50	MIN
418	-129.34	-112.72	5.41	7.21	9.88	MAX
	-173.77	-251.24	4.92	4.62	-239.32	MIN
419	-26.42	-14.60	5.48	6.05	-241.21	MAX
	-80.24	-233.43	5.02	1.82	-443.87	MIN
420	-9.05	15.27	5.03	4.28	-56.74	MAX
	-39.65	-91.05	4.61	-0.86	-192.19	MIN
421	3.53	22.25	4.29	3.17	-14.28	MAX
	-12.85	-25.31	3.91	-2.08	-113.45	MIN
422	11.63	17.67	3.47	2.73	5.92	MAX
	1.03	4.00	3.14	-2.19	-57.49	MIN
423	14.15	12.60	2.76	2.49	9.17	MAX
	4.36	6.26	2.40	-2.11	-17.74	MIN
424	11.03	8.54	1.80	1.73	6.68	MAX
	3.31	1.82	1.46	-3.12	0.44	MIN
425	7.27	-0.07	1.16	-1.40	6.78	MAX
	-7.75	-0.35	0.79	-8.30	1.87	MIN
426	11.41	-7.07	-2.70	17.78	-4.30	MAX
	6.51	-16.61	-7.40	3.58	-8.45	MIN
427	26.87	-2.80	-4.51	62.59	-19.46	MAX
	15.35	-11.58	-11.78	44.20	-24.30	MIN
428	27.25	8.12	0.85	78.11	-50.13	MAX
	19.22	-1.98	0.31	45.55	-77.20	MIN
429	22.96	33.48	5.29	81.03	-74.52	MAX

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 28 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	19.61	28.21	4.81	41.86	-126.43	MIN
430	22.73	75.76	8.18	0.00	-79.99	MAX
	15.55	51.85	5.94	0.00	-140.17	MIN
431	22.73	75.76	8.18	0.00	-79.99	MAX
	15.55	51.85	5.94	0.00	-140.17	MIN
432	22.73	75.76	8.18	0.00	-79.99	MAX
	15.55	51.85	5.94	0.00	-140.17	MIN
433	3.19	10.62	35.05	0.00	72.02	MAX
	-57.66	-192.18	22.44	0.00	-59.99	MIN
434	-15.38	-23.20	39.14	-23.22	30.72	MAX
	-73.65	-216.42	23.51	-43.43	-86.97	MIN
435	9.71	-14.49	52.71	-196.68	-13.92	MAX
	-38.81	-182.01	19.99	-216.76	-117.71	MIN
436	-22.37	-8.06	12.55	-35.60	-45.78	MAX
	-55.56	-131.23	2.33	-65.38	-163.52	MIN
437	-7.28	20.67	5.31	-8.50	-47.15	MAX
	-30.62	-70.92	0.24	-29.71	-172.52	MIN
438	-2.51	21.87	-1.34	5.10	-5.52	MAX
	-12.70	-21.91	-2.29	-22.15	-109.95	MIN
439	7.79	16.78	-4.06	30.97	12.60	MAX
	6.17	5.35	-5.99	-20.23	-56.59	MIN
440	7.33	14.60	0.31	46.73	10.41	MAX
	3.62	2.75	-2.43	4.76	-18.98	MIN
441	0.89	9.58	1.46	48.87	4.74	MAX
	-5.29	-0.78	-6.86	27.12	-1.39	MIN
442	-3.62	8.42	0.60	43.62	6.39	MAX
	-4.98	-1.33	-4.45	32.64	1.42	MIN
443	-15.80	0.59	-7.22	20.18	25.99	MAX
	-27.88	-1.07	-19.13	6.67	20.22	MIN
444	-25.47	-24.90	-11.11	57.59	-12.95	MAX
	-45.71	-56.55	-27.98	44.63	-22.94	MIN
445	23.11	-5.61	-12.57	389.04	-63.72	MAX
	16.05	-27.11	-47.87	231.96	-103.19	MIN
446	-5.07	13.59	4.68	132.31	-140.11	MAX
	-12.36	0.92	-3.46	68.13	-246.46	MIN
447	26.71	89.02	6.22	0.00	-198.91	MAX
	21.09	70.28	1.95	0.00	-358.42	MIN
448	26.71	89.02	6.22	0.00	-198.91	MAX
	21.09	70.28	1.95	0.00	-358.42	MIN
449	26.71	89.02	6.22	0.00	-198.91	MAX
	21.09	70.28	1.95	0.00	-358.42	MIN
450	-9.32	-31.08	17.22	0.00	-42.04	MAX
	-77.07	-256.88	16.15	0.00	-155.67	MIN
451	6.33	-15.64	18.67	-9.91	-34.15	MAX
	-39.72	-206.19	16.82	-17.87	-145.99	MIN
452	3.91	-8.65	9.69	-25.67	-29.79	MAX
	-40.67	-174.43	7.66	-32.88	-138.05	MIN
453	0.10	7.51	7.71	-38.77	-29.82	MAX
	-35.40	-117.95	4.37	-65.74	-139.45	MIN
454	-4.49	23.57	2.78	-12.24	-15.98	MAX
	-19.48	-55.67	0.60	-37.42	-135.25	MIN
455	-6.44	32.42	-3.85	3.20	19.16	MAX
	-9.43	-1.70	-5.06	-26.22	-115.50	MIN
456	-6.36	9.19	-9.16	26.14	35.02	MAX
	-24.98	-1.61	-15.08	-31.97	-70.53	MIN
457	2.24	18.61	-13.21	196.11	10.99	MAX
	-3.24	-9.48	-52.38	37.36	-31.93	MIN
458	-3.88	17.46	1.98	52.79	-21.25	MAX
	-30.54	-12.45	-15.57	37.71	-29.16	MIN
459	-3.30	3.78	0.32	45.40	-32.48	MAX
	-21.90	2.53	-11.87	33.84	-39.29	MIN
460	-28.33	32.82	-0.25	14.39	8.55	MAX
	-45.65	11.68	-0.49	9.31	-16.59	MIN
461	-26.65	126.46	-1.03	12.46	162.32	MAX
	-32.05	41.05	-1.73	8.06	137.37	MIN
462	-147.08	-136.84	-1.89	9.79	-170.51	MAX
	-252.98	-261.66	-3.00	6.59	-395.08	MIN
463	-34.55	-23.40	-2.41	6.67	-453.76	MAX
	-84.57	-171.62	-3.70	4.56	-847.82	MIN
464	21.58	71.94	-2.30	0.00	-300.31	MAX
	7.84	26.15	-3.49	0.00	-566.06	MIN
465	21.58	71.94	-2.30	0.00	-300.31	MAX
	7.84	26.15	-3.49	0.00	-566.06	MIN
466	21.58	71.94	-2.30	0.00	-300.31	MAX
	7.84	26.15	-3.49	0.00	-566.06	MIN
467	-14.12	-47.08	13.64	0.00	-83.05	MAX
	-80.38	-267.92	9.72	0.00	-198.97	MIN
468	-3.52	-26.16	14.18	3.60	-74.56	MAX
	-54.27	-218.83	9.75	-2.90	-188.95	MIN
469	2.71	-9.14	11.88	-3.72	-55.90	MAX
	-36.40	-176.04	8.49	-15.05	-167.05	MIN
470	3.83	13.08	8.85	-10.44	-34.60	MAX

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 29 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-19.66	-109.28	6.64	-28.28	-145.70	MIN
471	-0.62	28.86	6.45	-8.73	-8.63	MAX
	-8.74	-47.64	5.77	-25.68	-129.13	MIN
472	2.81	43.12	4.85	-2.68	23.39	MAX
	-9.23	19.63	4.40	-13.94	-126.37	MIN
473	19.78	148.87	3.80	0.89	153.23	MAX
	-21.28	62.03	3.42	-5.99	-151.06	MIN
474	-27.44	-3.44	2.72	2.41	-46.18	MAX
	-136.19	-111.53	2.35	-2.32	-230.64	MIN
475	-32.25	-24.23	1.54	2.28	-182.73	MAX
	-45.63	-110.05	1.30	-2.19	-209.23	MIN
476	-10.11	-2.05	0.83	-0.06	-51.31	MAX
	-34.23	-23.94	0.71	-5.41	-75.60	MIN
477	-25.16	0.43	18.04	22.72	26.03	MAX
	-43.41	-1.68	6.70	-0.94	20.54	MIN
478	-34.01	-25.29	24.27	-29.42	-12.15	MAX
	-58.85	-57.30	8.97	-34.72	-22.29	MIN
479	12.56	-7.46	41.22	-219.06	-62.02	MAX
	8.66	-29.94	8.38	-370.36	-101.02	MIN
480	-9.92	9.72	-5.38	-59.28	-137.88	MAX
	-19.15	-4.52	-11.04	-119.70	-243.00	MIN
481	25.00	83.35	-10.22	0.00	-196.57	MAX
	19.87	66.23	-12.25	0.00	-354.56	MIN
482	25.00	83.35	-10.22	0.00	-196.57	MAX
	19.87	66.23	-12.25	0.00	-354.56	MIN
483	25.00	83.35	-10.22	0.00	-196.57	MAX
	19.87	66.23	-12.25	0.00	-354.56	MIN
484	-19.08	-63.60	11.33	0.00	-109.87	MAX
	-84.20	-280.67	2.37	0.00	-222.39	MIN
485	-6.89	-35.43	12.73	3.75	-99.04	MAX
	-51.75	-223.27	3.56	-8.62	-210.19	MIN
486	-0.15	-13.16	12.45	2.21	-74.35	MAX
	-29.70	-176.46	6.23	-15.54	-182.28	MIN
487	3.10	13.87	12.22	-1.68	-44.53	MAX
	-11.38	-107.11	9.17	-17.63	-150.70	MIN
488	0.62	29.40	11.62	-3.26	-13.14	MAX
	-2.99	-46.94	10.65	-10.49	-123.40	MIN
489	1.79	35.24	15.60	2.55	25.27	MAX
	-7.20	3.61	13.07	-6.81	-99.68	MIN
490	-4.06	11.85	22.49	22.95	38.03	MAX
	-27.63	-0.26	16.38	-23.24	-61.60	MIN
491	1.91	19.83	57.14	-40.14	12.09	MAX
	-7.12	-8.90	18.24	-190.78	-28.27	MIN
492	-3.98	18.06	17.94	-41.37	-20.94	MAX
	-34.39	-12.10	0.75	-49.48	-28.28	MIN
493	-2.20	4.33	13.18	-34.52	-32.19	MAX
	-25.58	2.74	1.00	-56.89	-38.95	MIN
494	-11.65	-7.30	6.60	23.20	-2.96	MAX
	-20.46	-18.04	2.39	-1.69	-6.51	MIN
495	2.89	-2.85	8.73	-33.32	-15.16	MAX
	-0.37	-11.75	2.87	-46.25	-18.97	MIN
496	6.58	5.69	-4.84	-35.25	-42.14	MAX
	4.42	-5.48	-6.70	-63.89	-65.49	MIN
497	7.75	23.49	-11.47	-34.25	-64.44	MAX
	4.39	18.93	-14.57	-70.74	-110.72	MIN
498	17.82	59.39	-14.44	0.00	-69.02	MAX
	12.31	41.05	-20.39	0.00	-122.87	MIN
499	17.82	59.39	-14.44	0.00	-69.02	MAX
	12.31	41.05	-20.39	0.00	-122.87	MIN
500	17.82	59.39	-14.44	0.00	-69.02	MAX
	12.31	41.05	-20.39	0.00	-122.87	MIN
501	-23.30	-77.67	8.33	0.00	-134.22	MAX
	-84.32	-281.06	-9.97	0.00	-231.25	MIN
502	-6.15	-43.17	9.19	-0.75	-121.29	MAX
	-32.65	-222.70	-5.03	-17.19	-217.55	MIN
503	-1.07	-17.62	10.11	0.49	-92.52	MAX
	-16.82	-179.87	2.72	-18.09	-186.86	MIN
504	1.55	12.89	10.54	0.83	-59.47	MAX
	-4.65	-107.49	8.37	-11.30	-153.91	MIN
505	0.55	27.58	11.33	0.07	-26.33	MAX
	-0.74	-49.80	10.04	-3.16	-122.32	MIN
506	0.82	26.04	12.57	9.23	0.79	MAX
	-3.14	-10.74	10.76	-4.62	-85.75	MIN
507	9.54	19.29	13.24	16.84	14.09	MAX
	0.71	8.99	10.56	-26.49	-45.71	MIN
508	1.66	16.99	6.77	-4.81	9.89	MAX
	-0.74	3.93	4.03	-41.21	-15.44	MIN
509	-6.27	10.57	8.79	-29.14	4.01	MAX
	-7.07	-0.09	0.77	-44.85	-1.86	MIN
510	0.47	10.41	5.55	-34.11	5.14	MAX
	-10.67	-0.70	0.47	-56.79	0.84	MIN
511	-0.93	1.85	3.93	16.65	17.27	MAX

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.16.0.5.007.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.16.0.5.007	A	30 di 119

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
	-1.33	0.62	1.39	-1.38	3.63	MIN
512	2.52	0.36	0.18	-12.79	9.65	MAX
	1.19	-3.41	-0.10	-19.06	-1.51	MIN
513	7.91	9.18	-2.84	-14.77	-7.99	MAX
	4.33	5.04	-3.33	-28.74	-11.26	MIN
514	7.80	33.00	-9.77	-4.55	-9.97	MAX
	5.33	25.99	-14.44	-13.04	-25.46	MIN
515	16.91	56.37	-16.15	0.00	-9.65	MAX
	12.25	40.83	-22.52	0.00	-31.02	MIN
516	16.91	56.37	-16.15	0.00	-9.65	MAX
	12.25	40.83	-22.52	0.00	-31.02	MIN
517	16.91	56.37	-16.15	0.00	-9.65	MAX
	12.25	40.83	-22.52	0.00	-31.02	MIN
518	-21.96	-73.18	2.28	0.00	-159.78	MAX
	-87.05	-290.15	-40.65	0.00	-190.62	MIN
519	-0.18	-35.65	5.65	-3.78	-153.55	MAX
	-11.48	-217.56	-16.71	-21.57	-190.30	MIN
520	0.12	-16.13	9.68	-0.75	-134.01	MAX
	-3.25	-166.97	5.72	-16.78	-191.80	MIN
521	0.54	12.08	10.07	1.12	-102.93	MAX
	0.06	-102.94	8.59	-7.58	-191.44	MIN
522	-0.58	24.37	10.33	1.17	-65.83	MAX
	-0.74	-51.92	7.58	-0.67	-166.77	MIN
523	0.73	24.13	9.87	8.16	-32.34	MAX
	0.00	-14.23	7.05	-2.95	-122.09	MIN
524	1.61	17.92	6.43	8.56	-9.50	MAX
	0.93	4.82	4.78	-10.10	-68.92	MIN
525	2.22	11.50	5.07	0.14	1.69	MAX
	-0.23	5.48	2.49	-18.12	-21.27	MIN
526	0.51	6.15	1.95	-9.58	5.77	MAX
	0.12	1.38	0.19	-18.85	-0.78	MIN
527	0.20	-0.32	3.63	-24.19	11.72	MAX
	-0.95	-0.78	0.51	-40.13	1.56	MIN

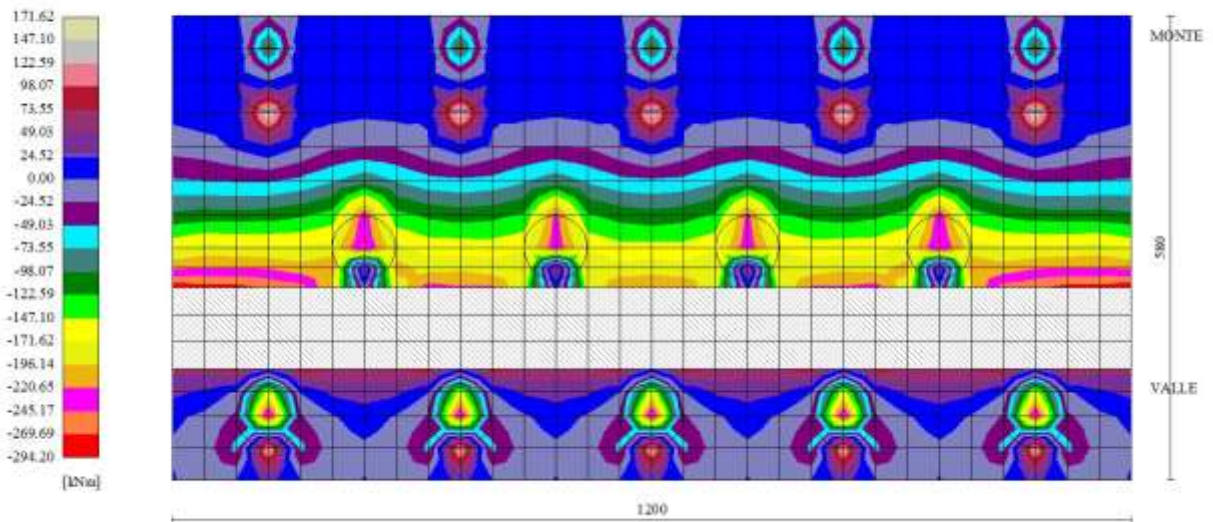


Fig. 8 - Piastra fondazione - Momento My (Combinazione n° 2)



APPALTATORE: <b>TELESE S.c.a r.l.</b> 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: 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.16.0.5.007.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	31 di 119

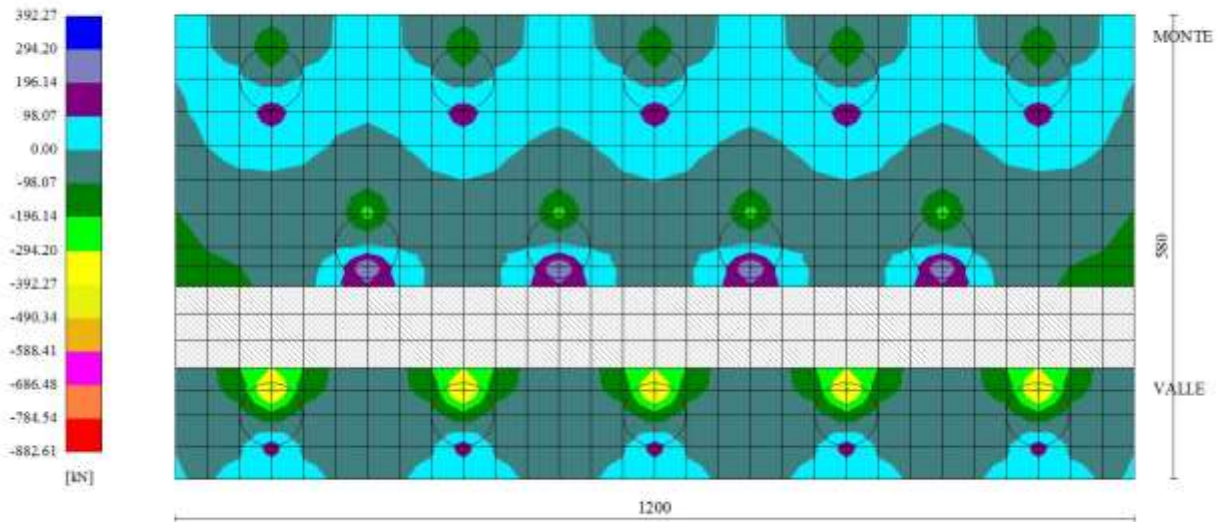


Fig. 9 - Piastra fondazione - Taglio  $T_{yMAX}$  (Combinazione n° 7)

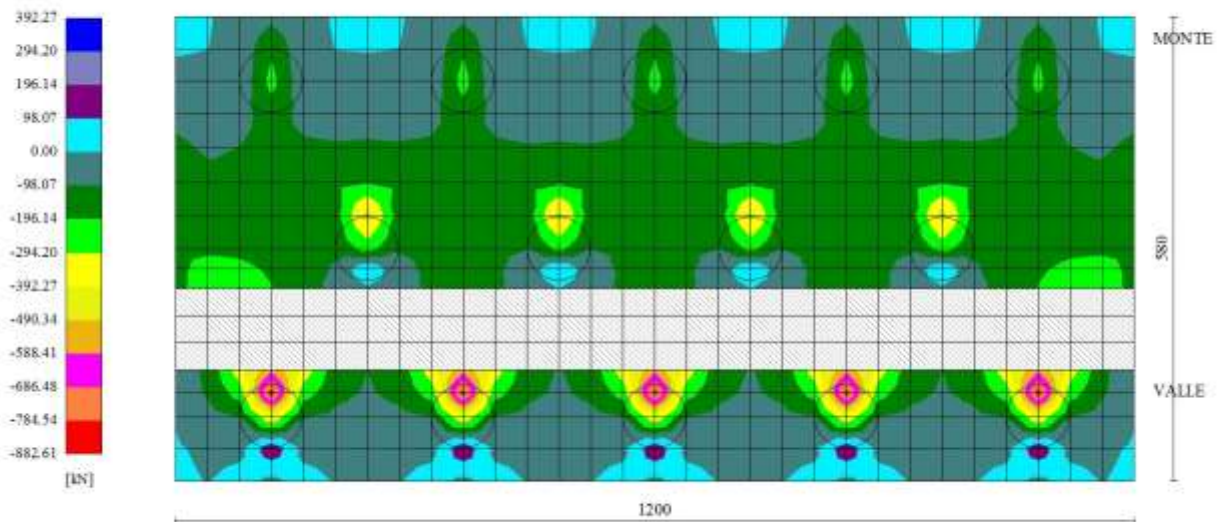


Fig. 10 - Piastra fondazione - Taglio  $T_{yMIN}$  (Combinazione n° 2)

### 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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 32 di 119

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	240.04	4464.72	-138.92	-692.31	-141.09	-703.14
32	3.10	273.07	4399.11	1.67	-209.33	59.30	960.05
49	4.80	286.79	4309.04	15.44	234.74	40.61	894.03
101	10.00	308.98	0.00	0.08	3.39	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	434.26	4464.45	-138.92	-764.94	-141.09	-776.90
32	3.10	464.53	4398.86	1.67	-277.85	59.28	1104.21
49	4.80	474.38	4308.82	15.44	248.11	40.61	1118.99
75	7.40	480.01	4095.48	7.37	249.21	8.42	334.95

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	628.49	4464.49	-138.92	-764.94	-141.09	-776.90
32	3.10	656.00	4398.91	1.67	-277.85	59.28	1104.21
49	4.80	661.98	4308.87	15.44	248.11	40.61	1118.99
56	5.50	662.53	4260.45	14.52	320.35	29.97	918.87

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	82.03	2050.68	-196.41	-704.58	-209.00	-749.76
32	3.10	117.31	1987.66	2.79	-221.60	95.62	951.46
49	4.80	134.17	1905.58	24.90	231.02	65.41	901.93
101	10.00	174.59	0.00	0.13	3.51	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	404.72	4464.62	-196.41	-777.05	-209.00	-826.88
32	3.10	435.41	4399.01	2.78	-289.72	95.54	1091.36
49	4.80	445.85	4308.95	24.88	242.71	65.37	1123.88
79	7.80	452.99	4054.58	9.36	215.64	9.18	244.73

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	727.42	4464.55	-196.41	-777.05	-209.00	-826.88
32	3.10	753.52	4398.95	2.78	-289.72	95.54	1091.36
49	4.80	757.53	4308.88	24.88	242.71	65.37	1123.88
50	4.90	757.54	4302.37	24.87	259.05	62.88	1099.61
101	10.00	723.52	3803.83	0.13	5.07	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	293.35	4464.52	-101.32	-685.46	-100.08	-677.08
32	3.10	325.62	4398.94	0.83	-202.48	39.58	964.85
50	4.90	338.91	4302.39	10.30	245.74	26.29	865.92
99	9.80	354.34	3817.28	0.17	10.03	0.02	1.34

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	418.87	4464.53	-101.32	-757.35	-100.08	-748.10
32	3.10	449.36	4398.94	0.83	-270.40	39.57	1109.73
50	4.90	459.96	4302.39	10.30	266.27	26.29	1088.46
77	7.60	465.89	4075.36	4.45	229.09	4.74	282.43

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

**ITINERARIO NAPOLI – BARI**  
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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	33 di 119

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	544.38	4464.38	-101.32	-757.35	-100.08	-748.10
32	3.10	573.09	4398.79	0.83	-270.40	39.57	1109.73
50	4.90	581.01	4302.24	10.30	266.27	26.29	1088.46
63	6.20	582.66	4205.28	8.22	323.72	13.81	683.93

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	333.88	4464.54	-84.81	-696.63	-87.60	-719.56
33	3.20	366.38	4394.71	0.45	-182.49	29.76	978.39
51	5.00	378.55	4295.74	7.75	250.93	19.89	849.18
91	9.00	389.52	3918.67	1.15	68.02	0.57	35.35

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	414.45	4464.37	-84.81	-768.56	-87.60	-793.85
33	3.20	445.73	4394.55	0.45	-250.26	29.76	1126.67
51	5.00	456.14	4295.57	7.75	275.88	19.89	1068.08
77	7.60	461.85	4075.15	3.60	231.90	3.92	287.00

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	495.02	4464.46	-84.81	-768.56	-87.60	-793.85
33	3.20	525.08	4394.61	0.45	-250.26	29.76	1126.67
51	5.00	533.73	4295.62	7.75	275.88	19.89	1068.08
68	6.70	536.32	4161.85	5.45	302.38	8.09	532.97

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	368.20	4464.47	-53.27	-706.50	-57.08	-757.03
35	3.40	401.69	4385.78	0.55	-127.11	16.26	1007.73
53	5.20	412.58	4281.95	4.24	261.77	10.64	805.60
85	8.40	420.01	3988.93	1.29	115.86	0.99	94.07

Palo n° 2

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	401.19	4464.47	-53.27	-779.02	-57.08	-834.74
35	3.40	434.11	4385.78	0.55	-195.14	16.26	1167.76
53	5.20	444.24	4281.97	4.24	296.13	10.64	1019.39
79	7.80	449.78	4054.50	1.93	216.23	1.99	245.55

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	434.17	4464.51	-53.27	-779.02	-57.08	-834.74
35	3.40	466.53	4385.83	0.55	-195.14	16.26	1167.76
53	5.20	475.90	4282.03	4.24	296.13	10.64	1019.39
75	7.40	479.92	4095.55	2.38	252.58	2.87	341.23

Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	338.29	4464.46	-66.18	-685.48	-65.38	-677.17
33	3.20	370.72	4394.64	0.68	-171.34	23.12	985.08
50	4.90	382.25	4302.32	6.02	245.73	15.81	865.94
90	8.90	393.41	3930.73	0.97	73.65	0.52	41.75

Palo n° 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  
 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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	34 di 119

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	404.72	4464.62	-66.18	-756.90	-65.38	-747.73
33	3.20	436.15	4394.78	0.68	-238.82	23.12	1135.87
50	4.90	446.32	4302.43	6.02	266.15	15.81	1087.18
79	7.80	452.99	4054.58	2.42	210.24	2.42	237.16

**Palo n° 3**

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	471.16	4464.45	-66.18	-756.90	-65.38	-747.73
33	3.20	501.58	4394.63	0.68	-238.82	23.12	1135.87
50	4.90	510.40	4302.31	6.02	266.15	15.81	1087.18
70	6.90	514.10	4143.64	3.84	286.53	5.30	466.02

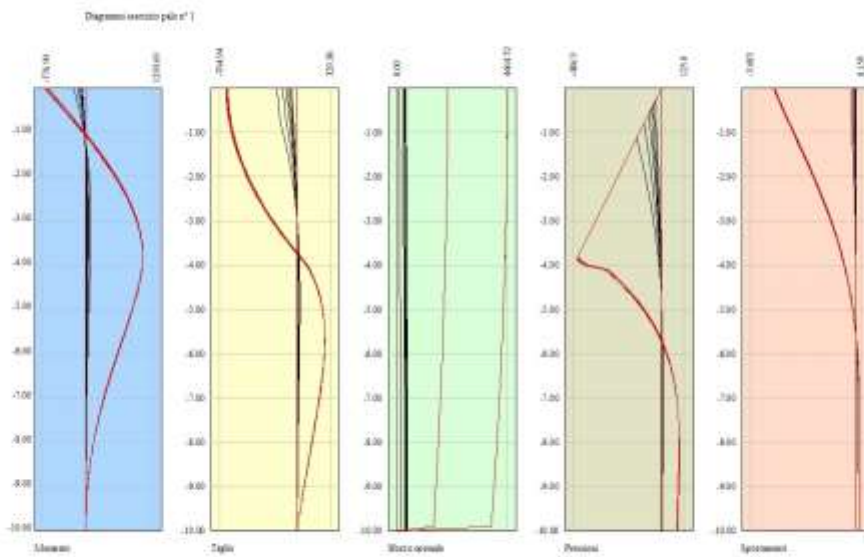


Fig. 11 - Sollecitazioni palo (Palo n° 1) (Inviluppo)

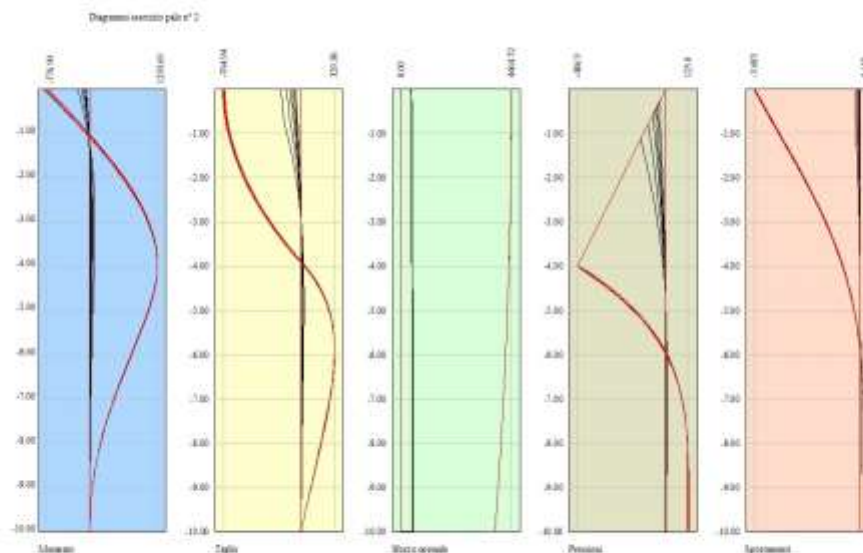


Fig. 12 - Sollecitazioni palo (Palo n° 2) (Inviluppo)

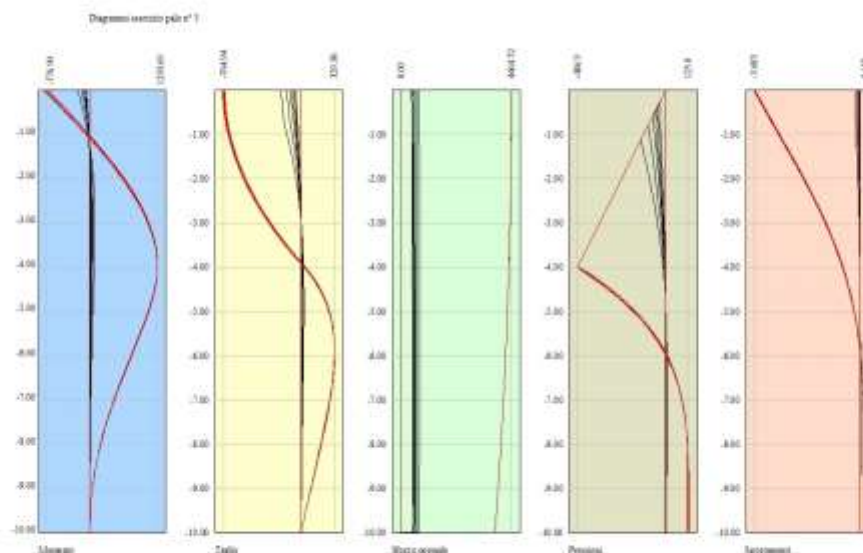


Fig. 13 - Sollecitazioni palo (Palo n° 3) (Inviluppo)

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>					
PROGETTAZIONE: Mandataria: _____ Mandante: _____	<b>PROGETTO ESECUTIVO</b>					
<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 <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.A.DOCX</b>	<b>IF2R</b>	<b>2.2.E.ZZ</b>	<b>CL</b>	<b>TR.16.0.5.007</b>	<b>A</b>	<b>36 di 119</b>

### 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	H	Afi	Afs	M	N	Mu	Nu	FS
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	100	70	10.05	12.72	2.90	6.50	864.60	1937.89	298.137
2	100	70	10.05	12.72	3.91	8.22	791.59	1661.29	202.209
3	100	70	10.05	12.72	4.93	9.93	750.48	1512.00	152.244
4	100	70	10.05	12.72	5.94	11.65	725.66	1421.87	122.079
5	100	70	10.05	12.72	6.96	13.36	709.04	1361.55	101.891
6	100	70	10.05	12.72	7.97	15.08	697.15	1318.35	87.432
7	100	70	10.05	12.72	8.99	16.79	688.21	1285.89	76.567
8	100	70	10.05	12.72	10.00	18.51	681.24	1260.60	68.104
9	100	70	10.05	12.72	11.02	20.23	675.66	1240.35	61.326
10	100	70	10.05	12.72	12.03	21.94	671.10	1223.76	55.774
11	100	70	10.05	12.72	13.05	23.66	667.29	1209.93	51.145
12	100	70	10.05	12.72	14.06	25.37	664.06	1198.21	47.224
13	100	70	10.05	12.72	15.08	27.09	661.30	1188.17	43.863
14	100	70	10.05	12.72	16.09	28.80	658.90	1179.46	40.948
15	100	70	10.05	12.72	17.11	30.52	656.80	1171.83	38.396
16	100	70	10.05	12.72	18.12	32.24	654.94	1165.10	36.144
17	100	70	10.05	12.72	19.14	33.95	653.30	1159.12	34.141
18	100	70	10.05	12.72	20.15	35.67	651.82	1153.77	32.348
19	100	70	10.05	12.72	21.16	37.38	650.49	1148.94	30.735
20	100	70	10.05	12.72	22.18	39.10	649.29	1144.58	29.274
21	100	70	10.05	12.72	23.19	40.81	648.20	1140.61	27.947
22	100	70	10.05	12.72	24.21	42.53	647.20	1136.99	26.734
23	100	70	10.05	12.72	25.22	44.25	646.29	1133.67	25.622
24	100	70	10.05	12.72	26.24	45.96	645.44	1130.61	24.599
25	100	70	10.05	12.72	27.25	47.68	644.67	1127.79	23.655
26	100	70	10.05	12.72	28.27	49.39	643.95	1125.18	22.780
27	100	70	10.05	12.72	29.28	51.11	643.28	1122.75	21.968
28	100	70	10.05	12.72	30.30	52.82	642.66	1120.49	21.212
29	100	70	10.05	12.72	31.31	54.54	642.08	1118.38	20.506
30	100	70	10.05	12.72	32.33	56.26	641.53	1116.41	19.845
31	100	70	10.05	12.72	33.34	57.97	641.02	1114.56	19.226
32	100	70	10.05	12.72	34.39	59.69	639.98	1110.78	18.610
33	100	70	10.05	12.72	35.51	61.40	637.84	1103.00	17.963
34	100	70	10.05	12.72	36.70	63.12	634.64	1091.37	17.291
35	100	70	10.05	12.72	37.98	64.83	630.43	1076.10	16.598
36	100	70	10.05	12.72	39.35	66.55	625.30	1057.48	15.890
37	100	101	10.05	12.72	47.82	71.95	1308.30	1968.29	27.357
38	100	101	10.05	12.72	49.43	74.42	1309.91	1972.34	26.502
39	100	101	10.05	12.72	51.35	76.89	1299.33	1945.77	25.304
40	100	101	10.05	12.72	53.51	79.37	1281.10	1899.98	23.939
41	100	101	10.05	12.72	55.85	81.84	1259.22	1845.05	22.545
42	100	101	10.05	12.72	58.31	84.31	1236.43	1787.82	21.205
43	100	101	10.05	12.72	60.88	86.79	1213.25	1729.63	19.930
44	100	101	10.05	12.72	63.81	87.24	1151.23	1573.89	18.041
45	100	101	10.05	12.72	68.21	89.71	1101.31	1448.54	16.147
46	100	101	10.05	12.72	72.84	92.18	1057.37	1338.21	14.517
47	100	101	10.05	12.72	77.71	94.66	1018.49	1240.57	13.106
48	100	101	10.05	12.72	82.83	97.13	977.10	1145.75	11.796
49	100	101	10.05	12.72	88.21	99.60	938.86	1060.16	10.644

APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
 IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 37 di 119

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
50	100	101	10.05	12.72	93.84	102.08	905.06	984.51	9.645
51	100	101	10.05	12.72	99.73	104.55	875.02	917.28	8.774
52	100	101	10.05	12.72	105.89	107.02	848.19	857.21	8.010
53	100	101	10.05	12.72	106.02	107.07	847.68	856.07	7.995
54	100	101	10.05	12.72	112.46	109.54	823.65	802.30	7.324
55	100	101	10.05	12.72	119.17	112.01	801.99	753.82	6.730
56	100	101	10.05	12.72	126.17	114.48	782.38	709.93	6.201
57	100	101	10.05	12.72	133.45	116.96	764.57	670.06	5.729
58	100	101	10.05	12.72	141.03	119.43	748.33	633.70	5.306

## Fondazione

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
1-1-P	12.57	12.57	1.53	-0.29	1715.46	100.000 (1)
1-2-P	12.57	12.57	1.19	-2.19	1715.46	100.000 (1)
1-3-P	12.57	12.57	0.16	-8.30	1715.46	100.000 (1)
1-4-P	12.57	12.57	0.46	-27.06	-1715.46	63.397 (2)
1-5-P	12.57	12.57	0.22	-39.72	-1715.46	43.191 (2)
1-6-P	12.57	12.57	0.05	-45.53	-1715.46	37.681 (2)
1-7-P	12.57	12.57	0.31	-28.10	-1715.46	61.045 (2)
1-8-P	12.57	12.57	2.13	-7.83	1715.46	100.000 (1)
1-9-P	12.57	12.57	13.88	-0.33	1715.46	100.000 (1)
1-10-P	12.57	12.57	20.95	-0.03	1715.46	81.896 (2)
1-11-P	12.57	12.57	22.52	-0.01	1715.46	76.168 (2)
1-12-P	12.57	12.57	18.93	-0.38	1715.46	90.628 (2)
1-13-P	12.57	12.57	5.13	-3.82	1715.46	100.000 (1)
1-14-P	12.57	12.57	0.65	-19.56	-1715.46	87.717 (2)
1-15-P	12.57	12.57	0.16	-34.27	-1715.46	50.061 (2)
1-16-P	12.57	12.57	0.31	-31.29	-1715.46	54.820 (2)
1-17-P	12.57	12.57	2.49	-18.24	-1715.46	94.026 (2)
1-18-P	12.57	12.57	7.29	-2.17	1715.46	100.000 (1)
1-19-P	12.57	12.57	20.15	-0.21	1715.46	85.154 (2)
1-20-P	12.57	12.57	24.33	0.00	1715.46	70.520 (2)
1-21-P	12.57	12.57	21.71	-0.07	1715.46	79.000 (2)
1-22-P	12.57	12.57	12.81	-0.64	1715.46	100.000 (1)
1-23-P	12.57	12.57	2.49	-8.23	1715.46	100.000 (1)
1-24-P	12.57	12.57	0.68	-25.74	-1715.46	66.642 (2)
1-25-P	12.57	12.57	0.00	-40.38	-1715.46	42.488 (2)
1-26-P	12.57	12.57	0.68	-25.74	-1715.46	66.642 (2)
1-27-P	12.57	12.57	2.49	-8.23	1715.46	100.000 (1)
1-28-P	12.57	12.57	12.81	-0.64	1715.46	100.000 (1)
1-29-P	12.57	12.57	21.71	-0.07	1715.46	79.000 (2)
1-30-P	12.57	12.57	24.33	0.00	1715.46	70.520 (2)
1-31-P	12.57	12.57	20.15	-0.21	1715.46	85.154 (2)
1-32-P	12.57	12.57	7.29	-2.17	1715.46	100.000 (1)
1-33-P	12.57	12.57	2.49	-18.24	-1715.46	94.026 (2)
1-34-P	12.57	12.57	0.31	-31.29	-1715.46	54.820 (2)
1-35-P	12.57	12.57	0.16	-34.27	-1715.46	50.061 (2)
1-36-P	12.57	12.57	0.65	-19.56	-1715.46	87.717 (2)
1-37-P	12.57	12.57	5.13	-3.82	1715.46	100.000 (1)
1-38-P	12.57	12.57	18.93	-0.38	1715.46	90.628 (2)
1-39-P	12.57	12.57	22.52	-0.01	1715.46	76.168 (2)
1-40-P	12.57	12.57	20.95	-0.03	1715.46	81.896 (2)
1-41-P	12.57	12.57	13.88	-0.33	1715.46	100.000 (1)
1-42-P	12.57	12.57	2.13	-7.83	1715.46	100.000 (1)
1-43-P	12.57	12.57	0.31	-28.10	-1715.46	61.045 (2)
1-44-P	12.57	12.57	0.05	-45.53	-1715.46	37.681 (2)
1-45-P	12.57	12.57	0.22	-39.72	-1715.46	43.191 (2)
1-46-P	12.57	12.57	0.46	-27.06	-1715.46	63.397 (2)
1-47-P	12.57	12.57	0.16	-8.30	1715.46	100.000 (1)
1-48-P	12.57	12.57	1.19	-2.19	1715.46	100.000 (1)
1-49-P	12.57	12.57	1.53	-0.29	1715.46	100.000 (1)
2-1-P	12.57	12.57	6.18	0.00	1715.46	100.000 (1)
2-2-P	12.57	12.57	6.06	-0.01	1715.46	100.000 (1)
2-3-P	12.57	12.57	5.23	-0.41	1715.46	100.000 (1)
2-4-P	12.57	12.57	5.45	-3.59	1715.46	100.000 (1)
2-5-P	12.57	12.57	0.92	-34.62	-1715.46	40.164 (1)
2-6-P	12.57	12.57	0.19	-73.61	-1715.46	22.195 (2)
2-7-P	12.57	12.57	1.32	-18.67	-1715.46	73.488 (2)
2-8-P	12.57	12.57	10.57	-0.72	1715.46	100.000 (1)
2-9-P	12.57	12.57	16.36	0.00	1715.46	100.000 (1)
2-10-P	12.57	12.57	19.14	0.00	1715.46	89.649 (2)
2-11-P	12.57	12.57	19.86	0.00	1715.46	86.360 (2)
2-12-P	12.57	12.57	17.80	0.00	1715.46	96.371 (2)
2-13-P	12.57	12.57	12.78	-0.32	1715.46	100.000 (1)
2-14-P	12.57	12.57	3.57	-4.81	1715.46	100.000 (1)
2-15-P	12.57	12.57	0.26	-58.98	-1715.46	27.700 (2)
2-16-P	12.57	12.57	0.84	-38.64	-1715.46	35.667 (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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	38 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
2-17-P	12.57	12.57	9.99	-2.28	1715.46	100.000 (1)
2-18-P	12.57	12.57	13.68	-0.13	1715.46	100.000 (1)
2-19-P	12.57	12.57	18.20	0.00	1715.46	94.274 (2)
2-20-P	12.57	12.57	20.38	0.00	1715.46	84.188 (2)
2-21-P	12.57	12.57	19.02	0.00	1715.46	90.188 (2)
2-22-P	12.57	12.57	15.82	0.00	1715.46	100.000 (1)
2-23-P	12.57	12.57	10.83	-0.93	1715.46	100.000 (1)
2-24-P	12.57	12.57	0.78	-26.94	-1715.46	50.945 (2)
2-25-P	12.57	12.57	0.08	-81.01	-1715.46	20.167 (2)
2-26-P	12.57	12.57	0.78	-26.94	-1715.46	50.945 (2)
2-27-P	12.57	12.57	10.83	-0.93	1715.46	100.000 (1)
2-28-P	12.57	12.57	15.82	0.00	1715.46	100.000 (1)
2-29-P	12.57	12.57	19.02	0.00	1715.46	90.188 (2)
2-30-P	12.57	12.57	20.38	0.00	1715.46	84.188 (2)
2-31-P	12.57	12.57	18.20	0.00	1715.46	94.274 (2)
2-32-P	12.57	12.57	13.68	-0.13	1715.46	100.000 (1)
2-33-P	12.57	12.57	9.99	-2.28	1715.46	100.000 (1)
2-34-P	12.57	12.57	0.84	-38.64	-1715.46	35.667 (1)
2-35-P	12.57	12.57	0.26	-58.98	-1715.46	27.700 (2)
2-36-P	12.57	12.57	3.57	-4.81	1715.46	100.000 (1)
2-37-P	12.57	12.57	12.78	-0.32	1715.46	100.000 (1)
2-38-P	12.57	12.57	17.80	0.00	1715.46	96.371 (2)
2-39-P	12.57	12.57	19.86	0.00	1715.46	86.360 (2)
2-40-P	12.57	12.57	19.14	0.00	1715.46	89.649 (2)
2-41-P	12.57	12.57	16.36	0.00	1715.46	100.000 (1)
2-42-P	12.57	12.57	10.57	-0.72	1715.46	100.000 (1)
2-43-P	12.57	12.57	1.32	-18.67	-1715.46	73.488 (2)
2-44-P	12.57	12.57	0.19	-73.61	-1715.46	22.195 (2)
2-45-P	12.57	12.57	0.92	-34.62	-1715.46	40.164 (1)
2-46-P	12.57	12.57	5.45	-3.59	1715.46	100.000 (1)
2-47-P	12.57	12.57	5.23	-0.41	1715.46	100.000 (1)
2-48-P	12.57	12.57	6.06	-0.01	1715.46	100.000 (1)
2-49-P	12.57	12.57	6.18	0.00	1715.46	100.000 (1)
5-1-P	15.71	15.71	0.04	-12.21	2143.15	100.000 (1)
5-2-P	15.71	15.71	0.00	-17.39	-2143.15	100.000 (1)
5-3-P	15.71	15.71	0.00	-27.41	-2143.15	78.196 (2)
5-4-P	15.71	15.71	0.00	-33.64	-2143.15	63.699 (2)
5-5-P	15.71	15.71	0.00	-36.68	-2143.15	58.435 (2)
5-6-P	15.71	15.71	0.00	-38.42	-2143.15	55.788 (2)
5-7-P	15.71	15.71	0.00	-38.20	-2143.15	56.106 (2)
5-8-P	15.71	15.71	0.00	-41.25	-2143.15	51.954 (2)
5-9-P	15.71	15.71	0.00	-46.48	-2143.15	46.106 (2)
5-10-P	15.71	15.71	0.00	-66.49	-2143.15	32.231 (2)
5-11-P	15.71	15.71	0.00	-69.80	-2143.15	30.704 (2)
5-12-P	15.71	15.71	0.00	-48.06	-2143.15	44.598 (2)
5-13-P	15.71	15.71	0.00	-38.33	-2143.15	55.907 (2)
5-14-P	15.71	15.71	0.00	-32.90	-2143.15	65.148 (2)
5-15-P	15.71	15.71	0.00	-32.57	-2143.15	65.806 (2)
5-16-P	15.71	15.71	0.00	-32.03	-2143.15	66.910 (2)
5-17-P	15.71	15.71	0.00	-31.35	-2143.15	68.352 (2)
5-18-P	15.71	15.71	0.00	-37.03	-2143.15	57.871 (2)
5-19-P	15.71	15.71	0.00	-48.71	-2143.15	44.000 (2)
5-20-P	15.71	15.71	0.05	-69.42	-2143.15	30.871 (2)
5-21-P	15.71	15.71	0.00	-56.65	-2143.15	37.829 (2)
5-22-P	15.71	15.71	0.00	-38.58	-2143.15	55.556 (2)
5-23-P	15.71	15.71	0.00	-32.47	-2143.15	65.997 (2)
5-24-P	15.71	15.71	0.00	-30.16	-2143.15	71.070 (2)
5-25-P	15.71	15.71	0.00	-30.36	-2143.15	70.588 (2)
5-26-P	15.71	15.71	0.00	-30.16	-2143.15	71.070 (2)
5-27-P	15.71	15.71	0.00	-32.47	-2143.15	65.997 (2)
5-28-P	15.71	15.71	0.00	-38.58	-2143.15	55.556 (2)
5-29-P	15.71	15.71	0.00	-56.65	-2143.15	37.829 (2)
5-30-P	15.71	15.71	0.05	-69.42	-2143.15	30.871 (2)
5-31-P	15.71	15.71	0.00	-48.71	-2143.15	44.000 (2)
5-32-P	15.71	15.71	0.00	-37.03	-2143.15	57.871 (2)
5-33-P	15.71	15.71	0.00	-31.35	-2143.15	68.352 (2)
5-34-P	15.71	15.71	0.00	-32.03	-2143.15	66.910 (2)
5-35-P	15.71	15.71	0.00	-32.57	-2143.15	65.806 (2)
5-36-P	15.71	15.71	0.00	-32.90	-2143.15	65.148 (2)
5-37-P	15.71	15.71	0.00	-38.33	-2143.15	55.907 (2)
5-38-P	15.71	15.71	0.00	-48.06	-2143.15	44.598 (2)
5-39-P	15.71	15.71	0.00	-69.80	-2143.15	30.704 (2)
5-40-P	15.71	15.71	0.00	-66.49	-2143.15	32.231 (2)
5-41-P	15.71	15.71	0.00	-46.48	-2143.15	46.106 (2)
5-42-P	15.71	15.71	0.00	-41.25	-2143.15	51.954 (2)
5-43-P	15.71	15.71	0.00	-38.20	-2143.15	56.106 (2)
5-44-P	15.71	15.71	0.00	-38.42	-2143.15	55.788 (2)
5-45-P	15.71	15.71	0.00	-36.68	-2143.15	58.435 (2)
5-46-P	15.71	15.71	0.00	-33.64	-2143.15	63.699 (2)
5-47-P	15.71	15.71	0.00	-27.41	-2143.15	78.196 (2)
5-48-P	15.71	15.71	0.00	-17.39	-2143.15	100.000 (1)

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	39 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
5-49-P	15.71	15.71	0.04	-12.21	2143.15	100.000 (1)
6-1-P	12.57	12.57	1.94	-2.13	1723.83	100.000 (1)
6-2-P	12.57	12.57	1.64	-2.60	1723.83	100.000 (1)
6-3-P	12.57	12.57	1.58	-3.66	1723.83	100.000 (1)
6-4-P	12.57	12.57	1.42	-5.14	1723.83	100.000 (1)
6-5-P	12.57	12.57	0.49	-6.51	1723.83	100.000 (1)
6-6-P	12.57	12.57	0.09	-9.02	1723.83	100.000 (1)
6-7-P	12.57	12.57	0.00	-13.73	-1723.83	100.000 (1)
6-8-P	12.57	12.57	0.00	-23.33	-1723.83	73.887 (2)
6-9-P	12.57	12.57	0.00	-30.39	-1723.83	56.725 (2)
6-10-P	12.57	12.57	0.00	-37.22	-1723.83	46.312 (2)
6-11-P	12.57	12.57	0.00	-38.42	-1723.83	44.863 (2)
6-12-P	12.57	12.57	0.00	-31.00	-1723.83	55.611 (2)
6-13-P	12.57	12.57	0.00	-24.15	-1723.83	71.392 (2)
6-14-P	12.57	12.57	0.00	-17.94	-1723.83	96.071 (2)
6-15-P	12.57	12.57	0.00	-8.65	-1723.83	100.000 (1)
6-16-P	12.57	12.57	0.00	-8.64	-1723.83	100.000 (1)
6-17-P	12.57	12.57	0.00	-17.24	-1723.83	99.995 (2)
6-18-P	12.57	12.57	0.00	-23.11	-1723.83	74.602 (2)
6-19-P	12.57	12.57	0.00	-29.25	-1723.83	58.938 (2)
6-20-P	12.57	12.57	0.00	-36.04	-1723.83	47.837 (2)
6-21-P	12.57	12.57	0.00	-31.54	-1723.83	54.663 (2)
6-22-P	12.57	12.57	0.00	-24.62	-1723.83	70.008 (2)
6-23-P	12.57	12.57	0.00	-18.29	-1723.83	94.258 (2)
6-24-P	12.57	12.57	0.00	-7.55	-1723.83	100.000 (1)
6-25-P	12.57	12.57	0.00	-4.70	-1723.83	100.000 (1)
6-26-P	12.57	12.57	0.00	-7.55	-1723.83	100.000 (1)
6-27-P	12.57	12.57	0.00	-18.29	-1723.83	94.258 (2)
6-28-P	12.57	12.57	0.00	-24.62	-1723.83	70.008 (2)
6-29-P	12.57	12.57	0.00	-31.54	-1723.83	54.663 (2)
6-30-P	12.57	12.57	0.00	-36.04	-1723.83	47.837 (2)
6-31-P	12.57	12.57	0.00	-29.25	-1723.83	58.938 (2)
6-32-P	12.57	12.57	0.00	-23.11	-1723.83	74.602 (2)
6-33-P	12.57	12.57	0.00	-17.24	-1723.83	99.995 (2)
6-34-P	12.57	12.57	0.00	-8.64	-1723.83	100.000 (1)
6-35-P	12.57	12.57	0.00	-8.65	-1723.83	100.000 (1)
6-36-P	12.57	12.57	0.00	-17.94	-1723.83	96.071 (2)
6-37-P	12.57	12.57	0.00	-24.15	-1723.83	71.392 (2)
6-38-P	12.57	12.57	0.00	-31.00	-1723.83	55.611 (2)
6-39-P	12.57	12.57	0.00	-38.42	-1723.83	44.863 (2)
6-40-P	12.57	12.57	0.00	-37.22	-1723.83	46.312 (2)
6-41-P	12.57	12.57	0.00	-30.39	-1723.83	56.725 (2)
6-42-P	12.57	12.57	0.00	-23.33	-1723.83	73.887 (2)
6-43-P	12.57	12.57	0.00	-13.73	-1723.83	100.000 (1)
6-44-P	12.57	12.57	0.09	-9.02	1723.83	100.000 (1)
6-45-P	12.57	12.57	0.49	-6.51	1723.83	100.000 (1)
6-46-P	12.57	12.57	1.42	-5.14	1723.83	100.000 (1)
6-47-P	12.57	12.57	1.58	-3.66	1723.83	100.000 (1)
6-48-P	12.57	12.57	1.64	-2.60	1723.83	100.000 (1)
6-49-P	12.57	12.57	1.94	-2.13	1723.83	100.000 (1)
7-1-P	12.57	12.57	3.27	-2.40	1723.83	100.000 (1)
7-2-P	12.57	12.57	4.79	-3.17	1723.83	100.000 (1)
7-3-P	12.57	12.57	5.80	-6.32	1723.83	100.000 (1)
7-4-P	12.57	12.57	6.31	-13.32	1723.83	100.000 (1)
7-5-P	12.57	12.57	1.88	-13.91	1723.83	100.000 (1)
7-6-P	12.57	12.57	0.09	-15.19	1723.83	100.000 (1)
7-7-P	12.57	12.57	1.34	-12.58	1723.83	100.000 (1)
7-8-P	12.57	12.57	2.65	-8.44	1723.83	100.000 (1)
7-9-P	12.57	12.57	3.03	-2.24	1723.83	100.000 (1)
7-10-P	12.57	12.57	3.09	-1.72	1723.83	100.000 (1)
7-11-P	12.57	12.57	3.72	-2.00	1723.83	100.000 (1)
7-12-P	12.57	12.57	5.00	-3.28	1723.83	100.000 (1)
7-13-P	12.57	12.57	5.24	-8.53	1723.83	100.000 (1)
7-14-P	12.57	12.57	4.63	-13.71	1723.83	100.000 (1)
7-15-P	12.57	12.57	0.53	-13.47	1723.83	100.000 (1)
7-16-P	12.57	12.57	0.13	-11.66	1723.83	100.000 (1)
7-17-P	12.57	12.57	4.16	-10.92	1723.83	100.000 (1)
7-18-P	12.57	12.57	4.16	-3.75	1723.83	100.000 (1)
7-19-P	12.57	12.57	5.83	-0.84	1723.83	100.000 (1)
7-20-P	12.57	12.57	6.04	-0.35	1723.83	100.000 (1)
7-21-P	12.57	12.57	6.39	-0.69	1723.83	100.000 (1)
7-22-P	12.57	12.57	6.45	-2.22	1723.83	100.000 (1)
7-23-P	12.57	12.57	5.69	-8.10	1723.83	100.000 (1)
7-24-P	12.57	12.57	1.97	-9.59	1723.83	100.000 (1)
7-25-P	12.57	12.57	0.61	-12.57	1723.83	100.000 (1)
7-26-P	12.57	12.57	1.97	-9.59	1723.83	100.000 (1)
7-27-P	12.57	12.57	5.69	-8.10	1723.83	100.000 (1)
7-28-P	12.57	12.57	6.45	-2.22	1723.83	100.000 (1)
7-29-P	12.57	12.57	6.39	-0.69	1723.83	100.000 (1)
7-30-P	12.57	12.57	6.04	-0.35	1723.83	100.000 (1)
7-31-P	12.57	12.57	5.83	-0.84	1723.83	100.000 (1)



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.

**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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	40 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
7-32-P	12.57	12.57	4.16	-3.75	1723.83	100.000 (1)
7-33-P	12.57	12.57	4.16	-10.92	1723.83	100.000 (1)
7-34-P	12.57	12.57	0.13	-11.66	1723.83	100.000 (1)
7-35-P	12.57	12.57	0.53	-13.47	1723.83	100.000 (1)
7-36-P	12.57	12.57	4.63	-13.71	1723.83	100.000 (1)
7-37-P	12.57	12.57	5.24	-8.53	1723.83	100.000 (1)
7-38-P	12.57	12.57	5.00	-3.28	1723.83	100.000 (1)
7-39-P	12.57	12.57	3.72	-2.00	1723.83	100.000 (1)
7-40-P	12.57	12.57	3.09	-1.72	1723.83	100.000 (1)
7-41-P	12.57	12.57	3.03	-2.24	1723.83	100.000 (1)
7-42-P	12.57	12.57	2.65	-8.44	1723.83	100.000 (1)
7-43-P	12.57	12.57	1.34	-12.58	1723.83	100.000 (1)
7-44-P	12.57	12.57	0.09	-15.19	1723.83	100.000 (1)
7-45-P	12.57	12.57	1.88	-13.91	1723.83	100.000 (1)
7-46-P	12.57	12.57	6.31	-13.32	1723.83	100.000 (1)
7-47-P	12.57	12.57	5.80	-6.32	1723.83	100.000 (1)
7-48-P	12.57	12.57	4.79	-3.17	1723.83	100.000 (1)
7-49-P	12.57	12.57	3.27	-2.40	1723.83	100.000 (1)
8-1-P	15.71	15.71	0.99	-0.59	2143.15	100.000 (1)
8-2-P	15.71	15.71	1.02	-3.00	2143.15	100.000 (1)
8-3-P	15.71	15.71	2.08	-7.47	2143.15	100.000 (1)
8-4-P	15.71	15.71	4.30	-14.60	2143.15	100.000 (1)
8-5-P	15.71	15.71	0.00	-26.81	2143.15	100.000 (1)
8-6-P	15.71	15.71	0.00	-38.22	-2143.15	100.000 (1)
8-7-P	15.71	15.71	0.41	-18.11	2143.15	100.000 (1)
8-8-P	15.71	15.71	2.96	-8.83	2143.15	100.000 (1)
8-9-P	15.71	15.71	1.58	-1.40	2143.15	100.000 (1)
8-10-P	15.71	15.71	3.75	0.00	2143.15	100.000 (1)
8-11-P	15.71	15.71	4.73	-0.07	2143.15	100.000 (1)
8-12-P	15.71	15.71	3.05	-1.46	2143.15	100.000 (1)
8-13-P	15.71	15.71	4.14	-7.55	2143.15	100.000 (1)
8-14-P	15.71	15.71	2.93	-14.67	2143.15	100.000 (1)
8-15-P	15.71	15.71	0.00	-31.47	2143.15	100.000 (1)
8-16-P	15.71	15.71	0.00	-27.06	2143.15	100.000 (1)
8-17-P	15.71	15.71	4.80	-11.35	2143.15	100.000 (1)
8-18-P	15.71	15.71	3.37	-3.73	2143.15	100.000 (1)
8-19-P	15.71	15.71	4.80	0.00	2143.15	100.000 (1)
8-20-P	15.71	15.71	8.46	0.00	2143.15	100.000 (1)
8-21-P	15.71	15.71	6.67	0.00	2143.15	100.000 (1)
8-22-P	15.71	15.71	4.24	-1.22	2143.15	100.000 (1)
8-23-P	15.71	15.71	5.18	-7.86	2143.15	100.000 (1)
8-24-P	15.71	15.71	0.00	-17.01	2143.15	100.000 (1)
8-25-P	15.71	15.71	0.00	-37.09	-2143.15	99.555 (1)
8-26-P	15.71	15.71	0.00	-17.01	2143.15	100.000 (1)
8-27-P	15.71	15.71	5.18	-7.86	2143.15	100.000 (1)
8-28-P	15.71	15.71	4.24	-1.22	2143.15	100.000 (1)
8-29-P	15.71	15.71	6.67	0.00	2143.15	100.000 (1)
8-30-P	15.71	15.71	8.46	0.00	2143.15	100.000 (1)
8-31-P	15.71	15.71	4.80	0.00	2143.15	100.000 (1)
8-32-P	15.71	15.71	3.37	-3.73	2143.15	100.000 (1)
8-33-P	15.71	15.71	4.80	-11.35	2143.15	100.000 (1)
8-34-P	15.71	15.71	0.00	-27.06	2143.15	100.000 (1)
8-35-P	15.71	15.71	0.00	-31.47	2143.15	100.000 (1)
8-36-P	15.71	15.71	2.93	-14.67	2143.15	100.000 (1)
8-37-P	15.71	15.71	4.14	-7.55	2143.15	100.000 (1)
8-38-P	15.71	15.71	3.05	-1.46	2143.15	100.000 (1)
8-39-P	15.71	15.71	4.73	-0.07	2143.15	100.000 (1)
8-40-P	15.71	15.71	3.75	0.00	2143.15	100.000 (1)
8-41-P	15.71	15.71	1.58	-1.40	2143.15	100.000 (1)
8-42-P	15.71	15.71	2.96	-8.83	2143.15	100.000 (1)
8-43-P	15.71	15.71	0.41	-18.11	2143.15	100.000 (1)
8-44-P	15.71	15.71	0.00	-38.22	-2143.15	100.000 (1)
8-45-P	15.71	15.71	0.00	-26.81	2143.15	100.000 (1)
8-46-P	15.71	15.71	4.30	-14.60	2143.15	100.000 (1)
8-47-P	15.71	15.71	2.08	-7.47	2143.15	100.000 (1)
8-48-P	15.71	15.71	1.02	-3.00	2143.15	100.000 (1)
8-49-P	15.71	15.71	0.99	-0.59	2143.15	100.000 (1)
9-1-S	15.71	15.71	1.45	-5.64	2151.71	100.000 (1)
9-2-S	15.71	15.71	0.04	-10.05	2151.71	100.000 (1)
9-3-S	15.71	15.71	0.10	-14.51	2151.71	100.000 (1)
9-4-S	15.71	15.71	1.11	-24.38	-2151.71	88.259 (2)
9-5-S	15.71	15.71	5.14	-17.65	-2151.71	97.513 (2)
9-6-S	15.71	15.71	21.57	-4.69	2151.71	79.811 (2)
9-7-S	15.71	15.71	65.87	0.00	2151.71	33.145 (1)
9-8-S	15.71	15.71	0.00	-282.08	-2151.71	7.628 (2)
9-9-S	15.71	15.71	0.00	-223.41	-2151.71	9.631 (2)
9-10-S	15.71	15.71	0.00	-178.53	-2151.71	12.053 (2)
9-11-S	15.71	15.71	0.00	-138.15	-2151.71	15.575 (2)
9-12-S	15.71	15.71	0.00	-99.50	-2151.71	21.624 (2)
9-13-S	15.71	15.71	0.00	-66.30	-2151.71	32.452 (2)
9-14-S	15.71	15.71	0.16	-36.92	-2151.71	58.277 (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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 41 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
9-15-S	15.71	15.71	4.99	-8.79	2151.71	100.000 (1)
9-16-S	15.71	15.71	9.83	-5.16	2151.71	100.000 (1)
9-17-S	15.71	15.71	13.67	-3.83	2151.71	100.000 (1)
9-18-S	15.71	15.71	11.31	-5.76	2151.71	100.000 (1)
9-19-S	15.71	15.71	9.26	-7.21	2151.71	100.000 (1)
9-20-S	15.71	15.71	5.28	-4.85	2151.71	100.000 (1)
9-21-S	15.71	15.71	3.87	-2.95	2151.71	100.000 (1)
9-22-S	15.71	15.71	3.68	-1.14	2151.71	100.000 (1)
10-1-S	15.71	15.71	9.57	-3.92	2151.71	100.000 (1)
10-2-S	15.71	15.71	24.02	-11.27	2151.71	71.651 (2)
10-3-S	15.71	15.71	14.89	-17.55	2151.71	86.712 (2)
10-4-S	15.71	15.71	2.00	-74.61	-2151.71	28.838 (2)
10-5-S	15.71	15.71	2.85	-85.51	-2151.71	21.568 (2)
10-6-S	15.71	15.71	11.87	-40.58	-2151.71	31.811 (2)
10-7-S	15.71	15.71	73.52	0.00	2151.71	33.823 (1)
10-8-S	15.71	15.71	0.00	-249.02	-2151.71	8.641 (2)
10-9-S	15.71	15.71	0.00	-214.52	-2151.71	10.030 (2)
10-10-S	15.71	15.71	0.00	-178.72	-2151.71	12.040 (2)
10-11-S	15.71	15.71	0.00	-144.19	-2151.71	14.923 (2)
10-12-S	15.71	15.71	0.00	-109.49	-2151.71	19.651 (2)
10-13-S	15.71	15.71	0.00	-73.90	-2151.71	29.117 (2)
10-14-S	15.71	15.71	0.00	-39.32	-2151.71	54.728 (2)
10-15-S	15.71	15.71	4.46	-4.11	2151.71	100.000 (1)
10-16-S	15.71	15.71	28.59	-1.91	2151.71	60.199 (2)
10-17-S	15.71	15.71	58.42	-0.99	2151.71	36.831 (2)
10-18-S	15.71	15.71	32.91	-3.18	2151.71	65.390 (2)
10-19-S	15.71	15.71	4.45	-25.22	2151.71	97.775 (1)
10-20-S	15.71	15.71	7.66	-28.05	-2151.71	76.723 (2)
10-21-S	15.71	15.71	5.10	-24.48	-2151.71	87.895 (2)
10-22-S	15.71	15.71	1.81	-4.38	2151.71	100.000 (1)
11-1-S	15.71	15.71	0.49	-7.24	2151.71	100.000 (1)
11-2-S	15.71	15.71	0.71	-7.38	2151.71	100.000 (1)
11-3-S	15.71	15.71	0.81	-5.21	2151.71	100.000 (1)
11-4-S	15.71	15.71	5.07	-1.40	2151.71	100.000 (1)
11-5-S	15.71	15.71	18.83	0.00	2151.71	100.000 (1)
11-6-S	15.71	15.71	41.42	0.00	2151.71	54.187 (1)
11-7-S	15.71	15.71	70.88	0.00	2151.71	30.356 (2)
11-8-S	15.71	15.71	0.00	-115.30	-2151.71	18.662 (2)
11-9-S	15.71	15.71	4.19	-108.46	-2151.71	19.839 (2)
11-10-S	15.71	15.71	0.00	-200.90	-2151.71	10.710 (2)
11-11-S	15.71	15.71	0.00	-187.31	-2151.71	11.487 (2)
11-12-S	15.71	15.71	0.00	-159.72	-2151.71	13.472 (2)
11-13-S	15.71	15.71	0.00	-106.39	-2151.71	20.225 (2)
11-14-S	15.71	15.71	0.00	-63.31	-2151.71	33.989 (2)
11-15-S	15.71	15.71	0.00	-31.13	-2151.71	69.110 (2)
11-16-S	15.71	15.71	1.33	-6.78	2151.71	100.000 (1)
11-17-S	15.71	15.71	5.69	-1.80	2151.71	100.000 (1)
11-18-S	15.71	15.71	6.61	-1.22	2151.71	100.000 (1)
11-19-S	15.71	15.71	6.96	-0.93	2151.71	100.000 (1)
11-20-S	15.71	15.71	5.34	-0.74	2151.71	100.000 (1)
11-21-S	15.71	15.71	3.91	-0.59	2151.71	100.000 (1)
11-22-S	15.71	15.71	2.68	-0.56	2151.71	100.000 (1)
12-1-S	15.71	15.71	11.76	-2.55	2151.71	100.000 (1)
12-2-S	15.71	15.71	25.24	-8.74	2151.71	68.205 (2)
12-3-S	15.71	15.71	14.91	-17.31	2151.71	86.587 (2)
12-4-S	15.71	15.71	1.49	-84.32	-2151.71	25.517 (2)
12-5-S	15.71	15.71	1.74	-98.51	-2151.71	21.843 (2)
12-6-S	15.71	15.71	4.80	-43.95	-2151.71	39.166 (2)
12-7-S	15.71	15.71	72.87	0.00	2151.71	35.441 (1)
12-8-S	15.71	15.71	0.00	-224.58	-2151.71	9.581 (2)
12-9-S	15.71	15.71	0.00	-189.91	-2151.71	11.330 (2)
12-10-S	15.71	15.71	0.00	-163.86	-2151.71	13.132 (2)
12-11-S	15.71	15.71	0.00	-136.04	-2151.71	15.817 (2)
12-12-S	15.71	15.71	0.00	-107.11	-2151.71	20.089 (2)
12-13-S	15.71	15.71	0.00	-74.51	-2151.71	28.877 (2)
12-14-S	15.71	15.71	0.00	-41.23	-2151.71	52.183 (2)
12-15-S	15.71	15.71	2.91	-3.81	2151.71	100.000 (1)
12-16-S	15.71	15.71	29.59	-2.29	2151.71	72.707 (2)
12-17-S	15.71	15.71	62.56	-1.99	2151.71	34.395 (2)
12-18-S	15.71	15.71	34.74	-5.35	2151.71	61.929 (2)
12-19-S	15.71	15.71	4.37	-30.65	2151.71	89.477 (1)
12-20-S	15.71	15.71	6.03	-31.72	-2151.71	67.830 (2)
12-21-S	15.71	15.71	3.25	-27.18	-2151.71	79.179 (2)
12-22-S	15.71	15.71	1.51	-5.09	2151.71	100.000 (1)
13-1-S	15.71	15.71	1.14	-6.57	2151.71	100.000 (1)
13-2-S	15.71	15.71	0.50	-9.98	2151.71	100.000 (1)
13-3-S	15.71	15.71	0.58	-10.56	2151.71	100.000 (1)
13-4-S	15.71	15.71	4.89	-5.96	2151.71	100.000 (1)
13-5-S	15.71	15.71	15.07	-1.04	2151.71	100.000 (1)
13-6-S	15.71	15.71	37.29	0.00	2151.71	62.118 (1)
13-7-S	15.71	15.71	70.37	0.00	2151.71	30.579 (2)

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.

**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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	42 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
13-8-S	15.71	15.71	0.22	-116.93	-2151.71	17.526 (2)
13-9-S	15.71	15.71	6.60	-108.97	-2151.71	19.746 (2)
13-10-S	15.71	15.71	0.00	-186.82	-2151.71	11.517 (2)
13-11-S	15.71	15.71	0.00	-174.11	-2151.71	12.359 (2)
13-12-S	15.71	15.71	0.00	-148.80	-2151.71	14.460 (2)
13-13-S	15.71	15.71	0.00	-99.94	-2151.71	21.531 (2)
13-14-S	15.71	15.71	0.00	-59.66	-2151.71	36.068 (2)
13-15-S	15.71	15.71	0.00	-28.61	-2151.71	75.212 (2)
13-16-S	15.71	15.71	1.04	-6.17	2151.71	100.000 (1)
13-17-S	15.71	15.71	4.10	-2.09	2151.71	100.000 (1)
13-18-S	15.71	15.71	6.46	-2.71	2151.71	100.000 (1)
13-19-S	15.71	15.71	7.37	-2.67	2151.71	100.000 (1)
13-20-S	15.71	15.71	4.96	-1.23	2151.71	100.000 (1)
13-21-S	15.71	15.71	3.47	-0.57	2151.71	100.000 (1)
13-22-S	15.71	15.71	2.58	-0.42	2151.71	100.000 (1)
14-1-S	18.85	18.85	6.61	-6.04	2570.49	100.000 (1)
14-2-S	18.85	18.85	9.13	-10.03	2570.49	100.000 (1)
14-3-S	18.85	18.85	4.96	-14.17	2570.49	100.000 (1)
14-4-S	18.85	18.85	1.94	-49.43	-2570.49	52.006 (2)
14-5-S	18.85	18.85	5.03	-51.34	-2570.49	33.382 (2)
14-6-S	18.85	18.85	18.51	-22.40	-2570.49	45.893 (2)
14-7-S	18.85	18.85	71.51	0.00	2570.49	38.711 (1)
14-8-S	18.85	18.85	0.00	-189.68	-2570.49	13.552 (2)
14-9-S	18.85	18.85	0.00	-174.29	-2570.49	14.749 (2)
14-10-S	18.85	18.85	0.00	-164.99	-2570.49	15.580 (2)
14-11-S	18.85	18.85	0.00	-140.88	-2570.49	18.246 (2)
14-12-S	18.85	18.85	0.00	-113.92	-2570.49	22.564 (2)
14-13-S	18.85	18.85	0.00	-79.79	-2570.49	32.218 (2)
14-14-S	18.85	18.85	0.00	-47.19	-2570.49	54.474 (2)
14-15-S	18.85	18.85	1.85	-8.86	2570.49	100.000 (1)
14-16-S	18.85	18.85	12.51	-4.58	2570.49	100.000 (1)
14-17-S	18.85	18.85	35.51	-2.20	2570.49	72.392 (2)
14-18-S	18.85	18.85	7.50	-5.54	2570.49	100.000 (1)
14-19-S	18.85	18.85	6.14	-17.19	2570.49	100.000 (1)
14-20-S	18.85	18.85	3.40	-15.57	2570.49	100.000 (1)
14-21-S	18.85	18.85	2.58	-10.31	2570.49	100.000 (1)
14-22-S	18.85	18.85	2.75	-3.00	2570.49	100.000 (1)
15-1-S	15.71	15.71	6.61	-6.04	2151.71	100.000 (1)
15-2-S	15.71	15.71	9.13	-10.03	2151.71	100.000 (1)
15-3-S	15.71	15.71	4.96	-14.17	2151.71	100.000 (1)
15-4-S	15.71	15.71	1.94	-49.43	-2151.71	43.533 (2)
15-5-S	15.71	15.71	5.03	-51.34	-2151.71	27.943 (2)
15-6-S	15.71	15.71	18.51	-22.40	-2151.71	38.416 (2)
15-7-S	15.71	15.71	71.51	0.00	2151.71	32.404 (1)
15-8-S	15.71	15.71	0.00	-189.68	-2151.71	11.344 (2)
15-9-S	15.71	15.71	0.00	-174.29	-2151.71	12.346 (2)
15-10-S	15.71	15.71	0.00	-164.99	-2151.71	13.042 (2)
15-11-S	15.71	15.71	0.00	-140.88	-2151.71	15.274 (2)
15-12-S	15.71	15.71	0.00	-113.92	-2151.71	18.888 (2)
15-13-S	15.71	15.71	0.00	-79.79	-2151.71	26.969 (2)
15-14-S	15.71	15.71	0.00	-47.19	-2151.71	45.599 (2)
15-15-S	15.71	15.71	1.85	-8.86	2151.71	100.000 (1)
15-16-S	15.71	15.71	12.51	-4.58	2151.71	100.000 (1)
15-17-S	15.71	15.71	35.51	-2.20	2151.71	60.598 (2)
15-18-S	15.71	15.71	24.29	-4.29	2151.71	88.589 (2)
15-19-S	15.71	15.71	6.14	-17.19	2151.71	100.000 (1)
15-20-S	15.71	15.71	3.40	-15.57	2151.71	100.000 (1)
15-21-S	15.71	15.71	2.58	-10.31	2151.71	100.000 (1)
15-22-S	15.71	15.71	2.75	-3.00	2151.71	100.000 (1)
16-1-S	15.71	15.71	1.14	-6.57	2151.71	100.000 (1)
16-2-S	15.71	15.71	0.50	-9.98	2151.71	100.000 (1)
16-3-S	15.71	15.71	0.58	-10.56	2151.71	100.000 (1)
16-4-S	15.71	15.71	4.89	-5.96	2151.71	100.000 (1)
16-5-S	15.71	15.71	15.07	-1.04	2151.71	100.000 (1)
16-6-S	15.71	15.71	37.29	0.00	2151.71	62.118 (1)
16-7-S	15.71	15.71	70.37	0.00	2151.71	30.579 (2)
16-8-S	15.71	15.71	0.22	-116.93	-2151.71	17.526 (2)
16-9-S	15.71	15.71	6.60	-108.97	-2151.71	19.746 (2)
16-10-S	15.71	15.71	0.00	-186.82	-2151.71	11.517 (2)
16-11-S	15.71	15.71	0.00	-174.11	-2151.71	12.359 (2)
16-12-S	15.71	15.71	0.00	-148.80	-2151.71	14.460 (2)
16-13-S	15.71	15.71	0.00	-99.94	-2151.71	21.531 (2)
16-14-S	15.71	15.71	0.00	-59.66	-2151.71	36.068 (2)
16-15-S	15.71	15.71	0.00	-28.61	-2151.71	75.212 (2)
16-16-S	15.71	15.71	1.04	-6.17	2151.71	100.000 (1)
16-17-S	15.71	15.71	4.10	-2.09	2151.71	100.000 (1)
16-18-S	15.71	15.71	6.46	-2.71	2151.71	100.000 (1)
16-19-S	15.71	15.71	7.37	-2.67	2151.71	100.000 (1)
16-20-S	15.71	15.71	4.96	-1.23	2151.71	100.000 (1)
16-21-S	15.71	15.71	3.47	-0.57	2151.71	100.000 (1)
16-22-S	15.71	15.71	2.58	-0.42	2151.71	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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	43 di 119

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
17-1-S	15.71	15.71	11.76	-2.55	2151.71	100.000 (1)
17-2-S	15.71	15.71	25.24	-8.74	2151.71	68.205 (2)
17-3-S	15.71	15.71	14.91	-17.31	2151.71	86.587 (2)
17-4-S	15.71	15.71	1.49	-84.32	-2151.71	25.517 (2)
17-5-S	15.71	15.71	1.74	-98.51	-2151.71	21.843 (2)
17-6-S	15.71	15.71	4.80	-43.95	-2151.71	39.166 (2)
17-7-S	15.71	15.71	72.87	0.00	2151.71	35.441 (1)
17-8-S	15.71	15.71	0.00	-224.58	-2151.71	9.581 (2)
17-9-S	15.71	15.71	0.00	-189.91	-2151.71	11.330 (2)
17-10-S	15.71	15.71	0.00	-163.86	-2151.71	13.132 (2)
17-11-S	15.71	15.71	0.00	-136.04	-2151.71	15.817 (2)
17-12-S	15.71	15.71	0.00	-107.11	-2151.71	20.089 (2)
17-13-S	15.71	15.71	0.00	-74.51	-2151.71	28.877 (2)
17-14-S	15.71	15.71	0.00	-41.23	-2151.71	52.183 (2)
17-15-S	15.71	15.71	2.91	-3.81	2151.71	100.000 (1)
17-16-S	15.71	15.71	29.59	-2.29	2151.71	72.707 (2)
17-17-S	15.71	15.71	62.56	-1.99	2151.71	34.395 (2)
17-18-S	15.71	15.71	34.74	-5.35	2151.71	61.929 (2)
17-19-S	15.71	15.71	4.37	-30.65	2151.71	89.477 (1)
17-20-S	15.71	15.71	6.03	-31.72	-2151.71	67.830 (2)
17-21-S	15.71	15.71	3.25	-27.18	-2151.71	79.179 (2)
17-22-S	15.71	15.71	1.51	-5.09	2151.71	100.000 (1)
18-1-S	15.71	15.71	0.49	-7.24	2151.71	100.000 (1)
18-2-S	15.71	15.71	0.71	-7.38	2151.71	100.000 (1)
18-3-S	15.71	15.71	0.81	-5.21	2151.71	100.000 (1)
18-4-S	15.71	15.71	5.07	-1.40	2151.71	100.000 (1)
18-5-S	15.71	15.71	18.83	0.00	2151.71	100.000 (1)
18-6-S	15.71	15.71	41.42	0.00	2151.71	54.187 (1)
18-7-S	15.71	15.71	70.88	0.00	2151.71	30.356 (2)
18-8-S	15.71	15.71	0.00	-115.30	-2151.71	18.662 (2)
18-9-S	15.71	15.71	4.19	-108.46	-2151.71	19.839 (2)
18-10-S	15.71	15.71	0.00	-200.90	-2151.71	10.710 (2)
18-11-S	15.71	15.71	0.00	-187.31	-2151.71	11.487 (2)
18-12-S	15.71	15.71	0.00	-159.72	-2151.71	13.472 (2)
18-13-S	15.71	15.71	0.00	-106.39	-2151.71	20.225 (2)
18-14-S	15.71	15.71	0.00	-63.31	-2151.71	33.989 (2)
18-15-S	15.71	15.71	0.00	-31.13	-2151.71	69.110 (2)
18-16-S	15.71	15.71	1.33	-6.78	2151.71	100.000 (1)
18-17-S	15.71	15.71	5.69	-1.80	2151.71	100.000 (1)
18-18-S	15.71	15.71	6.61	-1.22	2151.71	100.000 (1)
18-19-S	15.71	15.71	6.96	-0.93	2151.71	100.000 (1)
18-20-S	15.71	15.71	5.34	-0.74	2151.71	100.000 (1)
18-21-S	15.71	15.71	3.91	-0.59	2151.71	100.000 (1)
18-22-S	15.71	15.71	2.68	-0.56	2151.71	100.000 (1)
19-1-S	15.71	15.71	9.57	-3.92	2151.71	100.000 (1)
19-2-S	15.71	15.71	24.02	-11.27	2151.71	71.651 (2)
19-3-S	15.71	15.71	14.89	-17.55	2151.71	86.712 (2)
19-4-S	15.71	15.71	2.00	-74.61	-2151.71	28.838 (2)
19-5-S	15.71	15.71	2.85	-85.51	-2151.71	21.568 (2)
19-6-S	15.71	15.71	11.87	-40.58	-2151.71	31.811 (2)
19-7-S	15.71	15.71	73.52	0.00	2151.71	33.823 (1)
19-8-S	15.71	15.71	0.00	-249.02	-2151.71	8.641 (2)
19-9-S	15.71	15.71	0.00	-214.52	-2151.71	10.030 (2)
19-10-S	15.71	15.71	0.00	-178.72	-2151.71	12.040 (2)
19-11-S	15.71	15.71	0.00	-144.19	-2151.71	14.923 (2)
19-12-S	15.71	15.71	0.00	-109.49	-2151.71	19.651 (2)
19-13-S	15.71	15.71	0.00	-73.90	-2151.71	29.117 (2)
19-14-S	15.71	15.71	0.00	-39.32	-2151.71	54.728 (2)
19-15-S	15.71	15.71	4.46	-4.11	2151.71	100.000 (1)
19-16-S	15.71	15.71	28.59	-1.91	2151.71	60.199 (2)
19-17-S	15.71	15.71	58.42	-0.99	2151.71	36.831 (2)
19-18-S	15.71	15.71	32.91	-3.18	2151.71	65.390 (2)
19-19-S	15.71	15.71	4.45	-25.22	2151.71	97.775 (1)
19-20-S	15.71	15.71	7.66	-28.05	-2151.71	76.723 (2)
19-21-S	15.71	15.71	5.10	-24.48	-2151.71	87.895 (2)
19-22-S	15.71	15.71	1.81	-4.38	2151.71	100.000 (1)
20-1-S	15.71	15.71	1.45	-5.64	2151.71	100.000 (1)
20-2-S	15.71	15.71	0.04	-10.05	2151.71	100.000 (1)
20-3-S	15.71	15.71	0.10	-14.51	2151.71	100.000 (1)
20-4-S	15.71	15.71	1.11	-24.38	-2151.71	88.259 (2)
20-5-S	15.71	15.71	5.14	-17.65	-2151.71	97.513 (2)
20-6-S	15.71	15.71	21.57	-4.69	2151.71	79.811 (2)
20-7-S	15.71	15.71	65.87	0.00	2151.71	33.145 (1)
20-8-S	15.71	15.71	0.00	-282.08	-2151.71	7.628 (2)
20-9-S	15.71	15.71	0.00	-223.41	-2151.71	9.631 (2)
20-10-S	15.71	15.71	0.00	-178.53	-2151.71	12.053 (2)
20-11-S	15.71	15.71	0.00	-138.15	-2151.71	15.575 (2)
20-12-S	15.71	15.71	0.00	-99.50	-2151.71	21.624 (2)
20-13-S	15.71	15.71	0.00	-66.30	-2151.71	32.452 (2)
20-14-S	15.71	15.71	0.16	-36.92	-2151.71	58.277 (2)
20-15-S	15.71	15.71	4.99	-8.79	2151.71	100.000 (1)

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.16.0.5.007.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.16.0.5.007</td> <td>A</td> <td>44 di 119</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	44 di 119
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	44 di 119								

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
20-16-S	15.71	15.71	9.83	-5.16	2151.71	100.000 (1)
20-17-S	15.71	15.71	13.67	-3.83	2151.71	100.000 (1)
20-18-S	15.71	15.71	11.31	-5.76	2151.71	100.000 (1)
20-19-S	15.71	15.71	9.26	-7.21	2151.71	100.000 (1)
20-20-S	15.71	15.71	5.28	-4.85	2151.71	100.000 (1)
20-21-S	15.71	15.71	3.87	-2.95	2151.71	100.000 (1)
20-22-S	15.71	15.71	3.68	-1.14	2151.71	100.000 (1)

### Pali in c.a.

Ip	Is	Ar [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
1	1	45.80	209.00	82.03	982.30	385.52	4.700
2	1	62.83	209.00	404.72	1098.26	2126.70	5.255
3	1	62.83	209.00	727.42	1040.73	3622.17	4.979

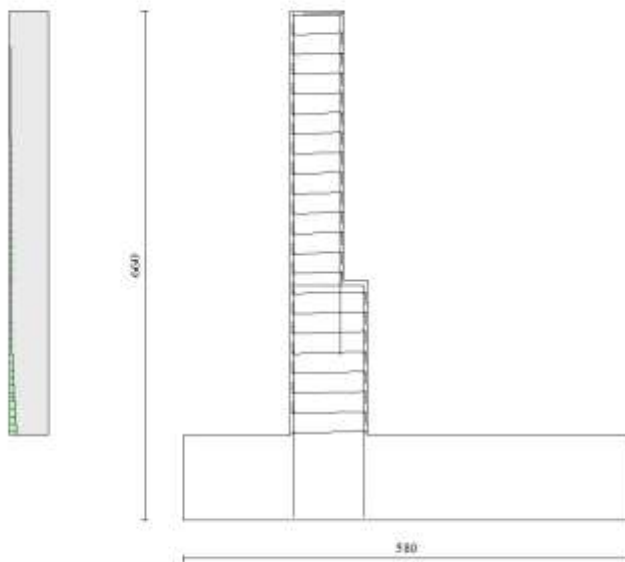


Fig. 14 - Paramento (Inviluppo)

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.16.0.5.007.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.16.0.5.007</td> <td>A</td> <td>45 di 119</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	45 di 119
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	45 di 119								

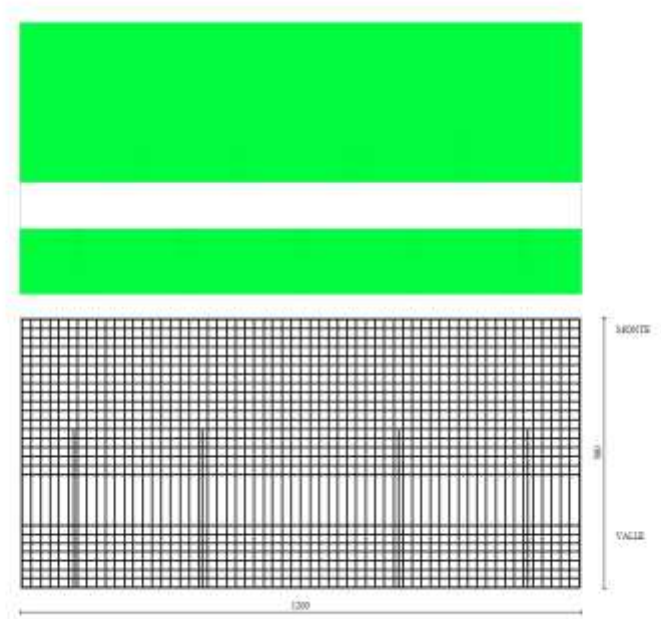


Fig. 15 - Piastra fondazione dir. X (Inviluppo)

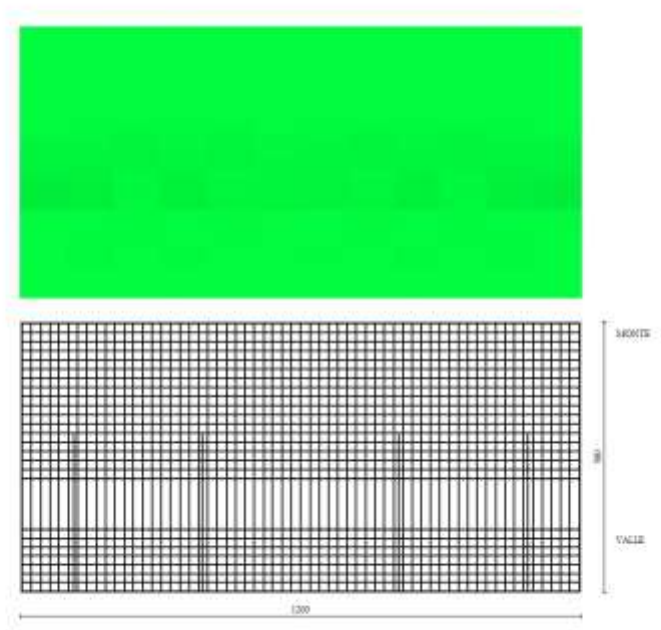


Fig. 16 - Piastra fondazione dir. Y (Inviluppo)

APPALTATORE:

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

**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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	46 di 119

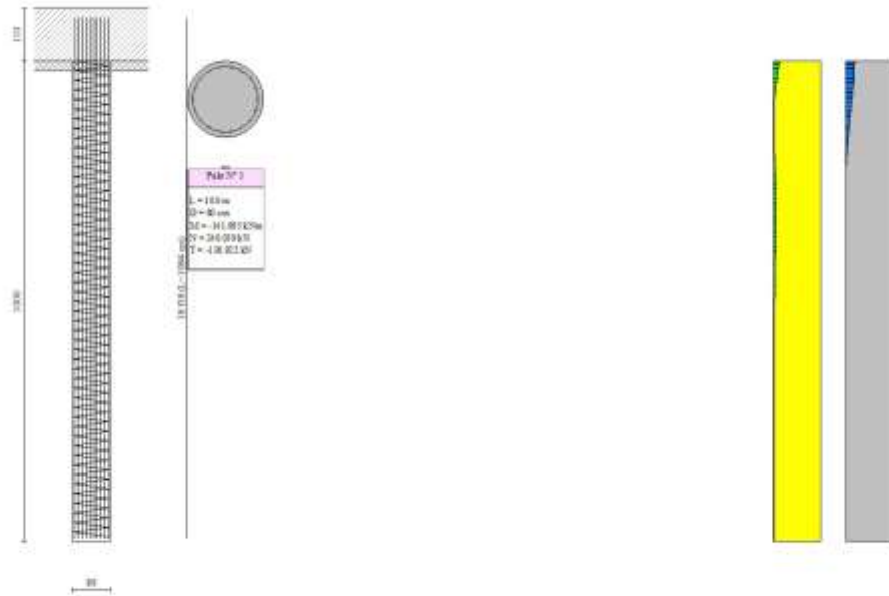


Fig. 17 - Pali (Palo n° 1) (Inviluppo)

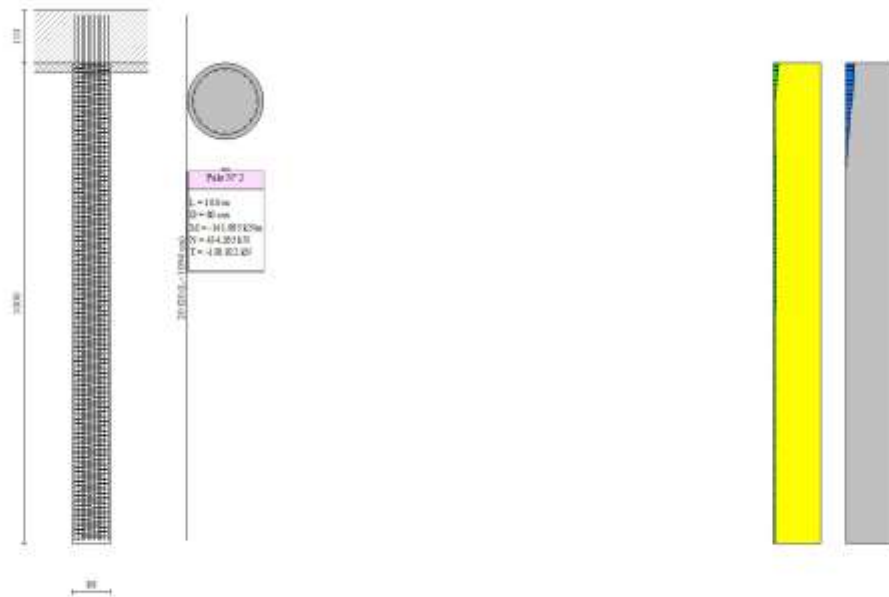


Fig. 18 - Pali (Palo n° 2) (Inviluppo)

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: <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.16.0.5.007.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	47 di 119

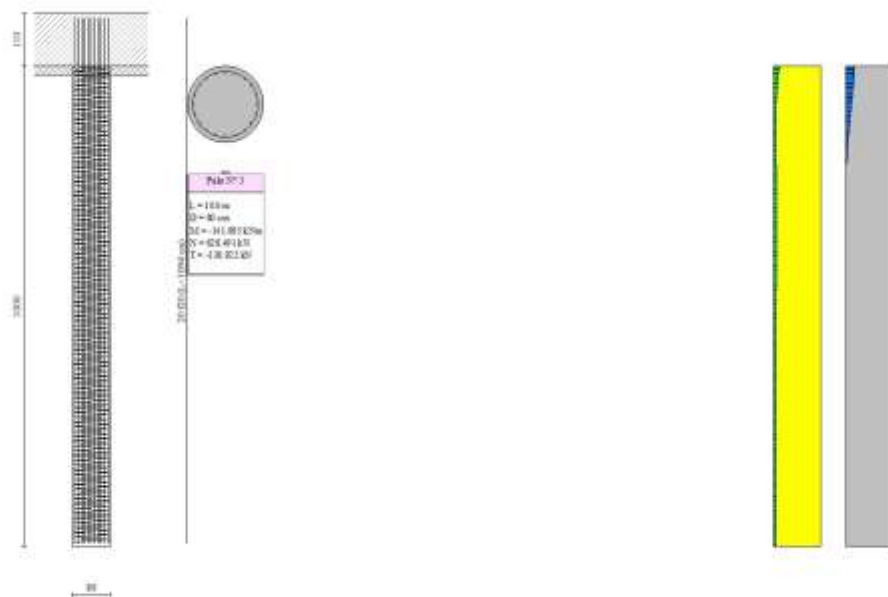


Fig. 19 - Pali (Palo n° 3) (Inviluppo)

### 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 espressa in [cm²]
cotgθ	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 espressa 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> [cm²]	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	279.75	10.15	27.562
2	100	70	0.00	--	0.00	0.00	280.00	10.15	27.586
3	100	70	0.00	--	0.00	0.00	280.24	10.15	27.610
4	100	70	0.00	--	0.00	0.00	280.48	10.15	27.634
5	100	70	0.00	--	0.00	0.00	280.72	10.15	27.657
6	100	70	0.00	--	0.00	0.00	280.97	10.15	27.681
7	100	70	0.00	--	0.00	0.00	281.21	10.15	27.705
8	100	70	0.00	--	0.00	0.00	281.45	10.15	27.729
9	100	70	0.00	--	0.00	0.00	281.69	10.15	27.753
10	100	70	0.00	--	0.00	0.00	281.94	10.15	27.777
11	100	70	0.00	--	0.00	0.00	282.18	10.15	27.801
12	100	70	0.00	--	0.00	0.00	282.42	10.15	27.825
13	100	70	0.00	--	0.00	0.00	282.66	10.15	27.849
14	100	70	0.00	--	0.00	0.00	282.91	10.15	27.873
15	100	70	0.00	--	0.00	0.00	283.15	10.15	27.897
16	100	70	0.00	--	0.00	0.00	283.39	10.15	27.920
17	100	70	0.00	--	0.00	0.00	283.64	10.15	27.944
18	100	70	0.00	--	0.00	0.00	283.88	10.15	27.968
19	100	70	0.00	--	0.00	0.00	284.12	10.15	27.992
20	100	70	0.00	--	0.00	0.00	284.36	10.15	28.016
21	100	70	0.00	--	0.00	0.00	284.61	10.15	28.040



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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	48 di 119

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	284.85	10.15	28.064
23	100	70	0.00	--	0.00	0.00	284.88	10.26	27.764
24	100	70	0.00	--	0.00	0.00	285.12	10.67	26.715
25	100	70	0.00	--	0.00	0.00	285.36	11.08	25.744
26	100	70	0.00	--	0.00	0.00	285.61	11.50	24.843
27	100	70	0.00	--	0.00	0.00	285.85	11.91	24.004
28	100	70	0.00	--	0.00	0.00	286.09	12.32	23.222
29	100	70	0.00	--	0.00	0.00	286.33	12.73	22.490
30	100	70	0.00	--	0.00	0.00	286.58	13.14	21.803
31	100	70	0.00	--	0.00	0.00	286.82	13.56	21.159
32	100	70	0.00	--	0.00	0.00	287.06	15.19	18.898
33	100	70	0.00	--	0.00	0.00	287.31	16.88	17.018
34	100	70	0.00	--	0.00	0.00	287.55	18.62	15.441
35	100	70	0.00	--	0.00	0.00	287.79	20.41	14.101
36	100	70	0.00	--	0.00	0.00	288.03	22.24	12.949
37	100	101	0.00	--	0.00	0.00	356.67	23.47	15.199
38	100	101	0.00	--	0.00	0.00	357.03	27.51	12.979
39	100	101	0.00	--	0.00	0.00	357.39	30.98	11.536
40	100	101	0.00	--	0.00	0.00	357.74	33.89	10.555
41	100	101	0.00	--	0.00	0.00	358.10	36.25	9.878
42	100	101	0.00	--	0.00	0.00	358.45	38.38	9.341
43	100	101	0.00	--	0.00	0.00	358.81	40.58	8.842
44	100	101	0.00	--	0.00	0.00	359.17	42.85	8.382
45	100	101	0.00	--	0.00	0.00	359.52	45.19	7.956
46	100	101	0.00	--	0.00	0.00	359.88	47.58	7.563
47	100	101	0.00	--	0.00	0.00	360.24	50.03	7.200
48	100	101	0.00	--	0.00	0.00	360.59	52.53	6.864
49	100	101	0.00	--	0.00	0.00	360.95	55.09	6.552
50	100	101	0.00	--	0.00	0.00	361.30	57.70	6.262
51	100	101	0.00	--	0.00	0.00	361.66	60.36	5.992
52	100	101	0.00	--	0.00	0.00	362.02	63.07	5.740
53	100	101	0.00	--	0.00	0.00	362.02	63.12	5.735
54	100	101	0.00	--	0.00	0.00	362.38	65.88	5.501
55	100	101	0.00	--	0.00	0.00	362.74	68.68	5.281
56	100	101	0.00	--	0.00	0.00	363.09	71.54	5.075
57	100	101	0.00	--	0.00	0.00	363.45	74.44	4.882
58	100	101	0.00	--	0.00	0.00	363.80	77.40	4.700

**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	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-2-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-3-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-4-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-5-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-6-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-7-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-8-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-9-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-10-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-11-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-12-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-13-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-14-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-15-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-16-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-17-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-18-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-19-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-20-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-21-P	69	110	0.00	2.500	0.00	0.00	241.25	14.42	16.733 (1)
1-22-P	69	110	0.00	2.500	0.00	0.00	241.25	14.42	16.733 (1)
1-23-P	69	110	0.00	2.500	0.00	0.00	241.25	14.42	16.733 (1)
1-24-P	69	110	0.00	2.500	0.00	0.00	241.25	14.42	16.733 (1)
1-25-P	69	110	0.00	2.500	0.00	0.00	241.25	14.42	16.733 (1)
1-26-P	69	110	0.00	2.500	0.00	0.00	241.25	37.05	6.512 (1)
1-27-P	69	110	0.00	2.500	0.00	0.00	241.25	37.05	6.512 (1)
1-28-P	69	110	0.00	2.500	0.00	0.00	241.25	37.05	6.512 (1)
1-29-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-30-P	69	110	0.00	2.500	0.00	0.00	241.25	22.70	10.628 (1)
1-31-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-32-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-33-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-34-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-35-P	69	110	0.00	2.500	0.00	0.00	241.25	2.70	89.476 (1)
1-36-P	69	110	0.00	2.500	0.00	0.00	241.25	50.85	4.745 (1)
1-37-P	69	110	0.00	2.500	0.00	0.00	241.25	50.85	4.745 (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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	49 di 119

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
1-38-P	69	110	0.00	2.500	0.00	0.00	241.25	50.85	4.745 (1)
1-39-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-40-P	69	110	0.00	2.500	0.00	0.00	241.25	15.90	15.174 (1)
1-41-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-42-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-43-P	69	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
1-44-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
1-45-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
1-46-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
1-47-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
1-48-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
1-49-P	69	110	0.00	2.500	0.00	0.00	241.25	7.26	33.234 (1)
2-1-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-2-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-3-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-4-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-5-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-6-P	70	110	0.00	2.500	0.00	0.00	241.25	129.52	1.863 (1)
2-7-P	70	110	0.00	2.500	0.00	0.00	241.25	129.52	1.863 (1)
2-8-P	70	110	0.00	2.500	0.00	0.00	241.25	129.52	1.863 (1)
2-9-P	70	110	0.00	2.500	0.00	0.00	241.25	129.52	1.863 (1)
2-10-P	70	110	0.00	2.500	0.00	0.00	241.25	129.52	1.863 (1)
2-11-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-12-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-13-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-14-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-15-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-16-P	70	110	0.00	2.500	0.00	0.00	241.25	48.86	4.937 (1)
2-17-P	70	110	0.00	2.500	0.00	0.00	241.25	48.86	4.937 (1)
2-18-P	70	110	0.00	2.500	0.00	0.00	241.25	48.86	4.937 (1)
2-19-P	70	110	0.00	2.500	0.00	0.00	241.25	48.86	4.937 (1)
2-20-P	70	110	0.00	2.500	0.00	0.00	241.25	48.86	4.937 (1)
2-21-P	70	110	0.00	2.500	0.00	0.00	241.25	20.90	11.542 (1)
2-22-P	70	110	0.00	2.500	0.00	0.00	241.25	20.90	11.542 (1)
2-23-P	70	110	0.00	2.500	0.00	0.00	241.25	20.90	11.542 (1)
2-24-P	70	110	0.00	2.500	0.00	0.00	241.25	20.90	11.542 (1)
2-25-P	70	110	0.00	2.500	0.00	0.00	241.25	20.90	11.542 (1)
2-26-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-27-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-28-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-29-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-30-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-31-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-32-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-33-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-34-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-35-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-36-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-37-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-38-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-39-P	70	110	0.00	2.500	0.00	0.00	241.25	20.51	11.764 (1)
2-40-P	70	110	0.00	2.500	0.00	0.00	241.25	20.51	11.764 (1)
2-41-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-42-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-43-P	70	110	0.00	2.500	0.00	0.00	241.25	0.00	100.000 (1)
2-44-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
2-45-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
2-46-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
2-47-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
2-48-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
2-49-P	70	110	0.00	2.500	0.00	0.00	241.25	11.01	21.904 (1)
5-1-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-2-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-3-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-4-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-5-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-6-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-7-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-8-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-9-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-10-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-11-P	85	110	0.00	2.500	0.00	0.00	295.05	88.80	3.323 (1)
5-12-P	85	110	0.00	2.500	0.00	0.00	295.05	88.80	3.323 (1)
5-13-P	85	110	0.00	2.500	0.00	0.00	295.05	88.80	3.323 (1)
5-14-P	85	110	0.00	2.500	0.00	0.00	295.05	88.80	3.323 (1)
5-15-P	85	110	0.00	2.500	0.00	0.00	295.05	88.80	3.323 (1)
5-16-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-17-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-18-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-19-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-20-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)

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.16.0.5.007.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.16.0.5.007	A	50 di 119

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
5-21-P	85	110	0.00	2.500	0.00	0.00	295.05	46.63	6.327 (1)
5-22-P	85	110	0.00	2.500	0.00	0.00	295.05	46.63	6.327 (1)
5-23-P	85	110	0.00	2.500	0.00	0.00	295.05	46.63	6.327 (1)
5-24-P	85	110	0.00	2.500	0.00	0.00	295.05	46.63	6.327 (1)
5-25-P	85	110	0.00	2.500	0.00	0.00	295.05	46.63	6.327 (1)
5-26-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-27-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-28-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-29-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-30-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-31-P	85	110	0.00	2.500	0.00	0.00	295.05	66.03	4.469 (1)
5-32-P	85	110	0.00	2.500	0.00	0.00	295.05	66.03	4.469 (1)
5-33-P	85	110	0.00	2.500	0.00	0.00	295.05	66.03	4.469 (1)
5-34-P	85	110	0.00	2.500	0.00	0.00	295.05	26.41	11.171 (1)
5-35-P	85	110	0.00	2.500	0.00	0.00	295.05	26.41	11.171 (1)
5-36-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-37-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-38-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
5-39-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-40-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-41-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-42-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-43-P	85	110	0.00	2.500	0.00	0.00	295.05	11.40	25.888 (1)
5-44-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
5-45-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
5-46-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
5-47-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
5-48-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
5-49-P	85	110	0.00	2.500	0.00	0.00	295.05	12.02	24.537 (1)
6-1-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-2-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-3-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-4-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-5-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-6-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-7-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-8-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-9-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-10-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-11-P	85	110	0.00	2.500	0.00	0.00	295.05	8.11	36.381 (1)
6-12-P	85	110	0.00	2.500	0.00	0.00	295.05	8.11	36.381 (1)
6-13-P	85	110	0.00	2.500	0.00	0.00	295.05	8.11	36.381 (1)
6-14-P	85	110	0.00	2.500	0.00	0.00	295.05	8.11	36.381 (1)
6-15-P	85	110	0.00	2.500	0.00	0.00	295.05	8.11	36.381 (1)
6-16-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-17-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-18-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-19-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-20-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-21-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-22-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-23-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-24-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-25-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-26-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-27-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-28-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-29-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-30-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-31-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-32-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-33-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-34-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-35-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-36-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-37-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-38-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-39-P	85	110	0.00	2.500	0.00	0.00	295.05	22.94	12.862 (1)
6-40-P	85	110	0.00	2.500	0.00	0.00	295.05	22.94	12.862 (1)
6-41-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-42-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-43-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
6-44-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
6-45-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
6-46-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
6-47-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
6-48-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
6-49-P	85	110	0.00	2.500	0.00	0.00	295.05	3.11	94.857 (1)
7-1-P	85	110	0.00	2.500	0.00	0.00	295.05	43.19	6.831 (1)
7-2-P	85	110	0.00	2.500	0.00	0.00	295.05	43.19	6.831 (1)
7-3-P	85	110	0.00	2.500	0.00	0.00	295.05	43.19	6.831 (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.16.0.5.007.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.16.0.5.007	A	51 di 119

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
7-4-P	85	110	0.00	2.500	0.00	0.00	295.05	43.19	6.831 (1)
7-5-P	85	110	0.00	2.500	0.00	0.00	295.05	43.19	6.831 (1)
7-6-P	85	110	0.00	2.500	0.00	0.00	295.05	5.78	51.081 (1)
7-7-P	85	110	0.00	2.500	0.00	0.00	295.05	5.78	51.081 (1)
7-8-P	85	110	0.00	2.500	0.00	0.00	295.05	5.78	51.081 (1)
7-9-P	85	110	0.00	2.500	0.00	0.00	295.05	5.78	51.081 (1)
7-10-P	85	110	0.00	2.500	0.00	0.00	295.05	5.78	51.081 (1)
7-11-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-12-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-13-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-14-P	85	110	0.00	2.500	0.00	0.00	295.05	7.10	41.580 (1)
7-15-P	85	110	0.00	2.500	0.00	0.00	295.05	7.10	41.580 (1)
7-16-P	85	110	0.00	2.500	0.00	0.00	295.05	5.12	57.575 (1)
7-17-P	85	110	0.00	2.500	0.00	0.00	295.05	5.12	57.575 (1)
7-18-P	85	110	0.00	2.500	0.00	0.00	295.05	5.12	57.575 (1)
7-19-P	85	110	0.00	2.500	0.00	0.00	295.05	9.60	30.742 (1)
7-20-P	85	110	0.00	2.500	0.00	0.00	295.05	9.60	30.742 (1)
7-21-P	85	110	0.00	2.500	0.00	0.00	295.05	4.76	61.963 (1)
7-22-P	85	110	0.00	2.500	0.00	0.00	295.05	4.76	61.963 (1)
7-23-P	85	110	0.00	2.500	0.00	0.00	295.05	4.76	61.963 (1)
7-24-P	85	110	0.00	2.500	0.00	0.00	295.05	4.76	61.963 (1)
7-25-P	85	110	0.00	2.500	0.00	0.00	295.05	4.76	61.963 (1)
7-26-P	85	110	0.00	2.500	0.00	0.00	295.05	9.60	30.742 (1)
7-27-P	85	110	0.00	2.500	0.00	0.00	295.05	9.60	30.742 (1)
7-28-P	85	110	0.00	2.500	0.00	0.00	295.05	9.60	30.742 (1)
7-29-P	85	110	0.00	2.500	0.00	0.00	295.05	5.12	57.575 (1)
7-30-P	85	110	0.00	2.500	0.00	0.00	295.05	5.12	57.575 (1)
7-31-P	85	110	0.00	2.500	0.00	0.00	295.05	7.10	41.580 (1)
7-32-P	85	110	0.00	2.500	0.00	0.00	295.05	7.10	41.580 (1)
7-33-P	85	110	0.00	2.500	0.00	0.00	295.05	7.10	41.580 (1)
7-34-P	85	110	0.00	2.500	0.00	0.00	295.05	2.83	100.000 (1)
7-35-P	85	110	0.00	2.500	0.00	0.00	295.05	2.83	100.000 (1)
7-36-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-37-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-38-P	85	110	0.00	2.500	0.00	0.00	295.05	13.59	21.705 (1)
7-39-P	85	110	0.00	2.500	0.00	0.00	295.05	8.06	36.617 (1)
7-40-P	85	110	0.00	2.500	0.00	0.00	295.05	8.06	36.617 (1)
7-41-P	85	110	0.00	2.500	0.00	0.00	295.05	8.06	36.617 (1)
7-42-P	85	110	0.00	2.500	0.00	0.00	295.05	8.06	36.617 (1)
7-43-P	85	110	0.00	2.500	0.00	0.00	295.05	8.06	36.617 (1)
7-44-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
7-45-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
7-46-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
7-47-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
7-48-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
7-49-P	85	110	0.00	2.500	0.00	0.00	295.05	2.84	100.000 (1)
8-1-P	85	110	0.00	2.500	0.00	0.00	295.05	59.58	4.953 (1)
8-2-P	85	110	0.00	2.500	0.00	0.00	295.05	59.58	4.953 (1)
8-3-P	85	110	0.00	2.500	0.00	0.00	295.05	59.58	4.953 (1)
8-4-P	85	110	0.00	2.500	0.00	0.00	295.05	59.58	4.953 (1)
8-5-P	85	110	0.00	2.500	0.00	0.00	295.05	59.58	4.953 (1)
8-6-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-7-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-8-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-9-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-10-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-11-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-12-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-13-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-14-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-15-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-16-P	85	110	0.00	2.500	0.00	0.00	295.05	21.92	13.459 (1)
8-17-P	85	110	0.00	2.500	0.00	0.00	295.05	21.92	13.459 (1)
8-18-P	85	110	0.00	2.500	0.00	0.00	295.05	21.92	13.459 (1)
8-19-P	85	110	0.00	2.500	0.00	0.00	295.05	21.92	13.459 (1)
8-20-P	85	110	0.00	2.500	0.00	0.00	295.05	21.92	13.459 (1)
8-21-P	85	110	0.00	2.500	0.00	0.00	295.05	16.42	17.969 (1)
8-22-P	85	110	0.00	2.500	0.00	0.00	295.05	16.42	17.969 (1)
8-23-P	85	110	0.00	2.500	0.00	0.00	295.05	16.42	17.969 (1)
8-24-P	85	110	0.00	2.500	0.00	0.00	295.05	16.42	17.969 (1)
8-25-P	85	110	0.00	2.500	0.00	0.00	295.05	16.42	17.969 (1)
8-26-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-27-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-28-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-29-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-30-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-31-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-32-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-33-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-34-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-35-P	85	110	0.00	2.500	0.00	0.00	295.05	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.16.0.5.007.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.16.0.5.007	A	52 di 119

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
8-36-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-37-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-38-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-39-P	85	110	0.00	2.500	0.00	0.00	295.05	6.85	43.088 (1)
8-40-P	85	110	0.00	2.500	0.00	0.00	295.05	6.85	43.088 (1)
8-41-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-42-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-43-P	85	110	0.00	2.500	0.00	0.00	295.05	0.00	100.000 (1)
8-44-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
8-45-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
8-46-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
8-47-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
8-48-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
8-49-P	85	110	0.00	2.500	0.00	0.00	295.05	14.85	19.875 (1)
9-1-S	100	110	0.00	2.500	0.00	0.00	347.12	7.53	46.125 (1)
9-2-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
9-3-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
9-4-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
9-5-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
9-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-7-S	100	110	0.00	2.500	0.00	0.00	347.12	156.46	2.219 (1)
9-8-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-9-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
9-10-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
9-11-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
9-12-S	100	110	0.00	2.500	0.00	0.00	347.12	60.78	5.711 (1)
9-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
9-17-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
9-18-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
9-19-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
9-20-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
9-21-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
9-22-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
10-1-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
10-2-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
10-3-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
10-4-S	100	110	0.00	2.500	0.00	0.00	347.12	299.90	1.157 (1)
10-5-S	100	110	0.00	2.500	0.00	0.00	347.12	299.90	1.157 (1)
10-6-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	422.99	3.378 (1)
10-7-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	422.99	3.378 (1)
10-8-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
10-9-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
10-10-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
10-11-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
10-12-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
10-13-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
10-14-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
10-15-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
10-16-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
10-17-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
10-18-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
10-19-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
10-20-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
10-21-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
10-22-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
11-1-S	100	110	0.00	2.500	0.00	0.00	347.12	15.25	22.766 (1)
11-2-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
11-3-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
11-4-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
11-5-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
11-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
11-7-S	100	110	0.00	2.500	0.00	0.00	347.12	259.20	1.339 (1)
11-8-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
11-9-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
11-10-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
11-11-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
11-12-S	100	110	0.00	2.500	0.00	0.00	347.12	57.38	6.049 (1)
11-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
11-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
11-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
11-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
11-17-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
11-18-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
11-19-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
11-20-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
11-21-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
11-22-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
12-1-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)

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.16.0.5.007.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.16.0.5.007	A	53 di 119

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
12-2-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)
12-3-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)
12-4-S	100	110	0.00	2.500	0.00	0.00	347.12	326.10	1.064 (1)
12-5-S	100	110	0.00	2.500	0.00	0.00	347.12	326.10	1.064 (1)
12-6-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	463.40	3.083 (1)
12-7-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	463.40	3.083 (1)
12-8-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
12-9-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
12-10-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
12-11-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
12-12-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
12-13-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
12-14-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
12-15-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
12-16-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
12-17-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
12-18-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
12-19-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
12-20-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
12-21-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
12-22-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
13-1-S	100	110	0.00	2.500	0.00	0.00	347.12	11.79	29.444 (1)
13-2-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
13-3-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
13-4-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
13-5-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
13-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
13-7-S	100	110	0.00	2.500	0.00	0.00	347.12	232.59	1.492 (1)
13-8-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
13-9-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
13-10-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
13-11-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
13-12-S	100	110	0.00	2.500	0.00	0.00	347.12	58.19	5.965 (1)
13-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
13-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
13-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
13-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
13-17-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
13-18-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
13-19-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
13-20-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
13-21-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
13-22-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
14-1-S	100	110	0.00	2.500	0.00	0.00	347.12	9.95	34.891 (1)
14-2-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
14-3-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
14-4-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
14-5-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
14-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
14-7-S	100	110	0.00	2.500	0.00	0.00	347.12	142.73	2.432 (1)
14-8-S	100	110	0.00	2.500	0.00	0.00	347.12	13.95	24.886 (1)
14-9-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
14-10-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
14-11-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
14-12-S	100	110	0.00	2.500	0.00	0.00	347.12	81.17	4.277 (1)
14-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
14-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
14-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
14-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
14-17-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
14-18-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
14-19-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
14-20-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
14-21-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
14-22-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-1-S	100	110	0.00	2.500	0.00	0.00	347.12	9.95	34.891 (1)
15-2-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
15-3-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
15-4-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
15-5-S	100	110	0.00	2.500	0.00	0.00	347.12	302.61	1.147 (1)
15-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
15-7-S	100	110	0.00	2.500	0.00	0.00	347.12	142.73	2.432 (1)
15-8-S	100	110	0.00	2.500	0.00	0.00	347.12	13.95	24.886 (1)
15-9-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
15-10-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
15-11-S	100	110	0.00	2.500	0.00	0.00	347.12	93.63	3.707 (1)
15-12-S	100	110	0.00	2.500	0.00	0.00	347.12	81.17	4.277 (1)
15-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
15-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
15-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
15-16-S	100	110	0.00	2.500	0.00	0.00	347.12	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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	54 di 119

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
15-17-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-18-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-19-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-20-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-21-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
15-22-S	100	110	0.00	2.500	0.00	0.00	347.12	5.99	57.915 (1)
16-1-S	100	110	0.00	2.500	0.00	0.00	347.12	11.79	29.444 (1)
16-2-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
16-3-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
16-4-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
16-5-S	100	110	0.00	2.500	0.00	0.00	347.12	163.11	2.128 (1)
16-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
16-7-S	100	110	0.00	2.500	0.00	0.00	347.12	232.59	1.492 (1)
16-8-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
16-9-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
16-10-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
16-11-S	100	110	0.00	2.500	0.00	0.00	347.12	39.56	8.775 (1)
16-12-S	100	110	0.00	2.500	0.00	0.00	347.12	58.19	5.965 (1)
16-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
16-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
16-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
16-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
16-17-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
16-18-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
16-19-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
16-20-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
16-21-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
16-22-S	100	110	0.00	2.500	0.00	0.00	347.12	6.21	55.932 (1)
17-1-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)
17-2-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)
17-3-S	100	110	0.00	2.500	0.00	0.00	347.12	48.94	7.093 (1)
17-4-S	100	110	0.00	2.500	0.00	0.00	347.12	326.10	1.064 (1)
17-5-S	100	110	0.00	2.500	0.00	0.00	347.12	326.10	1.064 (1)
17-6-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	463.40	3.083 (1)
17-7-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	463.40	3.083 (1)
17-8-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
17-9-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
17-10-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
17-11-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
17-12-S	100	110	0.00	2.500	0.00	0.00	347.12	126.40	2.746 (1)
17-13-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
17-14-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
17-15-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
17-16-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
17-17-S	100	110	0.00	2.500	0.00	0.00	347.12	124.54	2.787 (1)
17-18-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
17-19-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
17-20-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
17-21-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
17-22-S	100	110	0.00	2.500	0.00	0.00	347.12	110.35	3.146 (1)
18-1-S	100	110	0.00	2.500	0.00	0.00	347.12	15.25	22.766 (1)
18-2-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
18-3-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
18-4-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
18-5-S	100	110	0.00	2.500	0.00	0.00	347.12	132.99	2.610 (1)
18-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
18-7-S	100	110	0.00	2.500	0.00	0.00	347.12	259.20	1.339 (1)
18-8-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
18-9-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
18-10-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
18-11-S	100	110	0.00	2.500	0.00	0.00	347.12	28.37	12.237 (1)
18-12-S	100	110	0.00	2.500	0.00	0.00	347.12	57.38	6.049 (1)
18-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
18-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
18-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
18-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
18-17-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
18-18-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
18-19-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
18-20-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
18-21-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
18-22-S	100	110	0.00	2.500	0.00	0.00	347.12	6.47	53.671 (1)
19-1-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
19-2-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
19-3-S	100	110	0.00	2.500	0.00	0.00	347.12	58.37	5.947 (1)
19-4-S	100	110	0.00	2.500	0.00	0.00	347.12	299.90	1.157 (1)
19-5-S	100	110	0.00	2.500	0.00	0.00	347.12	299.90	1.157 (1)
19-6-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	422.99	3.378 (1)
19-7-S	100	110	4.52	2.500	2707.88	1428.77	1428.77	422.99	3.378 (1)
19-8-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
19-9-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	55 di 119

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
19-10-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
19-11-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
19-12-S	100	110	0.00	2.500	0.00	0.00	347.12	155.05	2.239 (1)
19-13-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
19-14-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
19-15-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
19-16-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
19-17-S	100	110	0.00	2.500	0.00	0.00	347.12	142.08	2.443 (1)
19-18-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
19-19-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
19-20-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
19-21-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
19-22-S	100	110	0.00	2.500	0.00	0.00	347.12	97.39	3.564 (1)
20-1-S	100	110	0.00	2.500	0.00	0.00	347.12	7.53	46.125 (1)
20-2-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
20-3-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
20-4-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
20-5-S	100	110	0.00	2.500	0.00	0.00	347.12	207.69	1.671 (1)
20-6-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-7-S	100	110	0.00	2.500	0.00	0.00	347.12	156.46	2.219 (1)
20-8-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-9-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
20-10-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
20-11-S	100	110	0.00	2.500	0.00	0.00	347.12	206.80	1.679 (1)
20-12-S	100	110	0.00	2.500	0.00	0.00	347.12	60.78	5.711 (1)
20-13-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-14-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-15-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-16-S	100	110	0.00	2.500	0.00	0.00	347.12	0.00	100.000 (1)
20-17-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
20-18-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
20-19-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
20-20-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
20-21-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (1)
20-22-S	100	110	0.00	2.500	0.00	0.00	347.12	8.43	41.180 (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	638.12	1755.74	638.12	196.41	3.249
2	1	56.57	2.26	10	2.500	682.88	3511.48	682.88	196.41	3.477
3	1	56.57	2.26	10	2.500	727.65	3511.48	727.65	196.41	3.705



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.16.0.5.007.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	56 di 119

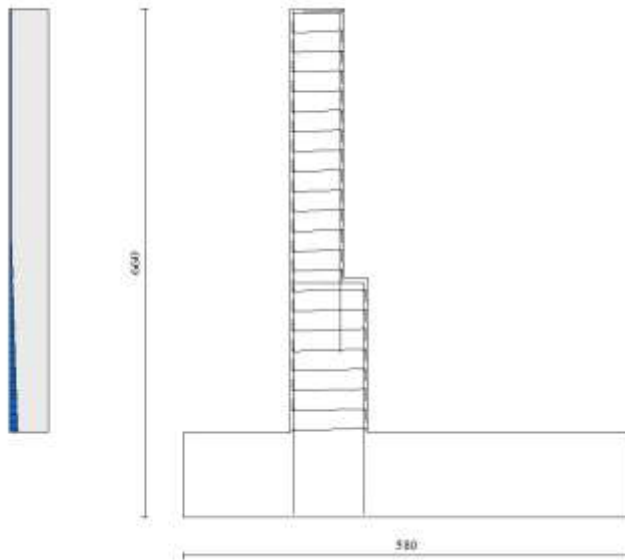


Fig. 20 - Paramento (Inviluppo)

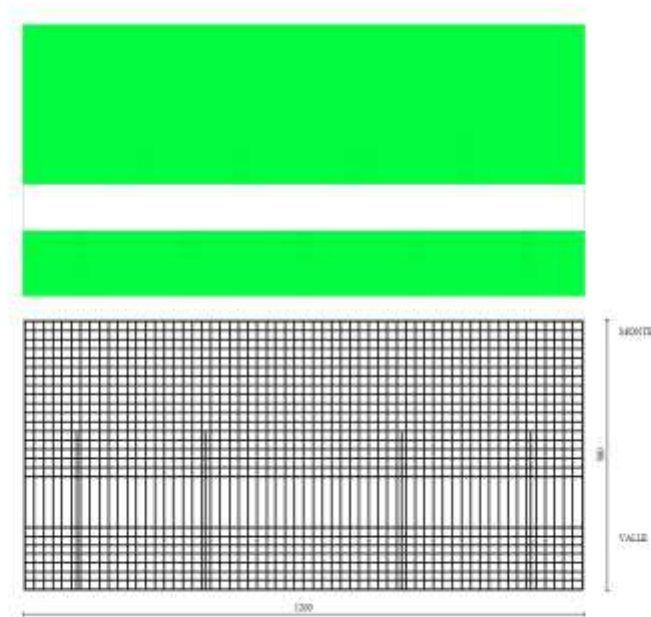


Fig. 21 - Piastra fondazione dir. X (Inviluppo)

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.16.0.5.007.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	57 di 119

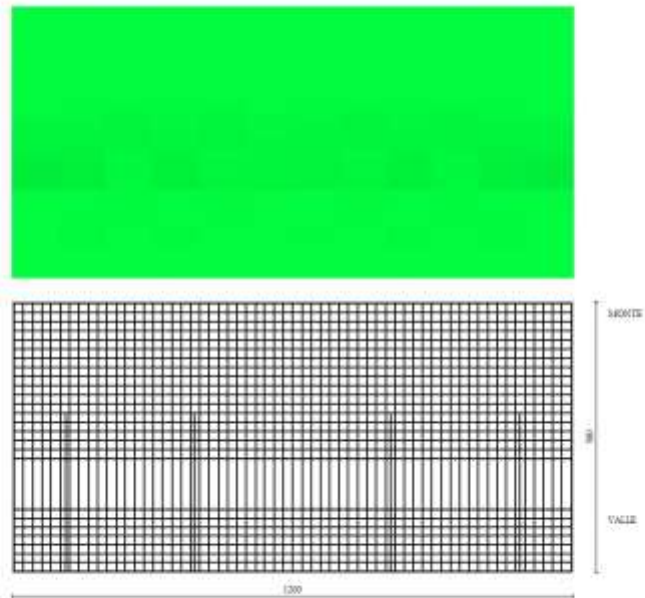


Fig. 22 - Piastra fondazione dir. Y (Inviluppo)

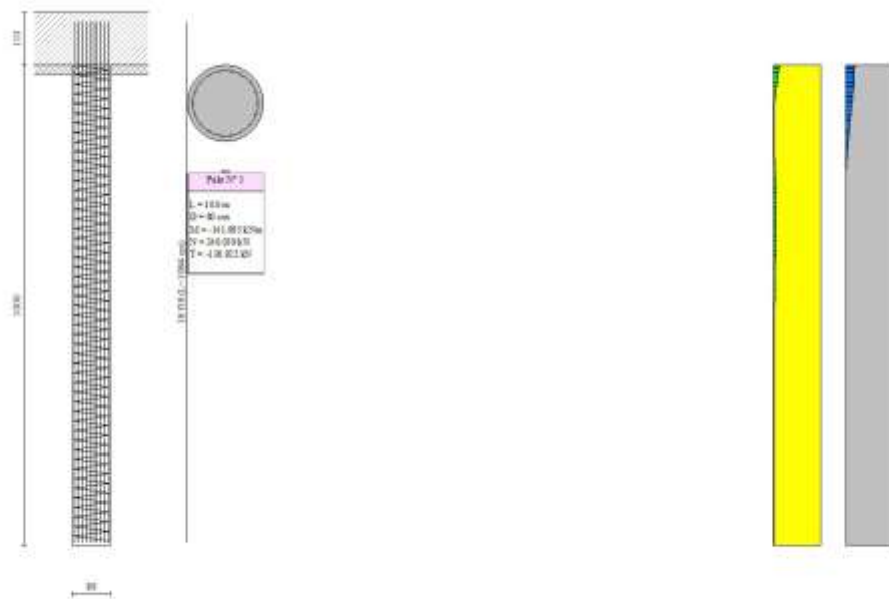


Fig. 23 - Pali (Palo n° 1) (Inviluppo)

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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.16.0.5.007.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	58 di 119

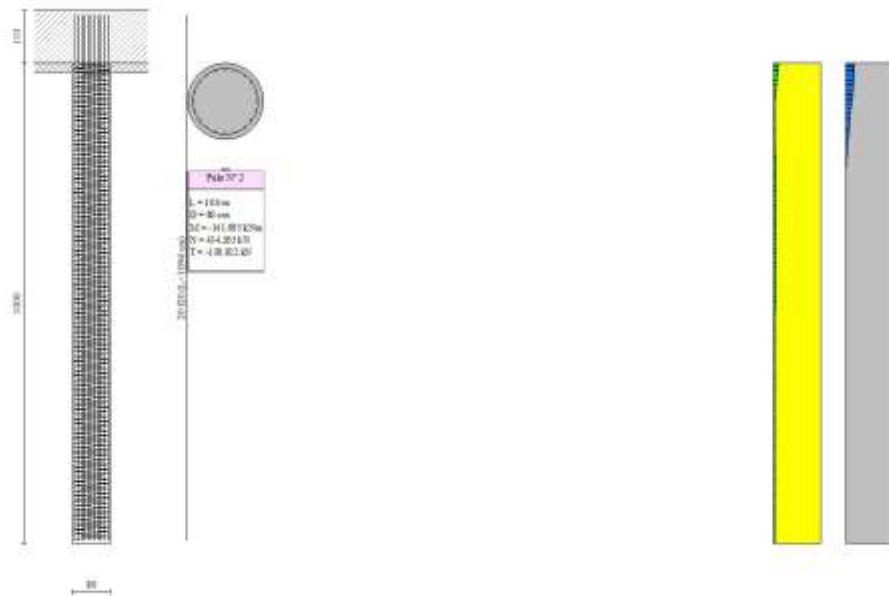


Fig. 24 - Pali (Palo n° 2) (Inviluppo)

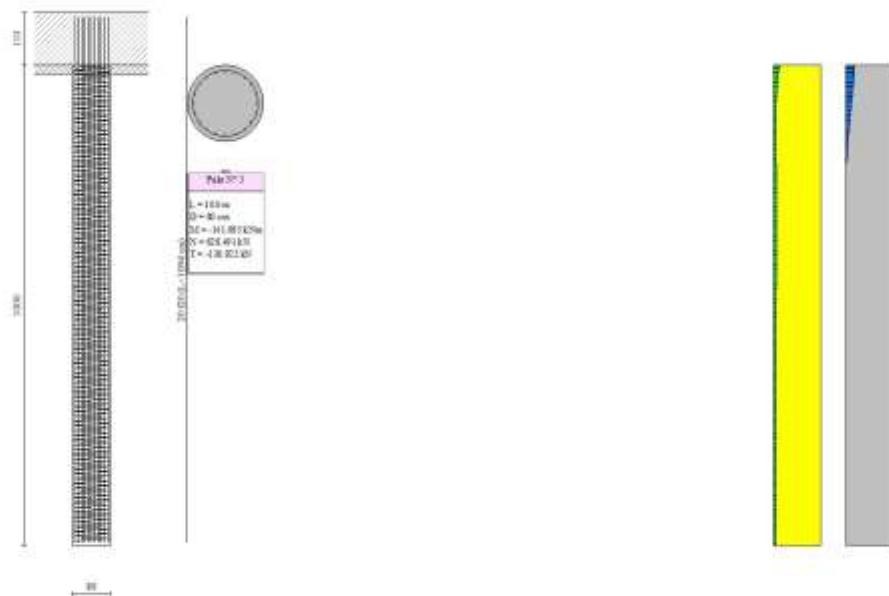


Fig. 25 - Pali (Palo n° 3) (Inviluppo)

*Verifica delle tensioni*

Simbologia adottata

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.16.0.5.007.A.DOCX		COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.007	REV. A	FOGLIO 59 di 119

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	12.72	2.00	5.00	43 (5)	937 (5)	523 (5)
2	100	70	10.05	12.72	2.70	6.72	58 (5)	1273 (5)	706 (5)
3	100	70	10.05	12.72	3.40	8.43	73 (5)	1610 (5)	889 (5)
4	100	70	10.05	12.72	4.10	10.15	88 (5)	1946 (5)	1072 (5)
5	100	70	10.05	12.72	4.80	11.86	103 (5)	2283 (5)	1255 (5)
6	100	70	10.05	12.72	5.50	13.58	118 (5)	2620 (5)	1438 (5)
7	100	70	10.05	12.72	6.20	15.29	133 (5)	2956 (5)	1621 (5)
8	100	70	10.05	12.72	6.90	17.01	148 (5)	3293 (5)	1804 (5)
9	100	70	10.05	12.72	7.60	18.73	163 (5)	3630 (5)	1987 (5)
10	100	70	10.05	12.72	8.30	20.44	178 (5)	3966 (5)	2170 (5)
11	100	70	10.05	12.72	9.00	22.16	193 (5)	4303 (5)	2353 (5)
12	100	70	10.05	12.72	9.70	23.87	208 (5)	4640 (5)	2536 (5)
13	100	70	10.05	12.72	10.40	25.59	223 (5)	4976 (5)	2719 (5)
14	100	70	10.05	12.72	11.10	27.30	238 (5)	5313 (5)	2902 (5)
15	100	70	10.05	12.72	11.80	29.02	253 (5)	5650 (5)	3085 (5)
16	100	70	10.05	12.72	12.50	30.74	268 (5)	5986 (5)	3268 (5)
17	100	70	10.05	12.72	13.20	32.45	283 (5)	6323 (5)	3451 (5)
18	100	70	10.05	12.72	13.90	34.17	298 (5)	6659 (5)	3634 (5)
19	100	70	10.05	12.72	14.60	35.88	313 (5)	6996 (5)	3817 (5)
20	100	70	10.05	12.72	15.30	37.60	328 (5)	7333 (5)	4000 (5)
21	100	70	10.05	12.72	16.00	39.31	343 (5)	7669 (5)	4183 (5)
22	100	70	10.05	12.72	16.70	41.03	358 (5)	8006 (5)	4366 (5)
23	100	70	10.05	12.72	17.40	42.75	373 (5)	8343 (5)	4549 (5)
24	100	70	10.05	12.72	18.10	44.46	388 (5)	8679 (5)	4732 (5)
25	100	70	10.05	12.72	18.80	46.18	403 (5)	9016 (5)	4915 (5)
26	100	70	10.05	12.72	19.50	47.89	418 (5)	9353 (5)	5098 (5)
27	100	70	10.05	12.72	20.19	49.61	433 (5)	9689 (5)	5281 (5)
28	100	70	10.05	12.72	20.89	51.32	448 (5)	10026 (5)	5464 (5)
29	100	70	10.05	12.72	21.59	53.04	463 (5)	10363 (5)	5647 (5)
30	100	70	10.05	12.72	22.29	54.76	478 (5)	10699 (5)	5830 (5)
31	100	70	10.05	12.72	22.99	56.47	493 (5)	11036 (5)	6013 (5)
32	100	70	10.05	12.72	23.72	58.19	509 (5)	11401 (5)	6203 (5)
33	100	70	10.05	12.72	24.50	59.90	526 (5)	11829 (5)	6406 (5)
34	100	70	10.05	12.72	25.34	61.62	544 (5)	12324 (5)	6625 (5)
35	100	70	10.05	12.72	26.24	63.33	565 (5)	12892 (5)	6860 (5)
36	100	70	10.05	12.72	27.21	65.05	586 (5)	13540 (5)	7112 (5)
37	100	101	10.05	12.72	35.63	69.93	388 (5)	8507 (5)	5085 (5)
38	100	101	10.05	12.72	36.78	72.40	400 (5)	8734 (5)	5247 (5)
39	100	101	10.05	12.72	38.18	74.87	416 (5)	9130 (5)	5450 (5)
40	100	101	10.05	12.72	39.76	77.35	434 (5)	9655 (5)	5683 (5)
41	100	101	10.05	12.72	41.48	79.82	454 (5)	10275 (5)	5937 (5)
42	100	101	10.05	12.72	43.29	82.29	475 (5)	10959 (5)	6206 (5)
43	100	101	10.05	12.72	45.18	84.76	498 (5)	11707 (5)	6489 (5)
44	100	101	10.05	12.72	47.17	87.24	522 (5)	12526 (5)	6786 (5)
45	100	101	10.05	12.72	49.26	89.71	547 (5)	13422 (5)	7099 (5)
46	100	101	10.05	12.72	51.45	92.18	573 (5)	14400 (5)	7429 (5)
47	100	101	10.05	12.72	53.76	94.66	602 (5)	15466 (5)	7776 (5)
48	100	101	10.05	12.72	56.18	97.13	631 (5)	16626 (5)	8140 (5)
49	100	101	10.05	12.72	58.72	99.60	663 (5)	17885 (5)	8523 (5)
50	100	101	10.05	12.72	61.40	102.08	696 (5)	19248 (5)	8926 (5)
51	100	101	10.05	12.72	64.20	104.55	731 (5)	20720 (5)	9347 (5)
52	100	101	10.05	12.72	67.15	107.02	768 (5)	22307 (5)	9789 (5)
53	100	101	10.05	12.72	70.21	109.54	807 (5)	24048 (5)	10261 (5)
54	100	101	10.05	12.72	73.53	112.01	848 (5)	25881 (5)	10745 (5)
55	100	101	10.05	12.72	76.92	114.48	890 (5)	27843 (5)	11250 (5)
56	100	101	10.05	12.72					

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	60 di 119

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
57	100	101	10.05	12.72	80.46	116.96	935 (5)	29940 (5)	11777 (5)
58	100	101	10.05	12.72	84.17	119.43	981 (5)	32176 (5)	12327 (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	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
1-2-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-3-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-4-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-5-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)
1-6-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-7-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-8-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-9-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-10-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-11-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-12-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-13-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-14-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-15-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-16-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-17-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-18-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-19-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-20-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-21-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-22-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-23-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)
1-24-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-25-P	69	110	12.57	12.57	0.00	-32.05	343 (5)	4090 (5)	22657 (5)
1-26-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-27-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)
1-28-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-29-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-30-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-31-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-32-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-33-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-34-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-35-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-36-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-37-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-38-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-39-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-40-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-41-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-42-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-43-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-44-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-45-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)
1-46-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-47-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-48-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-49-P	69	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
2-1-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
2-2-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-3-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-4-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-5-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-6-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-7-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-8-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-9-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-10-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-11-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-12-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-13-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)
2-14-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-15-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-16-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-17-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-18-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)

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 IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.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.16.0.5.007	A	61 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-19-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-20-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-21-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-22-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-23-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-24-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-25-P	70	110	12.57	12.57	0.79	-54.37	633 (5)	7552 (5)	41836 (5)
2-26-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-27-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-28-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-29-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-30-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-31-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-32-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)
2-33-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-34-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-35-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-36-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-37-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)
2-38-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-39-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-40-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-41-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-42-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-43-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-44-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-45-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-46-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-47-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-48-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-49-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
5-1-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
5-2-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-3-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-4-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-5-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-6-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)
5-7-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-8-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-9-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-10-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-11-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-12-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-13-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-14-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-15-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-16-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-17-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-18-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-19-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-20-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-21-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-22-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-23-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-24-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-25-P	85	110	15.71	15.71	12.98	0.00	97 (7)	6344 (7)	1160 (7)
5-26-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-27-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-28-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-29-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-30-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-31-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-32-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-33-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-34-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-35-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-36-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-37-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-38-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-39-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-40-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-41-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-42-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-43-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-44-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)
5-45-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-46-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-47-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-48-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-49-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
6-1-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (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.16.0.5.007.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.16.0.5.007	A	62 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-2-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-3-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-4-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-5-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-6-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-7-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-8-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-9-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-10-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-11-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-12-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (5)
6-13-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-14-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-15-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-16-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-17-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-18-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-19-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-20-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (5)
6-21-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-22-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-23-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-24-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-25-P	85	110	12.57	12.57	11.44	0.00	91 (7)	6627 (7)	1063 (7)
6-26-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-27-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-28-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-29-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-30-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (5)
6-31-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-32-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-33-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-34-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-35-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-36-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-37-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-38-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (5)
6-39-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-40-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-41-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-42-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-43-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-44-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-45-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-46-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-47-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-48-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-49-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (5)
7-1-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
7-2-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-3-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-4-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-5-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-6-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-7-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-8-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-9-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-10-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-11-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-12-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-13-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-14-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-15-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-16-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-17-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)
7-18-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-19-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-20-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-21-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-22-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-23-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-24-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-25-P	85	110	12.57	12.57	0.91	-15.91	280 (5)	3268 (5)	20385 (5)
7-26-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-27-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-28-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-29-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-30-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-31-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-32-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-33-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)



APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
7-34-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-35-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-36-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-37-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-38-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-39-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-40-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-41-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-42-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-43-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-44-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-45-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-46-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-47-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-48-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-49-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
8-1-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
8-2-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-3-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (7)
8-4-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-5-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-6-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-7-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-8-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-9-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-10-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-11-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-12-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-13-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-14-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-15-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-16-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-17-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-18-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-19-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-20-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-21-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)
8-22-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-23-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-24-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-25-P	85	110	15.71	15.71	0.00	-47.30	432 (7)	5170 (7)	28279 (7)
8-26-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-27-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-28-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-29-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)
8-30-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-31-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-32-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-33-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-34-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-35-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-36-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-37-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-38-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-39-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-40-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-41-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-42-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-43-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-44-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-45-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-46-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-47-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (7)
8-48-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-49-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
9-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
9-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
9-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
9-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
9-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
9-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
9-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
9-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
9-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
9-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
9-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
9-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
9-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
9-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
9-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
9-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)



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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.16.0.5.007.A.DOCX

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2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
9-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)
9-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
9-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
9-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
9-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
9-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)
10-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
10-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
10-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
10-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
10-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
10-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
10-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
10-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
10-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
10-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
10-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
10-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
10-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)
10-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
10-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
10-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
10-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
10-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
10-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
10-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
10-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
10-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
11-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
11-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
11-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
11-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
11-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
11-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
11-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
11-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
11-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (5)
11-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
11-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
11-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
11-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
11-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
11-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
11-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
11-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)
11-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
11-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
11-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
11-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
11-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
12-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
12-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (7)
12-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
12-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
12-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
12-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
12-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
12-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
12-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
12-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
12-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
12-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
12-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
12-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
12-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
12-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
12-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
12-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
12-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
12-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
12-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)
12-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
13-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
13-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
13-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
13-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
13-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
13-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
13-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
13-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
13-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)

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.16.0.5.007.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.16.0.5.007	A	65 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
13-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
13-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
13-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
13-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
13-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
13-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
13-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
13-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
13-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
13-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
13-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
13-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
13-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
14-1-S	100	110	18.85	18.85	5.11	-4.65	31 (5)	2036 (5)	1845 (5)
14-2-S	100	110	18.85	18.85	6.60	-7.72	61 (5)	3946 (5)	3067 (5)
14-3-S	100	110	18.85	18.85	3.11	-10.99	68 (5)	1376 (5)	4407 (5)
14-4-S	100	110	18.85	18.85	1.91	-30.28	246 (5)	2946 (5)	15931 (5)
14-5-S	100	110	18.85	18.85	7.37	-19.10	365 (8)	5872 (8)	23683 (8)
14-6-S	100	110	18.85	18.85	22.06	-3.98	188 (5)	12163 (5)	2249 (5)
14-7-S	100	110	18.85	18.85	68.37	0.00	534 (5)	34635 (5)	6405 (5)
14-8-S	100	110	18.85	18.85	11.63	-10.59	168 (6)	6618 (6)	10866 (6)
14-9-S	100	110	18.85	18.85	8.74	-2.52	154 (7)	1846 (7)	9980 (7)
14-10-S	100	110	18.85	18.85	0.29	-40.84	182 (5)	2182 (5)	11797 (5)
14-11-S	100	110	18.85	18.85	7.83	-2.89	118 (7)	1416 (7)	7659 (7)
14-12-S	100	110	18.85	18.85	11.73	-0.34	88 (7)	1058 (7)	5721 (7)
14-13-S	100	110	18.85	18.85	20.69	-0.03	59 (7)	3838 (7)	710 (7)
14-14-S	100	110	18.85	18.85	26.42	0.00	127 (7)	8207 (7)	1518 (7)
14-15-S	100	110	18.85	18.85	28.42	0.00	168 (7)	10876 (7)	2011 (7)
14-16-S	100	110	18.85	18.85	27.72	-0.16	160 (6)	10362 (6)	1916 (6)
14-17-S	100	110	18.85	18.85	25.39	-1.19	140 (6)	9047 (6)	1673 (6)
14-18-S	100	110	18.85	18.85	3.38	-11.14	106 (7)	2771 (7)	6845 (7)
14-19-S	100	110	18.85	18.85	1.41	-23.92	229 (7)	2748 (7)	14862 (7)
14-20-S	100	110	18.85	18.85	0.15	-13.60	136 (7)	1631 (7)	8817 (7)
14-21-S	100	110	18.85	18.85	0.87	-7.46	52 (5)	618 (5)	3344 (5)
14-22-S	100	110	18.85	18.85	1.44	-1.54	7 (5)	440 (5)	343 (5)
15-1-S	100	110	15.71	15.71	5.11	-4.65	34 (5)	2435 (5)	2206 (5)
15-2-S	100	110	15.71	15.71	6.60	-7.72	67 (5)	4720 (5)	3668 (5)
15-3-S	100	110	15.71	15.71	3.11	-10.99	74 (5)	1646 (5)	5271 (5)
15-4-S	100	110	15.71	15.71	1.91	-30.28	269 (5)	3167 (5)	19054 (5)
15-5-S	100	110	15.71	15.71	7.37	-19.10	400 (8)	7023 (8)	28325 (8)
15-6-S	100	110	15.71	15.71	22.06	-3.98	206 (5)	14547 (5)	2418 (5)
15-7-S	100	110	15.71	15.71	68.37	0.00	585 (5)	41423 (5)	6885 (5)
15-8-S	100	110	15.71	15.71	11.63	-10.59	184 (6)	7915 (6)	12996 (6)
15-9-S	100	110	15.71	15.71	8.74	-2.52	169 (7)	1984 (7)	11936 (7)
15-10-S	100	110	15.71	15.71	0.29	-40.84	199 (5)	2345 (5)	14109 (5)
15-11-S	100	110	15.71	15.71	7.83	-2.89	129 (7)	1523 (7)	9160 (7)
15-12-S	100	110	15.71	15.71	11.73	-0.34	97 (7)	1137 (7)	6843 (7)
15-13-S	100	110	15.71	15.71	20.69	-0.03	65 (7)	4591 (7)	821 (7)
15-14-S	100	110	15.71	15.71	26.42	0.00	139 (7)	9815 (7)	1631 (7)
15-15-S	100	110	15.71	15.71	28.42	0.00	184 (7)	13008 (7)	2162 (7)
15-16-S	100	110	15.71	15.71	27.72	-0.16	175 (6)	12393 (6)	2060 (6)
15-17-S	100	110	15.71	15.71	25.39	-1.19	153 (6)	10820 (6)	1798 (6)
15-18-S	100	110	15.71	15.71	3.38	-11.14	116 (7)	3314 (7)	8186 (7)
15-19-S	100	110	15.71	15.71	1.41	-23.92	251 (7)	2955 (7)	17775 (7)
15-20-S	100	110	15.71	15.71	0.15	-13.60	149 (7)	1753 (7)	10545 (7)
15-21-S	100	110	15.71	15.71	0.87	-7.46	57 (5)	665 (5)	4000 (5)
15-22-S	100	110	15.71	15.71	1.44	-1.54	7 (5)	526 (5)	411 (5)
16-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
16-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
16-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
16-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
16-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
16-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
16-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
16-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
16-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)
16-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
16-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
16-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
16-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
16-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
16-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
16-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
16-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
16-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
16-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
16-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
16-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
16-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
17-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
17-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
17-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
17-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
17-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
17-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
17-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
17-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
17-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
17-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
17-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
17-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
17-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
17-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
17-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
17-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
17-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
17-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
17-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
17-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
17-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)
17-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
18-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
18-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
18-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
18-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
18-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
18-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
18-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
18-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
18-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (5)
18-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
18-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
18-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
18-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
18-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
18-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
18-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
18-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)
18-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
18-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
18-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
18-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
18-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
19-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
19-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
19-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
19-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
19-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
19-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
19-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
19-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
19-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
19-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
19-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
19-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
19-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)
19-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
19-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
19-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
19-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
19-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
19-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
19-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
19-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
19-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
20-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
20-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
20-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
20-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
20-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
20-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
20-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
20-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
20-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
20-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
20-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
20-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
20-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
20-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
20-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
20-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)
20-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	67 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	$\sigma_c$ [kPa]	$\sigma_{fi}$ [kPa]	$\sigma_{fs}$ [kPa]
20-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
20-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
20-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
20-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
20-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	1	45.80	3014	38762		
1	2	45.80	2665	31593		
1	3	45.80	2327	28113		
1	4	45.80	2008	24771		
1	5	45.80	1722	21692		
1	6	45.80	1478	18999		
1	7	45.80	1289	17119		
1	8	45.80	1176	15790		
1	9	45.80	1072	14569		
1	10	45.80	975	13432		
1	11	45.80	899	12738		
1	12	45.80	848	12148		
1	13	45.80	801	11601		
1	14	45.80	758	11096		
1	15	45.80	718	10630		
1	16	45.80	758	10685		
1	17	45.80	826	11500		
1	18	45.80	889	12240		
1	19	45.80	945	12907		
1	20	45.80	995	13506		
1	21	45.80	1040	14041		
1	22	45.80	1080	14514		
1	23	45.80	1115	14929		
1	24	45.80	1145	15291		
1	25	45.80	1171	15605		
1	26	45.80	1193	15874		
1	27	45.80	1212	16099		
1	28	45.80	1227	16281		
1	29	45.80	1239	16422		
1	30	45.80	1247	16525		
1	31	45.80	1253	16592		
1	32	45.80	1255	16626		
1	33	45.80	1255	16629		
1	34	45.80	1252	16603		
1	35	45.80	1248	16553		
1	36	45.80	1241	16480		
1	37	45.80	1233	16387		
1	38	45.80	1223	16277		
1	39	45.80	1212	16152		
1	40	45.80	1200	16014		
1	41	45.80	1187	15866		
1	42	45.80	1173	15707		
1	43	45.80	1158	15541		
1	44	45.80	1144	15369		
1	45	45.80	1128	15192		
1	46	45.80	1112	15009		
1	47	45.80	1096	14824		
1	48	45.80	1080	14635		
1	49	45.80	1063	14445		
1	50	45.80	1047	14254		
1	51	45.80	1030	14062		
1	52	45.80	1014	13871		
1	53	45.80	997	13725		
1	54	45.80	981	13584		
1	55	45.80	965	13443		
1	56	45.80	949	13303		
1	57	45.80	934	13165		
1	58	45.80	922	13029		
1	59	45.80	911	12895		
1	60	45.80	899	12763		
1	61	45.80	888	12634		
1	62	45.80	877	12508		
1	63	45.80	867	12386		
1	64	45.80	856	12266		
1	65	45.80	846	12198		
1	66	45.80	836	12135		
1	67	45.80	827	12074		
1	68	45.80	819	12014		
1	69	45.80	814	11957		

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.16.0.5.007.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	68 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	70	45.80	809	11901		
1	71	45.80	804	11847		
1	72	45.80	800	11795		
1	73	45.80	795	11745		
1	74	45.80	791	11697		
1	75	45.80	787	11650		
1	76	45.80	783	11606		
1	77	45.80	780	11563		
1	78	45.80	776	11523		
1	79	45.80	773	11484		
1	80	45.80	770	11447		
1	81	45.80	767	11412		
1	82	45.80	764	11379		
1	83	45.80	761	11347		
1	84	45.80	759	11318		
1	85	45.80	756	11290		
1	86	45.80	754	11263		
1	87	45.80	752	11238		
1	88	45.80	750	11215		
1	89	45.80	748	11193		
1	90	45.80	747	11173		
1	91	45.80	745	11155		
1	92	45.80	744	11137		
1	93	45.80	742	11121		
1	94	45.80	741	11106		
1	95	45.80	740	11093		
1	96	45.80	739	11081		
1	97	45.80	738	11070		
1	98	45.80	737	11060		
1	99	45.80	737	11051		
1	100	45.80	736	11043		
1	101	45.80	736	11036		
2	1	62.83	2665	33318		
2	2	62.83	2396	30346		
2	3	62.83	2144	27537		
2	4	62.83	1918	24967		
2	5	62.83	1722	22692		
2	6	62.83	1554	20727		
2	7	62.83	1411	19037		
2	8	62.83	1281	17494		
2	9	62.83	1160	16056		
2	10	62.83	1065	14901		
2	11	62.83	979	13885		
2	12	62.83	900	12943		
2	13	62.83	826	12072		
2	14	62.83	784	11599		
2	15	62.83	862	12536		
2	16	62.83	934	13393		
2	17	62.83	999	14174		
2	18	62.83	1058	14883		
2	19	62.83	1111	15522		
2	20	62.83	1159	16095		
2	21	62.83	1201	16606		
2	22	62.83	1239	17058		
2	23	62.83	1272	17455		
2	24	62.83	1300	17799		
2	25	62.83	1325	18094		
2	26	62.83	1345	18343		
2	27	62.83	1362	18548		
2	28	62.83	1375	18713		
2	29	62.83	1386	18840		
2	30	62.83	1393	18933		
2	31	62.83	1398	18992		
2	32	62.83	1400	19022		
2	33	62.83	1400	19024		
2	34	62.83	1398	19001		
2	35	62.83	1393	18955		
2	36	62.83	1387	18888		
2	37	62.83	1380	18801		
2	38	62.83	1371	18697		
2	39	62.83	1361	18578		
2	40	62.83	1349	18445		
2	41	62.83	1337	18300		
2	42	62.83	1324	18145		
2	43	62.83	1310	17982		
2	44	62.83	1295	17812		
2	45	62.83	1280	17637		
2	46	62.83	1265	17458		
2	47	62.83	1250	17276		
2	48	62.83	1234	17091		
2	49	62.83	1218	16903		

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:	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.16.0.5.007.A.DOCX		IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	69 di 119

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σstf [kPa]
2	50	62.83	1202	16715		
2	51	62.83	1186	16527		
2	52	62.83	1170	16338		
2	53	62.83	1154	16150		
2	54	62.83	1138	15964		
2	55	62.83	1123	15779		
2	56	62.83	1107	15596		
2	57	62.83	1092	15416		
2	58	62.83	1077	15239		
2	59	62.83	1062	15065		
2	60	62.83	1048	14895		
2	61	62.83	1034	14729		
2	62	62.83	1020	14566		
2	63	62.83	1007	14408		
2	64	62.83	994	14254		
2	65	62.83	981	14105		
2	66	62.83	969	13960		
2	67	62.83	957	13821		
2	68	62.83	946	13686		
2	69	62.83	935	13555		
2	70	62.83	924	13430		
2	71	62.83	914	13310		
2	72	62.83	904	13195		
2	73	62.83	895	13084		
2	74	62.83	886	12979		
2	75	62.83	878	12878		
2	76	62.83	870	12782		
2	77	62.83	862	12691		
2	78	62.83	855	12604		
2	79	62.83	848	12522		
2	80	62.83	841	12445		
2	81	62.83	835	12372		
2	82	62.83	829	12303		
2	83	62.83	824	12238		
2	84	62.83	819	12178		
2	85	62.83	814	12121		
2	86	62.83	810	12069		
2	87	62.83	806	12020		
2	88	62.83	802	11974		
2	89	62.83	799	11932		
2	90	62.83	796	11894		
2	91	62.83	793	11858		
2	92	62.83	790	11826		
2	93	62.83	788	11796		
2	94	62.83	786	11770		
2	95	62.83	784	11746		
2	96	62.83	782	11724		
2	97	62.83	781	11705		
2	98	62.83	779	11688		
2	99	62.83	778	11673		
2	100	62.83	777	11661		
2	101	62.83	777	11650		
3	1	62.83	2695	34721		
3	2	62.83	2466	32105		
3	3	62.83	2257	29701		
3	4	62.83	2072	27535		
3	5	62.83	1909	25609		
3	6	62.83	1762	23859		
3	7	62.83	1623	22207		
3	8	62.83	1493	20663		
3	9	62.83	1372	19224		
3	10	62.83	1259	17886		
3	11	62.83	1154	16645		
3	12	62.83	1058	15499		
3	13	62.83	969	14442		
3	14	62.83	995	14762		
3	15	62.83	1073	15698		
3	16	62.83	1145	16554		
3	17	62.83	1210	17334		
3	18	62.83	1269	18040		
3	19	62.83	1322	18678		
3	20	62.83	1369	19250		
3	21	62.83	1411	19759		
3	22	62.83	1449	20209		
3	23	62.83	1482	20604		
3	24	62.83	1510	20946		
3	25	62.83	1534	21238		
3	26	62.83	1555	21485		
3	27	62.83	1571	21688		
3	28	62.83	1585	21850		
3	29	62.83	1595	21975		

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	70 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	30	62.83	1602	22064		
3	31	62.83	1606	22122		
3	32	62.83	1608	22148		
3	33	62.83	1608	22148		
3	34	62.83	1606	22122		
3	35	62.83	1601	22072		
3	36	62.83	1595	22001		
3	37	62.83	1587	21912		
3	38	62.83	1578	21804		
3	39	62.83	1568	21682		
3	40	62.83	1556	21545		
3	41	62.83	1543	21397		
3	42	62.83	1530	21237		
3	43	62.83	1516	21070		
3	44	62.83	1501	20897		
3	45	62.83	1486	20718		
3	46	62.83	1470	20535		
3	47	62.83	1454	20348		
3	48	62.83	1438	20158		
3	49	62.83	1422	19966		
3	50	62.83	1406	19774		
3	51	62.83	1389	19580		
3	52	62.83	1373	19387		
3	53	62.83	1357	19194		
3	54	62.83	1341	19003		
3	55	62.83	1325	18813		
3	56	62.83	1309	18625		
3	57	62.83	1293	18440		
3	58	62.83	1278	18258		
3	59	62.83	1263	18078		
3	60	62.83	1248	17903		
3	61	62.83	1234	17730		
3	62	62.83	1220	17562		
3	63	62.83	1206	17398		
3	64	62.83	1193	17239		
3	65	62.83	1180	17083		
3	66	62.83	1167	16933		
3	67	62.83	1155	16787		
3	68	62.83	1143	16645		
3	69	62.83	1131	16509		
3	70	62.83	1120	16377		
3	71	62.83	1110	16250		
3	72	62.83	1100	16128		
3	73	62.83	1090	16011		
3	74	62.83	1081	15898		
3	75	62.83	1072	15791		
3	76	62.83	1063	15688		
3	77	62.83	1055	15589		
3	78	62.83	1047	15495		
3	79	62.83	1040	15406		
3	80	62.83	1033	15321		
3	81	62.83	1026	15241		
3	82	62.83	1020	15164		
3	83	62.83	1014	15092		
3	84	62.83	1009	15023		
3	85	62.83	1004	14959		
3	86	62.83	999	14898		
3	87	62.83	994	14841		
3	88	62.83	990	14787		
3	89	62.83	986	14737		
3	90	62.83	982	14690		
3	91	62.83	979	14646		
3	92	62.83	975	14605		
3	93	62.83	972	14567		
3	94	62.83	970	14531		
3	95	62.83	967	14498		
3	96	62.83	965	14468		
3	97	62.83	963	14440		
3	98	62.83	961	14414		
3	99	62.83	959	14390		
3	100	62.83	958	14368		
3	101	62.83	956	14347		

Combinazioni SLEF

Paramento



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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	71 di 119

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	12.72	1.50	5.00	30 (8)	422 (8)	390 (8)
2	100	70	10.05	12.72	2.02	6.72	41 (8)	575 (8)	527 (8)
3	100	70	10.05	12.72	2.55	8.43	52 (8)	729 (8)	663 (8)
4	100	70	10.05	12.72	3.07	10.15	62 (8)	883 (8)	800 (8)
5	100	70	10.05	12.72	3.60	11.86	73 (8)	1037 (8)	937 (8)
6	100	70	10.05	12.72	4.12	13.58	84 (8)	1191 (8)	1073 (8)
7	100	70	10.05	12.72	4.65	15.29	95 (8)	1345 (8)	1210 (8)
8	100	70	10.05	12.72	5.17	17.01	105 (8)	1499 (8)	1347 (8)
9	100	70	10.05	12.72	5.70	18.73	116 (8)	1653 (8)	1483 (8)
10	100	70	10.05	12.72	6.22	20.44	127 (8)	1807 (8)	1620 (8)
11	100	70	10.05	12.72	6.75	22.16	137 (8)	1961 (8)	1756 (8)
12	100	70	10.05	12.72	7.27	23.87	148 (8)	2114 (8)	1893 (8)
13	100	70	10.05	12.72	7.80	25.59	159 (8)	2268 (8)	2030 (8)
14	100	70	10.05	12.72	8.32	27.30	169 (8)	2422 (8)	2166 (8)
15	100	70	10.05	12.72	8.85	29.02	180 (8)	2576 (8)	2303 (8)
16	100	70	10.05	12.72	9.37	30.74	191 (8)	2730 (8)	2439 (8)
17	100	70	10.05	12.72	9.90	32.45	201 (8)	2884 (8)	2576 (8)
18	100	70	10.05	12.72	10.42	34.17	212 (8)	3038 (8)	2713 (8)
19	100	70	10.05	12.72	10.95	35.88	223 (8)	3192 (8)	2849 (8)
20	100	70	10.05	12.72	11.47	37.60	233 (8)	3346 (8)	2986 (8)
21	100	70	10.05	12.72	12.00	39.31	244 (8)	3500 (8)	3123 (8)
22	100	70	10.05	12.72	12.52	41.03	255 (8)	3654 (8)	3259 (8)
23	100	70	10.05	12.72	13.05	42.75	265 (8)	3807 (8)	3396 (8)
24	100	70	10.05	12.72	13.57	44.46	276 (8)	3961 (8)	3532 (8)
25	100	70	10.05	12.72	14.10	46.18	287 (8)	4115 (8)	3669 (8)
26	100	70	10.05	12.72	14.62	47.89	298 (8)	4269 (8)	3806 (8)
27	100	70	10.05	12.72	15.15	49.61	308 (8)	4423 (8)	3942 (8)
28	100	70	10.05	12.72	15.67	51.32	319 (8)	4577 (8)	4079 (8)
29	100	70	10.05	12.72	16.20	53.04	330 (8)	4731 (8)	4216 (8)
30	100	70	10.05	12.72	16.72	54.76	340 (8)	4885 (8)	4352 (8)
31	100	70	10.05	12.72	17.25	56.47	351 (8)	5039 (8)	4489 (8)
32	100	70	10.05	12.72	17.80	58.19	362 (8)	5216 (8)	4632 (8)
33	100	70	10.05	12.72	18.40	59.90	375 (8)	5443 (8)	4791 (8)
34	100	70	10.05	12.72	19.06	61.62	389 (8)	5726 (8)	4965 (8)
35	100	70	10.05	12.72	19.79	63.33	405 (8)	6070 (8)	5157 (8)
36	100	70	10.05	12.72	20.59	65.05	422 (8)	6482 (8)	5368 (8)
37	100	101	10.05	12.72	29.00	69.93	296 (8)	4407 (8)	3994 (8)
38	100	101	10.05	12.72	29.98	72.40	306 (8)	4537 (8)	4128 (8)
39	100	101	10.05	12.72	31.20	74.87	319 (8)	4799 (8)	4301 (8)
40	100	101	10.05	12.72	32.61	77.35	335 (8)	5165 (8)	4506 (8)
41	100	101	10.05	12.72	34.16	79.82	353 (8)	5609 (8)	4732 (8)
42	100	101	10.05	12.72	35.79	82.29	371 (8)	6110 (8)	4973 (8)
43	100	101	10.05	12.72	37.51	84.76	391 (8)	6668 (8)	5229 (8)
44	100	101	10.05	12.72	39.32	87.24	413 (8)	7292 (8)	5500 (8)
45	100	101	10.05	12.72	41.23	89.71	435 (8)	7986 (8)	5788 (8)
46	100	101	10.05	12.72	43.25	92.18	459 (8)	8759 (8)	6093 (8)
47	100	101	10.05	12.72	45.38	94.66	485 (8)	9616 (8)	6417 (8)
48	100	101	10.05	12.72	47.63	97.13	513 (8)	10564 (8)	6759 (8)
49	100	101	10.05	12.72	50.00	99.60	542 (8)	11609 (8)	7121 (8)
50	100	101	10.05	12.72	52.50	102.08	573 (8)	12757 (8)	7503 (8)
51	100	101	10.05	12.72	55.13	104.55	606 (8)	14015 (8)	7906 (8)
52	100	101	10.05	12.72	57.90	107.02	640 (8)	15388 (8)	8330 (8)
53	100	101	10.05	12.72	57.95	107.07	641 (8)	15417 (8)	8339 (8)
54	100	101	10.05	12.72	60.87	109.54	678 (8)	16912 (8)	8784 (8)
55	100	101	10.05	12.72	63.93	112.01	716 (8)	18534 (8)	9251 (8)
56	100	101	10.05	12.72	67.14	114.48	757 (8)	20288 (8)	9740 (8)
57	100	101	10.05	12.72	70.51	116.96	800 (8)	22178 (8)	10252 (8)
58	100	101	10.05	12.72	74.04	119.43	844 (8)	24209 (8)	10787 (8)

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	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
1-2-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-3-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-4-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-5-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)



APPALTATORE:

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PROGETTAZIONE:

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.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.16.0.5.007	A	72 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
1-6-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-7-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-8-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-9-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-10-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-11-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-12-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-13-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-14-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-15-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-16-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-17-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-18-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-19-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-20-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-21-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-22-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-23-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)
1-24-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-25-P	69	110	12.57	12.57	0.00	-32.05	343 (5)	4090 (5)	22657 (5)
1-26-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-27-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)
1-28-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-29-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-30-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-31-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-32-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-33-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-34-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-35-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-36-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-37-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-38-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-39-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-40-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-41-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-42-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-43-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-44-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-45-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)
1-46-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-47-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-48-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-49-P	69	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
2-1-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
2-2-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-3-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-4-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-5-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-6-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-7-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-8-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-9-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-10-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-11-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-12-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-13-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)
2-14-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-15-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-16-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-17-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-18-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)
2-19-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-20-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-21-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-22-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-23-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-24-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-25-P	70	110	12.57	12.57	0.79	-54.37	633 (5)	7552 (5)	41836 (5)
2-26-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-27-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-28-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-29-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-30-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-31-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-32-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)
2-33-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-34-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-35-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-36-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-37-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)

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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-38-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-39-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-40-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-41-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-42-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-43-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-44-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-45-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-46-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-47-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-48-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-49-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
5-1-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
5-2-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-3-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-4-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-5-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-6-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)
5-7-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-8-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-9-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-10-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-11-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-12-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-13-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-14-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-15-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-16-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-17-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-18-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-19-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-20-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-21-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-22-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-23-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-24-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-25-P	85	110	15.71	15.71	12.98	0.00	97 (7)	6344 (7)	1160 (7)
5-26-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-27-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-28-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-29-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-30-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-31-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-32-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-33-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-34-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-35-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-36-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-37-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-38-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-39-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-40-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-41-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-42-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-43-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-44-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)
5-45-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-46-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-47-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-48-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-49-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
6-1-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (5)
6-2-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-3-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-4-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-5-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-6-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-7-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-8-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-9-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-10-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-11-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-12-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (5)
6-13-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-14-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-15-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-16-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-17-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-18-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-19-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-20-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (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.16.0.5.007.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.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-21-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-22-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-23-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-24-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-25-P	85	110	12.57	12.57	11.44	0.00	91 (7)	6627 (7)	1063 (7)
6-26-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-27-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-28-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-29-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-30-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (5)
6-31-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-32-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-33-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-34-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-35-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-36-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-37-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-38-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (5)
6-39-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-40-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-41-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-42-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-43-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-44-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-45-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-46-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-47-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-48-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-49-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (5)
7-1-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
7-2-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-3-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-4-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-5-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-6-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-7-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-8-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-9-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-10-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-11-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-12-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-13-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-14-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-15-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-16-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-17-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)
7-18-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-19-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-20-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-21-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-22-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-23-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-24-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-25-P	85	110	12.57	12.57	0.91	-15.91	280 (5)	3268 (5)	20385 (5)
7-26-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-27-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-28-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-29-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-30-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-31-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-32-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-33-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)
7-34-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-35-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-36-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-37-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-38-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-39-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-40-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-41-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-42-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-43-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-44-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-45-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-46-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-47-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-48-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-49-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
8-1-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
8-2-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-3-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 75 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
8-4-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-5-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-6-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-7-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-8-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-9-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-10-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-11-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-12-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-13-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-14-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-15-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-16-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-17-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-18-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-19-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-20-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-21-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)
8-22-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-23-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-24-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-25-P	85	110	15.71	15.71	0.00	-47.30	432 (7)	5170 (7)	28279 (7)
8-26-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-27-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-28-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-29-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)
8-30-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-31-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-32-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-33-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-34-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-35-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-36-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-37-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-38-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-39-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-40-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-41-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-42-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-43-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-44-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-45-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-46-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-47-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (7)
8-48-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-49-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
9-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
9-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
9-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
9-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
9-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
9-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
9-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
9-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
9-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
9-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
9-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
9-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
9-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
9-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
9-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
9-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)
9-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)
9-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
9-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
9-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
9-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
9-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)
10-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
10-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
10-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
10-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
10-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
10-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
10-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
10-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
10-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
10-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
10-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
10-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
10-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)

APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
10-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
10-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
10-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
10-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
10-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
10-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
10-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
10-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
10-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
11-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
11-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
11-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
11-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
11-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
11-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
11-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
11-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
11-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (5)
11-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
11-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
11-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
11-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
11-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
11-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
11-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
11-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)
11-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
11-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
11-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
11-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
11-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
12-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
12-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (7)
12-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
12-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
12-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
12-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
12-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
12-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
12-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
12-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
12-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
12-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
12-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
12-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
12-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
12-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
12-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
12-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
12-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
12-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
12-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)
12-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
13-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
13-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
13-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
13-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
13-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
13-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
13-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
13-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
13-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)
13-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
13-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
13-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
13-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
13-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
13-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
13-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
13-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
13-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
13-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
13-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
13-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
13-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
14-1-S	100	110	18.85	18.85	5.11	-4.65	31 (5)	2036 (5)	1845 (5)
14-2-S	100	110	18.85	18.85	6.60	-7.72	61 (5)	3946 (5)	3067 (5)
14-3-S	100	110	18.85	18.85	3.11	-10.99	68 (5)	1376 (5)	4407 (5)
14-4-S	100	110	18.85	18.85	1.91	-30.28	246 (5)	2946 (5)	15931 (5)
14-5-S	100	110	18.85	18.85	7.37	-19.10	365 (8)	5872 (8)	23683 (8)
14-6-S	100	110	18.85	18.85	22.06	-3.98	188 (5)	12163 (5)	2249 (5)

APPALTATORE:

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SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.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.16.0.5.007	A	77 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
14-7-S	100	110	18.85	18.85	68.37	0.00	534 (5)	34635 (5)	6405 (5)
14-8-S	100	110	18.85	18.85	11.63	-10.59	168 (6)	6618 (6)	10866 (6)
14-9-S	100	110	18.85	18.85	8.74	-2.52	154 (7)	1846 (7)	9980 (7)
14-10-S	100	110	18.85	18.85	0.29	-40.84	182 (5)	2182 (5)	11797 (5)
14-11-S	100	110	18.85	18.85	7.83	-2.89	118 (7)	1416 (7)	7659 (7)
14-12-S	100	110	18.85	18.85	11.73	-0.34	88 (7)	1058 (7)	5721 (7)
14-13-S	100	110	18.85	18.85	20.69	-0.03	59 (7)	3838 (7)	710 (7)
14-14-S	100	110	18.85	18.85	26.42	0.00	127 (7)	8207 (7)	1518 (7)
14-15-S	100	110	18.85	18.85	28.42	0.00	168 (7)	10876 (7)	2011 (7)
14-16-S	100	110	18.85	18.85	27.72	-0.16	160 (6)	10362 (6)	1916 (6)
14-17-S	100	110	18.85	18.85	25.39	-1.19	140 (6)	9047 (6)	1673 (6)
14-18-S	100	110	18.85	18.85	3.38	-11.14	106 (7)	2771 (7)	6845 (7)
14-19-S	100	110	18.85	18.85	1.41	-23.92	229 (7)	2748 (7)	14862 (7)
14-20-S	100	110	18.85	18.85	0.15	-13.60	136 (7)	1631 (7)	8817 (7)
14-21-S	100	110	18.85	18.85	0.87	-7.46	52 (5)	618 (5)	3344 (5)
14-22-S	100	110	18.85	18.85	1.44	-1.54	7 (5)	440 (5)	343 (5)
15-1-S	100	110	15.71	15.71	5.11	-4.65	34 (5)	2435 (5)	2206 (5)
15-2-S	100	110	15.71	15.71	6.60	-7.72	67 (5)	4720 (5)	3668 (5)
15-3-S	100	110	15.71	15.71	3.11	-10.99	74 (5)	1646 (5)	5271 (5)
15-4-S	100	110	15.71	15.71	1.91	-30.28	269 (5)	3167 (5)	19054 (5)
15-5-S	100	110	15.71	15.71	7.37	-19.10	400 (8)	7023 (8)	28325 (8)
15-6-S	100	110	15.71	15.71	22.06	-3.98	206 (5)	14547 (5)	2418 (5)
15-7-S	100	110	15.71	15.71	68.37	0.00	585 (5)	41423 (5)	6885 (5)
15-8-S	100	110	15.71	15.71	11.63	-10.59	184 (6)	7915 (6)	12996 (6)
15-9-S	100	110	15.71	15.71	8.74	-2.52	169 (7)	1984 (7)	11936 (7)
15-10-S	100	110	15.71	15.71	0.29	-40.84	199 (5)	2345 (5)	14109 (5)
15-11-S	100	110	15.71	15.71	7.83	-2.89	129 (7)	1523 (7)	9160 (7)
15-12-S	100	110	15.71	15.71	11.73	-0.34	97 (7)	1137 (7)	6843 (7)
15-13-S	100	110	15.71	15.71	20.69	-0.03	65 (7)	4591 (7)	821 (7)
15-14-S	100	110	15.71	15.71	26.42	0.00	139 (7)	9815 (7)	1631 (7)
15-15-S	100	110	15.71	15.71	28.42	0.00	184 (7)	13008 (7)	2162 (7)
15-16-S	100	110	15.71	15.71	27.72	-0.16	175 (6)	12393 (6)	2060 (6)
15-17-S	100	110	15.71	15.71	25.39	-1.19	153 (6)	10820 (6)	1798 (6)
15-18-S	100	110	15.71	15.71	3.38	-11.14	116 (7)	3314 (7)	8186 (7)
15-19-S	100	110	15.71	15.71	1.41	-23.92	251 (7)	2955 (7)	17775 (7)
15-20-S	100	110	15.71	15.71	0.15	-13.60	149 (7)	1753 (7)	10545 (7)
15-21-S	100	110	15.71	15.71	0.87	-7.46	57 (5)	665 (5)	4000 (5)
15-22-S	100	110	15.71	15.71	1.44	-1.54	7 (5)	526 (5)	411 (5)
16-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
16-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
16-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
16-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
16-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
16-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
16-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
16-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
16-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)
16-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
16-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
16-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
16-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
16-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
16-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
16-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
16-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
16-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
16-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
16-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
16-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
16-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
17-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
17-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (7)
17-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
17-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
17-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
17-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
17-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
17-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
17-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
17-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
17-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
17-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
17-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
17-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
17-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
17-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
17-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
17-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
17-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
17-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
17-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)



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.16.0.5.007.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.16.0.5.007	A	78 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
17-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
18-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
18-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
18-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
18-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
18-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
18-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
18-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
18-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
18-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (5)
18-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
18-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
18-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
18-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
18-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
18-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
18-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
18-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)
18-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
18-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
18-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
18-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
18-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
19-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
19-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
19-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
19-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
19-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
19-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
19-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
19-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
19-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
19-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
19-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
19-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
19-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)
19-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
19-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
19-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
19-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
19-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
19-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
19-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
19-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
19-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
20-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
20-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
20-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
20-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
20-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
20-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
20-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
20-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
20-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
20-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
20-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
20-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
20-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
20-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
20-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
20-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)
20-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)
20-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
20-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
20-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
20-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
20-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)

**Pali in c.a.**

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	1	45.80	3014	38762		
1	2	45.80	2665	31593		
1	3	45.80	2327	28113		
1	4	45.80	2008	24771		
1	5	45.80	1722	21692		
1	6	45.80	1478	18999		
1	7	45.80	1289	17119		

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.16.0.5.007.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	79 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	8	45.80	1176	15790		
1	9	45.80	1072	14569		
1	10	45.80	975	13432		
1	11	45.80	899	12738		
1	12	45.80	848	12148		
1	13	45.80	801	11601		
1	14	45.80	758	11096		
1	15	45.80	718	10630		
1	16	45.80	758	10685		
1	17	45.80	826	11500		
1	18	45.80	889	12240		
1	19	45.80	945	12907		
1	20	45.80	995	13506		
1	21	45.80	1040	14041		
1	22	45.80	1080	14514		
1	23	45.80	1115	14929		
1	24	45.80	1145	15291		
1	25	45.80	1171	15605		
1	26	45.80	1193	15874		
1	27	45.80	1212	16099		
1	28	45.80	1227	16281		
1	29	45.80	1239	16422		
1	30	45.80	1247	16525		
1	31	45.80	1253	16592		
1	32	45.80	1255	16626		
1	33	45.80	1255	16629		
1	34	45.80	1252	16603		
1	35	45.80	1248	16553		
1	36	45.80	1241	16480		
1	37	45.80	1233	16387		
1	38	45.80	1223	16277		
1	39	45.80	1212	16152		
1	40	45.80	1200	16014		
1	41	45.80	1187	15866		
1	42	45.80	1173	15707		
1	43	45.80	1158	15541		
1	44	45.80	1144	15369		
1	45	45.80	1128	15192		
1	46	45.80	1112	15009		
1	47	45.80	1096	14824		
1	48	45.80	1080	14635		
1	49	45.80	1063	14445		
1	50	45.80	1047	14254		
1	51	45.80	1030	14062		
1	52	45.80	1014	13871		
1	53	45.80	997	13725		
1	54	45.80	981	13584		
1	55	45.80	965	13443		
1	56	45.80	949	13303		
1	57	45.80	934	13165		
1	58	45.80	922	13029		
1	59	45.80	911	12895		
1	60	45.80	899	12763		
1	61	45.80	888	12634		
1	62	45.80	877	12508		
1	63	45.80	867	12386		
1	64	45.80	856	12266		
1	65	45.80	846	12198		
1	66	45.80	836	12135		
1	67	45.80	827	12074		
1	68	45.80	819	12014		
1	69	45.80	814	11957		
1	70	45.80	809	11901		
1	71	45.80	804	11847		
1	72	45.80	800	11795		
1	73	45.80	795	11745		
1	74	45.80	791	11697		
1	75	45.80	787	11650		
1	76	45.80	783	11606		
1	77	45.80	780	11563		
1	78	45.80	776	11523		
1	79	45.80	773	11484		
1	80	45.80	770	11447		
1	81	45.80	767	11412		
1	82	45.80	764	11379		
1	83	45.80	761	11347		
1	84	45.80	759	11318		
1	85	45.80	756	11290		
1	86	45.80	754	11263		
1	87	45.80	752	11238		
1	88	45.80	750	11215		



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.16.0.5.007.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.16.0.5.007</td> <td>A</td> <td>80 di 119</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	80 di 119
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	80 di 119								

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	89	45.80	748	11193		
1	90	45.80	747	11173		
1	91	45.80	745	11155		
1	92	45.80	744	11137		
1	93	45.80	742	11121		
1	94	45.80	741	11106		
1	95	45.80	740	11093		
1	96	45.80	739	11081		
1	97	45.80	738	11070		
1	98	45.80	737	11060		
1	99	45.80	737	11051		
1	100	45.80	736	11043		
1	101	45.80	736	11036		
2	1	62.83	2665	33318		
2	2	62.83	2396	30346		
2	3	62.83	2144	27537		
2	4	62.83	1918	24967		
2	5	62.83	1722	22692		
2	6	62.83	1554	20727		
2	7	62.83	1411	19037		
2	8	62.83	1281	17494		
2	9	62.83	1160	16056		
2	10	62.83	1065	14901		
2	11	62.83	979	13885		
2	12	62.83	900	12943		
2	13	62.83	826	12072		
2	14	62.83	784	11599		
2	15	62.83	862	12536		
2	16	62.83	934	13393		
2	17	62.83	999	14174		
2	18	62.83	1058	14883		
2	19	62.83	1111	15522		
2	20	62.83	1159	16095		
2	21	62.83	1201	16606		
2	22	62.83	1239	17058		
2	23	62.83	1272	17455		
2	24	62.83	1300	17799		
2	25	62.83	1325	18094		
2	26	62.83	1345	18343		
2	27	62.83	1362	18548		
2	28	62.83	1375	18713		
2	29	62.83	1386	18840		
2	30	62.83	1393	18933		
2	31	62.83	1398	18992		
2	32	62.83	1400	19022		
2	33	62.83	1400	19024		
2	34	62.83	1398	19001		
2	35	62.83	1393	18955		
2	36	62.83	1387	18888		
2	37	62.83	1380	18801		
2	38	62.83	1371	18697		
2	39	62.83	1361	18578		
2	40	62.83	1349	18445		
2	41	62.83	1337	18300		
2	42	62.83	1324	18145		
2	43	62.83	1310	17982		
2	44	62.83	1295	17812		
2	45	62.83	1280	17637		
2	46	62.83	1265	17458		
2	47	62.83	1250	17276		
2	48	62.83	1234	17091		
2	49	62.83	1218	16903		
2	50	62.83	1202	16715		
2	51	62.83	1186	16527		
2	52	62.83	1170	16338		
2	53	62.83	1154	16150		
2	54	62.83	1138	15964		
2	55	62.83	1123	15779		
2	56	62.83	1107	15596		
2	57	62.83	1092	15416		
2	58	62.83	1077	15239		
2	59	62.83	1062	15065		
2	60	62.83	1048	14895		
2	61	62.83	1034	14729		
2	62	62.83	1020	14566		
2	63	62.83	1007	14408		
2	64	62.83	994	14254		
2	65	62.83	981	14105		
2	66	62.83	969	13960		
2	67	62.83	957	13821		
2	68	62.83	946	13686		

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	81 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	69	62.83	935	13555		
2	70	62.83	924	13430		
2	71	62.83	914	13310		
2	72	62.83	904	13195		
2	73	62.83	895	13084		
2	74	62.83	886	12979		
2	75	62.83	878	12878		
2	76	62.83	870	12782		
2	77	62.83	862	12691		
2	78	62.83	855	12604		
2	79	62.83	848	12522		
2	80	62.83	841	12445		
2	81	62.83	835	12372		
2	82	62.83	829	12303		
2	83	62.83	824	12238		
2	84	62.83	819	12178		
2	85	62.83	814	12121		
2	86	62.83	810	12069		
2	87	62.83	806	12020		
2	88	62.83	802	11974		
2	89	62.83	799	11932		
2	90	62.83	796	11894		
2	91	62.83	793	11858		
2	92	62.83	790	11826		
2	93	62.83	788	11796		
2	94	62.83	786	11770		
2	95	62.83	784	11746		
2	96	62.83	782	11724		
2	97	62.83	781	11705		
2	98	62.83	779	11688		
2	99	62.83	778	11673		
2	100	62.83	777	11661		
2	101	62.83	777	11650		
3	1	62.83	2695	34721		
3	2	62.83	2466	32105		
3	3	62.83	2257	29701		
3	4	62.83	2072	27535		
3	5	62.83	1909	25609		
3	6	62.83	1762	23859		
3	7	62.83	1623	22207		
3	8	62.83	1493	20663		
3	9	62.83	1372	19224		
3	10	62.83	1259	17886		
3	11	62.83	1154	16645		
3	12	62.83	1058	15499		
3	13	62.83	969	14442		
3	14	62.83	995	14762		
3	15	62.83	1073	15698		
3	16	62.83	1145	16554		
3	17	62.83	1210	17334		
3	18	62.83	1269	18040		
3	19	62.83	1322	18678		
3	20	62.83	1369	19250		
3	21	62.83	1411	19759		
3	22	62.83	1449	20209		
3	23	62.83	1482	20604		
3	24	62.83	1510	20946		
3	25	62.83	1534	21238		
3	26	62.83	1555	21485		
3	27	62.83	1571	21688		
3	28	62.83	1585	21850		
3	29	62.83	1595	21975		
3	30	62.83	1602	22064		
3	31	62.83	1606	22122		
3	32	62.83	1608	22148		
3	33	62.83	1608	22148		
3	34	62.83	1606	22122		
3	35	62.83	1601	22072		
3	36	62.83	1595	22001		
3	37	62.83	1587	21912		
3	38	62.83	1578	21804		
3	39	62.83	1568	21682		
3	40	62.83	1556	21545		
3	41	62.83	1543	21397		
3	42	62.83	1530	21237		
3	43	62.83	1516	21070		
3	44	62.83	1501	20897		
3	45	62.83	1486	20718		
3	46	62.83	1470	20535		
3	47	62.83	1454	20348		
3	48	62.83	1438	20158		

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	82 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	49	62.83	1422	19966		
3	50	62.83	1406	19774		
3	51	62.83	1389	19580		
3	52	62.83	1373	19387		
3	53	62.83	1357	19194		
3	54	62.83	1341	19003		
3	55	62.83	1325	18813		
3	56	62.83	1309	18625		
3	57	62.83	1293	18440		
3	58	62.83	1278	18258		
3	59	62.83	1263	18078		
3	60	62.83	1248	17903		
3	61	62.83	1234	17730		
3	62	62.83	1220	17562		
3	63	62.83	1206	17398		
3	64	62.83	1193	17239		
3	65	62.83	1180	17083		
3	66	62.83	1167	16933		
3	67	62.83	1155	16787		
3	68	62.83	1143	16645		
3	69	62.83	1131	16509		
3	70	62.83	1120	16377		
3	71	62.83	1110	16250		
3	72	62.83	1100	16128		
3	73	62.83	1090	16011		
3	74	62.83	1081	15898		
3	75	62.83	1072	15791		
3	76	62.83	1063	15688		
3	77	62.83	1055	15589		
3	78	62.83	1047	15495		
3	79	62.83	1040	15406		
3	80	62.83	1033	15321		
3	81	62.83	1026	15241		
3	82	62.83	1020	15164		
3	83	62.83	1014	15092		
3	84	62.83	1009	15023		
3	85	62.83	1004	14959		
3	86	62.83	999	14898		
3	87	62.83	994	14841		
3	88	62.83	990	14787		
3	89	62.83	986	14737		
3	90	62.83	982	14690		
3	91	62.83	979	14646		
3	92	62.83	975	14605		
3	93	62.83	972	14567		
3	94	62.83	970	14531		
3	95	62.83	967	14498		
3	96	62.83	965	14468		
3	97	62.83	963	14440		
3	98	62.83	961	14414		
3	99	62.83	959	14390		
3	100	62.83	958	14368		
3	101	62.83	956	14347		

## 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	12.72	0.00	5.00	7 (7)	101 (7)	103 (7)
2	100	70	10.05	12.72	0.00	6.72	9 (7)	136 (7)	139 (7)
3	100	70	10.05	12.72	0.00	8.43	12 (7)	170 (7)	174 (7)
4	100	70	10.05	12.72	0.00	10.15	14 (7)	205 (7)	210 (7)
5	100	70	10.05	12.72	0.00	11.86	16 (7)	240 (7)	245 (7)
6	100	70	10.05	12.72	0.00	13.58	19 (7)	274 (7)	281 (7)
7	100	70	10.05	12.72	0.00	15.29	21 (7)	309 (7)	316 (7)
8	100	70	10.05	12.72	0.00	17.01	23 (7)	344 (7)	352 (7)
9	100	70	10.05	12.72	0.00	18.73	26 (7)	378 (7)	387 (7)
10	100	70	10.05	12.72	0.00	20.44	28 (7)	413 (7)	422 (7)
11	100	70	10.05	12.72	0.00	22.16	31 (7)	448 (7)	458 (7)
12	100	70	10.05	12.72	0.00	23.87	33 (7)	482 (7)	493 (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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
13	100	70	10.05	12.72	0.00	25.59	35 (7)	517 (7)	529 (7)
14	100	70	10.05	12.72	0.00	27.30	38 (7)	552 (7)	564 (7)
15	100	70	10.05	12.72	0.00	29.02	40 (7)	586 (7)	600 (7)
16	100	70	10.05	12.72	0.00	30.74	42 (7)	621 (7)	635 (7)
17	100	70	10.05	12.72	0.00	32.45	45 (7)	655 (7)	671 (7)
18	100	70	10.05	12.72	0.00	34.17	47 (7)	690 (7)	706 (7)
19	100	70	10.05	12.72	0.00	35.88	50 (7)	725 (7)	742 (7)
20	100	70	10.05	12.72	0.00	37.60	52 (7)	759 (7)	777 (7)
21	100	70	10.05	12.72	0.00	39.31	54 (7)	794 (7)	812 (7)
22	100	70	10.05	12.72	0.00	41.03	57 (7)	829 (7)	848 (7)
23	100	70	10.05	12.72	0.00	42.75	59 (7)	863 (7)	883 (7)
24	100	70	10.05	12.72	0.00	44.46	61 (7)	898 (7)	919 (7)
25	100	70	10.05	12.72	0.00	46.18	64 (7)	933 (7)	954 (7)
26	100	70	10.05	12.72	0.00	47.89	66 (7)	967 (7)	990 (7)
27	100	70	10.05	12.72	0.00	49.61	68 (7)	1002 (7)	1025 (7)
28	100	70	10.05	12.72	0.00	51.32	71 (7)	1037 (7)	1061 (7)
29	100	70	10.05	12.72	0.00	53.04	73 (7)	1071 (7)	1096 (7)
30	100	70	10.05	12.72	0.00	54.76	76 (7)	1106 (7)	1132 (7)
31	100	70	10.05	12.72	0.00	56.47	78 (7)	1141 (7)	1167 (7)
32	100	70	10.05	12.72	0.03	58.19	81 (7)	1172 (7)	1206 (7)
33	100	70	10.05	12.72	0.11	59.90	84 (7)	1195 (7)	1253 (7)
34	100	70	10.05	12.72	0.24	61.62	88 (7)	1210 (7)	1309 (7)
35	100	70	10.05	12.72	0.45	63.33	92 (7)	1216 (7)	1373 (7)
36	100	70	10.05	12.72	0.72	65.05	98 (7)	1212 (7)	1448 (7)
37	100	101	10.05	12.72	9.12	69.93	117 (7)	327 (7)	1687 (7)
38	100	101	10.05	12.72	9.57	72.40	122 (7)	329 (7)	1757 (7)
39	100	101	10.05	12.72	10.27	74.87	128 (7)	313 (7)	1844 (7)
40	100	101	10.05	12.72	11.16	77.35	136 (7)	283 (7)	1945 (7)
41	100	101	10.05	12.72	12.18	79.82	144 (7)	244 (7)	2057 (7)
42	100	101	10.05	12.72	13.29	82.29	152 (7)	198 (7)	2174 (7)
43	100	101	10.05	12.72	14.48	84.76	161 (7)	145 (7)	2298 (7)
44	100	101	10.05	12.72	15.77	87.24	170 (7)	85 (7)	2430 (7)
45	100	101	10.05	12.72	17.16	89.71	181 (7)	10 (7)	2572 (7)
46	100	101	10.05	12.72	18.65	92.18	192 (7)	84 (7)	2726 (7)
47	100	101	10.05	12.72	20.26	94.66	204 (7)	202 (7)	2895 (7)
48	100	101	10.05	12.72	21.98	97.13	218 (7)	349 (7)	3080 (7)
49	100	101	10.05	12.72	23.83	99.60	233 (7)	531 (7)	3284 (7)
50	100	101	10.05	12.72	25.80	102.08	249 (7)	758 (7)	3508 (7)
51	100	101	10.05	12.72	27.91	104.55	268 (7)	1040 (7)	3755 (7)
52	100	101	10.05	12.72	30.15	107.02	288 (7)	1388 (7)	4029 (7)
53	100	101	10.05	12.72	30.20	107.07	288 (7)	1396 (7)	4035 (7)
54	100	101	10.05	12.72	32.59	109.54	311 (7)	1827 (7)	4338 (7)
55	100	101	10.05	12.72	35.12	112.01	337 (7)	2357 (7)	4673 (7)
56	100	101	10.05	12.72	37.81	114.48	365 (7)	3002 (7)	5042 (7)
57	100	101	10.05	12.72	40.66	116.96	396 (7)	3783 (7)	5446 (7)
58	100	101	10.05	12.72	43.67	119.43	430 (7)	4718 (7)	5887 (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	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
1-2-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-3-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-4-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-5-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)
1-6-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-7-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-8-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-9-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-10-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-11-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-12-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-13-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-14-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-15-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-16-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-17-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-18-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-19-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-20-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-21-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-22-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-23-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)

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.16.0.5.007.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.16.0.5.007</b>	<b>A</b>	<b>84 di 119</b>

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
1-24-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-25-P	69	110	12.57	12.57	0.00	-32.05	343 (5)	4090 (5)	22657 (5)
1-26-P	69	110	12.57	12.57	0.25	-18.95	197 (5)	2346 (5)	12996 (5)
1-27-P	69	110	12.57	12.57	1.94	-6.56	62 (5)	1963 (5)	4104 (5)
1-28-P	69	110	12.57	12.57	11.05	-0.42	115 (5)	7597 (5)	1371 (5)
1-29-P	69	110	12.57	12.57	16.64	-0.02	175 (5)	11575 (5)	2090 (5)
1-30-P	69	110	12.57	12.57	18.84	0.00	199 (5)	13155 (5)	2375 (5)
1-31-P	69	110	12.57	12.57	15.28	-0.07	160 (5)	10584 (5)	1911 (5)
1-32-P	69	110	12.57	12.57	6.17	-1.54	63 (5)	4156 (5)	815 (5)
1-33-P	69	110	12.57	12.57	1.36	-11.95	117 (5)	1981 (5)	7748 (5)
1-34-P	69	110	12.57	12.57	0.11	-23.99	253 (5)	3021 (5)	16736 (5)
1-35-P	69	110	12.57	12.57	0.07	-26.66	283 (5)	3376 (5)	18703 (5)
1-36-P	69	110	12.57	12.57	0.11	-13.44	136 (5)	1627 (5)	9010 (5)
1-37-P	69	110	12.57	12.57	4.23	-2.85	42 (5)	2756 (5)	1627 (5)
1-38-P	69	110	12.57	12.57	14.22	-0.14	148 (5)	9815 (5)	1772 (5)
1-39-P	69	110	12.57	12.57	17.37	0.00	183 (5)	12111 (5)	2186 (5)
1-40-P	69	110	12.57	12.57	16.08	-0.01	169 (5)	11191 (5)	2020 (5)
1-41-P	69	110	12.57	12.57	11.94	-0.22	124 (5)	8181 (5)	1477 (5)
1-42-P	69	110	12.57	12.57	1.11	-4.66	62 (7)	1665 (7)	4073 (7)
1-43-P	69	110	12.57	12.57	0.07	-20.71	215 (5)	2566 (5)	14215 (5)
1-44-P	69	110	12.57	12.57	0.02	-35.89	382 (5)	4566 (5)	25294 (5)
1-45-P	69	110	12.57	12.57	0.07	-30.46	321 (5)	3832 (5)	21226 (5)
1-46-P	69	110	12.57	12.57	0.00	-19.46	201 (5)	2397 (5)	13277 (5)
1-47-P	69	110	12.57	12.57	0.07	-7.22	76 (5)	904 (5)	5006 (5)
1-48-P	69	110	12.57	12.57	0.88	-1.90	25 (5)	834 (5)	1649 (5)
1-49-P	69	110	12.57	12.57	0.98	-0.17	12 (8)	783 (8)	345 (8)
2-1-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
2-2-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-3-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-4-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-5-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-6-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-7-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-8-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-9-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-10-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-11-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-12-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-13-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)
2-14-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-15-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-16-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-17-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-18-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)
2-19-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-20-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-21-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-22-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-23-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-24-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-25-P	70	110	12.57	12.57	0.79	-54.37	633 (5)	7552 (5)	41836 (5)
2-26-P	70	110	12.57	12.57	1.89	-14.11	212 (8)	3758 (8)	14051 (8)
2-27-P	70	110	12.57	12.57	9.79	-0.44	108 (5)	7135 (5)	1288 (5)
2-28-P	70	110	12.57	12.57	14.65	0.00	163 (5)	10808 (5)	1951 (5)
2-29-P	70	110	12.57	12.57	16.76	0.00	185 (5)	12205 (5)	2203 (5)
2-30-P	70	110	12.57	12.57	17.56	0.00	192 (5)	12698 (5)	2292 (5)
2-31-P	70	110	12.57	12.57	16.28	0.00	180 (5)	11922 (5)	2152 (5)
2-32-P	70	110	12.57	12.57	12.66	-0.04	142 (5)	9358 (5)	1689 (5)
2-33-P	70	110	12.57	12.57	8.61	-1.23	92 (5)	6093 (5)	1100 (5)
2-34-P	70	110	12.57	12.57	1.25	-32.08	398 (5)	4757 (5)	26349 (5)
2-35-P	70	110	12.57	12.57	1.10	-39.28	483 (5)	5760 (5)	31909 (5)
2-36-P	70	110	12.57	12.57	3.09	-3.22	40 (5)	2200 (5)	2644 (5)
2-37-P	70	110	12.57	12.57	11.77	-0.13	131 (5)	8676 (5)	1566 (5)
2-38-P	70	110	12.57	12.57	16.06	0.00	178 (5)	11792 (5)	2129 (5)
2-39-P	70	110	12.57	12.57	17.25	0.00	189 (5)	12505 (5)	2257 (5)
2-40-P	70	110	12.57	12.57	16.76	0.00	184 (5)	12184 (5)	2200 (5)
2-41-P	70	110	12.57	12.57	15.15	0.00	169 (5)	11174 (5)	2017 (5)
2-42-P	70	110	12.57	12.57	9.64	-0.34	107 (5)	7083 (5)	1279 (5)
2-43-P	70	110	12.57	12.57	2.02	-9.47	143 (8)	4021 (8)	9428 (8)
2-44-P	70	110	12.57	12.57	0.92	-49.72	580 (5)	6921 (5)	38341 (5)
2-45-P	70	110	12.57	12.57	1.31	-28.98	364 (5)	4342 (5)	24052 (5)
2-46-P	70	110	12.57	12.57	4.71	-2.60	51 (5)	3340 (5)	1990 (5)
2-47-P	70	110	12.57	12.57	4.37	-0.21	58 (7)	3804 (7)	801 (7)
2-48-P	70	110	12.57	12.57	5.63	0.00	63 (5)	4173 (5)	753 (5)
2-49-P	70	110	12.57	12.57	5.49	0.00	59 (5)	3878 (5)	700 (5)
5-1-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
5-2-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-3-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-4-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-5-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-6-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)

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.16.0.5.007.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.16.0.5.007	A	85 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
5-7-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-8-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-9-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-10-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-11-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-12-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-13-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-14-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-15-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-16-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-17-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-18-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-19-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-20-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-21-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-22-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-23-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-24-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-25-P	85	110	15.71	15.71	12.98	0.00	97 (7)	6344 (7)	1160 (7)
5-26-P	85	110	15.71	15.71	12.90	-0.12	89 (7)	5832 (7)	1066 (7)
5-27-P	85	110	15.71	15.71	10.96	-0.38	63 (7)	4115 (7)	752 (7)
5-28-P	85	110	15.71	15.71	7.48	-5.04	56 (6)	3635 (6)	2956 (6)
5-29-P	85	110	15.71	15.71	0.84	-29.76	276 (5)	3299 (5)	18044 (5)
5-30-P	85	110	15.71	15.71	1.52	-47.53	496 (5)	5939 (5)	32482 (5)
5-31-P	85	110	15.71	15.71	1.90	-12.45	141 (6)	2163 (6)	9260 (6)
5-32-P	85	110	15.71	15.71	8.57	-1.80	48 (7)	3125 (7)	2126 (7)
5-33-P	85	110	15.71	15.71	11.96	-0.36	75 (7)	4906 (7)	897 (7)
5-34-P	85	110	15.71	15.71	11.53	-0.15	75 (7)	4928 (7)	901 (7)
5-35-P	85	110	15.71	15.71	10.97	-0.04	75 (7)	4903 (7)	896 (7)
5-36-P	85	110	15.71	15.71	10.34	-0.16	63 (7)	4127 (7)	755 (7)
5-37-P	85	110	15.71	15.71	6.51	-1.20	34 (7)	2204 (7)	1347 (7)
5-38-P	85	110	15.71	15.71	1.04	-9.67	113 (6)	2058 (6)	7373 (6)
5-39-P	85	110	15.71	15.71	0.66	-46.01	451 (5)	5399 (5)	29530 (5)
5-40-P	85	110	15.71	15.71	0.98	-41.93	384 (5)	4597 (5)	25143 (5)
5-41-P	85	110	15.71	15.71	5.99	-9.49	110 (7)	2818 (7)	7183 (7)
5-42-P	85	110	15.71	15.71	5.61	-5.85	62 (7)	1171 (7)	4081 (7)
5-43-P	85	110	15.71	15.71	4.95	-3.96	46 (7)	617 (7)	2994 (7)
5-44-P	85	110	15.71	15.71	3.80	-4.63	62 (7)	1188 (7)	4086 (7)
5-45-P	85	110	15.71	15.71	3.16	-5.61	75 (7)	1488 (7)	4904 (7)
5-46-P	85	110	15.71	15.71	2.66	-6.47	82 (7)	1606 (7)	5386 (7)
5-47-P	85	110	15.71	15.71	2.03	-6.39	77 (7)	1218 (7)	5036 (7)
5-48-P	85	110	15.71	15.71	1.83	-5.69	65 (7)	1132 (7)	4284 (7)
5-49-P	85	110	15.71	15.71	2.05	-4.72	51 (7)	1309 (7)	3330 (7)
6-1-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (5)
6-2-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-3-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-4-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-5-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-6-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-7-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-8-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-9-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-10-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-11-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-12-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (5)
6-13-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-14-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-15-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-16-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-17-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-18-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-19-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-20-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (5)
6-21-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-22-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-23-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-24-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-25-P	85	110	12.57	12.57	11.44	0.00	91 (7)	6627 (7)	1063 (7)
6-26-P	85	110	12.57	12.57	9.67	0.00	70 (7)	5109 (7)	819 (7)
6-27-P	85	110	12.57	12.57	6.41	0.00	36 (7)	2594 (7)	495 (7)
6-28-P	85	110	12.57	12.57	2.84	-1.95	55 (7)	1779 (7)	3974 (7)
6-29-P	85	110	12.57	12.57	2.05	-4.09	97 (7)	1236 (7)	7041 (7)
6-30-P	85	110	12.57	12.57	0.21	-12.53	120 (5)	1404 (5)	8758 (5)
6-31-P	85	110	12.57	12.57	1.77	-3.49	83 (7)	966 (7)	6024 (7)
6-32-P	85	110	12.57	12.57	2.43	-0.57	32 (7)	1004 (7)	2315 (7)
6-33-P	85	110	12.57	12.57	6.80	0.00	39 (7)	2822 (7)	452 (7)
6-34-P	85	110	12.57	12.57	7.90	0.00	53 (7)	3834 (7)	615 (7)
6-35-P	85	110	12.57	12.57	7.56	0.00	50 (7)	3649 (7)	585 (7)
6-36-P	85	110	12.57	12.57	5.26	-0.22	41 (7)	2962 (7)	1433 (7)
6-37-P	85	110	12.57	12.57	2.40	-2.99	60 (7)	1723 (7)	4389 (7)
6-38-P	85	110	12.57	12.57	0.66	-13.58	117 (5)	1455 (5)	8536 (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.16.0.5.007.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.16.0.5.007 A 86 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-39-P	85	110	12.57	12.57	0.20	-17.79	149 (5)	1742 (5)	10863 (5)
6-40-P	85	110	12.57	12.57	0.03	-17.91	152 (5)	1775 (5)	11073 (5)
6-41-P	85	110	12.57	12.57	0.00	-15.40	137 (5)	1605 (5)	10012 (5)
6-42-P	85	110	12.57	12.57	0.02	-10.18	87 (5)	1013 (5)	6320 (5)
6-43-P	85	110	12.57	12.57	0.05	-5.92	50 (5)	581 (5)	3625 (5)
6-44-P	85	110	12.57	12.57	1.72	-2.85	42 (6)	1194 (6)	3025 (6)
6-45-P	85	110	12.57	12.57	2.99	-3.31	45 (6)	2237 (6)	3314 (6)
6-46-P	85	110	12.57	12.57	4.10	-4.88	51 (5)	3149 (5)	3729 (5)
6-47-P	85	110	12.57	12.57	3.96	-4.31	45 (5)	3005 (5)	3253 (5)
6-48-P	85	110	12.57	12.57	3.63	-3.77	38 (5)	2695 (5)	2795 (5)
6-49-P	85	110	12.57	12.57	3.16	-3.25	32 (5)	2266 (5)	2341 (5)
7-1-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
7-2-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-3-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-4-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-5-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-6-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-7-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-8-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-9-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-10-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-11-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-12-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-13-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-14-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-15-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-16-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-17-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)
7-18-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-19-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-20-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-21-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-22-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-23-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-24-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-25-P	85	110	12.57	12.57	0.91	-15.91	280 (5)	3268 (5)	20385 (5)
7-26-P	85	110	12.57	12.57	1.12	-11.04	144 (7)	1680 (7)	10477 (7)
7-27-P	85	110	12.57	12.57	5.72	-4.00	48 (6)	3511 (6)	3358 (6)
7-28-P	85	110	12.57	12.57	10.33	0.00	95 (7)	6920 (7)	1109 (7)
7-29-P	85	110	12.57	12.57	13.56	0.00	126 (7)	9202 (7)	1475 (7)
7-30-P	85	110	12.57	12.57	14.47	0.00	134 (7)	9797 (7)	1571 (7)
7-31-P	85	110	12.57	12.57	12.05	0.00	112 (7)	8131 (7)	1304 (7)
7-32-P	85	110	12.57	12.57	4.69	-0.79	51 (8)	3722 (8)	781 (8)
7-33-P	85	110	12.57	12.57	3.45	-7.38	83 (6)	1863 (6)	6047 (6)
7-34-P	85	110	12.57	12.57	0.14	-17.94	183 (7)	2138 (7)	13334 (7)
7-35-P	85	110	12.57	12.57	0.26	-21.24	216 (7)	2527 (7)	15765 (7)
7-36-P	85	110	12.57	12.57	3.56	-11.53	125 (5)	1592 (5)	9080 (5)
7-37-P	85	110	12.57	12.57	5.27	-6.17	60 (5)	3496 (5)	4398 (5)
7-38-P	85	110	12.57	12.57	6.88	-0.40	67 (6)	4900 (6)	1123 (6)
7-39-P	85	110	12.57	12.57	7.67	0.00	69 (7)	4998 (7)	801 (7)
7-40-P	85	110	12.57	12.57	6.30	0.00	56 (7)	4053 (7)	650 (7)
7-41-P	85	110	12.57	12.57	3.97	-0.45	35 (6)	2523 (6)	1303 (6)
7-42-P	85	110	12.57	12.57	1.04	-7.78	85 (8)	990 (8)	6173 (8)
7-43-P	85	110	12.57	12.57	0.13	-18.18	184 (7)	2150 (7)	13413 (7)
7-44-P	85	110	12.57	12.57	0.06	-31.01	305 (7)	3563 (7)	22221 (7)
7-45-P	85	110	12.57	12.57	0.66	-24.72	245 (7)	2857 (7)	17821 (7)
7-46-P	85	110	12.57	12.57	2.29	-15.13	155 (7)	2071 (7)	11322 (7)
7-47-P	85	110	12.57	12.57	2.75	-6.91	72 (7)	2423 (7)	5241 (7)
7-48-P	85	110	12.57	12.57	2.67	-2.49	29 (8)	2115 (8)	1978 (8)
7-49-P	85	110	12.57	12.57	1.74	-0.83	18 (5)	1346 (5)	717 (5)
8-1-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
8-2-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-3-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (7)
8-4-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-5-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-6-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-7-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-8-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-9-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-10-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-11-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-12-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-13-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-14-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-15-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-16-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-17-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-18-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-19-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-20-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-21-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)



APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

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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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
8-22-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-23-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-24-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-25-P	85	110	15.71	15.71	0.00	-47.30	432 (7)	5170 (7)	28279 (7)
8-26-P	85	110	15.71	15.71	0.00	-22.39	205 (7)	2448 (7)	13388 (7)
8-27-P	85	110	15.71	15.71	2.44	-5.56	59 (8)	3892 (8)	3546 (8)
8-28-P	85	110	15.71	15.71	7.55	-0.01	64 (7)	4196 (7)	767 (7)
8-29-P	85	110	15.71	15.71	12.78	0.00	111 (7)	7259 (7)	1327 (7)
8-30-P	85	110	15.71	15.71	14.96	0.00	131 (7)	8565 (7)	1566 (7)
8-31-P	85	110	15.71	15.71	10.36	0.00	89 (7)	5823 (7)	1065 (7)
8-32-P	85	110	15.71	15.71	2.80	-1.13	62 (7)	4079 (7)	855 (7)
8-33-P	85	110	15.71	15.71	1.52	-10.63	104 (8)	4854 (8)	6777 (8)
8-34-P	85	110	15.71	15.71	0.00	-35.37	323 (7)	3859 (7)	21108 (7)
8-35-P	85	110	15.71	15.71	0.00	-41.06	374 (7)	4477 (7)	24489 (7)
8-36-P	85	110	15.71	15.71	0.00	-16.84	153 (7)	1826 (7)	9987 (7)
8-37-P	85	110	15.71	15.71	1.84	-5.67	55 (8)	2936 (8)	3612 (8)
8-38-P	85	110	15.71	15.71	4.83	-0.06	41 (7)	2700 (7)	494 (7)
8-39-P	85	110	15.71	15.71	8.09	0.00	71 (7)	4646 (7)	849 (7)
8-40-P	85	110	15.71	15.71	6.39	0.00	56 (7)	3681 (7)	673 (7)
8-41-P	85	110	15.71	15.71	1.85	-0.72	30 (8)	1965 (8)	766 (8)
8-42-P	85	110	15.71	15.71	0.65	-10.09	98 (8)	2056 (8)	6433 (8)
8-43-P	85	110	15.71	15.71	0.00	-27.86	248 (7)	2971 (7)	16248 (7)
8-44-P	85	110	15.71	15.71	0.00	-53.78	484 (7)	5796 (7)	31703 (7)
8-45-P	85	110	15.71	15.71	0.00	-39.85	357 (7)	4270 (7)	23354 (7)
8-46-P	85	110	15.71	15.71	0.58	-19.34	173 (7)	2067 (7)	11308 (7)
8-47-P	85	110	15.71	15.71	0.39	-9.28	84 (7)	999 (7)	5467 (7)
8-48-P	85	110	15.71	15.71	0.36	-3.20	29 (6)	348 (6)	1902 (6)
8-49-P	85	110	15.71	15.71	0.71	-0.14	7 (7)	442 (7)	235 (7)
9-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
9-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
9-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
9-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
9-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
9-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
9-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
9-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
9-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
9-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
9-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
9-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
9-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
9-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
9-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
9-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)
9-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)
9-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
9-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
9-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
9-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
9-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)
10-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
10-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
10-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
10-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
10-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
10-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
10-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
10-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
10-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
10-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
10-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
10-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
10-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)
10-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
10-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
10-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
10-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
10-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
10-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
10-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
10-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
10-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
11-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
11-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
11-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
11-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
11-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
11-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
11-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
11-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
11-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (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.16.0.5.007.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.16.0.5.007	A	88 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
11-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
11-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
11-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
11-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
11-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
11-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
11-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
11-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)
11-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
11-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
11-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
11-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
11-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
12-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
12-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (7)
12-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
12-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
12-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
12-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
12-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
12-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
12-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
12-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
12-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
12-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
12-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
12-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
12-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
12-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
12-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
12-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
12-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
12-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
12-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)
12-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
13-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
13-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
13-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
13-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
13-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
13-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
13-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
13-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
13-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)
13-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
13-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
13-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
13-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
13-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
13-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
13-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
13-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
13-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
13-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
13-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
13-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
13-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
14-1-S	100	110	18.85	18.85	5.11	-4.65	31 (5)	2036 (5)	1845 (5)
14-2-S	100	110	18.85	18.85	6.60	-7.72	61 (5)	3946 (5)	3067 (5)
14-3-S	100	110	18.85	18.85	3.11	-10.99	68 (5)	1376 (5)	4407 (5)
14-4-S	100	110	18.85	18.85	1.91	-30.28	246 (5)	2946 (5)	15931 (5)
14-5-S	100	110	18.85	18.85	7.37	-19.10	365 (8)	5872 (8)	23683 (8)
14-6-S	100	110	18.85	18.85	22.06	-3.98	188 (5)	12163 (5)	2249 (5)
14-7-S	100	110	18.85	18.85	68.37	0.00	534 (5)	34635 (5)	6405 (5)
14-8-S	100	110	18.85	18.85	11.63	-10.59	168 (6)	6618 (6)	10866 (6)
14-9-S	100	110	18.85	18.85	8.74	-2.52	154 (7)	1846 (7)	9980 (7)
14-10-S	100	110	18.85	18.85	0.29	-40.84	182 (5)	2182 (5)	11797 (5)
14-11-S	100	110	18.85	18.85	7.83	-2.89	118 (7)	1416 (7)	7659 (7)
14-12-S	100	110	18.85	18.85	11.73	-0.34	88 (7)	1058 (7)	5721 (7)
14-13-S	100	110	18.85	18.85	20.69	-0.03	59 (7)	3838 (7)	710 (7)
14-14-S	100	110	18.85	18.85	26.42	0.00	127 (7)	8207 (7)	1518 (7)
14-15-S	100	110	18.85	18.85	28.42	0.00	168 (7)	10876 (7)	2011 (7)
14-16-S	100	110	18.85	18.85	27.72	-0.16	160 (6)	10362 (6)	1916 (6)
14-17-S	100	110	18.85	18.85	25.39	-1.19	140 (6)	9047 (6)	1673 (6)
14-18-S	100	110	18.85	18.85	3.38	-11.14	106 (7)	2771 (7)	6845 (7)
14-19-S	100	110	18.85	18.85	1.41	-23.92	229 (7)	2748 (7)	14862 (7)
14-20-S	100	110	18.85	18.85	0.15	-13.60	136 (7)	1631 (7)	8817 (7)
14-21-S	100	110	18.85	18.85	0.87	-7.46	52 (5)	618 (5)	3344 (5)
14-22-S	100	110	18.85	18.85	1.44	-1.54	7 (5)	440 (5)	343 (5)
15-1-S	100	110	15.71	15.71	5.11	-4.65	34 (5)	2435 (5)	2206 (5)
15-2-S	100	110	15.71	15.71	6.60	-7.72	67 (5)	4720 (5)	3668 (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.16.0.5.007.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.16.0.5.007	A	89 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
15-3-S	100	110	15.71	15.71	3.11	-10.99	74 (5)	1646 (5)	5271 (5)
15-4-S	100	110	15.71	15.71	1.91	-30.28	269 (5)	3167 (5)	19054 (5)
15-5-S	100	110	15.71	15.71	7.37	-19.10	400 (8)	7023 (8)	28325 (8)
15-6-S	100	110	15.71	15.71	22.06	-3.98	206 (5)	14547 (5)	2418 (5)
15-7-S	100	110	15.71	15.71	68.37	0.00	585 (5)	41423 (5)	6885 (5)
15-8-S	100	110	15.71	15.71	11.63	-10.59	184 (6)	7915 (6)	12996 (6)
15-9-S	100	110	15.71	15.71	8.74	-2.52	169 (7)	1984 (7)	11936 (7)
15-10-S	100	110	15.71	15.71	0.29	-40.84	199 (5)	2345 (5)	14109 (5)
15-11-S	100	110	15.71	15.71	7.83	-2.89	129 (7)	1523 (7)	9160 (7)
15-12-S	100	110	15.71	15.71	11.73	-0.34	97 (7)	1137 (7)	6843 (7)
15-13-S	100	110	15.71	15.71	20.69	-0.03	65 (7)	4591 (7)	821 (7)
15-14-S	100	110	15.71	15.71	26.42	0.00	139 (7)	9815 (7)	1631 (7)
15-15-S	100	110	15.71	15.71	28.42	0.00	184 (7)	13008 (7)	2162 (7)
15-16-S	100	110	15.71	15.71	27.72	-0.16	175 (6)	12393 (6)	2060 (6)
15-17-S	100	110	15.71	15.71	25.39	-1.19	153 (6)	10820 (6)	1798 (6)
15-18-S	100	110	15.71	15.71	3.38	-11.14	116 (7)	3314 (7)	8186 (7)
15-19-S	100	110	15.71	15.71	1.41	-23.92	251 (7)	2955 (7)	17775 (7)
15-20-S	100	110	15.71	15.71	0.15	-13.60	149 (7)	1753 (7)	10545 (7)
15-21-S	100	110	15.71	15.71	0.87	-7.46	57 (5)	665 (5)	4000 (5)
15-22-S	100	110	15.71	15.71	1.44	-1.54	7 (5)	526 (5)	411 (5)
16-1-S	100	110	15.71	15.71	0.88	-5.11	35 (5)	421 (5)	2456 (5)
16-2-S	100	110	15.71	15.71	0.38	-7.49	48 (5)	568 (5)	3418 (5)
16-3-S	100	110	15.71	15.71	0.71	-7.62	81 (5)	951 (5)	5720 (5)
16-4-S	100	110	15.71	15.71	5.52	-2.03	50 (8)	3505 (8)	3220 (8)
16-5-S	100	110	15.71	15.71	15.67	0.00	141 (8)	9957 (8)	1655 (8)
16-6-S	100	110	15.71	15.71	35.37	0.00	300 (5)	21255 (5)	3533 (5)
16-7-S	100	110	15.71	15.71	62.28	0.00	507 (5)	35905 (5)	5968 (5)
16-8-S	100	110	15.71	15.71	46.71	-3.67	317 (6)	22410 (6)	8617 (6)
16-9-S	100	110	15.71	15.71	20.24	-23.07	178 (5)	12590 (5)	8011 (5)
16-10-S	100	110	15.71	15.71	0.34	-72.08	492 (5)	5782 (5)	34784 (5)
16-11-S	100	110	15.71	15.71	0.00	-57.13	334 (5)	3927 (5)	23626 (5)
16-12-S	100	110	15.71	15.71	3.50	-1.71	147 (7)	1728 (7)	10398 (7)
16-13-S	100	110	15.71	15.71	15.01	-0.03	32 (7)	2239 (7)	1427 (7)
16-14-S	100	110	15.71	15.71	22.50	0.00	100 (7)	7079 (7)	1177 (7)
16-15-S	100	110	15.71	15.71	23.91	0.00	140 (7)	9941 (7)	1652 (7)
16-16-S	100	110	15.71	15.71	19.48	-0.09	120 (6)	8458 (6)	1406 (6)
16-17-S	100	110	15.71	15.71	14.75	-0.62	83 (6)	5868 (6)	1462 (6)
16-18-S	100	110	15.71	15.71	6.95	-1.42	53 (7)	3735 (7)	2667 (7)
16-19-S	100	110	15.71	15.71	3.08	-2.33	52 (8)	1958 (8)	3704 (8)
16-20-S	100	110	15.71	15.71	0.94	-2.50	47 (7)	785 (7)	3325 (7)
16-21-S	100	110	15.71	15.71	0.16	-1.73	19 (7)	226 (7)	1358 (7)
16-22-S	100	110	15.71	15.71	0.30	-0.58	3 (7)	241 (7)	217 (7)
17-1-S	100	110	15.71	15.71	9.10	-1.89	61 (5)	4341 (5)	847 (5)
17-2-S	100	110	15.71	15.71	7.40	-3.58	126 (7)	8926 (7)	2474 (7)
17-3-S	100	110	15.71	15.71	4.53	-10.27	82 (6)	4058 (6)	5837 (6)
17-4-S	100	110	15.71	15.71	0.79	-55.52	408 (5)	4799 (5)	28874 (5)
17-5-S	100	110	15.71	15.71	1.20	-52.22	421 (5)	4949 (5)	29775 (5)
17-6-S	100	110	15.71	15.71	10.44	-7.61	125 (5)	8868 (5)	1474 (5)
17-7-S	100	110	15.71	15.71	73.06	0.00	652 (5)	46141 (5)	7670 (5)
17-8-S	100	110	15.71	15.71	0.00	-57.63	291 (5)	3428 (5)	20622 (5)
17-9-S	100	110	15.71	15.71	0.04	-44.08	201 (5)	2359 (5)	14190 (5)
17-10-S	100	110	15.71	15.71	0.02	-36.29	152 (5)	1790 (5)	10766 (5)
17-11-S	100	110	15.71	15.71	9.69	0.00	87 (7)	1027 (7)	6179 (7)
17-12-S	100	110	15.71	15.71	14.94	-0.07	29 (7)	573 (7)	2063 (7)
17-13-S	100	110	15.71	15.71	21.57	-0.02	75 (7)	5320 (7)	884 (7)
17-14-S	100	110	15.71	15.71	26.91	-0.04	148 (7)	10443 (7)	1736 (7)
17-15-S	100	110	15.71	15.71	32.06	-0.12	210 (6)	14864 (6)	2471 (6)
17-16-S	100	110	15.71	15.71	35.09	-0.55	225 (6)	15952 (6)	2652 (6)
17-17-S	100	110	15.71	15.71	36.64	-1.97	224 (5)	15820 (5)	2630 (5)
17-18-S	100	110	15.71	15.71	1.11	-21.25	170 (7)	3734 (7)	12020 (7)
17-19-S	100	110	15.71	15.71	0.63	-45.23	377 (7)	4435 (7)	26680 (7)
17-20-S	100	110	15.71	15.71	0.51	-25.26	215 (5)	2531 (5)	15224 (5)
17-21-S	100	110	15.71	15.71	0.17	-14.21	98 (5)	1151 (5)	6923 (5)
17-22-S	100	110	15.71	15.71	0.95	-2.64	12 (5)	844 (5)	564 (5)
18-1-S	100	110	15.71	15.71	0.37	-5.71	40 (5)	466 (5)	2803 (5)
18-2-S	100	110	15.71	15.71	0.55	-5.35	33 (5)	384 (5)	2308 (5)
18-3-S	100	110	15.71	15.71	1.32	-1.87	28 (8)	836 (8)	1976 (8)
18-4-S	100	110	15.71	15.71	6.79	0.00	61 (8)	4313 (8)	717 (8)
18-5-S	100	110	15.71	15.71	19.11	0.00	172 (8)	12141 (8)	2018 (8)
18-6-S	100	110	15.71	15.71	38.80	0.00	326 (5)	23055 (5)	3832 (5)
18-7-S	100	110	15.71	15.71	61.50	0.00	497 (5)	35192 (5)	5850 (5)
18-8-S	100	110	15.71	15.71	44.93	-0.45	239 (7)	16943 (7)	5763 (7)
18-9-S	100	110	15.71	15.71	15.05	-24.32	225 (5)	15901 (5)	9491 (5)
18-10-S	100	110	15.71	15.71	0.08	-86.48	615 (5)	7240 (5)	43556 (5)
18-11-S	100	110	15.71	15.71	0.00	-69.02	431 (5)	5076 (5)	30537 (5)
18-12-S	100	110	15.71	15.71	0.00	-45.08	212 (5)	2492 (5)	14995 (5)
18-13-S	100	110	15.71	15.71	11.21	-0.71	46 (7)	1589 (7)	3241 (7)
18-14-S	100	110	15.71	15.71	19.97	-0.27	84 (7)	5921 (7)	984 (7)
18-15-S	100	110	15.71	15.71	21.81	-0.13	126 (7)	8921 (7)	1483 (7)
18-16-S	100	110	15.71	15.71	19.06	-0.17	119 (6)	8455 (6)	1405 (6)
18-17-S	100	110	15.71	15.71	10.94	-0.58	98 (8)	6950 (8)	1832 (8)

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.16.0.5.007.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.16.0.5.007	A	90 di 119

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
18-18-S	100	110	15.71	15.71	6.94	-0.67	62 (8)	4413 (8)	2139 (8)
18-19-S	100	110	15.71	15.71	3.59	-0.81	36 (8)	2281 (8)	2560 (8)
18-20-S	100	110	15.71	15.71	1.20	-0.71	15 (7)	889 (7)	1043 (7)
18-21-S	100	110	15.71	15.71	0.31	-0.85	8 (7)	344 (7)	600 (7)
18-22-S	100	110	15.71	15.71	0.07	-0.84	5 (7)	178 (7)	378 (7)
19-1-S	100	110	15.71	15.71	7.32	-2.95	49 (5)	3436 (5)	1363 (5)
19-2-S	100	110	15.71	15.71	12.08	-6.50	125 (5)	8851 (5)	3218 (5)
19-3-S	100	110	15.71	15.71	5.46	-10.52	73 (5)	2679 (5)	5200 (5)
19-4-S	100	110	15.71	15.71	1.09	-48.31	352 (5)	4141 (5)	24912 (5)
19-5-S	100	110	15.71	15.71	3.77	-45.87	488 (5)	6194 (5)	34526 (5)
19-6-S	100	110	15.71	15.71	15.58	-7.82	155 (5)	10959 (5)	1822 (5)
19-7-S	100	110	15.71	15.71	72.57	0.00	639 (5)	45232 (5)	7518 (5)
19-8-S	100	110	15.71	15.71	0.05	-83.36	516 (5)	6065 (5)	36490 (5)
19-9-S	100	110	15.71	15.71	0.00	-69.44	416 (5)	4892 (5)	29432 (5)
19-10-S	100	110	15.71	15.71	0.17	-52.66	294 (5)	3461 (5)	20820 (5)
19-11-S	100	110	15.71	15.71	0.00	-36.63	180 (5)	2116 (5)	12727 (5)
19-12-S	100	110	15.71	15.71	9.40	-0.47	76 (7)	1440 (7)	5349 (7)
19-13-S	100	110	15.71	15.71	19.67	-0.06	61 (7)	4302 (7)	715 (7)
19-14-S	100	110	15.71	15.71	27.06	-0.05	151 (7)	10664 (7)	1773 (7)
19-15-S	100	110	15.71	15.71	32.18	-0.05	213 (6)	15057 (6)	2503 (6)
19-16-S	100	110	15.71	15.71	34.70	-0.15	224 (6)	15852 (6)	2635 (6)
19-17-S	100	110	15.71	15.71	35.06	-0.82	215 (5)	15231 (5)	2532 (5)
19-18-S	100	110	15.71	15.71	1.47	-16.71	132 (7)	2351 (7)	9336 (7)
19-19-S	100	110	15.71	15.71	0.33	-37.92	316 (7)	3719 (7)	22377 (7)
19-20-S	100	110	15.71	15.71	0.49	-20.91	181 (5)	2123 (5)	12775 (5)
19-21-S	100	110	15.71	15.71	0.25	-11.87	82 (5)	969 (5)	5831 (5)
19-22-S	100	110	15.71	15.71	1.02	-2.28	9 (5)	620 (5)	490 (5)
20-1-S	100	110	15.71	15.71	1.14	-4.31	39 (5)	2784 (5)	2022 (5)
20-2-S	100	110	15.71	15.71	0.03	-7.84	54 (5)	630 (5)	3790 (5)
20-3-S	100	110	15.71	15.71	0.08	-11.13	95 (5)	1115 (5)	6709 (5)
20-4-S	100	110	15.71	15.71	1.86	-12.39	134 (5)	1730 (5)	9505 (5)
20-5-S	100	110	15.71	15.71	8.71	-4.92	221 (8)	6922 (8)	15639 (8)
20-6-S	100	110	15.71	15.71	25.88	-0.38	232 (8)	16443 (8)	2733 (8)
20-7-S	100	110	15.71	15.71	61.05	0.00	507 (5)	35915 (5)	5970 (5)
20-8-S	100	110	15.71	15.71	0.00	-123.33	861 (5)	10124 (5)	60906 (5)
20-9-S	100	110	15.71	15.71	0.00	-85.01	554 (5)	6516 (5)	39200 (5)
20-10-S	100	110	15.71	15.71	0.00	-56.90	332 (5)	3907 (5)	23507 (5)
20-11-S	100	110	15.71	15.71	0.04	-34.14	166 (5)	1948 (5)	11720 (5)
20-12-S	100	110	15.71	15.71	15.78	-0.91	47 (7)	3008 (7)	3333 (7)
20-13-S	100	110	15.71	15.71	23.67	-0.39	108 (7)	7663 (7)	1274 (7)
20-14-S	100	110	15.71	15.71	28.26	-0.38	167 (7)	11852 (7)	1970 (7)
20-15-S	100	110	15.71	15.71	29.50	-0.58	197 (6)	13914 (6)	2313 (6)
20-16-S	100	110	15.71	15.71	25.53	-1.00	165 (6)	11655 (6)	1937 (6)
20-17-S	100	110	15.71	15.71	19.37	-1.82	115 (6)	8143 (6)	1506 (6)
20-18-S	100	110	15.71	15.71	6.69	-4.91	69 (7)	4892 (7)	3074 (7)
20-19-S	100	110	15.71	15.71	2.98	-8.66	74 (7)	2583 (7)	5253 (7)
20-20-S	100	110	15.71	15.71	0.71	-6.04	49 (7)	1234 (7)	3456 (7)
20-21-S	100	110	15.71	15.71	0.10	-3.06	24 (7)	389 (7)	1722 (7)
20-22-S	100	110	15.71	15.71	2.03	-0.45	10 (5)	680 (5)	113 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	1	45.80	3014	38762		
1	2	45.80	2665	31593		
1	3	45.80	2327	28113		
1	4	45.80	2008	24771		
1	5	45.80	1722	21692		
1	6	45.80	1478	18999		
1	7	45.80	1289	17119		
1	8	45.80	1176	15790		
1	9	45.80	1072	14569		
1	10	45.80	975	13432		
1	11	45.80	899	12738		
1	12	45.80	848	12148		
1	13	45.80	801	11601		
1	14	45.80	758	11096		
1	15	45.80	718	10630		
1	16	45.80	758	10685		
1	17	45.80	826	11500		
1	18	45.80	889	12240		
1	19	45.80	945	12907		
1	20	45.80	995	13506		
1	21	45.80	1040	14041		
1	22	45.80	1080	14514		
1	23	45.80	1115	14929		
1	24	45.80	1145	15291		
1	25	45.80	1171	15605		

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	91 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	26	45.80	1193	15874		
1	27	45.80	1212	16099		
1	28	45.80	1227	16281		
1	29	45.80	1239	16422		
1	30	45.80	1247	16525		
1	31	45.80	1253	16592		
1	32	45.80	1255	16626		
1	33	45.80	1255	16629		
1	34	45.80	1252	16603		
1	35	45.80	1248	16553		
1	36	45.80	1241	16480		
1	37	45.80	1233	16387		
1	38	45.80	1223	16277		
1	39	45.80	1212	16152		
1	40	45.80	1200	16014		
1	41	45.80	1187	15866		
1	42	45.80	1173	15707		
1	43	45.80	1158	15541		
1	44	45.80	1144	15369		
1	45	45.80	1128	15192		
1	46	45.80	1112	15009		
1	47	45.80	1096	14824		
1	48	45.80	1080	14635		
1	49	45.80	1063	14445		
1	50	45.80	1047	14254		
1	51	45.80	1030	14062		
1	52	45.80	1014	13871		
1	53	45.80	997	13725		
1	54	45.80	981	13584		
1	55	45.80	965	13443		
1	56	45.80	949	13303		
1	57	45.80	934	13165		
1	58	45.80	922	13029		
1	59	45.80	911	12895		
1	60	45.80	899	12763		
1	61	45.80	888	12634		
1	62	45.80	877	12508		
1	63	45.80	867	12386		
1	64	45.80	856	12266		
1	65	45.80	846	12198		
1	66	45.80	836	12135		
1	67	45.80	827	12074		
1	68	45.80	819	12014		
1	69	45.80	814	11957		
1	70	45.80	809	11901		
1	71	45.80	804	11847		
1	72	45.80	800	11795		
1	73	45.80	795	11745		
1	74	45.80	791	11697		
1	75	45.80	787	11650		
1	76	45.80	783	11606		
1	77	45.80	780	11563		
1	78	45.80	776	11523		
1	79	45.80	773	11484		
1	80	45.80	770	11447		
1	81	45.80	767	11412		
1	82	45.80	764	11379		
1	83	45.80	761	11347		
1	84	45.80	759	11318		
1	85	45.80	756	11290		
1	86	45.80	754	11263		
1	87	45.80	752	11238		
1	88	45.80	750	11215		
1	89	45.80	748	11193		
1	90	45.80	747	11173		
1	91	45.80	745	11155		
1	92	45.80	744	11137		
1	93	45.80	742	11121		
1	94	45.80	741	11106		
1	95	45.80	740	11093		
1	96	45.80	739	11081		
1	97	45.80	738	11070		
1	98	45.80	737	11060		
1	99	45.80	737	11051		
1	100	45.80	736	11043		
1	101	45.80	736	11036		
2	1	62.83	2665	33318		
2	2	62.83	2396	30346		
2	3	62.83	2144	27537		
2	4	62.83	1918	24967		
2	5	62.83	1722	22692		

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.16.0.5.007.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	92 di 119

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
2	6	62.83	1554	20727		
2	7	62.83	1411	19037		
2	8	62.83	1281	17494		
2	9	62.83	1160	16056		
2	10	62.83	1065	14901		
2	11	62.83	979	13885		
2	12	62.83	900	12943		
2	13	62.83	826	12072		
2	14	62.83	784	11599		
2	15	62.83	862	12536		
2	16	62.83	934	13393		
2	17	62.83	999	14174		
2	18	62.83	1058	14883		
2	19	62.83	1111	15522		
2	20	62.83	1159	16095		
2	21	62.83	1201	16606		
2	22	62.83	1239	17058		
2	23	62.83	1272	17455		
2	24	62.83	1300	17799		
2	25	62.83	1325	18094		
2	26	62.83	1345	18343		
2	27	62.83	1362	18548		
2	28	62.83	1375	18713		
2	29	62.83	1386	18840		
2	30	62.83	1393	18933		
2	31	62.83	1398	18992		
2	32	62.83	1400	19022		
2	33	62.83	1400	19024		
2	34	62.83	1398	19001		
2	35	62.83	1393	18955		
2	36	62.83	1387	18888		
2	37	62.83	1380	18801		
2	38	62.83	1371	18697		
2	39	62.83	1361	18578		
2	40	62.83	1349	18445		
2	41	62.83	1337	18300		
2	42	62.83	1324	18145		
2	43	62.83	1310	17982		
2	44	62.83	1295	17812		
2	45	62.83	1280	17637		
2	46	62.83	1265	17458		
2	47	62.83	1250	17276		
2	48	62.83	1234	17091		
2	49	62.83	1218	16903		
2	50	62.83	1202	16715		
2	51	62.83	1186	16527		
2	52	62.83	1170	16338		
2	53	62.83	1154	16150		
2	54	62.83	1138	15964		
2	55	62.83	1123	15779		
2	56	62.83	1107	15596		
2	57	62.83	1092	15416		
2	58	62.83	1077	15239		
2	59	62.83	1062	15065		
2	60	62.83	1048	14895		
2	61	62.83	1034	14729		
2	62	62.83	1020	14566		
2	63	62.83	1007	14408		
2	64	62.83	994	14254		
2	65	62.83	981	14105		
2	66	62.83	969	13960		
2	67	62.83	957	13821		
2	68	62.83	946	13686		
2	69	62.83	935	13555		
2	70	62.83	924	13430		
2	71	62.83	914	13310		
2	72	62.83	904	13195		
2	73	62.83	895	13084		
2	74	62.83	886	12979		
2	75	62.83	878	12878		
2	76	62.83	870	12782		
2	77	62.83	862	12691		
2	78	62.83	855	12604		
2	79	62.83	848	12522		
2	80	62.83	841	12445		
2	81	62.83	835	12372		
2	82	62.83	829	12303		
2	83	62.83	824	12238		
2	84	62.83	819	12178		
2	85	62.83	814	12121		
2	86	62.83	810	12069		

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:	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.16.0.5.007.A.DOCX		IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	93 di 119

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σstf [kPa]
2	87	62.83	806	12020		
2	88	62.83	802	11974		
2	89	62.83	799	11932		
2	90	62.83	796	11894		
2	91	62.83	793	11858		
2	92	62.83	790	11826		
2	93	62.83	788	11796		
2	94	62.83	786	11770		
2	95	62.83	784	11746		
2	96	62.83	782	11724		
2	97	62.83	781	11705		
2	98	62.83	779	11688		
2	99	62.83	778	11673		
2	100	62.83	777	11661		
2	101	62.83	777	11650		
3	1	62.83	2695	34721		
3	2	62.83	2466	32105		
3	3	62.83	2257	29701		
3	4	62.83	2072	27535		
3	5	62.83	1909	25609		
3	6	62.83	1762	23859		
3	7	62.83	1623	22207		
3	8	62.83	1493	20663		
3	9	62.83	1372	19224		
3	10	62.83	1259	17886		
3	11	62.83	1154	16645		
3	12	62.83	1058	15499		
3	13	62.83	969	14442		
3	14	62.83	995	14762		
3	15	62.83	1073	15698		
3	16	62.83	1145	16554		
3	17	62.83	1210	17334		
3	18	62.83	1269	18040		
3	19	62.83	1322	18678		
3	20	62.83	1369	19250		
3	21	62.83	1411	19759		
3	22	62.83	1449	20209		
3	23	62.83	1482	20604		
3	24	62.83	1510	20946		
3	25	62.83	1534	21238		
3	26	62.83	1555	21485		
3	27	62.83	1571	21688		
3	28	62.83	1585	21850		
3	29	62.83	1595	21975		
3	30	62.83	1602	22064		
3	31	62.83	1606	22122		
3	32	62.83	1608	22148		
3	33	62.83	1608	22148		
3	34	62.83	1606	22122		
3	35	62.83	1601	22072		
3	36	62.83	1595	22001		
3	37	62.83	1587	21912		
3	38	62.83	1578	21804		
3	39	62.83	1568	21682		
3	40	62.83	1556	21545		
3	41	62.83	1543	21397		
3	42	62.83	1530	21237		
3	43	62.83	1516	21070		
3	44	62.83	1501	20897		
3	45	62.83	1486	20718		
3	46	62.83	1470	20535		
3	47	62.83	1454	20348		
3	48	62.83	1438	20158		
3	49	62.83	1422	19966		
3	50	62.83	1406	19774		
3	51	62.83	1389	19580		
3	52	62.83	1373	19387		
3	53	62.83	1357	19194		
3	54	62.83	1341	19003		
3	55	62.83	1325	18813		
3	56	62.83	1309	18625		
3	57	62.83	1293	18440		
3	58	62.83	1278	18258		
3	59	62.83	1263	18078		
3	60	62.83	1248	17903		
3	61	62.83	1234	17730		
3	62	62.83	1220	17562		
3	63	62.83	1206	17398		
3	64	62.83	1193	17239		
3	65	62.83	1180	17083		
3	66	62.83	1167	16933		

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	94 di 119

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	67	62.83	1155	16787		
3	68	62.83	1143	16645		
3	69	62.83	1131	16509		
3	70	62.83	1120	16377		
3	71	62.83	1110	16250		
3	72	62.83	1100	16128		
3	73	62.83	1090	16011		
3	74	62.83	1081	15898		
3	75	62.83	1072	15791		
3	76	62.83	1063	15688		
3	77	62.83	1055	15589		
3	78	62.83	1047	15495		
3	79	62.83	1040	15406		
3	80	62.83	1033	15321		
3	81	62.83	1026	15241		
3	82	62.83	1020	15164		
3	83	62.83	1014	15092		
3	84	62.83	1009	15023		
3	85	62.83	1004	14959		
3	86	62.83	999	14898		
3	87	62.83	994	14841		
3	88	62.83	990	14787		
3	89	62.83	986	14737		
3	90	62.83	982	14690		
3	91	62.83	979	14646		
3	92	62.83	975	14605		
3	93	62.83	972	14567		
3	94	62.83	970	14531		
3	95	62.83	967	14498		
3	96	62.83	965	14468		
3	97	62.83	963	14440		
3	98	62.83	961	14414		
3	99	62.83	959	14390		
3	100	62.83	958	14368		
3	101	62.83	956	14347		

### Verifica a fessurazione

#### Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di prima fessurazione espressa in [kNm]
$\epsilon$	deformazione espresso 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]	$\epsilon$ [%]	Sm [mm]	w [mm]
1	100	70	12.72	1840.00	2.00	338.84	0.000000	0.00	0.000 (5)
2	100	70	12.72	1840.00	2.70	339.04	0.000000	0.00	0.000 (5)
3	100	70	12.72	1840.00	3.40	339.26	0.000000	0.00	0.000 (5)
4	100	70	12.72	1840.00	4.10	339.47	0.000000	0.00	0.000 (5)
5	100	70	12.72	1840.00	4.80	339.67	0.000000	0.00	0.000 (5)
6	100	70	12.72	1840.00	5.50	339.89	0.000000	0.00	0.000 (5)
7	100	70	12.72	1840.00	6.20	340.09	0.000000	0.00	0.000 (5)
8	100	70	12.72	1840.00	6.90	340.31	0.000000	0.00	0.000 (5)
9	100	70	12.72	1840.00	7.60	340.51	0.000000	0.00	0.000 (5)
10	100	70	12.72	1840.00	8.30	340.71	0.000000	0.00	0.000 (5)
11	100	70	12.72	1840.00	9.00	340.94	0.000000	0.00	0.000 (5)
12	100	70	12.72	1840.00	9.70	341.14	0.000000	0.00	0.000 (5)
13	100	70	12.72	1840.00	10.40	341.36	0.000000	0.00	0.000 (5)
14	100	70	12.72	1840.00	11.10	341.56	0.000000	0.00	0.000 (5)
15	100	70	12.72	1840.00	11.80	341.78	0.000000	0.00	0.000 (5)

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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	95 di 119

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
16	100	70	12.72	1840.00	12.50	341.98	0.000000	0.00	0.000 (5)
17	100	70	12.72	1840.00	13.20	342.18	0.000000	0.00	0.000 (5)
18	100	70	12.72	1840.00	13.90	342.41	0.000000	0.00	0.000 (5)
19	100	70	12.72	1840.00	14.60	342.61	0.000000	0.00	0.000 (5)
20	100	70	12.72	1840.00	15.30	342.83	0.000000	0.00	0.000 (5)
21	100	70	12.72	1840.00	16.00	343.03	0.000000	0.00	0.000 (5)
22	100	70	12.72	1840.00	16.70	343.23	0.000000	0.00	0.000 (5)
23	100	70	12.72	1840.00	17.40	343.45	0.000000	0.00	0.000 (5)
24	100	70	12.72	1840.00	18.10	343.65	0.000000	0.00	0.000 (5)
25	100	70	12.72	1840.00	18.80	343.88	0.000000	0.00	0.000 (5)
26	100	70	12.72	1840.00	19.50	344.08	0.000000	0.00	0.000 (5)
27	100	70	12.72	1840.00	20.19	344.29	0.000000	0.00	0.000 (5)
28	100	70	12.72	1840.00	20.89	344.50	0.000000	0.00	0.000 (5)
29	100	70	12.72	1840.00	21.59	344.70	0.000000	0.00	0.000 (5)
30	100	70	12.72	1840.00	22.29	344.92	0.000000	0.00	0.000 (5)
31	100	70	12.72	1840.00	22.99	345.12	0.000000	0.00	0.000 (5)
32	100	70	12.72	1840.00	23.72	345.33	0.000000	0.00	0.000 (5)
33	100	70	12.72	1840.00	24.50	345.55	0.000000	0.00	0.000 (5)
34	100	70	12.72	1840.00	25.34	345.76	0.000000	0.00	0.000 (5)
35	100	70	12.72	1840.00	26.24	345.96	0.000000	0.00	0.000 (5)
36	100	70	12.72	1840.00	27.21	346.18	0.000000	0.00	0.000 (5)
37	100	101	12.72	1840.00	35.63	699.23	0.000000	0.00	0.000 (5)
38	100	101	12.72	1840.00	36.78	699.66	0.000000	0.00	0.000 (5)
39	100	101	12.72	1840.00	38.18	700.10	0.000000	0.00	0.000 (5)
40	100	101	12.72	1840.00	39.76	700.53	0.000000	0.00	0.000 (5)
41	100	101	12.72	1840.00	41.48	700.99	0.000000	0.00	0.000 (5)
42	100	101	12.72	1840.00	43.29	701.42	0.000000	0.00	0.000 (5)
43	100	101	12.72	1840.00	45.18	701.86	0.000000	0.00	0.000 (5)
44	100	101	12.72	1840.00	47.17	702.27	0.000000	0.00	0.000 (5)
45	100	101	12.72	1840.00	49.26	702.71	0.000000	0.00	0.000 (5)
46	100	101	12.72	1840.00	51.45	703.14	0.000000	0.00	0.000 (5)
47	100	101	12.72	1840.00	53.76	703.57	0.000000	0.00	0.000 (5)
48	100	101	12.72	1840.00	56.18	704.00	0.000000	0.00	0.000 (5)
49	100	101	12.72	1840.00	58.72	704.44	0.000000	0.00	0.000 (5)
50	100	101	12.72	1840.00	61.40	704.87	0.000000	0.00	0.000 (5)
51	100	101	12.72	1840.00	64.20	705.32	0.000000	0.00	0.000 (5)
52	100	101	12.72	1840.00	67.15	705.74	0.000000	0.00	0.000 (5)
53	100	101	12.72	1840.00	67.21	705.76	0.000000	0.00	0.000 (5)
54	100	101	12.72	1840.00	70.29	706.17	0.000000	0.00	0.000 (5)
55	100	101	12.72	1840.00	73.53	706.60	0.000000	0.00	0.000 (5)
56	100	101	12.72	1840.00	76.92	707.04	0.000000	0.00	0.000 (5)
57	100	101	12.72	1840.00	80.46	707.48	0.000000	0.00	0.000 (5)
58	100	101	12.72	1840.00	84.17	707.90	0.000000	0.00	0.000 (5)

Piastra fondazioneApertura 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	110	12.57	3141.48	1.23	-535.11	0.000000	0.00	0.000
1-2-P	69	110	12.57	3141.48	-1.90	-535.11	0.000000	0.00	0.000
1-3-P	69	110	12.57	3141.48	-7.22	-535.11	0.000000	0.00	0.000
1-4-P	69	110	12.57	3141.48	-19.46	-535.11	0.000000	0.00	0.000
1-5-P	69	110	12.57	3141.48	-30.46	-535.11	0.000000	0.00	0.000
1-6-P	69	110	12.57	3141.48	-35.89	-535.11	0.000000	0.00	0.000
1-7-P	69	110	12.57	3141.48	-20.71	-535.11	0.000000	0.00	0.000
1-8-P	69	110	12.57	3141.48	-6.36	-535.11	0.000000	0.00	0.000
1-9-P	69	110	12.57	3141.48	11.94	-535.11	0.000000	0.00	0.000
1-10-P	69	110	12.57	3141.48	16.08	-535.11	0.000000	0.00	0.000
1-11-P	69	110	12.57	3141.48	17.37	-535.11	0.000000	0.00	0.000
1-12-P	69	110	12.57	3141.48	14.22	-535.11	0.000000	0.00	0.000
1-13-P	69	110	12.57	3141.48	4.23	-535.11	0.000000	0.00	0.000
1-14-P	69	110	12.57	3141.48	-13.44	-535.11	0.000000	0.00	0.000
1-15-P	69	110	12.57	3141.48	-26.66	-535.11	0.000000	0.00	0.000
1-16-P	69	110	12.57	3141.48	-23.99	-535.11	0.000000	0.00	0.000
1-17-P	69	110	12.57	3141.48	-11.95	-535.11	0.000000	0.00	0.000
1-18-P	69	110	12.57	3141.48	6.17	-535.11	0.000000	0.00	0.000
1-19-P	69	110	12.57	3141.48	15.28	-535.11	0.000000	0.00	0.000
1-20-P	69	110	12.57	1390.00	18.84	535.11	0.000000	0.00	0.000
1-21-P	69	110	12.57	3141.48	16.64	-535.11	0.000000	0.00	0.000
1-22-P	69	110	12.57	3141.48	11.05	-535.11	0.000000	0.00	0.000
1-23-P	69	110	12.57	3141.48	-6.56	-535.11	0.000000	0.00	0.000
1-24-P	69	110	12.57	3141.48	-18.95	-535.11	0.000000	0.00	0.000
1-25-P	69	110	12.57	3141.48	-32.05	-535.11	0.000000	0.00	0.000
1-26-P	69	110	12.57	3141.48	-18.95	-535.11	0.000000	0.00	0.000
1-27-P	69	110	12.57	3141.48	-6.56	-535.11	0.000000	0.00	0.000
1-28-P	69	110	12.57	3141.48	11.05	-535.11	0.000000	0.00	0.000



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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	96 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-29-P	69	110	12.57	3141.48	16.64	-535.11	0.000000	0.00	0.000
1-30-P	69	110	12.57	3141.48	18.84	535.11	0.000000	0.00	0.000
1-31-P	69	110	12.57	3141.48	15.28	-535.11	0.000000	0.00	0.000
1-32-P	69	110	12.57	3141.48	6.17	-535.11	0.000000	0.00	0.000
1-33-P	69	110	12.57	3141.48	-11.95	-535.11	0.000000	0.00	0.000
1-34-P	69	110	12.57	3141.48	-23.99	-535.11	0.000000	0.00	0.000
1-35-P	69	110	12.57	3141.48	-26.66	-535.11	0.000000	0.00	0.000
1-36-P	69	110	12.57	3141.48	-13.44	-535.11	0.000000	0.00	0.000
1-37-P	69	110	12.57	3141.48	4.23	-535.11	0.000000	0.00	0.000
1-38-P	69	110	12.57	3141.48	14.22	-535.11	0.000000	0.00	0.000
1-39-P	69	110	12.57	3141.48	17.37	-535.11	0.000000	0.00	0.000
1-40-P	69	110	12.57	3141.48	16.08	-535.11	0.000000	0.00	0.000
1-41-P	69	110	12.57	3141.48	11.94	-535.11	0.000000	0.00	0.000
1-42-P	69	110	12.57	3141.48	-6.36	-535.11	0.000000	0.00	0.000
1-43-P	69	110	12.57	3141.48	-20.71	-535.11	0.000000	0.00	0.000
1-44-P	69	110	12.57	3141.48	-35.89	-535.11	0.000000	0.00	0.000
1-45-P	69	110	12.57	3141.48	-30.46	-535.11	0.000000	0.00	0.000
1-46-P	69	110	12.57	3141.48	-19.46	-535.11	0.000000	0.00	0.000
1-47-P	69	110	12.57	3141.48	-7.22	-535.11	0.000000	0.00	0.000
1-48-P	69	110	12.57	3141.48	-1.90	-535.11	0.000000	0.00	0.000
1-49-P	69	110	12.57	3141.48	1.23	-535.11	0.000000	0.00	0.000
2-1-P	70	110	12.57	3141.48	5.49	535.11	0.000000	0.00	0.000
2-2-P	70	110	12.57	3141.48	5.63	535.11	0.000000	0.00	0.000
2-3-P	70	110	12.57	3141.48	4.99	-535.11	0.000000	0.00	0.000
2-4-P	70	110	12.57	3141.48	4.71	-535.11	0.000000	0.00	0.000
2-5-P	70	110	12.57	3141.48	-28.98	-535.11	0.000000	0.00	0.000
2-6-P	70	110	12.57	3141.48	-49.72	-535.11	0.000000	0.00	0.000
2-7-P	70	110	12.57	3141.48	-11.78	-535.11	0.000000	0.00	0.000
2-8-P	70	110	12.57	3141.48	9.64	-535.11	0.000000	0.00	0.000
2-9-P	70	110	12.57	3141.48	15.15	535.11	0.000000	0.00	0.000
2-10-P	70	110	12.57	3141.48	16.76	535.11	0.000000	0.00	0.000
2-11-P	70	110	12.57	3141.48	17.25	535.11	0.000000	0.00	0.000
2-12-P	70	110	12.57	3141.48	16.06	535.11	0.000000	0.00	0.000
2-13-P	70	110	12.57	3141.48	11.77	-535.11	0.000000	0.00	0.000
2-14-P	70	110	12.57	3141.48	-3.22	-535.11	0.000000	0.00	0.000
2-15-P	70	110	12.57	3141.48	-39.28	-535.11	0.000000	0.00	0.000
2-16-P	70	110	12.57	3141.48	-32.08	-535.11	0.000000	0.00	0.000
2-17-P	70	110	12.57	3141.48	8.61	-535.11	0.000000	0.00	0.000
2-18-P	70	110	12.57	3141.48	12.66	-535.11	0.000000	0.00	0.000
2-19-P	70	110	12.57	3141.48	16.28	535.11	0.000000	0.00	0.000
2-20-P	70	110	12.57	3141.48	17.56	535.11	0.000000	0.00	0.000
2-21-P	70	110	12.57	3141.48	16.76	535.11	0.000000	0.00	0.000
2-22-P	70	110	12.57	3141.48	14.65	535.11	0.000000	0.00	0.000
2-23-P	70	110	12.57	3141.48	9.79	-535.11	0.000000	0.00	0.000
2-24-P	70	110	12.57	3141.48	-17.39	-535.11	0.000000	0.00	0.000
2-25-P	70	110	12.57	3141.48	-54.37	-535.11	0.000000	0.00	0.000
2-26-P	70	110	12.57	3141.48	-17.39	-535.11	0.000000	0.00	0.000
2-27-P	70	110	12.57	3141.48	9.79	-535.11	0.000000	0.00	0.000
2-28-P	70	110	12.57	3141.48	14.65	535.11	0.000000	0.00	0.000
2-29-P	70	110	12.57	3141.48	16.76	535.11	0.000000	0.00	0.000
2-30-P	70	110	12.57	3141.48	17.56	535.11	0.000000	0.00	0.000
2-31-P	70	110	12.57	3141.48	16.28	535.11	0.000000	0.00	0.000
2-32-P	70	110	12.57	3141.48	12.66	-535.11	0.000000	0.00	0.000
2-33-P	70	110	12.57	3141.48	8.61	-535.11	0.000000	0.00	0.000
2-34-P	70	110	12.57	3141.48	-32.08	-535.11	0.000000	0.00	0.000
2-35-P	70	110	12.57	3141.48	-39.28	-535.11	0.000000	0.00	0.000
2-36-P	70	110	12.57	3141.48	-3.22	-535.11	0.000000	0.00	0.000
2-37-P	70	110	12.57	3141.48	11.77	-535.11	0.000000	0.00	0.000
2-38-P	70	110	12.57	3141.48	16.06	535.11	0.000000	0.00	0.000
2-39-P	70	110	12.57	3141.48	17.25	535.11	0.000000	0.00	0.000
2-40-P	70	110	12.57	3141.48	16.76	535.11	0.000000	0.00	0.000
2-41-P	70	110	12.57	3141.48	15.15	535.11	0.000000	0.00	0.000
2-42-P	70	110	12.57	3141.48	9.64	-535.11	0.000000	0.00	0.000
2-43-P	70	110	12.57	3141.48	-11.78	-535.11	0.000000	0.00	0.000
2-44-P	70	110	12.57	3141.48	-49.72	-535.11	0.000000	0.00	0.000
2-45-P	70	110	12.57	3141.48	-28.98	-535.11	0.000000	0.00	0.000
2-46-P	70	110	12.57	3141.48	4.71	-535.11	0.000000	0.00	0.000
2-47-P	70	110	12.57	3141.48	4.99	-535.11	0.000000	0.00	0.000
2-48-P	70	110	12.57	3141.48	5.63	535.11	0.000000	0.00	0.000
2-49-P	70	110	12.57	3141.48	5.49	535.11	0.000000	0.00	0.000
5-1-P	85	110	15.71	3834.96	-6.30	-656.02	0.000000	0.00	0.000
5-2-P	85	110	15.71	3834.96	-8.38	-656.02	0.000000	0.00	0.000
5-3-P	85	110	15.71	3834.96	-10.21	-656.02	0.000000	0.00	0.000
5-4-P	85	110	15.71	3834.96	-11.31	-656.02	0.000000	0.00	0.000
5-5-P	85	110	15.71	3834.96	-10.86	-656.02	0.000000	0.00	0.000
5-6-P	85	110	15.71	3834.96	-9.90	-656.02	0.000000	0.00	0.000
5-7-P	85	110	15.71	3834.96	-8.41	-656.02	0.000000	0.00	0.000
5-8-P	85	110	15.71	3834.96	-10.17	-656.02	0.000000	0.00	0.000
5-9-P	85	110	15.71	3834.96	-15.26	-656.02	0.000000	0.00	0.000
5-10-P	85	110	15.71	3834.96	-41.93	-656.02	0.000000	0.00	0.000
5-11-P	85	110	15.71	3834.96	-46.01	-656.02	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:

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	97 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
5-12-P	85	110	15.71	3834.96	-16.18	-656.02	0.000000	0.00	0.000
5-13-P	85	110	15.71	3834.96	-5.50	-656.02	0.000000	0.00	0.000
5-14-P	85	110	15.71	3834.96	2.15	-656.02	0.000000	0.00	0.000
5-15-P	85	110	15.71	3834.96	3.05	-656.02	0.000000	0.00	0.000
5-16-P	85	110	15.71	3834.96	3.34	-656.02	0.000000	0.00	0.000
5-17-P	85	110	15.71	3834.96	3.44	-656.02	0.000000	0.00	0.000
5-18-P	85	110	15.71	3834.96	-5.50	-656.02	0.000000	0.00	0.000
5-19-P	85	110	15.71	3834.96	-18.99	-656.02	0.000000	0.00	0.000
5-20-P	85	110	15.71	3834.96	-47.53	-656.02	0.000000	0.00	0.000
5-21-P	85	110	15.71	3834.96	-29.76	-656.02	0.000000	0.00	0.000
5-22-P	85	110	15.71	3834.96	-7.48	-656.02	0.000000	0.00	0.000
5-23-P	85	110	15.71	3834.96	2.65	-656.02	0.000000	0.00	0.000
5-24-P	85	110	15.71	3834.96	4.46	-656.02	0.000000	0.00	0.000
5-25-P	85	110	15.71	3834.96	4.92	-656.02	0.000000	0.00	0.000
5-26-P	85	110	15.71	3834.96	4.46	-656.02	0.000000	0.00	0.000
5-27-P	85	110	15.71	3834.96	2.65	-656.02	0.000000	0.00	0.000
5-28-P	85	110	15.71	3834.96	-7.48	-656.02	0.000000	0.00	0.000
5-29-P	85	110	15.71	3834.96	-29.76	-656.02	0.000000	0.00	0.000
5-30-P	85	110	15.71	3834.96	-47.53	-656.02	0.000000	0.00	0.000
5-31-P	85	110	15.71	3834.96	-18.99	-656.02	0.000000	0.00	0.000
5-32-P	85	110	15.71	3834.96	-5.50	-656.02	0.000000	0.00	0.000
5-33-P	85	110	15.71	3834.96	3.44	-656.02	0.000000	0.00	0.000
5-34-P	85	110	15.71	3834.96	3.34	-656.02	0.000000	0.00	0.000
5-35-P	85	110	15.71	3834.96	3.05	-656.02	0.000000	0.00	0.000
5-36-P	85	110	15.71	3834.96	2.15	-656.02	0.000000	0.00	0.000
5-37-P	85	110	15.71	3834.96	-5.50	-656.02	0.000000	0.00	0.000
5-38-P	85	110	15.71	3834.96	-16.18	-656.02	0.000000	0.00	0.000
5-39-P	85	110	15.71	3834.96	-46.01	-656.02	0.000000	0.00	0.000
5-40-P	85	110	15.71	3834.96	-41.93	-656.02	0.000000	0.00	0.000
5-41-P	85	110	15.71	3834.96	-15.26	-656.02	0.000000	0.00	0.000
5-42-P	85	110	15.71	3834.96	-10.17	-656.02	0.000000	0.00	0.000
5-43-P	85	110	15.71	3834.96	-8.41	-656.02	0.000000	0.00	0.000
5-44-P	85	110	15.71	3834.96	-9.90	-656.02	0.000000	0.00	0.000
5-45-P	85	110	15.71	3834.96	-10.86	-656.02	0.000000	0.00	0.000
5-46-P	85	110	15.71	3834.96	-11.31	-656.02	0.000000	0.00	0.000
5-47-P	85	110	15.71	3834.96	-10.21	-656.02	0.000000	0.00	0.000
5-48-P	85	110	15.71	3834.96	-8.38	-656.02	0.000000	0.00	0.000
5-49-P	85	110	15.71	3834.96	-6.30	-656.02	0.000000	0.00	0.000
6-1-P	85	110	12.57	3906.02	-3.25	-641.45	0.000000	0.00	0.000
6-2-P	85	110	12.57	3906.02	-3.77	-641.45	0.000000	0.00	0.000
6-3-P	85	110	12.57	3906.02	-4.31	-641.45	0.000000	0.00	0.000
6-4-P	85	110	12.57	3906.02	-4.88	-641.45	0.000000	0.00	0.000
6-5-P	85	110	12.57	3906.02	-4.30	-641.45	0.000000	0.00	0.000
6-6-P	85	110	12.57	3906.02	-3.90	-641.45	0.000000	0.00	0.000
6-7-P	85	110	12.57	3906.02	-5.92	-641.45	0.000000	0.00	0.000
6-8-P	85	110	12.57	3906.02	-10.18	-641.45	0.000000	0.00	0.000
6-9-P	85	110	12.57	3906.02	-15.40	-641.45	0.000000	0.00	0.000
6-10-P	85	110	12.57	3906.02	-17.91	-641.45	0.000000	0.00	0.000
6-11-P	85	110	12.57	3906.02	-17.79	-641.45	0.000000	0.00	0.000
6-12-P	85	110	12.57	3906.02	-13.58	-641.45	0.000000	0.00	0.000
6-13-P	85	110	12.57	3906.02	-7.77	-641.45	0.000000	0.00	0.000
6-14-P	85	110	12.57	3906.02	-2.88	-641.45	0.000000	0.00	0.000
6-15-P	85	110	12.57	3906.02	2.86	-641.45	0.000000	0.00	0.000
6-16-P	85	110	12.57	3906.02	2.74	-641.45	0.000000	0.00	0.000
6-17-P	85	110	12.57	3906.02	1.44	-641.45	0.000000	0.00	0.000
6-18-P	85	110	12.57	3906.02	-4.89	-641.45	0.000000	0.00	0.000
6-19-P	85	110	12.57	3906.02	-9.14	-641.45	0.000000	0.00	0.000
6-20-P	85	110	12.57	3906.02	-12.53	-641.45	0.000000	0.00	0.000
6-21-P	85	110	12.57	3906.02	-10.21	-641.45	0.000000	0.00	0.000
6-22-P	85	110	12.57	3906.02	-6.54	-641.45	0.000000	0.00	0.000
6-23-P	85	110	12.57	3906.02	1.61	-641.45	0.000000	0.00	0.000
6-24-P	85	110	12.57	3906.02	4.25	-641.45	0.000000	0.00	0.000
6-25-P	85	110	12.57	1700.00	6.55	641.45	0.000000	0.00	0.000
6-26-P	85	110	12.57	3906.02	4.25	-641.45	0.000000	0.00	0.000
6-27-P	85	110	12.57	3906.02	1.61	-641.45	0.000000	0.00	0.000
6-28-P	85	110	12.57	3906.02	-6.54	-641.45	0.000000	0.00	0.000
6-29-P	85	110	12.57	3906.02	-10.21	-641.45	0.000000	0.00	0.000
6-30-P	85	110	12.57	3906.02	-12.53	-641.45	0.000000	0.00	0.000
6-31-P	85	110	12.57	3906.02	-9.14	-641.45	0.000000	0.00	0.000
6-32-P	85	110	12.57	3906.02	-4.89	-641.45	0.000000	0.00	0.000
6-33-P	85	110	12.57	3906.02	1.44	-641.45	0.000000	0.00	0.000
6-34-P	85	110	12.57	3906.02	2.74	-641.45	0.000000	0.00	0.000
6-35-P	85	110	12.57	3906.02	2.86	-641.45	0.000000	0.00	0.000
6-36-P	85	110	12.57	3906.02	-2.88	-641.45	0.000000	0.00	0.000
6-37-P	85	110	12.57	3906.02	-7.77	-641.45	0.000000	0.00	0.000
6-38-P	85	110	12.57	3906.02	-13.58	-641.45	0.000000	0.00	0.000
6-39-P	85	110	12.57	3906.02	-17.79	-641.45	0.000000	0.00	0.000
6-40-P	85	110	12.57	3906.02	-17.91	-641.45	0.000000	0.00	0.000
6-41-P	85	110	12.57	3906.02	-15.40	-641.45	0.000000	0.00	0.000
6-42-P	85	110	12.57	3906.02	-10.18	-641.45	0.000000	0.00	0.000
6-43-P	85	110	12.57	3906.02	-5.92	-641.45	0.000000	0.00	0.000

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.16.0.5.007.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.16.0.5.007	A	98 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-44-P	85	110	12.57	3906.02	-3.90	-641.45	0.000000	0.00	0.000
6-45-P	85	110	12.57	3906.02	-4.30	-641.45	0.000000	0.00	0.000
6-46-P	85	110	12.57	3906.02	-4.88	-641.45	0.000000	0.00	0.000
6-47-P	85	110	12.57	3906.02	-4.31	-641.45	0.000000	0.00	0.000
6-48-P	85	110	12.57	3906.02	-3.77	-641.45	0.000000	0.00	0.000
6-49-P	85	110	12.57	3906.02	-3.25	-641.45	0.000000	0.00	0.000
7-1-P	85	110	12.57	3906.02	1.74	-641.45	0.000000	0.00	0.000
7-2-P	85	110	12.57	3906.02	2.96	-641.45	0.000000	0.00	0.000
7-3-P	85	110	12.57	3906.02	-6.04	-641.45	0.000000	0.00	0.000
7-4-P	85	110	12.57	3906.02	-13.61	-641.45	0.000000	0.00	0.000
7-5-P	85	110	12.57	3906.02	-18.20	-641.45	0.000000	0.00	0.000
7-6-P	85	110	12.57	3906.02	-21.84	-641.45	0.000000	0.00	0.000
7-7-P	85	110	12.57	3906.02	-14.20	-641.45	0.000000	0.00	0.000
7-8-P	85	110	12.57	3906.02	-7.57	-641.45	0.000000	0.00	0.000
7-9-P	85	110	12.57	3906.02	3.35	-641.45	0.000000	0.00	0.000
7-10-P	85	110	12.57	3906.02	4.60	-641.45	0.000000	0.00	0.000
7-11-P	85	110	12.57	3906.02	5.58	-641.45	0.000000	0.00	0.000
7-12-P	85	110	12.57	3906.02	6.08	-641.45	0.000000	0.00	0.000
7-13-P	85	110	12.57	3906.02	-6.17	-641.45	0.000000	0.00	0.000
7-14-P	85	110	12.57	3906.02	-11.53	-641.45	0.000000	0.00	0.000
7-15-P	85	110	12.57	3906.02	-15.55	-641.45	0.000000	0.00	0.000
7-16-P	85	110	12.57	3906.02	-13.07	-641.45	0.000000	0.00	0.000
7-17-P	85	110	12.57	3906.02	-8.15	-641.45	0.000000	0.00	0.000
7-18-P	85	110	12.57	3906.02	4.75	-641.45	0.000000	0.00	0.000
7-19-P	85	110	12.57	1700.00	9.37	641.45	0.000000	0.00	0.000
7-20-P	85	110	12.57	1700.00	10.85	641.45	0.000000	0.00	0.000
7-21-P	85	110	12.57	1700.00	10.47	641.45	0.000000	0.00	0.000
7-22-P	85	110	12.57	3906.02	8.26	-641.45	0.000000	0.00	0.000
7-23-P	85	110	12.57	3906.02	5.51	-641.45	0.000000	0.00	0.000
7-24-P	85	110	12.57	3906.02	-8.42	-641.45	0.000000	0.00	0.000
7-25-P	85	110	12.57	3906.02	-15.91	-641.45	0.000000	0.00	0.000
7-26-P	85	110	12.57	3906.02	-8.42	-641.45	0.000000	0.00	0.000
7-27-P	85	110	12.57	3906.02	5.51	-641.45	0.000000	0.00	0.000
7-28-P	85	110	12.57	3906.02	8.26	-641.45	0.000000	0.00	0.000
7-29-P	85	110	12.57	1700.00	10.47	641.45	0.000000	0.00	0.000
7-30-P	85	110	12.57	1700.00	10.85	641.45	0.000000	0.00	0.000
7-31-P	85	110	12.57	1700.00	9.37	641.45	0.000000	0.00	0.000
7-32-P	85	110	12.57	3906.02	4.75	-641.45	0.000000	0.00	0.000
7-33-P	85	110	12.57	3906.02	-8.15	-641.45	0.000000	0.00	0.000
7-34-P	85	110	12.57	3906.02	-13.07	-641.45	0.000000	0.00	0.000
7-35-P	85	110	12.57	3906.02	-15.55	-641.45	0.000000	0.00	0.000
7-36-P	85	110	12.57	3906.02	-11.53	-641.45	0.000000	0.00	0.000
7-37-P	85	110	12.57	3906.02	-6.17	-641.45	0.000000	0.00	0.000
7-38-P	85	110	12.57	3906.02	6.08	-641.45	0.000000	0.00	0.000
7-39-P	85	110	12.57	3906.02	5.58	-641.45	0.000000	0.00	0.000
7-40-P	85	110	12.57	3906.02	4.60	-641.45	0.000000	0.00	0.000
7-41-P	85	110	12.57	3906.02	3.35	-641.45	0.000000	0.00	0.000
7-42-P	85	110	12.57	3906.02	-7.57	-641.45	0.000000	0.00	0.000
7-43-P	85	110	12.57	3906.02	-14.20	-641.45	0.000000	0.00	0.000
7-44-P	85	110	12.57	3906.02	-21.84	-641.45	0.000000	0.00	0.000
7-45-P	85	110	12.57	3906.02	-18.20	-641.45	0.000000	0.00	0.000
7-46-P	85	110	12.57	3906.02	-13.61	-641.45	0.000000	0.00	0.000
7-47-P	85	110	12.57	3906.02	-6.04	-641.45	0.000000	0.00	0.000
7-48-P	85	110	12.57	3906.02	2.96	-641.45	0.000000	0.00	0.000
7-49-P	85	110	12.57	3906.02	1.74	-641.45	0.000000	0.00	0.000
8-1-P	85	110	15.71	3834.96	0.62	-656.02	0.000000	0.00	0.000
8-2-P	85	110	15.71	3834.96	-3.00	-656.02	0.000000	0.00	0.000
8-3-P	85	110	15.71	3834.96	-8.17	-656.02	0.000000	0.00	0.000
8-4-P	85	110	15.71	3834.96	-16.43	-656.02	0.000000	0.00	0.000
8-5-P	85	110	15.71	3834.96	-32.66	-656.02	0.000000	0.00	0.000
8-6-P	85	110	15.71	3834.96	-45.05	-656.02	0.000000	0.00	0.000
8-7-P	85	110	15.71	3834.96	-22.49	-656.02	0.000000	0.00	0.000
8-8-P	85	110	15.71	3834.96	-9.81	-656.02	0.000000	0.00	0.000
8-9-P	85	110	15.71	3834.96	1.43	-656.02	0.000000	0.00	0.000
8-10-P	85	110	15.71	1700.00	4.48	656.02	0.000000	0.00	0.000
8-11-P	85	110	15.71	3834.96	5.81	-656.02	0.000000	0.00	0.000
8-12-P	85	110	15.71	3834.96	3.37	-656.02	0.000000	0.00	0.000
8-13-P	85	110	15.71	3834.96	-6.48	-656.02	0.000000	0.00	0.000
8-14-P	85	110	15.71	3834.96	-15.08	-656.02	0.000000	0.00	0.000
8-15-P	85	110	15.71	3834.96	-35.21	-656.02	0.000000	0.00	0.000
8-16-P	85	110	15.71	3834.96	-30.25	-656.02	0.000000	0.00	0.000
8-17-P	85	110	15.71	3834.96	-10.74	-656.02	0.000000	0.00	0.000
8-18-P	85	110	15.71	3834.96	2.81	-656.02	0.000000	0.00	0.000
8-19-P	85	110	15.71	1700.00	7.38	656.02	0.000000	0.00	0.000
8-20-P	85	110	15.71	1700.00	11.42	656.02	0.000000	0.00	0.000
8-21-P	85	110	15.71	1700.00	9.51	656.02	0.000000	0.00	0.000
8-22-P	85	110	15.71	3834.96	5.35	-656.02	0.000000	0.00	0.000
8-23-P	85	110	15.71	3834.96	-6.13	-656.02	0.000000	0.00	0.000
8-24-P	85	110	15.71	3834.96	-18.86	-656.02	0.000000	0.00	0.000
8-25-P	85	110	15.71	3834.96	-40.72	-656.02	0.000000	0.00	0.000
8-26-P	85	110	15.71	3834.96	-18.86	-656.02	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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	99 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
8-27-P	85	110	15.71	3834.96	-6.13	-656.02	0.000000	0.00	0.000
8-28-P	85	110	15.71	3834.96	5.35	-656.02	0.000000	0.00	0.000
8-29-P	85	110	15.71	1700.00	9.51	656.02	0.000000	0.00	0.000
8-30-P	85	110	15.71	1700.00	11.42	656.02	0.000000	0.00	0.000
8-31-P	85	110	15.71	1700.00	7.38	656.02	0.000000	0.00	0.000
8-32-P	85	110	15.71	3834.96	2.81	-656.02	0.000000	0.00	0.000
8-33-P	85	110	15.71	3834.96	-10.74	-656.02	0.000000	0.00	0.000
8-34-P	85	110	15.71	3834.96	-30.25	-656.02	0.000000	0.00	0.000
8-35-P	85	110	15.71	3834.96	-35.21	-656.02	0.000000	0.00	0.000
8-36-P	85	110	15.71	3834.96	-15.08	-656.02	0.000000	0.00	0.000
8-37-P	85	110	15.71	3834.96	-6.48	-656.02	0.000000	0.00	0.000
8-38-P	85	110	15.71	3834.96	3.37	-656.02	0.000000	0.00	0.000
8-39-P	85	110	15.71	3834.96	5.81	-656.02	0.000000	0.00	0.000
8-40-P	85	110	15.71	1700.00	4.48	656.02	0.000000	0.00	0.000
8-41-P	85	110	15.71	3834.96	1.43	-656.02	0.000000	0.00	0.000
8-42-P	85	110	15.71	3834.96	-9.81	-656.02	0.000000	0.00	0.000
8-43-P	85	110	15.71	3834.96	-22.49	-656.02	0.000000	0.00	0.000
8-44-P	85	110	15.71	3834.96	-45.05	-656.02	0.000000	0.00	0.000
8-45-P	85	110	15.71	3834.96	-32.66	-656.02	0.000000	0.00	0.000
8-46-P	85	110	15.71	3834.96	-16.43	-656.02	0.000000	0.00	0.000
8-47-P	85	110	15.71	3834.96	-8.17	-656.02	0.000000	0.00	0.000
8-48-P	85	110	15.71	3834.96	-3.00	-656.02	0.000000	0.00	0.000
8-49-P	85	110	15.71	3834.96	0.62	-656.02	0.000000	0.00	0.000
9-1-S	100	110	15.71	4573.11	-4.31	-758.93	0.000000	0.00	0.000
9-2-S	100	110	15.71	4573.11	-7.84	-758.93	0.000000	0.00	0.000
9-3-S	100	110	15.71	4573.11	-11.13	-758.93	0.000000	0.00	0.000
9-4-S	100	110	15.71	4573.11	-12.39	-758.93	0.000000	0.00	0.000
9-5-S	100	110	15.71	4573.11	7.84	-758.93	0.000000	0.00	0.000
9-6-S	100	110	15.71	4573.11	25.46	-758.93	0.000000	0.00	0.000
9-7-S	100	110	15.71	2000.00	61.05	758.93	0.000000	0.00	0.000
9-8-S	100	110	15.71	4573.11	-123.33	-758.93	0.000000	0.00	0.000
9-9-S	100	110	15.71	4573.11	-85.01	-758.93	0.000000	0.00	0.000
9-10-S	100	110	15.71	4573.11	-56.90	-758.93	0.000000	0.00	0.000
9-11-S	100	110	15.71	4573.11	-34.14	-758.93	0.000000	0.00	0.000
9-12-S	100	110	15.71	4573.11	-14.51	-758.93	0.000000	0.00	0.000
9-13-S	100	110	15.71	4573.11	5.90	-758.93	0.000000	0.00	0.000
9-14-S	100	110	15.71	4573.11	14.07	-758.93	0.000000	0.00	0.000
9-15-S	100	110	15.71	4573.11	20.56	-758.93	0.000000	0.00	0.000
9-16-S	100	110	15.71	4573.11	20.06	-758.93	0.000000	0.00	0.000
9-17-S	100	110	15.71	4573.11	17.27	-758.93	0.000000	0.00	0.000
9-18-S	100	110	15.71	4573.11	10.68	-758.93	0.000000	0.00	0.000
9-19-S	100	110	15.71	4573.11	6.65	-758.93	0.000000	0.00	0.000
9-20-S	100	110	15.71	4573.11	-4.33	-758.93	0.000000	0.00	0.000
9-21-S	100	110	15.71	4573.11	-2.20	-758.93	0.000000	0.00	0.000
9-22-S	100	110	15.71	4573.11	2.03	-758.93	0.000000	0.00	0.000
10-1-S	100	110	15.71	4573.11	7.32	-758.93	0.000000	0.00	0.000
10-2-S	100	110	15.71	4573.11	12.08	-758.93	0.000000	0.00	0.000
10-3-S	100	110	15.71	4573.11	-10.52	-758.93	0.000000	0.00	0.000
10-4-S	100	110	15.71	4573.11	-48.31	-758.93	0.000000	0.00	0.000
10-5-S	100	110	15.71	4573.11	-45.87	-758.93	0.000000	0.00	0.000
10-6-S	100	110	15.71	4573.11	15.58	-758.93	0.000000	0.00	0.000
10-7-S	100	110	15.71	2000.00	72.57	758.93	0.000000	0.00	0.000
10-8-S	100	110	15.71	4573.11	-83.36	-758.93	0.000000	0.00	0.000
10-9-S	100	110	15.71	4573.11	-69.44	-758.93	0.000000	0.00	0.000
10-10-S	100	110	15.71	4573.11	-52.66	-758.93	0.000000	0.00	0.000
10-11-S	100	110	15.71	4573.11	-36.63	-758.93	0.000000	0.00	0.000
10-12-S	100	110	15.71	4573.11	-20.70	-758.93	0.000000	0.00	0.000
10-13-S	100	110	15.71	4573.11	-5.08	-758.93	0.000000	0.00	0.000
10-14-S	100	110	15.71	4573.11	11.26	-758.93	0.000000	0.00	0.000
10-15-S	100	110	15.71	4573.11	22.89	-758.93	0.000000	0.00	0.000
10-16-S	100	110	15.71	4573.11	30.03	-758.93	0.000000	0.00	0.000
10-17-S	100	110	15.71	4573.11	35.06	-758.93	0.000000	0.00	0.000
10-18-S	100	110	15.71	4573.11	-6.24	-758.93	0.000000	0.00	0.000
10-19-S	100	110	15.71	4573.11	-28.91	-758.93	0.000000	0.00	0.000
10-20-S	100	110	15.71	4573.11	-20.91	-758.93	0.000000	0.00	0.000
10-21-S	100	110	15.71	4573.11	-11.87	-758.93	0.000000	0.00	0.000
10-22-S	100	110	15.71	4573.11	-2.28	-758.93	0.000000	0.00	0.000
11-1-S	100	110	15.71	4573.11	-5.71	-758.93	0.000000	0.00	0.000
11-2-S	100	110	15.71	4573.11	-5.35	-758.93	0.000000	0.00	0.000
11-3-S	100	110	15.71	4573.11	-3.31	-758.93	0.000000	0.00	0.000
11-4-S	100	110	15.71	4573.11	6.05	-758.93	0.000000	0.00	0.000
11-5-S	100	110	15.71	2000.00	19.08	758.93	0.000000	0.00	0.000
11-6-S	100	110	15.71	2000.00	38.80	758.93	0.000000	0.00	0.000
11-7-S	100	110	15.71	2000.00	61.50	758.93	0.000000	0.00	0.000
11-8-S	100	110	15.71	4573.11	21.87	-758.93	0.000000	0.00	0.000
11-9-S	100	110	15.71	4573.11	-24.32	-758.93	0.000000	0.00	0.000
11-10-S	100	110	15.71	4573.11	-86.48	-758.93	0.000000	0.00	0.000
11-11-S	100	110	15.71	4573.11	-69.02	-758.93	0.000000	0.00	0.000
11-12-S	100	110	15.71	4573.11	-45.08	-758.93	0.000000	0.00	0.000
11-13-S	100	110	15.71	4573.11	-19.09	-758.93	0.000000	0.00	0.000
11-14-S	100	110	15.71	4573.11	-2.78	-758.93	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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 100 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
11-15-S	100	110	15.71	4573.11	9.93	-758.93	0.000000	0.00	0.000
11-16-S	100	110	15.71	4573.11	12.46	-758.93	0.000000	0.00	0.000
11-17-S	100	110	15.71	4573.11	12.94	-758.93	0.000000	0.00	0.000
11-18-S	100	110	15.71	4573.11	9.82	-758.93	0.000000	0.00	0.000
11-19-S	100	110	15.71	4573.11	6.81	-758.93	0.000000	0.00	0.000
11-20-S	100	110	15.71	4573.11	3.90	-758.93	0.000000	0.00	0.000
11-21-S	100	110	15.71	4573.11	2.18	-758.93	0.000000	0.00	0.000
11-22-S	100	110	15.71	4573.11	1.19	-758.93	0.000000	0.00	0.000
12-1-S	100	110	15.71	4573.11	9.10	-758.93	0.000000	0.00	0.000
12-2-S	100	110	15.71	4573.11	12.54	-758.93	0.000000	0.00	0.000
12-3-S	100	110	15.71	4573.11	-11.24	-758.93	0.000000	0.00	0.000
12-4-S	100	110	15.71	4573.11	-55.52	-758.93	0.000000	0.00	0.000
12-5-S	100	110	15.71	4573.11	-52.22	-758.93	0.000000	0.00	0.000
12-6-S	100	110	15.71	4573.11	10.44	-758.93	0.000000	0.00	0.000
12-7-S	100	110	15.71	2000.00	73.06	758.93	0.000000	0.00	0.000
12-8-S	100	110	15.71	4573.11	-57.63	-758.93	0.000000	0.00	0.000
12-9-S	100	110	15.71	4573.11	-44.08	-758.93	0.000000	0.00	0.000
12-10-S	100	110	15.71	4573.11	-36.29	-758.93	0.000000	0.00	0.000
12-11-S	100	110	15.71	4573.11	-26.25	-758.93	0.000000	0.00	0.000
12-12-S	100	110	15.71	4573.11	-15.46	-758.93	0.000000	0.00	0.000
12-13-S	100	110	15.71	4573.11	-3.11	-758.93	0.000000	0.00	0.000
12-14-S	100	110	15.71	4573.11	11.10	-758.93	0.000000	0.00	0.000
12-15-S	100	110	15.71	4573.11	22.62	-758.93	0.000000	0.00	0.000
12-16-S	100	110	15.71	4573.11	30.51	-758.93	0.000000	0.00	0.000
12-17-S	100	110	15.71	4573.11	36.64	-758.93	0.000000	0.00	0.000
12-18-S	100	110	15.71	4573.11	-10.05	-758.93	0.000000	0.00	0.000
12-19-S	100	110	15.71	4573.11	-34.37	-758.93	0.000000	0.00	0.000
12-20-S	100	110	15.71	4573.11	-25.26	-758.93	0.000000	0.00	0.000
12-21-S	100	110	15.71	4573.11	-14.21	-758.93	0.000000	0.00	0.000
12-22-S	100	110	15.71	4573.11	-2.64	-758.93	0.000000	0.00	0.000
13-1-S	100	110	15.71	4573.11	-5.11	-758.93	0.000000	0.00	0.000
13-2-S	100	110	15.71	4573.11	-7.49	-758.93	0.000000	0.00	0.000
13-3-S	100	110	15.71	4573.11	-7.62	-758.93	0.000000	0.00	0.000
13-4-S	100	110	15.71	4573.11	5.27	-758.93	0.000000	0.00	0.000
13-5-S	100	110	15.71	4573.11	15.07	-758.93	0.000000	0.00	0.000
13-6-S	100	110	15.71	2000.00	35.37	758.93	0.000000	0.00	0.000
13-7-S	100	110	15.71	2000.00	62.28	758.93	0.000000	0.00	0.000
13-8-S	100	110	15.71	4573.11	27.75	-758.93	0.000000	0.00	0.000
13-9-S	100	110	15.71	4573.11	-23.07	-758.93	0.000000	0.00	0.000
13-10-S	100	110	15.71	4573.11	-72.08	-758.93	0.000000	0.00	0.000
13-11-S	100	110	15.71	4573.11	-57.13	-758.93	0.000000	0.00	0.000
13-12-S	100	110	15.71	4573.11	-36.61	-758.93	0.000000	0.00	0.000
13-13-S	100	110	15.71	4573.11	-13.93	-758.93	0.000000	0.00	0.000
13-14-S	100	110	15.71	4573.11	3.05	-758.93	0.000000	0.00	0.000
13-15-S	100	110	15.71	4573.11	11.42	-758.93	0.000000	0.00	0.000
13-16-S	100	110	15.71	4573.11	12.54	-758.93	0.000000	0.00	0.000
13-17-S	100	110	15.71	4573.11	11.35	-758.93	0.000000	0.00	0.000
13-18-S	100	110	15.71	4573.11	8.89	-758.93	0.000000	0.00	0.000
13-19-S	100	110	15.71	4573.11	6.39	-758.93	0.000000	0.00	0.000
13-20-S	100	110	15.71	4573.11	2.99	-758.93	0.000000	0.00	0.000
13-21-S	100	110	15.71	4573.11	1.41	-758.93	0.000000	0.00	0.000
13-22-S	100	110	15.71	4573.11	1.19	-758.93	0.000000	0.00	0.000
14-1-S	100	110	18.85	4504.06	5.11	-773.50	0.000000	0.00	0.000
14-2-S	100	110	18.85	4504.06	-7.72	-773.50	0.000000	0.00	0.000
14-3-S	100	110	18.85	4504.06	-10.99	-773.50	0.000000	0.00	0.000
14-4-S	100	110	18.85	4504.06	-30.28	-773.50	0.000000	0.00	0.000
14-5-S	100	110	18.85	4504.06	-26.45	-773.50	0.000000	0.00	0.000
14-6-S	100	110	18.85	4504.06	22.06	-773.50	0.000000	0.00	0.000
14-7-S	100	110	18.85	2000.00	68.37	773.50	0.000000	0.00	0.000
14-8-S	100	110	18.85	4504.06	-37.12	-773.50	0.000000	0.00	0.000
14-9-S	100	110	18.85	4504.06	-37.50	-773.50	0.000000	0.00	0.000
14-10-S	100	110	18.85	4504.06	-40.84	-773.50	0.000000	0.00	0.000
14-11-S	100	110	18.85	4504.06	-31.20	-773.50	0.000000	0.00	0.000
14-12-S	100	110	18.85	4504.06	-19.90	-773.50	0.000000	0.00	0.000
14-13-S	100	110	18.85	4504.06	-5.09	-773.50	0.000000	0.00	0.000
14-14-S	100	110	18.85	4504.06	9.09	-773.50	0.000000	0.00	0.000
14-15-S	100	110	18.85	4504.06	18.17	-773.50	0.000000	0.00	0.000
14-16-S	100	110	18.85	4504.06	21.98	-773.50	0.000000	0.00	0.000
14-17-S	100	110	18.85	4504.06	24.05	-773.50	0.000000	0.00	0.000
14-18-S	100	110	18.85	4504.06	6.32	-773.50	0.000000	0.00	0.000
14-19-S	100	110	18.85	4504.06	-18.26	-773.50	0.000000	0.00	0.000
14-20-S	100	110	18.85	4504.06	-13.37	-773.50	0.000000	0.00	0.000
14-21-S	100	110	18.85	4504.06	-7.46	-773.50	0.000000	0.00	0.000
14-22-S	100	110	18.85	4504.06	-1.54	-773.50	0.000000	0.00	0.000
15-1-S	100	110	15.71	4573.11	5.11	-758.93	0.000000	0.00	0.000
15-2-S	100	110	15.71	4573.11	-7.72	-758.93	0.000000	0.00	0.000
15-3-S	100	110	15.71	4573.11	-10.99	-758.93	0.000000	0.00	0.000
15-4-S	100	110	15.71	4573.11	-30.28	-758.93	0.000000	0.00	0.000
15-5-S	100	110	15.71	4573.11	-26.45	-758.93	0.000000	0.00	0.000
15-6-S	100	110	15.71	4573.11	22.06	-758.93	0.000000	0.00	0.000
15-7-S	100	110	15.71	2000.00	68.37	758.93	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:

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	101 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
15-8-S	100	110	15.71	4573.11	-37.12	-758.93	0.000000	0.00	0.000
15-9-S	100	110	15.71	4573.11	-37.50	-758.93	0.000000	0.00	0.000
15-10-S	100	110	15.71	4573.11	-40.84	-758.93	0.000000	0.00	0.000
15-11-S	100	110	15.71	4573.11	-31.20	-758.93	0.000000	0.00	0.000
15-12-S	100	110	15.71	4573.11	-19.90	-758.93	0.000000	0.00	0.000
15-13-S	100	110	15.71	4573.11	-5.09	-758.93	0.000000	0.00	0.000
15-14-S	100	110	15.71	4573.11	9.09	-758.93	0.000000	0.00	0.000
15-15-S	100	110	15.71	4573.11	18.17	-758.93	0.000000	0.00	0.000
15-16-S	100	110	15.71	4573.11	21.98	-758.93	0.000000	0.00	0.000
15-17-S	100	110	15.71	4573.11	24.05	-758.93	0.000000	0.00	0.000
15-18-S	100	110	15.71	4573.11	6.32	-758.93	0.000000	0.00	0.000
15-19-S	100	110	15.71	4573.11	-18.26	-758.93	0.000000	0.00	0.000
15-20-S	100	110	15.71	4573.11	-13.37	-758.93	0.000000	0.00	0.000
15-21-S	100	110	15.71	4573.11	-7.46	-758.93	0.000000	0.00	0.000
15-22-S	100	110	15.71	4573.11	-1.54	-758.93	0.000000	0.00	0.000
16-1-S	100	110	15.71	4573.11	-5.11	-758.93	0.000000	0.00	0.000
16-2-S	100	110	15.71	4573.11	-7.49	-758.93	0.000000	0.00	0.000
16-3-S	100	110	15.71	4573.11	-7.62	-758.93	0.000000	0.00	0.000
16-4-S	100	110	15.71	4573.11	5.27	-758.93	0.000000	0.00	0.000
16-5-S	100	110	15.71	4573.11	15.07	-758.93	0.000000	0.00	0.000
16-6-S	100	110	15.71	2000.00	35.37	758.93	0.000000	0.00	0.000
16-7-S	100	110	15.71	2000.00	62.28	758.93	0.000000	0.00	0.000
16-8-S	100	110	15.71	4573.11	27.75	-758.93	0.000000	0.00	0.000
16-9-S	100	110	15.71	4573.11	-23.07	-758.93	0.000000	0.00	0.000
16-10-S	100	110	15.71	4573.11	-72.08	-758.93	0.000000	0.00	0.000
16-11-S	100	110	15.71	4573.11	-57.13	-758.93	0.000000	0.00	0.000
16-12-S	100	110	15.71	4573.11	-36.61	-758.93	0.000000	0.00	0.000
16-13-S	100	110	15.71	4573.11	-13.93	-758.93	0.000000	0.00	0.000
16-14-S	100	110	15.71	4573.11	3.05	-758.93	0.000000	0.00	0.000
16-15-S	100	110	15.71	4573.11	11.42	-758.93	0.000000	0.00	0.000
16-16-S	100	110	15.71	4573.11	12.54	-758.93	0.000000	0.00	0.000
16-17-S	100	110	15.71	4573.11	11.35	-758.93	0.000000	0.00	0.000
16-18-S	100	110	15.71	4573.11	8.89	-758.93	0.000000	0.00	0.000
16-19-S	100	110	15.71	4573.11	6.39	-758.93	0.000000	0.00	0.000
16-20-S	100	110	15.71	4573.11	2.99	-758.93	0.000000	0.00	0.000
16-21-S	100	110	15.71	4573.11	1.41	-758.93	0.000000	0.00	0.000
16-22-S	100	110	15.71	4573.11	1.19	-758.93	0.000000	0.00	0.000
17-1-S	100	110	15.71	4573.11	9.10	-758.93	0.000000	0.00	0.000
17-2-S	100	110	15.71	4573.11	12.54	-758.93	0.000000	0.00	0.000
17-3-S	100	110	15.71	4573.11	-11.24	-758.93	0.000000	0.00	0.000
17-4-S	100	110	15.71	4573.11	-55.52	-758.93	0.000000	0.00	0.000
17-5-S	100	110	15.71	4573.11	-52.22	-758.93	0.000000	0.00	0.000
17-6-S	100	110	15.71	4573.11	10.44	-758.93	0.000000	0.00	0.000
17-7-S	100	110	15.71	2000.00	73.06	758.93	0.000000	0.00	0.000
17-8-S	100	110	15.71	4573.11	-57.63	-758.93	0.000000	0.00	0.000
17-9-S	100	110	15.71	4573.11	-44.08	-758.93	0.000000	0.00	0.000
17-10-S	100	110	15.71	4573.11	-36.29	-758.93	0.000000	0.00	0.000
17-11-S	100	110	15.71	4573.11	-26.25	-758.93	0.000000	0.00	0.000
17-12-S	100	110	15.71	4573.11	-15.46	-758.93	0.000000	0.00	0.000
17-13-S	100	110	15.71	4573.11	-3.11	-758.93	0.000000	0.00	0.000
17-14-S	100	110	15.71	4573.11	11.10	-758.93	0.000000	0.00	0.000
17-15-S	100	110	15.71	4573.11	22.62	-758.93	0.000000	0.00	0.000
17-16-S	100	110	15.71	4573.11	30.51	-758.93	0.000000	0.00	0.000
17-17-S	100	110	15.71	4573.11	36.64	-758.93	0.000000	0.00	0.000
17-18-S	100	110	15.71	4573.11	-10.05	-758.93	0.000000	0.00	0.000
17-19-S	100	110	15.71	4573.11	-34.37	-758.93	0.000000	0.00	0.000
17-20-S	100	110	15.71	4573.11	-25.26	-758.93	0.000000	0.00	0.000
17-21-S	100	110	15.71	4573.11	-14.21	-758.93	0.000000	0.00	0.000
17-22-S	100	110	15.71	4573.11	-2.64	-758.93	0.000000	0.00	0.000
18-1-S	100	110	15.71	4573.11	-5.71	-758.93	0.000000	0.00	0.000
18-2-S	100	110	15.71	4573.11	-5.35	-758.93	0.000000	0.00	0.000
18-3-S	100	110	15.71	4573.11	-3.31	-758.93	0.000000	0.00	0.000
18-4-S	100	110	15.71	4573.11	6.05	-758.93	0.000000	0.00	0.000
18-5-S	100	110	15.71	2000.00	19.08	758.93	0.000000	0.00	0.000
18-6-S	100	110	15.71	2000.00	38.80	758.93	0.000000	0.00	0.000
18-7-S	100	110	15.71	2000.00	61.50	758.93	0.000000	0.00	0.000
18-8-S	100	110	15.71	4573.11	21.87	-758.93	0.000000	0.00	0.000
18-9-S	100	110	15.71	4573.11	-24.32	-758.93	0.000000	0.00	0.000
18-10-S	100	110	15.71	4573.11	-86.48	-758.93	0.000000	0.00	0.000
18-11-S	100	110	15.71	4573.11	-69.02	-758.93	0.000000	0.00	0.000
18-12-S	100	110	15.71	4573.11	-45.08	-758.93	0.000000	0.00	0.000
18-13-S	100	110	15.71	4573.11	-19.09	-758.93	0.000000	0.00	0.000
18-14-S	100	110	15.71	4573.11	-2.78	-758.93	0.000000	0.00	0.000
18-15-S	100	110	15.71	4573.11	9.93	-758.93	0.000000	0.00	0.000
18-16-S	100	110	15.71	4573.11	12.46	-758.93	0.000000	0.00	0.000
18-17-S	100	110	15.71	4573.11	12.94	-758.93	0.000000	0.00	0.000
18-18-S	100	110	15.71	4573.11	9.82	-758.93	0.000000	0.00	0.000
18-19-S	100	110	15.71	4573.11	6.81	-758.93	0.000000	0.00	0.000
18-20-S	100	110	15.71	4573.11	3.90	-758.93	0.000000	0.00	0.000
18-21-S	100	110	15.71	4573.11	2.18	-758.93	0.000000	0.00	0.000
18-22-S	100	110	15.71	4573.11	1.19	-758.93	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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	102 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
19-1-S	100	110	15.71	4573.11	7.32	-758.93	0.000000	0.00	0.000
19-2-S	100	110	15.71	4573.11	12.08	-758.93	0.000000	0.00	0.000
19-3-S	100	110	15.71	4573.11	-10.52	-758.93	0.000000	0.00	0.000
19-4-S	100	110	15.71	4573.11	-48.31	-758.93	0.000000	0.00	0.000
19-5-S	100	110	15.71	4573.11	-45.87	-758.93	0.000000	0.00	0.000
19-6-S	100	110	15.71	4573.11	15.58	-758.93	0.000000	0.00	0.000
19-7-S	100	110	15.71	2000.00	72.57	758.93	0.000000	0.00	0.000
19-8-S	100	110	15.71	4573.11	-83.36	-758.93	0.000000	0.00	0.000
19-9-S	100	110	15.71	4573.11	-69.44	-758.93	0.000000	0.00	0.000
19-10-S	100	110	15.71	4573.11	-52.66	-758.93	0.000000	0.00	0.000
19-11-S	100	110	15.71	4573.11	-36.63	-758.93	0.000000	0.00	0.000
19-12-S	100	110	15.71	4573.11	-20.70	-758.93	0.000000	0.00	0.000
19-13-S	100	110	15.71	4573.11	-5.08	-758.93	0.000000	0.00	0.000
19-14-S	100	110	15.71	4573.11	11.26	-758.93	0.000000	0.00	0.000
19-15-S	100	110	15.71	4573.11	22.89	-758.93	0.000000	0.00	0.000
19-16-S	100	110	15.71	4573.11	30.03	-758.93	0.000000	0.00	0.000
19-17-S	100	110	15.71	4573.11	35.06	-758.93	0.000000	0.00	0.000
19-18-S	100	110	15.71	4573.11	-6.24	-758.93	0.000000	0.00	0.000
19-19-S	100	110	15.71	4573.11	-28.91	-758.93	0.000000	0.00	0.000
19-20-S	100	110	15.71	4573.11	-20.91	-758.93	0.000000	0.00	0.000
19-21-S	100	110	15.71	4573.11	-11.87	-758.93	0.000000	0.00	0.000
19-22-S	100	110	15.71	4573.11	-2.28	-758.93	0.000000	0.00	0.000
20-1-S	100	110	15.71	4573.11	-4.31	-758.93	0.000000	0.00	0.000
20-2-S	100	110	15.71	4573.11	-7.84	-758.93	0.000000	0.00	0.000
20-3-S	100	110	15.71	4573.11	-11.13	-758.93	0.000000	0.00	0.000
20-4-S	100	110	15.71	4573.11	-12.39	-758.93	0.000000	0.00	0.000
20-5-S	100	110	15.71	4573.11	7.84	-758.93	0.000000	0.00	0.000
20-6-S	100	110	15.71	4573.11	25.46	-758.93	0.000000	0.00	0.000
20-7-S	100	110	15.71	2000.00	61.05	758.93	0.000000	0.00	0.000
20-8-S	100	110	15.71	4573.11	-123.33	-758.93	0.000000	0.00	0.000
20-9-S	100	110	15.71	4573.11	-85.01	-758.93	0.000000	0.00	0.000
20-10-S	100	110	15.71	4573.11	-56.90	-758.93	0.000000	0.00	0.000
20-11-S	100	110	15.71	4573.11	-34.14	-758.93	0.000000	0.00	0.000
20-12-S	100	110	15.71	4573.11	-14.51	-758.93	0.000000	0.00	0.000
20-13-S	100	110	15.71	4573.11	5.90	-758.93	0.000000	0.00	0.000
20-14-S	100	110	15.71	4573.11	14.07	-758.93	0.000000	0.00	0.000
20-15-S	100	110	15.71	4573.11	20.56	-758.93	0.000000	0.00	0.000
20-16-S	100	110	15.71	4573.11	20.06	-758.93	0.000000	0.00	0.000
20-17-S	100	110	15.71	4573.11	17.27	-758.93	0.000000	0.00	0.000
20-18-S	100	110	15.71	4573.11	10.68	-758.93	0.000000	0.00	0.000
20-19-S	100	110	15.71	4573.11	6.65	-758.93	0.000000	0.00	0.000
20-20-S	100	110	15.71	4573.11	-4.33	-758.93	0.000000	0.00	0.000
20-21-S	100	110	15.71	4573.11	-2.20	-758.93	0.000000	0.00	0.000
20-22-S	100	110	15.71	4573.11	2.03	-758.93	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	25.45	3647.44	209.30	-141.09	240.04	0.000000	0.00	0.00
2	1	34.56	3617.50	232.32	-141.09	434.26	0.000000	0.00	0.00
3	1	34.56	3617.50	245.32	-141.09	628.49	0.000000	0.00	0.00

**Combinazioni SLEF****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	0.000025	---	0.000 (6)
2	100	70	0.00	0.00	0.00	0.00	0.000033	---	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	0.000058	---	0.000 (6)
6	100	70	0.00	0.00	0.00	0.00	0.000067	---	0.000 (6)
7	100	70	0.00	0.00	0.00	0.00	0.000075	---	0.000 (6)
8	100	70	0.00	0.00	0.00	0.00	0.000083	---	0.000 (6)
9	100	70	0.00	0.00	0.00	0.00	0.000092	---	0.000 (6)
10	100	70	0.00	0.00	0.00	0.00	0.000100	---	0.000 (6)



APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 103 di 119

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
11	100	70	0.00	0.00	0.00	0.00	0.000109	---	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	0.000125	---	0.000 (6)
14	100	70	0.00	0.00	0.00	0.00	0.000134	---	0.000 (6)
15	100	70	0.00	0.00	0.00	0.00	0.000142	---	0.000 (6)
16	100	70	0.00	0.00	0.00	0.00	0.000151	---	0.000 (6)
17	100	70	0.00	0.00	0.00	0.00	0.000159	---	0.000 (6)
18	100	70	0.00	0.00	0.00	0.00	0.000168	---	0.000 (6)
19	100	70	0.00	0.00	0.00	0.00	0.000176	---	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	0.000193	---	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	0.000218	---	0.000 (6)
25	100	70	0.00	0.00	0.00	0.00	0.000226	---	0.000 (6)
26	100	70	0.00	0.00	0.00	0.00	0.000235	---	0.000 (6)
27	100	70	0.00	0.00	0.00	0.00	0.000243	---	0.000 (6)
28	100	70	0.00	0.00	0.00	0.00	0.000252	---	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	0.000277	---	0.000 (6)
32	100	70	12.72	1840.00	0.03	345.33	0.000000	0.00	0.000 (6)
33	100	70	12.72	1840.00	0.11	345.55	0.000000	0.00	0.000 (6)
34	100	70	12.72	1840.00	0.24	345.76	0.000000	0.00	0.000 (6)
35	100	70	12.72	1840.00	0.45	345.97	0.000000	0.00	0.000 (6)
36	100	70	12.72	1840.00	0.72	346.18	0.000000	0.00	0.000 (6)
37	100	101	12.72	1840.00	9.12	699.24	0.000000	0.00	0.000 (6)
38	100	101	12.72	1840.00	9.57	699.69	0.000000	0.00	0.000 (6)
39	100	101	12.72	1840.00	10.27	700.12	0.000000	0.00	0.000 (6)
40	100	101	12.72	1840.00	11.16	700.55	0.000000	0.00	0.000 (6)
41	100	101	12.72	1840.00	12.18	700.97	0.000000	0.00	0.000 (6)
42	100	101	12.72	1840.00	13.29	701.41	0.000000	0.00	0.000 (6)
43	100	101	12.72	1840.00	14.48	701.84	0.000000	0.00	0.000 (6)
44	100	101	12.72	1840.00	15.77	702.29	0.000000	0.00	0.000 (6)
45	100	101	12.72	1840.00	17.16	702.72	0.000000	0.00	0.000 (6)
46	100	101	12.72	1840.00	18.65	703.14	0.000000	0.00	0.000 (6)
47	100	101	12.72	1840.00	20.26	703.56	0.000000	0.00	0.000 (6)
48	100	101	12.72	1840.00	21.98	704.02	0.000000	0.00	0.000 (6)
49	100	101	12.72	1840.00	23.83	704.44	0.000000	0.00	0.000 (6)
50	100	101	12.72	1840.00	25.80	704.88	0.000000	0.00	0.000 (6)
51	100	101	12.72	1840.00	27.91	705.31	0.000000	0.00	0.000 (6)
52	100	101	12.72	1840.00	30.15	705.75	0.000000	0.00	0.000 (6)
53	100	101	12.72	1840.00	30.20	705.76	0.000000	0.00	0.000 (6)
54	100	101	12.72	1840.00	32.59	706.19	0.000000	0.00	0.000 (6)
55	100	101	12.72	1840.00	35.12	706.62	0.000000	0.00	0.000 (6)
56	100	101	12.72	1840.00	37.81	707.05	0.000000	0.00	0.000 (6)
57	100	101	12.72	1840.00	40.66	707.48	0.000000	0.00	0.000 (6)
58	100	101	12.72	1840.00	43.67	707.93	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	110	12.57	3141.48	1.11	-535.11	0.000000	0.00	0.000
1-2-P	69	110	12.57	3141.48	-1.72	-535.11	0.000000	0.00	0.000
1-3-P	69	110	12.57	3141.48	-6.56	-535.11	0.000000	0.00	0.000
1-4-P	69	110	12.57	3141.48	-17.66	-535.11	0.000000	0.00	0.000
1-5-P	69	110	12.57	3141.48	-27.75	-535.11	0.000000	0.00	0.000
1-6-P	69	110	12.57	3141.48	-32.76	-535.11	0.000000	0.00	0.000
1-7-P	69	110	12.57	3141.48	-18.84	-535.11	0.000000	0.00	0.000
1-8-P	69	110	12.57	3141.48	-5.72	-535.11	0.000000	0.00	0.000
1-9-P	69	110	12.57	3141.48	10.82	-535.11	0.000000	0.00	0.000
1-10-P	69	110	12.57	3141.48	14.61	-535.11	0.000000	0.00	0.000
1-11-P	69	110	12.57	3141.48	15.79	-535.11	0.000000	0.00	0.000
1-12-P	69	110	12.57	3141.48	12.90	-535.11	0.000000	0.00	0.000
1-13-P	69	110	12.57	3141.48	3.77	-535.11	0.000000	0.00	0.000
1-14-P	69	110	12.57	3141.48	-12.21	-535.11	0.000000	0.00	0.000
1-15-P	69	110	12.57	3141.48	-24.35	-535.11	0.000000	0.00	0.000
1-16-P	69	110	12.57	3141.48	-21.89	-535.11	0.000000	0.00	0.000
1-17-P	69	110	12.57	3141.48	-10.79	-535.11	0.000000	0.00	0.000
1-18-P	69	110	12.57	3141.48	5.56	-535.11	0.000000	0.00	0.000
1-19-P	69	110	12.57	3141.48	13.87	-535.11	0.000000	0.00	0.000
1-20-P	69	110	12.57	1390.00	17.12	535.11	0.000000	0.00	0.000
1-21-P	69	110	12.57	3141.48	15.12	-535.11	0.000000	0.00	0.000
1-22-P	69	110	12.57	3141.48	10.01	-535.11	0.000000	0.00	0.000
1-23-P	69	110	12.57	3141.48	-5.89	-535.11	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**

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	104 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-24-P	69	110	12.57	3141.48	-17.25	-535.11	0.000000	0.00	0.000
1-25-P	69	110	12.57	3141.48	-29.29	-535.11	0.000000	0.00	0.000
1-26-P	69	110	12.57	3141.48	-17.25	-535.11	0.000000	0.00	0.000
1-27-P	69	110	12.57	3141.48	-5.89	-535.11	0.000000	0.00	0.000
1-28-P	69	110	12.57	3141.48	10.01	-535.11	0.000000	0.00	0.000
1-29-P	69	110	12.57	3141.48	15.12	-535.11	0.000000	0.00	0.000
1-30-P	69	110	12.57	1390.00	17.12	535.11	0.000000	0.00	0.000
1-31-P	69	110	12.57	3141.48	13.87	-535.11	0.000000	0.00	0.000
1-32-P	69	110	12.57	3141.48	5.56	-535.11	0.000000	0.00	0.000
1-33-P	69	110	12.57	3141.48	-10.79	-535.11	0.000000	0.00	0.000
1-34-P	69	110	12.57	3141.48	-21.89	-535.11	0.000000	0.00	0.000
1-35-P	69	110	12.57	3141.48	-24.35	-535.11	0.000000	0.00	0.000
1-36-P	69	110	12.57	3141.48	-12.21	-535.11	0.000000	0.00	0.000
1-37-P	69	110	12.57	3141.48	3.77	-535.11	0.000000	0.00	0.000
1-38-P	69	110	12.57	3141.48	12.90	-535.11	0.000000	0.00	0.000
1-39-P	69	110	12.57	3141.48	15.79	-535.11	0.000000	0.00	0.000
1-40-P	69	110	12.57	3141.48	14.61	-535.11	0.000000	0.00	0.000
1-41-P	69	110	12.57	3141.48	10.82	-535.11	0.000000	0.00	0.000
1-42-P	69	110	12.57	3141.48	-5.72	-535.11	0.000000	0.00	0.000
1-43-P	69	110	12.57	3141.48	-18.84	-535.11	0.000000	0.00	0.000
1-44-P	69	110	12.57	3141.48	-32.76	-535.11	0.000000	0.00	0.000
1-45-P	69	110	12.57	3141.48	-27.75	-535.11	0.000000	0.00	0.000
1-46-P	69	110	12.57	3141.48	-17.66	-535.11	0.000000	0.00	0.000
1-47-P	69	110	12.57	3141.48	-6.56	-535.11	0.000000	0.00	0.000
1-48-P	69	110	12.57	3141.48	-1.72	-535.11	0.000000	0.00	0.000
1-49-P	69	110	12.57	3141.48	1.11	-535.11	0.000000	0.00	0.000
2-1-P	70	110	12.57	1390.00	4.92	535.11	0.000000	0.00	0.000
2-2-P	70	110	12.57	1390.00	5.06	535.11	0.000000	0.00	0.000
2-3-P	70	110	12.57	3141.48	4.49	-535.11	0.000000	0.00	0.000
2-4-P	70	110	12.57	3141.48	4.18	-535.11	0.000000	0.00	0.000
2-5-P	70	110	12.57	3141.48	-26.33	-535.11	0.000000	0.00	0.000
2-6-P	70	110	12.57	3141.48	-45.08	-535.11	0.000000	0.00	0.000
2-7-P	70	110	12.57	3141.48	-10.74	-535.11	0.000000	0.00	0.000
2-8-P	70	110	12.57	3141.48	8.64	-535.11	0.000000	0.00	0.000
2-9-P	70	110	12.57	1390.00	13.70	535.11	0.000000	0.00	0.000
2-10-P	70	110	12.57	1390.00	15.15	535.11	0.000000	0.00	0.000
2-11-P	70	110	12.57	1390.00	15.59	535.11	0.000000	0.00	0.000
2-12-P	70	110	12.57	1390.00	14.53	535.11	0.000000	0.00	0.000
2-13-P	70	110	12.57	3141.48	10.60	-535.11	0.000000	0.00	0.000
2-14-P	70	110	12.57	3141.48	-2.87	-535.11	0.000000	0.00	0.000
2-15-P	70	110	12.57	3141.48	-35.62	-535.11	0.000000	0.00	0.000
2-16-P	70	110	12.57	3141.48	-29.11	-535.11	0.000000	0.00	0.000
2-17-P	70	110	12.57	3141.48	7.68	-535.11	0.000000	0.00	0.000
2-18-P	70	110	12.57	3141.48	11.42	-535.11	0.000000	0.00	0.000
2-19-P	70	110	12.57	1390.00	14.72	535.11	0.000000	0.00	0.000
2-20-P	70	110	12.57	1390.00	15.87	535.11	0.000000	0.00	0.000
2-21-P	70	110	12.57	1390.00	15.15	535.11	0.000000	0.00	0.000
2-22-P	70	110	12.57	1390.00	13.24	535.11	0.000000	0.00	0.000
2-23-P	70	110	12.57	3141.48	8.76	-535.11	0.000000	0.00	0.000
2-24-P	70	110	12.57	3141.48	-15.82	-535.11	0.000000	0.00	0.000
2-25-P	70	110	12.57	3141.48	-49.29	-535.11	0.000000	0.00	0.000
2-26-P	70	110	12.57	3141.48	-15.82	-535.11	0.000000	0.00	0.000
2-27-P	70	110	12.57	3141.48	8.76	-535.11	0.000000	0.00	0.000
2-28-P	70	110	12.57	1390.00	13.24	535.11	0.000000	0.00	0.000
2-29-P	70	110	12.57	1390.00	15.15	535.11	0.000000	0.00	0.000
2-30-P	70	110	12.57	1390.00	15.87	535.11	0.000000	0.00	0.000
2-31-P	70	110	12.57	1390.00	14.72	535.11	0.000000	0.00	0.000
2-32-P	70	110	12.57	3141.48	11.42	-535.11	0.000000	0.00	0.000
2-33-P	70	110	12.57	3141.48	7.68	-535.11	0.000000	0.00	0.000
2-34-P	70	110	12.57	3141.48	-29.11	-535.11	0.000000	0.00	0.000
2-35-P	70	110	12.57	3141.48	-35.62	-535.11	0.000000	0.00	0.000
2-36-P	70	110	12.57	3141.48	-2.87	-535.11	0.000000	0.00	0.000
2-37-P	70	110	12.57	3141.48	10.60	-535.11	0.000000	0.00	0.000
2-38-P	70	110	12.57	1390.00	14.53	535.11	0.000000	0.00	0.000
2-39-P	70	110	12.57	1390.00	15.59	535.11	0.000000	0.00	0.000
2-40-P	70	110	12.57	1390.00	15.15	535.11	0.000000	0.00	0.000
2-41-P	70	110	12.57	1390.00	13.70	535.11	0.000000	0.00	0.000
2-42-P	70	110	12.57	3141.48	8.64	-535.11	0.000000	0.00	0.000
2-43-P	70	110	12.57	3141.48	-10.74	-535.11	0.000000	0.00	0.000
2-44-P	70	110	12.57	3141.48	-45.08	-535.11	0.000000	0.00	0.000
2-45-P	70	110	12.57	3141.48	-26.33	-535.11	0.000000	0.00	0.000
2-46-P	70	110	12.57	3141.48	4.18	-535.11	0.000000	0.00	0.000
2-47-P	70	110	12.57	3141.48	4.49	-535.11	0.000000	0.00	0.000
2-48-P	70	110	12.57	1390.00	5.06	535.11	0.000000	0.00	0.000
2-49-P	70	110	12.57	1390.00	4.92	535.11	0.000000	0.00	0.000
5-1-P	85	110	15.71	3834.96	-5.24	-656.02	0.000000	0.00	0.000
5-2-P	85	110	15.71	3834.96	-6.60	-656.02	0.000000	0.00	0.000
5-3-P	85	110	15.71	3834.96	-7.61	-656.02	0.000000	0.00	0.000
5-4-P	85	110	15.71	3834.96	-7.97	-656.02	0.000000	0.00	0.000
5-5-P	85	110	15.71	3834.96	-7.09	-656.02	0.000000	0.00	0.000
5-6-P	85	110	15.71	3834.96	-5.83	-656.02	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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 105 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
5-7-P	85	110	15.71	3834.96	-4.70	-656.02	0.000000	0.00	0.000
5-8-P	85	110	15.71	3834.96	-6.87	-656.02	0.000000	0.00	0.000
5-9-P	85	110	15.71	3834.96	-12.10	-656.02	0.000000	0.00	0.000
5-10-P	85	110	15.71	3834.96	-35.52	-656.02	0.000000	0.00	0.000
5-11-P	85	110	15.71	3834.96	-39.96	-656.02	0.000000	0.00	0.000
5-12-P	85	110	15.71	3834.96	-9.67	-656.02	0.000000	0.00	0.000
5-13-P	85	110	15.71	3834.96	4.34	-656.02	0.000000	0.00	0.000
5-14-P	85	110	15.71	3834.96	7.99	-656.02	0.000000	0.00	0.000
5-15-P	85	110	15.71	3834.96	8.56	-656.02	0.000000	0.00	0.000
5-16-P	85	110	15.71	3834.96	9.14	-656.02	0.000000	0.00	0.000
5-17-P	85	110	15.71	3834.96	9.73	-656.02	0.000000	0.00	0.000
5-18-P	85	110	15.71	3834.96	7.61	-656.02	0.000000	0.00	0.000
5-19-P	85	110	15.71	3834.96	-12.45	-656.02	0.000000	0.00	0.000
5-20-P	85	110	15.71	3834.96	-41.66	-656.02	0.000000	0.00	0.000
5-21-P	85	110	15.71	3834.96	-23.43	-656.02	0.000000	0.00	0.000
5-22-P	85	110	15.71	3834.96	7.48	-656.02	0.000000	0.00	0.000
5-23-P	85	110	15.71	3834.96	9.17	-656.02	0.000000	0.00	0.000
5-24-P	85	110	15.71	3834.96	10.57	-656.02	0.000000	0.00	0.000
5-25-P	85	110	15.71	3834.96	10.61	-656.02	0.000000	0.00	0.000
5-26-P	85	110	15.71	3834.96	10.57	-656.02	0.000000	0.00	0.000
5-27-P	85	110	15.71	3834.96	9.17	-656.02	0.000000	0.00	0.000
5-28-P	85	110	15.71	3834.96	7.48	-656.02	0.000000	0.00	0.000
5-29-P	85	110	15.71	3834.96	-23.43	-656.02	0.000000	0.00	0.000
5-30-P	85	110	15.71	3834.96	-41.66	-656.02	0.000000	0.00	0.000
5-31-P	85	110	15.71	3834.96	-12.45	-656.02	0.000000	0.00	0.000
5-32-P	85	110	15.71	3834.96	7.61	-656.02	0.000000	0.00	0.000
5-33-P	85	110	15.71	3834.96	9.73	-656.02	0.000000	0.00	0.000
5-34-P	85	110	15.71	3834.96	9.14	-656.02	0.000000	0.00	0.000
5-35-P	85	110	15.71	3834.96	8.56	-656.02	0.000000	0.00	0.000
5-36-P	85	110	15.71	3834.96	7.99	-656.02	0.000000	0.00	0.000
5-37-P	85	110	15.71	3834.96	4.34	-656.02	0.000000	0.00	0.000
5-38-P	85	110	15.71	3834.96	-9.67	-656.02	0.000000	0.00	0.000
5-39-P	85	110	15.71	3834.96	-39.96	-656.02	0.000000	0.00	0.000
5-40-P	85	110	15.71	3834.96	-35.52	-656.02	0.000000	0.00	0.000
5-41-P	85	110	15.71	3834.96	-12.10	-656.02	0.000000	0.00	0.000
5-42-P	85	110	15.71	3834.96	-6.87	-656.02	0.000000	0.00	0.000
5-43-P	85	110	15.71	3834.96	-4.70	-656.02	0.000000	0.00	0.000
5-44-P	85	110	15.71	3834.96	-5.83	-656.02	0.000000	0.00	0.000
5-45-P	85	110	15.71	3834.96	-7.09	-656.02	0.000000	0.00	0.000
5-46-P	85	110	15.71	3834.96	-7.97	-656.02	0.000000	0.00	0.000
5-47-P	85	110	15.71	3834.96	-7.61	-656.02	0.000000	0.00	0.000
5-48-P	85	110	15.71	3834.96	-6.60	-656.02	0.000000	0.00	0.000
5-49-P	85	110	15.71	3834.96	-5.24	-656.02	0.000000	0.00	0.000
6-1-P	85	110	12.57	3906.02	-2.72	-641.45	0.000000	0.00	0.000
6-2-P	85	110	12.57	3906.02	3.25	-641.45	0.000000	0.00	0.000
6-3-P	85	110	12.57	3906.02	3.76	-641.45	0.000000	0.00	0.000
6-4-P	85	110	12.57	3906.02	4.09	-641.45	0.000000	0.00	0.000
6-5-P	85	110	12.57	3906.02	-3.31	-641.45	0.000000	0.00	0.000
6-6-P	85	110	12.57	3906.02	-2.85	-641.45	0.000000	0.00	0.000
6-7-P	85	110	12.57	3906.02	-3.95	-641.45	0.000000	0.00	0.000
6-8-P	85	110	12.57	3906.02	-7.05	-641.45	0.000000	0.00	0.000
6-9-P	85	110	12.57	3906.02	-11.67	-641.45	0.000000	0.00	0.000
6-10-P	85	110	12.57	3906.02	-13.58	-641.45	0.000000	0.00	0.000
6-11-P	85	110	12.57	3906.02	-13.36	-641.45	0.000000	0.00	0.000
6-12-P	85	110	12.57	3906.02	-9.70	-641.45	0.000000	0.00	0.000
6-13-P	85	110	12.57	3906.02	-4.29	-641.45	0.000000	0.00	0.000
6-14-P	85	110	12.57	3906.02	3.94	-641.45	0.000000	0.00	0.000
6-15-P	85	110	12.57	3906.02	6.47	-641.45	0.000000	0.00	0.000
6-16-P	85	110	12.57	3906.02	6.75	-641.45	0.000000	0.00	0.000
6-17-P	85	110	12.57	3906.02	5.28	-641.45	0.000000	0.00	0.000
6-18-P	85	110	12.57	3906.02	1.47	-641.45	0.000000	0.00	0.000
6-19-P	85	110	12.57	3906.02	-5.14	-641.45	0.000000	0.00	0.000
6-20-P	85	110	12.57	3906.02	-8.03	-641.45	0.000000	0.00	0.000
6-21-P	85	110	12.57	3906.02	-6.02	-641.45	0.000000	0.00	0.000
6-22-P	85	110	12.57	3906.02	-2.89	-641.45	0.000000	0.00	0.000
6-23-P	85	110	12.57	3906.02	4.84	-641.45	0.000000	0.00	0.000
6-24-P	85	110	12.57	1700.00	8.45	641.45	0.000000	0.00	0.000
6-25-P	85	110	12.57	1700.00	10.59	641.45	0.000000	0.00	0.000
6-26-P	85	110	12.57	1700.00	8.45	641.45	0.000000	0.00	0.000
6-27-P	85	110	12.57	3906.02	4.84	-641.45	0.000000	0.00	0.000
6-28-P	85	110	12.57	3906.02	-2.89	-641.45	0.000000	0.00	0.000
6-29-P	85	110	12.57	3906.02	-6.02	-641.45	0.000000	0.00	0.000
6-30-P	85	110	12.57	3906.02	-8.03	-641.45	0.000000	0.00	0.000
6-31-P	85	110	12.57	3906.02	-5.14	-641.45	0.000000	0.00	0.000
6-32-P	85	110	12.57	3906.02	1.47	-641.45	0.000000	0.00	0.000
6-33-P	85	110	12.57	3906.02	5.28	-641.45	0.000000	0.00	0.000
6-34-P	85	110	12.57	3906.02	6.75	-641.45	0.000000	0.00	0.000
6-35-P	85	110	12.57	3906.02	6.47	-641.45	0.000000	0.00	0.000
6-36-P	85	110	12.57	3906.02	3.94	-641.45	0.000000	0.00	0.000
6-37-P	85	110	12.57	3906.02	-4.29	-641.45	0.000000	0.00	0.000
6-38-P	85	110	12.57	3906.02	-9.70	-641.45	0.000000	0.00	0.000

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.16.0.5.007.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.16.0.5.007 A 106 di 119**

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-39-P	85	110	12.57	3906.02	-13.36	-641.45	0.000000	0.00	0.000
6-40-P	85	110	12.57	3906.02	-13.58	-641.45	0.000000	0.00	0.000
6-41-P	85	110	12.57	3906.02	-11.67	-641.45	0.000000	0.00	0.000
6-42-P	85	110	12.57	3906.02	-7.05	-641.45	0.000000	0.00	0.000
6-43-P	85	110	12.57	3906.02	-3.95	-641.45	0.000000	0.00	0.000
6-44-P	85	110	12.57	3906.02	-2.85	-641.45	0.000000	0.00	0.000
6-45-P	85	110	12.57	3906.02	-3.31	-641.45	0.000000	0.00	0.000
6-46-P	85	110	12.57	3906.02	4.09	-641.45	0.000000	0.00	0.000
6-47-P	85	110	12.57	3906.02	3.76	-641.45	0.000000	0.00	0.000
6-48-P	85	110	12.57	3906.02	3.25	-641.45	0.000000	0.00	0.000
6-49-P	85	110	12.57	3906.02	-2.72	-641.45	0.000000	0.00	0.000
7-1-P	85	110	12.57	3906.02	1.46	-641.45	0.000000	0.00	0.000
7-2-P	85	110	12.57	3906.02	2.46	-641.45	0.000000	0.00	0.000
7-3-P	85	110	12.57	3906.02	-6.38	-641.45	0.000000	0.00	0.000
7-4-P	85	110	12.57	3906.02	-14.63	-641.45	0.000000	0.00	0.000
7-5-P	85	110	12.57	3906.02	-21.25	-641.45	0.000000	0.00	0.000
7-6-P	85	110	12.57	3906.02	-26.01	-641.45	0.000000	0.00	0.000
7-7-P	85	110	12.57	3906.02	-15.91	-641.45	0.000000	0.00	0.000
7-8-P	85	110	12.57	3906.02	-7.46	-641.45	0.000000	0.00	0.000
7-9-P	85	110	12.57	3906.02	3.97	-641.45	0.000000	0.00	0.000
7-10-P	85	110	12.57	3906.02	5.89	-641.45	0.000000	0.00	0.000
7-11-P	85	110	12.57	3906.02	7.07	-641.45	0.000000	0.00	0.000
7-12-P	85	110	12.57	3906.02	6.88	-641.45	0.000000	0.00	0.000
7-13-P	85	110	12.57	3906.02	5.22	-641.45	0.000000	0.00	0.000
7-14-P	85	110	12.57	3906.02	-11.18	-641.45	0.000000	0.00	0.000
7-15-P	85	110	12.57	3906.02	-17.58	-641.45	0.000000	0.00	0.000
7-16-P	85	110	12.57	3906.02	-14.78	-641.45	0.000000	0.00	0.000
7-17-P	85	110	12.57	3906.02	-7.38	-641.45	0.000000	0.00	0.000
7-18-P	85	110	12.57	3906.02	5.63	-641.45	0.000000	0.00	0.000
7-19-P	85	110	12.57	1700.00	11.71	641.45	0.000000	0.00	0.000
7-20-P	85	110	12.57	1700.00	13.63	641.45	0.000000	0.00	0.000
7-21-P	85	110	12.57	1700.00	13.02	641.45	0.000000	0.00	0.000
7-22-P	85	110	12.57	1700.00	10.32	641.45	0.000000	0.00	0.000
7-23-P	85	110	12.57	3906.02	5.72	-641.45	0.000000	0.00	0.000
7-24-P	85	110	12.57	3906.02	-9.13	-641.45	0.000000	0.00	0.000
7-25-P	85	110	12.57	3906.02	-18.60	-641.45	0.000000	0.00	0.000
7-26-P	85	110	12.57	3906.02	-9.13	-641.45	0.000000	0.00	0.000
7-27-P	85	110	12.57	3906.02	5.72	-641.45	0.000000	0.00	0.000
7-28-P	85	110	12.57	1700.00	10.32	641.45	0.000000	0.00	0.000
7-29-P	85	110	12.57	1700.00	13.02	641.45	0.000000	0.00	0.000
7-30-P	85	110	12.57	1700.00	13.63	641.45	0.000000	0.00	0.000
7-31-P	85	110	12.57	1700.00	11.71	641.45	0.000000	0.00	0.000
7-32-P	85	110	12.57	3906.02	5.63	-641.45	0.000000	0.00	0.000
7-33-P	85	110	12.57	3906.02	-7.38	-641.45	0.000000	0.00	0.000
7-34-P	85	110	12.57	3906.02	-14.78	-641.45	0.000000	0.00	0.000
7-35-P	85	110	12.57	3906.02	-17.58	-641.45	0.000000	0.00	0.000
7-36-P	85	110	12.57	3906.02	-11.18	-641.45	0.000000	0.00	0.000
7-37-P	85	110	12.57	3906.02	5.22	-641.45	0.000000	0.00	0.000
7-38-P	85	110	12.57	3906.02	6.88	-641.45	0.000000	0.00	0.000
7-39-P	85	110	12.57	3906.02	7.07	-641.45	0.000000	0.00	0.000
7-40-P	85	110	12.57	3906.02	5.89	-641.45	0.000000	0.00	0.000
7-41-P	85	110	12.57	3906.02	3.97	-641.45	0.000000	0.00	0.000
7-42-P	85	110	12.57	3906.02	-7.46	-641.45	0.000000	0.00	0.000
7-43-P	85	110	12.57	3906.02	-15.91	-641.45	0.000000	0.00	0.000
7-44-P	85	110	12.57	3906.02	-26.01	-641.45	0.000000	0.00	0.000
7-45-P	85	110	12.57	3906.02	-21.25	-641.45	0.000000	0.00	0.000
7-46-P	85	110	12.57	3906.02	-14.63	-641.45	0.000000	0.00	0.000
7-47-P	85	110	12.57	3906.02	-6.38	-641.45	0.000000	0.00	0.000
7-48-P	85	110	12.57	3906.02	2.46	-641.45	0.000000	0.00	0.000
7-49-P	85	110	12.57	3906.02	1.46	-641.45	0.000000	0.00	0.000
8-1-P	85	110	15.71	3834.96	0.64	-656.02	0.000000	0.00	0.000
8-2-P	85	110	15.71	3834.96	-3.20	-656.02	0.000000	0.00	0.000
8-3-P	85	110	15.71	3834.96	-9.01	-656.02	0.000000	0.00	0.000
8-4-P	85	110	15.71	3834.96	-18.32	-656.02	0.000000	0.00	0.000
8-5-P	85	110	15.71	3834.96	-36.96	-656.02	0.000000	0.00	0.000
8-6-P	85	110	15.71	3834.96	-50.45	-656.02	0.000000	0.00	0.000
8-7-P	85	110	15.71	3834.96	-25.67	-656.02	0.000000	0.00	0.000
8-8-P	85	110	15.71	3834.96	-10.73	-656.02	0.000000	0.00	0.000
8-9-P	85	110	15.71	3834.96	1.61	-656.02	0.000000	0.00	0.000
8-10-P	85	110	15.71	3834.96	5.32	-656.02	0.000000	0.00	0.000
8-11-P	85	110	15.71	3834.96	6.90	-656.02	0.000000	0.00	0.000
8-12-P	85	110	15.71	3834.96	3.99	-656.02	0.000000	0.00	0.000
8-13-P	85	110	15.71	3834.96	-6.32	-656.02	0.000000	0.00	0.000
8-14-P	85	110	15.71	3834.96	-16.15	-656.02	0.000000	0.00	0.000
8-15-P	85	110	15.71	3834.96	-38.75	-656.02	0.000000	0.00	0.000
8-16-P	85	110	15.71	3834.96	-33.29	-656.02	0.000000	0.00	0.000
8-17-P	85	110	15.71	3834.96	-11.17	-656.02	0.000000	0.00	0.000
8-18-P	85	110	15.71	3834.96	2.85	-656.02	0.000000	0.00	0.000
8-19-P	85	110	15.71	1700.00	9.03	656.02	0.000000	0.00	0.000
8-20-P	85	110	15.71	1700.00	13.46	656.02	0.000000	0.00	0.000
8-21-P	85	110	15.71	1700.00	11.37	656.02	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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 107 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
8-22-P	85	110	15.71	3834.96	6.58	-656.02	0.000000	0.00	0.000
8-23-P	85	110	15.71	3834.96	-5.95	-656.02	0.000000	0.00	0.000
8-24-P	85	110	15.71	3834.96	-20.74	-656.02	0.000000	0.00	0.000
8-25-P	85	110	15.71	3834.96	-44.65	-656.02	0.000000	0.00	0.000
8-26-P	85	110	15.71	3834.96	-20.74	-656.02	0.000000	0.00	0.000
8-27-P	85	110	15.71	3834.96	-5.95	-656.02	0.000000	0.00	0.000
8-28-P	85	110	15.71	3834.96	6.58	-656.02	0.000000	0.00	0.000
8-29-P	85	110	15.71	1700.00	11.37	656.02	0.000000	0.00	0.000
8-30-P	85	110	15.71	1700.00	13.46	656.02	0.000000	0.00	0.000
8-31-P	85	110	15.71	1700.00	9.03	656.02	0.000000	0.00	0.000
8-32-P	85	110	15.71	3834.96	2.85	-656.02	0.000000	0.00	0.000
8-33-P	85	110	15.71	3834.96	-11.17	-656.02	0.000000	0.00	0.000
8-34-P	85	110	15.71	3834.96	-33.29	-656.02	0.000000	0.00	0.000
8-35-P	85	110	15.71	3834.96	-38.75	-656.02	0.000000	0.00	0.000
8-36-P	85	110	15.71	3834.96	-16.15	-656.02	0.000000	0.00	0.000
8-37-P	85	110	15.71	3834.96	-6.32	-656.02	0.000000	0.00	0.000
8-38-P	85	110	15.71	3834.96	3.99	-656.02	0.000000	0.00	0.000
8-39-P	85	110	15.71	3834.96	6.90	-656.02	0.000000	0.00	0.000
8-40-P	85	110	15.71	3834.96	5.32	-656.02	0.000000	0.00	0.000
8-41-P	85	110	15.71	3834.96	1.61	-656.02	0.000000	0.00	0.000
8-42-P	85	110	15.71	3834.96	-10.73	-656.02	0.000000	0.00	0.000
8-43-P	85	110	15.71	3834.96	-25.67	-656.02	0.000000	0.00	0.000
8-44-P	85	110	15.71	3834.96	-50.45	-656.02	0.000000	0.00	0.000
8-45-P	85	110	15.71	3834.96	-36.96	-656.02	0.000000	0.00	0.000
8-46-P	85	110	15.71	3834.96	-18.32	-656.02	0.000000	0.00	0.000
8-47-P	85	110	15.71	3834.96	-9.01	-656.02	0.000000	0.00	0.000
8-48-P	85	110	15.71	3834.96	-3.20	-656.02	0.000000	0.00	0.000
8-49-P	85	110	15.71	3834.96	0.64	-656.02	0.000000	0.00	0.000
9-1-S	100	110	15.71	4573.11	-3.83	-758.93	0.000000	0.00	0.000
9-2-S	100	110	15.71	4573.11	-7.08	-758.93	0.000000	0.00	0.000
9-3-S	100	110	15.71	4573.11	-10.11	-758.93	0.000000	0.00	0.000
9-4-S	100	110	15.71	4573.11	-11.25	-758.93	0.000000	0.00	0.000
9-5-S	100	110	15.71	4573.11	6.83	-758.93	0.000000	0.00	0.000
9-6-S	100	110	15.71	4573.11	22.59	-758.93	0.000000	0.00	0.000
9-7-S	100	110	15.71	2000.00	54.32	758.93	0.000000	0.00	0.000
9-8-S	100	110	15.71	4573.11	-89.33	-758.93	0.000000	0.00	0.000
9-9-S	100	110	15.71	4573.11	-54.88	-758.93	0.000000	0.00	0.000
9-10-S	100	110	15.71	4573.11	-30.10	-758.93	0.000000	0.00	0.000
9-11-S	100	110	15.71	4573.11	-12.39	-758.93	0.000000	0.00	0.000
9-12-S	100	110	15.71	4573.11	9.58	-758.93	0.000000	0.00	0.000
9-13-S	100	110	15.71	4573.11	18.99	-758.93	0.000000	0.00	0.000
9-14-S	100	110	15.71	4573.11	26.12	-758.93	0.000000	0.00	0.000
9-15-S	100	110	15.71	4573.11	29.50	-758.93	0.000000	0.00	0.000
9-16-S	100	110	15.71	4573.11	25.53	-758.93	0.000000	0.00	0.000
9-17-S	100	110	15.71	4573.11	19.37	-758.93	0.000000	0.00	0.000
9-18-S	100	110	15.71	4573.11	10.64	-758.93	0.000000	0.00	0.000
9-19-S	100	110	15.71	4573.11	-7.16	-758.93	0.000000	0.00	0.000
9-20-S	100	110	15.71	4573.11	-4.51	-758.93	0.000000	0.00	0.000
9-21-S	100	110	15.71	4573.11	-2.26	-758.93	0.000000	0.00	0.000
9-22-S	100	110	15.71	4573.11	1.50	-758.93	0.000000	0.00	0.000
10-1-S	100	110	15.71	4573.11	6.51	-758.93	0.000000	0.00	0.000
10-2-S	100	110	15.71	4573.11	10.58	-758.93	0.000000	0.00	0.000
10-3-S	100	110	15.71	4573.11	-9.54	-758.93	0.000000	0.00	0.000
10-4-S	100	110	15.71	4573.11	-43.97	-758.93	0.000000	0.00	0.000
10-5-S	100	110	15.71	4573.11	-41.26	-758.93	0.000000	0.00	0.000
10-6-S	100	110	15.71	4573.11	13.90	-758.93	0.000000	0.00	0.000
10-7-S	100	110	15.71	2000.00	65.52	758.93	0.000000	0.00	0.000
10-8-S	100	110	15.71	4573.11	-48.72	-758.93	0.000000	0.00	0.000
10-9-S	100	110	15.71	4573.11	-38.11	-758.93	0.000000	0.00	0.000
10-10-S	100	110	15.71	4573.11	-25.44	-758.93	0.000000	0.00	0.000
10-11-S	100	110	15.71	4573.11	-13.04	-758.93	0.000000	0.00	0.000
10-12-S	100	110	15.71	4573.11	4.14	-758.93	0.000000	0.00	0.000
10-13-S	100	110	15.71	4573.11	14.14	-758.93	0.000000	0.00	0.000
10-14-S	100	110	15.71	4573.11	24.59	-758.93	0.000000	0.00	0.000
10-15-S	100	110	15.71	4573.11	32.18	-758.93	0.000000	0.00	0.000
10-16-S	100	110	15.71	4573.11	34.70	-758.93	0.000000	0.00	0.000
10-17-S	100	110	15.71	4573.11	34.97	-758.93	0.000000	0.00	0.000
10-18-S	100	110	15.71	4573.11	-8.78	-758.93	0.000000	0.00	0.000
10-19-S	100	110	15.71	4573.11	-32.60	-758.93	0.000000	0.00	0.000
10-20-S	100	110	15.71	4573.11	-20.81	-758.93	0.000000	0.00	0.000
10-21-S	100	110	15.71	4573.11	-10.71	-758.93	0.000000	0.00	0.000
10-22-S	100	110	15.71	4573.11	-1.57	-758.93	0.000000	0.00	0.000
11-1-S	100	110	15.71	4573.11	-5.11	-758.93	0.000000	0.00	0.000
11-2-S	100	110	15.71	4573.11	-4.78	-758.93	0.000000	0.00	0.000
11-3-S	100	110	15.71	4573.11	-2.97	-758.93	0.000000	0.00	0.000
11-4-S	100	110	15.71	2000.00	5.35	758.93	0.000000	0.00	0.000
11-5-S	100	110	15.71	2000.00	16.94	758.93	0.000000	0.00	0.000
11-6-S	100	110	15.71	2000.00	34.44	758.93	0.000000	0.00	0.000
11-7-S	100	110	15.71	2000.00	54.46	758.93	0.000000	0.00	0.000
11-8-S	100	110	15.71	4573.11	43.15	-758.93	0.000000	0.00	0.000
11-9-S	100	110	15.71	4573.11	26.89	-758.93	0.000000	0.00	0.000

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.

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.16.0.5.007.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.007

A

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Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
11-10-S	100	110	15.71	4573.11	-58.72	-758.93	0.000000	0.00	0.000
11-11-S	100	110	15.71	4573.11	-42.35	-758.93	0.000000	0.00	0.000
11-12-S	100	110	15.71	4573.11	-20.82	-758.93	0.000000	0.00	0.000
11-13-S	100	110	15.71	4573.11	3.17	-758.93	0.000000	0.00	0.000
11-14-S	100	110	15.71	4573.11	14.47	-758.93	0.000000	0.00	0.000
11-15-S	100	110	15.71	4573.11	19.84	-758.93	0.000000	0.00	0.000
11-16-S	100	110	15.71	4573.11	19.06	-758.93	0.000000	0.00	0.000
11-17-S	100	110	15.71	4573.11	16.38	-758.93	0.000000	0.00	0.000
11-18-S	100	110	15.71	4573.11	11.32	-758.93	0.000000	0.00	0.000
11-19-S	100	110	15.71	4573.11	6.86	-758.93	0.000000	0.00	0.000
11-20-S	100	110	15.71	4573.11	3.42	-758.93	0.000000	0.00	0.000
11-21-S	100	110	15.71	4573.11	1.49	-758.93	0.000000	0.00	0.000
11-22-S	100	110	15.71	4573.11	0.65	-758.93	0.000000	0.00	0.000
12-1-S	100	110	15.71	4573.11	8.10	-758.93	0.000000	0.00	0.000
12-2-S	100	110	15.71	4573.11	10.95	-758.93	0.000000	0.00	0.000
12-3-S	100	110	15.71	4573.11	-10.27	-758.93	0.000000	0.00	0.000
12-4-S	100	110	15.71	4573.11	-50.53	-758.93	0.000000	0.00	0.000
12-5-S	100	110	15.71	4573.11	-47.00	-758.93	0.000000	0.00	0.000
12-6-S	100	110	15.71	4573.11	9.42	-758.93	0.000000	0.00	0.000
12-7-S	100	110	15.71	2000.00	66.13	758.93	0.000000	0.00	0.000
12-8-S	100	110	15.71	4573.11	-21.34	-758.93	0.000000	0.00	0.000
12-9-S	100	110	15.71	4573.11	-12.02	-758.93	0.000000	0.00	0.000
12-10-S	100	110	15.71	4573.11	-7.41	-758.93	0.000000	0.00	0.000
12-11-S	100	110	15.71	4573.11	-1.74	-758.93	0.000000	0.00	0.000
12-12-S	100	110	15.71	4573.11	6.99	-758.93	0.000000	0.00	0.000
12-13-S	100	110	15.71	4573.11	15.97	-758.93	0.000000	0.00	0.000
12-14-S	100	110	15.71	4573.11	24.44	-758.93	0.000000	0.00	0.000
12-15-S	100	110	15.71	4573.11	32.06	-758.93	0.000000	0.00	0.000
12-16-S	100	110	15.71	4573.11	35.09	-758.93	0.000000	0.00	0.000
12-17-S	100	110	15.71	4573.11	36.26	-758.93	0.000000	0.00	0.000
12-18-S	100	110	15.71	4573.11	-12.62	-758.93	0.000000	0.00	0.000
12-19-S	100	110	15.71	4573.11	-38.84	-758.93	0.000000	0.00	0.000
12-20-S	100	110	15.71	4573.11	-25.02	-758.93	0.000000	0.00	0.000
12-21-S	100	110	15.71	4573.11	-12.91	-758.93	0.000000	0.00	0.000
12-22-S	100	110	15.71	4573.11	-1.83	-758.93	0.000000	0.00	0.000
13-1-S	100	110	15.71	4573.11	-4.56	-758.93	0.000000	0.00	0.000
13-2-S	100	110	15.71	4573.11	-6.72	-758.93	0.000000	0.00	0.000
13-3-S	100	110	15.71	4573.11	-6.86	-758.93	0.000000	0.00	0.000
13-4-S	100	110	15.71	4573.11	4.64	-758.93	0.000000	0.00	0.000
13-5-S	100	110	15.71	2000.00	13.30	758.93	0.000000	0.00	0.000
13-6-S	100	110	15.71	2000.00	31.35	758.93	0.000000	0.00	0.000
13-7-S	100	110	15.71	2000.00	55.25	758.93	0.000000	0.00	0.000
13-8-S	100	110	15.71	4573.11	46.71	-758.93	0.000000	0.00	0.000
13-9-S	100	110	15.71	4573.11	32.37	-758.93	0.000000	0.00	0.000
13-10-S	100	110	15.71	4573.11	-44.72	-758.93	0.000000	0.00	0.000
13-11-S	100	110	15.71	4573.11	-30.80	-758.93	0.000000	0.00	0.000
13-12-S	100	110	15.71	4573.11	-13.11	-758.93	0.000000	0.00	0.000
13-13-S	100	110	15.71	4573.11	5.96	-758.93	0.000000	0.00	0.000
13-14-S	100	110	15.71	4573.11	17.19	-758.93	0.000000	0.00	0.000
13-15-S	100	110	15.71	2000.00	22.13	758.93	0.000000	0.00	0.000
13-16-S	100	110	15.71	4573.11	19.48	-758.93	0.000000	0.00	0.000
13-17-S	100	110	15.71	4573.11	14.75	-758.93	0.000000	0.00	0.000
13-18-S	100	110	15.71	4573.11	10.24	-758.93	0.000000	0.00	0.000
13-19-S	100	110	15.71	4573.11	6.11	-758.93	0.000000	0.00	0.000
13-20-S	100	110	15.71	4573.11	2.40	-758.93	0.000000	0.00	0.000
13-21-S	100	110	15.71	4573.11	0.95	-758.93	0.000000	0.00	0.000
13-22-S	100	110	15.71	4573.11	0.75	-758.93	0.000000	0.00	0.000
14-1-S	100	110	18.85	4504.06	4.55	-773.50	0.000000	0.00	0.000
14-2-S	100	110	18.85	4504.06	-6.93	-773.50	0.000000	0.00	0.000
14-3-S	100	110	18.85	4504.06	-9.97	-773.50	0.000000	0.00	0.000
14-4-S	100	110	18.85	4504.06	-27.54	-773.50	0.000000	0.00	0.000
14-5-S	100	110	18.85	4504.06	-23.80	-773.50	0.000000	0.00	0.000
14-6-S	100	110	18.85	4504.06	19.63	-773.50	0.000000	0.00	0.000
14-7-S	100	110	18.85	2000.00	61.34	773.50	0.000000	0.00	0.000
14-8-S	100	110	18.85	4504.06	11.63	-773.50	0.000000	0.00	0.000
14-9-S	100	110	18.85	4504.06	-9.91	-773.50	0.000000	0.00	0.000
14-10-S	100	110	18.85	4504.06	-12.86	-773.50	0.000000	0.00	0.000
14-11-S	100	110	18.85	4504.06	-7.42	-773.50	0.000000	0.00	0.000
14-12-S	100	110	18.85	4504.06	5.22	-773.50	0.000000	0.00	0.000
14-13-S	100	110	18.85	4504.06	14.27	-773.50	0.000000	0.00	0.000
14-14-S	100	110	18.85	4504.06	22.91	-773.50	0.000000	0.00	0.000
14-15-S	100	110	18.85	2000.00	28.33	773.50	0.000000	0.00	0.000
14-16-S	100	110	18.85	4504.06	27.72	-773.50	0.000000	0.00	0.000
14-17-S	100	110	18.85	4504.06	25.39	-773.50	0.000000	0.00	0.000
14-18-S	100	110	18.85	4504.06	-6.87	-773.50	0.000000	0.00	0.000
14-19-S	100	110	18.85	4504.06	-20.30	-773.50	0.000000	0.00	0.000
14-20-S	100	110	18.85	4504.06	-13.28	-773.50	0.000000	0.00	0.000
14-21-S	100	110	18.85	4504.06	-6.89	-773.50	0.000000	0.00	0.000
14-22-S	100	110	18.85	4504.06	-1.06	-773.50	0.000000	0.00	0.000
15-1-S	100	110	15.71	4573.11	4.55	-758.93	0.000000	0.00	0.000
15-2-S	100	110	15.71	4573.11	-6.93	-758.93	0.000000	0.00	0.000

APPALTATORE:



**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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	109 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
15-3-S	100	110	15.71	4573.11	-9.97	-758.93	0.000000	0.00	0.000
15-4-S	100	110	15.71	4573.11	-27.54	-758.93	0.000000	0.00	0.000
15-5-S	100	110	15.71	4573.11	-23.80	-758.93	0.000000	0.00	0.000
15-6-S	100	110	15.71	4573.11	19.63	-758.93	0.000000	0.00	0.000
15-7-S	100	110	15.71	2000.00	61.34	758.93	0.000000	0.00	0.000
15-8-S	100	110	15.71	4573.11	11.63	-758.93	0.000000	0.00	0.000
15-9-S	100	110	15.71	4573.11	-9.91	-758.93	0.000000	0.00	0.000
15-10-S	100	110	15.71	4573.11	-12.86	-758.93	0.000000	0.00	0.000
15-11-S	100	110	15.71	4573.11	-7.42	-758.93	0.000000	0.00	0.000
15-12-S	100	110	15.71	4573.11	5.22	-758.93	0.000000	0.00	0.000
15-13-S	100	110	15.71	4573.11	14.27	-758.93	0.000000	0.00	0.000
15-14-S	100	110	15.71	4573.11	22.91	-758.93	0.000000	0.00	0.000
15-15-S	100	110	15.71	2000.00	28.33	758.93	0.000000	0.00	0.000
15-16-S	100	110	15.71	4573.11	27.72	-758.93	0.000000	0.00	0.000
15-17-S	100	110	15.71	4573.11	25.39	-758.93	0.000000	0.00	0.000
15-18-S	100	110	15.71	4573.11	-6.87	-758.93	0.000000	0.00	0.000
15-19-S	100	110	15.71	4573.11	-20.30	-758.93	0.000000	0.00	0.000
15-20-S	100	110	15.71	4573.11	-13.28	-758.93	0.000000	0.00	0.000
15-21-S	100	110	15.71	4573.11	-6.89	-758.93	0.000000	0.00	0.000
15-22-S	100	110	15.71	4573.11	-1.06	-758.93	0.000000	0.00	0.000
16-1-S	100	110	15.71	4573.11	-4.56	-758.93	0.000000	0.00	0.000
16-2-S	100	110	15.71	4573.11	-6.72	-758.93	0.000000	0.00	0.000
16-3-S	100	110	15.71	4573.11	-6.86	-758.93	0.000000	0.00	0.000
16-4-S	100	110	15.71	4573.11	4.64	-758.93	0.000000	0.00	0.000
16-5-S	100	110	15.71	2000.00	13.30	758.93	0.000000	0.00	0.000
16-6-S	100	110	15.71	2000.00	31.35	758.93	0.000000	0.00	0.000
16-7-S	100	110	15.71	2000.00	55.25	758.93	0.000000	0.00	0.000
16-8-S	100	110	15.71	4573.11	46.71	-758.93	0.000000	0.00	0.000
16-9-S	100	110	15.71	4573.11	32.37	-758.93	0.000000	0.00	0.000
16-10-S	100	110	15.71	4573.11	-44.72	-758.93	0.000000	0.00	0.000
16-11-S	100	110	15.71	4573.11	-30.80	-758.93	0.000000	0.00	0.000
16-12-S	100	110	15.71	4573.11	-13.11	-758.93	0.000000	0.00	0.000
16-13-S	100	110	15.71	4573.11	5.96	-758.93	0.000000	0.00	0.000
16-14-S	100	110	15.71	4573.11	17.19	-758.93	0.000000	0.00	0.000
16-15-S	100	110	15.71	2000.00	22.13	758.93	0.000000	0.00	0.000
16-16-S	100	110	15.71	4573.11	19.48	-758.93	0.000000	0.00	0.000
16-17-S	100	110	15.71	4573.11	14.75	-758.93	0.000000	0.00	0.000
16-18-S	100	110	15.71	4573.11	10.24	-758.93	0.000000	0.00	0.000
16-19-S	100	110	15.71	4573.11	6.11	-758.93	0.000000	0.00	0.000
16-20-S	100	110	15.71	4573.11	2.40	-758.93	0.000000	0.00	0.000
16-21-S	100	110	15.71	4573.11	0.95	-758.93	0.000000	0.00	0.000
16-22-S	100	110	15.71	4573.11	0.75	-758.93	0.000000	0.00	0.000
17-1-S	100	110	15.71	4573.11	8.10	-758.93	0.000000	0.00	0.000
17-2-S	100	110	15.71	4573.11	10.95	-758.93	0.000000	0.00	0.000
17-3-S	100	110	15.71	4573.11	-10.27	-758.93	0.000000	0.00	0.000
17-4-S	100	110	15.71	4573.11	-50.53	-758.93	0.000000	0.00	0.000
17-5-S	100	110	15.71	4573.11	-47.00	-758.93	0.000000	0.00	0.000
17-6-S	100	110	15.71	4573.11	9.42	-758.93	0.000000	0.00	0.000
17-7-S	100	110	15.71	2000.00	66.13	758.93	0.000000	0.00	0.000
17-8-S	100	110	15.71	4573.11	-21.34	-758.93	0.000000	0.00	0.000
17-9-S	100	110	15.71	4573.11	-12.02	-758.93	0.000000	0.00	0.000
17-10-S	100	110	15.71	4573.11	-7.41	-758.93	0.000000	0.00	0.000
17-11-S	100	110	15.71	4573.11	-1.74	-758.93	0.000000	0.00	0.000
17-12-S	100	110	15.71	4573.11	6.99	-758.93	0.000000	0.00	0.000
17-13-S	100	110	15.71	4573.11	15.97	-758.93	0.000000	0.00	0.000
17-14-S	100	110	15.71	4573.11	24.44	-758.93	0.000000	0.00	0.000
17-15-S	100	110	15.71	4573.11	32.06	-758.93	0.000000	0.00	0.000
17-16-S	100	110	15.71	4573.11	35.09	-758.93	0.000000	0.00	0.000
17-17-S	100	110	15.71	4573.11	36.26	-758.93	0.000000	0.00	0.000
17-18-S	100	110	15.71	4573.11	-12.62	-758.93	0.000000	0.00	0.000
17-19-S	100	110	15.71	4573.11	-38.84	-758.93	0.000000	0.00	0.000
17-20-S	100	110	15.71	4573.11	-25.02	-758.93	0.000000	0.00	0.000
17-21-S	100	110	15.71	4573.11	-12.91	-758.93	0.000000	0.00	0.000
17-22-S	100	110	15.71	4573.11	-1.83	-758.93	0.000000	0.00	0.000
18-1-S	100	110	15.71	4573.11	-5.11	-758.93	0.000000	0.00	0.000
18-2-S	100	110	15.71	4573.11	-4.78	-758.93	0.000000	0.00	0.000
18-3-S	100	110	15.71	4573.11	-2.97	-758.93	0.000000	0.00	0.000
18-4-S	100	110	15.71	2000.00	5.35	758.93	0.000000	0.00	0.000
18-5-S	100	110	15.71	2000.00	16.94	758.93	0.000000	0.00	0.000
18-6-S	100	110	15.71	2000.00	34.44	758.93	0.000000	0.00	0.000
18-7-S	100	110	15.71	2000.00	54.46	758.93	0.000000	0.00	0.000
18-8-S	100	110	15.71	4573.11	43.15	-758.93	0.000000	0.00	0.000
18-9-S	100	110	15.71	4573.11	26.89	-758.93	0.000000	0.00	0.000
18-10-S	100	110	15.71	4573.11	-58.72	-758.93	0.000000	0.00	0.000
18-11-S	100	110	15.71	4573.11	-42.35	-758.93	0.000000	0.00	0.000
18-12-S	100	110	15.71	4573.11	-20.82	-758.93	0.000000	0.00	0.000
18-13-S	100	110	15.71	4573.11	3.17	-758.93	0.000000	0.00	0.000
18-14-S	100	110	15.71	4573.11	14.47	-758.93	0.000000	0.00	0.000
18-15-S	100	110	15.71	4573.11	19.84	-758.93	0.000000	0.00	0.000
18-16-S	100	110	15.71	4573.11	19.06	-758.93	0.000000	0.00	0.000
18-17-S	100	110	15.71	4573.11	16.38	-758.93	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:

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	110 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
18-18-S	100	110	15.71	4573.11	11.32	-758.93	0.000000	0.00	0.000
18-19-S	100	110	15.71	4573.11	6.86	-758.93	0.000000	0.00	0.000
18-20-S	100	110	15.71	4573.11	3.42	-758.93	0.000000	0.00	0.000
18-21-S	100	110	15.71	4573.11	1.49	-758.93	0.000000	0.00	0.000
18-22-S	100	110	15.71	4573.11	0.65	-758.93	0.000000	0.00	0.000
19-1-S	100	110	15.71	4573.11	6.51	-758.93	0.000000	0.00	0.000
19-2-S	100	110	15.71	4573.11	10.58	-758.93	0.000000	0.00	0.000
19-3-S	100	110	15.71	4573.11	-9.54	-758.93	0.000000	0.00	0.000
19-4-S	100	110	15.71	4573.11	-43.97	-758.93	0.000000	0.00	0.000
19-5-S	100	110	15.71	4573.11	-41.26	-758.93	0.000000	0.00	0.000
19-6-S	100	110	15.71	4573.11	13.90	-758.93	0.000000	0.00	0.000
19-7-S	100	110	15.71	2000.00	65.52	758.93	0.000000	0.00	0.000
19-8-S	100	110	15.71	4573.11	-48.72	-758.93	0.000000	0.00	0.000
19-9-S	100	110	15.71	4573.11	-38.11	-758.93	0.000000	0.00	0.000
19-10-S	100	110	15.71	4573.11	-25.44	-758.93	0.000000	0.00	0.000
19-11-S	100	110	15.71	4573.11	-13.04	-758.93	0.000000	0.00	0.000
19-12-S	100	110	15.71	4573.11	4.14	-758.93	0.000000	0.00	0.000
19-13-S	100	110	15.71	4573.11	14.14	-758.93	0.000000	0.00	0.000
19-14-S	100	110	15.71	4573.11	24.59	-758.93	0.000000	0.00	0.000
19-15-S	100	110	15.71	4573.11	32.18	-758.93	0.000000	0.00	0.000
19-16-S	100	110	15.71	4573.11	34.70	-758.93	0.000000	0.00	0.000
19-17-S	100	110	15.71	4573.11	34.97	-758.93	0.000000	0.00	0.000
19-18-S	100	110	15.71	4573.11	-8.78	-758.93	0.000000	0.00	0.000
19-19-S	100	110	15.71	4573.11	-32.60	-758.93	0.000000	0.00	0.000
19-20-S	100	110	15.71	4573.11	-20.81	-758.93	0.000000	0.00	0.000
19-21-S	100	110	15.71	4573.11	-10.71	-758.93	0.000000	0.00	0.000
19-22-S	100	110	15.71	4573.11	-1.57	-758.93	0.000000	0.00	0.000
20-1-S	100	110	15.71	4573.11	-3.83	-758.93	0.000000	0.00	0.000
20-2-S	100	110	15.71	4573.11	-7.08	-758.93	0.000000	0.00	0.000
20-3-S	100	110	15.71	4573.11	-10.11	-758.93	0.000000	0.00	0.000
20-4-S	100	110	15.71	4573.11	-11.25	-758.93	0.000000	0.00	0.000
20-5-S	100	110	15.71	4573.11	6.83	-758.93	0.000000	0.00	0.000
20-6-S	100	110	15.71	4573.11	22.59	-758.93	0.000000	0.00	0.000
20-7-S	100	110	15.71	2000.00	54.32	758.93	0.000000	0.00	0.000
20-8-S	100	110	15.71	4573.11	-89.33	-758.93	0.000000	0.00	0.000
20-9-S	100	110	15.71	4573.11	-54.88	-758.93	0.000000	0.00	0.000
20-10-S	100	110	15.71	4573.11	-30.10	-758.93	0.000000	0.00	0.000
20-11-S	100	110	15.71	4573.11	-12.39	-758.93	0.000000	0.00	0.000
20-12-S	100	110	15.71	4573.11	9.58	-758.93	0.000000	0.00	0.000
20-13-S	100	110	15.71	4573.11	18.99	-758.93	0.000000	0.00	0.000
20-14-S	100	110	15.71	4573.11	26.12	-758.93	0.000000	0.00	0.000
20-15-S	100	110	15.71	4573.11	29.50	-758.93	0.000000	0.00	0.000
20-16-S	100	110	15.71	4573.11	25.53	-758.93	0.000000	0.00	0.000
20-17-S	100	110	15.71	4573.11	19.37	-758.93	0.000000	0.00	0.000
20-18-S	100	110	15.71	4573.11	10.64	-758.93	0.000000	0.00	0.000
20-19-S	100	110	15.71	4573.11	-7.16	-758.93	0.000000	0.00	0.000
20-20-S	100	110	15.71	4573.11	-4.51	-758.93	0.000000	0.00	0.000
20-21-S	100	110	15.71	4573.11	-2.26	-758.93	0.000000	0.00	0.000
20-22-S	100	110	15.71	4573.11	1.50	-758.93	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	25.45	3647.44	209.30	-141.09	240.04	0.000000	0.00	0.00
2	1	34.56	3617.50	232.32	-141.09	434.26	0.000000	0.00	0.00
3	1	34.56	3617.50	245.32	-141.09	628.49	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	0.000025	---	0.000 (7)
2	100	70	0.00	0.00	0.00	0.00	0.000033	---	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	0.000058	---	0.000 (7)



APPALTATORE:

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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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	111 di 119

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6	100	70	0.00	0.00	0.00	0.00	0.000067	---	0.000 (7)
7	100	70	0.00	0.00	0.00	0.00	0.000075	---	0.000 (7)
8	100	70	0.00	0.00	0.00	0.00	0.000083	---	0.000 (7)
9	100	70	0.00	0.00	0.00	0.00	0.000092	---	0.000 (7)
10	100	70	0.00	0.00	0.00	0.00	0.000100	---	0.000 (7)
11	100	70	0.00	0.00	0.00	0.00	0.000109	---	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	0.000125	---	0.000 (7)
14	100	70	0.00	0.00	0.00	0.00	0.000134	---	0.000 (7)
15	100	70	0.00	0.00	0.00	0.00	0.000142	---	0.000 (7)
16	100	70	0.00	0.00	0.00	0.00	0.000151	---	0.000 (7)
17	100	70	0.00	0.00	0.00	0.00	0.000159	---	0.000 (7)
18	100	70	0.00	0.00	0.00	0.00	0.000168	---	0.000 (7)
19	100	70	0.00	0.00	0.00	0.00	0.000176	---	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	0.000193	---	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	0.000218	---	0.000 (7)
25	100	70	0.00	0.00	0.00	0.00	0.000226	---	0.000 (7)
26	100	70	0.00	0.00	0.00	0.00	0.000235	---	0.000 (7)
27	100	70	0.00	0.00	0.00	0.00	0.000243	---	0.000 (7)
28	100	70	0.00	0.00	0.00	0.00	0.000252	---	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	0.000277	---	0.000 (7)
32	100	70	12.72	1840.00	0.03	345.33	0.000000	0.00	0.000 (7)
33	100	70	12.72	1840.00	0.11	345.55	0.000000	0.00	0.000 (7)
34	100	70	12.72	1840.00	0.24	345.76	0.000000	0.00	0.000 (7)
35	100	70	12.72	1840.00	0.45	345.97	0.000000	0.00	0.000 (7)
36	100	70	12.72	1840.00	0.72	346.18	0.000000	0.00	0.000 (7)
37	100	101	12.72	1840.00	9.12	699.24	0.000000	0.00	0.000 (7)
38	100	101	12.72	1840.00	9.57	699.69	0.000000	0.00	0.000 (7)
39	100	101	12.72	1840.00	10.27	700.12	0.000000	0.00	0.000 (7)
40	100	101	12.72	1840.00	11.16	700.55	0.000000	0.00	0.000 (7)
41	100	101	12.72	1840.00	12.18	700.97	0.000000	0.00	0.000 (7)
42	100	101	12.72	1840.00	13.29	701.41	0.000000	0.00	0.000 (7)
43	100	101	12.72	1840.00	14.48	701.84	0.000000	0.00	0.000 (7)
44	100	101	12.72	1840.00	15.77	702.29	0.000000	0.00	0.000 (7)
45	100	101	12.72	1840.00	17.16	702.72	0.000000	0.00	0.000 (7)
46	100	101	12.72	1840.00	18.65	703.14	0.000000	0.00	0.000 (7)
47	100	101	12.72	1840.00	20.26	703.56	0.000000	0.00	0.000 (7)
48	100	101	12.72	1840.00	21.98	704.02	0.000000	0.00	0.000 (7)
49	100	101	12.72	1840.00	23.83	704.44	0.000000	0.00	0.000 (7)
50	100	101	12.72	1840.00	25.80	704.88	0.000000	0.00	0.000 (7)
51	100	101	12.72	1840.00	27.91	705.31	0.000000	0.00	0.000 (7)
52	100	101	12.72	1840.00	30.15	705.75	0.000000	0.00	0.000 (7)
53	100	101	12.72	1840.00	30.20	705.76	0.000000	0.00	0.000 (7)
54	100	101	12.72	1840.00	32.59	706.19	0.000000	0.00	0.000 (7)
55	100	101	12.72	1840.00	35.12	706.62	0.000000	0.00	0.000 (7)
56	100	101	12.72	1840.00	37.81	707.05	0.000000	0.00	0.000 (7)
57	100	101	12.72	1840.00	40.66	707.48	0.000000	0.00	0.000 (7)
58	100	101	12.72	1840.00	43.67	707.93	0.000000	0.00	0.000 (7)

## 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	110	12.57	3141.48	0.90	-535.11	0.000000	0.00	0.000
1-2-P	69	110	12.57	3141.48	-1.52	-535.11	0.000000	0.00	0.000
1-3-P	69	110	12.57	3141.48	-5.80	-535.11	0.000000	0.00	0.000
1-4-P	69	110	12.57	3141.48	-15.34	-535.11	0.000000	0.00	0.000
1-5-P	69	110	12.57	3141.48	-24.61	-535.11	0.000000	0.00	0.000
1-6-P	69	110	12.57	3141.48	-29.38	-535.11	0.000000	0.00	0.000
1-7-P	69	110	12.57	3141.48	-16.46	-535.11	0.000000	0.00	0.000
1-8-P	69	110	12.57	3141.48	-4.66	-535.11	0.000000	0.00	0.000
1-9-P	69	110	12.57	3141.48	9.43	-535.11	0.000000	0.00	0.000
1-10-P	69	110	12.57	3141.48	12.94	-535.11	0.000000	0.00	0.000
1-11-P	69	110	12.57	3141.48	14.01	-535.11	0.000000	0.00	0.000
1-12-P	69	110	12.57	3141.48	11.33	-535.11	0.000000	0.00	0.000
1-13-P	69	110	12.57	3141.48	3.13	-535.11	0.000000	0.00	0.000
1-14-P	69	110	12.57	3141.48	-10.41	-535.11	0.000000	0.00	0.000
1-15-P	69	110	12.57	3141.48	-21.73	-535.11	0.000000	0.00	0.000
1-16-P	69	110	12.57	3141.48	-19.44	-535.11	0.000000	0.00	0.000
1-17-P	69	110	12.57	3141.48	-8.89	-535.11	0.000000	0.00	0.000
1-18-P	69	110	12.57	3141.48	4.76	-535.11	0.000000	0.00	0.000

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**II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO**  
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PROGETTAZIONE:

Mandatario:

Mandante:

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PROGETTO ESECUTIVO

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IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 112 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-19-P	69	110	12.57	3141.48	12.23	-535.11	0.000000	0.00	0.000
1-20-P	69	110	12.57	3141.48	15.22	535.11	0.000000	0.00	0.000
1-21-P	69	110	12.57	3141.48	13.38	-535.11	0.000000	0.00	0.000
1-22-P	69	110	12.57	3141.48	8.76	-535.11	0.000000	0.00	0.000
1-23-P	69	110	12.57	3141.48	-4.68	-535.11	0.000000	0.00	0.000
1-24-P	69	110	12.57	3141.48	-15.06	-535.11	0.000000	0.00	0.000
1-25-P	69	110	12.57	3141.48	-26.35	-535.11	0.000000	0.00	0.000
1-26-P	69	110	12.57	3141.48	-15.06	-535.11	0.000000	0.00	0.000
1-27-P	69	110	12.57	3141.48	-4.68	-535.11	0.000000	0.00	0.000
1-28-P	69	110	12.57	3141.48	8.76	-535.11	0.000000	0.00	0.000
1-29-P	69	110	12.57	3141.48	13.38	-535.11	0.000000	0.00	0.000
1-30-P	69	110	12.57	3141.48	15.22	535.11	0.000000	0.00	0.000
1-31-P	69	110	12.57	3141.48	12.23	-535.11	0.000000	0.00	0.000
1-32-P	69	110	12.57	3141.48	4.76	-535.11	0.000000	0.00	0.000
1-33-P	69	110	12.57	3141.48	-8.89	-535.11	0.000000	0.00	0.000
1-34-P	69	110	12.57	3141.48	-19.44	-535.11	0.000000	0.00	0.000
1-35-P	69	110	12.57	3141.48	-21.73	-535.11	0.000000	0.00	0.000
1-36-P	69	110	12.57	3141.48	-10.41	-535.11	0.000000	0.00	0.000
1-37-P	69	110	12.57	3141.48	3.13	-535.11	0.000000	0.00	0.000
1-38-P	69	110	12.57	3141.48	11.33	-535.11	0.000000	0.00	0.000
1-39-P	69	110	12.57	3141.48	14.01	-535.11	0.000000	0.00	0.000
1-40-P	69	110	12.57	3141.48	12.94	-535.11	0.000000	0.00	0.000
1-41-P	69	110	12.57	3141.48	9.43	-535.11	0.000000	0.00	0.000
1-42-P	69	110	12.57	3141.48	-4.66	-535.11	0.000000	0.00	0.000
1-43-P	69	110	12.57	3141.48	-16.46	-535.11	0.000000	0.00	0.000
1-44-P	69	110	12.57	3141.48	-29.38	-535.11	0.000000	0.00	0.000
1-45-P	69	110	12.57	3141.48	-24.61	-535.11	0.000000	0.00	0.000
1-46-P	69	110	12.57	3141.48	-15.34	-535.11	0.000000	0.00	0.000
1-47-P	69	110	12.57	3141.48	-5.80	-535.11	0.000000	0.00	0.000
1-48-P	69	110	12.57	3141.48	-1.52	-535.11	0.000000	0.00	0.000
1-49-P	69	110	12.57	3141.48	0.90	-535.11	0.000000	0.00	0.000
2-1-P	70	110	12.57	3141.48	4.43	535.11	0.000000	0.00	0.000
2-2-P	70	110	12.57	3141.48	4.78	535.11	0.000000	0.00	0.000
2-3-P	70	110	12.57	3141.48	4.37	-535.11	0.000000	0.00	0.000
2-4-P	70	110	12.57	3141.48	3.82	-535.11	0.000000	0.00	0.000
2-5-P	70	110	12.57	3141.48	-22.23	-535.11	0.000000	0.00	0.000
2-6-P	70	110	12.57	3141.48	-37.90	-535.11	0.000000	0.00	0.000
2-7-P	70	110	12.57	3141.48	-8.74	-535.11	0.000000	0.00	0.000
2-8-P	70	110	12.57	3141.48	8.11	-535.11	0.000000	0.00	0.000
2-9-P	70	110	12.57	3141.48	12.88	535.11	0.000000	0.00	0.000
2-10-P	70	110	12.57	3141.48	14.03	535.11	0.000000	0.00	0.000
2-11-P	70	110	12.57	3141.48	14.40	535.11	0.000000	0.00	0.000
2-12-P	70	110	12.57	3141.48	13.59	535.11	0.000000	0.00	0.000
2-13-P	70	110	12.57	3141.48	9.96	-535.11	0.000000	0.00	0.000
2-14-P	70	110	12.57	3141.48	2.44	-535.11	0.000000	0.00	0.000
2-15-P	70	110	12.57	3141.48	-29.80	-535.11	0.000000	0.00	0.000
2-16-P	70	110	12.57	3141.48	-24.33	-535.11	0.000000	0.00	0.000
2-17-P	70	110	12.57	3141.48	6.95	-535.11	0.000000	0.00	0.000
2-18-P	70	110	12.57	3141.48	10.76	-535.11	0.000000	0.00	0.000
2-19-P	70	110	12.57	3141.48	13.74	535.11	0.000000	0.00	0.000
2-20-P	70	110	12.57	3141.48	14.62	535.11	0.000000	0.00	0.000
2-21-P	70	110	12.57	3141.48	14.06	535.11	0.000000	0.00	0.000
2-22-P	70	110	12.57	3141.48	12.45	535.11	0.000000	0.00	0.000
2-23-P	70	110	12.57	3141.48	8.16	-535.11	0.000000	0.00	0.000
2-24-P	70	110	12.57	3141.48	-13.00	-535.11	0.000000	0.00	0.000
2-25-P	70	110	12.57	3141.48	-41.34	-535.11	0.000000	0.00	0.000
2-26-P	70	110	12.57	3141.48	-13.00	-535.11	0.000000	0.00	0.000
2-27-P	70	110	12.57	3141.48	8.16	-535.11	0.000000	0.00	0.000
2-28-P	70	110	12.57	3141.48	12.45	535.11	0.000000	0.00	0.000
2-29-P	70	110	12.57	3141.48	14.06	535.11	0.000000	0.00	0.000
2-30-P	70	110	12.57	3141.48	14.62	535.11	0.000000	0.00	0.000
2-31-P	70	110	12.57	3141.48	13.74	535.11	0.000000	0.00	0.000
2-32-P	70	110	12.57	3141.48	10.76	-535.11	0.000000	0.00	0.000
2-33-P	70	110	12.57	3141.48	6.95	-535.11	0.000000	0.00	0.000
2-34-P	70	110	12.57	3141.48	-24.33	-535.11	0.000000	0.00	0.000
2-35-P	70	110	12.57	3141.48	-29.80	-535.11	0.000000	0.00	0.000
2-36-P	70	110	12.57	3141.48	2.44	-535.11	0.000000	0.00	0.000
2-37-P	70	110	12.57	3141.48	9.96	-535.11	0.000000	0.00	0.000
2-38-P	70	110	12.57	3141.48	13.59	535.11	0.000000	0.00	0.000
2-39-P	70	110	12.57	3141.48	14.40	535.11	0.000000	0.00	0.000
2-40-P	70	110	12.57	3141.48	14.03	535.11	0.000000	0.00	0.000
2-41-P	70	110	12.57	3141.48	12.88	535.11	0.000000	0.00	0.000
2-42-P	70	110	12.57	3141.48	8.11	-535.11	0.000000	0.00	0.000
2-43-P	70	110	12.57	3141.48	-8.74	-535.11	0.000000	0.00	0.000
2-44-P	70	110	12.57	3141.48	-37.90	-535.11	0.000000	0.00	0.000
2-45-P	70	110	12.57	3141.48	-22.23	-535.11	0.000000	0.00	0.000
2-46-P	70	110	12.57	3141.48	3.82	-535.11	0.000000	0.00	0.000
2-47-P	70	110	12.57	3141.48	4.37	-535.11	0.000000	0.00	0.000
2-48-P	70	110	12.57	3141.48	4.78	535.11	0.000000	0.00	0.000
2-49-P	70	110	12.57	3141.48	4.43	535.11	0.000000	0.00	0.000
5-1-P	85	110	15.71	3834.96	-4.72	-656.02	0.000000	0.00	0.000

APPALTATORE:

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Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 113 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
5-2-P	85	110	15.71	3834.96	-5.69	-656.02	0.000000	0.00	0.000
5-3-P	85	110	15.71	3834.96	-6.39	-656.02	0.000000	0.00	0.000
5-4-P	85	110	15.71	3834.96	-6.47	-656.02	0.000000	0.00	0.000
5-5-P	85	110	15.71	3834.96	-5.61	-656.02	0.000000	0.00	0.000
5-6-P	85	110	15.71	3834.96	-4.63	-656.02	0.000000	0.00	0.000
5-7-P	85	110	15.71	3834.96	4.95	-656.02	0.000000	0.00	0.000
5-8-P	85	110	15.71	3834.96	-5.85	-656.02	0.000000	0.00	0.000
5-9-P	85	110	15.71	3834.96	-9.49	-656.02	0.000000	0.00	0.000
5-10-P	85	110	15.71	3834.96	-32.75	-656.02	0.000000	0.00	0.000
5-11-P	85	110	15.71	3834.96	-37.28	-656.02	0.000000	0.00	0.000
5-12-P	85	110	15.71	3834.96	-6.57	-656.02	0.000000	0.00	0.000
5-13-P	85	110	15.71	3834.96	6.51	-656.02	0.000000	0.00	0.000
5-14-P	85	110	15.71	3834.96	10.34	-656.02	0.000000	0.00	0.000
5-15-P	85	110	15.71	3834.96	10.97	-656.02	0.000000	0.00	0.000
5-16-P	85	110	15.71	3834.96	11.53	-656.02	0.000000	0.00	0.000
5-17-P	85	110	15.71	3834.96	11.96	-656.02	0.000000	0.00	0.000
5-18-P	85	110	15.71	3834.96	8.57	-656.02	0.000000	0.00	0.000
5-19-P	85	110	15.71	3834.96	-9.61	-656.02	0.000000	0.00	0.000
5-20-P	85	110	15.71	3834.96	-39.14	-656.02	0.000000	0.00	0.000
5-21-P	85	110	15.71	3834.96	-20.89	-656.02	0.000000	0.00	0.000
5-22-P	85	110	15.71	3834.96	7.98	-656.02	0.000000	0.00	0.000
5-23-P	85	110	15.71	3834.96	10.96	-656.02	0.000000	0.00	0.000
5-24-P	85	110	15.71	3834.96	12.90	-656.02	0.000000	0.00	0.000
5-25-P	85	110	15.71	1700.00	12.98	656.02	0.000000	0.00	0.000
5-26-P	85	110	15.71	3834.96	12.90	-656.02	0.000000	0.00	0.000
5-27-P	85	110	15.71	3834.96	10.96	-656.02	0.000000	0.00	0.000
5-28-P	85	110	15.71	3834.96	7.98	-656.02	0.000000	0.00	0.000
5-29-P	85	110	15.71	3834.96	-20.89	-656.02	0.000000	0.00	0.000
5-30-P	85	110	15.71	3834.96	-39.14	-656.02	0.000000	0.00	0.000
5-31-P	85	110	15.71	3834.96	-9.61	-656.02	0.000000	0.00	0.000
5-32-P	85	110	15.71	3834.96	8.57	-656.02	0.000000	0.00	0.000
5-33-P	85	110	15.71	3834.96	11.96	-656.02	0.000000	0.00	0.000
5-34-P	85	110	15.71	3834.96	11.53	-656.02	0.000000	0.00	0.000
5-35-P	85	110	15.71	3834.96	10.97	-656.02	0.000000	0.00	0.000
5-36-P	85	110	15.71	3834.96	10.34	-656.02	0.000000	0.00	0.000
5-37-P	85	110	15.71	3834.96	6.51	-656.02	0.000000	0.00	0.000
5-38-P	85	110	15.71	3834.96	-6.57	-656.02	0.000000	0.00	0.000
5-39-P	85	110	15.71	3834.96	-37.28	-656.02	0.000000	0.00	0.000
5-40-P	85	110	15.71	3834.96	-32.75	-656.02	0.000000	0.00	0.000
5-41-P	85	110	15.71	3834.96	-9.49	-656.02	0.000000	0.00	0.000
5-42-P	85	110	15.71	3834.96	-5.85	-656.02	0.000000	0.00	0.000
5-43-P	85	110	15.71	3834.96	4.95	-656.02	0.000000	0.00	0.000
5-44-P	85	110	15.71	3834.96	-4.63	-656.02	0.000000	0.00	0.000
5-45-P	85	110	15.71	3834.96	-5.61	-656.02	0.000000	0.00	0.000
5-46-P	85	110	15.71	3834.96	-6.47	-656.02	0.000000	0.00	0.000
5-47-P	85	110	15.71	3834.96	-6.39	-656.02	0.000000	0.00	0.000
5-48-P	85	110	15.71	3834.96	-5.69	-656.02	0.000000	0.00	0.000
5-49-P	85	110	15.71	3834.96	-4.72	-656.02	0.000000	0.00	0.000
6-1-P	85	110	12.57	3906.02	-2.18	-641.45	0.000000	0.00	0.000
6-2-P	85	110	12.57	3906.02	2.71	-641.45	0.000000	0.00	0.000
6-3-P	85	110	12.57	3906.02	3.22	-641.45	0.000000	0.00	0.000
6-4-P	85	110	12.57	3906.02	-3.61	-641.45	0.000000	0.00	0.000
6-5-P	85	110	12.57	3906.02	-2.90	-641.45	0.000000	0.00	0.000
6-6-P	85	110	12.57	3906.02	-2.32	-641.45	0.000000	0.00	0.000
6-7-P	85	110	12.57	3906.02	-2.93	-641.45	0.000000	0.00	0.000
6-8-P	85	110	12.57	3906.02	-5.62	-641.45	0.000000	0.00	0.000
6-9-P	85	110	12.57	3906.02	-9.78	-641.45	0.000000	0.00	0.000
6-10-P	85	110	12.57	3906.02	-10.68	-641.45	0.000000	0.00	0.000
6-11-P	85	110	12.57	3906.02	-10.33	-641.45	0.000000	0.00	0.000
6-12-P	85	110	12.57	3906.02	-7.79	-641.45	0.000000	0.00	0.000
6-13-P	85	110	12.57	3906.02	-2.99	-641.45	0.000000	0.00	0.000
6-14-P	85	110	12.57	3906.02	5.26	-641.45	0.000000	0.00	0.000
6-15-P	85	110	12.57	1700.00	7.56	641.45	0.000000	0.00	0.000
6-16-P	85	110	12.57	1700.00	7.90	641.45	0.000000	0.00	0.000
6-17-P	85	110	12.57	1700.00	6.80	641.45	0.000000	0.00	0.000
6-18-P	85	110	12.57	3906.02	2.43	-641.45	0.000000	0.00	0.000
6-19-P	85	110	12.57	3906.02	-3.49	-641.45	0.000000	0.00	0.000
6-20-P	85	110	12.57	3906.02	-5.43	-641.45	0.000000	0.00	0.000
6-21-P	85	110	12.57	3906.02	-4.09	-641.45	0.000000	0.00	0.000
6-22-P	85	110	12.57	3906.02	2.84	-641.45	0.000000	0.00	0.000
6-23-P	85	110	12.57	1700.00	6.41	641.45	0.000000	0.00	0.000
6-24-P	85	110	12.57	1700.00	9.67	641.45	0.000000	0.00	0.000
6-25-P	85	110	12.57	1700.00	11.44	641.45	0.000000	0.00	0.000
6-26-P	85	110	12.57	1700.00	9.67	641.45	0.000000	0.00	0.000
6-27-P	85	110	12.57	1700.00	6.41	641.45	0.000000	0.00	0.000
6-28-P	85	110	12.57	3906.02	2.84	-641.45	0.000000	0.00	0.000
6-29-P	85	110	12.57	3906.02	-4.09	-641.45	0.000000	0.00	0.000
6-30-P	85	110	12.57	3906.02	-5.43	-641.45	0.000000	0.00	0.000
6-31-P	85	110	12.57	3906.02	-3.49	-641.45	0.000000	0.00	0.000
6-32-P	85	110	12.57	3906.02	2.43	-641.45	0.000000	0.00	0.000
6-33-P	85	110	12.57	1700.00	6.80	641.45	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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 114 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-34-P	85	110	12.57	1700.00	7.90	641.45	0.000000	0.00	0.000
6-35-P	85	110	12.57	1700.00	7.56	641.45	0.000000	0.00	0.000
6-36-P	85	110	12.57	3906.02	5.26	-641.45	0.000000	0.00	0.000
6-37-P	85	110	12.57	3906.02	-2.99	-641.45	0.000000	0.00	0.000
6-38-P	85	110	12.57	3906.02	-7.79	-641.45	0.000000	0.00	0.000
6-39-P	85	110	12.57	3906.02	-10.33	-641.45	0.000000	0.00	0.000
6-40-P	85	110	12.57	3906.02	-10.68	-641.45	0.000000	0.00	0.000
6-41-P	85	110	12.57	3906.02	-9.78	-641.45	0.000000	0.00	0.000
6-42-P	85	110	12.57	3906.02	-5.62	-641.45	0.000000	0.00	0.000
6-43-P	85	110	12.57	3906.02	-2.93	-641.45	0.000000	0.00	0.000
6-44-P	85	110	12.57	3906.02	-2.32	-641.45	0.000000	0.00	0.000
6-45-P	85	110	12.57	3906.02	-2.90	-641.45	0.000000	0.00	0.000
6-46-P	85	110	12.57	3906.02	-3.61	-641.45	0.000000	0.00	0.000
6-47-P	85	110	12.57	3906.02	3.22	-641.45	0.000000	0.00	0.000
6-48-P	85	110	12.57	3906.02	2.71	-641.45	0.000000	0.00	0.000
6-49-P	85	110	12.57	3906.02	-2.18	-641.45	0.000000	0.00	0.000
7-1-P	85	110	12.57	3906.02	1.49	-641.45	0.000000	0.00	0.000
7-2-P	85	110	12.57	3906.02	-2.35	-641.45	0.000000	0.00	0.000
7-3-P	85	110	12.57	3906.02	-6.91	-641.45	0.000000	0.00	0.000
7-4-P	85	110	12.57	3906.02	-15.13	-641.45	0.000000	0.00	0.000
7-5-P	85	110	12.57	3906.02	-24.72	-641.45	0.000000	0.00	0.000
7-6-P	85	110	12.57	3906.02	-31.01	-641.45	0.000000	0.00	0.000
7-7-P	85	110	12.57	3906.02	-18.18	-641.45	0.000000	0.00	0.000
7-8-P	85	110	12.57	3906.02	-7.72	-641.45	0.000000	0.00	0.000
7-9-P	85	110	12.57	3906.02	3.70	-641.45	0.000000	0.00	0.000
7-10-P	85	110	12.57	1700.00	6.30	641.45	0.000000	0.00	0.000
7-11-P	85	110	12.57	1700.00	7.67	641.45	0.000000	0.00	0.000
7-12-P	85	110	12.57	3906.02	6.87	-641.45	0.000000	0.00	0.000
7-13-P	85	110	12.57	3906.02	-4.79	-641.45	0.000000	0.00	0.000
7-14-P	85	110	12.57	3906.02	-11.18	-641.45	0.000000	0.00	0.000
7-15-P	85	110	12.57	3906.02	-21.24	-641.45	0.000000	0.00	0.000
7-16-P	85	110	12.57	3906.02	-17.94	-641.45	0.000000	0.00	0.000
7-17-P	85	110	12.57	3906.02	-7.05	-641.45	0.000000	0.00	0.000
7-18-P	85	110	12.57	3906.02	5.51	-641.45	0.000000	0.00	0.000
7-19-P	85	110	12.57	1700.00	12.05	641.45	0.000000	0.00	0.000
7-20-P	85	110	12.57	1700.00	14.47	641.45	0.000000	0.00	0.000
7-21-P	85	110	12.57	1700.00	13.56	641.45	0.000000	0.00	0.000
7-22-P	85	110	12.57	1700.00	10.33	641.45	0.000000	0.00	0.000
7-23-P	85	110	12.57	3906.02	4.77	-641.45	0.000000	0.00	0.000
7-24-P	85	110	12.57	3906.02	-11.04	-641.45	0.000000	0.00	0.000
7-25-P	85	110	12.57	3906.02	-22.74	-641.45	0.000000	0.00	0.000
7-26-P	85	110	12.57	3906.02	-11.04	-641.45	0.000000	0.00	0.000
7-27-P	85	110	12.57	3906.02	4.77	-641.45	0.000000	0.00	0.000
7-28-P	85	110	12.57	1700.00	10.33	641.45	0.000000	0.00	0.000
7-29-P	85	110	12.57	1700.00	13.56	641.45	0.000000	0.00	0.000
7-30-P	85	110	12.57	1700.00	14.47	641.45	0.000000	0.00	0.000
7-31-P	85	110	12.57	1700.00	12.05	641.45	0.000000	0.00	0.000
7-32-P	85	110	12.57	3906.02	5.51	-641.45	0.000000	0.00	0.000
7-33-P	85	110	12.57	3906.02	-7.05	-641.45	0.000000	0.00	0.000
7-34-P	85	110	12.57	3906.02	-17.94	-641.45	0.000000	0.00	0.000
7-35-P	85	110	12.57	3906.02	-21.24	-641.45	0.000000	0.00	0.000
7-36-P	85	110	12.57	3906.02	-11.18	-641.45	0.000000	0.00	0.000
7-37-P	85	110	12.57	3906.02	-4.79	-641.45	0.000000	0.00	0.000
7-38-P	85	110	12.57	3906.02	6.87	-641.45	0.000000	0.00	0.000
7-39-P	85	110	12.57	1700.00	7.67	641.45	0.000000	0.00	0.000
7-40-P	85	110	12.57	1700.00	6.30	641.45	0.000000	0.00	0.000
7-41-P	85	110	12.57	3906.02	3.70	-641.45	0.000000	0.00	0.000
7-42-P	85	110	12.57	3906.02	-7.72	-641.45	0.000000	0.00	0.000
7-43-P	85	110	12.57	3906.02	-18.18	-641.45	0.000000	0.00	0.000
7-44-P	85	110	12.57	3906.02	-31.01	-641.45	0.000000	0.00	0.000
7-45-P	85	110	12.57	3906.02	-24.72	-641.45	0.000000	0.00	0.000
7-46-P	85	110	12.57	3906.02	-15.13	-641.45	0.000000	0.00	0.000
7-47-P	85	110	12.57	3906.02	-6.91	-641.45	0.000000	0.00	0.000
7-48-P	85	110	12.57	3906.02	-2.35	-641.45	0.000000	0.00	0.000
7-49-P	85	110	12.57	3906.02	1.49	-641.45	0.000000	0.00	0.000
8-1-P	85	110	15.71	3834.96	0.71	-656.02	0.000000	0.00	0.000
8-2-P	85	110	15.71	3834.96	-3.17	-656.02	0.000000	0.00	0.000
8-3-P	85	110	15.71	3834.96	-9.28	-656.02	0.000000	0.00	0.000
8-4-P	85	110	15.71	3834.96	-19.34	-656.02	0.000000	0.00	0.000
8-5-P	85	110	15.71	3834.96	-39.85	-656.02	0.000000	0.00	0.000
8-6-P	85	110	15.71	3834.96	-53.78	-656.02	0.000000	0.00	0.000
8-7-P	85	110	15.71	3834.96	-27.86	-656.02	0.000000	0.00	0.000
8-8-P	85	110	15.71	3834.96	-10.91	-656.02	0.000000	0.00	0.000
8-9-P	85	110	15.71	3834.96	2.12	-656.02	0.000000	0.00	0.000
8-10-P	85	110	15.71	3834.96	6.39	-656.02	0.000000	0.00	0.000
8-11-P	85	110	15.71	3834.96	8.09	-656.02	0.000000	0.00	0.000
8-12-P	85	110	15.71	3834.96	4.83	-656.02	0.000000	0.00	0.000
8-13-P	85	110	15.71	3834.96	-5.69	-656.02	0.000000	0.00	0.000
8-14-P	85	110	15.71	3834.96	-16.84	-656.02	0.000000	0.00	0.000
8-15-P	85	110	15.71	3834.96	-41.06	-656.02	0.000000	0.00	0.000
8-16-P	85	110	15.71	3834.96	-35.37	-656.02	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:

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	115 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
8-17-P	85	110	15.71	3834.96	-11.17	-656.02	0.000000	0.00	0.000
8-18-P	85	110	15.71	3834.96	2.80	-656.02	0.000000	0.00	0.000
8-19-P	85	110	15.71	1700.00	10.36	656.02	0.000000	0.00	0.000
8-20-P	85	110	15.71	1700.00	14.96	656.02	0.000000	0.00	0.000
8-21-P	85	110	15.71	1700.00	12.78	656.02	0.000000	0.00	0.000
8-22-P	85	110	15.71	3834.96	7.55	-656.02	0.000000	0.00	0.000
8-23-P	85	110	15.71	3834.96	-5.51	-656.02	0.000000	0.00	0.000
8-24-P	85	110	15.71	3834.96	-22.39	-656.02	0.000000	0.00	0.000
8-25-P	85	110	15.71	3834.96	-47.30	-656.02	0.000000	0.00	0.000
8-26-P	85	110	15.71	3834.96	-22.39	-656.02	0.000000	0.00	0.000
8-27-P	85	110	15.71	3834.96	-5.51	-656.02	0.000000	0.00	0.000
8-28-P	85	110	15.71	3834.96	7.55	-656.02	0.000000	0.00	0.000
8-29-P	85	110	15.71	1700.00	12.78	656.02	0.000000	0.00	0.000
8-30-P	85	110	15.71	1700.00	14.96	656.02	0.000000	0.00	0.000
8-31-P	85	110	15.71	1700.00	10.36	656.02	0.000000	0.00	0.000
8-32-P	85	110	15.71	3834.96	2.80	-656.02	0.000000	0.00	0.000
8-33-P	85	110	15.71	3834.96	-11.17	-656.02	0.000000	0.00	0.000
8-34-P	85	110	15.71	3834.96	-35.37	-656.02	0.000000	0.00	0.000
8-35-P	85	110	15.71	3834.96	-41.06	-656.02	0.000000	0.00	0.000
8-36-P	85	110	15.71	3834.96	-16.84	-656.02	0.000000	0.00	0.000
8-37-P	85	110	15.71	3834.96	-5.69	-656.02	0.000000	0.00	0.000
8-38-P	85	110	15.71	3834.96	4.83	-656.02	0.000000	0.00	0.000
8-39-P	85	110	15.71	3834.96	8.09	-656.02	0.000000	0.00	0.000
8-40-P	85	110	15.71	3834.96	6.39	-656.02	0.000000	0.00	0.000
8-41-P	85	110	15.71	3834.96	2.12	-656.02	0.000000	0.00	0.000
8-42-P	85	110	15.71	3834.96	-10.91	-656.02	0.000000	0.00	0.000
8-43-P	85	110	15.71	3834.96	-27.86	-656.02	0.000000	0.00	0.000
8-44-P	85	110	15.71	3834.96	-53.78	-656.02	0.000000	0.00	0.000
8-45-P	85	110	15.71	3834.96	-39.85	-656.02	0.000000	0.00	0.000
8-46-P	85	110	15.71	3834.96	-19.34	-656.02	0.000000	0.00	0.000
8-47-P	85	110	15.71	3834.96	-9.28	-656.02	0.000000	0.00	0.000
8-48-P	85	110	15.71	3834.96	-3.17	-656.02	0.000000	0.00	0.000
8-49-P	85	110	15.71	3834.96	0.71	-656.02	0.000000	0.00	0.000
9-1-S	100	110	15.71	4573.11	-2.85	-758.93	0.000000	0.00	0.000
9-2-S	100	110	15.71	4573.11	-5.44	-758.93	0.000000	0.00	0.000
9-3-S	100	110	15.71	4573.11	-7.75	-758.93	0.000000	0.00	0.000
9-4-S	100	110	15.71	4573.11	-8.24	-758.93	0.000000	0.00	0.000
9-5-S	100	110	15.71	4573.11	7.81	-758.93	0.000000	0.00	0.000
9-6-S	100	110	15.71	4573.11	23.42	-758.93	0.000000	0.00	0.000
9-7-S	100	110	15.71	2000.00	51.12	758.93	0.000000	0.00	0.000
9-8-S	100	110	15.71	4573.11	-70.33	-758.93	0.000000	0.00	0.000
9-9-S	100	110	15.71	4573.11	-39.03	-758.93	0.000000	0.00	0.000
9-10-S	100	110	15.71	4573.11	-17.69	-758.93	0.000000	0.00	0.000
9-11-S	100	110	15.71	4573.11	5.38	-758.93	0.000000	0.00	0.000
9-12-S	100	110	15.71	4573.11	15.78	-758.93	0.000000	0.00	0.000
9-13-S	100	110	15.71	4573.11	23.67	-758.93	0.000000	0.00	0.000
9-14-S	100	110	15.71	4573.11	28.26	-758.93	0.000000	0.00	0.000
9-15-S	100	110	15.71	4573.11	28.93	-758.93	0.000000	0.00	0.000
9-16-S	100	110	15.71	4573.11	22.70	-758.93	0.000000	0.00	0.000
9-17-S	100	110	15.71	4573.11	14.59	-758.93	0.000000	0.00	0.000
9-18-S	100	110	15.71	4573.11	6.69	-758.93	0.000000	0.00	0.000
9-19-S	100	110	15.71	4573.11	-8.66	-758.93	0.000000	0.00	0.000
9-20-S	100	110	15.71	4573.11	-6.04	-758.93	0.000000	0.00	0.000
9-21-S	100	110	15.71	4573.11	-3.06	-758.93	0.000000	0.00	0.000
9-22-S	100	110	15.71	4573.11	0.73	-758.93	0.000000	0.00	0.000
10-1-S	100	110	15.71	4573.11	4.85	-758.93	0.000000	0.00	0.000
10-2-S	100	110	15.71	4573.11	7.37	-758.93	0.000000	0.00	0.000
10-3-S	100	110	15.71	4573.11	-7.51	-758.93	0.000000	0.00	0.000
10-4-S	100	110	15.71	4573.11	-36.13	-758.93	0.000000	0.00	0.000
10-5-S	100	110	15.71	4573.11	-30.54	-758.93	0.000000	0.00	0.000
10-6-S	100	110	15.71	4573.11	16.33	-758.93	0.000000	0.00	0.000
10-7-S	100	110	15.71	2000.00	65.30	758.93	0.000000	0.00	0.000
10-8-S	100	110	15.71	4573.11	-32.55	-758.93	0.000000	0.00	0.000
10-9-S	100	110	15.71	4573.11	-24.06	-758.93	0.000000	0.00	0.000
10-10-S	100	110	15.71	4573.11	-13.65	-758.93	0.000000	0.00	0.000
10-11-S	100	110	15.71	4573.11	-5.04	-758.93	0.000000	0.00	0.000
10-12-S	100	110	15.71	4573.11	9.40	-758.93	0.000000	0.00	0.000
10-13-S	100	110	15.71	4573.11	19.67	-758.93	0.000000	0.00	0.000
10-14-S	100	110	15.71	4573.11	27.06	-758.93	0.000000	0.00	0.000
10-15-S	100	110	15.71	4573.11	30.97	-758.93	0.000000	0.00	0.000
10-16-S	100	110	15.71	4573.11	28.85	-758.93	0.000000	0.00	0.000
10-17-S	100	110	15.71	4573.11	24.35	-758.93	0.000000	0.00	0.000
10-18-S	100	110	15.71	4573.11	-16.71	-758.93	0.000000	0.00	0.000
10-19-S	100	110	15.71	4573.11	-37.92	-758.93	0.000000	0.00	0.000
10-20-S	100	110	15.71	4573.11	-20.32	-758.93	0.000000	0.00	0.000
10-21-S	100	110	15.71	4573.11	-8.57	-758.93	0.000000	0.00	0.000
10-22-S	100	110	15.71	4573.11	0.59	-758.93	0.000000	0.00	0.000
11-1-S	100	110	15.71	4573.11	-3.98	-758.93	0.000000	0.00	0.000
11-2-S	100	110	15.71	4573.11	-3.27	-758.93	0.000000	0.00	0.000
11-3-S	100	110	15.71	4573.11	-1.68	-758.93	0.000000	0.00	0.000
11-4-S	100	110	15.71	2000.00	6.16	758.93	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:

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	116 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
11-5-S	100	110	15.71	2000.00	17.29	758.93	0.000000	0.00	0.000
11-6-S	100	110	15.71	2000.00	32.76	758.93	0.000000	0.00	0.000
11-7-S	100	110	15.71	2000.00	49.82	758.93	0.000000	0.00	0.000
11-8-S	100	110	15.71	4573.11	44.93	-758.93	0.000000	0.00	0.000
11-9-S	100	110	15.71	4573.11	22.75	-758.93	0.000000	0.00	0.000
11-10-S	100	110	15.71	4573.11	-47.46	-758.93	0.000000	0.00	0.000
11-11-S	100	110	15.71	4573.11	-28.00	-758.93	0.000000	0.00	0.000
11-12-S	100	110	15.71	4573.11	-6.34	-758.93	0.000000	0.00	0.000
11-13-S	100	110	15.71	4573.11	11.21	-758.93	0.000000	0.00	0.000
11-14-S	100	110	15.71	4573.11	19.97	-758.93	0.000000	0.00	0.000
11-15-S	100	110	15.71	4573.11	21.81	-758.93	0.000000	0.00	0.000
11-16-S	100	110	15.71	4573.11	18.52	-758.93	0.000000	0.00	0.000
11-17-S	100	110	15.71	4573.11	13.71	-758.93	0.000000	0.00	0.000
11-18-S	100	110	15.71	4573.11	8.23	-758.93	0.000000	0.00	0.000
11-19-S	100	110	15.71	4573.11	3.79	-758.93	0.000000	0.00	0.000
11-20-S	100	110	15.71	4573.11	1.20	-758.93	0.000000	0.00	0.000
11-21-S	100	110	15.71	4573.11	-0.85	-758.93	0.000000	0.00	0.000
11-22-S	100	110	15.71	4573.11	-0.84	-758.93	0.000000	0.00	0.000
12-1-S	100	110	15.71	4573.11	6.14	-758.93	0.000000	0.00	0.000
12-2-S	100	110	15.71	4573.11	7.40	-758.93	0.000000	0.00	0.000
12-3-S	100	110	15.71	4573.11	-8.50	-758.93	0.000000	0.00	0.000
12-4-S	100	110	15.71	4573.11	-41.87	-758.93	0.000000	0.00	0.000
12-5-S	100	110	15.71	4573.11	-34.45	-758.93	0.000000	0.00	0.000
12-6-S	100	110	15.71	4573.11	13.49	-758.93	0.000000	0.00	0.000
12-7-S	100	110	15.71	2000.00	66.78	758.93	0.000000	0.00	0.000
12-8-S	100	110	15.71	4573.11	-6.06	-758.93	0.000000	0.00	0.000
12-9-S	100	110	15.71	4573.11	3.10	-758.93	0.000000	0.00	0.000
12-10-S	100	110	15.71	4573.11	5.20	-758.93	0.000000	0.00	0.000
12-11-S	100	110	15.71	2000.00	9.69	758.93	0.000000	0.00	0.000
12-12-S	100	110	15.71	4573.11	14.94	-758.93	0.000000	0.00	0.000
12-13-S	100	110	15.71	4573.11	21.57	-758.93	0.000000	0.00	0.000
12-14-S	100	110	15.71	4573.11	26.91	-758.93	0.000000	0.00	0.000
12-15-S	100	110	15.71	4573.11	30.82	-758.93	0.000000	0.00	0.000
12-16-S	100	110	15.71	4573.11	28.94	-758.93	0.000000	0.00	0.000
12-17-S	100	110	15.71	4573.11	25.07	-758.93	0.000000	0.00	0.000
12-18-S	100	110	15.71	4573.11	-21.25	-758.93	0.000000	0.00	0.000
12-19-S	100	110	15.71	4573.11	-45.23	-758.93	0.000000	0.00	0.000
12-20-S	100	110	15.71	4573.11	-24.18	-758.93	0.000000	0.00	0.000
12-21-S	100	110	15.71	4573.11	-10.14	-758.93	0.000000	0.00	0.000
12-22-S	100	110	15.71	4573.11	0.85	-758.93	0.000000	0.00	0.000
13-1-S	100	110	15.71	4573.11	-3.48	-758.93	0.000000	0.00	0.000
13-2-S	100	110	15.71	4573.11	-4.86	-758.93	0.000000	0.00	0.000
13-3-S	100	110	15.71	4573.11	-4.91	-758.93	0.000000	0.00	0.000
13-4-S	100	110	15.71	4573.11	4.96	-758.93	0.000000	0.00	0.000
13-5-S	100	110	15.71	2000.00	14.14	758.93	0.000000	0.00	0.000
13-6-S	100	110	15.71	2000.00	30.18	758.93	0.000000	0.00	0.000
13-7-S	100	110	15.71	2000.00	50.93	758.93	0.000000	0.00	0.000
13-8-S	100	110	15.71	4573.11	47.99	-758.93	0.000000	0.00	0.000
13-9-S	100	110	15.71	4573.11	28.52	-758.93	0.000000	0.00	0.000
13-10-S	100	110	15.71	4573.11	-34.66	-758.93	0.000000	0.00	0.000
13-11-S	100	110	15.71	4573.11	-18.99	-758.93	0.000000	0.00	0.000
13-12-S	100	110	15.71	4573.11	3.50	-758.93	0.000000	0.00	0.000
13-13-S	100	110	15.71	4573.11	15.01	-758.93	0.000000	0.00	0.000
13-14-S	100	110	15.71	2000.00	22.50	758.93	0.000000	0.00	0.000
13-15-S	100	110	15.71	2000.00	23.91	758.93	0.000000	0.00	0.000
13-16-S	100	110	15.71	4573.11	18.73	-758.93	0.000000	0.00	0.000
13-17-S	100	110	15.71	4573.11	11.94	-758.93	0.000000	0.00	0.000
13-18-S	100	110	15.71	4573.11	6.95	-758.93	0.000000	0.00	0.000
13-19-S	100	110	15.71	4573.11	3.16	-758.93	0.000000	0.00	0.000
13-20-S	100	110	15.71	4573.11	-2.50	-758.93	0.000000	0.00	0.000
13-21-S	100	110	15.71	4573.11	-1.73	-758.93	0.000000	0.00	0.000
13-22-S	100	110	15.71	4573.11	-0.58	-758.93	0.000000	0.00	0.000
14-1-S	100	110	18.85	4504.06	3.44	-773.50	0.000000	0.00	0.000
14-2-S	100	110	18.85	4504.06	-5.27	-773.50	0.000000	0.00	0.000
14-3-S	100	110	18.85	4504.06	-7.61	-773.50	0.000000	0.00	0.000
14-4-S	100	110	18.85	4504.06	-22.08	-773.50	0.000000	0.00	0.000
14-5-S	100	110	18.85	4504.06	-17.35	-773.50	0.000000	0.00	0.000
14-6-S	100	110	18.85	4504.06	21.10	-773.50	0.000000	0.00	0.000
14-7-S	100	110	18.85	2000.00	59.44	773.50	0.000000	0.00	0.000
14-8-S	100	110	18.85	4504.06	15.79	-773.50	0.000000	0.00	0.000
14-9-S	100	110	18.85	4504.06	8.74	-773.50	0.000000	0.00	0.000
14-10-S	100	110	18.85	4504.06	-5.84	-773.50	0.000000	0.00	0.000
14-11-S	100	110	18.85	4504.06	7.83	-773.50	0.000000	0.00	0.000
14-12-S	100	110	18.85	4504.06	11.73	-773.50	0.000000	0.00	0.000
14-13-S	100	110	18.85	4504.06	20.69	-773.50	0.000000	0.00	0.000
14-14-S	100	110	18.85	2000.00	26.42	773.50	0.000000	0.00	0.000
14-15-S	100	110	18.85	2000.00	28.42	773.50	0.000000	0.00	0.000
14-16-S	100	110	18.85	4504.06	24.13	-773.50	0.000000	0.00	0.000
14-17-S	100	110	18.85	4504.06	18.32	-773.50	0.000000	0.00	0.000
14-18-S	100	110	18.85	4504.06	-11.14	-773.50	0.000000	0.00	0.000
14-19-S	100	110	18.85	4504.06	-23.92	-773.50	0.000000	0.00	0.000

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.16.0.5.007.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.007	A	117 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
14-20-S	100	110	18.85	4504.06	-13.60	-773.50	0.000000	0.00	0.000
14-21-S	100	110	18.85	4504.06	-6.20	-773.50	0.000000	0.00	0.000
14-22-S	100	110	18.85	4504.06	0.59	-773.50	0.000000	0.00	0.000
15-1-S	100	110	15.71	4573.11	3.44	-758.93	0.000000	0.00	0.000
15-2-S	100	110	15.71	4573.11	-5.27	-758.93	0.000000	0.00	0.000
15-3-S	100	110	15.71	4573.11	-7.61	-758.93	0.000000	0.00	0.000
15-4-S	100	110	15.71	4573.11	-22.08	-758.93	0.000000	0.00	0.000
15-5-S	100	110	15.71	4573.11	-17.35	-758.93	0.000000	0.00	0.000
15-6-S	100	110	15.71	4573.11	21.10	-758.93	0.000000	0.00	0.000
15-7-S	100	110	15.71	2000.00	59.44	758.93	0.000000	0.00	0.000
15-8-S	100	110	15.71	4573.11	15.79	-758.93	0.000000	0.00	0.000
15-9-S	100	110	15.71	4573.11	8.74	-758.93	0.000000	0.00	0.000
15-10-S	100	110	15.71	4573.11	-5.84	-758.93	0.000000	0.00	0.000
15-11-S	100	110	15.71	4573.11	7.83	-758.93	0.000000	0.00	0.000
15-12-S	100	110	15.71	4573.11	11.73	-758.93	0.000000	0.00	0.000
15-13-S	100	110	15.71	4573.11	20.69	-758.93	0.000000	0.00	0.000
15-14-S	100	110	15.71	2000.00	26.42	758.93	0.000000	0.00	0.000
15-15-S	100	110	15.71	2000.00	28.42	758.93	0.000000	0.00	0.000
15-16-S	100	110	15.71	4573.11	24.13	-758.93	0.000000	0.00	0.000
15-17-S	100	110	15.71	4573.11	18.32	-758.93	0.000000	0.00	0.000
15-18-S	100	110	15.71	4573.11	-11.14	-758.93	0.000000	0.00	0.000
15-19-S	100	110	15.71	4573.11	-23.92	-758.93	0.000000	0.00	0.000
15-20-S	100	110	15.71	4573.11	-13.60	-758.93	0.000000	0.00	0.000
15-21-S	100	110	15.71	4573.11	-6.20	-758.93	0.000000	0.00	0.000
15-22-S	100	110	15.71	4573.11	0.59	-758.93	0.000000	0.00	0.000
16-1-S	100	110	15.71	4573.11	-3.48	-758.93	0.000000	0.00	0.000
16-2-S	100	110	15.71	4573.11	-4.86	-758.93	0.000000	0.00	0.000
16-3-S	100	110	15.71	4573.11	-4.91	-758.93	0.000000	0.00	0.000
16-4-S	100	110	15.71	4573.11	4.96	-758.93	0.000000	0.00	0.000
16-5-S	100	110	15.71	2000.00	14.14	758.93	0.000000	0.00	0.000
16-6-S	100	110	15.71	2000.00	30.18	758.93	0.000000	0.00	0.000
16-7-S	100	110	15.71	2000.00	50.93	758.93	0.000000	0.00	0.000
16-8-S	100	110	15.71	4573.11	47.99	-758.93	0.000000	0.00	0.000
16-9-S	100	110	15.71	4573.11	28.52	-758.93	0.000000	0.00	0.000
16-10-S	100	110	15.71	4573.11	-34.66	-758.93	0.000000	0.00	0.000
16-11-S	100	110	15.71	4573.11	-18.99	-758.93	0.000000	0.00	0.000
16-12-S	100	110	15.71	4573.11	3.50	-758.93	0.000000	0.00	0.000
16-13-S	100	110	15.71	4573.11	15.01	-758.93	0.000000	0.00	0.000
16-14-S	100	110	15.71	2000.00	22.50	758.93	0.000000	0.00	0.000
16-15-S	100	110	15.71	2000.00	23.91	758.93	0.000000	0.00	0.000
16-16-S	100	110	15.71	4573.11	18.73	-758.93	0.000000	0.00	0.000
16-17-S	100	110	15.71	4573.11	11.94	-758.93	0.000000	0.00	0.000
16-18-S	100	110	15.71	4573.11	6.95	-758.93	0.000000	0.00	0.000
16-19-S	100	110	15.71	4573.11	3.16	-758.93	0.000000	0.00	0.000
16-20-S	100	110	15.71	4573.11	-2.50	-758.93	0.000000	0.00	0.000
16-21-S	100	110	15.71	4573.11	-1.73	-758.93	0.000000	0.00	0.000
16-22-S	100	110	15.71	4573.11	-0.58	-758.93	0.000000	0.00	0.000
17-1-S	100	110	15.71	4573.11	6.14	-758.93	0.000000	0.00	0.000
17-2-S	100	110	15.71	4573.11	7.40	-758.93	0.000000	0.00	0.000
17-3-S	100	110	15.71	4573.11	-8.50	-758.93	0.000000	0.00	0.000
17-4-S	100	110	15.71	4573.11	-41.87	-758.93	0.000000	0.00	0.000
17-5-S	100	110	15.71	4573.11	-34.45	-758.93	0.000000	0.00	0.000
17-6-S	100	110	15.71	4573.11	13.49	-758.93	0.000000	0.00	0.000
17-7-S	100	110	15.71	2000.00	66.78	758.93	0.000000	0.00	0.000
17-8-S	100	110	15.71	4573.11	-6.06	-758.93	0.000000	0.00	0.000
17-9-S	100	110	15.71	4573.11	3.10	-758.93	0.000000	0.00	0.000
17-10-S	100	110	15.71	4573.11	5.20	-758.93	0.000000	0.00	0.000
17-11-S	100	110	15.71	2000.00	9.69	758.93	0.000000	0.00	0.000
17-12-S	100	110	15.71	4573.11	14.94	-758.93	0.000000	0.00	0.000
17-13-S	100	110	15.71	4573.11	21.57	-758.93	0.000000	0.00	0.000
17-14-S	100	110	15.71	4573.11	26.91	-758.93	0.000000	0.00	0.000
17-15-S	100	110	15.71	4573.11	30.82	-758.93	0.000000	0.00	0.000
17-16-S	100	110	15.71	4573.11	28.94	-758.93	0.000000	0.00	0.000
17-17-S	100	110	15.71	4573.11	25.07	-758.93	0.000000	0.00	0.000
17-18-S	100	110	15.71	4573.11	-21.25	-758.93	0.000000	0.00	0.000
17-19-S	100	110	15.71	4573.11	-45.23	-758.93	0.000000	0.00	0.000
17-20-S	100	110	15.71	4573.11	-24.18	-758.93	0.000000	0.00	0.000
17-21-S	100	110	15.71	4573.11	-10.14	-758.93	0.000000	0.00	0.000
17-22-S	100	110	15.71	4573.11	0.85	-758.93	0.000000	0.00	0.000
18-1-S	100	110	15.71	4573.11	-3.98	-758.93	0.000000	0.00	0.000
18-2-S	100	110	15.71	4573.11	-3.27	-758.93	0.000000	0.00	0.000
18-3-S	100	110	15.71	4573.11	-1.68	-758.93	0.000000	0.00	0.000
18-4-S	100	110	15.71	2000.00	6.16	758.93	0.000000	0.00	0.000
18-5-S	100	110	15.71	2000.00	17.29	758.93	0.000000	0.00	0.000
18-6-S	100	110	15.71	2000.00	32.76	758.93	0.000000	0.00	0.000
18-7-S	100	110	15.71	2000.00	49.82	758.93	0.000000	0.00	0.000
18-8-S	100	110	15.71	4573.11	44.93	-758.93	0.000000	0.00	0.000
18-9-S	100	110	15.71	4573.11	22.75	-758.93	0.000000	0.00	0.000
18-10-S	100	110	15.71	4573.11	-47.46	-758.93	0.000000	0.00	0.000
18-11-S	100	110	15.71	4573.11	-28.00	-758.93	0.000000	0.00	0.000
18-12-S	100	110	15.71	4573.11	-6.34	-758.93	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:

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.16.0.5.007.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.007 A 118 di 119

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
18-13-S	100	110	15.71	4573.11	11.21	-758.93	0.000000	0.00	0.000
18-14-S	100	110	15.71	4573.11	19.97	-758.93	0.000000	0.00	0.000
18-15-S	100	110	15.71	4573.11	21.81	-758.93	0.000000	0.00	0.000
18-16-S	100	110	15.71	4573.11	18.52	-758.93	0.000000	0.00	0.000
18-17-S	100	110	15.71	4573.11	13.71	-758.93	0.000000	0.00	0.000
18-18-S	100	110	15.71	4573.11	8.23	-758.93	0.000000	0.00	0.000
18-19-S	100	110	15.71	4573.11	3.79	-758.93	0.000000	0.00	0.000
18-20-S	100	110	15.71	4573.11	1.20	-758.93	0.000000	0.00	0.000
18-21-S	100	110	15.71	4573.11	-0.85	-758.93	0.000000	0.00	0.000
18-22-S	100	110	15.71	4573.11	-0.84	-758.93	0.000000	0.00	0.000
19-1-S	100	110	15.71	4573.11	4.85	-758.93	0.000000	0.00	0.000
19-2-S	100	110	15.71	4573.11	7.37	-758.93	0.000000	0.00	0.000
19-3-S	100	110	15.71	4573.11	-7.51	-758.93	0.000000	0.00	0.000
19-4-S	100	110	15.71	4573.11	-36.13	-758.93	0.000000	0.00	0.000
19-5-S	100	110	15.71	4573.11	-30.54	-758.93	0.000000	0.00	0.000
19-6-S	100	110	15.71	4573.11	16.33	-758.93	0.000000	0.00	0.000
19-7-S	100	110	15.71	2000.00	65.30	758.93	0.000000	0.00	0.000
19-8-S	100	110	15.71	4573.11	-32.55	-758.93	0.000000	0.00	0.000
19-9-S	100	110	15.71	4573.11	-24.06	-758.93	0.000000	0.00	0.000
19-10-S	100	110	15.71	4573.11	-13.65	-758.93	0.000000	0.00	0.000
19-11-S	100	110	15.71	4573.11	-5.04	-758.93	0.000000	0.00	0.000
19-12-S	100	110	15.71	4573.11	9.40	-758.93	0.000000	0.00	0.000
19-13-S	100	110	15.71	4573.11	19.67	-758.93	0.000000	0.00	0.000
19-14-S	100	110	15.71	4573.11	27.06	-758.93	0.000000	0.00	0.000
19-15-S	100	110	15.71	4573.11	30.97	-758.93	0.000000	0.00	0.000
19-16-S	100	110	15.71	4573.11	28.85	-758.93	0.000000	0.00	0.000
19-17-S	100	110	15.71	4573.11	24.35	-758.93	0.000000	0.00	0.000
19-18-S	100	110	15.71	4573.11	-16.71	-758.93	0.000000	0.00	0.000
19-19-S	100	110	15.71	4573.11	-37.92	-758.93	0.000000	0.00	0.000
19-20-S	100	110	15.71	4573.11	-20.32	-758.93	0.000000	0.00	0.000
19-21-S	100	110	15.71	4573.11	-8.57	-758.93	0.000000	0.00	0.000
19-22-S	100	110	15.71	4573.11	0.59	-758.93	0.000000	0.00	0.000
20-1-S	100	110	15.71	4573.11	-2.85	-758.93	0.000000	0.00	0.000
20-2-S	100	110	15.71	4573.11	-5.44	-758.93	0.000000	0.00	0.000
20-3-S	100	110	15.71	4573.11	-7.75	-758.93	0.000000	0.00	0.000
20-4-S	100	110	15.71	4573.11	-8.24	-758.93	0.000000	0.00	0.000
20-5-S	100	110	15.71	4573.11	7.81	-758.93	0.000000	0.00	0.000
20-6-S	100	110	15.71	4573.11	23.42	-758.93	0.000000	0.00	0.000
20-7-S	100	110	15.71	2000.00	51.12	758.93	0.000000	0.00	0.000
20-8-S	100	110	15.71	4573.11	-70.33	-758.93	0.000000	0.00	0.000
20-9-S	100	110	15.71	4573.11	-39.03	-758.93	0.000000	0.00	0.000
20-10-S	100	110	15.71	4573.11	-17.69	-758.93	0.000000	0.00	0.000
20-11-S	100	110	15.71	4573.11	5.38	-758.93	0.000000	0.00	0.000
20-12-S	100	110	15.71	4573.11	15.78	-758.93	0.000000	0.00	0.000
20-13-S	100	110	15.71	4573.11	23.67	-758.93	0.000000	0.00	0.000
20-14-S	100	110	15.71	4573.11	28.26	-758.93	0.000000	0.00	0.000
20-15-S	100	110	15.71	4573.11	28.93	-758.93	0.000000	0.00	0.000
20-16-S	100	110	15.71	4573.11	22.70	-758.93	0.000000	0.00	0.000
20-17-S	100	110	15.71	4573.11	14.59	-758.93	0.000000	0.00	0.000
20-18-S	100	110	15.71	4573.11	6.69	-758.93	0.000000	0.00	0.000
20-19-S	100	110	15.71	4573.11	-8.66	-758.93	0.000000	0.00	0.000
20-20-S	100	110	15.71	4573.11	-6.04	-758.93	0.000000	0.00	0.000
20-21-S	100	110	15.71	4573.11	-3.06	-758.93	0.000000	0.00	0.000
20-22-S	100	110	15.71	4573.11	0.73	-758.93	0.000000	0.00	0.000

Pali in c.a.

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

Ip	Is	Af [cmq]	Aeff [cmq]	Mpf [kNm]	M [kNm]	N [kN]	ε [%]	Sm [mm]	wm [mm]
1	1	25.45	3647.44	209.30	-141.09	240.04	0.000000	0.00	0.00
2	1	34.56	3617.50	232.32	-141.09	434.26	0.000000	0.00	0.00
3	1	34.56	3617.50	245.32	-141.09	628.49	0.000000	0.00	0.00