

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 2

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

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

IF2R 22 E ZZ CL TR1605 004 A

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

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PROGETTAZIONE: Mandatario:      Mandante: <b>SYSTRA S.A.      SWS Engineering S.p.A.      SYSTRA-SOTECNI S.p.A.</b>	<b>PROGETTO ESECUTIVO</b>												
Relazione di calcolo muro <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX</b>	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.004</td> <td>A</td> <td>1 di 123</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	1 di 123
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**1 ALLEGATO DI CALCOLO – MURO TIPO 2 HPARAMENTO = 7,35 M: ..... 2**

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## 1 ALLEGATO DI CALCOLO – MURO TIPO 2 $H_{PARAMENTO} = 7,35 M$ :

### 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 7.35 [m]  
Altezza paramento libero 6.50 [m]

## Geometria gradoni

### Simbologia adottata

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

n°	X [m]	Bs [m]	Bi [m]	H [m]	Ae [°]	Ai [°]
1	0.00	0.70	0.70	4.00	0.00	0.00
2	0.50	1.20	1.20	3.35	0.00	0.00

### Fondazione

Materiale C28/35  
Lunghezza mensola di valle 1.50 [m]  
Lunghezza mensola di monte 3.70 [m]  
Lunghezza totale 6.40 [m]  
Inclinazione piano di posa 0.00 [°]  
Spessore 1.30 [m]  
Spessore magrone 0.20 [m]

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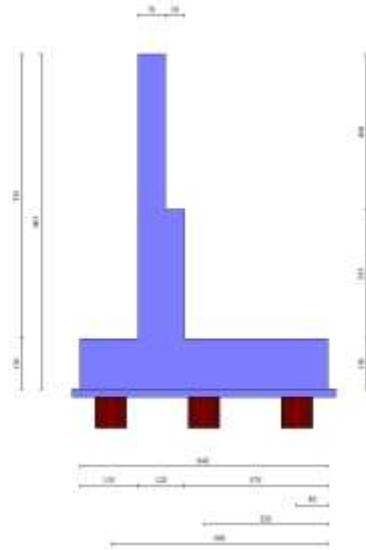


Fig. 1 - Sezione quotata del muro

### 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	14.00	0.00	Centrati
2	Tipologia palo	3.20	2.40	0.80	5	80.00	14.00	0.00	Centrati
3	Tipologia palo	5.60	2.40	0.80	5	80.00	14.00	0.00	Centrati

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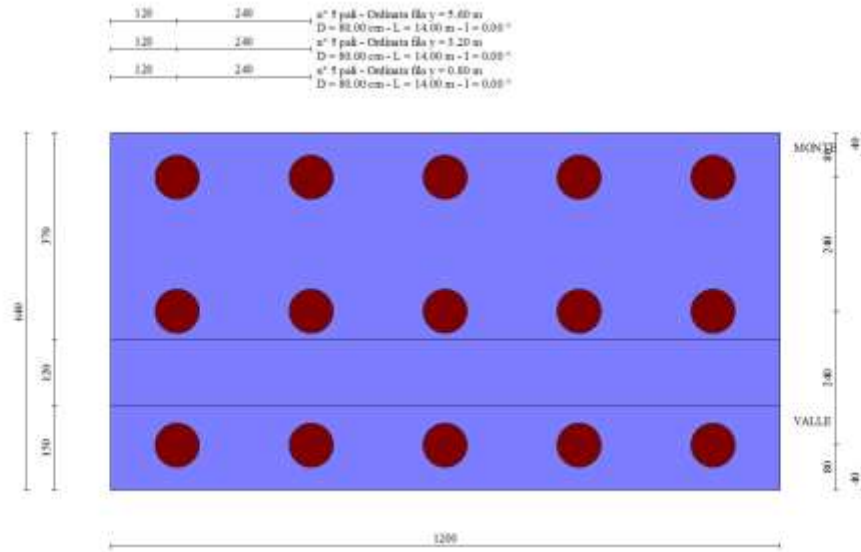


Fig. 2 - Pianta pali

## 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)
				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)
				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)
				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	(MIN)
				38.000	38.000	0	0		0	(MED)

## Stratigrafia

#### Simbologia adottata

n°	Indice dello strato
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

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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	8.65	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	0.300	1.000	---	---
3	23.00	0.000	bn1	0.000	0.000	8.000	0.400	1.000	---	---

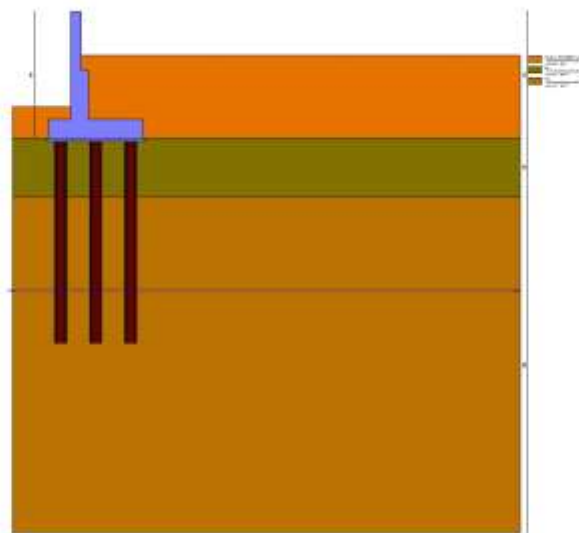


Fig. 3 - Stratigrafia

## 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				

### Condizione n° 2 (BALLAST+ARMAMENTO+MARCIAPIEDE) - 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

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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  $\Psi_0=1.00 - \Psi_1=1.00 - \Psi_2=1.00$

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	7.5000	0.0000	9.0000				

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	0.80	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

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



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Resistenza		Pali infissi			Pali trivellati			Pali ad elica continua		
		R1	R2	R3	R1	R2	R3	R1	R2	R3
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
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	--	Sfavorevole
PESO BA	1.00	--	Sfavorevole
BALLAST+ARMAMENTO+MARCIAPIEDE	1.00	--	Sfavorevole
LM71	1.00	0.20	Sfavorevole
INERZIA BARRIERA	1.00	1.00	Sfavorevole

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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
INERZIA BARRIERA	1.00	1.00	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

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

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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 stratoCriterio 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  
 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

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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	295.96	0.00	295.96	0.00	4.20	-6.14
	Peso/Inerzia muro			0.00	371.04/0.00	0.46	-6.27
	Peso/Inerzia terrapieno			0.00	442.44/0.00	2.29	-5.12
	Peso dell'acqua sulla fondazione di valle				0.00	0.00	0.00
	Risultante forze sul muro			10.15	6.50	--	--
	Resistenza pali			-791.75			

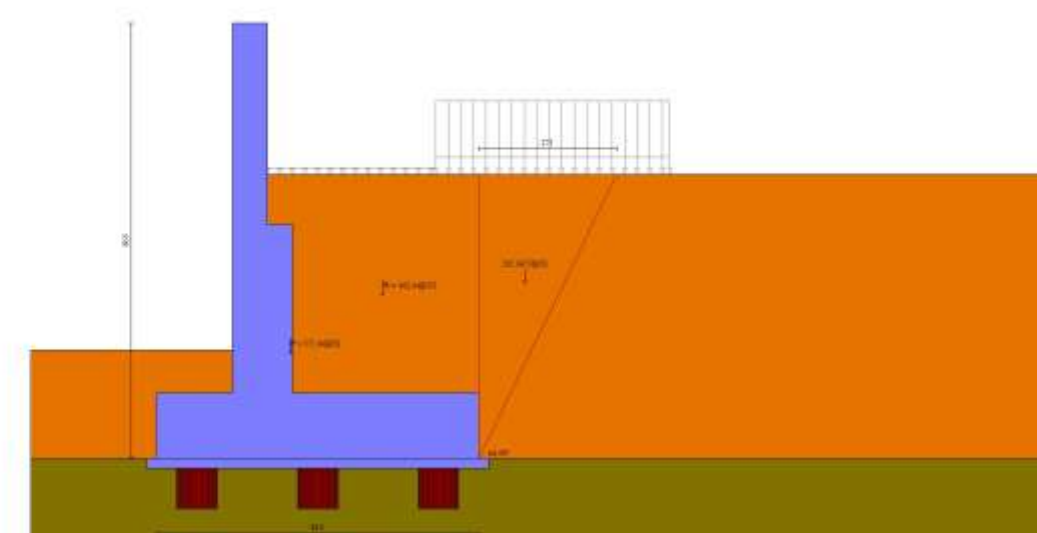


Fig. 4 - Cuneo di spinta (combinazione statica) (Combinazione n° 1)

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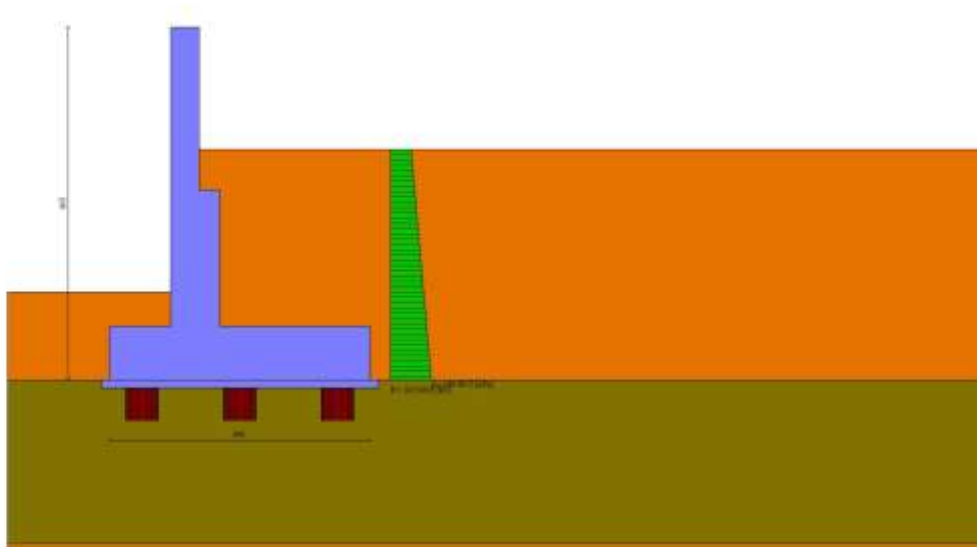


Fig. 5 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 1)

## 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)	819.98	306.11	833.29	2982.89	0.578
2 - STR (A1-M1-R3)	748.31	438.89	1250.48	2662.60	1.313
3 - GEO (A2-M2-R2)	794.57	297.08	795.58	2873.09	0.585
4 - GEO (A2-M2-R2)	748.31	438.89	1250.48	2662.60	1.313
5 - SLER	787.27	225.79	608.73	2839.85	0.366
6 - SLEF	775.09	199.55	491.93	2784.46	0.242
7 - SLEQ	738.57	141.85	329.07	2618.28	0.100
8 - SLEF	748.31	162.49	419.39	2662.60	0.202

## 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	232.32	-298.38	-244.88
	2	655.98	-298.38	-244.88
	3	1079.64	-298.38	-244.88

## Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

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Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004</td> <td>A</td> <td>14 di 123</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	14 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	14 di 123								

#### 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)		2.586					
2 - STR (A1-M1-R3)	H	1.865					
3 - GEO (A2-M2-R2)					4.203		
4 - GEO (A2-M2-R2)	H				3.376		

#### 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	Td	FS <sub>o</sub>
		[kN]	[kN]	
2 - STR (A1-M1-R3) H	1	-351.11	771.82	2.198
	2	-351.11	654.95	1.865
	3	-351.11	654.95	1.865

#### 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	Pd	FS <sub>v</sub>
		[kN]	[kN]	
1 - STR (A1-M1-R3)	1	232.32	2487.22	10.706
	2	655.98	2487.22	3.792
	3	1079.64	2487.22	2.304
2 - STR (A1-M1-R3) H	1	-181.00	757.05	4.182
	2	598.65	2487.22	4.155
	3	1378.30	2487.22	1.805

#### 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	R	FS
	[m]	[m]	
4 - GEO (A2-M2-R2) H	-4.50; 4.50	15.77	3.376

#### Dettagli strisce verifiche stabilità

#### Simbologia adottata

Le ascisse X sono considerate positive verso monte	
Le ordinate Y sono considerate positive verso l'alto	
Origine in testa al muro (spigolo contro terra)	
W	peso della striscia espresso in [kN]
Q <sub>y</sub>	carico sulla striscia espresso in [kN]
Q <sub>f</sub>	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)

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: SYSTRA S.A. Mandante: SWS Engineering S.p.A. SYSTRA-SOTECNI S.p.A.	<b>PROGETTO ESECUTIVO</b>												
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004</td> <td>A</td> <td>15 di 123</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	15 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	15 di 123								

$\phi$  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	16.19	0.00	0.00	9.39 - 1.01	57.882	38.000	0	0.0	
2	45.29	16.26	0.00	1.01	51.777	38.000	0	0.0	
3	68.79	26.07	0.00	1.01	46.171	38.000	0	0.0	
4	88.25	26.07	0.00	1.01	41.095	38.000	0	0.0	
5	104.60	26.07	0.00	1.01	36.389	38.000	0	0.0	
6	123.38	25.83	0.00	1.01	31.955	34.000	0	0.0	
7	135.64	5.65	0.00	1.01	27.727	34.000	0	0.0	
8	145.19	5.65	0.00	1.01	23.659	34.000	0	0.0	
9	147.16	5.65	0.00	1.01	19.713	34.000	0	0.0	
10	228.93	6.76	0.00	1.01	15.864	34.000	0	0.0	
11	94.66	0.00	0.00	1.01	12.087	34.000	0	0.0	
12	94.39	0.00	0.00	1.01	8.363	34.000	0	0.0	
13	93.74	0.00	0.00	1.01	4.674	34.000	0	0.0	
14	94.72	0.00	0.00	1.01	1.004	34.000	0	0.0	
15	94.44	0.00	0.00	1.01	-2.661	34.000	0	0.0	
16	92.87	0.00	0.00	1.01	-6.337	34.000	0	0.0	
17	90.02	0.00	0.00	1.01	-10.040	34.000	0	0.0	
18	85.83	0.00	0.00	1.01	-13.786	34.000	0	0.0	
19	80.26	0.00	0.00	1.01	-17.593	34.000	0	0.0	
20	73.22	0.00	0.00	1.01	-21.482	34.000	0	0.0	
21	64.59	0.00	0.00	1.01	-25.480	34.000	0	0.0	
22	54.23	0.00	0.00	1.01	-29.615	34.000	0	0.0	
23	41.87	0.00	0.00	1.01	-33.930	38.000	0	0.0	
24	26.98	0.00	0.00	1.01	-38.477	38.000	0	0.0	
25	9.31	0.00	0.00	-15.82 - 1.01	-42.912	38.000	0	0.0	

Resistenza al taglio pali 1137.13 [kN]

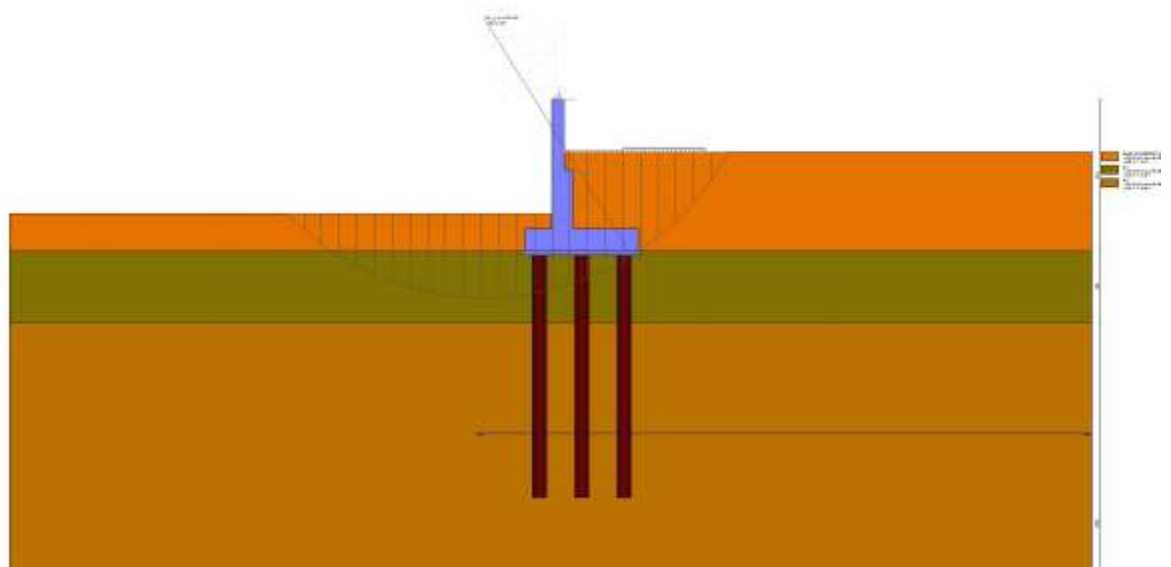


Fig. 6 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 4)

## 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)



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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.16.0.5.004.A.DOCX	COMMESSA IF2R	LOTTO 2.2.E.ZZ	CODIFICA CL	DOCUMENTO TR.16.0.5.004	REV. A	FOGLIO 16 di 123

### Elementi calcolati a piastra

#### Simbologia adottata

Mx, My Momenti flettenti, espresso in [kNm]  
Mxy Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle  
Tx, Ty Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte)  
I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

### Paramento

n°	X [m]	Nmin [kN]	Nmax [kN]	Tmin [kN]	Tmax [kN]	Mmin [kNm]	Mmax [kNm]
1	0.00	5.00	6.50	0.00	10.15	0.00	9.00
2	-0.10	6.72	8.22	0.00	10.15	0.00	9.89
3	-0.20	8.43	9.93	0.00	10.15	0.00	10.82
4	-0.30	10.15	11.65	0.00	10.15	0.00	11.79
5	-0.40	11.86	13.36	0.00	10.35	0.00	12.81
6	-0.50	13.58	15.08	0.00	10.76	0.00	13.86
7	-0.60	15.29	16.79	0.00	11.17	0.00	14.96
8	-0.70	17.01	18.51	0.00	11.58	0.00	16.10
9	-0.80	18.73	20.23	0.00	12.00	0.00	17.28
10	-0.90	20.44	21.94	0.00	12.41	0.00	18.50
11	-1.00	22.16	23.66	0.00	12.82	0.00	19.76
12	-1.10	23.87	25.37	0.00	13.23	0.00	21.06
13	-1.20	25.59	27.09	0.00	13.64	0.00	22.40
14	-1.30	27.30	28.80	0.00	14.05	0.00	23.79
15	-1.40	29.02	30.52	0.00	14.47	0.00	25.21
16	-1.50	30.74	32.24	0.00	14.88	0.00	26.68
17	-1.60	32.45	33.95	0.00	15.29	0.00	28.19
18	-1.70	34.17	35.67	0.00	15.70	0.00	29.74
19	-1.80	35.88	37.38	0.00	16.11	0.00	31.33
20	-1.90	37.60	39.10	0.00	16.53	0.00	32.96
21	-2.00	39.32	40.82	0.00	16.94	0.00	34.63
22	-2.10	41.03	42.53	0.00	17.35	0.00	36.35
23	-2.20	42.75	44.25	0.00	17.76	0.00	38.10
24	-2.30	44.46	45.96	0.00	18.17	0.00	39.90
25	-2.40	46.18	47.68	0.00	18.58	0.00	41.73
26	-2.50	47.89	49.39	0.00	19.00	0.00	43.61
27	-2.60	49.61	51.11	0.00	19.41	0.00	45.53
28	-2.70	51.33	52.83	0.00	19.82	0.00	47.49
29	-2.80	53.04	54.54	0.00	20.23	0.00	49.50
30	-2.90	54.76	56.26	0.00	20.64	0.00	51.54
31	-3.00	56.47	57.97	0.00	21.06	0.00	53.62
32	-3.10	58.19	59.69	0.79	23.54	0.04	55.85
33	-3.20	59.90	61.40	1.63	26.08	0.16	58.33
34	-3.30	61.62	63.12	2.52	28.67	0.37	61.07
35	-3.40	63.34	64.84	3.45	31.31	0.66	64.06
36	-3.50	65.05	66.55	4.44	33.99	1.06	67.33
37	-3.60	66.77	68.27	5.47	36.72	1.55	70.86
38	-3.70	68.48	69.98	6.54	39.50	2.15	74.67
39	-3.80	70.20	71.70	7.67	42.33	2.86	78.76
40	-3.90	71.91	73.41	8.84	45.20	3.69	83.14
41	-4.00	73.63	75.13	10.06	48.13	4.63	87.80
42	-4.00	86.48	88.82	10.15	51.32	18.58	103.37
43	-4.10	89.42	91.76	16.31	59.48	19.92	108.92
44	-4.20	92.36	94.70	21.01	66.17	21.80	115.21
45	-4.30	95.30	97.64	24.25	71.41	24.07	122.09
46	-4.40	98.24	100.58	26.07	75.22	26.59	129.43
47	-4.50	101.18	103.52	27.31	78.46	29.26	137.11
48	-4.60	104.12	106.46	28.64	81.78	32.06	145.11
49	-4.70	107.05	109.39	30.05	85.18	34.99	153.45
50	-4.80	109.99	112.33	31.52	88.65	38.06	162.14
51	-4.90	112.93	115.27	33.06	92.19	41.29	171.17
52	-5.00	115.87	118.21	34.66	95.78	44.67	180.56
53	-5.10	118.81	121.15	36.32	99.44	48.22	190.31
54	-5.20	121.75	124.09	38.04	103.15	51.93	200.44
55	-5.30	124.69	127.03	39.81	106.92	55.82	210.93
56	-5.40	127.63	129.97	41.64	110.74	59.89	221.80
57	-5.50	130.57	132.91	43.52	114.61	64.15	233.06
58	-5.60	133.51	135.85	45.45	118.54	68.59	244.71
59	-5.70	136.45	138.79	47.44	122.52	73.23	256.75
60	-5.80	139.39	141.73	49.48	126.55	78.07	269.20
61	-5.90	142.33	144.67	51.56	130.63	83.12	282.04
62	-6.00	145.27	147.61	53.70	134.77	88.38	295.30
63	-6.10	148.21	150.55	55.89	138.95	93.85	308.98
64	-6.20	151.15	153.49	58.13	143.18	99.55	323.07
65	-6.30	154.09	156.43	60.41	147.46	105.47	337.59
66	-6.40	157.03	159.37	62.75	151.80	111.62	352.54
67	-6.50	159.97	162.31	65.14	156.18	118.01	367.93
68	-6.50	160.03	162.37	65.19	156.27	118.14	368.24
69	-6.59	162.79	165.13	67.47	160.42	124.36	383.09

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.16.0.5.004.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.16.0.5.004	A	17 di 123

n°	X [m]	Nmin [kN]	Nmax [kN]	Tmin [kN]	Tmax [kN]	Mmin [kNm]	Mmax [kNm]
70	-6.69	165.55	167.89	69.80	164.62	130.80	398.33
71	-6.78	168.31	170.65	72.17	168.87	137.46	413.97
72	-6.88	171.06	173.40	74.58	173.15	144.34	430.00
73	-6.97	173.82	176.16	77.04	177.48	151.45	446.44
74	-7.06	176.58	178.92	79.54	181.85	158.79	463.29
75	-7.16	179.34	181.68	82.08	186.27	166.37	480.55
76	-7.25	182.10	184.44	84.67	190.72	174.18	498.23
77	-7.35	184.86	187.20	87.30	195.22	182.25	516.33

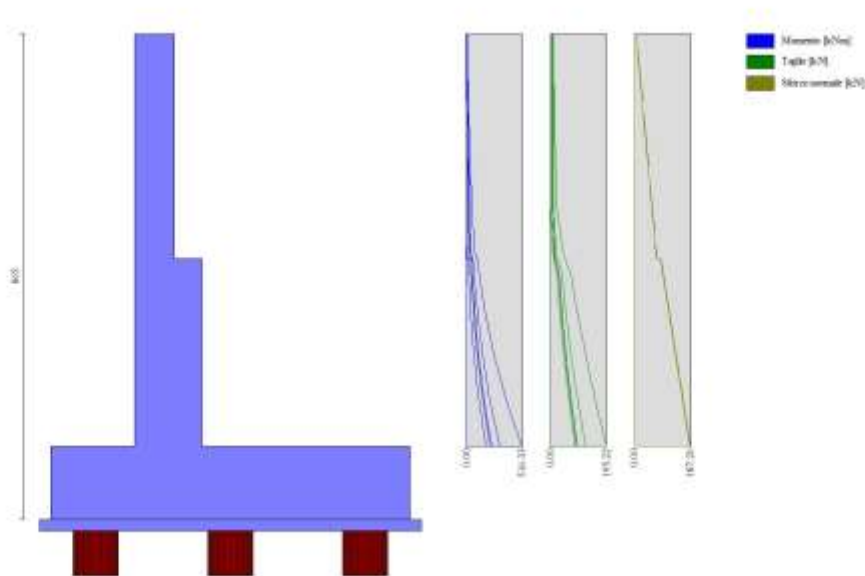


Fig. 7 - Paramento

*Piastra fondazione*

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]		
1	-1.93	4.05	-3.32	0.00	30.59	MAX	
	-3.02	0.99	-9.56	-34.46	4.14	MIN	
2	-22.77	-14.82	-5.42	-0.63	-11.40	MAX	
	-47.92	-41.35	-15.78	-47.59	-12.91	MIN	
3	2.47	-6.82	-7.50	95.16	-29.39	MAX	
	-2.13	-27.58	-22.76	56.74	-45.82	MIN	
4	4.06	-0.10	-1.13	41.03	7.11	MAX	
	1.40	-6.91	-2.87	23.40	-9.47	MIN	
5	-50.06	-0.08	-13.81	-2.21	45.66	MAX	
	-106.14	-5.61	-40.44	-47.04	31.27	MIN	
6	-62.48	-45.48	-18.96	72.17	-21.61	MAX	
	-127.61	-118.11	-55.60	48.94	-51.05	MIN	
7	8.03	8.91	7.04	141.45	-80.71	MAX	
	4.88	-11.53	5.61	68.37	-150.51	MIN	
8	15.54	16.78	2.37	65.92	-35.71	MAX	
	7.03	13.46	1.87	30.38	-57.35	MIN	
9	5.74	-19.98	-24.50	713.29	-116.07	MAX	
	4.98	-76.89	-102.19	362.83	-232.14	MIN	
10	-56.16	75.41	1.50	-16.13	10.19	MAX	
	-113.77	24.81	0.62	-30.20	-29.18	MIN	
11	-47.06	282.33	4.54	-13.85	318.13	MAX	
	-71.41	87.66	2.17	-25.76	216.61	MIN	
12	-245.63	-228.40	7.95	-11.35	-251.36	MAX	
	-487.63	-498.90	4.12	-19.92	-651.02	MIN	
13	7.42	52.44	22.55	146.58	-131.85	MAX	
	-0.75	44.02	17.03	63.36	-265.88	MIN	
14	12.77	86.71	25.37	42.27	-56.05	MAX	
	7.92	56.61	15.13	15.85	-124.03	MIN	
15	-21.00	19.85	14.84	194.31	-241.52	MAX	
	-45.78	-7.77	5.44	83.68	-498.75	MIN	
16	-48.28	-42.04	10.06	-7.84	-675.75	MAX	
	-133.39	-307.44	5.51	-13.34	-1443.25	MIN	

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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


PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 18 di 123


In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
17	-32.85 -70.46	0.19 -4.00	43.60 14.99	-14.92 -30.82	45.61 30.58	MAX MIN
18	-47.46 -99.66	-45.26 -117.26	64.89 23.21	-74.75 -120.10	-23.37 -52.71	MAX MIN
19	28.14 18.55	-17.43 -72.13	118.54 32.92	-384.53 -750.34	-120.03 -238.17	MAX MIN
20	-11.68 -30.98	26.39 3.18	16.91 -1.82	-98.70 -219.11	-247.19 -509.14	MAX MIN
21	51.55 29.61	171.84 98.71	38.72 24.35	0.00 0.00	-149.67 -310.29	MAX MIN
22	52.88 30.65	176.27 102.16	47.92 29.60	0.00 0.00	-62.28 -149.71	MAX MIN
23	55.95 38.26	186.49 127.53	18.05 16.65	0.00 0.00	-325.40 -680.96	MAX MIN
24	37.39 26.90	124.65 89.65	9.58 5.36	0.00 0.00	-425.75 -919.03	MAX MIN
25	60.30 40.57	201.00 135.23	4.74 -4.41	0.00 0.00	-331.63 -692.97	MAX MIN
26	26.20 11.11	-13.83 -36.83	18.03 6.09	-9.54 -27.35	-14.37 -16.07	MAX MIN
27	52.35 24.87	-7.03 -27.86	29.82 10.45	-74.91 -128.18	-36.95 -57.06	MAX MIN
28	49.68 30.66	11.60 -6.79	6.78 1.46	-84.95 -168.29	-95.60 -176.56	MAX MIN
29	36.24 30.79	72.42 55.49	-0.99 -4.75	-76.06 -166.38	-151.26 -301.77	MAX MIN
30	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
31	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
32	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
33	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
34	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
35	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
36	61.19 34.97	203.97 116.56	-7.13 -9.74	0.00 0.00	-170.84 -349.91	MAX MIN
37	94.62 41.81	1.52 0.24	-0.34 -0.58	-7.73 -13.93	-9.69 -13.36	MAX MIN
38	63.05 34.35	0.31 -10.64	-0.21 -0.34	-5.52 -10.06	-35.61 -52.21	MAX MIN
39	68.72 41.06	25.44 22.46	-0.12 -0.16	-3.83 -7.03	-82.87 -149.41	MAX MIN
40	62.24 40.42	94.64 62.78	0.14 0.05	-2.08 -3.83	-119.87 -238.49	MAX MIN
41	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
42	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
43	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
44	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
45	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
46	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
47	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
48	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
49	55.68 32.16	185.59 107.20	0.31 0.15	0.00 0.00	-132.80 -272.90	MAX MIN
50	35.32 16.08	-13.62 -36.42	-6.65 -18.96	10.52 -19.06	-13.85 -15.54	MAX MIN
51	61.07 29.61	-6.72 -27.24	-10.63 -30.01	106.95 63.27	-35.98 -55.28	MAX MIN
52	56.28 34.29	11.88 -6.25	-1.29 -6.34	153.16 76.68	-93.52 -172.76	MAX MIN
53	40.08 32.91	72.73 55.61	5.39 2.18	157.87 71.41	-148.23 -296.28	MAX MIN
54	60.65 34.65	202.18 115.50	11.19 7.88	0.00 0.00	-167.44 -343.75	MAX MIN
55	60.65 34.65	202.18 115.50	11.19 7.88	0.00 0.00	-167.44 -343.75	MAX MIN
56	60.65 34.65	202.18 115.50	11.19 7.88	0.00 0.00	-167.44 -343.75	MAX MIN
57	-54.99 -208.90	-183.30 -696.33	41.55 -11.24	0.00 0.00	-129.49 -313.54	MAX MIN

APPALTATORE:	 Consorzio Telese Società Consortile a Responsabilità Limitata	
PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	19 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
58	-54.40	-181.34	131.40	0.00	-151.70	MAX
	-224.05	-746.84	11.73	0.00	-191.67	MIN
59	-37.08	-123.60	-27.03	0.00	22.99	MAX
	-184.86	-616.21	-35.51	0.00	-247.64	MIN
60	12.48	41.61	17.10	0.00	163.71	MAX
	-71.65	-238.83	-3.64	0.00	-221.16	MIN
61	-34.22	-114.08	67.62	0.00	32.65	MAX
	-191.94	-639.80	25.10	0.00	-260.68	MIN
62	-50.01	-166.70	21.18	0.00	-109.57	MAX
	-227.67	-758.91	8.89	0.00	-364.31	MIN
63	-49.50	-165.01	2.48	0.00	-132.89	MAX
	-225.99	-753.30	-1.86	0.00	-385.60	MIN
64	-48.83	-162.77	-12.71	0.00	-108.12	MAX
	-228.63	-762.09	-15.16	0.00	-359.04	MIN
65	-21.88	0.66	-15.19	12.56	47.11	MAX
	-50.14	-3.03	-43.81	-16.02	31.36	MIN
66	-37.13	-44.59	-22.62	95.82	-21.63	MAX
	-80.64	-115.89	-63.56	61.53	-49.42	MIN
67	42.52	-16.65	-31.50	732.43	-116.37	MAX
	26.53	-70.54	-115.72	374.63	-231.37	MIN
68	-6.88	27.29	3.98	208.33	-241.88	MAX
	-22.43	4.91	-12.86	92.68	-499.48	MIN
69	59.71	199.04	6.77	0.00	-325.65	MAX
	40.20	133.99	-0.69	0.00	-682.18	MIN
70	59.71	199.04	6.77	0.00	-325.65	MAX
	40.20	133.99	-0.69	0.00	-682.18	MIN
71	59.71	199.04	6.77	0.00	-325.65	MAX
	40.20	133.99	-0.69	0.00	-682.18	MIN
72	-31.75	-105.84	-29.17	0.00	36.25	MAX
	-194.31	-647.69	-58.02	0.00	-251.31	MIN
73	-1.82	-139.84	24.91	54.27	-115.67	MAX
	-46.96	-591.99	-13.06	41.78	-298.07	MIN
74	-0.96	-136.21	67.97	41.32	-148.79	MAX
	-32.22	-619.18	1.90	14.14	-195.32	MIN
75	-52.97	-159.60	-33.35	81.11	-37.01	MAX
	-170.34	-635.78	-38.86	65.15	-284.12	MIN
76	-50.54	62.16	17.06	21.18	345.66	MAX
	-104.51	-66.58	-4.31	-1.28	-87.61	MIN
77	-54.69	-153.05	76.17	-21.09	-28.10	MAX
	-200.07	-658.61	26.03	-76.18	-298.22	MIN
78	-11.48	-129.43	24.22	-5.63	-97.62	MAX
	-137.69	-642.00	8.54	-38.50	-348.71	MIN
79	-20.91	-132.18	2.63	5.27	-123.73	MAX
	-168.52	-660.18	-2.08	-1.97	-373.39	MIN
80	-10.11	-125.90	-12.83	34.67	-96.21	MAX
	-142.60	-646.53	-17.90	17.37	-344.09	MIN
81	-52.17	-145.80	-30.65	72.80	-24.66	MAX
	-211.69	-669.04	-66.26	36.63	-290.23	MIN
82	-37.30	77.08	-0.29	-2.72	11.16	MAX
	-78.06	25.51	-0.52	-4.93	-27.02	MIN
83	-29.56	284.53	-0.40	-1.32	322.24	MAX
	-39.08	88.69	-0.71	-2.42	218.55	MIN
84	-231.89	-226.71	-0.54	-0.51	-247.47	MAX
	-463.27	-495.54	-0.97	-0.96	-643.40	MIN
85	-39.75	-39.36	-0.57	-0.02	-670.14	MAX
	-118.61	-302.27	-1.01	-0.07	-1433.04	MIN
86	37.56	125.19	-0.47	0.00	-419.41	MAX
	27.34	91.12	-0.85	0.00	-907.80	MIN
87	37.56	125.19	-0.47	0.00	-419.41	MAX
	27.34	91.12	-0.85	0.00	-907.80	MIN
88	37.56	125.19	-0.47	0.00	-419.41	MAX
	27.34	91.12	-0.85	0.00	-907.80	MIN
89	15.98	53.28	-0.04	0.00	170.88	MAX
	-76.64	-255.45	-0.52	0.00	-211.23	MIN
90	-48.84	71.85	-0.03	1.08	352.39	MAX
	-127.00	-82.74	-0.59	-0.88	-79.90	MIN
91	-5.31	-120.34	22.50	86.06	-107.89	MAX
	-45.37	-548.16	-5.91	50.81	-287.60	MIN
92	3.68	-111.52	7.31	55.23	-141.49	MAX
	-5.63	-516.10	-8.19	26.00	-216.29	MIN
93	-6.05	-129.15	-35.69	363.18	-94.75	MAX
	-83.37	-559.01	-82.89	306.60	-318.08	MIN
94	-218.62	-268.94	13.14	31.51	-84.15	MAX
	-307.26	-646.27	-5.02	-1.31	-569.51	MIN
95	-8.91	-124.09	110.64	-284.76	-87.87	MAX
	-127.22	-573.75	25.81	-327.00	-334.56	MIN
96	-11.15	-110.93	4.68	-28.18	-93.13	MAX
	-135.94	-568.45	-1.93	-50.76	-336.91	MIN
97	-5.21	-106.36	2.48	8.74	-106.43	MAX
	-134.22	-575.09	-2.18	-2.88	-349.95	MIN
98	-9.66	-107.99	1.08	50.98	-91.92	MAX
	-143.33	-572.70	-2.61	44.59	-334.24	MIN

APPALTATORE:	 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.16.0.5.004.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.16.0.5.004	A	20 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
99	-6.30	-118.10	-30.82	337.65	-85.01	MAX
	-144.47	-582.97	-102.35	302.83	-330.66	MIN
100	-215.90	-259.76	0.04	2.10	-78.75	MAX
	-340.17	-661.64	-0.63	-1.44	-568.24	MIN
101	-21.10	0.69	42.80	5.56	47.70	MAX
	-48.71	-2.99	14.63	-18.65	31.69	MIN
102	-36.43	-44.67	62.20	-64.51	-20.98	MAX
	-79.36	-116.03	21.86	-101.26	-48.25	MIN
103	43.35	-17.05	113.89	-375.94	-115.15	MAX
	26.97	-71.25	30.48	-734.87	-229.16	MIN
104	-6.79	26.43	10.97	-92.91	-240.26	MAX
	-22.24	3.47	-5.03	-208.81	-496.54	MIN
105	58.95	196.48	-0.87	0.00	-323.88	MAX
	39.77	132.57	-7.71	0.00	-678.97	MIN
106	58.95	196.48	-0.87	0.00	-323.88	MAX
	39.77	132.57	-7.71	0.00	-678.97	MIN
107	58.95	196.48	-0.87	0.00	-323.88	MAX
	39.77	132.57	-7.71	0.00	-678.97	MIN
108	-31.47	-104.89	58.16	0.00	35.67	MAX
	-194.13	-647.11	28.02	0.00	-247.90	MIN
109	-51.54	-144.71	66.42	-34.16	-25.20	MAX
	-212.45	-669.30	29.36	-74.63	-286.99	MIN
110	-5.43	-117.06	102.64	-304.61	-85.45	MAX
	-145.89	-583.68	29.45	-336.95	-327.99	MIN
111	-9.05	-76.15	-3.44	121.43	-113.11	MAX
	-42.63	-433.04	-5.94	64.39	-303.01	MIN
112	1.27	-69.79	-2.64	55.96	-136.15	MAX
	-2.59	-401.91	-5.58	23.92	-283.95	MIN
113	-46.27	-94.96	-7.60	145.86	-139.30	MAX
	-83.44	-443.04	-17.72	69.55	-386.31	MIN
114	-66.94	-140.58	7.17	33.98	-454.38	MAX
	-168.77	-722.84	-6.39	-1.61	-869.65	MIN
115	-47.04	-91.78	30.62	-72.27	-134.74	MAX
	-124.79	-448.24	-5.01	-80.91	-404.46	MIN
116	-10.13	-71.11	11.48	-66.85	-100.07	MAX
	-121.07	-443.20	-5.09	-73.21	-343.67	MIN
117	0.29	-65.35	2.44	11.39	-94.66	MAX
	-107.80	-438.68	-2.57	-3.41	-336.36	MIN
118	-8.24	-68.95	-0.28	92.99	-99.25	MAX
	-130.78	-447.22	-6.23	60.33	-343.77	MIN
119	-43.65	-87.45	-1.05	108.42	-132.89	MAX
	-146.76	-456.32	-24.36	66.76	-406.22	MIN
120	-62.87	-134.12	0.21	3.36	-451.01	MAX
	-208.79	-734.94	-0.78	-1.96	-876.64	MIN
121	-42.42	-86.46	24.97	-70.73	-133.20	MAX
	-149.05	-457.62	-0.63	-101.14	-404.46	MIN
122	38.80	-13.56	18.01	6.81	-12.67	MAX
	17.98	-36.31	6.11	-17.55	-14.72	MIN
123	64.26	-6.85	28.86	-67.25	-34.68	MAX
	31.34	-27.45	9.98	-114.21	-52.94	MIN
124	58.42	11.11	4.89	-78.88	-91.05	MAX
	35.44	-7.51	0.48	-157.21	-168.28	MIN
125	40.79	70.09	-3.58	-72.24	-144.91	MAX
	33.28	54.12	-6.24	-159.44	-290.25	MIN
126	59.17	197.22	-8.50	0.00	-163.81	MAX
	33.82	112.74	-12.28	0.00	-337.15	MIN
127	59.17	197.22	-8.50	0.00	-163.81	MAX
	33.82	112.74	-12.28	0.00	-337.15	MIN
128	59.17	197.22	-8.50	0.00	-163.81	MAX
	33.82	112.74	-12.28	0.00	-337.15	MIN
129	-48.19	-160.64	15.99	0.00	-109.06	MAX
	-228.39	-761.28	11.27	0.00	-352.17	MIN
130	-8.79	-123.55	18.79	-13.89	-97.09	MAX
	-144.43	-647.41	11.22	-36.68	-337.59	MIN
131	-7.88	-105.79	0.89	-41.14	-92.62	MAX
	-146.61	-574.40	-0.12	-49.55	-328.98	MIN
132	-5.77	-66.91	7.43	-64.41	-99.75	MAX
	-135.89	-450.02	-1.79	-83.95	-340.46	MIN
133	-9.98	-30.20	-5.62	57.61	-104.14	MAX
	-18.98	-299.29	-10.04	23.49	-318.70	MIN
134	-1.76	-29.33	-6.32	40.33	-125.03	MAX
	-3.76	-286.69	-14.03	17.21	-334.44	MIN
135	-22.93	-29.52	-8.33	64.52	-146.48	MAX
	-46.33	-323.83	-15.31	22.72	-417.00	MIN
136	-32.39	-39.18	1.51	26.49	-165.56	MAX
	-79.37	-372.84	-7.17	-2.68	-485.99	MIN
137	-21.45	-27.99	15.94	-14.02	-143.43	MAX
	-76.41	-325.25	-5.72	-29.32	-433.93	MIN
138	-7.32	-27.60	7.76	-18.95	-91.92	MAX
	-75.26	-303.75	-5.52	-29.51	-344.68	MIN
139	1.83	-26.37	2.26	11.39	-81.80	MAX
	-77.95	-305.78	-2.84	-3.60	-325.87	MIN

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 21 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
140	-4.84	-26.14	-0.41	42.75	-91.57	MAX
	-85.18	-306.80	-3.35	20.73	-347.18	MIN
141	-16.71	-25.12	-1.06	40.72	-142.69	MAX
	-97.96	-331.06	-12.10	21.54	-440.36	MIN
142	-25.83	-34.99	0.41	4.07	-164.12	MAX
	-115.72	-380.61	-0.91	-2.23	-499.08	MIN
143	-15.16	-24.27	13.08	-26.02	-142.91	MAX
	-100.83	-332.52	-0.89	-32.10	-439.57	MIN
144	-1.72	-24.43	4.79	-25.27	-91.95	MAX
	-91.42	-309.81	-1.92	-32.67	-345.91	MIN
145	101.49	1.78	-0.11	-0.67	-7.97	MAX
	45.56	0.37	-0.20	-1.22	-12.33	MIN
146	69.46	0.23	-0.17	-0.16	-33.68	MAX
	37.83	-10.74	-0.31	-0.30	-48.73	MIN
147	73.23	24.38	-0.25	0.17	-79.11	MAX
	43.51	20.98	-0.45	0.10	-142.61	MIN
148	64.17	91.30	-0.27	0.32	-114.76	MAX
	41.46	60.89	-0.49	0.18	-229.22	MIN
149	53.61	178.68	-0.24	0.00	-127.19	MAX
	31.00	103.35	-0.43	0.00	-262.70	MIN
150	53.61	178.68	-0.24	0.00	-127.19	MAX
	31.00	103.35	-0.43	0.00	-262.70	MIN
151	53.61	178.68	-0.24	0.00	-127.19	MAX
	31.00	103.35	-0.43	0.00	-262.70	MIN
152	-48.37	-161.23	-0.07	0.00	-133.76	MAX
	-225.91	-753.02	-0.27	0.00	-375.24	MIN
153	-18.84	-128.23	-0.08	0.12	-124.53	MAX
	-172.13	-662.47	-0.30	-0.27	-363.69	MIN
154	-2.50	-102.74	-0.10	0.38	-107.04	MAX
	-140.35	-578.39	-0.27	-0.49	-342.36	MIN
155	4.00	-62.15	-0.15	0.86	-95.11	MAX
	-116.93	-443.36	-0.23	-0.75	-332.04	MIN
156	6.54	-23.77	-0.15	1.25	-82.21	MAX
	-88.63	-310.49	-0.21	-0.93	-324.85	MIN
157	-6.48	5.46	-9.72	12.00	-74.43	MAX
	-7.78	-176.01	-15.12	8.17	-303.80	MIN
158	-1.87	0.64	-7.71	7.43	-99.36	MAX
	-3.37	-176.73	-16.27	5.41	-333.29	MIN
159	-14.61	12.66	-11.32	17.41	-77.73	MAX
	-18.17	-171.98	-14.54	6.88	-352.53	MIN
160	-17.20	16.64	-1.93	16.12	-82.72	MAX
	-26.47	-169.68	-7.15	-4.11	-389.70	MIN
161	-10.75	13.07	8.04	12.24	-75.44	MAX
	-33.01	-172.47	-2.64	-14.69	-365.52	MIN
162	0.36	6.50	8.10	9.84	-63.69	MAX
	-36.47	-177.79	-1.47	-14.61	-317.34	MIN
163	6.32	2.90	1.96	9.87	-58.07	MAX
	-40.09	-181.29	-2.91	-3.80	-294.10	MIN
164	3.53	7.41	-4.44	10.17	-63.71	MAX
	-45.22	-179.79	-5.16	7.13	-321.09	MIN
165	-4.44	14.81	-4.19	9.36	-75.45	MAX
	-51.05	-176.18	-6.05	7.47	-374.06	MIN
166	-7.84	19.04	0.57	4.29	-82.46	MAX
	-54.46	-174.53	-0.99	-2.39	-404.71	MIN
167	-2.59	15.49	7.31	0.60	-75.61	MAX
	-54.28	-177.50	2.15	-12.38	-374.04	MIN
168	7.28	8.76	6.16	-0.32	-64.01	MAX
	-52.05	-182.45	2.13	-11.97	-321.37	MIN
169	12.01	4.88	-0.07	1.51	-58.48	MAX
	-51.25	-185.27	-0.24	-1.05	-295.43	MIN
170	38.74	-13.56	-6.34	15.95	-12.43	MAX
	17.95	-36.32	-18.42	-9.51	-14.55	MIN
171	64.13	-6.92	-10.34	113.42	-34.45	MAX
	31.26	-27.59	-29.51	66.83	-52.52	MIN
172	58.23	10.86	-0.98	157.44	-90.65	MAX
	35.33	-7.92	-5.81	79.01	-167.56	MIN
173	40.54	69.36	5.64	160.02	-144.42	MAX
	33.14	53.72	2.58	72.57	-289.36	MIN
174	58.85	196.16	11.42	0.00	-163.29	MAX
	33.65	112.15	8.02	0.00	-336.21	MIN
175	58.85	196.16	11.42	0.00	-163.29	MAX
	33.65	112.15	8.02	0.00	-336.21	MIN
176	58.85	196.16	11.42	0.00	-163.29	MAX
	33.65	112.15	8.02	0.00	-336.21	MIN
177	-48.17	-160.57	-11.45	0.00	-109.60	MAX
	-228.17	-760.56	-16.48	0.00	-350.69	MIN
178	-8.60	-123.35	-11.43	36.10	-97.61	MAX
	-144.47	-647.05	-19.33	14.22	-336.16	MIN
179	-7.58	-105.54	-0.36	49.38	-93.07	MAX
	-146.85	-574.30	-1.14	42.04	-327.70	MIN
180	-5.29	-66.59	1.44	85.83	-100.10	MAX
	-136.44	-450.28	-7.81	62.86	-339.46	MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
SYSTRA S.A.	SWS Engineering S.p.A.	SYSTRA-SOTECNI S.p.A.
Relazione di calcolo		
IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	22 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
181	-1.08	-24.09	1.46	35.33	-92.19	MAX
	-92.24	-310.27	-5.01	23.37	-345.23	MIN
182	8.06	9.08	-2.67	9.84	-64.18	MAX
	-53.10	-182.97	-6.21	3.48	-320.98	MIN
183	2.55	17.09	-14.12	7.10	-35.17	MAX
	-7.63	-74.34	-18.85	-27.27	-244.28	MIN
184	1.37	14.39	-9.27	5.43	-64.17	MAX
	-0.67	-83.70	-17.16	-20.56	-274.05	MIN
185	6.04	38.55	-19.09	6.06	-12.95	MAX
	-16.64	-37.33	-26.82	-23.08	-312.35	MIN
186	16.11	63.58	-2.98	6.83	-18.04	MAX
	-16.94	17.40	-6.39	-5.53	-373.53	MIN
187	1.70	38.19	19.47	34.27	-11.05	MAX
	-9.99	-37.87	6.56	-16.88	-320.43	MIN
188	6.08	16.92	11.64	34.18	-26.35	MAX
	-3.82	-75.33	4.07	-16.16	-249.23	MIN
189	17.15	17.33	1.58	7.80	-29.23	MAX
	-4.47	-78.03	-2.74	-4.03	-231.49	MIN
190	9.40	17.43	-8.98	8.11	-26.54	MAX
	-10.82	-76.46	-10.54	-18.90	-253.06	MIN
191	-0.70	38.95	-12.92	8.86	-11.38	MAX
	-11.88	-39.98	-18.51	-20.25	-328.62	MIN
192	-1.70	64.48	0.63	4.18	-18.20	MAX
	-7.23	14.50	-0.97	-2.49	-386.67	MIN
193	1.14	39.39	19.84	28.77	-11.50	MAX
	-15.27	-41.00	10.86	-13.87	-329.06	MIN
194	13.22	18.43	10.48	27.84	-26.79	MAX
	-17.80	-78.45	7.37	-13.18	-254.23	MIN
195	23.31	18.76	-0.01	1.66	-29.62	MAX
	-15.39	-80.91	-0.25	-1.12	-234.01	MIN
196	14.13	18.69	-7.92	10.91	-26.88	MAX
	-19.05	-78.92	-10.42	-24.42	-254.06	MIN
197	-21.09	0.68	-14.88	16.55	48.20	MAX
	-48.67	-3.01	-43.25	-9.09	31.97	MIN
198	-36.51	-44.82	-22.24	99.89	-20.49	MAX
	-79.47	-116.29	-62.88	63.76	-47.36	MIN
199	43.08	-17.50	-31.01	734.69	-114.30	MAX
	26.82	-72.06	-114.84	375.86	-227.62	MIN
200	-7.04	25.55	4.46	209.18	-239.21	MAX
	-22.69	2.00	-12.00	93.13	-494.63	MIN
201	58.29	194.29	7.19	0.00	-322.77	MAX
	39.41	131.35	-0.01	0.00	-676.94	MIN
202	58.29	194.29	7.19	0.00	-322.77	MAX
	39.41	131.35	-0.01	0.00	-676.94	MIN
203	58.29	194.29	7.19	0.00	-322.77	MAX
	39.41	131.35	-0.01	0.00	-676.94	MIN
204	-31.40	-104.67	-28.33	0.00	34.65	MAX
	-193.72	-645.75	-58.49	0.00	-244.89	MIN
205	-51.13	-144.25	-29.71	73.94	-26.19	MAX
	-212.60	-668.68	-66.78	34.75	-284.08	MIN
206	-4.78	-116.50	-29.83	336.92	-86.30	MAX
	-146.47	-583.57	-102.94	304.60	-325.42	MIN
207	-41.42	-85.77	0.13	103.54	-133.86	MAX
	-150.27	-458.22	-25.14	69.01	-402.47	MIN
208	-13.85	-23.57	0.27	35.27	-143.37	MAX
	-102.59	-333.49	-13.07	23.99	-438.25	MIN
209	-0.99	16.13	-2.85	10.15	-75.92	MAX
	-56.51	-178.57	-7.12	2.98	-373.32	MIN
210	2.77	39.84	-11.57	11.51	-11.68	MAX
	-17.88	-41.95	-19.56	-25.06	-328.81	MIN
211	23.94	23.18	-15.48	32.40	-8.61	MAX
	2.83	3.81	-22.95	-63.94	-160.21	MIN
212	1.82	16.91	-6.52	12.12	-30.50	MAX
	0.24	-19.59	-10.20	-29.77	-174.12	MIN
213	14.14	16.95	-26.55	27.67	13.49	MAX
	-39.08	-0.55	-42.91	-77.88	-227.12	MIN
214	74.44	329.28	-2.23	0.85	159.35	MAX
	-24.46	121.22	-5.01	-6.43	-515.54	MIN
215	17.33	16.04	37.98	77.37	15.34	MAX
	-30.56	-1.28	16.87	-40.50	-230.18	MIN
216	31.87	22.20	18.77	61.64	-1.61	MAX
	19.48	2.83	7.88	-43.46	-159.76	MIN
217	25.91	21.70	1.19	5.90	-6.55	MAX
	13.64	-8.94	-2.37	-4.22	-147.20	MIN
218	27.30	22.40	-12.76	34.98	-1.83	MAX
	23.41	2.32	-16.82	-50.47	-162.86	MIN
219	7.54	15.02	-22.18	31.86	15.00	MAX
	-21.67	-0.98	-37.37	-68.32	-236.42	MIN
220	62.53	327.62	0.56	3.92	159.28	MAX
	-10.52	121.54	-0.87	-2.55	-524.57	MIN
221	4.12	14.36	38.53	76.17	14.93	MAX
	-19.32	-0.70	20.35	-37.00	-237.03	MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	23 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
222	31.09	22.99	18.06	58.31	-1.99	MAX
	19.62	1.06	10.65	-40.22	-164.30	MIN
223	32.38	22.52	0.00	1.72	-6.83	MAX
	3.26	-10.71	-0.23	-1.16	-149.89	MIN
224	31.98	23.15	-11.15	37.87	-2.02	MAX
	18.21	0.70	-17.98	-54.80	-164.29	MIN
225	1.22	13.65	-20.99	34.57	14.85	MAX
	-17.25	-0.39	-38.26	-72.50	-237.08	MIN
226	-37.05	77.07	0.00	0.00	11.60	MAX
	-77.60	25.50	0.00	0.00	-26.24	MIN
227	-29.44	284.18	0.00	0.00	323.67	MAX
	-38.85	88.49	0.00	0.00	219.34	MIN
228	-231.95	-227.37	0.00	0.00	-246.08	MAX
	-463.35	-496.74	0.00	0.00	-640.87	MIN
229	-40.03	-40.59	0.00	0.00	-668.38	MAX
	-119.10	-304.50	0.00	0.00	-1429.84	MIN
230	36.94	123.14	0.00	0.00	-417.52	MAX
	26.31	87.69	0.00	0.00	-904.37	MIN
231	36.94	123.14	0.00	0.00	-417.52	MAX
	26.31	87.69	0.00	0.00	-904.37	MIN
232	36.94	123.14	0.00	0.00	-417.52	MAX
	26.31	87.69	0.00	0.00	-904.37	MIN
233	16.17	53.89	0.00	0.00	169.47	MAX
	-76.09	-253.64	0.00	0.00	-206.59	MIN
234	-48.22	72.73	0.00	0.00	351.05	MAX
	-127.40	-82.07	0.00	0.00	-75.43	MIN
235	-214.86	-258.78	0.00	0.00	-79.91	MAX
	-341.29	-661.72	0.00	0.00	-564.34	MIN
236	-61.30	-132.99	0.00	0.00	-451.89	MAX
	-210.92	-736.05	0.00	0.00	-873.70	MIN
237	-23.79	-33.88	0.00	0.00	-164.74	MAX
	-118.69	-382.22	0.00	0.00	-497.25	MIN
238	-5.36	20.02	0.00	0.00	-82.87	MAX
	-58.10	-176.22	0.00	0.00	-403.83	MIN
239	0.81	65.16	0.00	0.00	-18.45	MAX
	-7.69	13.04	0.00	0.00	-386.49	MIN
240	58.01	326.57	0.00	0.00	159.17	MAX
	-7.33	122.11	0.00	0.00	-524.81	MIN
241	5.13	31.81	-6.39	51.19	-0.97	MAX
	-1.06	8.88	-13.46	-33.43	-76.78	MIN
242	2.25	12.50	-3.95	22.70	-4.90	MAX
	-3.87	7.59	-10.01	-20.34	-66.59	MIN
243	13.54	54.54	-38.36	245.18	-6.12	MAX
	-7.70	-4.66	-125.24	-105.59	-118.75	MIN
244	81.73	113.17	-0.73	-0.98	-96.87	MAX
	-173.88	-135.84	-3.33	-6.37	-456.95	MIN
245	18.36	53.48	124.15	101.83	-4.26	MAX
	0.94	-5.49	32.20	-257.86	-117.61	MIN
246	18.23	30.65	13.37	28.97	4.41	MAX
	15.49	7.70	1.90	-62.09	-72.69	MIN
247	25.64	20.72	0.79	4.51	5.48	MAX
	12.21	11.64	-1.82	-4.25	-62.47	MIN
248	20.44	30.52	-5.61	53.54	4.23	MAX
	11.26	7.81	-12.06	-20.57	-74.72	MIN
249	11.86	53.11	-36.09	249.18	-4.51	MAX
	10.24	-5.39	-123.57	-95.42	-121.43	MIN
250	73.11	112.28	0.39	3.67	-96.76	MAX
	-159.13	-135.94	-0.67	-2.55	-461.64	MIN
251	13.66	52.77	124.37	102.66	-4.52	MAX
	7.47	-5.18	34.69	-254.32	-121.99	MIN
252	25.51	29.89	12.89	27.51	4.18	MAX
	4.55	8.21	3.98	-58.79	-75.97	MIN
253	33.52	19.88	-0.02	1.76	5.35	MAX
	2.37	12.10	-0.17	-1.18	-64.64	MIN
254	26.61	29.68	-4.35	56.41	4.19	MAX
	3.03	8.33	-12.88	-23.96	-76.05	MIN
255	15.62	52.35	-35.17	251.87	-4.51	MAX
	4.37	-4.93	-124.21	-99.05	-122.19	MIN
256	68.35	111.67	0.00	0.00	-96.74	MAX
	-155.69	-135.59	0.00	0.00	-462.04	MIN
257	-21.09	0.68	43.25	9.09	48.20	MAX
	-48.67	-3.01	14.88	-16.55	31.97	MIN
258	-36.51	-44.82	62.88	-63.76	-20.49	MAX
	-79.47	-116.29	22.24	-99.89	-47.36	MIN
259	43.08	-17.50	114.84	-375.86	-114.30	MAX
	26.82	-72.06	31.01	-734.69	-227.62	MIN
260	-7.04	25.55	12.00	-93.13	-239.21	MAX
	-22.69	2.00	-4.46	-209.18	-494.63	MIN
261	58.29	194.29	0.01	0.00	-322.77	MAX
	39.41	131.35	-7.19	0.00	-676.94	MIN
262	58.29	194.29	0.01	0.00	-322.77	MAX
	39.41	131.35	-7.19	0.00	-676.94	MIN



APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004</b>	<b>A</b>	<b>24 di 123</b>

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
263	58.29 39.41	194.29 131.35	0.01 -7.19	0.00 0.00	-322.77 -676.94	MAX MIN
264	-31.40 -193.72	-104.67 -645.75	58.49 28.33	0.00 0.00	34.65 -244.89	MAX MIN
265	-51.13 -212.60	-144.25 -668.68	66.78 29.71	-34.75 -73.94	-26.19 -284.08	MAX MIN
266	-4.78 -146.47	-116.50 -583.57	102.94 29.83	-304.60 -336.92	-86.30 -325.42	MAX MIN
267	-41.42 -150.27	-85.77 -458.22	25.14 -0.13	-69.01 -103.54	-133.86 -402.47	MAX MIN
268	-13.85 -102.59	-23.57 -333.49	13.07 -0.27	-23.99 -35.27	-143.37 -438.25	MAX MIN
269	-0.99 -56.51	16.13 -178.57	7.12 2.85	-2.98 -10.15	-75.92 -373.32	MAX MIN
270	2.77 -17.88	39.84 -41.95	19.56 11.57	25.06 -11.51	-11.68 -328.81	MAX MIN
271	1.22 -17.25	13.65 -0.39	38.26 20.99	72.50 -34.57	14.85 -237.08	MAX MIN
272	15.62 4.37	52.35 -4.93	124.21 35.17	99.05 -251.87	-4.51 -122.19	MAX MIN
273	-7.99 -10.62	26.07 3.37	-3.38 -21.95	60.40 15.19	1.00 -18.59	MAX MIN
274	0.33 -0.76	9.46 2.82	-0.57 -4.74	25.12 1.82	11.09 1.52	MAX MIN
275	35.39 -41.37	61.02 -8.48	-6.29 -45.91	64.74 33.23	-35.98 -60.38	MAX MIN
276	-18.90 -60.63	-61.60 -257.75	0.23 -1.65	0.32 -5.33	-191.92 -290.88	MAX MIN
277	36.23 -34.27	59.88 -9.21	47.17 3.48	-32.74 -74.70	-34.73 -58.03	MAX MIN
278	3.61 -5.37	25.25 2.40	24.02 1.60	-15.45 -68.69	4.90 -12.84	MAX MIN
279	18.95 6.04	19.08 4.99	0.39 -1.04	3.74 -3.94	9.67 -6.34	MAX MIN
280	8.42 -9.02	25.30 2.44	-3.71 -23.35	60.78 22.42	4.78 -13.81	MAX MIN
281	29.52 -24.59	59.83 -9.22	-5.62 -46.74	66.75 38.36	-34.87 -59.76	MAX MIN
282	-27.58 -46.61	-61.82 -258.23	0.18 -0.37	3.59 -2.44	-193.61 -290.66	MAX MIN
283	26.18 -21.96	59.73 -9.12	47.11 4.83	-31.34 -71.65	-34.85 -60.09	MAX MIN
284	13.75 -15.57	25.12 2.63	23.72 2.79	-15.89 -65.76	4.78 -14.53	MAX MIN
285	27.15 -3.42	18.87 5.24	-0.05 -0.08	1.88 -1.18	9.63 -7.55	MAX MIN
286	14.90 -17.17	25.03 2.68	-2.98 -23.78	63.39 19.65	4.80 -14.62	MAX MIN
287	22.97 -19.63	59.55 -9.01	-5.09 -47.07	69.26 35.05	-34.80 -60.28	MAX MIN
288	-32.46 -43.55	-61.66 -258.48	0.00 0.00	0.00 0.00	-193.93 -290.60	MAX MIN
289	22.97 -19.63	59.55 -9.01	47.07 5.09	-35.05 -69.26	-34.80 -60.28	MAX MIN
290	38.74 17.95	-13.56 -36.32	18.42 6.34	9.51 -15.95	-12.43 -14.55	MAX MIN
291	64.13 31.26	-6.92 -27.59	29.51 10.34	-66.83 -113.42	-34.45 -52.52	MAX MIN
292	58.23 35.33	10.86 -7.92	5.81 0.98	-79.01 -157.44	-90.65 -167.56	MAX MIN
293	40.54 33.14	69.36 53.72	-2.58 -5.64	-72.57 -160.02	-144.42 -289.36	MAX MIN
294	58.85 33.65	196.16 112.15	-8.02 -11.42	0.00 0.00	-163.29 -336.21	MAX MIN
295	58.85 33.65	196.16 112.15	-8.02 -11.42	0.00 0.00	-163.29 -336.21	MAX MIN
296	58.85 33.65	196.16 112.15	-8.02 -11.42	0.00 0.00	-163.29 -336.21	MAX MIN
297	-48.17 -228.17	-160.57 -760.56	16.48 11.45	0.00 0.00	-109.60 -350.69	MAX MIN
298	-8.60 -144.47	-123.35 -647.05	19.33 11.43	-14.22 -36.10	-97.61 -336.16	MAX MIN
299	-7.58 -146.85	-105.54 -574.30	1.14 0.36	-42.04 -49.38	-93.07 -327.70	MAX MIN
300	-5.29 -136.44	-66.59 -450.28	7.81 -1.44	-62.86 -85.83	-100.10 -339.46	MAX MIN
301	-1.08 -92.24	-24.09 -310.27	5.01 -1.46	-23.37 -35.33	-92.19 -345.23	MAX MIN
302	8.06 -53.10	9.08 -182.97	6.21 2.67	-3.48 -9.84	-64.18 -320.98	MAX MIN
303	14.13 -19.05	18.69 -78.92	10.42 7.92	24.42 -10.91	-26.88 -254.06	MAX MIN

APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo		
<b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004</b>	<b>A</b>	<b>25 di 123</b>

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
304	31.98	23.15	17.98	54.80	-2.02	MAX
	18.21	0.70	11.15	-37.87	-164.29	MIN
305	26.61	29.68	12.88	23.96	4.19	MAX
	3.03	8.33	4.35	-56.41	-76.05	MIN
306	14.90	25.03	23.78	-19.65	4.80	MAX
	-17.17	2.68	2.98	-63.39	-14.62	MIN
307	17.11	29.63	-2.09	91.65	3.81	MAX
	-12.20	2.65	-13.54	53.96	0.26	MIN
308	0.32	-1.12	-1.53	66.91	24.34	MAX
	-1.47	-3.47	-8.58	39.35	7.18	MIN
309	38.71	9.95	-4.96	85.88	-40.94	MAX
	-27.94	5.29	-32.49	52.06	-57.18	MIN
310	34.87	-10.48	0.30	0.77	-77.42	MAX
	-38.68	-62.35	-0.65	-3.57	-115.72	MIN
311	33.41	7.88	33.67	-57.92	-39.08	MAX
	-22.30	4.54	3.94	-80.29	-55.91	MIN
312	-1.64	23.94	14.94	-56.63	6.74	MAX
	-5.06	0.90	1.51	-77.78	4.03	MIN
313	8.44	-0.84	0.09	3.52	10.40	MAX
	-28.90	-1.15	-0.45	-2.73	5.57	MIN
314	1.02	24.04	-2.41	84.37	6.67	MAX
	-5.11	0.93	-14.79	51.09	3.93	MIN
315	26.91	7.97	-4.84	85.74	-39.89	MAX
	-12.46	4.57	-33.56	52.19	-56.48	MIN
316	25.39	-10.62	-0.02	3.94	-77.40	MAX
	-24.10	-62.73	-0.13	-2.14	-116.37	MIN
317	23.63	7.96	33.52	-56.42	-40.08	MAX
	-9.86	4.60	4.56	-78.06	-56.56	MIN
318	6.31	24.04	14.78	-55.20	6.70	MAX
	-11.54	0.99	2.07	-77.34	3.95	MIN
319	16.61	-0.75	-0.01	2.36	9.75	MAX
	-38.14	-1.11	-0.09	-1.23	5.56	MIN
320	7.44	24.02	-2.09	81.98	6.72	MAX
	-13.10	1.01	-14.94	52.77	3.97	MIN
321	20.48	7.92	-4.62	82.45	-40.22	MAX
	-7.57	4.63	-33.63	54.10	-56.60	MIN
322	20.60	-10.58	0.00	0.00	-77.33	MAX
	-20.57	-62.78	0.00	0.00	-116.59	MIN
323	20.48	7.92	33.63	-54.10	-40.22	MAX
	-7.57	4.63	4.62	-82.45	-56.60	MIN
324	7.44	24.02	14.94	-52.77	6.72	MAX
	-13.10	1.01	2.09	-81.98	3.97	MIN
325	101.49	1.78	0.20	1.22	-7.97	MAX
	45.56	0.37	0.11	0.67	-12.33	MIN
326	69.46	0.23	0.31	0.30	-33.68	MAX
	37.83	-10.74	0.17	0.16	-48.73	MIN
327	73.23	24.38	0.45	-0.10	-79.11	MAX
	43.51	20.98	0.25	-0.17	-142.61	MIN
328	64.17	91.30	0.49	-0.18	-114.76	MAX
	41.46	60.89	0.27	-0.32	-229.22	MIN
329	53.61	178.68	0.43	0.00	-127.19	MAX
	31.00	103.35	0.24	0.00	-262.70	MIN
330	53.61	178.68	0.43	0.00	-127.19	MAX
	31.00	103.35	0.24	0.00	-262.70	MIN
331	53.61	178.68	0.43	0.00	-127.19	MAX
	31.00	103.35	0.24	0.00	-262.70	MIN
332	-48.37	-161.23	0.27	0.00	-133.76	MAX
	-225.91	-753.02	0.07	0.00	-375.24	MIN
333	-18.84	-128.23	0.30	0.27	-124.53	MAX
	-172.13	-662.47	0.08	-0.12	-363.69	MIN
334	-2.50	-102.74	0.27	0.49	-107.04	MAX
	-140.35	-578.39	0.10	-0.38	-342.36	MIN
335	4.00	-62.15	0.23	0.75	-95.11	MAX
	-116.93	-443.36	0.15	-0.86	-332.04	MIN
336	6.54	-23.77	0.21	0.93	-82.21	MAX
	-88.63	-310.49	0.15	-1.25	-324.85	MIN
337	12.01	4.88	0.24	1.05	-58.48	MAX
	-51.25	-185.27	0.07	-1.51	-295.43	MIN
338	23.31	18.76	0.25	1.12	-29.62	MAX
	-15.39	-80.91	0.01	-1.66	-234.01	MIN
339	32.38	22.52	0.23	1.16	-6.83	MAX
	3.26	-10.71	0.00	-1.72	-149.89	MIN
340	33.52	19.88	0.17	1.18	5.35	MAX
	2.37	12.10	0.02	-1.76	-64.64	MIN
341	27.15	18.87	0.08	1.18	9.63	MAX
	-3.42	5.24	0.05	-1.88	-7.55	MIN
342	16.61	-0.75	0.09	1.23	9.75	MAX
	-38.14	-1.11	0.01	-2.36	5.56	MIN
343	38.80	-13.56	-6.11	17.55	-12.67	MAX
	17.98	-36.31	-18.01	-6.81	-14.72	MIN
344	64.26	-6.85	-9.98	114.21	-34.68	MAX
	31.34	-27.45	-28.86	67.25	-52.94	MIN

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 26 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
345	58.42	11.11	-0.48	157.21	-91.05	MAX
	35.44	-7.51	-4.89	78.88	-168.28	MIN
346	40.79	70.09	6.24	159.44	-144.91	MAX
	33.28	54.12	3.58	72.24	-290.25	MIN
347	59.17	197.22	12.28	0.00	-163.81	MAX
	33.82	112.74	8.50	0.00	-337.15	MIN
348	59.17	197.22	12.28	0.00	-163.81	MAX
	33.82	112.74	8.50	0.00	-337.15	MIN
349	59.17	197.22	12.28	0.00	-163.81	MAX
	33.82	112.74	8.50	0.00	-337.15	MIN
350	-48.19	-160.64	-11.27	0.00	-109.06	MAX
	-228.39	-761.28	-15.99	0.00	-352.17	MIN
351	-8.79	-123.55	-11.22	36.68	-97.09	MAX
	-144.43	-647.41	-18.79	13.89	-337.59	MIN
352	-7.88	-105.79	0.12	49.55	-92.62	MAX
	-146.61	-574.40	-0.89	41.14	-328.98	MIN
353	-5.77	-66.91	1.79	83.95	-99.75	MAX
	-135.89	-450.02	-7.43	64.41	-340.46	MIN
354	-1.72	-24.43	1.92	32.67	-91.95	MAX
	-91.42	-309.81	-4.79	25.27	-345.91	MIN
355	7.28	8.76	-2.13	11.97	-64.01	MAX
	-52.05	-182.45	-6.16	0.32	-321.37	MIN
356	13.22	18.43	-7.37	13.18	-26.79	MAX
	-17.80	-78.45	-10.48	-27.84	-254.23	MIN
357	31.09	22.99	-10.65	40.22	-1.99	MAX
	19.62	1.06	-18.06	-58.31	-164.30	MIN
358	25.51	29.89	-3.98	58.79	4.18	MAX
	4.55	8.21	-12.89	-27.51	-75.97	MIN
359	13.75	25.12	-2.79	65.76	4.78	MAX
	-15.57	2.63	-23.72	15.89	-14.53	MIN
360	6.31	24.04	-2.07	77.34	6.70	MAX
	-11.54	0.99	-14.78	55.20	3.95	MIN
361	-21.10	0.69	-14.63	18.65	47.70	MAX
	-48.71	-2.99	-42.80	-5.56	31.69	MIN
362	-36.43	-44.67	-21.86	101.26	-20.98	MAX
	-79.36	-116.03	-62.20	64.51	-48.25	MIN
363	43.35	-17.05	-30.48	734.87	-115.15	MAX
	26.97	-71.25	-113.89	375.94	-229.16	MIN
364	-6.79	26.43	5.03	208.81	-240.26	MAX
	-22.24	3.47	-10.97	92.91	-496.54	MIN
365	58.95	196.48	7.71	0.00	-323.88	MAX
	39.77	132.57	0.87	0.00	-678.97	MIN
366	58.95	196.48	7.71	0.00	-323.88	MAX
	39.77	132.57	0.87	0.00	-678.97	MIN
367	58.95	196.48	7.71	0.00	-323.88	MAX
	39.77	132.57	0.87	0.00	-678.97	MIN
368	-31.47	-104.89	-28.02	0.00	35.67	MAX
	-194.13	-647.11	-58.16	0.00	-247.90	MIN
369	-51.54	-144.71	-29.36	74.63	-25.20	MAX
	-212.45	-669.30	-66.42	34.16	-286.99	MIN
370	-5.43	-117.06	-29.45	336.95	-85.45	MAX
	-145.89	-583.68	-102.64	304.61	-327.99	MIN
371	-42.42	-86.46	0.63	101.14	-133.20	MAX
	-149.05	-457.62	-24.97	70.73	-404.46	MIN
372	-15.16	-24.27	0.89	32.10	-142.91	MAX
	-100.83	-332.52	-13.08	26.02	-439.57	MIN
373	-2.59	15.49	-2.15	12.38	-75.61	MAX
	-54.28	-177.50	-7.31	-0.60	-374.04	MIN
374	1.14	39.39	-10.86	13.87	-11.50	MAX
	-15.27	-41.00	-19.84	-28.77	-329.06	MIN
375	4.12	14.36	-20.35	37.00	14.93	MAX
	-19.32	-0.70	-38.53	-76.17	-237.03	MIN
376	13.66	52.77	-34.69	254.32	-4.52	MAX
	7.47	-5.18	-124.37	-102.66	-121.99	MIN
377	26.18	59.73	-4.83	71.65	-34.85	MAX
	-21.96	-9.12	-47.11	31.34	-60.09	MIN
378	23.63	7.96	-4.56	78.06	-40.08	MAX
	-9.86	4.60	-33.52	56.42	-56.56	MIN
379	-37.30	77.08	0.52	4.93	11.16	MAX
	-78.06	25.51	0.29	2.72	-27.02	MIN
380	-29.56	284.53	0.71	2.42	322.24	MAX
	-39.08	88.69	0.40	1.32	218.55	MIN
381	-231.89	-226.71	0.97	0.96	-247.47	MAX
	-463.27	-495.54	0.54	0.51	-643.40	MIN
382	-39.75	-39.36	1.01	0.07	-670.14	MAX
	-118.61	-302.27	0.57	0.02	-1433.04	MIN
383	37.56	125.19	0.85	0.00	-419.41	MAX
	27.34	91.12	0.47	0.00	-907.80	MIN
384	37.56	125.19	0.85	0.00	-419.41	MAX
	27.34	91.12	0.47	0.00	-907.80	MIN
385	37.56	125.19	0.85	0.00	-419.41	MAX
	27.34	91.12	0.47	0.00	-907.80	MIN

APPALTATORE:

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

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

PROGETTAZIONE:

Mandatario:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 27 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
386	15.98	53.28	0.52	0.00	170.88	MAX
	-76.64	-255.45	0.04	0.00	-211.23	MIN
387	-48.84	71.85	0.59	0.88	352.39	MAX
	-127.00	-82.74	0.03	-1.08	-79.90	MIN
388	-215.90	-259.76	0.63	1.44	-78.75	MAX
	-340.17	-661.64	-0.04	-2.10	-568.24	MIN
389	-62.87	-134.12	0.78	1.96	-451.01	MAX
	-208.79	-734.94	-0.21	-3.36	-876.64	MIN
390	-25.83	-34.99	0.91	2.23	-164.12	MAX
	-115.72	-380.61	-0.41	-4.07	-499.08	MIN
391	-7.84	19.04	0.99	2.39	-82.46	MAX
	-54.46	-174.53	-0.57	-4.29	-404.71	MIN
392	-1.70	64.48	0.97	2.49	-18.20	MAX
	-7.23	14.50	-0.63	-4.18	-386.67	MIN
393	62.53	327.62	0.87	2.55	159.28	MAX
	-10.52	121.54	-0.56	-3.92	-524.57	MIN
394	73.11	112.28	0.67	2.55	-96.76	MAX
	-159.13	-135.94	-0.39	-3.67	-461.64	MIN
395	-27.58	-61.82	0.37	2.44	-193.61	MAX
	-46.61	-258.23	-0.18	-3.59	-290.66	MIN
396	25.39	-10.62	0.13	2.14	-77.40	MAX
	-24.10	-62.73	0.02	-3.94	-116.37	MIN
397	-21.88	0.66	43.81	16.02	47.11	MAX
	-50.14	-3.03	15.19	-12.56	31.36	MIN
398	-37.13	-44.59	63.56	-61.53	-21.63	MAX
	-80.64	-115.89	22.62	-95.82	-49.42	MIN
399	42.52	-16.65	115.72	-374.63	-116.37	MAX
	26.53	-70.54	31.50	-732.43	-231.37	MIN
400	-6.88	27.29	12.86	-92.68	-241.88	MAX
	-22.43	4.91	-3.98	-208.33	-499.48	MIN
401	59.71	199.04	0.69	0.00	-325.65	MAX
	40.20	133.99	-6.77	0.00	-682.18	MIN
402	59.71	199.04	0.69	0.00	-325.65	MAX
	40.20	133.99	-6.77	0.00	-682.18	MIN
403	59.71	199.04	0.69	0.00	-325.65	MAX
	40.20	133.99	-6.77	0.00	-682.18	MIN
404	-31.75	-105.84	58.02	0.00	36.25	MAX
	-194.31	-647.69	29.17	0.00	-251.31	MIN
405	-52.17	-145.80	66.26	-36.63	-24.66	MAX
	-211.69	-669.04	30.65	-72.80	-290.23	MIN
406	-6.30	-118.10	102.35	-302.83	-85.01	MAX
	-144.47	-582.97	30.82	-337.65	-330.66	MIN
407	-43.65	-87.45	24.36	-66.76	-132.89	MAX
	-146.76	-456.32	1.05	-108.42	-406.22	MIN
408	-16.71	-25.12	12.10	-21.54	-142.69	MAX
	-97.96	-331.06	1.06	-40.72	-440.36	MIN
409	-4.44	14.81	6.05	-7.47	-75.45	MAX
	-51.05	-176.18	4.19	-9.36	-374.06	MIN
410	-0.70	38.95	18.51	20.25	-11.38	MAX
	-11.88	-39.98	12.92	-8.86	-328.62	MIN
411	7.54	15.02	37.37	68.32	15.00	MAX
	-21.67	-0.98	22.18	-31.86	-236.42	MIN
412	11.86	53.11	123.57	95.42	-4.51	MAX
	10.24	-5.39	36.09	-249.18	-121.43	MIN
413	29.52	59.83	46.74	-38.36	-34.87	MAX
	-24.59	-9.22	5.62	-66.75	-59.76	MIN
414	26.91	7.97	33.56	-52.19	-39.89	MAX
	-12.46	4.57	4.84	-85.74	-56.48	MIN
415	35.32	-13.62	18.96	19.06	-13.85	MAX
	16.08	-36.42	6.65	-10.52	-15.54	MIN
416	61.07	-6.72	30.01	-63.27	-35.98	MAX
	29.61	-27.24	10.63	-106.95	-55.28	MIN
417	56.28	11.88	6.34	-76.68	-93.52	MAX
	34.29	-6.25	1.29	-153.16	-172.76	MIN
418	40.08	72.73	-2.18	-71.41	-148.23	MAX
	32.91	55.61	-5.39	-157.87	-296.28	MIN
419	60.65	202.18	-7.88	0.00	-167.44	MAX
	34.65	115.50	-11.19	0.00	-343.75	MIN
420	60.65	202.18	-7.88	0.00	-167.44	MAX
	34.65	115.50	-11.19	0.00	-343.75	MIN
421	60.65	202.18	-7.88	0.00	-167.44	MAX
	34.65	115.50	-11.19	0.00	-343.75	MIN
422	-48.83	-162.77	15.16	0.00	-108.12	MAX
	-228.63	-762.09	12.71	0.00	-359.04	MIN
423	-10.11	-125.90	17.90	-17.37	-96.21	MAX
	-142.60	-646.53	12.83	-34.67	-344.09	MIN
424	-9.66	-107.99	2.61	-44.59	-91.92	MAX
	-143.33	-572.70	-1.08	-50.98	-334.24	MIN
425	-8.24	-68.95	6.23	-60.33	-99.25	MAX
	-130.78	-447.22	0.28	-92.99	-343.77	MIN
426	-4.84	-26.14	3.35	-20.73	-91.57	MAX
	-85.18	-306.80	0.41	-42.75	-347.18	MIN

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 28 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
427	3.53	7.41	5.16	-7.13	-63.71	MAX
	-45.22	-179.79	4.44	-10.17	-321.09	MIN
428	9.40	17.43	10.54	18.90	-26.54	MAX
	-10.82	-76.46	8.98	-8.11	-253.06	MIN
429	27.30	22.40	16.82	50.47	-1.83	MAX
	23.41	2.32	12.76	-34.98	-162.86	MIN
430	20.44	30.52	12.06	20.57	4.23	MAX
	11.26	7.81	5.61	-53.54	-74.72	MIN
431	8.42	25.30	23.35	-22.42	4.78	MAX
	-9.02	2.44	3.71	-60.78	-13.81	MIN
432	1.02	24.04	14.79	-51.09	6.67	MAX
	-5.11	0.93	2.41	-84.37	3.93	MIN
433	94.62	1.52	0.58	13.93	-9.69	MAX
	41.81	0.24	0.34	7.73	-13.36	MIN
434	63.05	0.31	0.34	10.06	-35.61	MAX
	34.35	-10.64	0.21	5.52	-52.21	MIN
435	68.72	25.44	0.16	7.03	-82.87	MAX
	41.06	22.46	0.12	3.83	-149.41	MIN
436	62.24	94.64	-0.05	3.83	-119.87	MAX
	40.42	62.78	-0.14	2.08	-238.49	MIN
437	55.68	185.59	-0.15	0.00	-132.80	MAX
	32.16	107.20	-0.31	0.00	-272.90	MIN
438	55.68	185.59	-0.15	0.00	-132.80	MAX
	32.16	107.20	-0.31	0.00	-272.90	MIN
439	55.68	185.59	-0.15	0.00	-132.80	MAX
	32.16	107.20	-0.31	0.00	-272.90	MIN
440	-49.50	-165.01	1.86	0.00	-132.89	MAX
	-225.99	-753.30	-2.48	0.00	-385.60	MIN
441	-20.91	-132.18	2.08	1.97	-123.73	MAX
	-168.52	-660.18	-2.63	-5.27	-373.39	MIN
442	-5.21	-106.36	2.18	2.88	-106.43	MAX
	-134.22	-575.09	-2.48	-8.74	-349.95	MIN
443	0.29	-65.35	2.57	3.41	-94.66	MAX
	-107.80	-438.68	-2.44	-11.39	-336.36	MIN
444	1.83	-26.37	2.84	3.60	-81.80	MAX
	-77.95	-305.78	-2.26	-11.39	-325.87	MIN
445	6.32	2.90	2.91	3.80	-58.07	MAX
	-40.09	-181.29	-1.96	-9.87	-294.10	MIN
446	17.15	17.33	2.74	4.03	-29.23	MAX
	-4.47	-78.03	-1.58	-7.80	-231.49	MIN
447	25.91	21.70	2.37	4.22	-6.55	MAX
	13.64	-8.94	-1.19	-5.90	-147.20	MIN
448	25.64	20.72	1.82	4.25	5.48	MAX
	12.21	11.64	-0.79	-4.51	-62.47	MIN
449	18.95	19.08	1.04	3.94	9.67	MAX
	6.04	4.99	-0.39	-3.74	-6.34	MIN
450	8.44	-0.84	0.45	2.73	10.40	MAX
	-28.90	-1.15	-0.09	-3.52	5.57	MIN
451	26.20	-13.83	-6.09	27.35	-14.37	MAX
	11.11	-36.83	-18.03	9.54	-16.07	MIN
452	52.35	-7.03	-10.45	128.18	-36.95	MAX
	24.87	-27.86	-29.82	74.91	-57.06	MIN
453	49.68	11.60	-1.46	168.29	-95.60	MAX
	30.66	-6.79	-6.78	84.95	-176.56	MIN
454	36.24	72.42	4.75	166.38	-151.26	MAX
	30.79	55.49	0.99	76.06	-301.77	MIN
455	61.19	203.97	9.74	0.00	-170.84	MAX
	34.97	116.56	7.13	0.00	-349.91	MIN
456	61.19	203.97	9.74	0.00	-170.84	MAX
	34.97	116.56	7.13	0.00	-349.91	MIN
457	61.19	203.97	9.74	0.00	-170.84	MAX
	34.97	116.56	7.13	0.00	-349.91	MIN
458	-50.01	-166.70	-8.89	0.00	-109.57	MAX
	-227.67	-758.91	-21.18	0.00	-364.31	MIN
459	-11.48	-129.43	-8.54	38.50	-97.62	MAX
	-137.69	-642.00	-24.22	5.63	-348.71	MIN
460	-11.15	-110.93	1.93	50.76	-93.13	MAX
	-135.94	-568.45	-4.68	28.18	-336.91	MIN
461	-10.13	-71.11	5.09	73.21	-100.07	MAX
	-121.07	-443.20	-11.48	66.85	-343.67	MIN
462	-7.32	-27.60	5.52	29.51	-91.92	MAX
	-75.26	-303.75	-7.76	18.95	-344.68	MIN
463	0.36	6.50	1.47	14.61	-63.69	MAX
	-36.47	-177.79	-8.10	-9.84	-317.34	MIN
464	6.08	16.92	-4.07	16.16	-26.35	MAX
	-3.82	-75.33	-11.64	-34.18	-249.23	MIN
465	31.87	22.20	-7.88	43.46	-1.61	MAX
	19.48	2.83	-18.77	-61.64	-159.76	MIN
466	18.23	30.65	-1.90	62.09	4.41	MAX
	15.49	7.70	-13.37	-28.97	-72.69	MIN
467	3.61	25.25	-1.60	68.69	4.90	MAX
	-5.37	2.40	-24.02	15.45	-12.84	MIN

APPALTATORE:

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

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

PROGETTAZIONE:

Mandatario:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 29 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]		
468	-1.64	23.94	-1.51	77.78	6.74	MAX	
	-5.06	0.90	-14.94	56.63	4.03	MIN	
469	-32.85	0.19	-14.99	30.82	45.61	MAX	
	-70.46	-4.00	-43.60	14.92	30.58	MIN	
470	-47.46	-45.26	-23.21	120.10	-23.37	MAX	
	-99.66	-117.26	-64.89	74.75	-52.71	MIN	
471	28.14	-17.43	-32.92	750.34	-120.03	MAX	
	18.55	-72.13	-118.54	384.53	-238.17	MIN	
472	-11.68	26.39	1.82	219.11	-247.19	MAX	
	-30.98	3.18	-16.91	98.70	-509.14	MIN	
473	60.30	201.00	4.41	0.00	-331.63	MAX	
	40.57	135.23	-4.74	0.00	-692.97	MIN	
474	60.30	201.00	4.41	0.00	-331.63	MAX	
	40.57	135.23	-4.74	0.00	-692.97	MIN	
475	60.30	201.00	4.41	0.00	-331.63	MAX	
	40.57	135.23	-4.74	0.00	-692.97	MIN	
476	-34.22	-114.08	-25.10	0.00	32.65	MAX	
	-191.94	-639.80	-67.62	0.00	-260.68	MIN	
477	-54.69	-153.05	-26.03	76.18	-28.10	MAX	
	-200.07	-658.61	-76.17	21.09	-298.22	MIN	
478	-8.91	-124.09	-25.81	327.00	-87.87	MAX	
	-127.22	-573.75	-110.64	284.76	-334.56	MIN	
479	-47.04	-91.78	5.01	80.91	-134.74	MAX	
	-124.79	-448.24	-30.62	72.27	-404.46	MIN	
480	-21.45	-27.99	5.72	29.32	-143.43	MAX	
	-76.41	-325.25	-15.94	14.02	-433.93	MIN	
481	-10.75	13.07	2.64	14.69	-75.44	MAX	
	-33.01	-172.47	-8.04	-12.24	-365.52	MIN	
482	1.70	38.19	-6.56	16.88	-11.05	MAX	
	-9.99	-37.87	-19.47	-34.27	-320.43	MIN	
483	17.33	16.04	-16.87	40.50	15.34	MAX	
	-30.56	-1.28	-37.98	-77.37	-230.18	MIN	
484	18.36	53.48	-32.20	257.86	-4.26	MAX	
	0.94	-5.49	-124.15	-101.83	-117.61	MIN	
485	36.23	59.88	-3.48	74.70	-34.73	MAX	
	-34.27	-9.21	-47.17	32.74	-58.03	MIN	
486	33.41	7.88	-3.94	80.29	-39.08	MAX	
	-22.30	4.54	-33.67	57.92	-55.91	MIN	
487	-56.16	75.41	-0.62	30.20	10.19	MAX	
	-113.77	24.81	-1.50	16.13	-29.18	MIN	
488	-47.06	282.33	-2.17	25.76	318.13	MAX	
	-71.41	87.66	-4.54	13.85	216.61	MIN	
489	-245.63	-228.40	-4.12	19.92	-251.36	MAX	
	-487.63	-498.90	-7.95	11.35	-651.02	MIN	
490	-48.28	-42.04	-5.51	13.34	-675.75	MAX	
	-133.39	-307.44	-10.06	7.84	-1443.25	MIN	
491	37.39	124.65	-5.36	0.00	-425.75	MAX	
	26.90	89.65	-9.58	0.00	-919.03	MIN	
492	37.39	124.65	-5.36	0.00	-425.75	MAX	
	26.90	89.65	-9.58	0.00	-919.03	MIN	
493	37.39	124.65	-5.36	0.00	-425.75	MAX	
	26.90	89.65	-9.58	0.00	-919.03	MIN	
494	12.48	41.61	3.64	0.00	163.71	MAX	
	-71.65	-238.83	-17.10	0.00	-221.16	MIN	
495	-50.54	62.16	4.31	1.28	345.66	MAX	
	-104.51	-66.58	-17.06	-21.18	-87.61	MIN	
496	-218.62	-268.94	5.02	1.31	-84.15	MAX	
	-307.26	-646.27	-13.14	-31.51	-569.51	MIN	
497	-66.94	-140.58	6.39	1.61	-454.38	MAX	
	-168.77	-722.84	-7.17	-33.98	-869.65	MIN	
498	-32.39	-39.18	7.17	2.68	-165.56	MAX	
	-79.37	-372.84	-1.51	-26.49	-485.99	MIN	
499	-17.20	16.64	7.15	4.11	-82.72	MAX	
	-26.47	-169.68	1.93	-16.12	-389.70	MIN	
500	16.11	63.58	6.39	5.53	-18.04	MAX	
	-16.94	17.40	2.98	-6.83	-373.53	MIN	
501	74.44	329.28	5.01	6.43	159.35	MAX	
	-24.46	121.22	2.23	-0.85	-515.54	MIN	
502	81.73	113.17	3.33	6.37	-96.87	MAX	
	-173.88	-135.84	0.73	0.98	-456.95	MIN	
503	-18.90	-61.60	1.65	5.33	-191.92	MAX	
	-60.63	-257.75	-0.23	-0.32	-290.88	MIN	
504	34.87	-10.48	0.65	3.57	-77.42	MAX	
	-38.68	-62.35	-0.30	-0.77	-115.72	MIN	
505	-50.06	-0.08	40.44	47.04	45.66	MAX	
	-106.14	-5.61	13.81	2.21	31.27	MIN	
506	-62.48	-45.48	55.60	-48.94	-21.61	MAX	
	-127.61	-118.11	18.96	-72.17	-51.05	MIN	
507	5.74	-19.98	102.19	-362.83	-116.07	MAX	
	4.98	-76.89	24.50	-713.29	-232.14	MIN	
508	-21.00	19.85	-5.44	-83.68	-241.52	MAX	
	-45.78	-7.77	-14.84	-194.31	-498.75	MIN	

APPALTATORE:

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

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

PROGETTAZIONE:

Mandatario:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	30 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
509	55.95 38.26	186.49 127.53	-16.65 -18.05	0.00 0.00	-325.40 -680.96	MAX MIN
510	55.95 38.26	186.49 127.53	-16.65 -18.05	0.00 0.00	-325.40 -680.96	MAX MIN
511	55.95 38.26	186.49 127.53	-16.65 -18.05	0.00 0.00	-325.40 -680.96	MAX MIN
512	-37.08 -184.86	-123.60 -616.21	35.51 27.03	0.00 0.00	22.99 -247.64	MAX MIN
513	-52.97 -170.34	-159.60 -635.78	38.86 33.35	-65.15 -81.11	-37.01 -284.12	MAX MIN
514	-6.05 -83.37	-129.15 -559.01	82.89 35.69	-306.60 -363.18	-94.75 -318.08	MAX MIN
515	-46.27 -83.44	-94.96 -443.04	17.72 7.60	-69.55 -145.86	-139.30 -386.31	MAX MIN
516	-22.93 -46.33	-29.52 -323.83	15.31 8.33	-22.72 -64.52	-146.48 -417.00	MAX MIN
517	-14.61 -18.17	12.66 -171.98	14.54 11.32	-6.88 -17.41	-77.73 -352.53	MAX MIN
518	6.04 -16.64	38.55 -37.33	26.82 19.09	23.08 -6.06	-12.95 -312.35	MAX MIN
519	14.14 -39.08	16.95 -0.55	42.91 26.55	77.88 -27.67	13.49 -227.12	MAX MIN
520	13.54 -7.70	54.54 -4.66	125.24 38.36	105.59 -245.18	-6.12 -118.75	MAX MIN
521	35.39 -41.37	61.02 -8.48	45.91 6.29	-33.23 -64.74	-35.98 -60.38	MAX MIN
522	38.71 -27.94	9.95 5.29	32.49 4.96	-52.06 -85.88	-40.94 -57.18	MAX MIN
523	-22.77 -47.92	-14.82 -41.35	15.78 5.42	47.59 0.63	-11.40 -12.91	MAX MIN
524	2.47 -2.13	-6.82 -27.58	22.76 7.50	-56.74 -95.16	-29.39 -45.82	MAX MIN
525	8.03 4.88	8.91 -11.53	-5.61 -7.04	-68.37 -141.45	-80.71 -150.51	MAX MIN
526	7.42 -0.75	52.44 44.02	-17.03 -22.55	-63.36 -146.58	-131.85 -265.88	MAX MIN
527	51.55 29.61	171.84 98.71	-24.35 -38.72	0.00 0.00	-149.67 -310.29	MAX MIN
528	51.55 29.61	171.84 98.71	-24.35 -38.72	0.00 0.00	-149.67 -310.29	MAX MIN
529	51.55 29.61	171.84 98.71	-24.35 -38.72	0.00 0.00	-149.67 -310.29	MAX MIN
530	-54.99 -208.90	-183.30 -696.33	11.24 -41.55	0.00 0.00	-129.49 -313.54	MAX MIN
531	-1.82 -46.96	-139.84 -591.99	13.06 -24.91	-41.78 -54.27	-115.67 -298.07	MAX MIN
532	-5.31 -45.37	-120.34 -548.16	5.91 -22.50	-50.81 -86.06	-107.89 -287.60	MAX MIN
533	-9.05 -42.63	-76.15 -433.04	5.94 3.44	-64.39 -121.43	-113.11 -303.01	MAX MIN
534	-9.98 -18.98	-30.20 -299.29	10.04 5.62	-23.49 -57.61	-104.14 -318.70	MAX MIN
535	-6.48 -7.78	5.46 -176.01	15.12 9.72	-8.17 -12.00	-74.43 -303.80	MAX MIN
536	2.55 -7.63	17.09 -74.34	18.85 14.12	27.27 -7.10	-35.17 -244.28	MAX MIN
537	23.94 2.83	23.18 3.81	22.95 15.48	63.94 -32.40	-8.61 -160.21	MAX MIN
538	5.13 -1.06	31.81 8.88	13.46 6.39	33.43 -51.19	-0.97 -76.78	MAX MIN
539	-7.99 -10.62	26.07 3.37	21.95 3.38	-15.19 -60.40	1.00 -18.59	MAX MIN
540	17.11 -12.20	29.63 2.65	13.54 2.09	-53.96 -91.65	3.81 0.26	MAX MIN
541	-1.93 -3.02	4.05 0.99	9.56 3.32	34.46 0.00	30.59 4.14	MAX MIN
542	4.06 1.40	-0.10 -6.91	2.87 1.13	-23.40 -41.03	7.11 -9.47	MAX MIN
543	15.54 7.03	16.78 13.46	-1.87 -2.37	-30.38 -65.92	-35.71 -57.35	MAX MIN
544	12.77 7.92	86.71 56.61	-15.13 -25.37	-15.85 -42.27	-56.05 -124.03	MAX MIN
545	52.88 30.65	176.27 102.16	-29.60 -47.92	0.00 0.00	-62.28 -149.71	MAX MIN
546	52.88 30.65	176.27 102.16	-29.60 -47.92	0.00 0.00	-62.28 -149.71	MAX MIN
547	52.88 30.65	176.27 102.16	-29.60 -47.92	0.00 0.00	-62.28 -149.71	MAX MIN
548	-54.40 -224.05	-181.34 -746.84	-11.73 -131.40	0.00 0.00	-151.70 -191.67	MAX MIN
549	-0.96 -32.22	-136.21 -619.18	-1.90 -67.97	-14.14 -41.32	-148.79 -195.32	MAX MIN

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

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

Relazione di calcolo  
 IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	31 di 123

In	Mx [kNm]	My [kNm]	Mxy [kNm]	Tx [kN]	Ty [kN]	
550	3.68	-111.52	8.19	-26.00	-141.49	MAX
	-5.63	-516.10	-7.31	-55.23	-216.29	MIN
551	1.27	-69.79	5.58	-23.92	-136.15	MAX
	-2.59	-401.91	2.64	-55.96	-283.95	MIN
552	-1.76	-29.33	14.03	-17.21	-125.03	MAX
	-3.76	-286.69	6.32	-40.33	-334.44	MIN
553	-1.87	0.64	16.27	-5.41	-99.36	MAX
	-3.37	-176.73	7.71	-7.43	-333.29	MIN
554	1.37	14.39	17.16	20.56	-64.17	MAX
	-0.67	-83.70	9.27	-5.43	-274.05	MIN
555	1.82	16.91	10.20	29.77	-30.50	MAX
	0.24	-19.59	6.52	-12.12	-174.12	MIN
556	2.25	12.50	10.01	20.34	-4.90	MAX
	-3.87	7.59	3.95	-22.70	-66.59	MIN
557	0.33	9.46	4.74	-1.82	11.09	MAX
	-0.76	2.82	0.57	-25.12	1.52	MIN
558	0.32	-1.12	8.58	-39.35	24.34	MAX
	-1.47	-3.47	1.53	-66.91	7.18	MIN

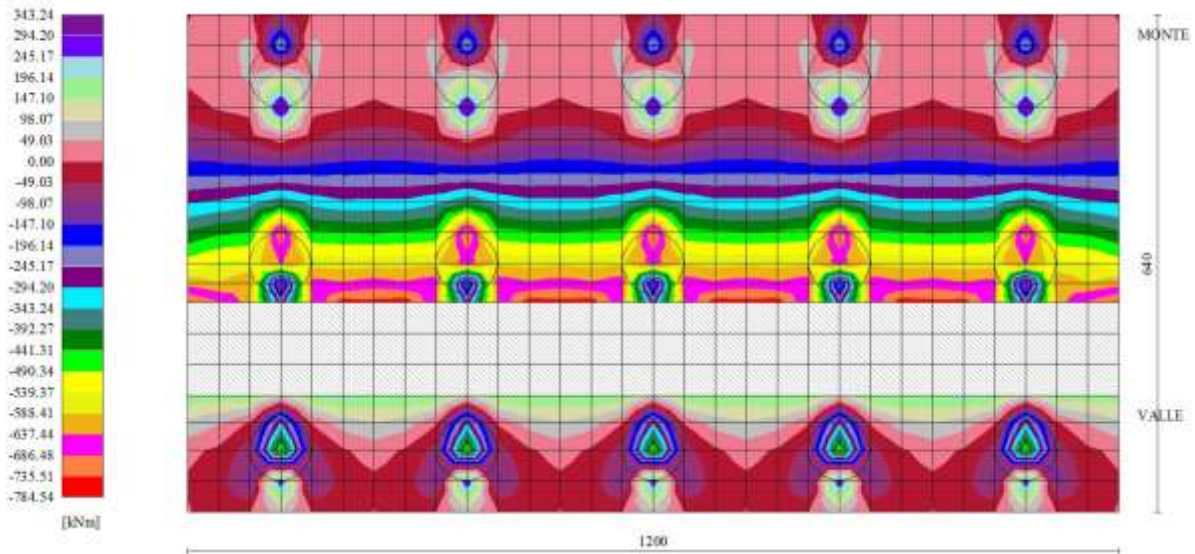


Fig. 8 - Piastra fondazione - Momento My (Combinazione n° 2)



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PROGETTAZIONE:

Mandataria:

Mandante:

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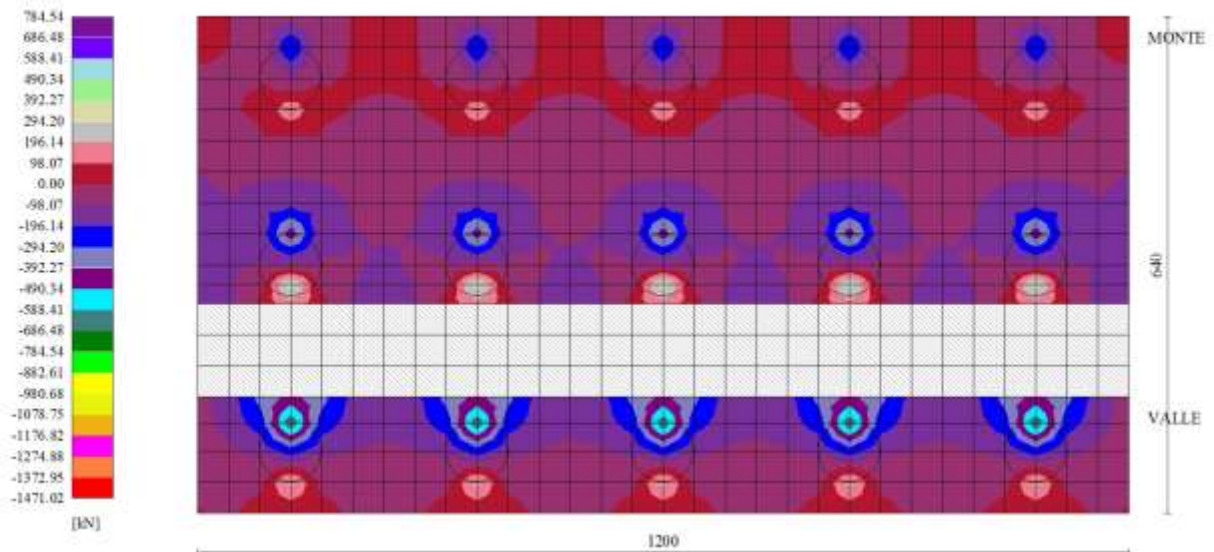


Fig. 9 - Piastra fondazione - Taglio  $T_{yMAX}$  (Combinazione n° 7)

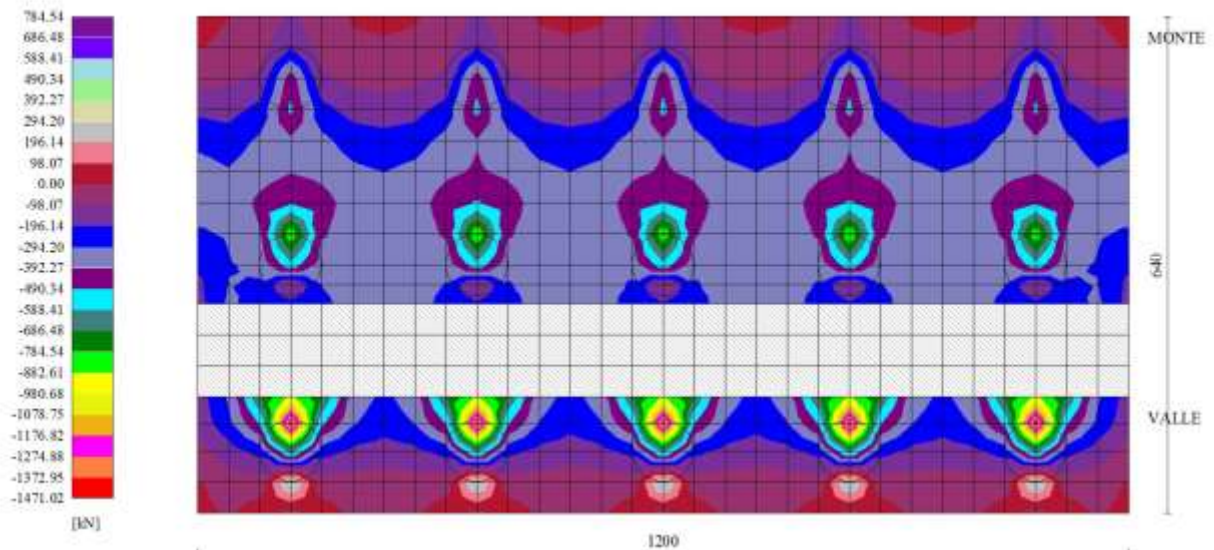


Fig. 10 - Piastra fondazione - Taglio  $T_{yMIN}$  (Combinazione n° 2)

### Sollecitazioni pali

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)

#### Palo n° 1

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	232.32	5808.12	-244.88	-973.88	-298.38	-1186.62

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n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
24	3.22	255.25	5754.46	1.63	-447.08	114.12	1408.39
28	3.78	255.81	5734.63	18.99	-252.40	109.15	1619.21
37	5.04	248.28	5661.58	29.52	257.78	76.58	1648.18
101	14.00	0.00	0.00	-0.12	-1.95	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	655.98	5888.23	-244.88	-823.42	-298.38	-1003.30
24	3.22	688.43	5834.58	1.60	-292.27	113.89	1099.46
37	5.04	698.17	5741.71	29.47	257.49	76.45	1109.37
48	6.58	700.37	5621.00	22.12	301.85	34.83	646.00
101	14.00	653.74	4657.41	-0.12	-1.46	0.00	0.00

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	1079.64	5888.28	-244.88	-823.42	-298.38	-1003.30
24	3.22	1108.39	5834.62	1.60	-292.27	113.89	1099.46
32	4.34	1112.28	5786.00	26.84	107.21	96.31	1232.87
37	5.04	1111.64	5741.76	29.47	257.49	76.45	1109.37
101	14.00	988.03	4657.42	-0.12	-1.46	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	-181.00	-4525.12	-351.10	-1003.37	-461.46	-1318.73
25	3.36	-139.22	-4466.80	7.96	-430.76	200.44	1437.96
37	5.04	-117.93	-4378.59	51.75	238.06	138.04	1663.27
101	14.00	0.00	0.00	-0.22	-1.92	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	598.65	5888.26	-351.11	-851.43	-461.46	-1119.04
25	3.36	632.72	5829.94	7.89	-273.64	199.33	1117.36
37	5.04	642.21	5741.74	51.46	247.08	137.29	1124.41
51	7.00	645.76	5582.51	34.08	281.75	47.90	541.29

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	1378.30	5887.93	-351.11	-851.43	-461.46	-1119.04
25	3.36	1404.96	5829.60	7.89	-273.64	199.33	1117.36
30	4.06	1406.61	5801.47	40.03	-15.49	183.19	1239.29
37	5.04	1403.11	5741.38	51.46	247.08	137.29	1124.41
101	14.00	1223.68	4656.88	-0.22	-1.45	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	356.07	5888.48	-180.63	-953.50	-207.49	-1095.31
22	2.94	374.06	5843.57	-6.35	-512.58	73.53	1296.43
24	3.22	373.87	5834.82	1.68	-426.70	74.72	1434.08
37	5.04	357.91	5741.94	19.34	271.41	49.66	1637.76
101	14.00	0.00	0.00	-0.08	-1.96	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	629.81	5888.76	-180.63	-802.66	-207.49	-922.04
24	3.22	662.49	5835.09	1.67	-271.87	74.67	1114.49
37	5.04	672.63	5742.19	19.33	263.85	49.64	1094.34
49	6.72	675.39	5608.86	13.70	291.43	20.44	587.27

Palo n° 3

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PROGETTO ESECUTIVO

Relazione di calcolo

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LOTTO

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DOCUMENTO

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TR.16.0.5.004

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n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	903.56	5888.31	-180.63	-802.66	-207.49	-922.04
24	3.22	933.84	5834.66	1.67	-271.87	74.67	1114.49
37	5.04	939.79	5741.79	19.33	263.85	49.64	1094.34
101	14.00	849.09	4657.48	-0.08	-1.46	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	411.45	5888.29	-159.64	-953.85	-183.58	-1096.92
20	2.66	427.74	5851.36	-14.80	-591.20	56.77	1135.69
24	3.22	426.96	5834.64	0.53	-427.05	61.55	1433.62
37	5.04	406.98	5741.77	15.92	271.17	41.58	1637.94
101	14.00	0.00	0.00	-0.07	-1.96	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	620.07	5888.28	-159.64	-803.19	-183.58	-923.66
24	3.22	652.84	5834.63	0.53	-272.26	61.53	1114.32
37	5.04	663.12	5741.77	15.92	263.77	41.57	1094.70
50	6.86	666.11	5595.64	10.89	283.14	15.74	546.79

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	828.69	5888.26	-159.64	-803.19	-183.58	-923.66
24	3.22	859.63	5834.61	0.53	-272.26	61.53	1114.32
37	5.04	866.72	5741.75	15.92	263.77	41.57	1094.70
40	5.46	866.91	5712.01	15.52	302.50	34.92	977.59
101	14.00	790.02	4657.42	-0.07	-1.46	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	473.84	5888.21	-113.48	-947.22	-127.86	-1067.22
18	2.38	488.55	5858.46	-17.27	-655.19	30.95	969.11
25	3.36	486.11	5829.89	1.50	-374.62	38.94	1500.84
37	5.04	462.26	5741.69	10.05	275.61	26.85	1634.55
101	14.00	0.00	0.00	-0.04	-1.96	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	590.86	5888.25	-113.48	-797.21	-127.86	-898.20
25	3.36	625.00	5829.92	1.50	-220.63	38.93	1158.28
37	5.04	634.61	5741.72	10.05	265.97	26.85	1092.82
52	7.14	638.37	5569.12	6.30	263.51	8.45	465.73

Palo n° 3

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	707.87	5888.05	-113.48	-797.21	-127.86	-898.20
25	3.36	740.91	5829.73	1.50	-220.63	38.93	1158.28
37	5.04	748.81	5741.53	10.05	265.97	26.85	1092.82
45	6.16	750.12	5656.93	8.72	314.08	16.01	756.33
101	14.00	694.68	4657.21	-0.04	-1.46	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	432.97	5888.33	-129.99	-941.68	-143.99	-1043.09
19	2.52	448.67	5855.08	-14.86	-615.28	42.42	1070.98
24	3.22	447.58	5834.66	0.70	-414.88	48.01	1448.24
37	5.04	426.04	5741.76	12.42	279.24	32.21	1630.99
101	14.00	0.00	0.00	-0.05	-1.97	0.00	0.00

Palo n° 2

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 RADDOPPIO TRATTA CANCELLO-BENEVENTO  
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PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

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COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	35 di 123

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	598.65	5888.26	-129.99	-792.13	-143.99	-877.44
24	3.22	631.60	5834.61	0.70	-261.35	48.01	1125.19
37	5.04	642.21	5741.74	12.42	267.58	32.20	1089.54
51	7.00	645.76	5582.51	7.99	272.58	10.94	500.44

**Palo n° 3**

n°	Y [m]	Ne [kN]	Nr [kN]	Te [kN]	Tr [kN]	Me [kNm]	Mr [kNm]
1	0.00	764.33	5888.33	-129.99	-792.13	-143.99	-877.44
24	3.22	795.83	5834.67	0.70	-261.35	48.01	1125.19
37	5.04	803.91	5741.81	12.42	267.58	32.20	1089.54
43	5.88	804.54	5679.95	11.28	316.48	22.04	840.85
101	14.00	739.23	4657.48	-0.05	-1.46	0.00	0.00

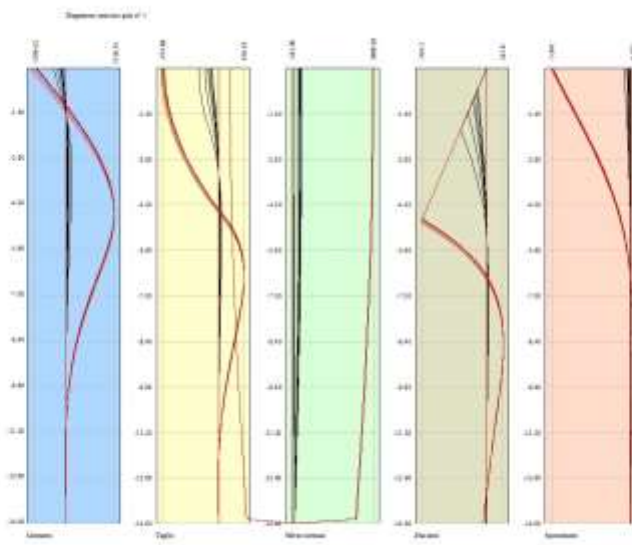


Fig. 11 - Sollecitazioni palo (Palo n° 1) (Inviluppo)

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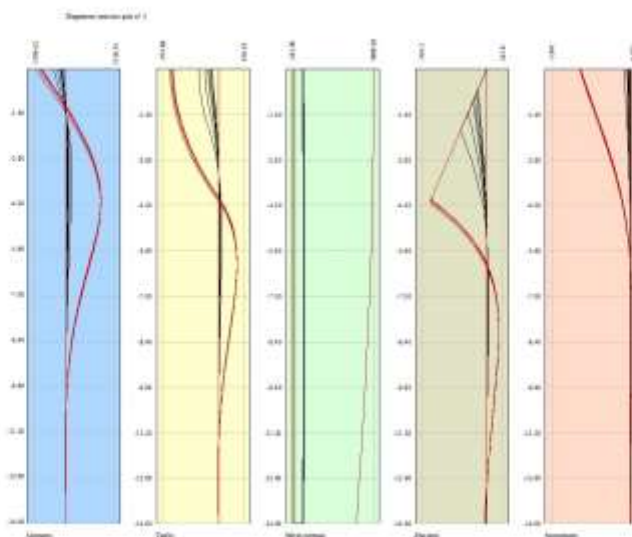


Fig. 12 - Sollecitazioni palo (Palo n° 2) (Inviluppo)

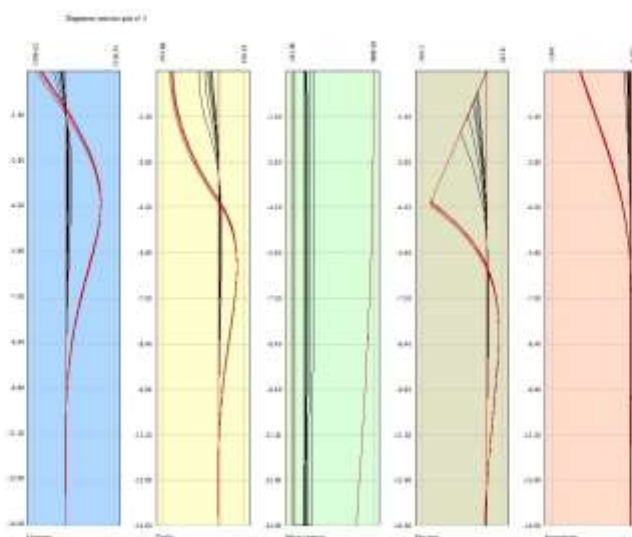


Fig. 13 - Sollecitazioni palo (Palo n° 3) (Inviluppo)

## Verifiche strutturali

### *Verifiche a flessione*

#### Elementi calcolati a trave

##### Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espressa in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espressa in [cmq]

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

**Paramento**

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
1	100	70	12.72	15.71	9.00	5.00	461.38	256.32	51.264
2	100	70	12.72	15.71	9.89	6.72	483.10	328.03	48.846
3	100	70	12.72	15.71	10.82	8.43	502.27	391.33	46.412
4	100	70	12.72	15.71	11.79	10.15	518.99	446.50	44.002
5	100	70	12.72	15.71	12.81	11.86	533.38	494.00	41.642
6	100	70	12.72	15.71	13.86	13.58	545.61	534.40	39.356
7	100	70	12.72	15.71	14.96	15.29	555.89	568.32	37.158
8	100	70	12.72	15.71	16.10	17.01	564.40	596.40	35.061
9	100	70	12.72	15.71	17.28	18.73	571.33	619.28	33.070
10	100	70	12.72	15.71	18.50	20.44	576.86	637.55	31.189
11	100	70	12.72	15.71	19.76	22.16	581.11	651.72	29.413
12	100	70	12.72	15.71	21.06	23.87	583.94	661.98	27.729
13	100	70	12.72	15.71	22.40	25.59	585.97	669.33	26.157
14	100	70	12.72	15.71	23.79	27.30	587.31	674.17	24.691
15	100	70	12.72	15.71	25.21	29.02	588.06	676.88	23.324
16	100	70	12.72	15.71	26.68	30.74	588.30	677.76	22.051
17	100	70	12.72	15.71	28.19	32.45	588.12	677.10	20.865
18	100	70	12.72	15.71	29.74	34.17	587.58	675.14	19.759
19	100	70	12.72	15.71	31.33	35.88	586.73	672.07	18.729
20	100	70	12.72	15.71	32.96	37.60	585.63	668.09	17.769
21	100	70	12.72	15.71	34.63	39.32	584.32	663.35	16.873
22	100	70	12.72	15.71	36.35	41.03	582.84	657.98	16.036
23	100	70	12.72	15.71	38.10	42.75	581.21	652.09	15.255
24	100	70	12.72	15.71	39.90	44.46	579.30	645.60	14.520
25	100	70	12.72	15.71	41.73	46.18	577.20	638.66	13.830
26	100	70	12.72	15.71	43.61	47.89	575.02	631.47	13.185
27	100	70	12.72	15.71	45.53	49.61	572.78	624.07	12.580
28	100	70	12.72	15.71	47.49	51.33	570.49	616.52	12.012
29	100	70	12.72	15.71	49.50	53.04	568.18	608.88	11.479
30	100	70	12.72	15.71	51.54	54.76	565.84	601.18	10.979
31	100	70	12.72	15.71	53.62	56.47	563.50	593.44	10.508
32	100	70	12.72	15.71	55.85	58.19	561.08	584.15	10.039
33	100	70	12.72	15.71	58.33	59.90	557.02	572.04	9.549
34	100	70	12.72	15.71	61.07	61.62	552.66	557.67	9.050
35	100	70	12.72	15.71	64.06	63.34	547.78	541.55	8.550
36	100	70	12.72	15.71	67.33	65.05	542.52	524.17	8.058
37	100	70	12.72	15.71	70.86	66.77	537.00	505.97	7.578
38	100	70	12.72	15.71	74.67	68.48	531.35	487.31	7.116
39	100	70	12.72	15.71	78.76	70.20	525.65	468.50	6.674
40	100	70	12.72	15.71	83.14	71.91	519.98	449.79	6.254
41	100	70	12.72	15.71	87.80	73.63	514.41	431.37	5.859
42	100	120	12.72	15.71	103.37	86.48	1238.99	1036.51	11.986
43	100	120	12.72	15.71	108.92	89.42	1220.70	1002.14	11.208
44	100	120	12.72	15.71	115.21	92.36	1198.84	961.05	10.406
45	100	120	12.72	15.71	122.09	95.30	1175.78	917.72	9.630
46	100	120	12.72	15.71	129.43	98.24	1153.18	875.25	8.910
47	100	120	12.72	15.71	137.11	101.18	1131.90	835.26	8.256
48	100	120	12.72	15.71	145.11	104.12	1111.97	797.82	7.663
49	100	120	12.72	15.71	153.45	107.05	1093.30	762.73	7.125
50	100	120	12.72	15.71	162.14	109.99	1075.78	729.82	6.635
51	100	120	12.72	15.71	171.17	112.93	1059.35	698.93	6.189
52	100	120	12.72	15.71	180.56	115.87	1043.91	669.92	5.781
53	100	120	12.72	15.71	190.31	118.81	1029.40	642.66	5.409
54	100	120	12.72	15.71	200.44	121.75	1015.76	617.02	5.068
55	100	120	12.72	15.71	210.93	124.69	1002.91	592.88	4.755
56	100	120	12.72	15.71	221.80	127.63	990.81	570.15	4.467
57	100	120	12.72	15.71	233.06	130.57	979.41	548.71	4.202
58	100	120	12.72	15.71	244.71	133.51	968.65	528.49	3.958
59	100	120	12.72	15.71	256.75	136.45	958.48	509.39	3.733
60	100	120	12.72	15.71	269.20	139.39	948.87	491.33	3.525

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.16.0.5.004.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.16.0.5.004	A	38 di 123

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
61	100	120	12.72	15.71	282.04	142.33	939.79	474.25	3.332
62	100	120	12.72	15.71	295.30	145.27	931.18	458.08	3.153
63	100	120	12.72	15.71	308.98	148.21	923.02	442.76	2.987
64	100	120	12.72	15.71	323.07	151.15	915.29	428.22	2.833
65	100	120	25.45	15.71	337.59	154.09	909.69	415.22	2.695
66	100	120	25.45	15.71	352.54	157.03	902.65	402.06	2.560
67	100	120	12.72	15.71	367.93	159.97	894.33	388.84	2.431
68	100	120	12.72	15.71	368.24	160.03	894.20	388.60	2.428
69	100	120	12.72	15.71	383.09	162.79	888.27	377.45	2.319
70	100	120	12.72	15.71	398.33	165.55	882.61	366.81	2.216
71	100	120	12.72	15.71	413.97	168.31	877.19	356.64	2.119
72	100	120	12.72	15.71	430.00	171.06	872.02	346.90	2.028
73	100	120	12.72	15.71	446.44	173.82	867.06	337.59	1.942
74	100	120	12.72	15.71	463.29	176.58	862.31	328.67	1.861
75	100	120	12.72	15.71	480.55	179.34	857.76	320.11	1.785
76	100	120	12.72	15.71	498.23	182.10	853.39	311.91	1.713
77	100	120	12.72	15.71	516.33	184.86	849.20	304.04	1.645

## Fondazione

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
1-1-P	25.13	25.13	3.26	-0.91	4044.32	100.000 (1)
1-2-P	25.13	25.13	2.28	-5.27	4044.32	100.000 (1)
1-3-P	25.13	25.13	0.57	-18.86	4044.32	100.000 (1)
1-4-P	25.13	25.13	2.48	-65.93	-4044.32	61.340 (2)
1-5-P	25.13	25.13	0.53	-98.43	-4044.32	41.086 (2)
1-6-P	25.13	25.13	0.13	-116.32	-4044.32	34.770 (2)
1-7-P	25.13	25.13	0.92	-69.37	-4044.32	58.302 (2)
1-8-P	25.13	25.13	5.80	-19.37	4044.32	100.000 (1)
1-9-P	25.13	25.13	27.29	-1.13	4044.32	100.000 (1)
1-10-P	25.13	25.13	46.73	-0.12	4044.32	86.545 (2)
1-11-P	25.13	25.13	50.81	-0.05	4044.32	79.593 (2)
1-12-P	25.13	25.13	42.95	-1.15	4044.32	94.158 (2)
1-13-P	25.13	25.13	12.07	-9.62	4044.32	100.000 (1)
1-14-P	25.13	25.13	2.86	-46.94	-4044.32	86.159 (2)
1-15-P	25.13	25.13	0.38	-85.78	-4044.32	47.145 (2)
1-16-P	25.13	25.13	0.67	-76.71	-4044.32	52.720 (2)
1-17-P	25.13	25.13	8.96	-44.04	-4044.32	91.826 (2)
1-18-P	25.13	25.13	16.67	-5.60	4044.32	100.000 (1)
1-19-P	25.13	25.13	47.10	-0.62	4044.32	85.874 (2)
1-20-P	25.13	25.13	56.89	-0.01	4044.32	71.088 (2)
1-21-P	25.13	25.13	50.81	-0.22	4044.32	79.590 (2)
1-22-P	25.13	25.13	27.44	-1.79	4044.32	100.000 (1)
1-23-P	25.13	25.13	7.52	-18.50	4044.32	100.000 (1)
1-24-P	25.13	25.13	1.82	-61.46	-4044.32	65.800 (2)
1-25-P	25.13	25.13	0.00	-101.86	-4044.32	39.705 (2)
1-26-P	25.13	25.13	1.82	-61.46	-4044.32	65.800 (2)
1-27-P	25.13	25.13	7.52	-18.50	4044.32	100.000 (1)
1-28-P	25.13	25.13	27.44	-1.79	4044.32	100.000 (1)
1-29-P	25.13	25.13	50.81	-0.22	4044.32	79.590 (2)
1-30-P	25.13	25.13	56.89	-0.01	4044.32	71.088 (2)
1-31-P	25.13	25.13	47.10	-0.62	4044.32	85.874 (2)
1-32-P	25.13	25.13	16.67	-5.60	4044.32	100.000 (1)
1-33-P	25.13	25.13	8.96	-44.04	-4044.32	91.826 (2)
1-34-P	25.13	25.13	0.67	-76.71	-4044.32	52.720 (2)
1-35-P	25.13	25.13	0.38	-85.78	-4044.32	47.145 (2)
1-36-P	25.13	25.13	2.86	-46.94	-4044.32	86.159 (2)
1-37-P	25.13	25.13	12.07	-9.62	4044.32	100.000 (1)
1-38-P	25.13	25.13	42.95	-1.15	4044.32	94.158 (2)
1-39-P	25.13	25.13	50.81	-0.05	4044.32	79.593 (2)
1-40-P	25.13	25.13	46.73	-0.12	4044.32	86.545 (2)
1-41-P	25.13	25.13	27.29	-1.13	4044.32	100.000 (1)
1-42-P	25.13	25.13	5.80	-19.37	4044.32	100.000 (1)
1-43-P	25.13	25.13	0.92	-69.37	-4044.32	58.302 (2)
1-44-P	25.13	25.13	0.13	-116.32	-4044.32	34.770 (2)
1-45-P	25.13	25.13	0.53	-98.43	-4044.32	41.086 (2)
1-46-P	25.13	25.13	2.48	-65.93	-4044.32	61.340 (2)
1-47-P	25.13	25.13	0.57	-18.86	4044.32	100.000 (1)
1-48-P	25.13	25.13	2.28	-5.27	4044.32	100.000 (1)
1-49-P	25.13	25.13	3.26	-0.91	4044.32	100.000 (1)
2-1-P	25.13	25.13	14.00	0.00	4044.32	100.000 (1)
2-2-P	25.13	25.13	11.69	-0.03	4044.32	100.000 (1)
2-3-P	25.13	25.13	8.95	-1.81	4044.32	100.000 (1)
2-4-P	25.13	25.13	9.84	-10.48	4044.32	100.000 (1)
2-5-P	25.13	25.13	2.00	-80.79	-4044.32	40.046 (2)
2-6-P	25.13	25.13	1.19	-132.25	-4044.32	27.668 (2)
2-7-P	25.13	25.13	4.57	-38.35	-4044.32	84.358 (2)
2-8-P	25.13	25.13	18.92	-2.90	4044.32	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:

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	39 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
2-9-P	25.13	25.13	30.87	0.00	4044.32	100.000 (1)
2-10-P	25.13	25.13	42.33	0.00	4044.32	95.554 (2)
2-11-P	25.13	25.13	44.56	0.00	4044.32	90.760 (2)
2-12-P	25.13	25.13	33.93	0.00	4044.32	100.000 (1)
2-13-P	25.13	25.13	23.72	-1.14	4044.32	100.000 (1)
2-14-P	25.13	25.13	8.84	-11.16	4044.32	100.000 (1)
2-15-P	25.13	25.13	1.14	-104.28	-4044.32	31.026 (2)
2-16-P	25.13	25.13	1.97	-85.90	-4044.32	37.666 (2)
2-17-P	25.13	25.13	19.12	-6.95	4044.32	100.000 (1)
2-18-P	25.13	25.13	25.94	-0.47	4044.32	100.000 (1)
2-19-P	25.13	25.13	35.33	0.00	4044.32	100.000 (1)
2-20-P	25.13	25.13	46.99	0.00	4044.32	86.060 (2)
2-21-P	25.13	25.13	42.96	0.00	4044.32	94.146 (2)
2-22-P	25.13	25.13	30.65	-0.03	4044.32	100.000 (1)
2-23-P	25.13	25.13	20.39	-3.13	4044.32	100.000 (1)
2-24-P	25.13	25.13	3.56	-49.47	-4044.32	65.402 (2)
2-25-P	25.13	25.13	0.82	-141.02	-4044.32	25.947 (2)
2-26-P	25.13	25.13	3.56	-49.47	-4044.32	65.402 (2)
2-27-P	25.13	25.13	20.39	-3.13	4044.32	100.000 (1)
2-28-P	25.13	25.13	30.65	-0.03	4044.32	100.000 (1)
2-29-P	25.13	25.13	42.96	0.00	4044.32	94.146 (2)
2-30-P	25.13	25.13	46.99	0.00	4044.32	86.060 (2)
2-31-P	25.13	25.13	35.33	0.00	4044.32	100.000 (1)
2-32-P	25.13	25.13	25.94	-0.47	4044.32	100.000 (1)
2-33-P	25.13	25.13	19.12	-6.95	4044.32	100.000 (1)
2-34-P	25.13	25.13	1.97	-85.90	-4044.32	37.666 (2)
2-35-P	25.13	25.13	1.14	-104.28	-4044.32	31.026 (2)
2-36-P	25.13	25.13	8.84	-11.16	4044.32	100.000 (1)
2-37-P	25.13	25.13	23.72	-1.14	4044.32	100.000 (1)
2-38-P	25.13	25.13	33.93	0.00	4044.32	100.000 (1)
2-39-P	25.13	25.13	44.56	0.00	4044.32	90.760 (2)
2-40-P	25.13	25.13	42.33	0.00	4044.32	95.554 (2)
2-41-P	25.13	25.13	30.87	0.00	4044.32	100.000 (1)
2-42-P	25.13	25.13	18.92	-2.90	4044.32	100.000 (1)
2-43-P	25.13	25.13	4.57	-38.35	-4044.32	84.358 (2)
2-44-P	25.13	25.13	1.19	-132.25	-4044.32	27.668 (2)
2-45-P	25.13	25.13	2.00	-80.79	-4044.32	40.046 (2)
2-46-P	25.13	25.13	9.84	-10.48	4044.32	100.000 (1)
2-47-P	25.13	25.13	8.95	-1.81	4044.32	100.000 (1)
2-48-P	25.13	25.13	11.69	-0.03	4044.32	100.000 (1)
2-49-P	25.13	25.13	14.00	0.00	4044.32	100.000 (1)
5-1-P	31.42	31.42	0.00	-25.05	-5053.89	100.000 (1)
5-2-P	31.42	31.42	0.00	-53.22	-5053.89	94.960 (2)
5-3-P	31.42	31.42	0.00	-74.47	-5053.89	67.864 (2)
5-4-P	31.42	31.42	0.00	-105.36	-5053.89	47.968 (2)
5-5-P	31.42	31.42	0.00	-142.22	-5053.89	35.537 (2)
5-6-P	31.42	31.42	0.00	-169.21	-5053.89	29.868 (2)
5-7-P	31.42	31.42	0.00	-150.78	-5053.89	33.517 (2)
5-8-P	31.42	31.42	0.00	-139.98	-5053.89	36.105 (2)
5-9-P	31.42	31.42	0.00	-134.25	-5053.89	37.645 (2)
5-10-P	31.42	31.42	0.00	-136.73	-5053.89	36.963 (2)
5-11-P	31.42	31.42	0.00	-138.71	-5053.89	36.435 (2)
5-12-P	31.42	31.42	0.00	-139.94	-5053.89	36.115 (2)
5-13-P	31.42	31.42	0.00	-148.68	-5053.89	33.992 (2)
5-14-P	31.42	31.42	0.00	-162.38	-5053.89	31.124 (2)
5-15-P	31.42	31.42	0.00	-188.43	-5053.89	26.821 (2)
5-16-P	31.42	31.42	0.00	-183.65	-5053.89	27.519 (2)
5-17-P	31.42	31.42	0.00	-158.32	-5053.89	31.923 (2)
5-18-P	31.42	31.42	0.00	-148.64	-5053.89	34.002 (2)
5-19-P	31.42	31.42	0.00	-142.91	-5053.89	35.364 (2)
5-20-P	31.42	31.42	0.00	-143.12	-5053.89	35.313 (2)
5-21-P	31.42	31.42	0.00	-143.09	-5053.89	35.320 (2)
5-22-P	31.42	31.42	0.00	-144.99	-5053.89	34.858 (2)
5-23-P	31.42	31.42	0.00	-154.83	-5053.89	32.642 (2)
5-24-P	31.42	31.42	0.00	-174.12	-5053.89	29.024 (2)
5-25-P	31.42	31.42	0.00	-199.72	-5053.89	25.305 (2)
5-26-P	31.42	31.42	0.00	-174.12	-5053.89	29.024 (2)
5-27-P	31.42	31.42	0.00	-154.83	-5053.89	32.642 (2)
5-28-P	31.42	31.42	0.00	-144.99	-5053.89	34.858 (2)
5-29-P	31.42	31.42	0.00	-143.09	-5053.89	35.320 (2)
5-30-P	31.42	31.42	0.00	-143.12	-5053.89	35.313 (2)
5-31-P	31.42	31.42	0.00	-142.91	-5053.89	35.364 (2)
5-32-P	31.42	31.42	0.00	-148.64	-5053.89	34.002 (2)
5-33-P	31.42	31.42	0.00	-158.32	-5053.89	31.923 (2)
5-34-P	31.42	31.42	0.00	-183.65	-5053.89	27.519 (2)
5-35-P	31.42	31.42	0.00	-188.43	-5053.89	26.821 (2)
5-36-P	31.42	31.42	0.00	-162.38	-5053.89	31.124 (2)
5-37-P	31.42	31.42	0.00	-148.68	-5053.89	33.992 (2)
5-38-P	31.42	31.42	0.00	-139.94	-5053.89	36.115 (2)
5-39-P	31.42	31.42	0.00	-138.71	-5053.89	36.435 (2)
5-40-P	31.42	31.42	0.00	-136.73	-5053.89	36.963 (2)



APPALTATORE:

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

PROGETTAZIONE:

Mandataria:                      Mandante:

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

Relazione di calcolo  
**IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	40 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
5-41-P	31.42	31.42	0.00	-134.25	-5053.89	37.645 (2)
5-42-P	31.42	31.42	0.00	-139.98	-5053.89	36.105 (2)
5-43-P	31.42	31.42	0.00	-150.78	-5053.89	33.517 (2)
5-44-P	31.42	31.42	0.00	-169.21	-5053.89	29.868 (2)
5-45-P	31.42	31.42	0.00	-142.22	-5053.89	35.537 (2)
5-46-P	31.42	31.42	0.00	-105.36	-5053.89	47.968 (2)
5-47-P	31.42	31.42	0.00	-74.47	-5053.89	67.864 (2)
5-48-P	31.42	31.42	0.00	-53.22	-5053.89	94.960 (2)
5-49-P	31.42	31.42	0.00	-25.05	-5053.89	100.000 (1)
6-1-P	28.27	28.27	0.00	-2.22	4559.45	100.000 (1)
6-2-P	28.27	28.27	0.00	-9.49	-4559.45	100.000 (1)
6-3-P	28.27	28.27	0.00	-18.94	-4559.45	100.000 (1)
6-4-P	28.27	28.27	0.00	-31.64	-4559.45	100.000 (1)
6-5-P	28.27	28.27	0.00	-53.85	-4559.45	84.672 (2)
6-6-P	28.27	28.27	0.00	-68.60	-4559.45	66.467 (2)
6-7-P	28.27	28.27	0.00	-64.61	-4559.45	70.573 (2)
6-8-P	28.27	28.27	0.00	-63.06	-4559.45	72.299 (2)
6-9-P	28.27	28.27	0.00	-63.17	-4559.45	72.182 (2)
6-10-P	28.27	28.27	0.00	-63.12	-4559.45	72.232 (2)
6-11-P	28.27	28.27	0.00	-65.28	-4559.45	69.841 (2)
6-12-P	28.27	28.27	0.00	-70.75	-4559.45	64.443 (2)
6-13-P	28.27	28.27	0.00	-76.75	-4559.45	59.405 (2)
6-14-P	28.27	28.27	0.00	-84.02	-4559.45	54.267 (2)
6-15-P	28.27	28.27	0.00	-95.78	-4559.45	47.604 (2)
6-16-P	28.27	28.27	0.00	-94.43	-4559.45	48.282 (2)
6-17-P	28.27	28.27	0.00	-84.35	-4559.45	54.057 (2)
6-18-P	28.27	28.27	0.00	-80.15	-4559.45	56.888 (2)
6-19-P	28.27	28.27	0.00	-76.44	-4559.45	59.649 (2)
6-20-P	28.27	28.27	0.00	-73.46	-4559.45	62.066 (2)
6-21-P	28.27	28.27	0.00	-75.65	-4559.45	60.272 (2)
6-22-P	28.27	28.27	0.00	-79.38	-4559.45	57.437 (2)
6-23-P	28.27	28.27	0.00	-84.15	-4559.45	54.184 (2)
6-24-P	28.27	28.27	0.00	-92.54	-4559.45	49.271 (2)
6-25-P	28.27	28.27	0.00	-103.33	-4559.45	44.124 (2)
6-26-P	28.27	28.27	0.00	-92.54	-4559.45	49.271 (2)
6-27-P	28.27	28.27	0.00	-84.15	-4559.45	54.184 (2)
6-28-P	28.27	28.27	0.00	-79.38	-4559.45	57.437 (2)
6-29-P	28.27	28.27	0.00	-75.65	-4559.45	60.272 (2)
6-30-P	28.27	28.27	0.00	-73.46	-4559.45	62.066 (2)
6-31-P	28.27	28.27	0.00	-76.44	-4559.45	59.649 (2)
6-32-P	28.27	28.27	0.00	-80.15	-4559.45	56.888 (2)
6-33-P	28.27	28.27	0.00	-84.35	-4559.45	54.057 (2)
6-34-P	28.27	28.27	0.00	-94.43	-4559.45	48.282 (2)
6-35-P	28.27	28.27	0.00	-95.78	-4559.45	47.604 (2)
6-36-P	28.27	28.27	0.00	-84.02	-4559.45	54.267 (2)
6-37-P	28.27	28.27	0.00	-76.75	-4559.45	59.405 (2)
6-38-P	28.27	28.27	0.00	-70.75	-4559.45	64.443 (2)
6-39-P	28.27	28.27	0.00	-65.28	-4559.45	69.841 (2)
6-40-P	28.27	28.27	0.00	-63.12	-4559.45	72.232 (2)
6-41-P	28.27	28.27	0.00	-63.17	-4559.45	72.182 (2)
6-42-P	28.27	28.27	0.00	-63.06	-4559.45	72.299 (2)
6-43-P	28.27	28.27	0.00	-64.61	-4559.45	70.573 (2)
6-44-P	28.27	28.27	0.00	-68.60	-4559.45	66.467 (2)
6-45-P	28.27	28.27	0.00	-53.85	-4559.45	84.672 (2)
6-46-P	28.27	28.27	0.00	-31.64	-4559.45	100.000 (1)
6-47-P	28.27	28.27	0.00	-18.94	-4559.45	100.000 (1)
6-48-P	28.27	28.27	0.00	-9.49	-4559.45	100.000 (1)
6-49-P	28.27	28.27	0.00	-2.22	4559.45	100.000 (1)
7-1-P	28.27	28.27	4.11	-3.73	4559.45	100.000 (1)
7-2-P	28.27	28.27	7.13	-4.86	4559.45	100.000 (1)
7-3-P	28.27	28.27	8.94	-9.35	4559.45	100.000 (1)
7-4-P	28.27	28.27	10.01	-19.95	4559.45	100.000 (1)
7-5-P	28.27	28.27	3.87	-11.14	4559.45	100.000 (1)
7-6-P	28.27	28.27	2.79	-7.20	4559.45	100.000 (1)
7-7-P	28.27	28.27	4.86	-11.81	4559.45	100.000 (1)
7-8-P	28.27	28.27	8.55	-9.65	4559.45	100.000 (1)
7-9-P	28.27	28.27	13.17	-2.16	4559.45	100.000 (1)
7-10-P	28.27	28.27	12.67	-0.94	4559.45	100.000 (1)
7-11-P	28.27	28.27	12.63	-0.94	4559.45	100.000 (1)
7-12-P	28.27	28.27	13.02	-2.53	4559.45	100.000 (1)
7-13-P	28.27	28.27	9.68	-9.32	4559.45	100.000 (1)
7-14-P	28.27	28.27	8.01	-16.75	4559.45	100.000 (1)
7-15-P	28.27	28.27	2.39	-8.06	4559.45	100.000 (1)
7-16-P	28.27	28.27	2.07	-8.51	4559.45	100.000 (1)
7-17-P	28.27	28.27	8.95	-18.88	4559.45	100.000 (1)
7-18-P	28.27	28.27	9.55	-7.39	4559.45	100.000 (1)
7-19-P	28.27	28.27	12.10	-2.33	4559.45	100.000 (1)
7-20-P	28.27	28.27	11.75	-1.07	4559.45	100.000 (1)
7-21-P	28.27	28.27	11.84	-1.76	4559.45	100.000 (1)
7-22-P	28.27	28.27	11.08	-4.21	4559.45	100.000 (1)
7-23-P	28.27	28.27	8.90	-14.20	4559.45	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	41 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
7-24-P	28.27	28.27	4.02	-11.73	4559.45	100.000 (1)
7-25-P	28.27	28.27	3.79	-8.63	4559.45	100.000 (1)
7-26-P	28.27	28.27	4.02	-11.73	4559.45	100.000 (1)
7-27-P	28.27	28.27	8.90	-14.20	4559.45	100.000 (1)
7-28-P	28.27	28.27	11.08	-4.21	4559.45	100.000 (1)
7-29-P	28.27	28.27	11.84	-1.76	4559.45	100.000 (1)
7-30-P	28.27	28.27	11.75	-1.07	4559.45	100.000 (1)
7-31-P	28.27	28.27	12.10	-2.33	4559.45	100.000 (1)
7-32-P	28.27	28.27	9.55	-7.39	4559.45	100.000 (1)
7-33-P	28.27	28.27	8.95	-18.88	4559.45	100.000 (1)
7-34-P	28.27	28.27	2.07	-8.51	4559.45	100.000 (1)
7-35-P	28.27	28.27	2.39	-8.06	4559.45	100.000 (1)
7-36-P	28.27	28.27	8.01	-16.75	4559.45	100.000 (1)
7-37-P	28.27	28.27	9.68	-9.32	4559.45	100.000 (1)
7-38-P	28.27	28.27	13.02	-2.53	4559.45	100.000 (1)
7-39-P	28.27	28.27	12.63	-0.94	4559.45	100.000 (1)
7-40-P	28.27	28.27	12.67	-0.94	4559.45	100.000 (1)
7-41-P	28.27	28.27	13.17	-2.16	4559.45	100.000 (1)
7-42-P	28.27	28.27	8.55	-9.65	4559.45	100.000 (1)
7-43-P	28.27	28.27	4.86	-11.81	4559.45	100.000 (1)
7-44-P	28.27	28.27	2.79	-7.20	4559.45	100.000 (1)
7-45-P	28.27	28.27	3.87	-11.14	4559.45	100.000 (1)
7-46-P	28.27	28.27	10.01	-19.95	4559.45	100.000 (1)
7-47-P	28.27	28.27	8.94	-9.35	4559.45	100.000 (1)
7-48-P	28.27	28.27	7.13	-4.86	4559.45	100.000 (1)
7-49-P	28.27	28.27	4.11	-3.73	4559.45	100.000 (1)
8-1-P	31.42	31.42	2.01	-2.23	5053.89	100.000 (1)
8-2-P	31.42	31.42	2.91	-4.91	5053.89	100.000 (1)
8-3-P	31.42	31.42	7.24	-10.51	5053.89	100.000 (1)
8-4-P	31.42	31.42	16.52	-20.31	5053.89	100.000 (1)
8-5-P	31.42	31.42	1.56	-25.91	5053.89	100.000 (1)
8-6-P	31.42	31.42	0.00	-39.05	5053.89	100.000 (1)
8-7-P	31.42	31.42	8.77	-19.01	5053.89	100.000 (1)
8-8-P	31.42	31.42	14.72	-11.65	5053.89	100.000 (1)
8-9-P	31.42	31.42	8.33	-2.25	5053.89	100.000 (1)
8-10-P	31.42	31.42	10.65	-0.42	5053.89	100.000 (1)
8-11-P	31.42	31.42	11.63	-0.34	5053.89	100.000 (1)
8-12-P	31.42	31.42	9.21	-1.49	5053.89	100.000 (1)
8-13-P	31.42	31.42	14.53	-9.24	5053.89	100.000 (1)
8-14-P	31.42	31.42	16.44	-18.37	5053.89	100.000 (1)
8-15-P	31.42	31.42	0.00	-29.41	5053.89	100.000 (1)
8-16-P	31.42	31.42	0.54	-24.51	5053.89	100.000 (1)
8-17-P	31.42	31.42	20.89	-17.50	5053.89	100.000 (1)
8-18-P	31.42	31.42	12.58	-7.08	5053.89	100.000 (1)
8-19-P	31.42	31.42	9.14	-0.90	5053.89	100.000 (1)
8-20-P	31.42	31.42	12.17	-0.24	5053.89	100.000 (1)
8-21-P	31.42	31.42	10.12	-0.46	5053.89	100.000 (1)
8-22-P	31.42	31.42	9.34	-3.13	5053.89	100.000 (1)
8-23-P	31.42	31.42	17.54	-13.53	5053.89	100.000 (1)
8-24-P	31.42	31.42	5.15	-18.47	5053.89	100.000 (1)
8-25-P	31.42	31.42	0.00	-40.76	5053.89	100.000 (1)
8-26-P	31.42	31.42	5.15	-18.47	5053.89	100.000 (1)
8-27-P	31.42	31.42	17.54	-13.53	5053.89	100.000 (1)
8-28-P	31.42	31.42	9.34	-3.13	5053.89	100.000 (1)
8-29-P	31.42	31.42	10.12	-0.46	5053.89	100.000 (1)
8-30-P	31.42	31.42	12.17	-0.24	5053.89	100.000 (1)
8-31-P	31.42	31.42	9.14	-0.90	5053.89	100.000 (1)
8-32-P	31.42	31.42	12.58	-7.08	5053.89	100.000 (1)
8-33-P	31.42	31.42	20.89	-17.50	5053.89	100.000 (1)
8-34-P	31.42	31.42	0.54	-24.51	5053.89	100.000 (1)
8-35-P	31.42	31.42	0.00	-29.41	5053.89	100.000 (1)
8-36-P	31.42	31.42	16.44	-18.37	5053.89	100.000 (1)
8-37-P	31.42	31.42	14.53	-9.24	5053.89	100.000 (1)
8-38-P	31.42	31.42	9.21	-1.49	5053.89	100.000 (1)
8-39-P	31.42	31.42	11.63	-0.34	5053.89	100.000 (1)
8-40-P	31.42	31.42	10.65	-0.42	5053.89	100.000 (1)
8-41-P	31.42	31.42	8.33	-2.25	5053.89	100.000 (1)
8-42-P	31.42	31.42	14.72	-11.65	5053.89	100.000 (1)
8-43-P	31.42	31.42	8.77	-19.01	5053.89	100.000 (1)
8-44-P	31.42	31.42	0.00	-39.05	5053.89	100.000 (1)
8-45-P	31.42	31.42	1.56	-25.91	5053.89	100.000 (1)
8-46-P	31.42	31.42	16.52	-20.31	5053.89	100.000 (1)
8-47-P	31.42	31.42	7.24	-10.51	5053.89	100.000 (1)
8-48-P	31.42	31.42	2.91	-4.91	5053.89	100.000 (1)
8-49-P	31.42	31.42	2.01	-2.23	5053.89	100.000 (1)
9-1-S	31.42	31.42	2.87	-12.25	5062.83	100.000 (1)
9-2-S	31.42	31.42	0.39	-21.01	5062.83	100.000 (1)
9-3-S	31.42	31.42	0.41	-29.06	5062.83	100.000 (1)
9-4-S	31.42	31.42	4.11	-56.12	5062.83	72.173 (2)
9-5-S	31.42	31.42	20.33	-16.87	5062.83	100.000 (1)
9-6-S	31.42	31.42	66.71	-2.62	5062.83	60.713 (2)

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	42 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
9-7-S	31.42	31.42	173.75	0.00	5062.83	29.139 (2)
9-8-S	31.42	31.42	0.00	-655.56	-5062.83	7.723 (2)
9-9-S	31.42	31.42	0.00	-587.30	-5062.83	8.621 (2)
9-10-S	31.42	31.42	0.00	-551.41	-5062.83	9.182 (2)
9-11-S	31.42	31.42	0.00	-487.05	-5062.83	10.395 (2)
9-12-S	31.42	31.42	0.00	-415.37	-5062.83	12.189 (2)
9-13-S	31.42	31.42	0.00	-331.66	-5062.83	15.265 (2)
9-14-S	31.42	31.42	0.00	-248.46	-5062.83	20.377 (2)
9-15-S	31.42	31.42	0.00	-166.71	-5062.83	30.369 (2)
9-16-S	31.42	31.42	0.13	-95.46	-5062.83	53.038 (2)
9-17-S	31.42	31.42	9.01	-19.08	5062.83	100.000 (1)
9-18-S	31.42	31.42	20.63	-9.22	5062.83	100.000 (1)
9-19-S	31.42	31.42	23.37	-9.36	5062.83	100.000 (1)
9-20-S	31.42	31.42	24.12	-11.52	5062.83	100.000 (1)
9-21-S	31.42	31.42	15.72	-7.72	5062.83	100.000 (1)
9-22-S	31.42	31.42	11.77	-5.33	5062.83	100.000 (1)
9-23-S	31.42	31.42	10.02	-3.27	5062.83	100.000 (1)
10-1-S	31.42	31.42	20.07	-8.26	5062.83	100.000 (1)
10-2-S	31.42	31.42	57.33	-25.63	5062.83	70.643 (2)
10-3-S	31.42	31.42	8.50	-27.36	5062.83	100.000 (1)
10-4-S	31.42	31.42	6.06	-183.59	-5062.83	27.577 (2)
10-5-S	31.42	31.42	7.84	-149.98	-5062.83	27.006 (2)
10-6-S	31.42	31.42	34.27	-53.90	-5062.83	56.358 (2)
10-7-S	31.42	31.42	161.92	0.00	5062.83	31.267 (2)
10-8-S	31.42	31.42	0.00	-522.14	-5062.83	9.696 (2)
10-9-S	31.42	31.42	0.00	-447.05	-5062.83	11.325 (2)
10-10-S	31.42	31.42	0.00	-593.29	-5062.83	8.534 (2)
10-11-S	31.42	31.42	0.00	-564.74	-5062.83	8.965 (2)
10-12-S	31.42	31.42	0.00	-498.50	-5062.83	10.156 (2)
10-13-S	31.42	31.42	0.00	-371.79	-5062.83	13.617 (2)
10-14-S	31.42	31.42	0.00	-263.29	-5062.83	19.229 (2)
10-15-S	31.42	31.42	0.00	-162.76	-5062.83	31.105 (2)
10-16-S	31.42	31.42	0.01	-72.41	-5062.83	69.921 (2)
10-17-S	31.42	31.42	33.17	-6.33	5062.83	100.000 (1)
10-18-S	31.42	31.42	115.07	-4.47	5062.83	43.998 (2)
10-19-S	31.42	31.42	100.97	-6.31	5062.83	50.141 (2)
10-20-S	31.42	31.42	60.04	-9.38	5062.83	84.329 (2)
10-21-S	31.42	31.42	24.17	-52.46	-5062.83	96.505 (2)
10-22-S	31.42	31.42	16.08	-57.08	-5062.83	88.695 (2)
10-23-S	31.42	31.42	5.93	-13.09	5062.83	100.000 (1)
11-1-S	31.42	31.42	1.11	-14.95	5062.83	100.000 (1)
11-2-S	31.42	31.42	1.74	-16.59	5062.83	100.000 (1)
11-3-S	31.42	31.42	2.01	-11.12	5062.83	100.000 (1)
11-4-S	31.42	31.42	10.12	-3.36	5062.83	100.000 (1)
11-5-S	31.42	31.42	45.55	0.00	5062.83	100.000 (1)
11-6-S	31.42	31.42	111.67	0.00	5062.83	45.338 (2)
11-7-S	31.42	31.42	195.73	0.00	5062.83	25.866 (2)
11-8-S	31.42	31.42	0.00	-752.23	-5062.83	6.730 (2)
11-9-S	31.42	31.42	0.00	-653.55	-5062.83	7.747 (2)
11-10-S	31.42	31.42	0.00	-575.43	-5062.83	8.798 (2)
11-11-S	31.42	31.42	0.00	-495.40	-5062.83	10.220 (2)
11-12-S	31.42	31.42	0.00	-413.89	-5062.83	12.232 (2)
11-13-S	31.42	31.42	0.00	-329.74	-5062.83	15.354 (2)
11-14-S	31.42	31.42	0.00	-249.76	-5062.83	20.271 (2)
11-15-S	31.42	31.42	0.00	-172.82	-5062.83	29.295 (2)
11-16-S	31.42	31.42	0.00	-108.21	-5062.83	46.786 (2)
11-17-S	31.42	31.42	0.11	-53.06	-5062.83	95.410 (2)
11-18-S	31.42	31.42	3.98	-2.35	5062.83	100.000 (1)
11-19-S	31.42	31.42	11.97	-1.06	5062.83	100.000 (1)
11-20-S	31.42	31.42	16.69	-0.93	5062.83	100.000 (1)
11-21-S	31.42	31.42	14.19	-0.69	5062.83	100.000 (1)
11-22-S	31.42	31.42	11.04	-0.81	5062.83	100.000 (1)
11-23-S	31.42	31.42	7.22	-0.89	5062.83	100.000 (1)
12-1-S	31.42	31.42	24.45	-5.43	5062.83	100.000 (1)
12-2-S	31.42	31.42	60.37	-19.68	5062.83	67.093 (2)
12-3-S	31.42	31.42	8.71	-29.30	5062.83	100.000 (1)
12-4-S	31.42	31.42	4.31	-206.01	-5062.83	24.576 (2)
12-5-S	31.42	31.42	3.35	-170.76	-5062.83	29.649 (2)
12-6-S	31.42	31.42	14.65	-52.25	-5062.83	77.510 (2)
12-7-S	31.42	31.42	155.44	0.00	5062.83	32.572 (2)
12-8-S	31.42	31.42	0.00	-496.08	-5062.83	10.206 (2)
12-9-S	31.42	31.42	0.00	-433.83	-5062.83	11.670 (2)
12-10-S	31.42	31.42	0.00	-609.30	-5062.83	8.309 (2)
12-11-S	31.42	31.42	0.00	-586.33	-5062.83	8.635 (2)
12-12-S	31.42	31.42	0.00	-520.60	-5062.83	9.725 (2)
12-13-S	31.42	31.42	0.00	-386.23	-5062.83	13.108 (2)
12-14-S	31.42	31.42	0.00	-271.66	-5062.83	18.637 (2)
12-15-S	31.42	31.42	0.00	-165.58	-5062.83	30.576 (2)
12-16-S	31.42	31.42	0.00	-69.54	-5062.83	72.809 (2)
12-17-S	31.42	31.42	37.44	-3.73	5062.83	100.000 (1)
12-18-S	31.42	31.42	129.26	-3.03	5062.83	39.167 (2)

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	43 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
12-19-S	31.42	31.42	112.54	-7.08	5062.83	44.987 (2)
12-20-S	31.42	31.42	66.24	-12.37	5062.83	76.434 (2)
12-21-S	31.42	31.42	21.39	-56.76	-5062.83	89.195 (2)
12-22-S	31.42	31.42	11.81	-61.93	-5062.83	81.751 (2)
12-23-S	31.42	31.42	4.62	-14.75	5062.83	100.000 (1)
13-1-S	31.42	31.42	2.38	-13.69	5062.83	100.000 (1)
13-2-S	31.42	31.42	1.21	-21.62	5062.83	100.000 (1)
13-3-S	31.42	31.42	1.99	-21.17	5062.83	100.000 (1)
13-4-S	31.42	31.42	10.96	-13.44	5062.83	100.000 (1)
13-5-S	31.42	31.42	37.60	-1.91	5062.83	100.000 (1)
13-6-S	31.42	31.42	100.26	0.00	5062.83	50.496 (2)
13-7-S	31.42	31.42	190.54	0.00	5062.83	26.571 (2)
13-8-S	31.42	31.42	0.00	-735.57	-5062.83	6.883 (2)
13-9-S	31.42	31.42	0.00	-658.08	-5062.83	7.693 (2)
13-10-S	31.42	31.42	0.00	-579.76	-5062.83	8.733 (2)
13-11-S	31.42	31.42	0.00	-500.59	-5062.83	10.114 (2)
13-12-S	31.42	31.42	0.00	-420.06	-5062.83	12.053 (2)
13-13-S	31.42	31.42	0.00	-337.05	-5062.83	15.021 (2)
13-14-S	31.42	31.42	0.00	-255.15	-5062.83	19.843 (2)
13-15-S	31.42	31.42	0.00	-175.10	-5062.83	28.914 (2)
13-16-S	31.42	31.42	0.00	-106.88	-5062.83	47.370 (2)
13-17-S	31.42	31.42	0.26	-50.67	-5062.83	99.911 (2)
13-18-S	31.42	31.42	5.84	-4.74	5062.83	100.000 (1)
13-19-S	31.42	31.42	15.22	-4.62	5062.83	100.000 (1)
13-20-S	31.42	31.42	20.99	-4.82	5062.83	100.000 (1)
13-21-S	31.42	31.42	16.89	-2.31	5062.83	100.000 (1)
13-22-S	31.42	31.42	12.54	-1.51	5062.83	100.000 (1)
13-23-S	31.42	31.42	7.87	-1.58	5062.83	100.000 (1)
14-1-S	34.56	34.56	13.83	-12.69	5557.15	100.000 (1)
14-2-S	34.56	34.56	20.88	-21.26	5557.15	100.000 (1)
14-3-S	34.56	34.56	5.92	-29.43	5557.15	100.000 (1)
14-4-S	34.56	34.56	5.85	-119.50	-5557.15	46.505 (2)
14-5-S	34.56	34.56	15.55	-89.08	-5557.15	37.430 (2)
14-6-S	34.56	34.56	54.16	-27.10	5557.15	61.567 (2)
14-7-S	34.56	34.56	172.89	0.00	5557.15	32.142 (2)
14-8-S	34.56	34.56	0.00	-613.01	-5557.15	9.065 (2)
14-9-S	34.56	34.56	0.00	-544.67	-5557.15	10.203 (2)
14-10-S	34.56	34.56	0.00	-594.28	-5557.15	9.351 (2)
14-11-S	34.56	34.56	0.00	-544.35	-5557.15	10.209 (2)
14-12-S	34.56	34.56	0.00	-471.97	-5557.15	11.774 (2)
14-13-S	34.56	34.56	0.00	-363.34	-5557.15	15.294 (2)
14-14-S	34.56	34.56	0.00	-264.67	-5557.15	20.997 (2)
14-15-S	34.56	34.56	0.00	-171.03	-5557.15	32.492 (2)
14-16-S	34.56	34.56	0.00	-88.32	-5557.15	62.923 (2)
14-17-S	34.56	34.56	19.69	-11.76	5557.15	100.000 (1)
14-18-S	34.56	34.56	68.64	-7.98	5557.15	80.956 (2)
14-19-S	34.56	34.56	69.46	-7.49	5557.15	80.007 (2)
14-20-S	34.56	34.56	20.38	-18.31	5557.15	100.000 (1)
14-21-S	34.56	34.56	13.04	-26.14	5557.15	100.000 (1)
14-22-S	34.56	34.56	9.73	-21.51	5557.15	100.000 (1)
14-23-S	34.56	34.56	7.94	-8.38	5557.15	100.000 (1)
15-1-S	31.42	31.42	13.83	-12.69	5062.83	100.000 (1)
15-2-S	31.42	31.42	20.88	-21.26	5062.83	100.000 (1)
15-3-S	31.42	31.42	5.92	-29.43	5062.83	100.000 (1)
15-4-S	31.42	31.42	5.85	-119.50	-5062.83	42.368 (2)
15-5-S	31.42	31.42	15.55	-89.08	-5062.83	34.100 (2)
15-6-S	31.42	31.42	54.16	-27.10	5062.83	56.091 (2)
15-7-S	31.42	31.42	172.89	0.00	5062.83	29.283 (2)
15-8-S	31.42	31.42	0.00	-613.01	-5062.83	8.259 (2)
15-9-S	31.42	31.42	0.00	-544.67	-5062.83	9.295 (2)
15-10-S	31.42	31.42	0.00	-594.28	-5062.83	8.519 (2)
15-11-S	31.42	31.42	0.00	-544.35	-5062.83	9.301 (2)
15-12-S	31.42	31.42	0.00	-471.97	-5062.83	10.727 (2)
15-13-S	31.42	31.42	0.00	-363.34	-5062.83	13.934 (2)
15-14-S	31.42	31.42	0.00	-264.67	-5062.83	19.129 (2)
15-15-S	31.42	31.42	0.00	-171.03	-5062.83	29.602 (2)
15-16-S	31.42	31.42	0.00	-88.32	-5062.83	57.326 (2)
15-17-S	31.42	31.42	19.69	-11.76	5062.83	100.000 (1)
15-18-S	31.42	31.42	68.64	-7.98	5062.83	73.755 (2)
15-19-S	31.42	31.42	69.46	-7.49	5062.83	72.890 (2)
15-20-S	31.42	31.42	54.17	-10.44	5062.83	93.456 (2)
15-21-S	31.42	31.42	13.04	-26.14	5062.83	100.000 (1)
15-22-S	31.42	31.42	9.73	-21.51	5062.83	100.000 (1)
15-23-S	31.42	31.42	7.94	-8.38	5062.83	100.000 (1)
16-1-S	31.42	31.42	2.38	-13.69	5062.83	100.000 (1)
16-2-S	31.42	31.42	1.21	-21.62	5062.83	100.000 (1)
16-3-S	31.42	31.42	1.99	-21.17	5062.83	100.000 (1)
16-4-S	31.42	31.42	10.96	-13.44	5062.83	100.000 (1)
16-5-S	31.42	31.42	37.60	-1.91	5062.83	100.000 (1)
16-6-S	31.42	31.42	100.26	0.00	5062.83	50.496 (2)
16-7-S	31.42	31.42	190.54	0.00	5062.83	26.571 (2)

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	44 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
16-8-S	31.42	31.42	0.00	-735.57	-5062.83	6.883 (2)
16-9-S	31.42	31.42	0.00	-658.08	-5062.83	7.693 (2)
16-10-S	31.42	31.42	0.00	-579.76	-5062.83	8.733 (2)
16-11-S	31.42	31.42	0.00	-500.59	-5062.83	10.114 (2)
16-12-S	31.42	31.42	0.00	-420.06	-5062.83	12.053 (2)
16-13-S	31.42	31.42	0.00	-337.05	-5062.83	15.021 (2)
16-14-S	31.42	31.42	0.00	-255.15	-5062.83	19.843 (2)
16-15-S	31.42	31.42	0.00	-175.10	-5062.83	28.914 (2)
16-16-S	31.42	31.42	0.00	-106.88	-5062.83	47.370 (2)
16-17-S	31.42	31.42	0.26	-50.67	-5062.83	99.911 (2)
16-18-S	31.42	31.42	5.84	-4.74	5062.83	100.000 (1)
16-19-S	31.42	31.42	15.22	-4.62	5062.83	100.000 (1)
16-20-S	31.42	31.42	20.99	-4.82	5062.83	100.000 (1)
16-21-S	31.42	31.42	16.89	-2.31	5062.83	100.000 (1)
16-22-S	31.42	31.42	12.54	-1.51	5062.83	100.000 (1)
16-23-S	31.42	31.42	7.87	-1.58	5062.83	100.000 (1)
17-1-S	31.42	31.42	24.45	-5.43	5062.83	100.000 (1)
17-2-S	31.42	31.42	60.37	-19.68	5062.83	67.093 (2)
17-3-S	31.42	31.42	8.71	-29.30	5062.83	100.000 (1)
17-4-S	31.42	31.42	4.31	-206.01	-5062.83	24.576 (2)
17-5-S	31.42	31.42	3.35	-170.76	-5062.83	29.649 (2)
17-6-S	31.42	31.42	14.65	-52.25	-5062.83	77.510 (2)
17-7-S	31.42	31.42	155.44	0.00	5062.83	32.572 (2)
17-8-S	31.42	31.42	0.00	-496.08	-5062.83	10.206 (2)
17-9-S	31.42	31.42	0.00	-433.83	-5062.83	11.670 (2)
17-10-S	31.42	31.42	0.00	-609.30	-5062.83	8.309 (2)
17-11-S	31.42	31.42	0.00	-586.33	-5062.83	8.635 (2)
17-12-S	31.42	31.42	0.00	-520.60	-5062.83	9.725 (2)
17-13-S	31.42	31.42	0.00	-386.23	-5062.83	13.108 (2)
17-14-S	31.42	31.42	0.00	-271.66	-5062.83	18.637 (2)
17-15-S	31.42	31.42	0.00	-165.58	-5062.83	30.576 (2)
17-16-S	31.42	31.42	0.00	-69.54	-5062.83	72.809 (2)
17-17-S	31.42	31.42	37.44	-3.73	5062.83	100.000 (1)
17-18-S	31.42	31.42	129.26	-3.03	5062.83	39.167 (2)
17-19-S	31.42	31.42	112.54	-7.08	5062.83	44.987 (2)
17-20-S	31.42	31.42	66.24	-12.37	5062.83	76.434 (2)
17-21-S	31.42	31.42	21.39	-56.76	-5062.83	89.195 (2)
17-22-S	31.42	31.42	11.81	-61.93	-5062.83	81.751 (2)
17-23-S	31.42	31.42	4.62	-14.75	5062.83	100.000 (1)
18-1-S	31.42	31.42	1.11	-14.95	5062.83	100.000 (1)
18-2-S	31.42	31.42	1.74	-16.59	5062.83	100.000 (1)
18-3-S	31.42	31.42	2.01	-11.12	5062.83	100.000 (1)
18-4-S	31.42	31.42	10.12	-3.36	5062.83	100.000 (1)
18-5-S	31.42	31.42	45.55	0.00	5062.83	100.000 (1)
18-6-S	31.42	31.42	111.67	0.00	5062.83	45.338 (2)
18-7-S	31.42	31.42	195.73	0.00	5062.83	25.866 (2)
18-8-S	31.42	31.42	0.00	-752.23	-5062.83	6.730 (2)
18-9-S	31.42	31.42	0.00	-653.55	-5062.83	7.747 (2)
18-10-S	31.42	31.42	0.00	-575.43	-5062.83	8.798 (2)
18-11-S	31.42	31.42	0.00	-495.40	-5062.83	10.220 (2)
18-12-S	31.42	31.42	0.00	-413.89	-5062.83	12.232 (2)
18-13-S	31.42	31.42	0.00	-329.74	-5062.83	15.354 (2)
18-14-S	31.42	31.42	0.00	-249.76	-5062.83	20.271 (2)
18-15-S	31.42	31.42	0.00	-172.82	-5062.83	29.295 (2)
18-16-S	31.42	31.42	0.00	-108.21	-5062.83	46.786 (2)
18-17-S	31.42	31.42	0.11	-53.06	-5062.83	95.410 (2)
18-18-S	31.42	31.42	3.98	-2.35	5062.83	100.000 (1)
18-19-S	31.42	31.42	11.97	-1.06	5062.83	100.000 (1)
18-20-S	31.42	31.42	16.69	-0.93	5062.83	100.000 (1)
18-21-S	31.42	31.42	14.19	-0.69	5062.83	100.000 (1)
18-22-S	31.42	31.42	11.04	-0.81	5062.83	100.000 (1)
18-23-S	31.42	31.42	7.22	-0.89	5062.83	100.000 (1)
19-1-S	31.42	31.42	20.07	-8.26	5062.83	100.000 (1)
19-2-S	31.42	31.42	57.33	-25.63	5062.83	70.643 (2)
19-3-S	31.42	31.42	8.50	-27.36	5062.83	100.000 (1)
19-4-S	31.42	31.42	6.06	-183.59	-5062.83	27.577 (2)
19-5-S	31.42	31.42	7.84	-149.98	-5062.83	27.006 (2)
19-6-S	31.42	31.42	34.27	-53.90	-5062.83	56.358 (2)
19-7-S	31.42	31.42	161.92	0.00	5062.83	31.267 (2)
19-8-S	31.42	31.42	0.00	-522.14	-5062.83	9.696 (2)
19-9-S	31.42	31.42	0.00	-447.05	-5062.83	11.325 (2)
19-10-S	31.42	31.42	0.00	-593.29	-5062.83	8.534 (2)
19-11-S	31.42	31.42	0.00	-564.74	-5062.83	8.965 (2)
19-12-S	31.42	31.42	0.00	-498.50	-5062.83	10.156 (2)
19-13-S	31.42	31.42	0.00	-371.79	-5062.83	13.617 (2)
19-14-S	31.42	31.42	0.00	-263.29	-5062.83	19.229 (2)
19-15-S	31.42	31.42	0.00	-162.76	-5062.83	31.105 (2)
19-16-S	31.42	31.42	0.01	-72.41	-5062.83	69.921 (2)
19-17-S	31.42	31.42	33.17	-6.33	5062.83	100.000 (1)
19-18-S	31.42	31.42	115.07	-4.47	5062.83	43.998 (2)
19-19-S	31.42	31.42	100.97	-6.31	5062.83	50.141 (2)

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:

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	45 di 123

Is	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	Mu [kNm]	FS
19-20-S	31.42	31.42	60.04	-9.38	5062.83	84.329 (2)
19-21-S	31.42	31.42	24.17	-52.46	-5062.83	96.505 (2)
19-22-S	31.42	31.42	16.08	-57.08	-5062.83	88.695 (2)
19-23-S	31.42	31.42	5.93	-13.09	5062.83	100.000 (1)
20-1-S	31.42	31.42	2.87	-12.25	5062.83	100.000 (1)
20-2-S	31.42	31.42	0.39	-21.01	5062.83	100.000 (1)
20-3-S	31.42	31.42	0.41	-29.06	5062.83	100.000 (1)
20-4-S	31.42	31.42	4.11	-56.12	-5062.83	72.173 (2)
20-5-S	31.42	31.42	20.33	-16.87	5062.83	100.000 (1)
20-6-S	31.42	31.42	66.71	-2.62	5062.83	60.713 (2)
20-7-S	31.42	31.42	173.75	0.00	5062.83	29.139 (2)
20-8-S	31.42	31.42	0.00	-655.56	-5062.83	7.723 (2)
20-9-S	31.42	31.42	0.00	-587.30	-5062.83	8.621 (2)
20-10-S	31.42	31.42	0.00	-551.41	-5062.83	9.182 (2)
20-11-S	31.42	31.42	0.00	-487.05	-5062.83	10.395 (2)
20-12-S	31.42	31.42	0.00	-415.37	-5062.83	12.189 (2)
20-13-S	31.42	31.42	0.00	-331.66	-5062.83	15.265 (2)
20-14-S	31.42	31.42	0.00	-248.46	-5062.83	20.377 (2)
20-15-S	31.42	31.42	0.00	-166.71	-5062.83	30.369 (2)
20-16-S	31.42	31.42	0.13	-95.46	-5062.83	53.038 (2)
20-17-S	31.42	31.42	9.01	-19.08	5062.83	100.000 (1)
20-18-S	31.42	31.42	20.63	-9.22	5062.83	100.000 (1)
20-19-S	31.42	31.42	23.37	-9.36	5062.83	100.000 (1)
20-20-S	31.42	31.42	24.12	-11.52	5062.83	100.000 (1)
20-21-S	31.42	31.42	15.72	-7.72	5062.83	100.000 (1)
20-22-S	31.42	31.42	11.77	-5.33	5062.83	100.000 (1)
20-23-S	31.42	31.42	10.02	-3.27	5062.83	100.000 (1)

## Pali in c.a.

Ip	Is	Ar [cmq]	M [kNm]	N [kN]	Mu [kNm]	Nu [kN]	FS
1	1	108.57	461.46	-181.00	1621.96	-636.20	3.515
2	1	62.83	461.46	598.65	1136.92	1474.92	2.464
3	1	62.83	461.46	1378.30	1070.91	3198.61	2.321

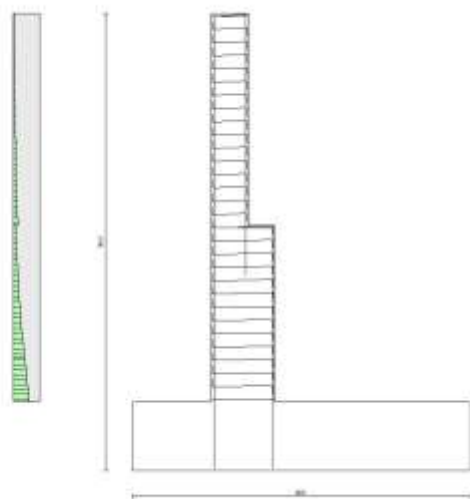


Fig. 14 - Paramento (Inviluppo)

APPALTATORE: <b>TELESE S.c.a r.l.</b> Conorzio 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 <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX</b>	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.004</td> <td>A</td> <td>46 di 123</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	46 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	46 di 123								

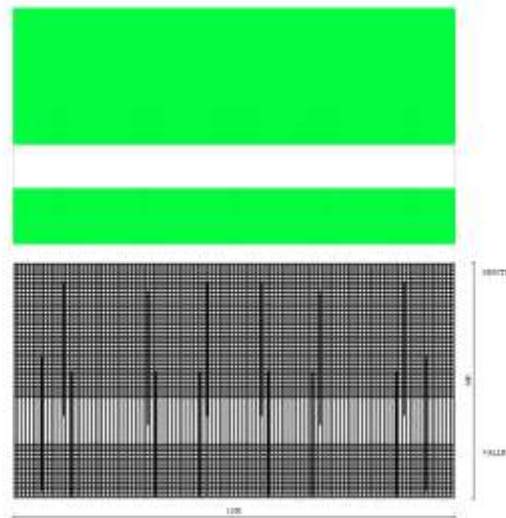


Fig. 15 - Piastra fondazione dir. X (Inviluppo)

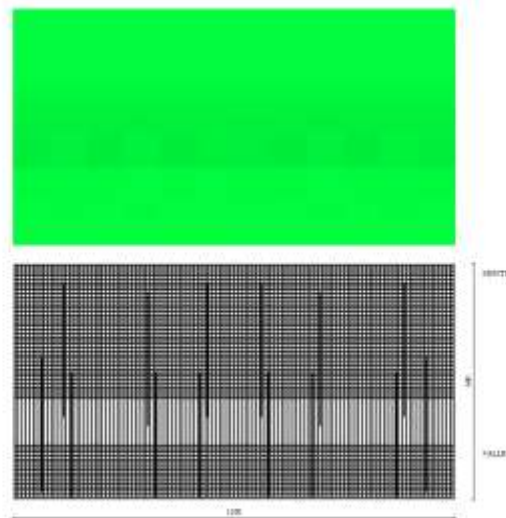


Fig. 16 - Piastra fondazione dir. Y (Inviluppo)

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 <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX</b>												
<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.004</td> <td>A</td> <td>47 di 123</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	47 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO							
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	47 di 123							

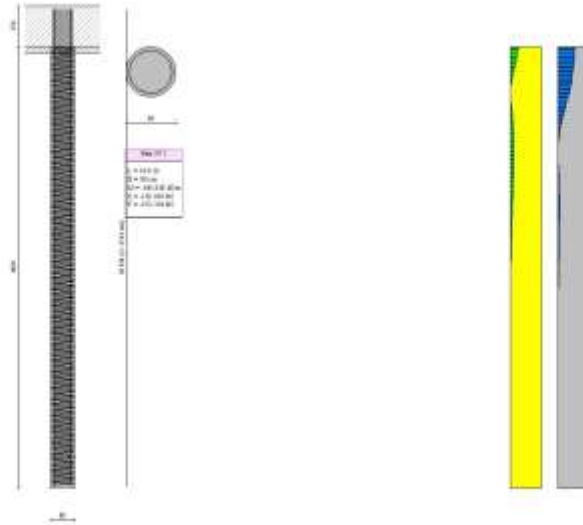


Fig. 17 - Pali (Palo n° 1) (Inviluppo)

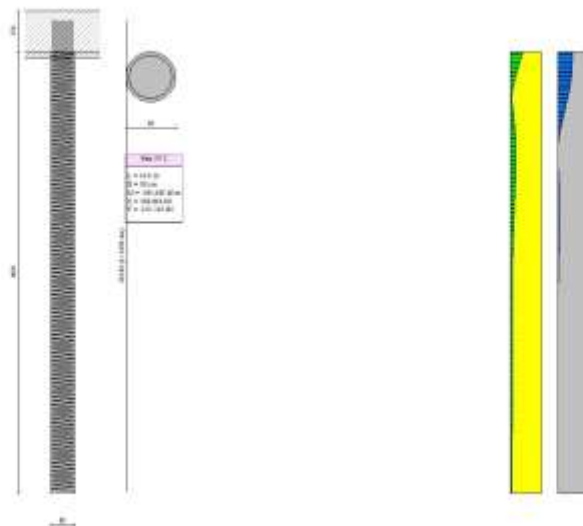


Fig. 18 - Pali (Palo n° 2) (Inviluppo)



APPALTATORE: <b>TELESE S.c.a r.l.</b> Consorzio Telese Società Consortile a Responsabilità Limitata	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.16.0.5.004.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	48 di 123

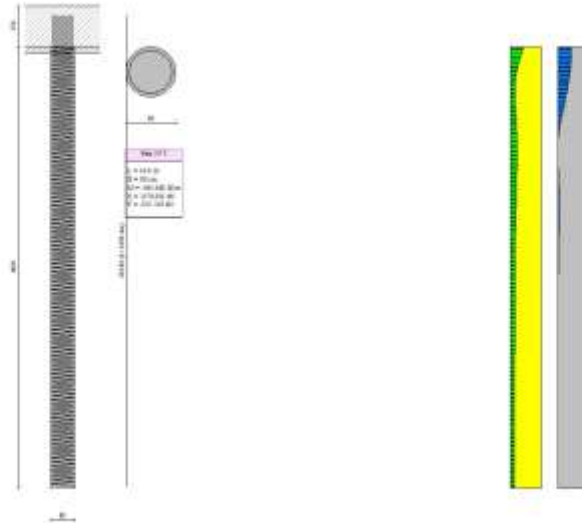


Fig. 19 - Pali (Palo n° 3) (Inviluppo)

### Verifiche a taglio

#### Simbologia adottata

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

### Paramento

n°	B [cm]	H [cm]	$A_{sw}$ [cm <sup>2</sup> ]	$\cot\theta$	$V_{Rcd}$ [kN]	$V_{Rsd}$ [kN]	$V_{Rd}$ [kN]	T [kN]	FS
1	100	70	0.00	--	0.00	0.00	301.15	10.15	29.669
2	100	70	0.00	--	0.00	0.00	301.39	10.15	29.693
3	100	70	0.00	--	0.00	0.00	301.63	10.15	29.717
4	100	70	0.00	--	0.00	0.00	301.87	10.15	29.741
5	100	70	0.00	--	0.00	0.00	301.90	10.35	29.176
6	100	70	0.00	--	0.00	0.00	302.15	10.76	28.082
7	100	70	0.00	--	0.00	0.00	302.39	11.17	27.068
8	100	70	0.00	--	0.00	0.00	302.63	11.58	26.127
9	100	70	0.00	--	0.00	0.00	302.87	12.00	25.250
10	100	70	0.00	--	0.00	0.00	303.12	12.41	24.431
11	100	70	0.00	--	0.00	0.00	303.36	12.82	23.665
12	100	70	0.00	--	0.00	0.00	303.60	13.23	22.947
13	100	70	0.00	--	0.00	0.00	303.85	13.64	22.272
14	100	70	0.00	--	0.00	0.00	304.09	14.05	21.636
15	100	70	0.00	--	0.00	0.00	304.33	14.47	21.037
16	100	70	0.00	--	0.00	0.00	304.57	14.88	20.471
17	100	70	0.00	--	0.00	0.00	304.82	15.29	19.936
18	100	70	0.00	--	0.00	0.00	305.06	15.70	19.428
19	100	70	0.00	--	0.00	0.00	305.30	16.11	18.947
20	100	70	0.00	--	0.00	0.00	305.54	16.53	18.489
21	100	70	0.00	--	0.00	0.00	305.79	16.94	18.054
22	100	70	0.00	--	0.00	0.00	306.03	17.35	17.639
23	100	70	0.00	--	0.00	0.00	306.27	17.76	17.244
24	100	70	0.00	--	0.00	0.00	306.51	18.17	16.866
25	100	70	0.00	--	0.00	0.00	306.76	18.58	16.506
26	100	70	0.00	--	0.00	0.00	307.00	19.00	16.161

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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 49 di 123

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
27	100	70	0.00	--	0.00	0.00	307.24	19.41	15.830
28	100	70	0.00	--	0.00	0.00	307.48	19.82	15.514
29	100	70	0.00	--	0.00	0.00	307.73	20.23	15.210
30	100	70	0.00	--	0.00	0.00	307.97	20.64	14.918
31	100	70	0.00	--	0.00	0.00	308.21	21.06	14.638
32	100	70	0.00	--	0.00	0.00	308.46	23.54	13.106
33	100	70	0.00	--	0.00	0.00	308.70	26.08	11.837
34	100	70	0.00	--	0.00	0.00	308.94	28.67	10.776
35	100	70	0.00	--	0.00	0.00	309.18	31.31	9.876
36	100	70	0.00	--	0.00	0.00	309.43	33.99	9.103
37	100	70	0.00	--	0.00	0.00	309.67	36.72	8.433
38	100	70	0.00	--	0.00	0.00	309.91	39.50	7.845
39	100	70	0.00	--	0.00	0.00	310.15	42.33	7.327
40	100	70	0.00	--	0.00	0.00	310.40	45.20	6.867
41	100	70	0.00	--	0.00	0.00	310.64	48.13	6.455
42	100	120	0.00	--	0.00	0.00	411.64	51.32	8.021
43	100	120	0.00	--	0.00	0.00	412.07	59.48	6.928
44	100	120	0.00	--	0.00	0.00	412.49	66.17	6.234
45	100	120	0.00	--	0.00	0.00	412.92	71.41	5.783
46	100	120	0.00	--	0.00	0.00	413.35	75.22	5.495
47	100	120	0.00	--	0.00	0.00	413.77	78.46	5.274
48	100	120	0.00	--	0.00	0.00	414.20	81.78	5.065
49	100	120	0.00	--	0.00	0.00	414.63	85.18	4.867
50	100	120	0.00	--	0.00	0.00	415.05	88.65	4.682
51	100	120	0.00	--	0.00	0.00	415.48	92.19	4.507
52	100	120	0.00	--	0.00	0.00	415.90	95.78	4.342
53	100	120	0.00	--	0.00	0.00	416.33	99.44	4.187
54	100	120	0.00	--	0.00	0.00	416.76	103.15	4.040
55	100	120	0.00	--	0.00	0.00	417.18	106.92	3.902
56	100	120	0.00	--	0.00	0.00	417.61	110.74	3.771
57	100	120	0.00	--	0.00	0.00	418.04	114.61	3.647
58	100	120	0.00	--	0.00	0.00	418.46	118.54	3.530
59	100	120	0.00	--	0.00	0.00	418.89	122.52	3.419
60	100	120	0.00	--	0.00	0.00	419.31	126.55	3.313
61	100	120	0.00	--	0.00	0.00	419.74	130.63	3.213
62	100	120	0.00	--	0.00	0.00	420.17	134.77	3.118
63	100	120	0.00	--	0.00	0.00	420.59	138.95	3.027
64	100	120	0.00	--	0.00	0.00	421.02	143.18	2.940
65	100	120	0.00	--	0.00	0.00	473.81	147.46	3.213
66	100	120	0.00	--	0.00	0.00	474.24	151.80	3.124
67	100	120	0.00	--	0.00	0.00	422.30	156.18	2.704
68	100	120	0.00	--	0.00	0.00	422.31	156.27	2.702
69	100	120	0.00	--	0.00	0.00	422.71	160.42	2.635
70	100	120	0.00	--	0.00	0.00	423.11	164.62	2.570
71	100	120	0.00	--	0.00	0.00	423.51	168.87	2.508
72	100	120	0.00	--	0.00	0.00	423.91	173.15	2.448
73	100	120	0.00	--	0.00	0.00	424.31	177.48	2.391
74	100	120	0.00	--	0.00	0.00	424.71	181.85	2.335
75	100	120	0.00	--	0.00	0.00	425.11	186.27	2.282
76	100	120	0.00	--	0.00	0.00	425.51	190.72	2.231
77	100	120	0.00	--	0.00	0.00	425.91	195.22	2.182

## 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	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-2-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-3-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-4-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-5-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-6-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-7-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-8-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-9-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-10-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-11-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-12-P	75	130	0.00	2.500	0.00	0.00	315.76	127.76	2.472 (1)
1-13-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-14-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-15-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-16-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-17-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-18-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-19-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-20-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-21-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-22-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-23-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (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.16.0.5.004.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.16.0.5.004	A	50 di 123

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
1-24-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-25-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-26-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-27-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-28-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-29-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-30-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
1-31-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-32-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-33-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-34-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-35-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-36-P	75	130	0.00	2.500	0.00	0.00	315.76	51.29	6.156 (1)
1-37-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-38-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-39-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-40-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-41-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-42-P	75	130	0.00	2.500	0.00	0.00	315.76	103.84	3.041 (1)
1-43-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-44-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-45-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-46-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-47-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-48-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
1-49-P	75	130	0.00	2.500	0.00	0.00	315.76	15.23	20.736 (1)
2-1-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-2-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-3-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-4-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-5-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-6-P	75	130	0.00	2.500	0.00	0.00	315.76	236.74	1.334 (1)
2-7-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-8-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-9-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-10-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-11-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-12-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-13-P	75	130	0.00	2.500	0.00	0.00	315.76	162.81	1.939 (1)
2-14-P	75	130	0.00	2.500	0.00	0.00	315.76	162.81	1.939 (1)
2-15-P	75	130	0.00	2.500	0.00	0.00	315.76	162.81	1.939 (1)
2-16-P	75	130	0.00	2.500	0.00	0.00	315.76	162.81	1.939 (1)
2-17-P	75	130	0.00	2.500	0.00	0.00	315.76	162.81	1.939 (1)
2-18-P	75	130	0.00	2.500	0.00	0.00	315.76	145.69	2.167 (1)
2-19-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-20-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-21-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-22-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-23-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-24-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-25-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-26-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-27-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-28-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-29-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-30-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-31-P	75	130	0.00	2.500	0.00	0.00	315.76	68.26	4.626 (1)
2-32-P	75	130	0.00	2.500	0.00	0.00	315.76	68.26	4.626 (1)
2-33-P	75	130	0.00	2.500	0.00	0.00	315.76	68.26	4.626 (1)
2-34-P	75	130	0.00	2.500	0.00	0.00	315.76	68.26	4.626 (1)
2-35-P	75	130	0.00	2.500	0.00	0.00	315.76	68.26	4.626 (1)
2-36-P	75	130	0.00	2.500	0.00	0.00	315.76	206.48	1.529 (1)
2-37-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-38-P	75	130	0.00	2.500	0.00	0.00	315.76	38.50	8.201 (1)
2-39-P	75	130	0.00	2.500	0.00	0.00	315.76	38.50	8.201 (1)
2-40-P	75	130	0.00	2.500	0.00	0.00	315.76	38.50	8.201 (1)
2-41-P	75	130	0.00	2.500	0.00	0.00	315.76	38.50	8.201 (1)
2-42-P	75	130	0.00	2.500	0.00	0.00	315.76	0.00	100.000 (1)
2-43-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-44-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-45-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-46-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-47-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-48-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
2-49-P	75	130	0.00	2.500	0.00	0.00	315.76	29.56	10.680 (1)
5-1-P	93	130	0.00	2.500	0.00	0.00	391.18	151.59	2.581 (1)
5-2-P	93	130	0.00	2.500	0.00	0.00	391.18	151.59	2.581 (1)
5-3-P	93	130	0.00	2.500	0.00	0.00	391.18	151.59	2.581 (1)
5-4-P	93	130	0.00	2.500	0.00	0.00	391.18	151.59	2.581 (1)
5-5-P	93	130	0.00	2.500	0.00	0.00	391.18	151.59	2.581 (1)
5-6-P	93	130	0.00	2.500	0.00	0.00	391.18	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.16.0.5.004.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.16.0.5.004	A	51 di 123

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
5-7-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-8-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-9-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-10-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-11-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-12-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-13-P	93	130	0.00	2.500	0.00	0.00	391.18	94.73	4.130 (1)
5-14-P	93	130	0.00	2.500	0.00	0.00	391.18	94.73	4.130 (1)
5-15-P	93	130	0.00	2.500	0.00	0.00	391.18	94.73	4.130 (1)
5-16-P	93	130	0.00	2.500	0.00	0.00	391.18	94.73	4.130 (1)
5-17-P	93	130	0.00	2.500	0.00	0.00	391.18	94.73	4.130 (1)
5-18-P	93	130	0.00	2.500	0.00	0.00	391.18	80.78	4.843 (1)
5-19-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-20-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-21-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-22-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-23-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-24-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-25-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-26-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-27-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-28-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-29-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-30-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-31-P	93	130	0.00	2.500	0.00	0.00	391.18	31.21	12.533 (1)
5-32-P	93	130	0.00	2.500	0.00	0.00	391.18	31.21	12.533 (1)
5-33-P	93	130	0.00	2.500	0.00	0.00	391.18	31.21	12.533 (1)
5-34-P	93	130	0.00	2.500	0.00	0.00	391.18	31.21	12.533 (1)
5-35-P	93	130	0.00	2.500	0.00	0.00	391.18	31.21	12.533 (1)
5-36-P	93	130	0.00	2.500	0.00	0.00	391.18	128.92	3.034 (1)
5-37-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-38-P	93	130	0.00	2.500	0.00	0.00	391.18	11.85	33.009 (1)
5-39-P	93	130	0.00	2.500	0.00	0.00	391.18	11.85	33.009 (1)
5-40-P	93	130	0.00	2.500	0.00	0.00	391.18	11.85	33.009 (1)
5-41-P	93	130	0.00	2.500	0.00	0.00	391.18	11.85	33.009 (1)
5-42-P	93	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
5-43-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-44-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-45-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-46-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-47-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-48-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
5-49-P	93	130	0.00	2.500	0.00	0.00	391.18	40.88	9.569 (1)
6-1-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-2-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-3-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-4-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-5-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-6-P	92	130	0.00	2.500	0.00	0.00	377.68	55.23	6.839 (1)
6-7-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-8-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-9-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-10-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-11-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-12-P	92	130	0.00	2.500	0.00	0.00	377.68	9.27	40.728 (1)
6-13-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-14-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-15-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-16-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-17-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-18-P	92	130	0.00	2.500	0.00	0.00	377.68	25.78	14.650 (1)
6-19-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-20-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-21-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-22-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-23-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-24-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-25-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-26-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-27-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-28-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-29-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-30-P	92	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
6-31-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-32-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-33-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-34-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-35-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-36-P	92	130	0.00	2.500	0.00	0.00	377.68	36.78	10.269 (1)
6-37-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (1)
6-38-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (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.16.0.5.004.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.16.0.5.004	A	52 di 123

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
6-39-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (1)
6-40-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (1)
6-41-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (1)
6-42-P	92	130	0.00	2.500	0.00	0.00	377.68	19.13	19.741 (1)
6-43-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-44-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-45-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-46-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-47-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-48-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
6-49-P	92	130	0.00	2.500	0.00	0.00	377.68	27.64	13.662 (1)
7-1-P	93	130	0.00	2.500	0.00	0.00	377.68	49.54	7.623 (1)
7-2-P	93	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
7-3-P	93	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
7-4-P	93	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
7-5-P	93	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
7-6-P	93	130	0.00	2.500	0.00	0.00	377.68	0.00	100.000 (1)
7-7-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-8-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-9-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-10-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-11-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-12-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-13-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-14-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-15-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-16-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-17-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-18-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-19-P	93	130	0.00	2.500	0.00	0.00	377.68	4.17	90.529 (1)
7-20-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-21-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-22-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-23-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-24-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-25-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-26-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-27-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-28-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-29-P	93	130	0.00	2.500	0.00	0.00	377.68	5.83	64.810 (1)
7-30-P	93	130	0.00	2.500	0.00	0.00	377.68	21.30	17.728 (1)
7-31-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-32-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-33-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-34-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-35-P	93	130	0.00	2.500	0.00	0.00	377.68	35.00	10.792 (1)
7-36-P	93	130	0.00	2.500	0.00	0.00	377.68	48.12	7.848 (1)
7-37-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-38-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-39-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-40-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-41-P	93	130	0.00	2.500	0.00	0.00	377.68	36.84	10.251 (1)
7-42-P	93	130	0.00	2.500	0.00	0.00	377.68	2.07	100.000 (1)
7-43-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-44-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-45-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-46-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-47-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-48-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
7-49-P	93	130	0.00	2.500	0.00	0.00	377.68	20.62	18.312 (1)
8-1-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-2-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-3-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-4-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-5-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-6-P	92	130	0.00	2.500	0.00	0.00	391.18	0.00	100.000 (1)
8-7-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-8-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-9-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-10-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-11-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-12-P	92	130	0.00	2.500	0.00	0.00	391.18	60.65	6.450 (1)
8-13-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-14-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-15-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-16-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-17-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-18-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-19-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-20-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-21-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

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

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	53 di 123

Is	B [cm]	H [cm]	Asw [cmq]	cotg (θ)	V <sub>Rcd</sub> [kN]	V <sub>Rsd</sub> [kN]	V <sub>Rd</sub> [kN]	T [kN]	FS
8-22-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-23-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-24-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-25-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-26-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-27-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-28-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-29-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-30-P	92	130	0.00	2.500	0.00	0.00	391.18	32.05	12.207 (1)
8-31-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-32-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-33-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-34-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-35-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-36-P	92	130	0.00	2.500	0.00	0.00	391.18	38.11	10.264 (1)
8-37-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-38-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-39-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-40-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-41-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-42-P	92	130	0.00	2.500	0.00	0.00	391.18	52.01	7.522 (1)
8-43-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-44-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-45-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-46-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-47-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-48-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
8-49-P	92	130	0.00	2.500	0.00	0.00	391.18	10.68	36.622 (1)
9-1-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-2-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-3-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-4-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-5-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-6-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
9-7-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	438.27	3.240 (1)
9-8-S	100	130	0.00	2.500	0.00	0.00	412.05	363.30	1.134 (1)
9-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-11-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-12-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-13-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-14-S	100	130	0.00	2.500	0.00	0.00	412.05	349.51	1.179 (1)
9-15-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-16-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
9-17-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
9-18-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
9-19-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
9-20-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
9-21-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
9-22-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
9-23-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
10-1-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
10-2-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
10-3-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
10-4-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
10-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	768.03	1.849 (1)
10-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	768.03	1.849 (1)
10-7-S	100	130	0.00	2.500	0.00	0.00	412.05	68.45	6.020 (1)
10-8-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
10-9-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
10-10-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
10-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
10-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
10-13-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
10-14-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-15-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-16-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-17-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-18-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-19-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
10-20-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
10-21-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
10-22-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
10-23-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
11-1-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-2-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-3-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-4-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-5-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-6-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
11-7-S	100	130	0.00	2.500	0.00	0.00	412.05	333.47	1.236 (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.16.0.5.004.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.16.0.5.004	A	54 di 123

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
11-8-S	100	130	0.00	2.500	0.00	0.00	412.05	333.47	1.236 (1)
11-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-11-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-12-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-13-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-14-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
11-15-S	100	130	0.00	2.500	0.00	0.00	412.05	307.88	1.338 (1)
11-16-S	100	130	0.00	2.500	0.00	0.00	412.05	307.88	1.338 (1)
11-17-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
11-18-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
11-19-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
11-20-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
11-21-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
11-22-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
11-23-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
12-1-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
12-2-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
12-3-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
12-4-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
12-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	831.50	1.708 (1)
12-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	831.50	1.708 (1)
12-7-S	100	130	0.00	2.500	0.00	0.00	412.05	77.84	5.294 (1)
12-8-S	100	130	0.00	2.500	0.00	0.00	412.05	239.94	1.717 (1)
12-9-S	100	130	0.00	2.500	0.00	0.00	412.05	239.94	1.717 (1)
12-10-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
12-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
12-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
12-13-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
12-14-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
12-15-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-16-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-17-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-18-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-19-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-20-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
12-21-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
12-22-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
12-23-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
13-1-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-2-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-3-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-4-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-5-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-6-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
13-7-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-8-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-11-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
13-12-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
13-13-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
13-14-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
13-15-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-16-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
13-17-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-18-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-19-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-20-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-21-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-22-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
13-23-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
14-1-S	100	130	0.00	2.500	0.00	0.00	425.35	246.25	1.727 (1)
14-2-S	100	130	0.00	2.500	0.00	0.00	425.35	246.25	1.727 (1)
14-3-S	100	130	0.00	2.500	0.00	0.00	425.35	246.25	1.727 (1)
14-4-S	100	130	0.00	2.500	0.00	0.00	425.35	246.25	1.727 (1)
14-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	592.53	2.396 (1)
14-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	592.53	2.396 (1)
14-7-S	100	130	0.00	2.500	0.00	0.00	425.35	0.00	100.000 (1)
14-8-S	100	130	0.00	2.500	0.00	0.00	425.35	371.80	1.144 (1)
14-9-S	100	130	0.00	2.500	0.00	0.00	425.35	68.70	6.191 (1)
14-10-S	100	130	0.00	2.500	0.00	0.00	425.35	68.70	6.191 (1)
14-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	458.14	3.099 (1)
14-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	458.14	3.099 (1)
14-13-S	100	130	0.00	2.500	0.00	0.00	425.35	421.71	1.009 (1)
14-14-S	100	130	0.00	2.500	0.00	0.00	425.35	421.71	1.009 (1)
14-15-S	100	130	0.00	2.500	0.00	0.00	425.35	0.00	100.000 (1)
14-16-S	100	130	0.00	2.500	0.00	0.00	425.35	0.00	100.000 (1)
14-17-S	100	130	0.00	2.500	0.00	0.00	425.35	6.75	63.015 (1)
14-18-S	100	130	0.00	2.500	0.00	0.00	425.35	6.75	63.015 (1)
14-19-S	100	130	0.00	2.500	0.00	0.00	425.35	214.72	1.981 (1)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

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

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	55 di 123

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
14-20-S	100	130	0.00	2.500	0.00	0.00	425.35	214.72	1.981 (1)
14-21-S	100	130	0.00	2.500	0.00	0.00	425.35	214.72	1.981 (1)
14-22-S	100	130	0.00	2.500	0.00	0.00	425.35	214.72	1.981 (1)
14-23-S	100	130	0.00	2.500	0.00	0.00	425.35	214.72	1.981 (1)
15-1-S	100	130	0.00	2.500	0.00	0.00	412.05	246.25	1.673 (1)
15-2-S	100	130	0.00	2.500	0.00	0.00	412.05	246.25	1.673 (1)
15-3-S	100	130	0.00	2.500	0.00	0.00	412.05	246.25	1.673 (1)
15-4-S	100	130	0.00	2.500	0.00	0.00	412.05	246.25	1.673 (1)
15-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	592.53	2.396 (1)
15-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	592.53	2.396 (1)
15-7-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
15-8-S	100	130	0.00	2.500	0.00	0.00	412.05	371.80	1.108 (1)
15-9-S	100	130	0.00	2.500	0.00	0.00	412.05	68.70	5.998 (1)
15-10-S	100	130	0.00	2.500	0.00	0.00	412.05	68.70	5.998 (1)
15-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	458.14	3.099 (1)
15-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	458.14	3.099 (1)
15-13-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	458.14	3.099 (1)
15-14-S	100	130	0.00	2.500	0.00	0.00	412.05	387.25	1.064 (1)
15-15-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
15-16-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
15-17-S	100	130	0.00	2.500	0.00	0.00	412.05	6.75	61.044 (1)
15-18-S	100	130	0.00	2.500	0.00	0.00	412.05	6.75	61.044 (1)
15-19-S	100	130	0.00	2.500	0.00	0.00	412.05	6.75	61.044 (1)
15-20-S	100	130	0.00	2.500	0.00	0.00	412.05	155.72	2.646 (1)
15-21-S	100	130	0.00	2.500	0.00	0.00	412.05	155.72	2.646 (1)
15-22-S	100	130	0.00	2.500	0.00	0.00	412.05	155.72	2.646 (1)
15-23-S	100	130	0.00	2.500	0.00	0.00	412.05	155.72	2.646 (1)
16-1-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-2-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-3-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-4-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-5-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-6-S	100	130	0.00	2.500	0.00	0.00	412.05	27.27	15.110 (1)
16-7-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-8-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-11-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
16-12-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
16-13-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
16-14-S	100	130	0.00	2.500	0.00	0.00	412.05	235.62	1.749 (1)
16-15-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-16-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
16-17-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-18-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-19-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-20-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-21-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-22-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
16-23-S	100	130	0.00	2.500	0.00	0.00	412.05	8.11	50.835 (1)
17-1-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
17-2-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
17-3-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
17-4-S	100	130	0.00	2.500	0.00	0.00	412.05	331.31	1.244 (1)
17-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	831.50	1.708 (1)
17-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	831.50	1.708 (1)
17-7-S	100	130	0.00	2.500	0.00	0.00	412.05	77.84	5.294 (1)
17-8-S	100	130	0.00	2.500	0.00	0.00	412.05	239.94	1.717 (1)
17-9-S	100	130	0.00	2.500	0.00	0.00	412.05	239.94	1.717 (1)
17-10-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
17-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
17-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
17-13-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
17-14-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	562.65	2.524 (1)
17-15-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-16-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-17-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-18-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-19-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-20-S	100	130	0.00	2.500	0.00	0.00	412.05	381.30	1.081 (1)
17-21-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
17-22-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
17-23-S	100	130	0.00	2.500	0.00	0.00	412.05	145.84	2.825 (1)
18-1-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-2-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-3-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-4-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-5-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-6-S	100	130	0.00	2.500	0.00	0.00	412.05	365.36	1.128 (1)
18-7-S	100	130	0.00	2.500	0.00	0.00	412.05	333.47	1.236 (1)
18-8-S	100	130	0.00	2.500	0.00	0.00	412.05	333.47	1.236 (1)



APPALTATORE:

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

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

PROGETTAZIONE:

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	56 di 123

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
18-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-11-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-12-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-13-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-14-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
18-15-S	100	130	0.00	2.500	0.00	0.00	412.05	307.88	1.338 (1)
18-16-S	100	130	0.00	2.500	0.00	0.00	412.05	307.88	1.338 (1)
18-17-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
18-18-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
18-19-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
18-20-S	100	130	0.00	2.500	0.00	0.00	412.05	8.42	48.923 (1)
18-21-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
18-22-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
18-23-S	100	130	0.00	2.500	0.00	0.00	412.05	26.65	15.460 (1)
19-1-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
19-2-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
19-3-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
19-4-S	100	130	0.00	2.500	0.00	0.00	412.05	314.25	1.311 (1)
19-5-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	768.03	1.849 (1)
19-6-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	768.03	1.849 (1)
19-7-S	100	130	0.00	2.500	0.00	0.00	412.05	68.45	6.020 (1)
19-8-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
19-9-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
19-10-S	100	130	0.00	2.500	0.00	0.00	412.05	411.52	1.001 (1)
19-11-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
19-12-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
19-13-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	527.99	2.689 (1)
19-14-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-15-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-16-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-17-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-18-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-19-S	100	130	0.00	2.500	0.00	0.00	412.05	402.06	1.025 (1)
19-20-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
19-21-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
19-22-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
19-23-S	100	130	0.00	2.500	0.00	0.00	412.05	207.73	1.984 (1)
20-1-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-2-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-3-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-4-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-5-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-6-S	100	130	0.00	2.500	0.00	0.00	412.05	36.15	11.399 (1)
20-7-S	100	130	4.52	2.500	3218.80	1419.93	1419.93	438.27	3.240 (1)
20-8-S	100	130	0.00	2.500	0.00	0.00	412.05	363.30	1.134 (1)
20-9-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-10-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-11-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-12-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-13-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-14-S	100	130	0.00	2.500	0.00	0.00	412.05	349.51	1.179 (1)
20-15-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-16-S	100	130	0.00	2.500	0.00	0.00	412.05	0.00	100.000 (1)
20-17-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
20-18-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
20-19-S	100	130	0.00	2.500	0.00	0.00	412.05	12.62	32.663 (1)
20-20-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
20-21-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
20-22-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (1)
20-23-S	100	130	0.00	2.500	0.00	0.00	412.05	97.76	4.215 (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	1.57	15	2.500	626.74	4779.52	626.74	351.10	1.785
2	1	56.57	1.57	15	2.500	709.78	1625.69	709.78	351.11	2.022
3	1	56.57	1.57	15	2.500	783.43	1625.69	783.43	351.11	2.231

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PROGETTAZIONE: <u>Mandatario:</u> <u>Mandante:</u> <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.16.0.5.004.A.DOCX</b>	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.004</td> <td>A</td> <td>57 di 123</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	57 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	57 di 123								

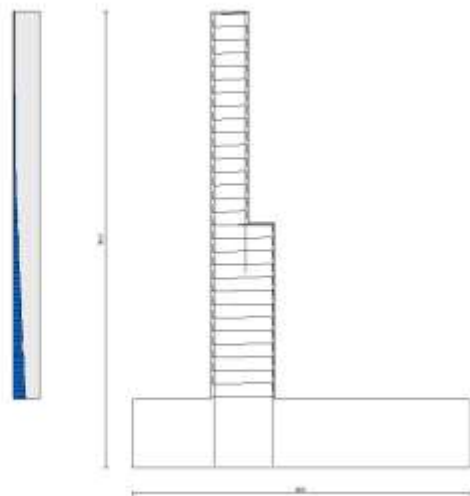


Fig. 20 - Paramento (Inviluppo)

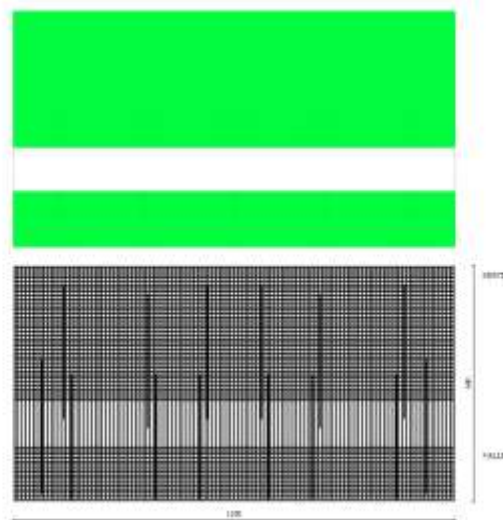


Fig. 21 - Piastra fondazione dir. X (Inviluppo)

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COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	58 di 123								

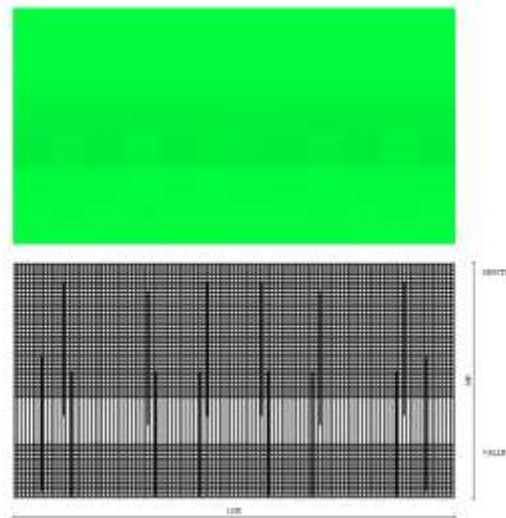


Fig. 22 - Piastra fondazione dir. Y (Inviluppo)

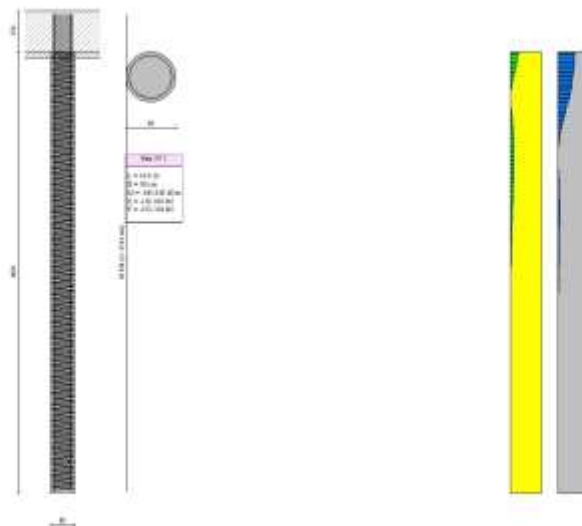


Fig. 23 - Pali (Palo n° 1) (Inviluppo)

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PROGETTAZIONE: <u>Mandataria:</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.16.0.5.004.A.DOCX	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	59 di 123

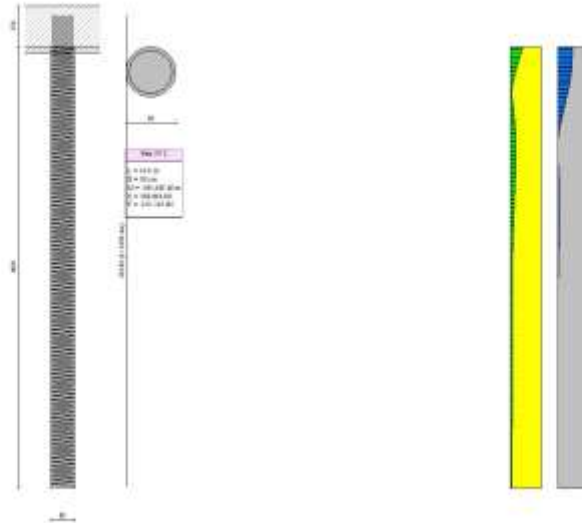


Fig. 24 - Pali (Palo n° 2) (Inviluppo)

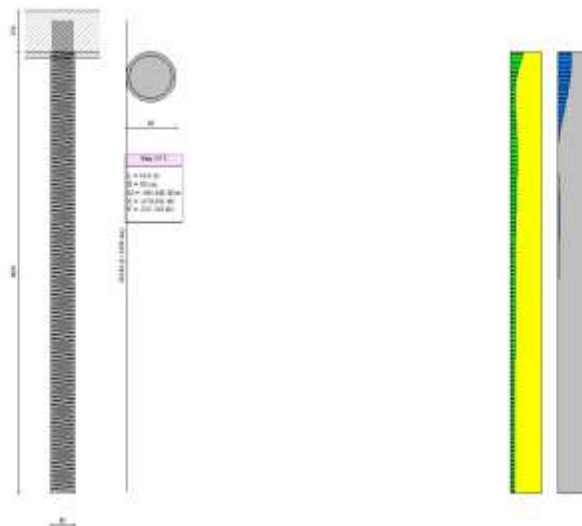


Fig. 25 - Pali (Palo n° 3) (Inviluppo)

### Verifica delle tensioni

#### 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]
$\sigma_c$	tensione di compressione nel cls, espressa in [kPa]
$\sigma_{fi}$	tensione nei ferri inferiori, espressa in [kPa]

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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.

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**PROGETTO ESECUTIVO**

Relazione di calcolo

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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	12.72	15.71	2.00	5.00	40 (5)	790 (5)	493 (5)
2	100	70	12.72	15.71	2.70	6.72	54 (5)	1073 (5)	666 (5)
3	100	70	12.72	15.71	3.40	8.43	68 (5)	1357 (5)	838 (5)
4	100	70	12.72	15.71	4.10	10.15	82 (5)	1640 (5)	1010 (5)
5	100	70	12.72	15.71	4.80	11.86	96 (5)	1924 (5)	1183 (5)
6	100	70	12.72	15.71	5.50	13.58	110 (5)	2207 (5)	1355 (5)
7	100	70	12.72	15.71	6.20	15.29	124 (5)	2491 (5)	1528 (5)
8	100	70	12.72	15.71	6.90	17.01	138 (5)	2774 (5)	1700 (5)
9	100	70	12.72	15.71	7.60	18.73	152 (5)	3058 (5)	1872 (5)
10	100	70	12.72	15.71	8.30	20.44	166 (5)	3341 (5)	2045 (5)
11	100	70	12.72	15.71	9.00	22.16	180 (5)	3625 (5)	2217 (5)
12	100	70	12.72	15.71	9.70	23.87	194 (5)	3909 (5)	2390 (5)
13	100	70	12.72	15.71	10.40	25.59	208 (5)	4192 (5)	2562 (5)
14	100	70	12.72	15.71	11.10	27.30	222 (5)	4476 (5)	2734 (5)
15	100	70	12.72	15.71	11.80	29.02	236 (5)	4759 (5)	2907 (5)
16	100	70	12.72	15.71	12.50	30.74	250 (5)	5043 (5)	3079 (5)
17	100	70	12.72	15.71	13.20	32.45	264 (5)	5326 (5)	3252 (5)
18	100	70	12.72	15.71	13.90	34.17	278 (5)	5610 (5)	3424 (5)
19	100	70	12.72	15.71	14.60	35.88	292 (5)	5893 (5)	3596 (5)
20	100	70	12.72	15.71	15.30	37.60	307 (5)	6177 (5)	3769 (5)
21	100	70	12.72	15.71	16.00	39.32	321 (5)	6460 (5)	3941 (5)
22	100	70	12.72	15.71	16.70	41.03	335 (5)	6744 (5)	4114 (5)
23	100	70	12.72	15.71	17.40	42.75	349 (5)	7027 (5)	4286 (5)
24	100	70	12.72	15.71	18.10	44.46	363 (5)	7311 (5)	4458 (5)
25	100	70	12.72	15.71	18.80	46.18	377 (5)	7594 (5)	4631 (5)
26	100	70	12.72	15.71	19.50	47.89	391 (5)	7878 (5)	4803 (5)
27	100	70	12.72	15.71	20.20	49.61	405 (5)	8161 (5)	4976 (5)
28	100	70	12.72	15.71	20.90	51.33	419 (5)	8445 (5)	5148 (5)
29	100	70	12.72	15.71	21.60	53.04	433 (5)	8728 (5)	5320 (5)
30	100	70	12.72	15.71	22.29	54.76	447 (5)	9012 (5)	5493 (5)
31	100	70	12.72	15.71	22.99	56.47	461 (5)	9296 (5)	5665 (5)
32	100	70	12.72	15.71	23.73	58.19	476 (5)	9615 (5)	5847 (5)
33	100	70	12.72	15.71	24.55	59.90	492 (5)	10010 (5)	6047 (5)
34	100	70	12.72	15.71	25.46	61.62	511 (5)	10486 (5)	6268 (5)
35	100	70	12.72	15.71	26.46	63.34	532 (5)	11048 (5)	6510 (5)
36	100	70	12.72	15.71	27.55	65.05	554 (5)	11701 (5)	6774 (5)
37	100	70	12.72	15.71	28.75	66.77	579 (5)	12451 (5)	7061 (5)
38	100	70	12.72	15.71	30.05	68.48	606 (5)	13304 (5)	7371 (5)
39	100	70	12.72	15.71	31.46	70.20	636 (5)	14265 (5)	7707 (5)
40	100	70	12.72	15.71	32.98	71.91	668 (5)	15341 (5)	8067 (5)
41	100	70	12.72	15.71	34.63	73.63	702 (5)	16537 (5)	8454 (5)
42	100	120	12.72	15.71	48.59	86.48	360 (5)	6856 (5)	4862 (5)
43	100	120	12.72	15.71	50.63	89.42	375 (5)	7255 (5)	5072 (5)
44	100	120	12.72	15.71	53.20	92.36	396 (5)	7895 (5)	5346 (5)
45	100	120	12.72	15.71	56.17	95.30	421 (5)	8720 (5)	5665 (5)
46	100	120	12.72	15.71	59.40	98.24	448 (5)	9672 (5)	6014 (5)
47	100	120	12.72	15.71	62.76	101.18	477 (5)	10705 (5)	6378 (5)
48	100	120	12.72	15.71	66.26	104.12	507 (5)	11813 (5)	6757 (5)
49	100	120	12.72	15.71	69.89	107.05	538 (5)	13001 (5)	7150 (5)
50	100	120	12.72	15.71	73.67	109.99	570 (5)	14274 (5)	7558 (5)
51	100	120	12.72	15.71	77.59	112.93	604 (5)	15634 (5)	7983 (5)
52	100	120	12.72	15.71	81.67	115.87	639 (5)	17087 (5)	8423 (5)
53	100	120	12.72	15.71	85.92	118.81	675 (5)	18635 (5)	8881 (5)
54	100	120	12.72	15.71	90.33	121.75	714 (5)	20283 (5)	9356 (5)
55	100	120	12.72	15.71	94.92	124.69	753 (5)	22034 (5)	9848 (5)
56	100	120	12.72	15.71	99.69	127.63	794 (5)	23890 (5)	10358 (5)
57	100	120	12.72	15.71	104.64	130.57	837 (5)	25857 (5)	10886 (5)
58	100	120	12.72	15.71	109.79	133.51	882 (5)	27936 (5)	11434 (5)
59	100	120	12.72	15.71	115.13	136.45	928 (5)	30130 (5)	12000 (5)
60	100	120	12.72	15.71	120.67	139.39	975 (5)	32444 (5)	12586 (5)
61	100	120	12.72	15.71	126.42	142.33	1025 (5)	34880 (5)	13191 (5)
62	100	120	12.72	15.71	132.37	145.27	1076 (5)	37440 (5)	13817 (5)
63	100	120	12.72	15.71	138.55	148.21	1130 (5)	40129 (5)	14463 (5)
64	100	120	12.72	15.71	144.94	151.15	1185 (5)	42948 (5)	15130 (5)
65	100	120	25.45	15.71	151.57	154.09	1163 (5)	44872 (5)	14730 (5)
66	100	120	25.45	15.71	158.42	157.03	1218 (5)	47933 (5)	15386 (5)

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n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
67	100	120	12.72	15.71	165.51	159.97	1361 (5)	52221 (5)	17261 (5)
68	100	120	12.72	15.71	165.65	160.03	1363 (5)	52287 (5)	17276 (5)
69	100	120	12.72	15.71	172.53	162.79	1421 (5)	55450 (5)	17984 (5)
70	100	120	12.72	15.71	179.62	165.55	1482 (5)	58741 (5)	18713 (5)
71	100	120	12.72	15.71	186.93	168.31	1545 (5)	62163 (5)	19461 (5)
72	100	120	12.72	15.71	194.47	171.06	1609 (5)	65717 (5)	20231 (5)
73	100	120	12.72	15.71	202.24	173.82	1675 (5)	69406 (5)	21021 (5)
74	100	120	12.72	15.71	210.23	176.58	1744 (5)	73232 (5)	21833 (5)
75	100	120	12.72	15.71	218.47	179.34	1814 (5)	77198 (5)	22667 (5)
76	100	120	12.72	15.71	226.94	182.10	1886 (5)	81306 (5)	23523 (5)
77	100	120	12.72	15.71	235.66	184.86	1960 (5)	85557 (5)	24401 (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	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
1-2-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-3-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-4-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-5-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)
1-6-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-7-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-8-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-9-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-10-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-11-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-12-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-13-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-14-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-15-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-16-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-17-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-18-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)
1-19-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-20-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-21-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-22-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-23-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-24-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-25-P	75	130	25.13	25.13	0.00	-68.70	368 (5)	4719 (5)	19811 (5)
1-26-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-27-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-28-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-29-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-30-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-31-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-32-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)
1-33-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-34-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-35-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-36-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-37-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-38-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-39-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-40-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-41-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-42-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-43-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-44-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-45-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)
1-46-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-47-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-48-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-49-P	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
2-1-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
2-2-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-3-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-4-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-5-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-6-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-7-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-8-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-9-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (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.16.0.5.004.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

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REV.

FOGLIO

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2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
2-10-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-11-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-12-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-13-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-14-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-15-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-16-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-17-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-18-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-19-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-20-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-21-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-22-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-23-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-24-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-25-P	75	130	25.13	25.13	2.44	-83.15	524 (5)	6710 (5)	28170 (5)
2-26-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-27-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-28-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-29-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-30-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-31-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-32-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-33-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-34-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-35-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-36-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-37-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-38-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-39-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-40-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-41-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (5)
2-42-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-43-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-44-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-45-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-46-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-47-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-48-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-49-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
5-1-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
5-2-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-3-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-4-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-5-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-6-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-7-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-8-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-9-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)
5-10-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-11-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-12-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-13-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-14-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-15-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)
5-16-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-17-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-18-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-19-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-20-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-21-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-22-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)
5-23-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-24-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-25-P	93	130	31.42	31.42	0.09	-112.77	521 (5)	6689 (5)	27882 (5)
5-26-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-27-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-28-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)
5-29-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-30-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-31-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-32-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-33-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-34-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-35-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)
5-36-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-37-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-38-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-39-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-40-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-41-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

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CODIFICA

DOCUMENTO

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FOGLIO

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2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
5-42-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-43-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-44-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-45-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-46-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-47-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-48-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-49-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
6-1-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
6-2-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-3-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (5)
6-4-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-5-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-6-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-7-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-8-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-9-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-10-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-11-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-12-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-13-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-14-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-15-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-16-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-17-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-18-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-19-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-20-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-21-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-22-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-23-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-24-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-25-P	92	130	28.27	28.27	0.00	-35.36	148 (5)	1880 (5)	8291 (5)
6-26-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-27-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-28-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-29-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-30-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-31-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-32-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-33-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-34-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-35-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-36-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-37-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-38-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-39-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-40-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-41-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-42-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-43-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-44-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-45-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-46-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-47-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (5)
6-48-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-49-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
7-1-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
7-2-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-3-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-4-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-5-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-6-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-7-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-8-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-9-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-10-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-11-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)
7-12-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-13-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-14-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-15-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-16-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-17-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-18-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-19-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-20-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-21-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-22-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-23-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-24-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)



APPALTATORE:	<b>TELESE</b> S.c.a r.l. <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>	
PROGETTAZIONE:		
Mandataria:	Mandante:	
<b>SYSTRA S.A.</b>	<b>SWS Engineering S.p.A.</b>	<b>SYSTRA-SOTECNI S.p.A.</b>
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	64 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
7-25-P	93	130	28.27	28.27	0.94	-12.39	90 (6)	1143 (6)	5041 (6)
7-26-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)
7-27-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-28-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-29-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-30-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-31-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-32-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-33-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-34-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-35-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-36-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-37-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-38-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-39-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)
7-40-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-41-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-42-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-43-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-44-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-45-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-46-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-47-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-48-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-49-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
8-1-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
8-2-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-3-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-4-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-5-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-6-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-7-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)
8-8-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-9-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-10-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-11-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-12-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-13-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-14-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-15-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-16-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-17-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-18-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-19-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-20-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)
8-21-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-22-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-23-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-24-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-25-P	92	130	31.42	31.42	0.00	-69.86	326 (7)	4181 (7)	17427 (7)
8-26-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-27-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-28-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-29-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-30-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)
8-31-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-32-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-33-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-34-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-35-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-36-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-37-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-38-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-39-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-40-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-41-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-42-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-43-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)
8-44-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-45-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-46-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-47-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-48-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-49-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
9-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
9-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
9-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
9-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
9-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
9-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
9-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
9-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
9-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
9-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
9-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
9-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
9-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
9-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
9-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
9-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
9-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
9-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
9-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
9-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
9-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
9-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
9-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)
10-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
10-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
10-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
10-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
10-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
10-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
10-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)
10-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
10-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
10-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
10-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
10-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
10-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
10-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
10-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
10-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
10-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
10-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
10-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
10-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)
10-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
10-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
10-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
11-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
11-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
11-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
11-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
11-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
11-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
11-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
11-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
11-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
11-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
11-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
11-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
11-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
11-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
11-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
11-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)
11-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)
11-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
11-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
11-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
11-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
11-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
11-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
12-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
12-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
12-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
12-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
12-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
12-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (5)
12-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
12-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
12-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
12-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
12-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
12-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
12-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
12-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
12-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
12-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
12-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
12-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
12-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (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.16.0.5.004.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
12-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
12-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
12-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
12-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
13-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
13-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
13-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
13-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
13-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
13-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
13-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
13-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (5)
13-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
13-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
13-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
13-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
13-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
13-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
13-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
13-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
13-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
13-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
13-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
13-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
13-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
13-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
13-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
14-1-S	100	130	34.56	34.56	10.30	-9.40	36 (5)	1901 (5)	1729 (5)
14-2-S	100	130	34.56	34.56	14.76	-15.72	60 (5)	3199 (5)	2888 (5)
14-3-S	100	130	34.56	34.56	2.98	-21.50	74 (5)	951 (5)	3927 (5)
14-4-S	100	130	34.56	34.56	4.74	-64.38	290 (5)	3727 (5)	15392 (5)
14-5-S	100	130	34.56	34.56	16.91	-25.47	294 (8)	6912 (8)	15614 (8)
14-6-S	100	130	34.56	34.56	54.09	-2.12	251 (5)	13320 (5)	3225 (5)
14-7-S	100	130	34.56	34.56	143.47	0.00	601 (5)	31860 (5)	7714 (5)
14-8-S	100	130	34.56	34.56	0.64	-166.29	619 (5)	7952 (5)	32844 (5)
14-9-S	100	130	34.56	34.56	2.17	-160.70	610 (5)	7826 (5)	32326 (5)
14-10-S	100	130	34.56	34.56	0.00	-208.42	790 (5)	10143 (5)	41894 (5)
14-11-S	100	130	34.56	34.56	0.00	-177.09	639 (5)	8202 (5)	33876 (5)
14-12-S	100	130	34.56	34.56	0.00	-137.44	466 (5)	5982 (5)	24708 (5)
14-13-S	100	130	34.56	34.56	0.00	-86.66	270 (5)	3470 (5)	14331 (5)
14-14-S	100	130	34.56	34.56	0.00	-45.76	120 (5)	1540 (5)	6361 (5)
14-15-S	100	130	34.56	34.56	15.18	-0.01	16 (7)	838 (7)	454 (7)
14-16-S	100	130	34.56	34.56	27.14	-0.01	83 (7)	4422 (7)	1071 (7)
14-17-S	100	130	34.56	34.56	39.32	-0.20	131 (6)	6961 (6)	1685 (6)
14-18-S	100	130	34.56	34.56	47.36	-1.70	155 (5)	8213 (5)	1989 (5)
14-19-S	100	130	34.56	34.56	8.30	-7.19	49 (7)	2596 (7)	1947 (7)
14-20-S	100	130	34.56	34.56	4.82	-28.75	152 (7)	2324 (7)	8043 (7)
14-21-S	100	130	34.56	34.56	7.12	-20.71	111 (5)	1428 (5)	5900 (5)
14-22-S	100	130	34.56	34.56	5.01	-14.72	63 (5)	804 (5)	3323 (5)
14-23-S	100	130	34.56	34.56	4.58	-4.77	14 (5)	726 (5)	728 (5)
15-1-S	100	130	31.42	31.42	10.30	-9.40	38 (5)	2088 (5)	1899 (5)
15-2-S	100	130	31.42	31.42	14.76	-15.72	63 (5)	3514 (5)	3172 (5)
15-3-S	100	130	31.42	31.42	2.98	-21.50	78 (5)	993 (5)	4313 (5)
15-4-S	100	130	31.42	31.42	4.74	-64.38	305 (5)	3891 (5)	16905 (5)
15-5-S	100	130	31.42	31.42	16.91	-25.47	309 (8)	7591 (8)	17149 (8)
15-6-S	100	130	31.42	31.42	54.09	-2.12	264 (5)	14629 (5)	3367 (5)
15-7-S	100	130	31.42	31.42	143.47	0.00	631 (5)	34992 (5)	8053 (5)
15-8-S	100	130	31.42	31.42	0.64	-166.29	650 (5)	8302 (5)	36073 (5)
15-9-S	100	130	31.42	31.42	2.17	-160.70	640 (5)	8171 (5)	35504 (5)
15-10-S	100	130	31.42	31.42	0.00	-208.42	830 (5)	10590 (5)	46012 (5)
15-11-S	100	130	31.42	31.42	0.00	-177.09	671 (5)	8563 (5)	37207 (5)
15-12-S	100	130	31.42	31.42	0.00	-137.44	489 (5)	6246 (5)	27137 (5)
15-13-S	100	130	31.42	31.42	0.00	-86.66	284 (5)	3622 (5)	15740 (5)
15-14-S	100	130	31.42	31.42	0.00	-45.76	126 (5)	1608 (5)	6986 (5)
15-15-S	100	130	31.42	31.42	15.18	-0.01	17 (7)	921 (7)	499 (7)
15-16-S	100	130	31.42	31.42	27.14	-0.01	88 (7)	4857 (7)	1118 (7)
15-17-S	100	130	31.42	31.42	39.32	-0.20	138 (6)	7645 (6)	1759 (6)
15-18-S	100	130	31.42	31.42	47.36	-1.70	163 (5)	9021 (5)	2076 (5)
15-19-S	100	130	31.42	31.42	8.30	-7.19	51 (7)	2851 (7)	2138 (7)
15-20-S	100	130	31.42	31.42	4.82	-28.75	159 (7)	2553 (7)	8833 (7)
15-21-S	100	130	31.42	31.42	7.12	-20.71	117 (5)	1491 (5)	6480 (5)
15-22-S	100	130	31.42	31.42	5.01	-14.72	66 (5)	840 (5)	3649 (5)
15-23-S	100	130	31.42	31.42	4.58	-4.77	14 (5)	797 (5)	800 (5)
16-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
16-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
16-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
16-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
16-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
16-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
16-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
16-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (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.16.0.5.004.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.16.0.5.004	A	67 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
16-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
16-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
16-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
16-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
16-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
16-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
16-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
16-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
16-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
16-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
16-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
16-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
16-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
16-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
16-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
17-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
17-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
17-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
17-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
17-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
17-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (5)
17-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
17-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
17-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
17-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
17-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
17-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
17-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
17-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
17-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
17-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
17-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
17-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
17-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (7)
17-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
17-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
17-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
17-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
18-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
18-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
18-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
18-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
18-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
18-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
18-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
18-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
18-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
18-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
18-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
18-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
18-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
18-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
18-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
18-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)
18-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)
18-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
18-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
18-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
18-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
18-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
18-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
19-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
19-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
19-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
19-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
19-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
19-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
19-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)
19-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
19-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
19-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
19-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
19-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
19-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
19-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
19-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
19-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
19-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
19-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
19-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
19-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	68 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
19-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
19-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
19-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
20-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
20-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
20-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
20-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
20-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
20-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
20-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)
20-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
20-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
20-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
20-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
20-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
20-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
20-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
20-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
20-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
20-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
20-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
20-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
20-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
20-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
20-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
20-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σstf [kPa]
1	1	108.57	4595	65939		
1	2	108.57	4046	53887		
1	3	108.57	3500	42125		
1	4	108.57	2966	35406		
1	5	108.57	2450	29863		
1	6	108.57	1968	24598		
1	7	108.57	1543	19858		
1	8	108.57	1240	16655		
1	9	108.57	1028	14469		
1	10	108.57	901	12970		
1	11	108.57	786	11626		
1	12	108.57	796	11618		
1	13	108.57	939	12880		
1	14	108.57	1079	14517		
1	15	108.57	1202	15964		
1	16	108.57	1315	17281		
1	17	108.57	1417	18459		
1	18	108.57	1505	19475		
1	19	108.57	1579	20318		
1	20	108.57	1638	20986		
1	21	108.57	1682	21486		
1	22	108.57	1713	21828		
1	23	108.57	1730	22024		
1	24	108.57	1736	22088		
1	25	108.57	1731	22032		
1	26	108.57	1717	21872		
1	27	108.57	1695	21619		
1	28	108.57	1665	21288		
1	29	108.57	1631	20890		
1	30	108.57	1591	20433		
1	31	108.57	1547	19932		
1	32	108.57	1502	19405		
1	33	108.57	1455	18858		
1	34	108.57	1407	18299		
1	35	108.57	1359	17734		
1	36	108.57	1311	17167		
1	37	108.57	1263	16606		
1	38	108.57	1217	16052		
1	39	108.57	1171	15509		
1	40	108.57	1127	14980		
1	41	108.57	1085	14485		
1	42	108.57	1043	14051		
1	43	108.57	1003	13622		
1	44	108.57	963	13200		
1	45	108.57	928	12785		
1	46	108.57	895	12378		
1	47	108.57	863	11981		
1	48	108.57	832	11603		

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	69 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	49	108.57	801	11312		
1	50	108.57	772	11027		
1	51	108.57	745	10747		
1	52	108.57	724	10472		
1	53	108.57	704	10203		
1	54	108.57	683	9940		
1	55	108.57	664	9681		
1	56	108.57	645	9428		
1	57	108.57	626	9181		
1	58	108.57	608	8938		
1	59	108.57	590	8700		
1	60	108.57	573	8466		
1	61	108.57	556	8237		
1	62	108.57	540	8012		
1	63	108.57	524	7791		
1	64	108.57	508	7573		
1	65	108.57	493	7358		
1	66	108.57	478	7147		
1	67	108.57	463	6937		
1	68	108.57	451	6767		
1	69	108.57	443	6631		
1	70	108.57	434	6488		
1	71	108.57	424	6337		
1	72	108.57	414	6178		
1	73	108.57	404	6013		
1	74	108.57	392	5840		
1	75	108.57	381	5662		
1	76	108.57	368	5477		
1	77	108.57	356	5289		
1	78	108.57	343	5096		
1	79	108.57	330	4899		
1	80	108.57	317	4699		
1	81	108.57	303	4495		
1	82	108.57	289	4288		
1	83	108.57	275	4077		
1	84	108.57	260	3864		
1	85	108.57	246	3649		
1	86	108.57	231	3431		
1	87	108.57	216	3211		
1	88	108.57	201	2989		
1	89	108.57	186	2765		
1	90	108.57	171	2539		
1	91	108.57	155	2312		
1	92	108.57	140	2084		
1	93	108.57	125	1855		
1	94	108.57	109	1624		
1	95	108.57	93	1393		
1	96	108.57	78	1162		
1	97	108.57	62	929		
1	98	108.57	47	697		
1	99	108.57	31	465		
1	100	108.57	15	232		
1	101	108.57	0	0		
2	1	62.83	5604	67717		
2	2	62.83	4877	59896		
2	3	62.83	4176	52240		
2	4	62.83	3527	45015		
2	5	62.83	2960	38563		
2	6	62.83	2497	33167		
2	7	62.83	2133	28832		
2	8	62.83	1817	25045		
2	9	62.83	1531	21621		
2	10	62.83	1286	18633		
2	11	62.83	1130	16819		
2	12	62.83	1337	19317		
2	13	62.83	1520	21518		
2	14	62.83	1680	23442		
2	15	62.83	1818	25107		
2	16	62.83	1936	26532		
2	17	62.83	2036	27734		
2	18	62.83	2118	28729		
2	19	62.83	2185	29536		
2	20	62.83	2237	30169		
2	21	62.83	2276	30647		
2	22	62.83	2304	30984		
2	23	62.83	2321	31189		
2	24	62.83	2327	31276		
2	25	62.83	2325	31257		
2	26	62.83	2315	31144		
2	27	62.83	2299	30950		
2	28	62.83	2276	30686		

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	70 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	29	62.83	2249	30363		
2	30	62.83	2217	29987		
2	31	62.83	2182	29571		
2	32	62.83	2145	29127		
2	33	62.83	2106	28659		
2	34	62.83	2065	28172		
2	35	62.83	2023	27673		
2	36	62.83	1981	27164		
2	37	62.83	1938	26650		
2	38	62.83	1894	26135		
2	39	62.83	1851	25621		
2	40	62.83	1809	25111		
2	41	62.83	1767	24609		
2	42	62.83	1726	24115		
2	43	62.83	1685	23632		
2	44	62.83	1646	23162		
2	45	62.83	1608	22706		
2	46	62.83	1571	22265		
2	47	62.83	1536	21840		
2	48	62.83	1502	21431		
2	49	62.83	1469	21040		
2	50	62.83	1438	20667		
2	51	62.83	1408	20312		
2	52	62.83	1380	19975		
2	53	62.83	1354	19655		
2	54	62.83	1329	19354		
2	55	62.83	1305	19071		
2	56	62.83	1283	18805		
2	57	62.83	1262	18557		
2	58	62.83	1243	18325		
2	59	62.83	1225	18109		
2	60	62.83	1209	17909		
2	61	62.83	1194	17724		
2	62	62.83	1180	17553		
2	63	62.83	1167	17397		
2	64	62.83	1155	17253		
2	65	62.83	1144	17122		
2	66	62.83	1135	17004		
2	67	62.83	1130	16948		
2	68	62.83	1136	17012		
2	69	62.83	1141	17064		
2	70	62.83	1144	17104		
2	71	62.83	1147	17135		
2	72	62.83	1149	17156		
2	73	62.83	1150	17167		
2	74	62.83	1151	17170		
2	75	62.83	1151	17165		
2	76	62.83	1150	17153		
2	77	62.83	1149	17134		
2	78	62.83	1148	17110		
2	79	62.83	1146	17081		
2	80	62.83	1143	17046		
2	81	62.83	1140	17008		
2	82	62.83	1137	16965		
2	83	62.83	1134	16920		
2	84	62.83	1130	16871		
2	85	62.83	1127	16820		
2	86	62.83	1123	16767		
2	87	62.83	1119	16713		
2	88	62.83	1114	16657		
2	89	62.83	1110	16601		
2	90	62.83	1106	16544		
2	91	62.83	1102	16487		
2	92	62.83	1098	16430		
2	93	62.83	1093	16375		
2	94	62.83	1089	16320		
2	95	62.83	1086	16266		
2	96	62.83	1082	16215		
2	97	62.83	1078	16165		
2	98	62.83	1075	16118		
2	99	62.83	1072	16074		
2	100	62.83	1069	16033		
2	101	62.83	1066	15996		
3	1	62.83	5505	69505		
3	2	62.83	4853	62193		
3	3	62.83	4259	55426		
3	4	62.83	3742	49420		
3	5	62.83	3307	44271		
3	6	62.83	2936	39845		
3	7	62.83	2594	35745		
3	8	62.83	2278	31956		

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.16.0.5.004.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	71 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	9	62.83	1992	28531		
3	10	62.83	1735	25457		
3	11	62.83	1590	23724		
3	12	62.83	1797	26220		
3	13	62.83	1980	28418		
3	14	62.83	2140	30339		
3	15	62.83	2278	32002		
3	16	62.83	2396	33423		
3	17	62.83	2495	34621		
3	18	62.83	2577	35613		
3	19	62.83	2643	36415		
3	20	62.83	2695	37044		
3	21	62.83	2734	37515		
3	22	62.83	2761	37842		
3	23	62.83	2777	38040		
3	24	62.83	2783	38121		
3	25	62.83	2781	38098		
3	26	62.83	2771	37982		
3	27	62.83	2755	37786		
3	28	62.83	2732	37519		
3	29	62.83	2704	37190		
3	30	62.83	2672	36807		
3	31	62.83	2636	36382		
3	32	62.83	2599	35928		
3	33	62.83	2559	35450		
3	34	62.83	2517	34954		
3	35	62.83	2475	34444		
3	36	62.83	2431	33925		
3	37	62.83	2388	33400		
3	38	62.83	2344	32874		
3	39	62.83	2300	32348		
3	40	62.83	2257	31827		
3	41	62.83	2214	31312		
3	42	62.83	2172	30806		
3	43	62.83	2130	30311		
3	44	62.83	2090	29827		
3	45	62.83	2051	29358		
3	46	62.83	2014	28903		
3	47	62.83	1977	28464		
3	48	62.83	1942	28041		
3	49	62.83	1909	27636		
3	50	62.83	1877	27248		
3	51	62.83	1846	26877		
3	52	62.83	1817	26524		
3	53	62.83	1789	26189		
3	54	62.83	1763	25872		
3	55	62.83	1739	25572		
3	56	62.83	1715	25290		
3	57	62.83	1694	25024		
3	58	62.83	1673	24774		
3	59	62.83	1654	24541		
3	60	62.83	1636	24323		
3	61	62.83	1620	24119		
3	62	62.83	1605	23930		
3	63	62.83	1591	23755		
3	64	62.83	1578	23592		
3	65	62.83	1566	23442		
3	66	62.83	1555	23303		
3	67	62.83	1549	23227		
3	68	62.83	1553	23270		
3	69	62.83	1556	23301		
3	70	62.83	1559	23321		
3	71	62.83	1560	23330		
3	72	62.83	1561	23329		
3	73	62.83	1561	23318		
3	74	62.83	1560	23299		
3	75	62.83	1558	23271		
3	76	62.83	1556	23236		
3	77	62.83	1553	23194		
3	78	62.83	1550	23147		
3	79	62.83	1547	23094		
3	80	62.83	1542	23036		
3	81	62.83	1538	22974		
3	82	62.83	1533	22907		
3	83	62.83	1528	22838		
3	84	62.83	1523	22765		
3	85	62.83	1518	22689		
3	86	62.83	1512	22612		
3	87	62.83	1507	22533		
3	88	62.83	1501	22452		
3	89	62.83	1495	22371		



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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
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Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	90	62.83	1489	22289		
3	91	62.83	1483	22207		
3	92	62.83	1477	22124		
3	93	62.83	1471	22043		
3	94	62.83	1466	21962		
3	95	62.83	1460	21883		
3	96	62.83	1454	21805		
3	97	62.83	1449	21730		
3	98	62.83	1444	21656		
3	99	62.83	1439	21585		
3	100	62.83	1435	21518		
3	101	62.83	1430	21453		

## Combinazioni SLEF

### Paramento

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

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\sigma_s$ [kPa]
1	100	70	12.72	15.71	1.50	5.00	29 (8)	366 (8)	372 (8)
2	100	70	12.72	15.71	2.02	6.72	39 (8)	499 (8)	503 (8)
3	100	70	12.72	15.71	2.55	8.43	49 (8)	632 (8)	633 (8)
4	100	70	12.72	15.71	3.07	10.15	59 (8)	765 (8)	763 (8)
5	100	70	12.72	15.71	3.60	11.86	70 (8)	898 (8)	893 (8)
6	100	70	12.72	15.71	4.12	13.58	80 (8)	1031 (8)	1024 (8)
7	100	70	12.72	15.71	4.65	15.29	90 (8)	1164 (8)	1154 (8)
8	100	70	12.72	15.71	5.17	17.01	100 (8)	1297 (8)	1284 (8)
9	100	70	12.72	15.71	5.70	18.73	110 (8)	1430 (8)	1414 (8)
10	100	70	12.72	15.71	6.22	20.44	120 (8)	1564 (8)	1545 (8)
11	100	70	12.72	15.71	6.75	22.16	130 (8)	1697 (8)	1675 (8)
12	100	70	12.72	15.71	7.27	23.87	141 (8)	1830 (8)	1805 (8)
13	100	70	12.72	15.71	7.80	25.59	151 (8)	1963 (8)	1936 (8)
14	100	70	12.72	15.71	8.32	27.30	161 (8)	2096 (8)	2066 (8)
15	100	70	12.72	15.71	8.85	29.02	171 (8)	2229 (8)	2196 (8)
16	100	70	12.72	15.71	9.37	30.74	181 (8)	2362 (8)	2326 (8)
17	100	70	12.72	15.71	9.90	32.45	191 (8)	2495 (8)	2457 (8)
18	100	70	12.72	15.71	10.42	34.17	201 (8)	2629 (8)	2587 (8)
19	100	70	12.72	15.71	10.95	35.88	212 (8)	2762 (8)	2717 (8)
20	100	70	12.72	15.71	11.47	37.60	222 (8)	2895 (8)	2847 (8)
21	100	70	12.72	15.71	12.00	39.32	232 (8)	3028 (8)	2978 (8)
22	100	70	12.72	15.71	12.52	41.03	242 (8)	3161 (8)	3108 (8)
23	100	70	12.72	15.71	13.05	42.75	252 (8)	3294 (8)	3238 (8)
24	100	70	12.72	15.71	13.57	44.46	262 (8)	3427 (8)	3368 (8)
25	100	70	12.72	15.71	14.10	46.18	272 (8)	3560 (8)	3499 (8)
26	100	70	12.72	15.71	14.62	47.89	283 (8)	3694 (8)	3629 (8)
27	100	70	12.72	15.71	15.15	49.61	293 (8)	3827 (8)	3759 (8)
28	100	70	12.72	15.71	15.67	51.33	303 (8)	3960 (8)	3889 (8)
29	100	70	12.72	15.71	16.20	53.04	313 (8)	4093 (8)	4020 (8)
30	100	70	12.72	15.71	16.72	54.76	323 (8)	4226 (8)	4150 (8)
31	100	70	12.72	15.71	17.25	56.47	333 (8)	4359 (8)	4280 (8)
32	100	70	12.72	15.71	17.81	58.19	344 (8)	4522 (8)	4420 (8)
33	100	70	12.72	15.71	18.45	59.90	357 (8)	4747 (8)	4580 (8)
34	100	70	12.72	15.71	19.19	61.62	372 (8)	5040 (8)	4761 (8)
35	100	70	12.72	15.71	20.01	63.34	389 (8)	5406 (8)	4965 (8)
36	100	70	12.72	15.71	20.93	65.05	407 (8)	5852 (8)	5191 (8)
37	100	70	12.72	15.71	21.95	66.77	429 (8)	6386 (8)	5443 (8)
38	100	70	12.72	15.71	23.07	68.48	452 (8)	7012 (8)	5720 (8)
39	100	70	12.72	15.71	24.31	70.20	478 (8)	7741 (8)	6023 (8)
40	100	70	12.72	15.71	25.66	71.91	506 (8)	8578 (8)	6353 (8)
41	100	70	12.72	15.71	27.13	73.63	538 (8)	9533 (8)	6710 (8)
42	100	120	12.72	15.71	41.09	86.48	290 (8)	3925 (8)	3988 (8)
43	100	120	12.72	15.71	42.95	89.42	304 (8)	4218 (8)	4176 (8)
44	100	120	12.72	15.71	45.35	92.36	323 (8)	4707 (8)	4428 (8)
45	100	120	12.72	15.71	48.15	95.30	346 (8)	5361 (8)	4726 (8)
46	100	120	12.72	15.71	51.20	98.24	371 (8)	6131 (8)	5054 (8)
47	100	120	12.72	15.71	54.39	101.18	397 (8)	6983 (8)	5400 (8)
48	100	120	12.72	15.71	57.71	104.12	425 (8)	7914 (8)	5761 (8)
49	100	120	12.72	15.71	61.16	107.05	455 (8)	8929 (8)	6137 (8)
50	100	120	12.72	15.71	64.76	109.99	486 (8)	10031 (8)	6531 (8)
51	100	120	12.72	15.71	68.52	112.93	518 (8)	11226 (8)	6941 (8)
52	100	120	12.72	15.71	72.42	115.87	551 (8)	12517 (8)	7368 (8)
53	100	120	12.72	15.71	76.49	118.81	587 (8)	13907 (8)	7812 (8)

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	73 di 123

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
54	100	120	12.72	15.71	80.73	121.75	623 (8)	15400 (8)	8274 (8)
55	100	120	12.72	15.71	85.15	124.69	662 (8)	16999 (8)	8755 (8)
56	100	120	12.72	15.71	89.74	127.63	702 (8)	18708 (8)	9253 (8)
57	100	120	12.72	15.71	94.52	130.57	743 (8)	20530 (8)	9771 (8)
58	100	120	12.72	15.71	99.49	133.51	786 (8)	22467 (8)	10307 (8)
59	100	120	12.72	15.71	104.65	136.45	831 (8)	24523 (8)	10862 (8)
60	100	120	12.72	15.71	110.02	139.39	878 (8)	26700 (8)	11437 (8)
61	100	120	12.72	15.71	115.59	142.33	926 (8)	29002 (8)	12032 (8)
62	100	120	12.72	15.71	121.38	145.27	977 (8)	31431 (8)	12647 (8)
63	100	120	12.72	15.71	127.37	148.21	1029 (8)	33990 (8)	13283 (8)
64	100	120	12.72	15.71	133.59	151.15	1083 (8)	36682 (8)	13939 (8)
65	100	120	25.45	15.71	140.04	154.09	1066 (8)	38507 (8)	13624 (8)
66	100	120	25.45	15.71	146.72	157.03	1120 (8)	41444 (8)	14271 (8)
67	100	120	12.72	15.71	153.63	159.97	1256 (8)	45583 (8)	16037 (8)
68	100	120	12.72	15.71	153.77	160.03	1257 (8)	45647 (8)	16052 (8)
69	100	120	12.72	15.71	160.49	162.79	1315 (8)	48696 (8)	16750 (8)
70	100	120	12.72	15.71	167.41	165.55	1375 (8)	51875 (8)	17467 (8)
71	100	120	12.72	15.71	174.56	168.31	1436 (8)	55185 (8)	18205 (8)
72	100	120	12.72	15.71	181.94	171.06	1499 (8)	58629 (8)	18964 (8)
73	100	120	12.72	15.71	189.54	173.82	1565 (8)	62208 (8)	19743 (8)
74	100	120	12.72	15.71	197.37	176.58	1632 (8)	65926 (8)	20544 (8)
75	100	120	12.72	15.71	205.44	179.34	1701 (8)	69784 (8)	21367 (8)
76	100	120	12.72	15.71	213.75	182.10	1772 (8)	73784 (8)	22211 (8)
77	100	120	12.72	15.71	222.31	184.86	1845 (8)	77930 (8)	23078 (8)

**Piastra fondazione**Tensione massima di compressione nel calcestruzzo  
Tensione massima di trazione dell'acciaio17430 [kPa]  
1255271 [kPa]

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
1-1-P	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
1-2-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-3-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-4-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-5-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)
1-6-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-7-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-8-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-9-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-10-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-11-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-12-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-13-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-14-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-15-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-16-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-17-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-18-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)
1-19-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-20-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-21-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-22-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-23-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-24-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-25-P	75	130	25.13	25.13	0.00	-68.70	368 (5)	4719 (5)	19811 (5)
1-26-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-27-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-28-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-29-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-30-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-31-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-32-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)
1-33-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-34-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-35-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-36-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-37-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-38-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-39-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-40-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-41-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-42-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-43-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-44-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-45-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)

APPALTATORE:

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PROGETTAZIONE:

Mandataria:

Mandante:

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	74 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
1-46-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-47-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-48-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-49-P	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
2-1-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
2-2-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-3-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-4-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-5-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-6-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-7-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-8-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-9-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (5)
2-10-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-11-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-12-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-13-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-14-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-15-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-16-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-17-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-18-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-19-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-20-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-21-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-22-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-23-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-24-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-25-P	75	130	25.13	25.13	2.44	-83.15	524 (5)	6710 (5)	28170 (5)
2-26-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-27-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-28-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-29-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-30-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-31-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-32-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-33-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-34-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-35-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-36-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-37-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-38-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-39-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-40-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-41-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (5)
2-42-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-43-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-44-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-45-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-46-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-47-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-48-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-49-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
5-1-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
5-2-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-3-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-4-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-5-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-6-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-7-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-8-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-9-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)
5-10-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-11-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-12-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-13-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-14-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-15-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)
5-16-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-17-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-18-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-19-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-20-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-21-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-22-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)
5-23-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-24-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-25-P	93	130	31.42	31.42	0.09	-112.77	521 (5)	6689 (5)	27882 (5)
5-26-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-27-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-28-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
5-29-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-30-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-31-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-32-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-33-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-34-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-35-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)
5-36-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-37-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-38-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-39-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-40-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-41-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)
5-42-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-43-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-44-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-45-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-46-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-47-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-48-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-49-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
6-1-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
6-2-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-3-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (5)
6-4-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-5-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-6-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-7-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-8-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-9-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-10-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-11-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-12-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-13-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-14-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-15-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-16-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-17-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-18-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-19-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-20-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-21-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-22-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-23-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-24-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-25-P	92	130	28.27	28.27	0.00	-35.36	148 (5)	1880 (5)	8291 (5)
6-26-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-27-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-28-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-29-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-30-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-31-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-32-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-33-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-34-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-35-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-36-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-37-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-38-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-39-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-40-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-41-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-42-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-43-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-44-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-45-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-46-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-47-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (5)
6-48-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-49-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
7-1-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
7-2-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-3-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-4-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-5-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-6-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-7-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-8-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-9-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-10-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-11-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)

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.16.0.5.004.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.16.0.5.004	A	76 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
7-12-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-13-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-14-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-15-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-16-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-17-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-18-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-19-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-20-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-21-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-22-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-23-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-24-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)
7-25-P	93	130	28.27	28.27	0.94	-12.39	90 (6)	1143 (6)	5041 (6)
7-26-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)
7-27-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-28-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-29-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-30-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-31-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-32-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-33-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-34-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-35-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-36-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-37-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-38-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-39-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)
7-40-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-41-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-42-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-43-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-44-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-45-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-46-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-47-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-48-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-49-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
8-1-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
8-2-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-3-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-4-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-5-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-6-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-7-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)
8-8-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-9-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-10-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-11-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-12-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-13-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-14-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-15-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-16-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-17-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-18-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-19-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-20-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)
8-21-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-22-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-23-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-24-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-25-P	92	130	31.42	31.42	0.00	-69.86	326 (7)	4181 (7)	17427 (7)
8-26-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-27-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-28-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-29-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-30-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)
8-31-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-32-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-33-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-34-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-35-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-36-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-37-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-38-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-39-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-40-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-41-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-42-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-43-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

SYSTRA S.A.

SWS Engineering S.p.A.

SYSTRA-SOTECNI S.p.A.

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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

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2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
8-44-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-45-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-46-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-47-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-48-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-49-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
9-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
9-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
9-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
9-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
9-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
9-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
9-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)
9-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
9-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
9-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
9-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
9-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
9-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
9-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
9-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
9-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
9-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
9-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
9-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
9-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
9-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
9-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
9-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)
10-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
10-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
10-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
10-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
10-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
10-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
10-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)
10-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
10-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
10-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
10-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
10-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
10-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
10-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
10-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
10-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
10-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
10-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
10-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
10-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)
10-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
10-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
10-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
11-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
11-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
11-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
11-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
11-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
11-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
11-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
11-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
11-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
11-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
11-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
11-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
11-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
11-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
11-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
11-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)
11-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)
11-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
11-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
11-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
11-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
11-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
11-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
12-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
12-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
12-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
12-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
12-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
12-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (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.16.0.5.004.A.DOCX

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2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
12-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
12-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
12-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
12-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
12-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
12-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
12-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
12-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
12-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
12-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
12-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
12-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
12-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (7)
12-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
12-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
12-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
12-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
13-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
13-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
13-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
13-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
13-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
13-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
13-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
13-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (5)
13-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
13-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
13-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
13-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
13-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
13-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
13-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
13-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
13-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
13-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
13-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
13-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
13-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
13-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
13-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
14-1-S	100	130	34.56	34.56	10.30	-9.40	36 (5)	1901 (5)	1729 (5)
14-2-S	100	130	34.56	34.56	14.76	-15.72	60 (5)	3199 (5)	2888 (5)
14-3-S	100	130	34.56	34.56	2.98	-21.50	74 (5)	951 (5)	3927 (5)
14-4-S	100	130	34.56	34.56	4.74	-64.38	290 (5)	3727 (5)	15392 (5)
14-5-S	100	130	34.56	34.56	16.91	-25.47	294 (8)	6912 (8)	15614 (8)
14-6-S	100	130	34.56	34.56	54.09	-2.12	251 (5)	13320 (5)	3225 (5)
14-7-S	100	130	34.56	34.56	143.47	0.00	601 (5)	31860 (5)	7714 (5)
14-8-S	100	130	34.56	34.56	0.64	-166.29	619 (5)	7952 (5)	32844 (5)
14-9-S	100	130	34.56	34.56	2.17	-160.70	610 (5)	7826 (5)	32326 (5)
14-10-S	100	130	34.56	34.56	0.00	-208.42	790 (5)	10143 (5)	41894 (5)
14-11-S	100	130	34.56	34.56	0.00	-177.09	639 (5)	8202 (5)	33876 (5)
14-12-S	100	130	34.56	34.56	0.00	-137.44	466 (5)	5982 (5)	24708 (5)
14-13-S	100	130	34.56	34.56	0.00	-86.66	270 (5)	3470 (5)	14331 (5)
14-14-S	100	130	34.56	34.56	0.00	-45.76	120 (5)	1540 (5)	6361 (5)
14-15-S	100	130	34.56	34.56	15.18	-0.01	16 (7)	838 (7)	454 (7)
14-16-S	100	130	34.56	34.56	27.14	-0.01	83 (7)	4422 (7)	1071 (7)
14-17-S	100	130	34.56	34.56	39.32	-0.20	131 (6)	6961 (6)	1685 (6)
14-18-S	100	130	34.56	34.56	47.36	-1.70	155 (5)	8213 (5)	1989 (5)
14-19-S	100	130	34.56	34.56	8.30	-7.19	49 (7)	2596 (7)	1947 (7)
14-20-S	100	130	34.56	34.56	4.82	-28.75	152 (7)	2324 (7)	8043 (7)
14-21-S	100	130	34.56	34.56	7.12	-20.71	111 (5)	1428 (5)	5900 (5)
14-22-S	100	130	34.56	34.56	5.01	-14.72	63 (5)	804 (5)	3323 (5)
14-23-S	100	130	34.56	34.56	4.58	-4.77	14 (5)	726 (5)	728 (5)
15-1-S	100	130	31.42	31.42	10.30	-9.40	38 (5)	2088 (5)	1899 (5)
15-2-S	100	130	31.42	31.42	14.76	-15.72	63 (5)	3514 (5)	3172 (5)
15-3-S	100	130	31.42	31.42	2.98	-21.50	78 (5)	993 (5)	4313 (5)
15-4-S	100	130	31.42	31.42	4.74	-64.38	305 (5)	3891 (5)	16905 (5)
15-5-S	100	130	31.42	31.42	16.91	-25.47	309 (8)	7591 (8)	17149 (8)
15-6-S	100	130	31.42	31.42	54.09	-2.12	264 (5)	14629 (5)	3367 (5)
15-7-S	100	130	31.42	31.42	143.47	0.00	631 (5)	34992 (5)	8053 (5)
15-8-S	100	130	31.42	31.42	0.64	-166.29	650 (5)	8302 (5)	36073 (5)
15-9-S	100	130	31.42	31.42	2.17	-160.70	640 (5)	8171 (5)	35504 (5)
15-10-S	100	130	31.42	31.42	0.00	-208.42	830 (5)	10590 (5)	46012 (5)
15-11-S	100	130	31.42	31.42	0.00	-177.09	671 (5)	8563 (5)	37207 (5)
15-12-S	100	130	31.42	31.42	0.00	-137.44	489 (5)	6246 (5)	27137 (5)
15-13-S	100	130	31.42	31.42	0.00	-86.66	284 (5)	3622 (5)	15740 (5)
15-14-S	100	130	31.42	31.42	0.00	-45.76	126 (5)	1608 (5)	6986 (5)
15-15-S	100	130	31.42	31.42	15.18	-0.01	17 (7)	921 (7)	499 (7)
15-16-S	100	130	31.42	31.42	27.14	-0.01	88 (7)	4857 (7)	1118 (7)
15-17-S	100	130	31.42	31.42	39.32	-0.20	138 (6)	7645 (6)	1759 (6)
15-18-S	100	130	31.42	31.42	47.36	-1.70	163 (5)	9021 (5)	2076 (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.16.0.5.004.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.16.0.5.004	A	79 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
15-19-S	100	130	31.42	31.42	8.30	-7.19	51 (7)	2851 (7)	2138 (7)
15-20-S	100	130	31.42	31.42	4.82	-28.75	159 (7)	2553 (7)	8833 (7)
15-21-S	100	130	31.42	31.42	7.12	-20.71	117 (5)	1491 (5)	6480 (5)
15-22-S	100	130	31.42	31.42	5.01	-14.72	66 (5)	840 (5)	3649 (5)
15-23-S	100	130	31.42	31.42	4.58	-4.77	14 (5)	797 (5)	800 (5)
16-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
16-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
16-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
16-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
16-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
16-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
16-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
16-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (5)
16-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
16-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
16-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
16-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
16-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
16-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
16-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
16-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
16-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
16-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
16-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
16-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
16-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
16-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
16-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
17-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
17-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
17-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
17-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
17-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
17-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (5)
17-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
17-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
17-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
17-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
17-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
17-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
17-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
17-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
17-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
17-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
17-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
17-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
17-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (7)
17-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
17-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
17-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
17-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
18-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
18-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
18-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
18-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
18-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
18-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
18-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
18-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
18-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
18-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
18-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
18-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
18-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
18-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
18-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
18-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)
18-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)
18-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
18-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
18-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
18-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
18-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
18-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
19-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
19-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
19-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
19-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
19-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
19-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
19-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)



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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	80 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
19-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
19-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
19-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
19-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
19-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
19-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
19-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
19-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
19-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
19-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
19-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
19-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
19-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)
19-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
19-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
19-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
20-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
20-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
20-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
20-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
20-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
20-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
20-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)
20-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
20-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
20-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
20-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
20-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
20-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
20-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
20-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
20-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
20-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
20-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
20-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
20-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
20-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
20-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
20-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σsf [kPa]
1	1	108.57	4595	65939		
1	2	108.57	4046	53887		
1	3	108.57	3500	42125		
1	4	108.57	2966	35406		
1	5	108.57	2450	29863		
1	6	108.57	1968	24598		
1	7	108.57	1543	19858		
1	8	108.57	1240	16655		
1	9	108.57	1028	14469		
1	10	108.57	901	12970		
1	11	108.57	786	11626		
1	12	108.57	796	11618		
1	13	108.57	939	12880		
1	14	108.57	1079	14517		
1	15	108.57	1202	15964		
1	16	108.57	1315	17281		
1	17	108.57	1417	18459		
1	18	108.57	1505	19475		
1	19	108.57	1579	20318		
1	20	108.57	1638	20986		
1	21	108.57	1682	21486		
1	22	108.57	1713	21828		
1	23	108.57	1730	22024		
1	24	108.57	1736	22088		
1	25	108.57	1731	22032		
1	26	108.57	1717	21872		
1	27	108.57	1695	21619		
1	28	108.57	1665	21288		
1	29	108.57	1631	20890		
1	30	108.57	1591	20433		
1	31	108.57	1547	19932		
1	32	108.57	1502	19405		
1	33	108.57	1455	18858		
1	34	108.57	1407	18299		
1	35	108.57	1359	17734		

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	81 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	36	108.57	1311	17167		
1	37	108.57	1263	16606		
1	38	108.57	1217	16052		
1	39	108.57	1171	15509		
1	40	108.57	1127	14980		
1	41	108.57	1085	14485		
1	42	108.57	1043	14051		
1	43	108.57	1003	13622		
1	44	108.57	963	13200		
1	45	108.57	928	12785		
1	46	108.57	895	12378		
1	47	108.57	863	11981		
1	48	108.57	832	11603		
1	49	108.57	801	11312		
1	50	108.57	772	11027		
1	51	108.57	745	10747		
1	52	108.57	724	10472		
1	53	108.57	704	10203		
1	54	108.57	683	9940		
1	55	108.57	664	9681		
1	56	108.57	645	9428		
1	57	108.57	626	9181		
1	58	108.57	608	8938		
1	59	108.57	590	8700		
1	60	108.57	573	8466		
1	61	108.57	556	8237		
1	62	108.57	540	8012		
1	63	108.57	524	7791		
1	64	108.57	508	7573		
1	65	108.57	493	7358		
1	66	108.57	478	7147		
1	67	108.57	463	6937		
1	68	108.57	451	6767		
1	69	108.57	443	6631		
1	70	108.57	434	6488		
1	71	108.57	424	6337		
1	72	108.57	414	6178		
1	73	108.57	404	6013		
1	74	108.57	392	5840		
1	75	108.57	381	5662		
1	76	108.57	368	5477		
1	77	108.57	356	5289		
1	78	108.57	343	5096		
1	79	108.57	330	4899		
1	80	108.57	317	4699		
1	81	108.57	303	4495		
1	82	108.57	289	4288		
1	83	108.57	275	4077		
1	84	108.57	260	3864		
1	85	108.57	246	3649		
1	86	108.57	231	3431		
1	87	108.57	216	3211		
1	88	108.57	201	2989		
1	89	108.57	186	2765		
1	90	108.57	171	2539		
1	91	108.57	155	2312		
1	92	108.57	140	2084		
1	93	108.57	125	1855		
1	94	108.57	109	1624		
1	95	108.57	93	1393		
1	96	108.57	78	1162		
1	97	108.57	62	929		
1	98	108.57	47	697		
1	99	108.57	31	465		
1	100	108.57	15	232		
1	101	108.57	0	0		
2	1	62.83	5604	67717		
2	2	62.83	4877	59896		
2	3	62.83	4176	52240		
2	4	62.83	3527	45015		
2	5	62.83	2960	38563		
2	6	62.83	2497	33167		
2	7	62.83	2133	28832		
2	8	62.83	1817	25045		
2	9	62.83	1531	21621		
2	10	62.83	1286	18633		
2	11	62.83	1130	16819		
2	12	62.83	1337	19317		
2	13	62.83	1520	21518		
2	14	62.83	1680	23442		
2	15	62.83	1818	25107		

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.16.0.5.004.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	82 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	16	62.83	1936	26532		
2	17	62.83	2036	27734		
2	18	62.83	2118	28729		
2	19	62.83	2185	29536		
2	20	62.83	2237	30169		
2	21	62.83	2276	30647		
2	22	62.83	2304	30984		
2	23	62.83	2321	31189		
2	24	62.83	2327	31276		
2	25	62.83	2325	31257		
2	26	62.83	2315	31144		
2	27	62.83	2299	30950		
2	28	62.83	2276	30686		
2	29	62.83	2249	30363		
2	30	62.83	2217	29987		
2	31	62.83	2182	29571		
2	32	62.83	2145	29127		
2	33	62.83	2106	28659		
2	34	62.83	2065	28172		
2	35	62.83	2023	27673		
2	36	62.83	1981	27164		
2	37	62.83	1938	26650		
2	38	62.83	1894	26135		
2	39	62.83	1851	25621		
2	40	62.83	1809	25111		
2	41	62.83	1767	24609		
2	42	62.83	1726	24115		
2	43	62.83	1685	23632		
2	44	62.83	1646	23162		
2	45	62.83	1608	22706		
2	46	62.83	1571	22265		
2	47	62.83	1536	21840		
2	48	62.83	1502	21431		
2	49	62.83	1469	21040		
2	50	62.83	1438	20667		
2	51	62.83	1408	20312		
2	52	62.83	1380	19975		
2	53	62.83	1354	19655		
2	54	62.83	1329	19354		
2	55	62.83	1305	19071		
2	56	62.83	1283	18805		
2	57	62.83	1262	18557		
2	58	62.83	1243	18325		
2	59	62.83	1225	18109		
2	60	62.83	1209	17909		
2	61	62.83	1194	17724		
2	62	62.83	1180	17553		
2	63	62.83	1167	17397		
2	64	62.83	1155	17253		
2	65	62.83	1144	17122		
2	66	62.83	1135	17004		
2	67	62.83	1130	16948		
2	68	62.83	1136	17012		
2	69	62.83	1141	17064		
2	70	62.83	1144	17104		
2	71	62.83	1147	17135		
2	72	62.83	1149	17156		
2	73	62.83	1150	17167		
2	74	62.83	1151	17170		
2	75	62.83	1151	17165		
2	76	62.83	1150	17153		
2	77	62.83	1149	17134		
2	78	62.83	1148	17110		
2	79	62.83	1146	17081		
2	80	62.83	1143	17046		
2	81	62.83	1140	17008		
2	82	62.83	1137	16965		
2	83	62.83	1134	16920		
2	84	62.83	1130	16871		
2	85	62.83	1127	16820		
2	86	62.83	1123	16767		
2	87	62.83	1119	16713		
2	88	62.83	1114	16657		
2	89	62.83	1110	16601		
2	90	62.83	1106	16544		
2	91	62.83	1102	16487		
2	92	62.83	1098	16430		
2	93	62.83	1093	16375		
2	94	62.83	1089	16320		
2	95	62.83	1086	16266		
2	96	62.83	1082	16215		

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.16.0.5.004.A.DOCX		COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
			IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	83 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	97	62.83	1078	16165		
2	98	62.83	1075	16118		
2	99	62.83	1072	16074		
2	100	62.83	1069	16033		
2	101	62.83	1066	15996		
3	1	62.83	5505	69505		
3	2	62.83	4853	62193		
3	3	62.83	4259	55426		
3	4	62.83	3742	49420		
3	5	62.83	3307	44271		
3	6	62.83	2936	39845		
3	7	62.83	2594	35745		
3	8	62.83	2278	31956		
3	9	62.83	1992	28531		
3	10	62.83	1735	25457		
3	11	62.83	1590	23724		
3	12	62.83	1797	26220		
3	13	62.83	1980	28418		
3	14	62.83	2140	30339		
3	15	62.83	2278	32002		
3	16	62.83	2396	33423		
3	17	62.83	2495	34621		
3	18	62.83	2577	35613		
3	19	62.83	2643	36415		
3	20	62.83	2695	37044		
3	21	62.83	2734	37515		
3	22	62.83	2761	37842		
3	23	62.83	2777	38040		
3	24	62.83	2783	38121		
3	25	62.83	2781	38098		
3	26	62.83	2771	37982		
3	27	62.83	2755	37786		
3	28	62.83	2732	37519		
3	29	62.83	2704	37190		
3	30	62.83	2672	36807		
3	31	62.83	2636	36382		
3	32	62.83	2599	35928		
3	33	62.83	2559	35450		
3	34	62.83	2517	34954		
3	35	62.83	2475	34444		
3	36	62.83	2431	33925		
3	37	62.83	2388	33400		
3	38	62.83	2344	32874		
3	39	62.83	2300	32348		
3	40	62.83	2257	31827		
3	41	62.83	2214	31312		
3	42	62.83	2172	30806		
3	43	62.83	2130	30311		
3	44	62.83	2090	29827		
3	45	62.83	2051	29358		
3	46	62.83	2014	28903		
3	47	62.83	1977	28464		
3	48	62.83	1942	28041		
3	49	62.83	1909	27636		
3	50	62.83	1877	27248		
3	51	62.83	1846	26877		
3	52	62.83	1817	26524		
3	53	62.83	1789	26189		
3	54	62.83	1763	25872		
3	55	62.83	1739	25572		
3	56	62.83	1715	25290		
3	57	62.83	1694	25024		
3	58	62.83	1673	24774		
3	59	62.83	1654	24541		
3	60	62.83	1636	24323		
3	61	62.83	1620	24119		
3	62	62.83	1605	23930		
3	63	62.83	1591	23755		
3	64	62.83	1578	23592		
3	65	62.83	1566	23442		
3	66	62.83	1555	23303		
3	67	62.83	1549	23227		
3	68	62.83	1553	23270		
3	69	62.83	1556	23301		
3	70	62.83	1559	23321		
3	71	62.83	1560	23330		
3	72	62.83	1561	23329		
3	73	62.83	1561	23318		
3	74	62.83	1560	23299		
3	75	62.83	1558	23271		
3	76	62.83	1556	23236		

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	84 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
3	77	62.83	1553	23194		
3	78	62.83	1550	23147		
3	79	62.83	1547	23094		
3	80	62.83	1542	23036		
3	81	62.83	1538	22974		
3	82	62.83	1533	22907		
3	83	62.83	1528	22838		
3	84	62.83	1523	22765		
3	85	62.83	1518	22689		
3	86	62.83	1512	22612		
3	87	62.83	1507	22533		
3	88	62.83	1501	22452		
3	89	62.83	1495	22371		
3	90	62.83	1489	22289		
3	91	62.83	1483	22207		
3	92	62.83	1477	22124		
3	93	62.83	1471	22043		
3	94	62.83	1466	21962		
3	95	62.83	1460	21883		
3	96	62.83	1454	21805		
3	97	62.83	1449	21730		
3	98	62.83	1444	21656		
3	99	62.83	1439	21585		
3	100	62.83	1435	21518		
3	101	62.83	1430	21453		

**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	12.72	15.71	0.00	5.00	7 (7)	100 (7)	102 (7)
2	100	70	12.72	15.71	0.00	6.72	9 (7)	134 (7)	137 (7)
3	100	70	12.72	15.71	0.00	8.43	12 (7)	168 (7)	172 (7)
4	100	70	12.72	15.71	0.00	10.15	14 (7)	202 (7)	208 (7)
5	100	70	12.72	15.71	0.00	11.86	16 (7)	237 (7)	243 (7)
6	100	70	12.72	15.71	0.00	13.58	19 (7)	271 (7)	278 (7)
7	100	70	12.72	15.71	0.00	15.29	21 (7)	305 (7)	313 (7)
8	100	70	12.72	15.71	0.00	17.01	23 (7)	339 (7)	348 (7)
9	100	70	12.72	15.71	0.00	18.73	26 (7)	374 (7)	383 (7)
10	100	70	12.72	15.71	0.00	20.44	28 (7)	408 (7)	418 (7)
11	100	70	12.72	15.71	0.00	22.16	30 (7)	442 (7)	453 (7)
12	100	70	12.72	15.71	0.00	23.87	33 (7)	476 (7)	488 (7)
13	100	70	12.72	15.71	0.00	25.59	35 (7)	510 (7)	523 (7)
14	100	70	12.72	15.71	0.00	27.30	37 (7)	545 (7)	558 (7)
15	100	70	12.72	15.71	0.00	29.02	40 (7)	579 (7)	593 (7)
16	100	70	12.72	15.71	0.00	30.74	42 (7)	613 (7)	629 (7)
17	100	70	12.72	15.71	0.00	32.45	44 (7)	647 (7)	664 (7)
18	100	70	12.72	15.71	0.00	34.17	47 (7)	682 (7)	699 (7)
19	100	70	12.72	15.71	0.00	35.88	49 (7)	716 (7)	734 (7)
20	100	70	12.72	15.71	0.00	37.60	51 (7)	750 (7)	769 (7)
21	100	70	12.72	15.71	0.00	39.32	54 (7)	784 (7)	804 (7)
22	100	70	12.72	15.71	0.00	41.03	56 (7)	819 (7)	839 (7)
23	100	70	12.72	15.71	0.00	42.75	58 (7)	853 (7)	874 (7)
24	100	70	12.72	15.71	0.00	44.46	61 (7)	887 (7)	909 (7)
25	100	70	12.72	15.71	0.00	46.18	63 (7)	921 (7)	944 (7)
26	100	70	12.72	15.71	0.00	47.89	65 (7)	955 (7)	979 (7)
27	100	70	12.72	15.71	0.00	49.61	68 (7)	990 (7)	1015 (7)
28	100	70	12.72	15.71	0.00	51.33	70 (7)	1024 (7)	1050 (7)
29	100	70	12.72	15.71	0.00	53.04	72 (7)	1058 (7)	1085 (7)
30	100	70	12.72	15.71	0.00	54.76	75 (7)	1092 (7)	1120 (7)
31	100	70	12.72	15.71	0.00	56.47	77 (7)	1127 (7)	1155 (7)
32	100	70	12.72	15.71	0.04	58.19	80 (7)	1155 (7)	1195 (7)
33	100	70	12.72	15.71	0.16	59.90	84 (7)	1173 (7)	1247 (7)
34	100	70	12.72	15.71	0.37	61.62	88 (7)	1179 (7)	1311 (7)
35	100	70	12.72	15.71	0.66	63.34	94 (7)	1172 (7)	1388 (7)
36	100	70	12.72	15.71	1.06	65.05	100 (7)	1152 (7)	1478 (7)
37	100	70	12.72	15.71	1.55	66.77	108 (7)	1118 (7)	1582 (7)
38	100	70	12.72	15.71	2.15	68.48	117 (7)	1069 (7)	1701 (7)
39	100	70	12.72	15.71	2.86	70.20	127 (7)	1005 (7)	1835 (7)
40	100	70	12.72	15.71	3.69	71.91	138 (7)	926 (7)	1986 (7)

APPALTATORE:

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

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

PROGETTAZIONE:

Mandataria:

Mandante:

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

**PROGETTO ESECUTIVO**

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	85 di 123

n°	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	σc [kPa]	σfi [kPa]	σfs [kPa]
41	100	70	12.72	15.71	4.63	73.63	151 (7)	830 (7)	2153 (7)
42	100	120	12.72	15.71	18.58	86.48	142 (7)	60 (7)	2034 (7)
43	100	120	12.72	15.71	19.92	89.42	149 (7)	22 (7)	2142 (7)
44	100	120	12.72	15.71	21.80	92.36	159 (7)	54 (7)	2282 (7)
45	100	120	12.72	15.71	24.07	95.30	171 (7)	168 (7)	2450 (7)
46	100	120	12.72	15.71	26.59	98.24	185 (7)	322 (7)	2642 (7)
47	100	120	12.72	15.71	29.26	101.18	200 (7)	514 (7)	2852 (7)
48	100	120	12.72	15.71	32.06	104.12	217 (7)	751 (7)	3081 (7)
49	100	120	12.72	15.71	34.99	107.05	235 (7)	1042 (7)	3330 (7)
50	100	120	12.72	15.71	38.06	109.99	255 (7)	1397 (7)	3603 (7)
51	100	120	12.72	15.71	41.29	112.93	277 (7)	1827 (7)	3901 (7)
52	100	120	12.72	15.71	44.67	115.87	302 (7)	2346 (7)	4225 (7)
53	100	120	12.72	15.71	48.22	118.81	328 (7)	2965 (7)	4577 (7)
54	100	120	12.72	15.71	51.93	121.75	357 (7)	3698 (7)	4956 (7)
55	100	120	12.72	15.71	55.82	124.69	388 (7)	4553 (7)	5364 (7)
56	100	120	12.72	15.71	59.89	127.63	421 (7)	5539 (7)	5800 (7)
57	100	120	12.72	15.71	64.15	130.57	457 (7)	6665 (7)	6263 (7)
58	100	120	12.72	15.71	68.59	133.51	495 (7)	7944 (7)	6753 (7)
59	100	120	12.72	15.71	73.23	136.45	535 (7)	9368 (7)	7268 (7)
60	100	120	12.72	15.71	78.07	139.39	577 (7)	10943 (7)	7807 (7)
61	100	120	12.72	15.71	83.12	142.33	622 (7)	12672 (7)	8370 (7)
62	100	120	12.72	15.71	88.38	145.27	668 (7)	14554 (7)	8956 (7)
63	100	120	12.72	15.71	93.85	148.21	717 (7)	16592 (7)	9565 (7)
64	100	120	12.72	15.71	99.55	151.15	767 (7)	18784 (7)	10195 (7)
65	100	120	25.45	15.71	105.47	154.09	768 (7)	20240 (7)	10135 (7)
66	100	120	25.45	15.71	111.62	157.03	819 (7)	22709 (7)	10763 (7)
67	100	120	12.72	15.71	118.01	159.97	931 (7)	26299 (7)	12217 (7)
68	100	120	12.72	15.71	118.14	160.03	932 (7)	26353 (7)	12231 (7)
69	100	120	12.72	15.71	124.36	162.79	987 (7)	28998 (7)	12905 (7)
70	100	120	12.72	15.71	130.80	165.55	1044 (7)	31782 (7)	13598 (7)
71	100	120	12.72	15.71	137.46	168.31	1103 (7)	34708 (7)	14311 (7)
72	100	120	12.72	15.71	144.34	171.06	1163 (7)	37776 (7)	15044 (7)
73	100	120	12.72	15.71	151.45	173.82	1225 (7)	40987 (7)	15798 (7)
74	100	120	12.72	15.71	158.79	176.58	1289 (7)	44344 (7)	16572 (7)
75	100	120	12.72	15.71	166.37	179.34	1355 (7)	47847 (7)	17367 (7)
76	100	120	12.72	15.71	174.18	182.10	1423 (7)	51498 (7)	18183 (7)
77	100	120	12.72	15.71	182.25	184.86	1493 (7)	55300 (7)	19021 (7)

Piastra fondazione

Tensione massima di compressione nel calcestruzzo  
Tensione massima di trazione dell'acciaio

17430 [kPa]  
1255271 [kPa]

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
1-1-P	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
1-2-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-3-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-4-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-5-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)
1-6-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-7-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-8-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-9-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-10-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-11-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-12-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-13-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-14-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-15-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-16-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-17-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-18-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)
1-19-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-20-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-21-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-22-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-23-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-24-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-25-P	75	130	25.13	25.13	0.00	-68.70	368 (5)	4719 (5)	19811 (5)
1-26-P	75	130	25.13	25.13	0.68	-38.74	202 (5)	2593 (5)	10886 (5)
1-27-P	75	130	25.13	25.13	5.76	-14.02	68 (5)	2510 (5)	3637 (5)
1-28-P	75	130	25.13	25.13	22.69	-1.13	119 (5)	6402 (5)	1525 (5)
1-29-P	75	130	25.13	25.13	33.38	-0.06	177 (5)	9517 (5)	2267 (5)
1-30-P	75	130	25.13	25.13	37.68	0.00	200 (5)	10774 (5)	2566 (5)
1-31-P	75	130	25.13	25.13	30.67	-0.19	162 (5)	8714 (5)	2076 (5)
1-32-P	75	130	25.13	25.13	13.51	-3.81	70 (5)	3743 (5)	892 (5)

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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 86 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
1-33-P	75	130	25.13	25.13	4.24	-24.37	120 (5)	1707 (5)	6453 (5)
1-34-P	75	130	25.13	25.13	0.28	-50.30	267 (5)	3418 (5)	14351 (5)
1-35-P	75	130	25.13	25.13	0.15	-56.88	303 (5)	3882 (5)	16297 (5)
1-36-P	75	130	25.13	25.13	0.82	-27.48	139 (5)	1780 (5)	7472 (5)
1-37-P	75	130	25.13	25.13	9.53	-6.90	48 (5)	2572 (5)	1684 (5)
1-38-P	75	130	25.13	25.13	27.66	-0.40	146 (5)	7830 (5)	1865 (5)
1-39-P	75	130	25.13	25.13	33.49	-0.01	178 (5)	9559 (5)	2277 (5)
1-40-P	75	130	25.13	25.13	30.65	-0.03	162 (5)	8732 (5)	2080 (5)
1-41-P	75	130	25.13	25.13	22.43	-0.72	117 (5)	6293 (5)	1499 (5)
1-42-P	75	130	25.13	25.13	3.01	-10.96	75 (7)	1870 (7)	4037 (7)
1-43-P	75	130	25.13	25.13	0.19	-43.89	230 (5)	2945 (5)	12362 (5)
1-44-P	75	130	25.13	25.13	0.06	-78.14	418 (5)	5357 (5)	22489 (5)
1-45-P	75	130	25.13	25.13	0.18	-64.62	343 (5)	4391 (5)	18435 (5)
1-46-P	75	130	25.13	25.13	0.65	-40.51	209 (5)	2678 (5)	11244 (5)
1-47-P	75	130	25.13	25.13	0.34	-15.68	83 (5)	1058 (5)	4441 (5)
1-48-P	75	130	25.13	25.13	1.62	-4.41	29 (5)	644 (5)	1567 (5)
1-49-P	75	130	25.13	25.13	2.50	-0.73	12 (5)	655 (5)	328 (5)
2-1-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
2-2-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-3-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-4-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-5-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-6-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-7-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-8-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-9-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (5)
2-10-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-11-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-12-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-13-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-14-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-15-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-16-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-17-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-18-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-19-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-20-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-21-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-22-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-23-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-24-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-25-P	75	130	25.13	25.13	2.44	-83.15	524 (5)	6710 (5)	28170 (5)
2-26-P	75	130	25.13	25.13	4.21	-21.86	228 (8)	3549 (8)	12277 (8)
2-27-P	75	130	25.13	25.13	17.87	-1.46	99 (5)	5337 (5)	1271 (5)
2-28-P	75	130	25.13	25.13	28.03	0.00	159 (5)	8541 (5)	2034 (5)
2-29-P	75	130	25.13	25.13	33.33	0.00	186 (5)	10016 (5)	2386 (5)
2-30-P	75	130	25.13	25.13	35.59	0.00	197 (5)	10614 (5)	2528 (5)
2-31-P	75	130	25.13	25.13	31.94	0.00	179 (5)	9650 (5)	2299 (5)
2-32-P	75	130	25.13	25.13	23.70	-0.15	134 (5)	7235 (5)	1723 (5)
2-33-P	75	130	25.13	25.13	15.91	-3.92	83 (5)	4489 (5)	1174 (5)
2-34-P	75	130	25.13	25.13	3.57	-50.00	316 (5)	4048 (5)	16993 (5)
2-35-P	75	130	25.13	25.13	3.22	-61.36	389 (5)	4988 (5)	20942 (5)
2-36-P	75	130	25.13	25.13	8.01	-7.65	53 (5)	2385 (5)	2877 (5)
2-37-P	75	130	25.13	25.13	21.50	-0.46	122 (5)	6540 (5)	1558 (5)
2-38-P	75	130	25.13	25.13	30.83	0.00	174 (5)	9346 (5)	2226 (5)
2-39-P	75	130	25.13	25.13	34.10	0.00	190 (5)	10204 (5)	2431 (5)
2-40-P	75	130	25.13	25.13	32.74	0.00	183 (5)	9826 (5)	2341 (5)
2-41-P	75	130	25.13	25.13	28.28	0.00	160 (5)	8625 (5)	2055 (5)
2-42-P	75	130	25.13	25.13	16.73	-1.35	93 (5)	5031 (5)	1198 (5)
2-43-P	75	130	25.13	25.13	4.34	-16.65	174 (8)	2435 (8)	9352 (8)
2-44-P	75	130	25.13	25.13	2.59	-78.69	497 (5)	6373 (5)	26755 (5)
2-45-P	75	130	25.13	25.13	3.58	-48.43	310 (5)	3968 (5)	16657 (5)
2-46-P	75	130	25.13	25.13	8.40	-7.64	50 (5)	2410 (5)	2679 (5)
2-47-P	75	130	25.13	25.13	7.79	-0.98	49 (6)	2646 (6)	630 (6)
2-48-P	75	130	25.13	25.13	10.85	0.00	62 (5)	3315 (5)	790 (5)
2-49-P	75	130	25.13	25.13	12.18	0.00	66 (5)	3549 (5)	845 (5)
5-1-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
5-2-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-3-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-4-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-5-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-6-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-7-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-8-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-9-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)
5-10-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-11-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-12-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-13-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-14-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-15-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

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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.16.0.5.004.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
5-16-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-17-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-18-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-19-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-20-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-21-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-22-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)
5-23-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-24-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-25-P	93	130	31.42	31.42	0.09	-112.77	521 (5)	6689 (5)	27882 (5)
5-26-P	93	130	31.42	31.42	0.00	-71.51	310 (5)	3981 (5)	16593 (5)
5-27-P	93	130	31.42	31.42	0.00	-42.61	164 (5)	2098 (5)	8743 (5)
5-28-P	93	130	31.42	31.42	0.00	-32.14	113 (5)	1452 (5)	6052 (5)
5-29-P	93	130	31.42	31.42	0.00	-29.57	100 (5)	1287 (5)	5363 (5)
5-30-P	93	130	31.42	31.42	0.00	-29.24	98 (5)	1262 (5)	5259 (5)
5-31-P	93	130	31.42	31.42	0.00	-29.95	103 (5)	1316 (5)	5484 (5)
5-32-P	93	130	31.42	31.42	0.00	-36.60	135 (5)	1731 (5)	7214 (5)
5-33-P	93	130	31.42	31.42	0.00	-47.20	186 (5)	2386 (5)	9948 (5)
5-34-P	93	130	31.42	31.42	0.00	-88.52	398 (5)	5106 (5)	21285 (5)
5-35-P	93	130	31.42	31.42	0.00	-96.91	441 (5)	5660 (5)	23594 (5)
5-36-P	93	130	31.42	31.42	0.00	-55.90	231 (5)	2966 (5)	12362 (5)
5-37-P	93	130	31.42	31.42	0.00	-39.44	150 (5)	1923 (5)	8015 (5)
5-38-P	93	130	31.42	31.42	0.00	-31.10	110 (5)	1413 (5)	5889 (5)
5-39-P	93	130	31.42	31.42	0.00	-30.64	108 (5)	1384 (5)	5767 (5)
5-40-P	93	130	31.42	31.42	0.00	-30.87	110 (5)	1411 (5)	5883 (5)
5-41-P	93	130	31.42	31.42	0.00	-31.57	115 (5)	1477 (5)	6156 (5)
5-42-P	93	130	31.42	31.42	0.00	-41.83	166 (5)	2129 (5)	8876 (5)
5-43-P	93	130	31.42	31.42	0.00	-64.07	280 (5)	3593 (5)	14976 (5)
5-44-P	93	130	31.42	31.42	0.01	-104.29	489 (5)	6273 (5)	26149 (5)
5-45-P	93	130	31.42	31.42	0.00	-77.43	356 (5)	4562 (5)	19014 (5)
5-46-P	93	130	31.42	31.42	0.00	-39.49	167 (5)	2141 (5)	8925 (5)
5-47-P	93	130	31.42	31.42	0.00	-24.26	100 (5)	1278 (5)	5327 (5)
5-48-P	93	130	31.42	31.42	0.00	-15.16	60 (5)	769 (5)	3204 (5)
5-49-P	93	130	31.42	31.42	0.88	-11.03	45 (5)	574 (5)	2392 (5)
6-1-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
6-2-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-3-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (5)
6-4-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-5-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-6-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-7-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-8-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-9-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-10-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-11-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-12-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-13-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-14-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-15-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-16-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-17-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-18-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-19-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-20-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-21-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-22-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-23-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-24-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-25-P	92	130	28.27	28.27	0.00	-35.36	148 (5)	1880 (5)	8291 (5)
6-26-P	92	130	28.27	28.27	0.04	-28.35	117 (5)	1485 (5)	6549 (5)
6-27-P	92	130	28.27	28.27	0.00	-20.55	79 (5)	1012 (5)	4461 (5)
6-28-P	92	130	28.27	28.27	2.16	-2.37	34 (7)	1204 (7)	1926 (7)
6-29-P	92	130	28.27	28.27	2.43	-2.08	24 (6)	1371 (6)	763 (6)
6-30-P	92	130	28.27	28.27	6.98	0.00	23 (7)	1300 (7)	318 (7)
6-31-P	92	130	28.27	28.27	3.24	-0.53	21 (7)	917 (7)	1163 (7)
6-32-P	92	130	28.27	28.27	0.00	-15.86	55 (5)	700 (5)	3086 (5)
6-33-P	92	130	28.27	28.27	0.00	-24.91	104 (5)	1321 (5)	5824 (5)
6-34-P	92	130	28.27	28.27	0.01	-32.26	136 (5)	1738 (5)	7663 (5)
6-35-P	92	130	28.27	28.27	0.01	-33.96	145 (5)	1844 (5)	8131 (5)
6-36-P	92	130	28.27	28.27	0.08	-27.26	116 (5)	1479 (5)	6522 (5)
6-37-P	92	130	28.27	28.27	0.00	-19.01	74 (5)	945 (5)	4167 (5)
6-38-P	92	130	28.27	28.27	0.83	-6.08	35 (6)	889 (6)	1987 (6)
6-39-P	92	130	28.27	28.27	2.40	-0.43	18 (7)	633 (7)	1022 (7)
6-40-P	92	130	28.27	28.27	0.73	-3.87	23 (6)	728 (6)	1312 (6)
6-41-P	92	130	28.27	28.27	0.00	-13.13	45 (5)	572 (5)	2523 (5)
6-42-P	92	130	28.27	28.27	0.00	-22.01	96 (5)	1220 (5)	5381 (5)
6-43-P	92	130	28.27	28.27	0.00	-30.05	139 (5)	1775 (5)	7827 (5)
6-44-P	92	130	28.27	28.27	0.03	-36.83	172 (5)	2193 (5)	9669 (5)
6-45-P	92	130	28.27	28.27	0.13	-32.00	154 (5)	1957 (5)	8631 (5)
6-46-P	92	130	28.27	28.27	0.23	-23.84	119 (5)	1513 (5)	6672 (5)
6-47-P	92	130	28.27	28.27	0.15	-13.90	68 (5)	870 (5)	3836 (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.16.0.5.004.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.16.0.5.004	A	88 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
6-48-P	92	130	28.27	28.27	0.55	-6.81	34 (6)	522 (6)	1909 (6)
6-49-P	92	130	28.27	28.27	0.94	-2.53	11 (7)	347 (7)	629 (7)
7-1-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
7-2-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-3-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-4-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-5-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-6-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-7-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-8-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-9-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-10-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-11-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)
7-12-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-13-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-14-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-15-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-16-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-17-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-18-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-19-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-20-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-21-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-22-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-23-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-24-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)
7-25-P	93	130	28.27	28.27	0.94	-12.39	90 (6)	1143 (6)	5041 (6)
7-26-P	93	130	28.27	28.27	1.59	-10.94	58 (8)	742 (8)	3272 (8)
7-27-P	93	130	28.27	28.27	6.43	-5.19	35 (7)	1981 (7)	1925 (7)
7-28-P	93	130	28.27	28.27	17.46	0.00	79 (6)	4448 (6)	1009 (6)
7-29-P	93	130	28.27	28.27	22.55	0.00	108 (6)	6047 (6)	1371 (6)
7-30-P	93	130	28.27	28.27	24.40	0.00	117 (7)	6560 (7)	1488 (7)
7-31-P	93	130	28.27	28.27	20.90	0.00	98 (6)	5520 (6)	1252 (6)
7-32-P	93	130	28.27	28.27	10.88	-0.43	48 (6)	2698 (6)	612 (6)
7-33-P	93	130	28.27	28.27	7.42	-12.71	64 (5)	1466 (5)	3621 (5)
7-34-P	93	130	28.27	28.27	0.25	-16.06	79 (7)	1009 (7)	4447 (7)
7-35-P	93	130	28.27	28.27	0.22	-18.43	89 (7)	1137 (7)	5015 (7)
7-36-P	93	130	28.27	28.27	3.86	-13.89	74 (8)	1156 (8)	4154 (8)
7-37-P	93	130	28.27	28.27	9.20	-5.19	39 (5)	2201 (5)	1500 (5)
7-38-P	93	130	28.27	28.27	16.36	0.00	76 (6)	4272 (6)	969 (6)
7-39-P	93	130	28.27	28.27	18.30	0.00	87 (6)	4901 (6)	1111 (6)
7-40-P	93	130	28.27	28.27	16.67	0.00	79 (6)	4413 (6)	1001 (6)
7-41-P	93	130	28.27	28.27	12.66	0.00	56 (6)	3141 (6)	712 (6)
7-42-P	93	130	28.27	28.27	2.43	-8.64	46 (7)	895 (7)	2579 (7)
7-43-P	93	130	28.27	28.27	0.51	-20.87	102 (7)	1304 (7)	5750 (7)
7-44-P	93	130	28.27	28.27	0.14	-31.34	147 (7)	1870 (7)	8245 (7)
7-45-P	93	130	28.27	28.27	1.36	-29.51	142 (7)	1812 (7)	7991 (7)
7-46-P	93	130	28.27	28.27	3.93	-24.67	125 (7)	1596 (7)	7035 (7)
7-47-P	93	130	28.27	28.27	4.50	-12.09	62 (7)	1492 (7)	3472 (7)
7-48-P	93	130	28.27	28.27	4.59	-5.48	29 (8)	1373 (8)	1639 (8)
7-49-P	93	130	28.27	28.27	3.51	-3.15	18 (5)	984 (5)	869 (5)
8-1-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
8-2-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-3-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-4-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-5-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-6-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-7-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)
8-8-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-9-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-10-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-11-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-12-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-13-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-14-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-15-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-16-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-17-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-18-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-19-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-20-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)
8-21-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-22-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-23-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-24-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-25-P	92	130	31.42	31.42	0.00	-69.86	326 (7)	4181 (7)	17427 (7)
8-26-P	92	130	31.42	31.42	0.00	-29.21	134 (7)	1722 (7)	7177 (7)
8-27-P	92	130	31.42	31.42	12.02	-9.34	40 (5)	2150 (5)	1935 (5)
8-28-P	92	130	31.42	31.42	13.56	0.00	62 (7)	3317 (7)	796 (7)
8-29-P	92	130	31.42	31.42	20.64	0.00	95 (7)	5061 (7)	1214 (7)
8-30-P	92	130	31.42	31.42	23.85	0.00	110 (7)	5874 (7)	1409 (7)

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.16.0.5.004.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.16.0.5.004</b>	<b>A</b>	<b>89 di 123</b>

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
8-31-P	92	130	31.42	31.42	17.63	0.00	81 (7)	4324 (7)	1037 (7)
8-32-P	92	130	31.42	31.42	9.94	-3.52	42 (5)	2254 (5)	541 (5)
8-33-P	92	130	31.42	31.42	12.55	-14.40	65 (5)	1978 (5)	3481 (5)
8-34-P	92	130	31.42	31.42	0.00	-48.30	223 (7)	2858 (7)	11915 (7)
8-35-P	92	130	31.42	31.42	0.00	-57.17	264 (7)	3391 (7)	14133 (7)
8-36-P	92	130	31.42	31.42	1.95	-19.24	91 (7)	1360 (7)	4877 (7)
8-37-P	92	130	31.42	31.42	9.61	-7.29	34 (5)	1814 (5)	1538 (5)
8-38-P	92	130	31.42	31.42	11.23	-0.01	53 (7)	2841 (7)	681 (7)
8-39-P	92	130	31.42	31.42	15.79	0.00	75 (7)	4005 (7)	961 (7)
8-40-P	92	130	31.42	31.42	13.23	0.00	63 (7)	3380 (7)	811 (7)
8-41-P	92	130	31.42	31.42	6.25	-1.22	32 (6)	1702 (6)	408 (6)
8-42-P	92	130	31.42	31.42	5.89	-12.68	59 (6)	1117 (6)	3138 (6)
8-43-P	92	130	31.42	31.42	0.00	-35.34	159 (7)	2034 (7)	8479 (7)
8-44-P	92	130	31.42	31.42	0.00	-78.11	360 (7)	4620 (7)	19259 (7)
8-45-P	92	130	31.42	31.42	0.00	-55.84	255 (7)	3276 (7)	13656 (7)
8-46-P	92	130	31.42	31.42	3.21	-25.93	121 (7)	1553 (7)	6475 (7)
8-47-P	92	130	31.42	31.42	1.62	-12.84	61 (7)	777 (7)	3239 (7)
8-48-P	92	130	31.42	31.42	1.05	-4.80	23 (6)	294 (6)	1225 (6)
8-49-P	92	130	31.42	31.42	0.98	-0.88	5 (5)	253 (5)	157 (5)
9-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
9-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
9-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
9-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
9-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
9-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
9-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)
9-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
9-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
9-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
9-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
9-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
9-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
9-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
9-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
9-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
9-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
9-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
9-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
9-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
9-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
9-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
9-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)
10-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
10-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
10-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
10-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
10-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
10-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
10-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)
10-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
10-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
10-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
10-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
10-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
10-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
10-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
10-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
10-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
10-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
10-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
10-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
10-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)
10-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
10-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
10-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
11-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
11-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
11-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
11-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
11-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
11-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
11-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
11-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
11-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
11-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
11-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
11-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
11-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
11-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
11-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
11-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)

APPALTATORE:

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

PROGETTAZIONE:

Mandataria:                      Mandante:

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

Relazione di calcolo  
IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	90 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
11-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)
11-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
11-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
11-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
11-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
11-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
11-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
12-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
12-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
12-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
12-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
12-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
12-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (5)
12-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
12-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
12-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
12-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
12-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
12-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
12-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
12-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
12-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
12-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
12-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
12-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
12-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (7)
12-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
12-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
12-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
12-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
13-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
13-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
13-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
13-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
13-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
13-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
13-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
13-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (5)
13-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
13-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
13-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
13-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
13-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
13-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
13-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
13-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
13-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
13-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
13-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
13-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
13-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
13-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
13-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
14-1-S	100	130	34.56	34.56	10.30	-9.40	36 (5)	1901 (5)	1729 (5)
14-2-S	100	130	34.56	34.56	14.76	-15.72	60 (5)	3199 (5)	2888 (5)
14-3-S	100	130	34.56	34.56	2.98	-21.50	74 (5)	951 (5)	3927 (5)
14-4-S	100	130	34.56	34.56	4.74	-64.38	290 (5)	3727 (5)	15392 (5)
14-5-S	100	130	34.56	34.56	16.91	-25.47	294 (8)	6912 (8)	15614 (8)
14-6-S	100	130	34.56	34.56	54.09	-2.12	251 (5)	13320 (5)	3225 (5)
14-7-S	100	130	34.56	34.56	143.47	0.00	601 (5)	31860 (5)	7714 (5)
14-8-S	100	130	34.56	34.56	0.64	-166.29	619 (5)	7952 (5)	32844 (5)
14-9-S	100	130	34.56	34.56	2.17	-160.70	610 (5)	7826 (5)	32326 (5)
14-10-S	100	130	34.56	34.56	0.00	-208.42	790 (5)	10143 (5)	41894 (5)
14-11-S	100	130	34.56	34.56	0.00	-177.09	639 (5)	8202 (5)	33876 (5)
14-12-S	100	130	34.56	34.56	0.00	-137.44	466 (5)	5982 (5)	24708 (5)
14-13-S	100	130	34.56	34.56	0.00	-86.66	270 (5)	3470 (5)	14331 (5)
14-14-S	100	130	34.56	34.56	0.00	-45.76	120 (5)	1540 (5)	6361 (5)
14-15-S	100	130	34.56	34.56	15.18	-0.01	16 (7)	838 (7)	454 (7)
14-16-S	100	130	34.56	34.56	27.14	-0.01	83 (7)	4422 (7)	1071 (7)
14-17-S	100	130	34.56	34.56	39.32	-0.20	131 (6)	6961 (6)	1685 (6)
14-18-S	100	130	34.56	34.56	47.36	-1.70	155 (5)	8213 (5)	1989 (5)
14-19-S	100	130	34.56	34.56	8.30	-7.19	49 (7)	2596 (7)	1947 (7)
14-20-S	100	130	34.56	34.56	4.82	-28.75	152 (7)	2324 (7)	8043 (7)
14-21-S	100	130	34.56	34.56	7.12	-20.71	111 (5)	1428 (5)	5900 (5)
14-22-S	100	130	34.56	34.56	5.01	-14.72	63 (5)	804 (5)	3323 (5)
14-23-S	100	130	34.56	34.56	4.58	-4.77	14 (5)	726 (5)	728 (5)
15-1-S	100	130	31.42	31.42	10.30	-9.40	38 (5)	2088 (5)	1899 (5)
15-2-S	100	130	31.42	31.42	14.76	-15.72	63 (5)	3514 (5)	3172 (5)
15-3-S	100	130	31.42	31.42	2.98	-21.50	78 (5)	993 (5)	4313 (5)
15-4-S	100	130	31.42	31.42	4.74	-64.38	305 (5)	3891 (5)	16905 (5)
15-5-S	100	130	31.42	31.42	16.91	-25.47	309 (8)	7591 (8)	17149 (8)

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.16.0.5.004.A.DOCX

COMMESSA

LOTTO

CODIFICA

DOCUMENTO

REV.

FOGLIO

IF2R

2.2.E.ZZ

CL

TR.16.0.5.004

A

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Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	sc [kPa]	ofi [kPa]	ofs [kPa]
15-6-S	100	130	31.42	31.42	54.09	-2.12	264 (5)	14629 (5)	3367 (5)
15-7-S	100	130	31.42	31.42	143.47	0.00	631 (5)	34992 (5)	8053 (5)
15-8-S	100	130	31.42	31.42	0.64	-166.29	650 (5)	8302 (5)	36073 (5)
15-9-S	100	130	31.42	31.42	2.17	-160.70	640 (5)	8171 (5)	35504 (5)
15-10-S	100	130	31.42	31.42	0.00	-208.42	830 (5)	10590 (5)	46012 (5)
15-11-S	100	130	31.42	31.42	0.00	-177.09	671 (5)	8563 (5)	37207 (5)
15-12-S	100	130	31.42	31.42	0.00	-137.44	489 (5)	6246 (5)	27137 (5)
15-13-S	100	130	31.42	31.42	0.00	-86.66	284 (5)	3622 (5)	15740 (5)
15-14-S	100	130	31.42	31.42	0.00	-45.76	126 (5)	1608 (5)	6986 (5)
15-15-S	100	130	31.42	31.42	15.18	-0.01	17 (7)	921 (7)	499 (7)
15-16-S	100	130	31.42	31.42	27.14	-0.01	88 (7)	4857 (7)	1118 (7)
15-17-S	100	130	31.42	31.42	39.32	-0.20	138 (6)	7645 (6)	1759 (6)
15-18-S	100	130	31.42	31.42	47.36	-1.70	163 (5)	9021 (5)	2076 (5)
15-19-S	100	130	31.42	31.42	8.30	-7.19	51 (7)	2851 (7)	2138 (7)
15-20-S	100	130	31.42	31.42	4.82	-28.75	159 (7)	2553 (7)	8833 (7)
15-21-S	100	130	31.42	31.42	7.12	-20.71	117 (5)	1491 (5)	6480 (5)
15-22-S	100	130	31.42	31.42	5.01	-14.72	66 (5)	840 (5)	3649 (5)
15-23-S	100	130	31.42	31.42	4.58	-4.77	14 (5)	797 (5)	800 (5)
16-1-S	100	130	31.42	31.42	1.77	-10.25	38 (5)	481 (5)	2092 (5)
16-2-S	100	130	31.42	31.42	0.90	-15.57	55 (5)	703 (5)	3054 (5)
16-3-S	100	130	31.42	31.42	2.14	-14.30	81 (5)	1036 (5)	4499 (5)
16-4-S	100	130	31.42	31.42	11.61	-8.20	57 (5)	3069 (5)	3180 (5)
16-5-S	100	130	31.42	31.42	36.69	-0.15	172 (5)	9526 (5)	2192 (5)
16-6-S	100	130	31.42	31.42	82.55	0.00	361 (5)	20038 (5)	4612 (5)
16-7-S	100	130	31.42	31.42	141.26	0.00	600 (5)	33258 (5)	7654 (5)
16-8-S	100	130	31.42	31.42	0.00	-234.81	914 (5)	11663 (5)	50677 (5)
16-9-S	100	130	31.42	31.42	0.00	-207.79	801 (5)	10219 (5)	44402 (5)
16-10-S	100	130	31.42	31.42	0.00	-178.36	677 (5)	8643 (5)	37553 (5)
16-11-S	100	130	31.42	31.42	0.00	-147.11	547 (5)	6986 (5)	30352 (5)
16-12-S	100	130	31.42	31.42	0.00	-113.94	409 (5)	5226 (5)	22709 (5)
16-13-S	100	130	31.42	31.42	0.00	-77.29	257 (5)	3282 (5)	14261 (5)
16-14-S	100	130	31.42	31.42	0.00	-44.91	130 (5)	1660 (5)	7213 (5)
16-15-S	100	130	31.42	31.42	9.66	0.00	22 (7)	277 (7)	1204 (7)
16-16-S	100	130	31.42	31.42	17.88	0.00	40 (7)	2245 (7)	517 (7)
16-17-S	100	130	31.42	31.42	21.64	-0.16	68 (6)	3776 (6)	869 (6)
16-18-S	100	130	31.42	31.42	13.57	-1.35	66 (8)	3656 (8)	1819 (8)
16-19-S	100	130	31.42	31.42	18.84	-2.10	59 (6)	3253 (6)	1621 (6)
16-20-S	100	130	31.42	31.42	17.09	-3.02	47 (5)	2629 (5)	1957 (5)
16-21-S	100	130	31.42	31.42	4.28	-1.72	26 (7)	1454 (7)	1119 (7)
16-22-S	100	130	31.42	31.42	7.33	-0.96	14 (5)	781 (5)	460 (5)
16-23-S	100	130	31.42	31.42	4.30	-0.75	10 (5)	552 (5)	127 (5)
17-1-S	100	130	31.42	31.42	18.20	-3.89	67 (5)	3693 (5)	850 (5)
17-2-S	100	130	31.42	31.42	27.87	-10.26	119 (5)	6608 (5)	2104 (5)
17-3-S	100	130	31.42	31.42	3.64	-22.75	88 (5)	1117 (5)	4855 (5)
17-4-S	100	130	31.42	31.42	2.14	-117.98	459 (5)	5855 (5)	25440 (5)
17-5-S	100	130	31.42	31.42	2.60	-72.84	304 (5)	4207 (5)	16863 (5)
17-6-S	100	130	31.42	31.42	29.62	-3.52	184 (5)	10214 (5)	2351 (5)
17-7-S	100	130	31.42	31.42	145.18	0.00	659 (5)	36554 (5)	8413 (5)
17-8-S	100	130	31.42	31.42	1.32	-101.91	427 (5)	5446 (5)	23663 (5)
17-9-S	100	130	31.42	31.42	8.57	-84.73	486 (6)	6199 (6)	26935 (6)
17-10-S	100	130	31.42	31.42	0.00	-238.95	984 (5)	12558 (5)	54565 (5)
17-11-S	100	130	31.42	31.42	0.00	-206.67	793 (5)	10123 (5)	43986 (5)
17-12-S	100	130	31.42	31.42	0.00	-160.36	568 (5)	7248 (5)	31491 (5)
17-13-S	100	130	31.42	31.42	0.00	-96.43	314 (5)	4014 (5)	17439 (5)
17-14-S	100	130	31.42	31.42	0.00	-47.97	130 (5)	1662 (5)	7223 (5)
17-15-S	100	130	31.42	31.42	18.11	-0.09	25 (7)	1387 (7)	319 (7)
17-16-S	100	130	31.42	31.42	35.69	-0.19	126 (6)	6978 (6)	1606 (6)
17-17-S	100	130	31.42	31.42	55.75	-0.46	203 (6)	11251 (6)	2589 (6)
17-18-S	100	130	31.42	31.42	76.28	-2.14	260 (5)	14397 (5)	3313 (5)
17-19-S	100	130	31.42	31.42	4.72	-12.10	46 (7)	2579 (7)	2312 (7)
17-20-S	100	130	31.42	31.42	2.22	-55.04	241 (7)	3660 (7)	13385 (7)
17-21-S	100	130	31.42	31.42	2.95	-39.69	178 (5)	2275 (5)	9886 (5)
17-22-S	100	130	31.42	31.42	1.96	-28.34	101 (5)	1292 (5)	5614 (5)
17-23-S	100	130	31.42	31.42	2.92	-8.59	21 (5)	769 (5)	1165 (5)
18-1-S	100	130	31.42	31.42	0.81	-11.36	42 (5)	542 (5)	2354 (5)
18-2-S	100	130	31.42	31.42	1.30	-11.60	40 (5)	505 (5)	2196 (5)
18-3-S	100	130	31.42	31.42	2.72	-3.80	31 (8)	731 (8)	1705 (8)
18-4-S	100	130	31.42	31.42	13.00	-0.33	63 (8)	3500 (8)	806 (8)
18-5-S	100	130	31.42	31.42	44.49	0.00	203 (5)	11274 (5)	2595 (5)
18-6-S	100	130	31.42	31.42	88.89	0.00	385 (5)	21378 (5)	4920 (5)
18-7-S	100	130	31.42	31.42	142.30	0.00	600 (5)	33280 (5)	7659 (5)
18-8-S	100	130	31.42	31.42	0.00	-248.50	973 (5)	12414 (5)	53938 (5)
18-9-S	100	130	31.42	31.42	0.00	-207.75	803 (5)	10246 (5)	44520 (5)
18-10-S	100	130	31.42	31.42	0.00	-178.91	682 (5)	8705 (5)	37825 (5)
18-11-S	100	130	31.42	31.42	0.00	-146.67	547 (5)	6984 (5)	30345 (5)
18-12-S	100	130	31.42	31.42	0.00	-113.20	409 (5)	5214 (5)	22655 (5)
18-13-S	100	130	31.42	31.42	0.00	-77.66	264 (5)	3363 (5)	14614 (5)
18-14-S	100	130	31.42	31.42	0.00	-46.28	140 (5)	1791 (5)	7782 (5)
18-15-S	100	130	31.42	31.42	6.64	-0.02	34 (7)	428 (7)	1860 (7)
18-16-S	100	130	31.42	31.42	14.27	0.00	25 (7)	1404 (7)	323 (7)
18-17-S	100	130	31.42	31.42	18.89	0.00	57 (6)	3165 (6)	728 (6)

APPALTATORE:

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PROGETTAZIONE:

Mandataria:

Mandante:

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	92 di 123

Is	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	Mp [kNm]	Mn [kNm]	σc [kPa]	σfi [kPa]	σfs [kPa]
18-18-S	100	130	31.42	31.42	21.08	0.00	67 (6)	3725 (6)	857 (6)
18-19-S	100	130	31.42	31.42	18.13	-0.15	57 (6)	3155 (6)	726 (6)
18-20-S	100	130	31.42	31.42	15.16	-0.46	43 (5)	2386 (5)	762 (5)
18-21-S	100	130	31.42	31.42	4.76	-0.52	27 (7)	1497 (7)	669 (7)
18-22-S	100	130	31.42	31.42	5.46	-0.36	15 (6)	837 (6)	447 (6)
18-23-S	100	130	31.42	31.42	3.88	-0.68	7 (5)	401 (5)	113 (5)
19-1-S	100	130	31.42	31.42	14.79	-6.00	54 (5)	2967 (5)	1184 (5)
19-2-S	100	130	31.42	31.42	26.72	-13.19	115 (5)	6381 (5)	2687 (5)
19-3-S	100	130	31.42	31.42	3.40	-20.44	78 (5)	999 (5)	4340 (5)
19-4-S	100	130	31.42	31.42	3.20	-103.80	401 (5)	5120 (5)	22246 (5)
19-5-S	100	130	31.42	31.42	9.22	-45.80	371 (8)	6205 (8)	20557 (8)
19-6-S	100	130	31.42	31.42	38.10	-4.70	208 (5)	11547 (5)	2658 (5)
19-7-S	100	130	31.42	31.42	145.29	0.00	653 (5)	36207 (5)	8333 (5)
19-8-S	100	130	31.42	31.42	0.47	-129.18	526 (5)	6716 (5)	29183 (5)
19-9-S	100	130	31.42	31.42	6.24	-99.45	552 (6)	7042 (6)	30598 (6)
19-10-S	100	130	31.42	31.42	0.00	-235.30	971 (5)	12399 (5)	53874 (5)
19-11-S	100	130	31.42	31.42	0.00	-202.18	782 (5)	9987 (5)	43393 (5)
19-12-S	100	130	31.42	31.42	0.00	-156.77	564 (5)	7194 (5)	31258 (5)
19-13-S	100	130	31.42	31.42	0.00	-95.97	321 (5)	4102 (5)	17822 (5)
19-14-S	100	130	31.42	31.42	0.00	-49.24	142 (5)	1810 (5)	7866 (5)
19-15-S	100	130	31.42	31.42	14.97	-0.33	25 (7)	1413 (7)	408 (7)
19-16-S	100	130	31.42	31.42	31.02	-0.14	105 (6)	5846 (6)	1345 (6)
19-17-S	100	130	31.42	31.42	49.97	-0.25	179 (6)	9914 (6)	2282 (6)
19-18-S	100	130	31.42	31.42	68.70	-1.48	233 (5)	12899 (5)	2969 (5)
19-19-S	100	130	31.42	31.42	4.56	-9.23	43 (7)	2403 (7)	1715 (7)
19-20-S	100	130	31.42	31.42	2.91	-47.86	211 (7)	2699 (7)	11727 (7)
19-21-S	100	130	31.42	31.42	4.99	-35.67	154 (5)	1961 (5)	8519 (5)
19-22-S	100	130	31.42	31.42	3.53	-25.49	87 (5)	1113 (5)	4835 (5)
19-23-S	100	130	31.42	31.42	3.40	-7.46	19 (5)	810 (5)	1033 (5)
20-1-S	100	130	31.42	31.42	2.18	-9.01	41 (5)	2271 (5)	1806 (5)
20-2-S	100	130	31.42	31.42	0.12	-15.49	57 (5)	728 (5)	3163 (5)
20-3-S	100	130	31.42	31.42	0.45	-21.04	95 (5)	1215 (5)	5281 (5)
20-4-S	100	130	31.42	31.42	5.01	-25.82	152 (5)	1937 (5)	8417 (5)
20-5-S	100	130	31.42	31.42	21.26	-6.49	129 (8)	7158 (8)	2914 (8)
20-6-S	100	130	31.42	31.42	63.77	-0.29	292 (5)	16174 (5)	3722 (5)
20-7-S	100	130	31.42	31.42	135.15	0.00	583 (5)	32306 (5)	7435 (5)
20-8-S	100	130	31.42	31.42	0.00	-222.55	898 (5)	11466 (5)	49820 (5)
20-9-S	100	130	31.42	31.42	0.00	-203.13	818 (5)	10435 (5)	45339 (5)
20-10-S	100	130	31.42	31.42	0.00	-193.34	767 (5)	9795 (5)	42558 (5)
20-11-S	100	130	31.42	31.42	0.00	-161.64	625 (5)	7979 (5)	34668 (5)
20-12-S	100	130	31.42	31.42	0.00	-125.87	468 (5)	5977 (5)	25972 (5)
20-13-S	100	130	31.42	31.42	0.00	-83.72	289 (5)	3693 (5)	16048 (5)
20-14-S	100	130	31.42	31.42	0.00	-47.55	145 (5)	1851 (5)	8042 (5)
20-15-S	100	130	31.42	31.42	11.18	-2.47	35 (7)	798 (7)	1916 (7)
20-16-S	100	130	31.42	31.42	21.22	-1.97	67 (7)	3732 (7)	976 (7)
20-17-S	100	130	31.42	31.42	27.72	-2.32	96 (6)	5329 (6)	1226 (6)
20-18-S	100	130	31.42	31.42	27.27	-3.10	91 (6)	5042 (6)	1160 (6)
20-19-S	100	130	31.42	31.42	12.40	-6.42	60 (8)	3338 (8)	1730 (8)
20-20-S	100	130	31.42	31.42	7.56	-10.87	51 (7)	2841 (7)	2722 (7)
20-21-S	100	130	31.42	31.42	2.64	-6.55	32 (7)	1333 (7)	1758 (7)
20-22-S	100	130	31.42	31.42	6.62	-3.91	16 (5)	824 (5)	870 (5)
20-23-S	100	130	31.42	31.42	6.01	-1.67	16 (5)	888 (5)	204 (5)

Pali in c.a.

Ip	Is	Ar [cmq]	σc [kPa]	σfi [kPa]	τc [kPa]	σstf [kPa]
1	1	108.57	4595	65939		
1	2	108.57	4046	53887		
1	3	108.57	3500	42125		
1	4	108.57	2966	35406		
1	5	108.57	2450	29863		
1	6	108.57	1968	24598		
1	7	108.57	1543	19858		
1	8	108.57	1240	16655		
1	9	108.57	1028	14469		
1	10	108.57	901	12970		
1	11	108.57	786	11626		
1	12	108.57	796	11618		
1	13	108.57	939	12880		
1	14	108.57	1079	14517		
1	15	108.57	1202	15964		
1	16	108.57	1315	17281		
1	17	108.57	1417	18459		
1	18	108.57	1505	19475		
1	19	108.57	1579	20318		
1	20	108.57	1638	20986		
1	21	108.57	1682	21486		
1	22	108.57	1713	21828		

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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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	93 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
1	23	108.57	1730	22024		
1	24	108.57	1736	22088		
1	25	108.57	1731	22032		
1	26	108.57	1717	21872		
1	27	108.57	1695	21619		
1	28	108.57	1665	21288		
1	29	108.57	1631	20890		
1	30	108.57	1591	20433		
1	31	108.57	1547	19932		
1	32	108.57	1502	19405		
1	33	108.57	1455	18858		
1	34	108.57	1407	18299		
1	35	108.57	1359	17734		
1	36	108.57	1311	17167		
1	37	108.57	1263	16606		
1	38	108.57	1217	16052		
1	39	108.57	1171	15509		
1	40	108.57	1127	14980		
1	41	108.57	1085	14485		
1	42	108.57	1043	14051		
1	43	108.57	1003	13622		
1	44	108.57	963	13200		
1	45	108.57	928	12785		
1	46	108.57	895	12378		
1	47	108.57	863	11981		
1	48	108.57	832	11603		
1	49	108.57	801	11312		
1	50	108.57	772	11027		
1	51	108.57	745	10747		
1	52	108.57	724	10472		
1	53	108.57	704	10203		
1	54	108.57	683	9940		
1	55	108.57	664	9681		
1	56	108.57	645	9428		
1	57	108.57	626	9181		
1	58	108.57	608	8938		
1	59	108.57	590	8700		
1	60	108.57	573	8466		
1	61	108.57	556	8237		
1	62	108.57	540	8012		
1	63	108.57	524	7791		
1	64	108.57	508	7573		
1	65	108.57	493	7358		
1	66	108.57	478	7147		
1	67	108.57	463	6937		
1	68	108.57	451	6767		
1	69	108.57	443	6631		
1	70	108.57	434	6488		
1	71	108.57	424	6337		
1	72	108.57	414	6178		
1	73	108.57	404	6013		
1	74	108.57	392	5840		
1	75	108.57	381	5662		
1	76	108.57	368	5477		
1	77	108.57	356	5289		
1	78	108.57	343	5096		
1	79	108.57	330	4899		
1	80	108.57	317	4699		
1	81	108.57	303	4495		
1	82	108.57	289	4288		
1	83	108.57	275	4077		
1	84	108.57	260	3864		
1	85	108.57	246	3649		
1	86	108.57	231	3431		
1	87	108.57	216	3211		
1	88	108.57	201	2989		
1	89	108.57	186	2765		
1	90	108.57	171	2539		
1	91	108.57	155	2312		
1	92	108.57	140	2084		
1	93	108.57	125	1855		
1	94	108.57	109	1624		
1	95	108.57	93	1393		
1	96	108.57	78	1162		
1	97	108.57	62	929		
1	98	108.57	47	697		
1	99	108.57	31	465		
1	100	108.57	15	232		
1	101	108.57	0	0		
2	1	62.83	5604	67717		
2	2	62.83	4877	59896		

APPALTATORE:

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II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO  
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PROGETTAZIONE:

Mandataria:

Mandante:

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PROGETTO ESECUTIVO

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	94 di 123

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_f$ [kPa]	$\tau_c$ [kPa]	$\sigma_{sf}$ [kPa]
2	3	62.83	4176	52240		
2	4	62.83	3527	45015		
2	5	62.83	2960	38563		
2	6	62.83	2497	33167		
2	7	62.83	2133	28832		
2	8	62.83	1817	25045		
2	9	62.83	1531	21621		
2	10	62.83	1286	18633		
2	11	62.83	1130	16819		
2	12	62.83	1337	19317		
2	13	62.83	1520	21518		
2	14	62.83	1680	23442		
2	15	62.83	1818	25107		
2	16	62.83	1936	26532		
2	17	62.83	2036	27734		
2	18	62.83	2118	28729		
2	19	62.83	2185	29536		
2	20	62.83	2237	30169		
2	21	62.83	2276	30647		
2	22	62.83	2304	30984		
2	23	62.83	2321	31189		
2	24	62.83	2327	31276		
2	25	62.83	2325	31257		
2	26	62.83	2315	31144		
2	27	62.83	2299	30950		
2	28	62.83	2276	30686		
2	29	62.83	2249	30363		
2	30	62.83	2217	29987		
2	31	62.83	2182	29571		
2	32	62.83	2145	29127		
2	33	62.83	2106	28659		
2	34	62.83	2065	28172		
2	35	62.83	2023	27673		
2	36	62.83	1981	27164		
2	37	62.83	1938	26650		
2	38	62.83	1894	26135		
2	39	62.83	1851	25621		
2	40	62.83	1809	25111		
2	41	62.83	1767	24609		
2	42	62.83	1726	24115		
2	43	62.83	1685	23632		
2	44	62.83	1646	23162		
2	45	62.83	1608	22706		
2	46	62.83	1571	22265		
2	47	62.83	1536	21840		
2	48	62.83	1502	21431		
2	49	62.83	1469	21040		
2	50	62.83	1438	20667		
2	51	62.83	1408	20312		
2	52	62.83	1380	19975		
2	53	62.83	1354	19655		
2	54	62.83	1329	19354		
2	55	62.83	1305	19071		
2	56	62.83	1283	18805		
2	57	62.83	1262	18557		
2	58	62.83	1243	18325		
2	59	62.83	1225	18109		
2	60	62.83	1209	17909		
2	61	62.83	1194	17724		
2	62	62.83	1180	17553		
2	63	62.83	1167	17397		
2	64	62.83	1155	17253		
2	65	62.83	1144	17122		
2	66	62.83	1135	17004		
2	67	62.83	1130	16948		
2	68	62.83	1136	17012		
2	69	62.83	1141	17064		
2	70	62.83	1144	17104		
2	71	62.83	1147	17135		
2	72	62.83	1149	17156		
2	73	62.83	1150	17167		
2	74	62.83	1151	17170		
2	75	62.83	1151	17165		
2	76	62.83	1150	17153		
2	77	62.83	1149	17134		
2	78	62.83	1148	17110		
2	79	62.83	1146	17081		
2	80	62.83	1143	17046		
2	81	62.83	1140	17008		
2	82	62.83	1137	16965		
2	83	62.83	1134	16920		

APPALTATORE:	 <small>Consorzio Telese Società Consortile a Responsabilità Limitata</small>		<b>ITINERARIO NAPOLI – BARI</b> <b>RADDOPPIO TRATTA CANCELLO-BENEVENTO</b> <b>II LOTTO FUNZIONALE FRASSO TELESINO – VITULANO</b> <b>2° SUBLOTTO TELESE – SAN LORENZO</b> <b>PROGETTO ESECUTIVO</b>					
PROGETTAZIONE:	Mandataria:      Mandante: <b>SYSTRA S.A.</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.16.0.5.004.A.DOCX		IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	95 di 123

Ip	Is	Ar [cmq]	σc [kPa]	σf [kPa]	τc [kPa]	σstf [kPa]
2	84	62.83	1130	16871		
2	85	62.83	1127	16820		
2	86	62.83	1123	16767		
2	87	62.83	1119	16713		
2	88	62.83	1114	16657		
2	89	62.83	1110	16601		
2	90	62.83	1106	16544		
2	91	62.83	1102	16487		
2	92	62.83	1098	16430		
2	93	62.83	1093	16375		
2	94	62.83	1089	16320		
2	95	62.83	1086	16266		
2	96	62.83	1082	16215		
2	97	62.83	1078	16165		
2	98	62.83	1075	16118		
2	99	62.83	1072	16074		
2	100	62.83	1069	16033		
2	101	62.83	1066	15996		
3	1	62.83	5505	69505		
3	2	62.83	4853	62193		
3	3	62.83	4259	55426		
3	4	62.83	3742	49420		
3	5	62.83	3307	44271		
3	6	62.83	2936	39845		
3	7	62.83	2594	35745		
3	8	62.83	2278	31956		
3	9	62.83	1992	28531		
3	10	62.83	1735	25457		
3	11	62.83	1590	23724		
3	12	62.83	1797	26220		
3	13	62.83	1980	28418		
3	14	62.83	2140	30339		
3	15	62.83	2278	32002		
3	16	62.83	2396	33423		
3	17	62.83	2495	34621		
3	18	62.83	2577	35613		
3	19	62.83	2643	36415		
3	20	62.83	2695	37044		
3	21	62.83	2734	37515		
3	22	62.83	2761	37842		
3	23	62.83	2777	38040		
3	24	62.83	2783	38121		
3	25	62.83	2781	38098		
3	26	62.83	2771	37982		
3	27	62.83	2755	37786		
3	28	62.83	2732	37519		
3	29	62.83	2704	37190		
3	30	62.83	2672	36807		
3	31	62.83	2636	36382		
3	32	62.83	2599	35928		
3	33	62.83	2559	35450		
3	34	62.83	2517	34954		
3	35	62.83	2475	34444		
3	36	62.83	2431	33925		
3	37	62.83	2388	33400		
3	38	62.83	2344	32874		
3	39	62.83	2300	32348		
3	40	62.83	2257	31827		
3	41	62.83	2214	31312		
3	42	62.83	2172	30806		
3	43	62.83	2130	30311		
3	44	62.83	2090	29827		
3	45	62.83	2051	29358		
3	46	62.83	2014	28903		
3	47	62.83	1977	28464		
3	48	62.83	1942	28041		
3	49	62.83	1909	27636		
3	50	62.83	1877	27248		
3	51	62.83	1846	26877		
3	52	62.83	1817	26524		
3	53	62.83	1789	26189		
3	54	62.83	1763	25872		
3	55	62.83	1739	25572		
3	56	62.83	1715	25290		
3	57	62.83	1694	25024		
3	58	62.83	1673	24774		
3	59	62.83	1654	24541		
3	60	62.83	1636	24323		
3	61	62.83	1620	24119		
3	62	62.83	1605	23930		
3	63	62.83	1591	23755		



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.													
Relazione di calcolo IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004</td> <td>A</td> <td>96 di 123</td> </tr> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	96 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	96 di 123								

Ip	Is	Ar [cmq]	$\sigma_c$ [kPa]	$\sigma_{ff}$ [kPa]	$\tau_c$ [kPa]	$\sigma_{stf}$ [kPa]
3	64	62.83	1578	23592		
3	65	62.83	1566	23442		
3	66	62.83	1555	23303		
3	67	62.83	1549	23227		
3	68	62.83	1553	23270		
3	69	62.83	1556	23301		
3	70	62.83	1559	23321		
3	71	62.83	1560	23330		
3	72	62.83	1561	23329		
3	73	62.83	1561	23318		
3	74	62.83	1560	23299		
3	75	62.83	1558	23271		
3	76	62.83	1556	23236		
3	77	62.83	1553	23194		
3	78	62.83	1550	23147		
3	79	62.83	1547	23094		
3	80	62.83	1542	23036		
3	81	62.83	1538	22974		
3	82	62.83	1533	22907		
3	83	62.83	1528	22838		
3	84	62.83	1523	22765		
3	85	62.83	1518	22689		
3	86	62.83	1512	22612		
3	87	62.83	1507	22533		
3	88	62.83	1501	22452		
3	89	62.83	1495	22371		
3	90	62.83	1489	22289		
3	91	62.83	1483	22207		
3	92	62.83	1477	22124		
3	93	62.83	1471	22043		
3	94	62.83	1466	21962		
3	95	62.83	1460	21883		
3	96	62.83	1454	21805		
3	97	62.83	1449	21730		
3	98	62.83	1444	21656		
3	99	62.83	1439	21585		
3	100	62.83	1435	21518		
3	101	62.83	1430	21453		

### Verifica a fessurazione

#### Simbologia adottata

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

### Combinazioni SLER

#### Paramento

Apertura limite fessure  $w_{lim}=0.20$

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	$\epsilon$ [%]	Sm [mm]	w [mm]
1	100	70	15.71	2000.00	2.00	346.95	0.000000	0.00	0.000 (5)
2	100	70	15.71	2000.00	2.70	347.16	0.000000	0.00	0.000 (5)
3	100	70	15.71	2000.00	3.40	347.38	0.000000	0.00	0.000 (5)
4	100	70	15.71	2000.00	4.10	347.59	0.000000	0.00	0.000 (5)
5	100	70	15.71	2000.00	4.80	347.81	0.000000	0.00	0.000 (5)
6	100	70	15.71	2000.00	5.50	348.01	0.000000	0.00	0.000 (5)
7	100	70	15.71	2000.00	6.20	348.23	0.000000	0.00	0.000 (5)
8	100	70	15.71	2000.00	6.90	348.43	0.000000	0.00	0.000 (5)
9	100	70	15.71	2000.00	7.60	348.65	0.000000	0.00	0.000 (5)
10	100	70	15.71	2000.00	8.30	348.86	0.000000	0.00	0.000 (5)
11	100	70	15.71	2000.00	9.00	349.08	0.000000	0.00	0.000 (5)
12	100	70	15.71	2000.00	9.70	349.28	0.000000	0.00	0.000 (5)

APPALTATORE:

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

Consorzio Telese Società Consortile a Responsabilità Limitata

PROGETTAZIONE:

Mandataria:

Mandante:

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

Relazione di calcolo

IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.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.16.0.5.004	A	97 di 123

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
13	100	70	15.71	2000.00	10.40	349.50	0.000000	0.00	0.000 (5)
14	100	70	15.71	2000.00	11.10	349.71	0.000000	0.00	0.000 (5)
15	100	70	15.71	2000.00	11.80	349.92	0.000000	0.00	0.000 (5)
16	100	70	15.71	2000.00	12.50	350.14	0.000000	0.00	0.000 (5)
17	100	70	15.71	2000.00	13.20	350.34	0.000000	0.00	0.000 (5)
18	100	70	15.71	2000.00	13.90	350.57	0.000000	0.00	0.000 (5)
19	100	70	15.71	2000.00	14.60	350.77	0.000000	0.00	0.000 (5)
20	100	70	15.71	2000.00	15.30	350.99	0.000000	0.00	0.000 (5)
21	100	70	15.71	2000.00	16.00	351.19	0.000000	0.00	0.000 (5)
22	100	70	15.71	2000.00	16.70	351.41	0.000000	0.00	0.000 (5)
23	100	70	15.71	2000.00	17.40	351.61	0.000000	0.00	0.000 (5)
24	100	70	15.71	2000.00	18.10	351.83	0.000000	0.00	0.000 (5)
25	100	70	15.71	2000.00	18.80	352.04	0.000000	0.00	0.000 (5)
26	100	70	15.71	2000.00	19.50	352.26	0.000000	0.00	0.000 (5)
27	100	70	15.71	2000.00	20.20	352.46	0.000000	0.00	0.000 (5)
28	100	70	15.71	2000.00	20.90	352.68	0.000000	0.00	0.000 (5)
29	100	70	15.71	2000.00	21.60	352.90	0.000000	0.00	0.000 (5)
30	100	70	15.71	2000.00	22.29	353.10	0.000000	0.00	0.000 (5)
31	100	70	15.71	2000.00	22.99	353.32	0.000000	0.00	0.000 (5)
32	100	70	15.71	2000.00	23.73	353.53	0.000000	0.00	0.000 (5)
33	100	70	15.71	2000.00	24.55	353.73	0.000000	0.00	0.000 (5)
34	100	70	15.71	2000.00	25.46	353.95	0.000000	0.00	0.000 (5)
35	100	70	15.71	2000.00	26.46	354.16	0.000000	0.00	0.000 (5)
36	100	70	15.71	2000.00	27.55	354.38	0.000000	0.00	0.000 (5)
37	100	70	15.71	2000.00	28.75	354.59	0.000000	0.00	0.000 (5)
38	100	70	15.71	2000.00	30.05	354.80	0.000000	0.00	0.000 (5)
39	100	70	15.71	2000.00	31.46	355.00	0.000000	0.00	0.000 (5)
40	100	70	15.71	2000.00	32.98	355.23	0.000000	0.00	0.000 (5)
41	100	70	15.71	2000.00	34.63	355.43	0.000000	0.00	0.000 (5)
42	100	120	15.71	2000.00	48.59	993.84	0.000000	0.00	0.000 (5)
43	100	120	15.71	2000.00	50.63	994.45	0.000000	0.00	0.000 (5)
44	100	120	15.71	2000.00	53.20	995.04	0.000000	0.00	0.000 (5)
45	100	120	15.71	2000.00	56.17	995.67	0.000000	0.00	0.000 (5)
46	100	120	15.71	2000.00	59.40	996.29	0.000000	0.00	0.000 (5)
47	100	120	15.71	2000.00	62.76	996.90	0.000000	0.00	0.000 (5)
48	100	120	15.71	2000.00	66.26	997.52	0.000000	0.00	0.000 (5)
49	100	120	15.71	2000.00	69.89	998.13	0.000000	0.00	0.000 (5)
50	100	120	15.71	2000.00	73.67	998.76	0.000000	0.00	0.000 (5)
51	100	120	15.71	2000.00	77.59	999.35	0.000000	0.00	0.000 (5)
52	100	120	15.71	2000.00	81.67	999.99	0.000000	0.00	0.000 (5)
53	100	120	15.71	2000.00	85.92	1000.60	0.000000	0.00	0.000 (5)
54	100	120	15.71	2000.00	90.33	1001.22	0.000000	0.00	0.000 (5)
55	100	120	15.71	2000.00	94.92	1001.82	0.000000	0.00	0.000 (5)
56	100	120	15.71	2000.00	99.69	1002.45	0.000000	0.00	0.000 (5)
57	100	120	15.71	2000.00	104.64	1003.04	0.000000	0.00	0.000 (5)
58	100	120	15.71	2000.00	109.79	1003.66	0.000000	0.00	0.000 (5)
59	100	120	15.71	2000.00	115.13	1004.29	0.000000	0.00	0.000 (5)
60	100	120	15.71	2000.00	120.67	1004.89	0.000000	0.00	0.000 (5)
61	100	120	15.71	2000.00	126.42	1005.50	0.000000	0.00	0.000 (5)
62	100	120	15.71	2000.00	132.37	1006.14	0.000000	0.00	0.000 (5)
63	100	120	15.71	2000.00	138.55	1006.76	0.000000	0.00	0.000 (5)
64	100	120	15.71	2000.00	144.94	1007.37	0.000000	0.00	0.000 (5)
65	100	120	15.71	2000.00	151.57	1031.27	0.000000	0.00	0.000 (5)
66	100	120	15.71	2000.00	158.42	1031.91	0.000000	0.00	0.000 (5)
67	100	120	15.71	2000.00	165.51	1009.20	0.000000	0.00	0.000 (5)
68	100	120	15.71	2000.00	165.65	1009.23	0.000000	0.00	0.000 (5)
69	100	120	15.71	2000.00	172.53	1009.78	0.000000	0.00	0.000 (5)
70	100	120	15.71	2000.00	179.62	1010.36	0.000000	0.00	0.000 (5)
71	100	120	15.71	2000.00	186.93	1010.93	0.000000	0.00	0.000 (5)
72	100	120	15.71	2000.00	194.47	1011.50	0.000000	0.00	0.000 (5)
73	100	120	15.71	2000.00	202.24	1012.10	0.000000	0.00	0.000 (5)
74	100	120	15.71	2000.00	210.23	1012.67	0.000000	0.00	0.000 (5)
75	100	120	15.71	2000.00	218.47	1013.28	0.000000	0.00	0.000 (5)
76	100	120	15.71	2000.00	226.94	1013.82	0.000000	0.00	0.000 (5)
77	100	120	15.71	2000.00	235.66	1014.42	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	75	130	25.13	3844.88	2.50	-860.73	0.000000	0.00	0.000
1-2-P	75	130	25.13	3844.88	-4.41	-860.73	0.000000	0.00	0.000
1-3-P	75	130	25.13	3844.88	-15.68	-860.73	0.000000	0.00	0.000
1-4-P	75	130	25.13	3844.88	-40.51	-860.73	0.000000	0.00	0.000
1-5-P	75	130	25.13	3844.88	-64.62	-860.73	0.000000	0.00	0.000
1-6-P	75	130	25.13	3844.88	-78.14	-860.73	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	98 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-7-P	75	130	25.13	3844.88	-43.89	-860.73	0.000000	0.00	0.000
1-8-P	75	130	25.13	3844.88	-15.11	-860.73	0.000000	0.00	0.000
1-9-P	75	130	25.13	3844.88	22.43	-860.73	0.000000	0.00	0.000
1-10-P	75	130	25.13	3844.88	30.65	-860.73	0.000000	0.00	0.000
1-11-P	75	130	25.13	3844.88	33.49	-860.73	0.000000	0.00	0.000
1-12-P	75	130	25.13	3844.88	27.66	-860.73	0.000000	0.00	0.000
1-13-P	75	130	25.13	3844.88	9.53	-860.73	0.000000	0.00	0.000
1-14-P	75	130	25.13	3844.88	-27.48	-860.73	0.000000	0.00	0.000
1-15-P	75	130	25.13	3844.88	-56.88	-860.73	0.000000	0.00	0.000
1-16-P	75	130	25.13	3844.88	-50.30	-860.73	0.000000	0.00	0.000
1-17-P	75	130	25.13	3844.88	-24.37	-860.73	0.000000	0.00	0.000
1-18-P	75	130	25.13	3844.88	13.51	-860.73	0.000000	0.00	0.000
1-19-P	75	130	25.13	3844.88	30.67	-860.73	0.000000	0.00	0.000
1-20-P	75	130	25.13	3844.88	37.68	-860.73	0.000000	0.00	0.000
1-21-P	75	130	25.13	3844.88	33.38	-860.73	0.000000	0.00	0.000
1-22-P	75	130	25.13	3844.88	22.69	-860.73	0.000000	0.00	0.000
1-23-P	75	130	25.13	3844.88	-14.02	-860.73	0.000000	0.00	0.000
1-24-P	75	130	25.13	3844.88	-38.74	-860.73	0.000000	0.00	0.000
1-25-P	75	130	25.13	3844.88	-68.70	-860.73	0.000000	0.00	0.000
1-26-P	75	130	25.13	3844.88	-38.74	-860.73	0.000000	0.00	0.000
1-27-P	75	130	25.13	3844.88	-14.02	-860.73	0.000000	0.00	0.000
1-28-P	75	130	25.13	3844.88	22.69	-860.73	0.000000	0.00	0.000
1-29-P	75	130	25.13	3844.88	33.38	-860.73	0.000000	0.00	0.000
1-30-P	75	130	25.13	3844.88	37.68	-860.73	0.000000	0.00	0.000
1-31-P	75	130	25.13	3844.88	30.67	-860.73	0.000000	0.00	0.000
1-32-P	75	130	25.13	3844.88	13.51	-860.73	0.000000	0.00	0.000
1-33-P	75	130	25.13	3844.88	-24.37	-860.73	0.000000	0.00	0.000
1-34-P	75	130	25.13	3844.88	-50.30	-860.73	0.000000	0.00	0.000
1-35-P	75	130	25.13	3844.88	-56.88	-860.73	0.000000	0.00	0.000
1-36-P	75	130	25.13	3844.88	-27.48	-860.73	0.000000	0.00	0.000
1-37-P	75	130	25.13	3844.88	9.53	-860.73	0.000000	0.00	0.000
1-38-P	75	130	25.13	3844.88	27.66	-860.73	0.000000	0.00	0.000
1-39-P	75	130	25.13	3844.88	33.49	-860.73	0.000000	0.00	0.000
1-40-P	75	130	25.13	3844.88	30.65	-860.73	0.000000	0.00	0.000
1-41-P	75	130	25.13	3844.88	22.43	-860.73	0.000000	0.00	0.000
1-42-P	75	130	25.13	3844.88	-15.11	-860.73	0.000000	0.00	0.000
1-43-P	75	130	25.13	3844.88	-43.89	-860.73	0.000000	0.00	0.000
1-44-P	75	130	25.13	3844.88	-78.14	-860.73	0.000000	0.00	0.000
1-45-P	75	130	25.13	3844.88	-64.62	-860.73	0.000000	0.00	0.000
1-46-P	75	130	25.13	3844.88	-40.51	-860.73	0.000000	0.00	0.000
1-47-P	75	130	25.13	3844.88	-15.68	-860.73	0.000000	0.00	0.000
1-48-P	75	130	25.13	3844.88	-4.41	-860.73	0.000000	0.00	0.000
1-49-P	75	130	25.13	3844.88	2.50	-860.73	0.000000	0.00	0.000
2-1-P	75	130	25.13	1500.00	12.18	860.73	0.000000	0.00	0.000
2-2-P	75	130	25.13	1500.00	10.85	860.73	0.000000	0.00	0.000
2-3-P	75	130	25.13	3844.88	8.46	-860.73	0.000000	0.00	0.000
2-4-P	75	130	25.13	3844.88	8.40	-860.73	0.000000	0.00	0.000
2-5-P	75	130	25.13	3844.88	-48.43	-860.73	0.000000	0.00	0.000
2-6-P	75	130	25.13	3844.88	-78.69	-860.73	0.000000	0.00	0.000
2-7-P	75	130	25.13	3844.88	-21.01	-860.73	0.000000	0.00	0.000
2-8-P	75	130	25.13	3844.88	16.73	-860.73	0.000000	0.00	0.000
2-9-P	75	130	25.13	1500.00	28.28	860.73	0.000000	0.00	0.000
2-10-P	75	130	25.13	1500.00	32.74	860.73	0.000000	0.00	0.000
2-11-P	75	130	25.13	1500.00	34.10	860.73	0.000000	0.00	0.000
2-12-P	75	130	25.13	1500.00	30.83	860.73	0.000000	0.00	0.000
2-13-P	75	130	25.13	3844.88	21.50	-860.73	0.000000	0.00	0.000
2-14-P	75	130	25.13	3844.88	8.01	-860.73	0.000000	0.00	0.000
2-15-P	75	130	25.13	3844.88	-61.36	-860.73	0.000000	0.00	0.000
2-16-P	75	130	25.13	3844.88	-50.00	-860.73	0.000000	0.00	0.000
2-17-P	75	130	25.13	3844.88	15.91	-860.73	0.000000	0.00	0.000
2-18-P	75	130	25.13	3844.88	23.70	-860.73	0.000000	0.00	0.000
2-19-P	75	130	25.13	1500.00	31.94	860.73	0.000000	0.00	0.000
2-20-P	75	130	25.13	1500.00	35.59	860.73	0.000000	0.00	0.000
2-21-P	75	130	25.13	1500.00	33.33	860.73	0.000000	0.00	0.000
2-22-P	75	130	25.13	3844.88	28.03	-860.73	0.000000	0.00	0.000
2-23-P	75	130	25.13	3844.88	17.87	-860.73	0.000000	0.00	0.000
2-24-P	75	130	25.13	3844.88	-27.49	-860.73	0.000000	0.00	0.000
2-25-P	75	130	25.13	3844.88	-83.15	-860.73	0.000000	0.00	0.000
2-26-P	75	130	25.13	3844.88	-27.49	-860.73	0.000000	0.00	0.000
2-27-P	75	130	25.13	3844.88	17.87	-860.73	0.000000	0.00	0.000
2-28-P	75	130	25.13	3844.88	28.03	-860.73	0.000000	0.00	0.000
2-29-P	75	130	25.13	1500.00	33.33	860.73	0.000000	0.00	0.000
2-30-P	75	130	25.13	1500.00	35.59	860.73	0.000000	0.00	0.000
2-31-P	75	130	25.13	1500.00	31.94	860.73	0.000000	0.00	0.000
2-32-P	75	130	25.13	3844.88	23.70	-860.73	0.000000	0.00	0.000
2-33-P	75	130	25.13	3844.88	15.91	-860.73	0.000000	0.00	0.000
2-34-P	75	130	25.13	3844.88	-50.00	-860.73	0.000000	0.00	0.000
2-35-P	75	130	25.13	3844.88	-61.36	-860.73	0.000000	0.00	0.000
2-36-P	75	130	25.13	3844.88	8.01	-860.73	0.000000	0.00	0.000
2-37-P	75	130	25.13	3844.88	21.50	-860.73	0.000000	0.00	0.000
2-38-P	75	130	25.13	1500.00	30.83	860.73	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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 99 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
2-39-P	75	130	25.13	1500.00	34.10	860.73	0.000000	0.00	0.000
2-40-P	75	130	25.13	1500.00	32.74	860.73	0.000000	0.00	0.000
2-41-P	75	130	25.13	1500.00	28.28	860.73	0.000000	0.00	0.000
2-42-P	75	130	25.13	3844.88	16.73	-860.73	0.000000	0.00	0.000
2-43-P	75	130	25.13	3844.88	-21.01	-860.73	0.000000	0.00	0.000
2-44-P	75	130	25.13	3844.88	-78.69	-860.73	0.000000	0.00	0.000
2-45-P	75	130	25.13	3844.88	-48.43	-860.73	0.000000	0.00	0.000
2-46-P	75	130	25.13	3844.88	8.40	-860.73	0.000000	0.00	0.000
2-47-P	75	130	25.13	3844.88	8.46	-860.73	0.000000	0.00	0.000
2-48-P	75	130	25.13	1500.00	10.85	860.73	0.000000	0.00	0.000
2-49-P	75	130	25.13	1500.00	12.18	860.73	0.000000	0.00	0.000
5-1-P	93	130	31.42	4735.77	-11.03	-1063.93	0.000000	0.00	0.000
5-2-P	93	130	31.42	4735.77	-15.16	-1063.93	0.000000	0.00	0.000
5-3-P	93	130	31.42	4735.77	-24.26	-1063.93	0.000000	0.00	0.000
5-4-P	93	130	31.42	4735.77	-39.49	-1063.93	0.000000	0.00	0.000
5-5-P	93	130	31.42	4735.77	-77.43	-1063.93	0.000000	0.00	0.000
5-6-P	93	130	31.42	4735.77	-104.29	-1063.93	0.000000	0.00	0.000
5-7-P	93	130	31.42	4735.77	-64.07	-1063.93	0.000000	0.00	0.000
5-8-P	93	130	31.42	4735.77	-41.83	-1063.93	0.000000	0.00	0.000
5-9-P	93	130	31.42	4735.77	-31.57	-1063.93	0.000000	0.00	0.000
5-10-P	93	130	31.42	4735.77	-30.87	-1063.93	0.000000	0.00	0.000
5-11-P	93	130	31.42	4735.77	-30.64	-1063.93	0.000000	0.00	0.000
5-12-P	93	130	31.42	4735.77	-31.10	-1063.93	0.000000	0.00	0.000
5-13-P	93	130	31.42	4735.77	-39.44	-1063.93	0.000000	0.00	0.000
5-14-P	93	130	31.42	4735.77	-55.90	-1063.93	0.000000	0.00	0.000
5-15-P	93	130	31.42	4735.77	-96.91	-1063.93	0.000000	0.00	0.000
5-16-P	93	130	31.42	4735.77	-88.52	-1063.93	0.000000	0.00	0.000
5-17-P	93	130	31.42	4735.77	-47.20	-1063.93	0.000000	0.00	0.000
5-18-P	93	130	31.42	4735.77	-36.60	-1063.93	0.000000	0.00	0.000
5-19-P	93	130	31.42	4735.77	-29.95	-1063.93	0.000000	0.00	0.000
5-20-P	93	130	31.42	4735.77	-29.24	-1063.93	0.000000	0.00	0.000
5-21-P	93	130	31.42	4735.77	-29.57	-1063.93	0.000000	0.00	0.000
5-22-P	93	130	31.42	4735.77	-32.14	-1063.93	0.000000	0.00	0.000
5-23-P	93	130	31.42	4735.77	-42.61	-1063.93	0.000000	0.00	0.000
5-24-P	93	130	31.42	4735.77	-71.51	-1063.93	0.000000	0.00	0.000
5-25-P	93	130	31.42	4735.77	-112.77	-1063.93	0.000000	0.00	0.000
5-26-P	93	130	31.42	4735.77	-71.51	-1063.93	0.000000	0.00	0.000
5-27-P	93	130	31.42	4735.77	-42.61	-1063.93	0.000000	0.00	0.000
5-28-P	93	130	31.42	4735.77	-32.14	-1063.93	0.000000	0.00	0.000
5-29-P	93	130	31.42	4735.77	-29.57	-1063.93	0.000000	0.00	0.000
5-30-P	93	130	31.42	4735.77	-29.24	-1063.93	0.000000	0.00	0.000
5-31-P	93	130	31.42	4735.77	-29.95	-1063.93	0.000000	0.00	0.000
5-32-P	93	130	31.42	4735.77	-36.60	-1063.93	0.000000	0.00	0.000
5-33-P	93	130	31.42	4735.77	-47.20	-1063.93	0.000000	0.00	0.000
5-34-P	93	130	31.42	4735.77	-88.52	-1063.93	0.000000	0.00	0.000
5-35-P	93	130	31.42	4735.77	-96.91	-1063.93	0.000000	0.00	0.000
5-36-P	93	130	31.42	4735.77	-55.90	-1063.93	0.000000	0.00	0.000
5-37-P	93	130	31.42	4735.77	-39.44	-1063.93	0.000000	0.00	0.000
5-38-P	93	130	31.42	4735.77	-31.10	-1063.93	0.000000	0.00	0.000
5-39-P	93	130	31.42	4735.77	-30.64	-1063.93	0.000000	0.00	0.000
5-40-P	93	130	31.42	4735.77	-30.87	-1063.93	0.000000	0.00	0.000
5-41-P	93	130	31.42	4735.77	-31.57	-1063.93	0.000000	0.00	0.000
5-42-P	93	130	31.42	4735.77	-41.83	-1063.93	0.000000	0.00	0.000
5-43-P	93	130	31.42	4735.77	-64.07	-1063.93	0.000000	0.00	0.000
5-44-P	93	130	31.42	4735.77	-104.29	-1063.93	0.000000	0.00	0.000
5-45-P	93	130	31.42	4735.77	-77.43	-1063.93	0.000000	0.00	0.000
5-46-P	93	130	31.42	4735.77	-39.49	-1063.93	0.000000	0.00	0.000
5-47-P	93	130	31.42	4735.77	-24.26	-1063.93	0.000000	0.00	0.000
5-48-P	93	130	31.42	4735.77	-15.16	-1063.93	0.000000	0.00	0.000
5-49-P	93	130	31.42	4735.77	-11.03	-1063.93	0.000000	0.00	0.000
6-1-P	92	130	28.27	4784.38	-2.10	-1046.17	0.000000	0.00	0.000
6-2-P	92	130	28.27	4784.38	-6.98	-1046.17	0.000000	0.00	0.000
6-3-P	92	130	28.27	4784.38	-13.90	-1046.17	0.000000	0.00	0.000
6-4-P	92	130	28.27	4784.38	-23.84	-1046.17	0.000000	0.00	0.000
6-5-P	92	130	28.27	4784.38	-32.00	-1046.17	0.000000	0.00	0.000
6-6-P	92	130	28.27	4784.38	-36.83	-1046.17	0.000000	0.00	0.000
6-7-P	92	130	28.27	4784.38	-30.05	-1046.17	0.000000	0.00	0.000
6-8-P	92	130	28.27	4784.38	-22.01	-1046.17	0.000000	0.00	0.000
6-9-P	92	130	28.27	4784.38	-13.13	-1046.17	0.000000	0.00	0.000
6-10-P	92	130	28.27	4784.38	-8.82	-1046.17	0.000000	0.00	0.000
6-11-P	92	130	28.27	4784.38	-7.99	-1046.17	0.000000	0.00	0.000
6-12-P	92	130	28.27	4784.38	-11.57	-1046.17	0.000000	0.00	0.000
6-13-P	92	130	28.27	4784.38	-19.01	-1046.17	0.000000	0.00	0.000
6-14-P	92	130	28.27	4784.38	-27.26	-1046.17	0.000000	0.00	0.000
6-15-P	92	130	28.27	4784.38	-33.96	-1046.17	0.000000	0.00	0.000
6-16-P	92	130	28.27	4784.38	-32.26	-1046.17	0.000000	0.00	0.000
6-17-P	92	130	28.27	4784.38	-24.91	-1046.17	0.000000	0.00	0.000
6-18-P	92	130	28.27	4784.38	-15.86	-1046.17	0.000000	0.00	0.000
6-19-P	92	130	28.27	4784.38	-9.16	-1046.17	0.000000	0.00	0.000
6-20-P	92	130	28.27	4784.38	-5.39	-1046.17	0.000000	0.00	0.000
6-21-P	92	130	28.27	4784.38	-7.49	-1046.17	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	100 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-22-P	92	130	28.27	4784.38	-12.04	-1046.17	0.000000	0.00	0.000
6-23-P	92	130	28.27	4784.38	-20.55	-1046.17	0.000000	0.00	0.000
6-24-P	92	130	28.27	4784.38	-28.35	-1046.17	0.000000	0.00	0.000
6-25-P	92	130	28.27	4784.38	-35.36	-1046.17	0.000000	0.00	0.000
6-26-P	92	130	28.27	4784.38	-28.35	-1046.17	0.000000	0.00	0.000
6-27-P	92	130	28.27	4784.38	-20.55	-1046.17	0.000000	0.00	0.000
6-28-P	92	130	28.27	4784.38	-12.04	-1046.17	0.000000	0.00	0.000
6-29-P	92	130	28.27	4784.38	-7.49	-1046.17	0.000000	0.00	0.000
6-30-P	92	130	28.27	4784.38	-5.39	-1046.17	0.000000	0.00	0.000
6-31-P	92	130	28.27	4784.38	-9.16	-1046.17	0.000000	0.00	0.000
6-32-P	92	130	28.27	4784.38	-15.86	-1046.17	0.000000	0.00	0.000
6-33-P	92	130	28.27	4784.38	-24.91	-1046.17	0.000000	0.00	0.000
6-34-P	92	130	28.27	4784.38	-32.26	-1046.17	0.000000	0.00	0.000
6-35-P	92	130	28.27	4784.38	-33.96	-1046.17	0.000000	0.00	0.000
6-36-P	92	130	28.27	4784.38	-27.26	-1046.17	0.000000	0.00	0.000
6-37-P	92	130	28.27	4784.38	-19.01	-1046.17	0.000000	0.00	0.000
6-38-P	92	130	28.27	4784.38	-11.57	-1046.17	0.000000	0.00	0.000
6-39-P	92	130	28.27	4784.38	-7.99	-1046.17	0.000000	0.00	0.000
6-40-P	92	130	28.27	4784.38	-8.82	-1046.17	0.000000	0.00	0.000
6-41-P	92	130	28.27	4784.38	-13.13	-1046.17	0.000000	0.00	0.000
6-42-P	92	130	28.27	4784.38	-22.01	-1046.17	0.000000	0.00	0.000
6-43-P	92	130	28.27	4784.38	-30.05	-1046.17	0.000000	0.00	0.000
6-44-P	92	130	28.27	4784.38	-36.83	-1046.17	0.000000	0.00	0.000
6-45-P	92	130	28.27	4784.38	-32.00	-1046.17	0.000000	0.00	0.000
6-46-P	92	130	28.27	4784.38	-23.84	-1046.17	0.000000	0.00	0.000
6-47-P	92	130	28.27	4784.38	-13.90	-1046.17	0.000000	0.00	0.000
6-48-P	92	130	28.27	4784.38	-6.98	-1046.17	0.000000	0.00	0.000
6-49-P	92	130	28.27	4784.38	-2.10	-1046.17	0.000000	0.00	0.000
7-1-P	93	130	28.27	4784.38	3.51	-1046.17	0.000000	0.00	0.000
7-2-P	93	130	28.27	4784.38	5.32	-1046.17	0.000000	0.00	0.000
7-3-P	93	130	28.27	4784.38	-10.73	-1046.17	0.000000	0.00	0.000
7-4-P	93	130	28.27	4784.38	-22.36	-1046.17	0.000000	0.00	0.000
7-5-P	93	130	28.27	4784.38	-20.47	-1046.17	0.000000	0.00	0.000
7-6-P	93	130	28.27	4784.38	-18.05	-1046.17	0.000000	0.00	0.000
7-7-P	93	130	28.27	4784.38	-15.26	-1046.17	0.000000	0.00	0.000
7-8-P	93	130	28.27	4784.38	-7.94	-1046.17	0.000000	0.00	0.000
7-9-P	93	130	28.27	4784.38	12.44	-1046.17	0.000000	0.00	0.000
7-10-P	93	130	28.27	1850.00	15.38	1046.17	0.000000	0.00	0.000
7-11-P	93	130	28.27	4784.38	16.70	-1046.17	0.000000	0.00	0.000
7-12-P	93	130	28.27	4784.38	15.45	-1046.17	0.000000	0.00	0.000
7-13-P	93	130	28.27	4784.38	9.20	-1046.17	0.000000	0.00	0.000
7-14-P	93	130	28.27	4784.38	-12.91	-1046.17	0.000000	0.00	0.000
7-15-P	93	130	28.27	4784.38	-9.87	-1046.17	0.000000	0.00	0.000
7-16-P	93	130	28.27	4784.38	-9.08	-1046.17	0.000000	0.00	0.000
7-17-P	93	130	28.27	4784.38	-12.71	-1046.17	0.000000	0.00	0.000
7-18-P	93	130	28.27	4784.38	10.31	-1046.17	0.000000	0.00	0.000
7-19-P	93	130	28.27	4784.38	18.49	-1046.17	0.000000	0.00	0.000
7-20-P	93	130	28.27	4784.38	20.93	-1046.17	0.000000	0.00	0.000
7-21-P	93	130	28.27	4784.38	19.74	-1046.17	0.000000	0.00	0.000
7-22-P	93	130	28.27	4784.38	15.51	-1046.17	0.000000	0.00	0.000
7-23-P	93	130	28.27	4784.38	8.73	-1046.17	0.000000	0.00	0.000
7-24-P	93	130	28.27	4784.38	-8.00	-1046.17	0.000000	0.00	0.000
7-25-P	93	130	28.27	4784.38	-10.40	-1046.17	0.000000	0.00	0.000
7-26-P	93	130	28.27	4784.38	-8.00	-1046.17	0.000000	0.00	0.000
7-27-P	93	130	28.27	4784.38	8.73	-1046.17	0.000000	0.00	0.000
7-28-P	93	130	28.27	4784.38	15.51	-1046.17	0.000000	0.00	0.000
7-29-P	93	130	28.27	4784.38	19.74	-1046.17	0.000000	0.00	0.000
7-30-P	93	130	28.27	4784.38	20.93	-1046.17	0.000000	0.00	0.000
7-31-P	93	130	28.27	4784.38	18.49	-1046.17	0.000000	0.00	0.000
7-32-P	93	130	28.27	4784.38	10.31	-1046.17	0.000000	0.00	0.000
7-33-P	93	130	28.27	4784.38	-12.71	-1046.17	0.000000	0.00	0.000
7-34-P	93	130	28.27	4784.38	-9.08	-1046.17	0.000000	0.00	0.000
7-35-P	93	130	28.27	4784.38	-9.87	-1046.17	0.000000	0.00	0.000
7-36-P	93	130	28.27	4784.38	-12.91	-1046.17	0.000000	0.00	0.000
7-37-P	93	130	28.27	4784.38	9.20	-1046.17	0.000000	0.00	0.000
7-38-P	93	130	28.27	4784.38	15.45	-1046.17	0.000000	0.00	0.000
7-39-P	93	130	28.27	4784.38	16.70	-1046.17	0.000000	0.00	0.000
7-40-P	93	130	28.27	1850.00	15.38	1046.17	0.000000	0.00	0.000
7-41-P	93	130	28.27	4784.38	12.44	-1046.17	0.000000	0.00	0.000
7-42-P	93	130	28.27	4784.38	-7.94	-1046.17	0.000000	0.00	0.000
7-43-P	93	130	28.27	4784.38	-15.26	-1046.17	0.000000	0.00	0.000
7-44-P	93	130	28.27	4784.38	-18.05	-1046.17	0.000000	0.00	0.000
7-45-P	93	130	28.27	4784.38	-20.47	-1046.17	0.000000	0.00	0.000
7-46-P	93	130	28.27	4784.38	-22.36	-1046.17	0.000000	0.00	0.000
7-47-P	93	130	28.27	4784.38	-10.73	-1046.17	0.000000	0.00	0.000
7-48-P	93	130	28.27	4784.38	5.32	-1046.17	0.000000	0.00	0.000
7-49-P	93	130	28.27	4784.38	3.51	-1046.17	0.000000	0.00	0.000
8-1-P	92	130	31.42	4735.77	0.98	-1063.93	0.000000	0.00	0.000
8-2-P	92	130	31.42	4735.77	-4.65	-1063.93	0.000000	0.00	0.000
8-3-P	92	130	31.42	4735.77	-11.50	-1063.93	0.000000	0.00	0.000
8-4-P	92	130	31.42	4735.77	-22.50	-1063.93	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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 101 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
8-5-P	92	130	31.42	4735.77	-41.57	-1063.93	0.000000	0.00	0.000
8-6-P	92	130	31.42	4735.77	-60.25	-1063.93	0.000000	0.00	0.000
8-7-P	92	130	31.42	4735.77	-26.28	-1063.93	0.000000	0.00	0.000
8-8-P	92	130	31.42	4735.77	-12.02	-1063.93	0.000000	0.00	0.000
8-9-P	92	130	31.42	4735.77	6.35	-1063.93	0.000000	0.00	0.000
8-10-P	92	130	31.42	1850.00	10.77	1063.93	0.000000	0.00	0.000
8-11-P	92	130	31.42	1850.00	12.77	1063.93	0.000000	0.00	0.000
8-12-P	92	130	31.42	4735.77	9.34	-1063.93	0.000000	0.00	0.000
8-13-P	92	130	31.42	4735.77	9.61	-1063.93	0.000000	0.00	0.000
8-14-P	92	130	31.42	4735.77	-17.74	-1063.93	0.000000	0.00	0.000
8-15-P	92	130	31.42	4735.77	-43.73	-1063.93	0.000000	0.00	0.000
8-16-P	92	130	31.42	4735.77	-36.41	-1063.93	0.000000	0.00	0.000
8-17-P	92	130	31.42	4735.77	-14.40	-1063.93	0.000000	0.00	0.000
8-18-P	92	130	31.42	4735.77	9.94	-1063.93	0.000000	0.00	0.000
8-19-P	92	130	31.42	1850.00	13.41	1063.93	0.000000	0.00	0.000
8-20-P	92	130	31.42	1850.00	18.46	1063.93	0.000000	0.00	0.000
8-21-P	92	130	31.42	1850.00	15.77	1063.93	0.000000	0.00	0.000
8-22-P	92	130	31.42	4735.77	10.85	-1063.93	0.000000	0.00	0.000
8-23-P	92	130	31.42	4735.77	12.02	-1063.93	0.000000	0.00	0.000
8-24-P	92	130	31.42	4735.77	-21.61	-1063.93	0.000000	0.00	0.000
8-25-P	92	130	31.42	4735.77	-54.98	-1063.93	0.000000	0.00	0.000
8-26-P	92	130	31.42	4735.77	-21.61	-1063.93	0.000000	0.00	0.000
8-27-P	92	130	31.42	4735.77	12.02	-1063.93	0.000000	0.00	0.000
8-28-P	92	130	31.42	4735.77	10.85	-1063.93	0.000000	0.00	0.000
8-29-P	92	130	31.42	1850.00	15.77	1063.93	0.000000	0.00	0.000
8-30-P	92	130	31.42	1850.00	18.46	1063.93	0.000000	0.00	0.000
8-31-P	92	130	31.42	1850.00	13.41	1063.93	0.000000	0.00	0.000
8-32-P	92	130	31.42	4735.77	9.94	-1063.93	0.000000	0.00	0.000
8-33-P	92	130	31.42	4735.77	-14.40	-1063.93	0.000000	0.00	0.000
8-34-P	92	130	31.42	4735.77	-36.41	-1063.93	0.000000	0.00	0.000
8-35-P	92	130	31.42	4735.77	-43.73	-1063.93	0.000000	0.00	0.000
8-36-P	92	130	31.42	4735.77	-17.74	-1063.93	0.000000	0.00	0.000
8-37-P	92	130	31.42	4735.77	9.61	-1063.93	0.000000	0.00	0.000
8-38-P	92	130	31.42	4735.77	9.34	-1063.93	0.000000	0.00	0.000
8-39-P	92	130	31.42	1850.00	12.77	1063.93	0.000000	0.00	0.000
8-40-P	92	130	31.42	1850.00	10.77	1063.93	0.000000	0.00	0.000
8-41-P	92	130	31.42	4735.77	6.35	-1063.93	0.000000	0.00	0.000
8-42-P	92	130	31.42	4735.77	-12.02	-1063.93	0.000000	0.00	0.000
8-43-P	92	130	31.42	4735.77	-26.28	-1063.93	0.000000	0.00	0.000
8-44-P	92	130	31.42	4735.77	-60.25	-1063.93	0.000000	0.00	0.000
8-45-P	92	130	31.42	4735.77	-41.57	-1063.93	0.000000	0.00	0.000
8-46-P	92	130	31.42	4735.77	-22.50	-1063.93	0.000000	0.00	0.000
8-47-P	92	130	31.42	4735.77	-11.50	-1063.93	0.000000	0.00	0.000
8-48-P	92	130	31.42	4735.77	-4.65	-1063.93	0.000000	0.00	0.000
8-49-P	92	130	31.42	4735.77	0.98	-1063.93	0.000000	0.00	0.000
9-1-S	100	130	31.42	5158.75	-9.01	-1135.80	0.000000	0.00	0.000
9-2-S	100	130	31.42	5158.75	-15.49	-1135.80	0.000000	0.00	0.000
9-3-S	100	130	31.42	5158.75	-21.04	-1135.80	0.000000	0.00	0.000
9-4-S	100	130	31.42	5158.75	-25.82	-1135.80	0.000000	0.00	0.000
9-5-S	100	130	31.42	5158.75	21.17	-1135.80	0.000000	0.00	0.000
9-6-S	100	130	31.42	5158.75	63.77	-1135.80	0.000000	0.00	0.000
9-7-S	100	130	31.42	2000.00	135.15	1135.80	0.000000	0.00	0.000
9-8-S	100	130	31.42	5158.75	-222.55	-1135.80	0.000000	0.00	0.000
9-9-S	100	130	31.42	5158.75	-203.13	-1135.80	0.000000	0.00	0.000
9-10-S	100	130	31.42	5158.75	-193.34	-1135.80	0.000000	0.00	0.000
9-11-S	100	130	31.42	5158.75	-161.64	-1135.80	0.000000	0.00	0.000
9-12-S	100	130	31.42	5158.75	-125.87	-1135.80	0.000000	0.00	0.000
9-13-S	100	130	31.42	5158.75	-83.72	-1135.80	0.000000	0.00	0.000
9-14-S	100	130	31.42	5158.75	-47.55	-1135.80	0.000000	0.00	0.000
9-15-S	100	130	31.42	5158.75	-15.03	-1135.80	0.000000	0.00	0.000
9-16-S	100	130	31.42	5158.75	11.94	-1135.80	0.000000	0.00	0.000
9-17-S	100	130	31.42	5158.75	22.39	-1135.80	0.000000	0.00	0.000
9-18-S	100	130	31.42	5158.75	25.96	-1135.80	0.000000	0.00	0.000
9-19-S	100	130	31.42	5158.75	21.29	-1135.80	0.000000	0.00	0.000
9-20-S	100	130	31.42	5158.75	16.61	-1135.80	0.000000	0.00	0.000
9-21-S	100	130	31.42	5158.75	9.39	-1135.80	0.000000	0.00	0.000
9-22-S	100	130	31.42	5158.75	6.62	-1135.80	0.000000	0.00	0.000
9-23-S	100	130	31.42	5158.75	6.01	-1135.80	0.000000	0.00	0.000
10-1-S	100	130	31.42	5158.75	14.79	-1135.80	0.000000	0.00	0.000
10-2-S	100	130	31.42	5158.75	26.72	-1135.80	0.000000	0.00	0.000
10-3-S	100	130	31.42	5158.75	-20.44	-1135.80	0.000000	0.00	0.000
10-4-S	100	130	31.42	5158.75	-103.80	-1135.80	0.000000	0.00	0.000
10-5-S	100	130	31.42	5158.75	-65.88	-1135.80	0.000000	0.00	0.000
10-6-S	100	130	31.42	5158.75	38.10	-1135.80	0.000000	0.00	0.000
10-7-S	100	130	31.42	2000.00	145.29	1135.80	0.000000	0.00	0.000
10-8-S	100	130	31.42	5158.75	-129.18	-1135.80	0.000000	0.00	0.000
10-9-S	100	130	31.42	5158.75	-130.48	-1135.80	0.000000	0.00	0.000
10-10-S	100	130	31.42	5158.75	-235.30	-1135.80	0.000000	0.00	0.000
10-11-S	100	130	31.42	5158.75	-202.18	-1135.80	0.000000	0.00	0.000
10-12-S	100	130	31.42	5158.75	-156.77	-1135.80	0.000000	0.00	0.000
10-13-S	100	130	31.42	5158.75	-95.97	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	102 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
10-14-S	100	130	31.42	5158.75	-49.24	-1135.80	0.000000	0.00	0.000
10-15-S	100	130	31.42	5158.75	-9.03	-1135.80	0.000000	0.00	0.000
10-16-S	100	130	31.42	5158.75	20.80	-1135.80	0.000000	0.00	0.000
10-17-S	100	130	31.42	5158.75	46.20	-1135.80	0.000000	0.00	0.000
10-18-S	100	130	31.42	5158.75	68.70	-1135.80	0.000000	0.00	0.000
10-19-S	100	130	31.42	5158.75	25.35	-1135.80	0.000000	0.00	0.000
10-20-S	100	130	31.42	5158.75	-33.71	-1135.80	0.000000	0.00	0.000
10-21-S	100	130	31.42	5158.75	-35.67	-1135.80	0.000000	0.00	0.000
10-22-S	100	130	31.42	5158.75	-25.49	-1135.80	0.000000	0.00	0.000
10-23-S	100	130	31.42	5158.75	-7.46	-1135.80	0.000000	0.00	0.000
11-1-S	100	130	31.42	5158.75	-11.36	-1135.80	0.000000	0.00	0.000
11-2-S	100	130	31.42	5158.75	-11.60	-1135.80	0.000000	0.00	0.000
11-3-S	100	130	31.42	5158.75	-6.49	-1135.80	0.000000	0.00	0.000
11-4-S	100	130	31.42	5158.75	12.30	-1135.80	0.000000	0.00	0.000
11-5-S	100	130	31.42	2000.00	44.49	1135.80	0.000000	0.00	0.000
11-6-S	100	130	31.42	2000.00	88.89	1135.80	0.000000	0.00	0.000
11-7-S	100	130	31.42	2000.00	142.30	1135.80	0.000000	0.00	0.000
11-8-S	100	130	31.42	5158.75	-248.50	-1135.80	0.000000	0.00	0.000
11-9-S	100	130	31.42	5158.75	-207.75	-1135.80	0.000000	0.00	0.000
11-10-S	100	130	31.42	5158.75	-178.91	-1135.80	0.000000	0.00	0.000
11-11-S	100	130	31.42	5158.75	-146.67	-1135.80	0.000000	0.00	0.000
11-12-S	100	130	31.42	5158.75	-113.20	-1135.80	0.000000	0.00	0.000
11-13-S	100	130	31.42	5158.75	-77.66	-1135.80	0.000000	0.00	0.000
11-14-S	100	130	31.42	5158.75	-46.28	-1135.80	0.000000	0.00	0.000
11-15-S	100	130	31.42	5158.75	-17.79	-1135.80	0.000000	0.00	0.000
11-16-S	100	130	31.42	5158.75	-2.75	-1135.80	0.000000	0.00	0.000
11-17-S	100	130	31.42	5158.75	11.63	-1135.80	0.000000	0.00	0.000
11-18-S	100	130	31.42	5158.75	17.89	-1135.80	0.000000	0.00	0.000
11-19-S	100	130	31.42	5158.75	17.40	-1135.80	0.000000	0.00	0.000
11-20-S	100	130	31.42	5158.75	15.16	-1135.80	0.000000	0.00	0.000
11-21-S	100	130	31.42	5158.75	10.57	-1135.80	0.000000	0.00	0.000
11-22-S	100	130	31.42	5158.75	6.81	-1135.80	0.000000	0.00	0.000
11-23-S	100	130	31.42	5158.75	3.88	-1135.80	0.000000	0.00	0.000
12-1-S	100	130	31.42	5158.75	18.20	-1135.80	0.000000	0.00	0.000
12-2-S	100	130	31.42	5158.75	27.87	-1135.80	0.000000	0.00	0.000
12-3-S	100	130	31.42	5158.75	-22.75	-1135.80	0.000000	0.00	0.000
12-4-S	100	130	31.42	5158.75	-117.98	-1135.80	0.000000	0.00	0.000
12-5-S	100	130	31.42	5158.75	-72.84	-1135.80	0.000000	0.00	0.000
12-6-S	100	130	31.42	5158.75	29.62	-1135.80	0.000000	0.00	0.000
12-7-S	100	130	31.42	2000.00	145.18	1135.80	0.000000	0.00	0.000
12-8-S	100	130	31.42	5158.75	-101.91	-1135.80	0.000000	0.00	0.000
12-9-S	100	130	31.42	5158.75	-115.27	-1135.80	0.000000	0.00	0.000
12-10-S	100	130	31.42	5158.75	-238.95	-1135.80	0.000000	0.00	0.000
12-11-S	100	130	31.42	5158.75	-206.67	-1135.80	0.000000	0.00	0.000
12-12-S	100	130	31.42	5158.75	-160.36	-1135.80	0.000000	0.00	0.000
12-13-S	100	130	31.42	5158.75	-96.43	-1135.80	0.000000	0.00	0.000
12-14-S	100	130	31.42	5158.75	-47.97	-1135.80	0.000000	0.00	0.000
12-15-S	100	130	31.42	5158.75	-6.45	-1135.80	0.000000	0.00	0.000
12-16-S	100	130	31.42	5158.75	25.32	-1135.80	0.000000	0.00	0.000
12-17-S	100	130	31.42	5158.75	52.33	-1135.80	0.000000	0.00	0.000
12-18-S	100	130	31.42	5158.75	76.28	-1135.80	0.000000	0.00	0.000
12-19-S	100	130	31.42	5158.75	27.71	-1135.80	0.000000	0.00	0.000
12-20-S	100	130	31.42	5158.75	-39.42	-1135.80	0.000000	0.00	0.000
12-21-S	100	130	31.42	5158.75	-39.69	-1135.80	0.000000	0.00	0.000
12-22-S	100	130	31.42	5158.75	-28.34	-1135.80	0.000000	0.00	0.000
12-23-S	100	130	31.42	5158.75	-8.59	-1135.80	0.000000	0.00	0.000
13-1-S	100	130	31.42	5158.75	-10.25	-1135.80	0.000000	0.00	0.000
13-2-S	100	130	31.42	5158.75	-15.57	-1135.80	0.000000	0.00	0.000
13-3-S	100	130	31.42	5158.75	-14.30	-1135.80	0.000000	0.00	0.000
13-4-S	100	130	31.42	5158.75	11.61	-1135.80	0.000000	0.00	0.000
13-5-S	100	130	31.42	5158.75	36.69	-1135.80	0.000000	0.00	0.000
13-6-S	100	130	31.42	2000.00	82.55	1135.80	0.000000	0.00	0.000
13-7-S	100	130	31.42	2000.00	141.26	1135.80	0.000000	0.00	0.000
13-8-S	100	130	31.42	5158.75	-234.81	-1135.80	0.000000	0.00	0.000
13-9-S	100	130	31.42	5158.75	-207.79	-1135.80	0.000000	0.00	0.000
13-10-S	100	130	31.42	5158.75	-178.36	-1135.80	0.000000	0.00	0.000
13-11-S	100	130	31.42	5158.75	-147.11	-1135.80	0.000000	0.00	0.000
13-12-S	100	130	31.42	5158.75	-113.94	-1135.80	0.000000	0.00	0.000
13-13-S	100	130	31.42	5158.75	-77.29	-1135.80	0.000000	0.00	0.000
13-14-S	100	130	31.42	5158.75	-44.91	-1135.80	0.000000	0.00	0.000
13-15-S	100	130	31.42	5158.75	-15.45	-1135.80	0.000000	0.00	0.000
13-16-S	100	130	31.42	5158.75	4.53	-1135.80	0.000000	0.00	0.000
13-17-S	100	130	31.42	5158.75	14.35	-1135.80	0.000000	0.00	0.000
13-18-S	100	130	31.42	5158.75	18.21	-1135.80	0.000000	0.00	0.000
13-19-S	100	130	31.42	5158.75	18.50	-1135.80	0.000000	0.00	0.000
13-20-S	100	130	31.42	5158.75	17.09	-1135.80	0.000000	0.00	0.000
13-21-S	100	130	31.42	5158.75	11.41	-1135.80	0.000000	0.00	0.000
13-22-S	100	130	31.42	5158.75	7.33	-1135.80	0.000000	0.00	0.000
13-23-S	100	130	31.42	5158.75	4.30	-1135.80	0.000000	0.00	0.000
14-1-S	100	130	34.56	5110.99	10.30	-1153.55	0.000000	0.00	0.000
14-2-S	100	130	34.56	5110.99	-15.72	-1153.55	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	103 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
14-3-S	100	130	34.56	5110.99	-21.50	-1153.55	0.000000	0.00	0.000
14-4-S	100	130	34.56	5110.99	-64.38	-1153.55	0.000000	0.00	0.000
14-5-S	100	130	34.56	5110.99	-37.08	-1153.55	0.000000	0.00	0.000
14-6-S	100	130	34.56	5110.99	54.09	-1153.55	0.000000	0.00	0.000
14-7-S	100	130	34.56	2000.00	143.47	1153.55	0.000000	0.00	0.000
14-8-S	100	130	34.56	5110.99	-166.29	-1153.55	0.000000	0.00	0.000
14-9-S	100	130	34.56	5110.99	-160.70	-1153.55	0.000000	0.00	0.000
14-10-S	100	130	34.56	5110.99	-208.42	-1153.55	0.000000	0.00	0.000
14-11-S	100	130	34.56	5110.99	-177.09	-1153.55	0.000000	0.00	0.000
14-12-S	100	130	34.56	5110.99	-137.44	-1153.55	0.000000	0.00	0.000
14-13-S	100	130	34.56	5110.99	-86.66	-1153.55	0.000000	0.00	0.000
14-14-S	100	130	34.56	5110.99	-45.76	-1153.55	0.000000	0.00	0.000
14-15-S	100	130	34.56	5110.99	-9.88	-1153.55	0.000000	0.00	0.000
14-16-S	100	130	34.56	5110.99	15.99	-1153.55	0.000000	0.00	0.000
14-17-S	100	130	34.56	5110.99	33.95	-1153.55	0.000000	0.00	0.000
14-18-S	100	130	34.56	5110.99	47.36	-1153.55	0.000000	0.00	0.000
14-19-S	100	130	34.56	5110.99	23.26	-1153.55	0.000000	0.00	0.000
14-20-S	100	130	34.56	5110.99	-21.22	-1153.55	0.000000	0.00	0.000
14-21-S	100	130	34.56	5110.99	-20.71	-1153.55	0.000000	0.00	0.000
14-22-S	100	130	34.56	5110.99	-14.72	-1153.55	0.000000	0.00	0.000
14-23-S	100	130	34.56	5110.99	-4.77	-1153.55	0.000000	0.00	0.000
15-1-S	100	130	31.42	5158.75	10.30	-1135.80	0.000000	0.00	0.000
15-2-S	100	130	31.42	5158.75	-15.72	-1135.80	0.000000	0.00	0.000
15-3-S	100	130	31.42	5158.75	-21.50	-1135.80	0.000000	0.00	0.000
15-4-S	100	130	31.42	5158.75	-64.38	-1135.80	0.000000	0.00	0.000
15-5-S	100	130	31.42	5158.75	-37.08	-1135.80	0.000000	0.00	0.000
15-6-S	100	130	31.42	5158.75	54.09	-1135.80	0.000000	0.00	0.000
15-7-S	100	130	31.42	2000.00	143.47	1135.80	0.000000	0.00	0.000
15-8-S	100	130	31.42	5158.75	-166.29	-1135.80	0.000000	0.00	0.000
15-9-S	100	130	31.42	5158.75	-160.70	-1135.80	0.000000	0.00	0.000
15-10-S	100	130	31.42	5158.75	-208.42	-1135.80	0.000000	0.00	0.000
15-11-S	100	130	31.42	5158.75	-177.09	-1135.80	0.000000	0.00	0.000
15-12-S	100	130	31.42	5158.75	-137.44	-1135.80	0.000000	0.00	0.000
15-13-S	100	130	31.42	5158.75	-86.66	-1135.80	0.000000	0.00	0.000
15-14-S	100	130	31.42	5158.75	-45.76	-1135.80	0.000000	0.00	0.000
15-15-S	100	130	31.42	5158.75	-9.88	-1135.80	0.000000	0.00	0.000
15-16-S	100	130	31.42	5158.75	15.99	-1135.80	0.000000	0.00	0.000
15-17-S	100	130	31.42	5158.75	33.95	-1135.80	0.000000	0.00	0.000
15-18-S	100	130	31.42	5158.75	47.36	-1135.80	0.000000	0.00	0.000
15-19-S	100	130	31.42	5158.75	23.26	-1135.80	0.000000	0.00	0.000
15-20-S	100	130	31.42	5158.75	-21.22	-1135.80	0.000000	0.00	0.000
15-21-S	100	130	31.42	5158.75	-20.71	-1135.80	0.000000	0.00	0.000
15-22-S	100	130	31.42	5158.75	-14.72	-1135.80	0.000000	0.00	0.000
15-23-S	100	130	31.42	5158.75	-4.77	-1135.80	0.000000	0.00	0.000
16-1-S	100	130	31.42	5158.75	-10.25	-1135.80	0.000000	0.00	0.000
16-2-S	100	130	31.42	5158.75	-15.57	-1135.80	0.000000	0.00	0.000
16-3-S	100	130	31.42	5158.75	-14.30	-1135.80	0.000000	0.00	0.000
16-4-S	100	130	31.42	5158.75	11.61	-1135.80	0.000000	0.00	0.000
16-5-S	100	130	31.42	5158.75	36.69	-1135.80	0.000000	0.00	0.000
16-6-S	100	130	31.42	2000.00	82.55	1135.80	0.000000	0.00	0.000
16-7-S	100	130	31.42	2000.00	141.26	1135.80	0.000000	0.00	0.000
16-8-S	100	130	31.42	5158.75	-234.81	-1135.80	0.000000	0.00	0.000
16-9-S	100	130	31.42	5158.75	-207.79	-1135.80	0.000000	0.00	0.000
16-10-S	100	130	31.42	5158.75	-178.36	-1135.80	0.000000	0.00	0.000
16-11-S	100	130	31.42	5158.75	-147.11	-1135.80	0.000000	0.00	0.000
16-12-S	100	130	31.42	5158.75	-113.94	-1135.80	0.000000	0.00	0.000
16-13-S	100	130	31.42	5158.75	-77.29	-1135.80	0.000000	0.00	0.000
16-14-S	100	130	31.42	5158.75	-44.91	-1135.80	0.000000	0.00	0.000
16-15-S	100	130	31.42	5158.75	-15.45	-1135.80	0.000000	0.00	0.000
16-16-S	100	130	31.42	5158.75	4.53	-1135.80	0.000000	0.00	0.000
16-17-S	100	130	31.42	5158.75	14.35	-1135.80	0.000000	0.00	0.000
16-18-S	100	130	31.42	5158.75	18.21	-1135.80	0.000000	0.00	0.000
16-19-S	100	130	31.42	5158.75	18.50	-1135.80	0.000000	0.00	0.000
16-20-S	100	130	31.42	5158.75	17.09	-1135.80	0.000000	0.00	0.000
16-21-S	100	130	31.42	5158.75	11.41	-1135.80	0.000000	0.00	0.000
16-22-S	100	130	31.42	5158.75	7.33	-1135.80	0.000000	0.00	0.000
16-23-S	100	130	31.42	5158.75	4.30	-1135.80	0.000000	0.00	0.000
17-1-S	100	130	31.42	5158.75	18.20	-1135.80	0.000000	0.00	0.000
17-2-S	100	130	31.42	5158.75	27.87	-1135.80	0.000000	0.00	0.000
17-3-S	100	130	31.42	5158.75	-22.75	-1135.80	0.000000	0.00	0.000
17-4-S	100	130	31.42	5158.75	-117.98	-1135.80	0.000000	0.00	0.000
17-5-S	100	130	31.42	5158.75	-72.84	-1135.80	0.000000	0.00	0.000
17-6-S	100	130	31.42	5158.75	29.62	-1135.80	0.000000	0.00	0.000
17-7-S	100	130	31.42	2000.00	145.18	1135.80	0.000000	0.00	0.000
17-8-S	100	130	31.42	5158.75	-101.91	-1135.80	0.000000	0.00	0.000
17-9-S	100	130	31.42	5158.75	-115.27	-1135.80	0.000000	0.00	0.000
17-10-S	100	130	31.42	5158.75	-238.95	-1135.80	0.000000	0.00	0.000
17-11-S	100	130	31.42	5158.75	-206.67	-1135.80	0.000000	0.00	0.000
17-12-S	100	130	31.42	5158.75	-160.36	-1135.80	0.000000	0.00	0.000
17-13-S	100	130	31.42	5158.75	-96.43	-1135.80	0.000000	0.00	0.000
17-14-S	100	130	31.42	5158.75	-47.97	-1135.80	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.

**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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	104 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
17-15-S	100	130	31.42	5158.75	-6.45	-1135.80	0.000000	0.00	0.000
17-16-S	100	130	31.42	5158.75	25.32	-1135.80	0.000000	0.00	0.000
17-17-S	100	130	31.42	5158.75	52.33	-1135.80	0.000000	0.00	0.000
17-18-S	100	130	31.42	5158.75	76.28	-1135.80	0.000000	0.00	0.000
17-19-S	100	130	31.42	5158.75	27.71	-1135.80	0.000000	0.00	0.000
17-20-S	100	130	31.42	5158.75	-39.42	-1135.80	0.000000	0.00	0.000
17-21-S	100	130	31.42	5158.75	-39.69	-1135.80	0.000000	0.00	0.000
17-22-S	100	130	31.42	5158.75	-28.34	-1135.80	0.000000	0.00	0.000
17-23-S	100	130	31.42	5158.75	-8.59	-1135.80	0.000000	0.00	0.000
18-1-S	100	130	31.42	5158.75	-11.36	-1135.80	0.000000	0.00	0.000
18-2-S	100	130	31.42	5158.75	-11.60	-1135.80	0.000000	0.00	0.000
18-3-S	100	130	31.42	5158.75	-6.49	-1135.80	0.000000	0.00	0.000
18-4-S	100	130	31.42	5158.75	12.30	-1135.80	0.000000	0.00	0.000
18-5-S	100	130	31.42	2000.00	44.49	1135.80	0.000000	0.00	0.000
18-6-S	100	130	31.42	2000.00	88.89	1135.80	0.000000	0.00	0.000
18-7-S	100	130	31.42	2000.00	142.30	1135.80	0.000000	0.00	0.000
18-8-S	100	130	31.42	5158.75	-248.50	-1135.80	0.000000	0.00	0.000
18-9-S	100	130	31.42	5158.75	-207.75	-1135.80	0.000000	0.00	0.000
18-10-S	100	130	31.42	5158.75	-178.91	-1135.80	0.000000	0.00	0.000
18-11-S	100	130	31.42	5158.75	-146.67	-1135.80	0.000000	0.00	0.000
18-12-S	100	130	31.42	5158.75	-113.20	-1135.80	0.000000	0.00	0.000
18-13-S	100	130	31.42	5158.75	-77.66	-1135.80	0.000000	0.00	0.000
18-14-S	100	130	31.42	5158.75	-46.28	-1135.80	0.000000	0.00	0.000
18-15-S	100	130	31.42	5158.75	-17.79	-1135.80	0.000000	0.00	0.000
18-16-S	100	130	31.42	5158.75	-2.75	-1135.80	0.000000	0.00	0.000
18-17-S	100	130	31.42	5158.75	11.63	-1135.80	0.000000	0.00	0.000
18-18-S	100	130	31.42	5158.75	17.89	-1135.80	0.000000	0.00	0.000
18-19-S	100	130	31.42	5158.75	17.40	-1135.80	0.000000	0.00	0.000
18-20-S	100	130	31.42	5158.75	15.16	-1135.80	0.000000	0.00	0.000
18-21-S	100	130	31.42	5158.75	10.57	-1135.80	0.000000	0.00	0.000
18-22-S	100	130	31.42	5158.75	6.81	-1135.80	0.000000	0.00	0.000
18-23-S	100	130	31.42	5158.75	3.88	-1135.80	0.000000	0.00	0.000
19-1-S	100	130	31.42	5158.75	14.79	-1135.80	0.000000	0.00	0.000
19-2-S	100	130	31.42	5158.75	26.72	-1135.80	0.000000	0.00	0.000
19-3-S	100	130	31.42	5158.75	-20.44	-1135.80	0.000000	0.00	0.000
19-4-S	100	130	31.42	5158.75	-103.80	-1135.80	0.000000	0.00	0.000
19-5-S	100	130	31.42	5158.75	-65.88	-1135.80	0.000000	0.00	0.000
19-6-S	100	130	31.42	5158.75	38.10	-1135.80	0.000000	0.00	0.000
19-7-S	100	130	31.42	2000.00	145.29	1135.80	0.000000	0.00	0.000
19-8-S	100	130	31.42	5158.75	-129.18	-1135.80	0.000000	0.00	0.000
19-9-S	100	130	31.42	5158.75	-130.48	-1135.80	0.000000	0.00	0.000
19-10-S	100	130	31.42	5158.75	-235.30	-1135.80	0.000000	0.00	0.000
19-11-S	100	130	31.42	5158.75	-202.18	-1135.80	0.000000	0.00	0.000
19-12-S	100	130	31.42	5158.75	-156.77	-1135.80	0.000000	0.00	0.000
19-13-S	100	130	31.42	5158.75	-95.97	-1135.80	0.000000	0.00	0.000
19-14-S	100	130	31.42	5158.75	-49.24	-1135.80	0.000000	0.00	0.000
19-15-S	100	130	31.42	5158.75	-9.03	-1135.80	0.000000	0.00	0.000
19-16-S	100	130	31.42	5158.75	20.80	-1135.80	0.000000	0.00	0.000
19-17-S	100	130	31.42	5158.75	46.20	-1135.80	0.000000	0.00	0.000
19-18-S	100	130	31.42	5158.75	68.70	-1135.80	0.000000	0.00	0.000
19-19-S	100	130	31.42	5158.75	25.35	-1135.80	0.000000	0.00	0.000
19-20-S	100	130	31.42	5158.75	-33.71	-1135.80	0.000000	0.00	0.000
19-21-S	100	130	31.42	5158.75	-35.67	-1135.80	0.000000	0.00	0.000
19-22-S	100	130	31.42	5158.75	-25.49	-1135.80	0.000000	0.00	0.000
19-23-S	100	130	31.42	5158.75	-7.46	-1135.80	0.000000	0.00	0.000
20-1-S	100	130	31.42	5158.75	-9.01	-1135.80	0.000000	0.00	0.000
20-2-S	100	130	31.42	5158.75	-15.49	-1135.80	0.000000	0.00	0.000
20-3-S	100	130	31.42	5158.75	-21.04	-1135.80	0.000000	0.00	0.000
20-4-S	100	130	31.42	5158.75	-25.82	-1135.80	0.000000	0.00	0.000
20-5-S	100	130	31.42	5158.75	21.17	-1135.80	0.000000	0.00	0.000
20-6-S	100	130	31.42	5158.75	63.77	-1135.80	0.000000	0.00	0.000
20-7-S	100	130	31.42	2000.00	135.15	1135.80	0.000000	0.00	0.000
20-8-S	100	130	31.42	5158.75	-222.55	-1135.80	0.000000	0.00	0.000
20-9-S	100	130	31.42	5158.75	-203.13	-1135.80	0.000000	0.00	0.000
20-10-S	100	130	31.42	5158.75	-193.34	-1135.80	0.000000	0.00	0.000
20-11-S	100	130	31.42	5158.75	-161.64	-1135.80	0.000000	0.00	0.000
20-12-S	100	130	31.42	5158.75	-125.87	-1135.80	0.000000	0.00	0.000
20-13-S	100	130	31.42	5158.75	-83.72	-1135.80	0.000000	0.00	0.000
20-14-S	100	130	31.42	5158.75	-47.55	-1135.80	0.000000	0.00	0.000
20-15-S	100	130	31.42	5158.75	-15.03	-1135.80	0.000000	0.00	0.000
20-16-S	100	130	31.42	5158.75	11.94	-1135.80	0.000000	0.00	0.000
20-17-S	100	130	31.42	5158.75	22.39	-1135.80	0.000000	0.00	0.000
20-18-S	100	130	31.42	5158.75	25.96	-1135.80	0.000000	0.00	0.000
20-19-S	100	130	31.42	5158.75	21.29	-1135.80	0.000000	0.00	0.000
20-20-S	100	130	31.42	5158.75	16.61	-1135.80	0.000000	0.00	0.000
20-21-S	100	130	31.42	5158.75	9.39	-1135.80	0.000000	0.00	0.000
20-22-S	100	130	31.42	5158.75	6.62	-1135.80	0.000000	0.00	0.000
20-23-S	100	130	31.42	5158.75	6.01	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	105 di 123

Pali in c.a.Apertura limite fessure  $w_{lim}=0.200$  mm

Ip	Is	Af [cmq]	Aeff [cmq]	Mpf [kNm]	M [kNm]	N [kN]	$\varepsilon$ [%]	Sm [mm]	wm [mm]
1	1	58.81	3599.94	251.41	-298.38	232.32	0.000000	0.00	0.00
2	1	34.56	3596.10	254.80	-298.38	655.98	0.000000	0.00	0.00
3	1	28.27	2805.90	283.25	-298.38	1079.64	0.000000	0.00	0.00

**Combinazioni SLEF**ParamentoApertura limite fessure  $w_{lim}=0.30$ 

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	$\varepsilon$ [%]	Sm [mm]	w [mm]
1	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
2	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (6)
6	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
7	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
8	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
9	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
10	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
11	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (6)
14	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
15	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
16	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
17	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
18	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
19	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	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	0.000000	0.00	0.000 (6)
25	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
26	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
27	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (6)
28	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (6)
32	100	70	15.71	2000.00	0.04	353.52	0.000000	0.00	0.000 (6)
33	100	70	15.71	2000.00	0.16	353.74	0.000000	0.00	0.000 (6)
34	100	70	15.71	2000.00	0.37	353.95	0.000000	0.00	0.000 (6)
35	100	70	15.71	2000.00	0.66	354.17	0.000000	0.00	0.000 (6)
36	100	70	15.71	2000.00	1.06	354.37	0.000000	0.00	0.000 (6)
37	100	70	15.71	2000.00	1.55	354.60	0.000000	0.00	0.000 (6)
38	100	70	15.71	2000.00	2.15	354.80	0.000000	0.00	0.000 (6)
39	100	70	15.71	2000.00	2.86	355.01	0.000000	0.00	0.000 (6)
40	100	70	15.71	2000.00	3.69	355.22	0.000000	0.00	0.000 (6)
41	100	70	15.71	2000.00	4.63	355.44	0.000000	0.00	0.000 (6)
42	100	120	15.71	2000.00	18.58	993.83	0.000000	0.00	0.000 (6)
43	100	120	15.71	2000.00	19.92	994.47	0.000000	0.00	0.000 (6)
44	100	120	15.71	2000.00	21.80	995.04	0.000000	0.00	0.000 (6)
45	100	120	15.71	2000.00	24.07	995.67	0.000000	0.00	0.000 (6)
46	100	120	15.71	2000.00	26.59	996.28	0.000000	0.00	0.000 (6)
47	100	120	15.71	2000.00	29.26	996.92	0.000000	0.00	0.000 (6)
48	100	120	15.71	2000.00	32.06	997.53	0.000000	0.00	0.000 (6)
49	100	120	15.71	2000.00	34.99	998.12	0.000000	0.00	0.000 (6)
50	100	120	15.71	2000.00	38.06	998.75	0.000000	0.00	0.000 (6)
51	100	120	15.71	2000.00	41.29	999.37	0.000000	0.00	0.000 (6)
52	100	120	15.71	2000.00	44.67	999.99	0.000000	0.00	0.000 (6)
53	100	120	15.71	2000.00	48.22	1000.59	0.000000	0.00	0.000 (6)
54	100	120	15.71	2000.00	51.93	1001.20	0.000000	0.00	0.000 (6)
55	100	120	15.71	2000.00	55.82	1001.83	0.000000	0.00	0.000 (6)
56	100	120	15.71	2000.00	59.89	1002.42	0.000000	0.00	0.000 (6)
57	100	120	15.71	2000.00	64.15	1003.07	0.000000	0.00	0.000 (6)
58	100	120	15.71	2000.00	68.59	1003.68	0.000000	0.00	0.000 (6)
59	100	120	15.71	2000.00	73.23	1004.26	0.000000	0.00	0.000 (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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	106 di 123

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
60	100	120	15.71	2000.00	78.07	1004.89	0.000000	0.00	0.000 (6)
61	100	120	15.71	2000.00	83.12	1005.50	0.000000	0.00	0.000 (6)
62	100	120	15.71	2000.00	88.38	1006.12	0.000000	0.00	0.000 (6)
63	100	120	15.71	2000.00	93.85	1006.73	0.000000	0.00	0.000 (6)
64	100	120	15.71	2000.00	99.55	1007.37	0.000000	0.00	0.000 (6)
65	100	120	15.71	2000.00	105.47	1031.29	0.000000	0.00	0.000 (6)
66	100	120	15.71	2000.00	111.62	1031.93	0.000000	0.00	0.000 (6)
67	100	120	15.71	2000.00	118.01	1009.21	0.000000	0.00	0.000 (6)
68	100	120	15.71	2000.00	118.14	1009.22	0.000000	0.00	0.000 (6)
69	100	120	15.71	2000.00	124.36	1009.81	0.000000	0.00	0.000 (6)
70	100	120	15.71	2000.00	130.80	1010.35	0.000000	0.00	0.000 (6)
71	100	120	15.71	2000.00	137.46	1010.95	0.000000	0.00	0.000 (6)
72	100	120	15.71	2000.00	144.34	1011.55	0.000000	0.00	0.000 (6)
73	100	120	15.71	2000.00	151.45	1012.11	0.000000	0.00	0.000 (6)
74	100	120	15.71	2000.00	158.79	1012.67	0.000000	0.00	0.000 (6)
75	100	120	15.71	2000.00	166.37	1013.28	0.000000	0.00	0.000 (6)
76	100	120	15.71	2000.00	174.18	1013.82	0.000000	0.00	0.000 (6)
77	100	120	15.71	2000.00	182.25	1014.41	0.000000	0.00	0.000 (6)

Piastra fondazioneApertura 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	75	130	25.13	3844.88	2.26	-860.73	0.000000	0.00	0.000
1-2-P	75	130	25.13	3844.88	-4.04	-860.73	0.000000	0.00	0.000
1-3-P	75	130	25.13	3844.88	-14.34	-860.73	0.000000	0.00	0.000
1-4-P	75	130	25.13	3844.88	-36.94	-860.73	0.000000	0.00	0.000
1-5-P	75	130	25.13	3844.88	-59.28	-860.73	0.000000	0.00	0.000
1-6-P	75	130	25.13	3844.88	-71.81	-860.73	0.000000	0.00	0.000
1-7-P	75	130	25.13	3844.88	-40.17	-860.73	0.000000	0.00	0.000
1-8-P	75	130	25.13	3844.88	-13.69	-860.73	0.000000	0.00	0.000
1-9-P	75	130	25.13	3844.88	20.48	-860.73	0.000000	0.00	0.000
1-10-P	75	130	25.13	3844.88	28.07	-860.73	0.000000	0.00	0.000
1-11-P	75	130	25.13	3844.88	30.69	-860.73	0.000000	0.00	0.000
1-12-P	75	130	25.13	3844.88	25.30	-860.73	0.000000	0.00	0.000
1-13-P	75	130	25.13	3844.88	8.61	-860.73	0.000000	0.00	0.000
1-14-P	75	130	25.13	3844.88	-24.99	-860.73	0.000000	0.00	0.000
1-15-P	75	130	25.13	3844.88	-52.26	-860.73	0.000000	0.00	0.000
1-16-P	75	130	25.13	3844.88	-46.18	-860.73	0.000000	0.00	0.000
1-17-P	75	130	25.13	3844.88	-22.05	-860.73	0.000000	0.00	0.000
1-18-P	75	130	25.13	3844.88	12.28	-860.73	0.000000	0.00	0.000
1-19-P	75	130	25.13	3844.88	28.07	-860.73	0.000000	0.00	0.000
1-20-P	75	130	25.13	1500.00	34.54	860.73	0.000000	0.00	0.000
1-21-P	75	130	25.13	3844.88	30.58	-860.73	0.000000	0.00	0.000
1-22-P	75	130	25.13	3844.88	20.73	-860.73	0.000000	0.00	0.000
1-23-P	75	130	25.13	3844.88	-12.64	-860.73	0.000000	0.00	0.000
1-24-P	75	130	25.13	3844.88	-35.47	-860.73	0.000000	0.00	0.000
1-25-P	75	130	25.13	3844.88	-63.19	-860.73	0.000000	0.00	0.000
1-26-P	75	130	25.13	3844.88	-35.47	-860.73	0.000000	0.00	0.000
1-27-P	75	130	25.13	3844.88	-12.64	-860.73	0.000000	0.00	0.000
1-28-P	75	130	25.13	3844.88	20.73	-860.73	0.000000	0.00	0.000
1-29-P	75	130	25.13	3844.88	30.58	-860.73	0.000000	0.00	0.000
1-30-P	75	130	25.13	1500.00	34.54	860.73	0.000000	0.00	0.000
1-31-P	75	130	25.13	3844.88	28.07	-860.73	0.000000	0.00	0.000
1-32-P	75	130	25.13	3844.88	12.28	-860.73	0.000000	0.00	0.000
1-33-P	75	130	25.13	3844.88	-22.05	-860.73	0.000000	0.00	0.000
1-34-P	75	130	25.13	3844.88	-46.18	-860.73	0.000000	0.00	0.000
1-35-P	75	130	25.13	3844.88	-52.26	-860.73	0.000000	0.00	0.000
1-36-P	75	130	25.13	3844.88	-24.99	-860.73	0.000000	0.00	0.000
1-37-P	75	130	25.13	3844.88	8.61	-860.73	0.000000	0.00	0.000
1-38-P	75	130	25.13	3844.88	25.30	-860.73	0.000000	0.00	0.000
1-39-P	75	130	25.13	3844.88	30.69	-860.73	0.000000	0.00	0.000
1-40-P	75	130	25.13	3844.88	28.07	-860.73	0.000000	0.00	0.000
1-41-P	75	130	25.13	3844.88	20.48	-860.73	0.000000	0.00	0.000
1-42-P	75	130	25.13	3844.88	-13.69	-860.73	0.000000	0.00	0.000
1-43-P	75	130	25.13	3844.88	-40.17	-860.73	0.000000	0.00	0.000
1-44-P	75	130	25.13	3844.88	-71.81	-860.73	0.000000	0.00	0.000
1-45-P	75	130	25.13	3844.88	-59.28	-860.73	0.000000	0.00	0.000
1-46-P	75	130	25.13	3844.88	-36.94	-860.73	0.000000	0.00	0.000
1-47-P	75	130	25.13	3844.88	-14.34	-860.73	0.000000	0.00	0.000
1-48-P	75	130	25.13	3844.88	-4.04	-860.73	0.000000	0.00	0.000
1-49-P	75	130	25.13	3844.88	2.26	-860.73	0.000000	0.00	0.000
2-1-P	75	130	25.13	1500.00	11.12	860.73	0.000000	0.00	0.000
2-2-P	75	130	25.13	1500.00	9.96	860.73	0.000000	0.00	0.000
2-3-P	75	130	25.13	3844.88	7.79	-860.73	0.000000	0.00	0.000
2-4-P	75	130	25.13	3844.88	7.59	-860.73	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	107 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
2-5-P	75	130	25.13	3844.88	-44.25	-860.73	0.000000	0.00	0.000
2-6-P	75	130	25.13	3844.88	-71.83	-860.73	0.000000	0.00	0.000
2-7-P	75	130	25.13	3844.88	-19.16	-860.73	0.000000	0.00	0.000
2-8-P	75	130	25.13	3844.88	15.28	-860.73	0.000000	0.00	0.000
2-9-P	75	130	25.13	1500.00	26.06	860.73	0.000000	0.00	0.000
2-10-P	75	130	25.13	1500.00	30.10	860.73	0.000000	0.00	0.000
2-11-P	75	130	25.13	1500.00	31.34	860.73	0.000000	0.00	0.000
2-12-P	75	130	25.13	1500.00	28.39	860.73	0.000000	0.00	0.000
2-13-P	75	130	25.13	3844.88	19.74	-860.73	0.000000	0.00	0.000
2-14-P	75	130	25.13	3844.88	7.22	-860.73	0.000000	0.00	0.000
2-15-P	75	130	25.13	3844.88	-55.98	-860.73	0.000000	0.00	0.000
2-16-P	75	130	25.13	3844.88	-45.61	-860.73	0.000000	0.00	0.000
2-17-P	75	130	25.13	3844.88	14.40	-860.73	0.000000	0.00	0.000
2-18-P	75	130	25.13	3844.88	21.80	-860.73	0.000000	0.00	0.000
2-19-P	75	130	25.13	1500.00	29.40	860.73	0.000000	0.00	0.000
2-20-P	75	130	25.13	1500.00	32.70	860.73	0.000000	0.00	0.000
2-21-P	75	130	25.13	1500.00	30.66	860.73	0.000000	0.00	0.000
2-22-P	75	130	25.13	1500.00	25.82	860.73	0.000000	0.00	0.000
2-23-P	75	130	25.13	3844.88	16.31	-860.73	0.000000	0.00	0.000
2-24-P	75	130	25.13	3844.88	-25.06	-860.73	0.000000	0.00	0.000
2-25-P	75	130	25.13	3844.88	-75.86	-860.73	0.000000	0.00	0.000
2-26-P	75	130	25.13	3844.88	-25.06	-860.73	0.000000	0.00	0.000
2-27-P	75	130	25.13	3844.88	16.31	-860.73	0.000000	0.00	0.000
2-28-P	75	130	25.13	1500.00	25.82	860.73	0.000000	0.00	0.000
2-29-P	75	130	25.13	1500.00	30.66	860.73	0.000000	0.00	0.000
2-30-P	75	130	25.13	1500.00	32.70	860.73	0.000000	0.00	0.000
2-31-P	75	130	25.13	1500.00	29.40	860.73	0.000000	0.00	0.000
2-32-P	75	130	25.13	3844.88	21.80	-860.73	0.000000	0.00	0.000
2-33-P	75	130	25.13	3844.88	14.40	-860.73	0.000000	0.00	0.000
2-34-P	75	130	25.13	3844.88	-45.61	-860.73	0.000000	0.00	0.000
2-35-P	75	130	25.13	3844.88	-55.98	-860.73	0.000000	0.00	0.000
2-36-P	75	130	25.13	3844.88	7.22	-860.73	0.000000	0.00	0.000
2-37-P	75	130	25.13	3844.88	19.74	-860.73	0.000000	0.00	0.000
2-38-P	75	130	25.13	1500.00	28.39	860.73	0.000000	0.00	0.000
2-39-P	75	130	25.13	1500.00	31.34	860.73	0.000000	0.00	0.000
2-40-P	75	130	25.13	1500.00	30.10	860.73	0.000000	0.00	0.000
2-41-P	75	130	25.13	1500.00	26.06	860.73	0.000000	0.00	0.000
2-42-P	75	130	25.13	3844.88	15.28	-860.73	0.000000	0.00	0.000
2-43-P	75	130	25.13	3844.88	-19.16	-860.73	0.000000	0.00	0.000
2-44-P	75	130	25.13	3844.88	-71.83	-860.73	0.000000	0.00	0.000
2-45-P	75	130	25.13	3844.88	-44.25	-860.73	0.000000	0.00	0.000
2-46-P	75	130	25.13	3844.88	7.59	-860.73	0.000000	0.00	0.000
2-47-P	75	130	25.13	3844.88	7.79	-860.73	0.000000	0.00	0.000
2-48-P	75	130	25.13	1500.00	9.96	860.73	0.000000	0.00	0.000
2-49-P	75	130	25.13	1500.00	11.12	860.73	0.000000	0.00	0.000
5-1-P	93	130	31.42	4735.77	-8.65	-1063.93	0.000000	0.00	0.000
5-2-P	93	130	31.42	4735.77	-11.36	-1063.93	0.000000	0.00	0.000
5-3-P	93	130	31.42	4735.77	-19.14	-1063.93	0.000000	0.00	0.000
5-4-P	93	130	31.42	4735.77	-32.60	-1063.93	0.000000	0.00	0.000
5-5-P	93	130	31.42	4735.77	-69.68	-1063.93	0.000000	0.00	0.000
5-6-P	93	130	31.42	4735.77	-95.87	-1063.93	0.000000	0.00	0.000
5-7-P	93	130	31.42	4735.77	-54.56	-1063.93	0.000000	0.00	0.000
5-8-P	93	130	31.42	4735.77	-31.75	-1063.93	0.000000	0.00	0.000
5-9-P	93	130	31.42	4735.77	-21.25	-1063.93	0.000000	0.00	0.000
5-10-P	93	130	31.42	4735.77	-20.25	-1063.93	0.000000	0.00	0.000
5-11-P	93	130	31.42	4735.77	-19.80	-1063.93	0.000000	0.00	0.000
5-12-P	93	130	31.42	4735.77	-20.15	-1063.93	0.000000	0.00	0.000
5-13-P	93	130	31.42	4735.77	-28.27	-1063.93	0.000000	0.00	0.000
5-14-P	93	130	31.42	4735.77	-44.60	-1063.93	0.000000	0.00	0.000
5-15-P	93	130	31.42	4735.77	-86.28	-1063.93	0.000000	0.00	0.000
5-16-P	93	130	31.42	4735.77	-77.47	-1063.93	0.000000	0.00	0.000
5-17-P	93	130	31.42	4735.77	-35.66	-1063.93	0.000000	0.00	0.000
5-18-P	93	130	31.42	4735.77	-25.18	-1063.93	0.000000	0.00	0.000
5-19-P	93	130	31.42	4735.77	-18.57	-1063.93	0.000000	0.00	0.000
5-20-P	93	130	31.42	4735.77	-17.80	-1063.93	0.000000	0.00	0.000
5-21-P	93	130	31.42	4735.77	-18.15	-1063.93	0.000000	0.00	0.000
5-22-P	93	130	31.42	4735.77	-20.72	-1063.93	0.000000	0.00	0.000
5-23-P	93	130	31.42	4735.77	-31.04	-1063.93	0.000000	0.00	0.000
5-24-P	93	130	31.42	4735.77	-60.13	-1063.93	0.000000	0.00	0.000
5-25-P	93	130	31.42	4735.77	-102.20	-1063.93	0.000000	0.00	0.000
5-26-P	93	130	31.42	4735.77	-60.13	-1063.93	0.000000	0.00	0.000
5-27-P	93	130	31.42	4735.77	-31.04	-1063.93	0.000000	0.00	0.000
5-28-P	93	130	31.42	4735.77	-20.72	-1063.93	0.000000	0.00	0.000
5-29-P	93	130	31.42	4735.77	-18.15	-1063.93	0.000000	0.00	0.000
5-30-P	93	130	31.42	4735.77	-17.80	-1063.93	0.000000	0.00	0.000
5-31-P	93	130	31.42	4735.77	-18.57	-1063.93	0.000000	0.00	0.000
5-32-P	93	130	31.42	4735.77	-25.18	-1063.93	0.000000	0.00	0.000
5-33-P	93	130	31.42	4735.77	-35.66	-1063.93	0.000000	0.00	0.000
5-34-P	93	130	31.42	4735.77	-77.47	-1063.93	0.000000	0.00	0.000
5-35-P	93	130	31.42	4735.77	-86.28	-1063.93	0.000000	0.00	0.000
5-36-P	93	130	31.42	4735.77	-44.60	-1063.93	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.16.0.5.004.A.DOCX

COMMESSA LOTTO CODIFICA DOCUMENTO REV. FOGLIO  
IF2R 2.2.E.ZZ CL TR.16.0.5.004 A 108 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
5-37-P	93	130	31.42	4735.77	-28.27	-1063.93	0.000000	0.00	0.000
5-38-P	93	130	31.42	4735.77	-20.15	-1063.93	0.000000	0.00	0.000
5-39-P	93	130	31.42	4735.77	-19.80	-1063.93	0.000000	0.00	0.000
5-40-P	93	130	31.42	4735.77	-20.25	-1063.93	0.000000	0.00	0.000
5-41-P	93	130	31.42	4735.77	-21.25	-1063.93	0.000000	0.00	0.000
5-42-P	93	130	31.42	4735.77	-31.75	-1063.93	0.000000	0.00	0.000
5-43-P	93	130	31.42	4735.77	-54.56	-1063.93	0.000000	0.00	0.000
5-44-P	93	130	31.42	4735.77	-95.87	-1063.93	0.000000	0.00	0.000
5-45-P	93	130	31.42	4735.77	-69.68	-1063.93	0.000000	0.00	0.000
5-46-P	93	130	31.42	4735.77	-32.60	-1063.93	0.000000	0.00	0.000
5-47-P	93	130	31.42	4735.77	-19.14	-1063.93	0.000000	0.00	0.000
5-48-P	93	130	31.42	4735.77	-11.36	-1063.93	0.000000	0.00	0.000
5-49-P	93	130	31.42	4735.77	-8.65	-1063.93	0.000000	0.00	0.000
6-1-P	92	130	28.27	4784.38	-2.50	-1046.17	0.000000	0.00	0.000
6-2-P	92	130	28.27	4784.38	-6.81	-1046.17	0.000000	0.00	0.000
6-3-P	92	130	28.27	4784.38	-13.21	-1046.17	0.000000	0.00	0.000
6-4-P	92	130	28.27	4784.38	-22.47	-1046.17	0.000000	0.00	0.000
6-5-P	92	130	28.27	4784.38	-29.45	-1046.17	0.000000	0.00	0.000
6-6-P	92	130	28.27	4784.38	-33.17	-1046.17	0.000000	0.00	0.000
6-7-P	92	130	28.27	4784.38	-26.06	-1046.17	0.000000	0.00	0.000
6-8-P	92	130	28.27	4784.38	-17.47	-1046.17	0.000000	0.00	0.000
6-9-P	92	130	28.27	4784.38	-7.89	-1046.17	0.000000	0.00	0.000
6-10-P	92	130	28.27	4784.38	-3.87	-1046.17	0.000000	0.00	0.000
6-11-P	92	130	28.27	4784.38	-3.05	-1046.17	0.000000	0.00	0.000
6-12-P	92	130	28.27	4784.38	-6.08	-1046.17	0.000000	0.00	0.000
6-13-P	92	130	28.27	4784.38	-13.21	-1046.17	0.000000	0.00	0.000
6-14-P	92	130	28.27	4784.38	-21.08	-1046.17	0.000000	0.00	0.000
6-15-P	92	130	28.27	4784.38	-27.15	-1046.17	0.000000	0.00	0.000
6-16-P	92	130	28.27	4784.38	-25.40	-1046.17	0.000000	0.00	0.000
6-17-P	92	130	28.27	4784.38	-18.50	-1046.17	0.000000	0.00	0.000
6-18-P	92	130	28.27	4784.38	-9.43	-1046.17	0.000000	0.00	0.000
6-19-P	92	130	28.27	4784.38	-3.46	-1046.17	0.000000	0.00	0.000
6-20-P	92	130	28.27	4784.38	3.41	-1046.17	0.000000	0.00	0.000
6-21-P	92	130	28.27	4784.38	2.43	-1046.17	0.000000	0.00	0.000
6-22-P	92	130	28.27	4784.38	-5.81	-1046.17	0.000000	0.00	0.000
6-23-P	92	130	28.27	4784.38	-13.94	-1046.17	0.000000	0.00	0.000
6-24-P	92	130	28.27	4784.38	-21.31	-1046.17	0.000000	0.00	0.000
6-25-P	92	130	28.27	4784.38	-27.89	-1046.17	0.000000	0.00	0.000
6-26-P	92	130	28.27	4784.38	-21.31	-1046.17	0.000000	0.00	0.000
6-27-P	92	130	28.27	4784.38	-13.94	-1046.17	0.000000	0.00	0.000
6-28-P	92	130	28.27	4784.38	-5.81	-1046.17	0.000000	0.00	0.000
6-29-P	92	130	28.27	4784.38	2.43	-1046.17	0.000000	0.00	0.000
6-30-P	92	130	28.27	4784.38	3.41	-1046.17	0.000000	0.00	0.000
6-31-P	92	130	28.27	4784.38	-3.46	-1046.17	0.000000	0.00	0.000
6-32-P	92	130	28.27	4784.38	-9.43	-1046.17	0.000000	0.00	0.000
6-33-P	92	130	28.27	4784.38	-18.50	-1046.17	0.000000	0.00	0.000
6-34-P	92	130	28.27	4784.38	-25.40	-1046.17	0.000000	0.00	0.000
6-35-P	92	130	28.27	4784.38	-27.15	-1046.17	0.000000	0.00	0.000
6-36-P	92	130	28.27	4784.38	-21.08	-1046.17	0.000000	0.00	0.000
6-37-P	92	130	28.27	4784.38	-13.21	-1046.17	0.000000	0.00	0.000
6-38-P	92	130	28.27	4784.38	-6.08	-1046.17	0.000000	0.00	0.000
6-39-P	92	130	28.27	4784.38	-3.05	-1046.17	0.000000	0.00	0.000
6-40-P	92	130	28.27	4784.38	-3.87	-1046.17	0.000000	0.00	0.000
6-41-P	92	130	28.27	4784.38	-7.89	-1046.17	0.000000	0.00	0.000
6-42-P	92	130	28.27	4784.38	-17.47	-1046.17	0.000000	0.00	0.000
6-43-P	92	130	28.27	4784.38	-26.06	-1046.17	0.000000	0.00	0.000
6-44-P	92	130	28.27	4784.38	-33.17	-1046.17	0.000000	0.00	0.000
6-45-P	92	130	28.27	4784.38	-29.45	-1046.17	0.000000	0.00	0.000
6-46-P	92	130	28.27	4784.38	-22.47	-1046.17	0.000000	0.00	0.000
6-47-P	92	130	28.27	4784.38	-13.21	-1046.17	0.000000	0.00	0.000
6-48-P	92	130	28.27	4784.38	-6.81	-1046.17	0.000000	0.00	0.000
6-49-P	92	130	28.27	4784.38	-2.50	-1046.17	0.000000	0.00	0.000
7-1-P	93	130	28.27	4784.38	2.96	-1046.17	0.000000	0.00	0.000
7-2-P	93	130	28.27	4784.38	-4.96	-1046.17	0.000000	0.00	0.000
7-3-P	93	130	28.27	4784.38	-11.31	-1046.17	0.000000	0.00	0.000
7-4-P	93	130	28.27	4784.38	-23.70	-1046.17	0.000000	0.00	0.000
7-5-P	93	130	28.27	4784.38	-24.21	-1046.17	0.000000	0.00	0.000
7-6-P	93	130	28.27	4784.38	-23.33	-1046.17	0.000000	0.00	0.000
7-7-P	93	130	28.27	4784.38	-17.39	-1046.17	0.000000	0.00	0.000
7-8-P	93	130	28.27	4784.38	-7.81	-1046.17	0.000000	0.00	0.000
7-9-P	93	130	28.27	4784.38	12.66	-1046.17	0.000000	0.00	0.000
7-10-P	93	130	28.27	1850.00	16.67	1046.17	0.000000	0.00	0.000
7-11-P	93	130	28.27	1850.00	18.30	1046.17	0.000000	0.00	0.000
7-12-P	93	130	28.27	4784.38	16.36	-1046.17	0.000000	0.00	0.000
7-13-P	93	130	28.27	4784.38	8.58	-1046.17	0.000000	0.00	0.000
7-14-P	93	130	28.27	4784.38	-12.61	-1046.17	0.000000	0.00	0.000
7-15-P	93	130	28.27	4784.38	-12.32	-1046.17	0.000000	0.00	0.000
7-16-P	93	130	28.27	4784.38	-10.84	-1046.17	0.000000	0.00	0.000
7-17-P	93	130	28.27	4784.38	-11.46	-1046.17	0.000000	0.00	0.000
7-18-P	93	130	28.27	4784.38	10.88	-1046.17	0.000000	0.00	0.000
7-19-P	93	130	28.27	1850.00	20.90	1046.17	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	109 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
7-20-P	93	130	28.27	1850.00	24.06	1046.17	0.000000	0.00	0.000
7-21-P	93	130	28.27	1850.00	22.55	1046.17	0.000000	0.00	0.000
7-22-P	93	130	28.27	1850.00	17.46	1046.17	0.000000	0.00	0.000
7-23-P	93	130	28.27	4784.38	8.11	-1046.17	0.000000	0.00	0.000
7-24-P	93	130	28.27	4784.38	-8.05	-1046.17	0.000000	0.00	0.000
7-25-P	93	130	28.27	4784.38	-12.39	-1046.17	0.000000	0.00	0.000
7-26-P	93	130	28.27	4784.38	-8.05	-1046.17	0.000000	0.00	0.000
7-27-P	93	130	28.27	4784.38	8.11	-1046.17	0.000000	0.00	0.000
7-28-P	93	130	28.27	1850.00	17.46	1046.17	0.000000	0.00	0.000
7-29-P	93	130	28.27	1850.00	22.55	1046.17	0.000000	0.00	0.000
7-30-P	93	130	28.27	1850.00	24.06	1046.17	0.000000	0.00	0.000
7-31-P	93	130	28.27	1850.00	20.90	1046.17	0.000000	0.00	0.000
7-32-P	93	130	28.27	4784.38	10.88	-1046.17	0.000000	0.00	0.000
7-33-P	93	130	28.27	4784.38	-11.46	-1046.17	0.000000	0.00	0.000
7-34-P	93	130	28.27	4784.38	-10.84	-1046.17	0.000000	0.00	0.000
7-35-P	93	130	28.27	4784.38	-12.32	-1046.17	0.000000	0.00	0.000
7-36-P	93	130	28.27	4784.38	-12.61	-1046.17	0.000000	0.00	0.000
7-37-P	93	130	28.27	4784.38	8.58	-1046.17	0.000000	0.00	0.000
7-38-P	93	130	28.27	4784.38	16.36	-1046.17	0.000000	0.00	0.000
7-39-P	93	130	28.27	1850.00	18.30	1046.17	0.000000	0.00	0.000
7-40-P	93	130	28.27	1850.00	16.67	1046.17	0.000000	0.00	0.000
7-41-P	93	130	28.27	4784.38	12.66	-1046.17	0.000000	0.00	0.000
7-42-P	93	130	28.27	4784.38	-7.81	-1046.17	0.000000	0.00	0.000
7-43-P	93	130	28.27	4784.38	-17.39	-1046.17	0.000000	0.00	0.000
7-44-P	93	130	28.27	4784.38	-23.33	-1046.17	0.000000	0.00	0.000
7-45-P	93	130	28.27	4784.38	-24.21	-1046.17	0.000000	0.00	0.000
7-46-P	93	130	28.27	4784.38	-23.70	-1046.17	0.000000	0.00	0.000
7-47-P	93	130	28.27	4784.38	-11.31	-1046.17	0.000000	0.00	0.000
7-48-P	93	130	28.27	4784.38	-4.96	-1046.17	0.000000	0.00	0.000
7-49-P	93	130	28.27	4784.38	2.96	-1046.17	0.000000	0.00	0.000
8-1-P	92	130	31.42	4735.77	0.79	-1063.93	0.000000	0.00	0.000
8-2-P	92	130	31.42	4735.77	-4.80	-1063.93	0.000000	0.00	0.000
8-3-P	92	130	31.42	4735.77	-12.39	-1063.93	0.000000	0.00	0.000
8-4-P	92	130	31.42	4735.77	-24.46	-1063.93	0.000000	0.00	0.000
8-5-P	92	130	31.42	4735.77	-48.57	-1063.93	0.000000	0.00	0.000
8-6-P	92	130	31.42	4735.77	-69.22	-1063.93	0.000000	0.00	0.000
8-7-P	92	130	31.42	4735.77	-30.30	-1063.93	0.000000	0.00	0.000
8-8-P	92	130	31.42	4735.77	-12.68	-1063.93	0.000000	0.00	0.000
8-9-P	92	130	31.42	4735.77	6.25	-1063.93	0.000000	0.00	0.000
8-10-P	92	130	31.42	1850.00	11.73	1063.93	0.000000	0.00	0.000
8-11-P	92	130	31.42	1850.00	14.06	1063.93	0.000000	0.00	0.000
8-12-P	92	130	31.42	4735.77	10.05	-1063.93	0.000000	0.00	0.000
8-13-P	92	130	31.42	4735.77	8.45	-1063.93	0.000000	0.00	0.000
8-14-P	92	130	31.42	4735.77	-18.54	-1063.93	0.000000	0.00	0.000
8-15-P	92	130	31.42	4735.77	-50.15	-1063.93	0.000000	0.00	0.000
8-16-P	92	130	31.42	4735.77	-41.98	-1063.93	0.000000	0.00	0.000
8-17-P	92	130	31.42	4735.77	-14.12	-1063.93	0.000000	0.00	0.000
8-18-P	92	130	31.42	4735.77	9.52	-1063.93	0.000000	0.00	0.000
8-19-P	92	130	31.42	1850.00	15.55	1063.93	0.000000	0.00	0.000
8-20-P	92	130	31.42	1850.00	21.22	1063.93	0.000000	0.00	0.000
8-21-P	92	130	31.42	1850.00	18.28	1063.93	0.000000	0.00	0.000
8-22-P	92	130	31.42	1850.00	12.21	1063.93	0.000000	0.00	0.000
8-23-P	92	130	31.42	4735.77	10.56	-1063.93	0.000000	0.00	0.000
8-24-P	92	130	31.42	4735.77	-24.46	-1063.93	0.000000	0.00	0.000
8-25-P	92	130	31.42	4735.77	-62.06	-1063.93	0.000000	0.00	0.000
8-26-P	92	130	31.42	4735.77	-24.46	-1063.93	0.000000	0.00	0.000
8-27-P	92	130	31.42	4735.77	10.56	-1063.93	0.000000	0.00	0.000
8-28-P	92	130	31.42	1850.00	12.21	1063.93	0.000000	0.00	0.000
8-29-P	92	130	31.42	1850.00	18.28	1063.93	0.000000	0.00	0.000
8-30-P	92	130	31.42	1850.00	21.22	1063.93	0.000000	0.00	0.000
8-31-P	92	130	31.42	1850.00	15.55	1063.93	0.000000	0.00	0.000
8-32-P	92	130	31.42	4735.77	9.52	-1063.93	0.000000	0.00	0.000
8-33-P	92	130	31.42	4735.77	-14.12	-1063.93	0.000000	0.00	0.000
8-34-P	92	130	31.42	4735.77	-41.98	-1063.93	0.000000	0.00	0.000
8-35-P	92	130	31.42	4735.77	-50.15	-1063.93	0.000000	0.00	0.000
8-36-P	92	130	31.42	4735.77	-18.54	-1063.93	0.000000	0.00	0.000
8-37-P	92	130	31.42	4735.77	8.45	-1063.93	0.000000	0.00	0.000
8-38-P	92	130	31.42	4735.77	10.05	-1063.93	0.000000	0.00	0.000
8-39-P	92	130	31.42	1850.00	14.06	1063.93	0.000000	0.00	0.000
8-40-P	92	130	31.42	1850.00	11.73	1063.93	0.000000	0.00	0.000
8-41-P	92	130	31.42	4735.77	6.25	-1063.93	0.000000	0.00	0.000
8-42-P	92	130	31.42	4735.77	-12.68	-1063.93	0.000000	0.00	0.000
8-43-P	92	130	31.42	4735.77	-30.30	-1063.93	0.000000	0.00	0.000
8-44-P	92	130	31.42	4735.77	-69.22	-1063.93	0.000000	0.00	0.000
8-45-P	92	130	31.42	4735.77	-48.57	-1063.93	0.000000	0.00	0.000
8-46-P	92	130	31.42	4735.77	-24.46	-1063.93	0.000000	0.00	0.000
8-47-P	92	130	31.42	4735.77	-12.39	-1063.93	0.000000	0.00	0.000
8-48-P	92	130	31.42	4735.77	-4.80	-1063.93	0.000000	0.00	0.000
8-49-P	92	130	31.42	4735.77	0.79	-1063.93	0.000000	0.00	0.000
9-1-S	100	130	31.42	5158.75	-8.07	-1135.80	0.000000	0.00	0.000
9-2-S	100	130	31.42	5158.75	-13.99	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	110 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
9-3-S	100	130	31.42	5158.75	-19.00	-1135.80	0.000000	0.00	0.000
9-4-S	100	130	31.42	5158.75	-23.26	-1135.80	0.000000	0.00	0.000
9-5-S	100	130	31.42	5158.75	19.47	-1135.80	0.000000	0.00	0.000
9-6-S	100	130	31.42	5158.75	58.57	-1135.80	0.000000	0.00	0.000
9-7-S	100	130	31.42	2000.00	123.37	1135.80	0.000000	0.00	0.000
9-8-S	100	130	31.42	5158.75	-178.78	-1135.80	0.000000	0.00	0.000
9-9-S	100	130	31.42	5158.75	-163.30	-1135.80	0.000000	0.00	0.000
9-10-S	100	130	31.42	5158.75	-155.53	-1135.80	0.000000	0.00	0.000
9-11-S	100	130	31.42	5158.75	-127.02	-1135.80	0.000000	0.00	0.000
9-12-S	100	130	31.42	5158.75	-94.88	-1135.80	0.000000	0.00	0.000
9-13-S	100	130	31.42	5158.75	-57.11	-1135.80	0.000000	0.00	0.000
9-14-S	100	130	31.42	5158.75	-25.84	-1135.80	0.000000	0.00	0.000
9-15-S	100	130	31.42	5158.75	6.57	-1135.80	0.000000	0.00	0.000
9-16-S	100	130	31.42	5158.75	20.31	-1135.80	0.000000	0.00	0.000
9-17-S	100	130	31.42	5158.75	27.72	-1135.80	0.000000	0.00	0.000
9-18-S	100	130	31.42	5158.75	27.27	-1135.80	0.000000	0.00	0.000
9-19-S	100	130	31.42	5158.75	20.01	-1135.80	0.000000	0.00	0.000
9-20-S	100	130	31.42	5158.75	13.81	-1135.80	0.000000	0.00	0.000
9-21-S	100	130	31.42	5158.75	7.55	-1135.80	0.000000	0.00	0.000
9-22-S	100	130	31.42	5158.75	4.96	-1135.80	0.000000	0.00	0.000
9-23-S	100	130	31.42	5158.75	4.81	-1135.80	0.000000	0.00	0.000
10-1-S	100	130	31.42	5158.75	13.24	-1135.80	0.000000	0.00	0.000
10-2-S	100	130	31.42	5158.75	23.68	-1135.80	0.000000	0.00	0.000
10-3-S	100	130	31.42	5158.75	-18.50	-1135.80	0.000000	0.00	0.000
10-4-S	100	130	31.42	5158.75	-94.52	-1135.80	0.000000	0.00	0.000
10-5-S	100	130	31.42	5158.75	-58.82	-1135.80	0.000000	0.00	0.000
10-6-S	100	130	31.42	5158.75	35.20	-1135.80	0.000000	0.00	0.000
10-7-S	100	130	31.42	2000.00	133.90	1135.80	0.000000	0.00	0.000
10-8-S	100	130	31.42	5158.75	-92.88	-1135.80	0.000000	0.00	0.000
10-9-S	100	130	31.42	5158.75	-99.45	-1135.80	0.000000	0.00	0.000
10-10-S	100	130	31.42	5158.75	-196.14	-1135.80	0.000000	0.00	0.000
10-11-S	100	130	31.42	5158.75	-163.47	-1135.80	0.000000	0.00	0.000
10-12-S	100	130	31.42	5158.75	-120.81	-1135.80	0.000000	0.00	0.000
10-13-S	100	130	31.42	5158.75	-66.74	-1135.80	0.000000	0.00	0.000
10-14-S	100	130	31.42	5158.75	-26.31	-1135.80	0.000000	0.00	0.000
10-15-S	100	130	31.42	5158.75	8.17	-1135.80	0.000000	0.00	0.000
10-16-S	100	130	31.42	5158.75	31.02	-1135.80	0.000000	0.00	0.000
10-17-S	100	130	31.42	5158.75	49.97	-1135.80	0.000000	0.00	0.000
10-18-S	100	130	31.42	5158.75	65.26	-1135.80	0.000000	0.00	0.000
10-19-S	100	130	31.42	5158.75	18.26	-1135.80	0.000000	0.00	0.000
10-20-S	100	130	31.42	5158.75	-38.36	-1135.80	0.000000	0.00	0.000
10-21-S	100	130	31.42	5158.75	-34.53	-1135.80	0.000000	0.00	0.000
10-22-S	100	130	31.42	5158.75	-22.49	-1135.80	0.000000	0.00	0.000
10-23-S	100	130	31.42	5158.75	-5.82	-1135.80	0.000000	0.00	0.000
11-1-S	100	130	31.42	5158.75	-10.23	-1135.80	0.000000	0.00	0.000
11-2-S	100	130	31.42	5158.75	-10.36	-1135.80	0.000000	0.00	0.000
11-3-S	100	130	31.42	5158.75	-5.72	-1135.80	0.000000	0.00	0.000
11-4-S	100	130	31.42	5158.75	11.45	-1135.80	0.000000	0.00	0.000
11-5-S	100	130	31.42	2000.00	40.88	1135.80	0.000000	0.00	0.000
11-6-S	100	130	31.42	2000.00	81.14	1135.80	0.000000	0.00	0.000
11-7-S	100	130	31.42	2000.00	129.38	1135.80	0.000000	0.00	0.000
11-8-S	100	130	31.42	5158.75	-197.30	-1135.80	0.000000	0.00	0.000
11-9-S	100	130	31.42	5158.75	-161.83	-1135.80	0.000000	0.00	0.000
11-10-S	100	130	31.42	5158.75	-137.47	-1135.80	0.000000	0.00	0.000
11-11-S	100	130	31.42	5158.75	-109.84	-1135.80	0.000000	0.00	0.000
11-12-S	100	130	31.42	5158.75	-81.12	-1135.80	0.000000	0.00	0.000
11-13-S	100	130	31.42	5158.75	-50.55	-1135.80	0.000000	0.00	0.000
11-14-S	100	130	31.42	5158.75	-24.22	-1135.80	0.000000	0.00	0.000
11-15-S	100	130	31.42	5158.75	-2.36	-1135.80	0.000000	0.00	0.000
11-16-S	100	130	31.42	5158.75	11.54	-1135.80	0.000000	0.00	0.000
11-17-S	100	130	31.42	5158.75	18.89	-1135.80	0.000000	0.00	0.000
11-18-S	100	130	31.42	5158.75	21.08	-1135.80	0.000000	0.00	0.000
11-19-S	100	130	31.42	5158.75	18.13	-1135.80	0.000000	0.00	0.000
11-20-S	100	130	31.42	5158.75	14.16	-1135.80	0.000000	0.00	0.000
11-21-S	100	130	31.42	5158.75	9.22	-1135.80	0.000000	0.00	0.000
11-22-S	100	130	31.42	5158.75	5.46	-1135.80	0.000000	0.00	0.000
11-23-S	100	130	31.42	5158.75	2.80	-1135.80	0.000000	0.00	0.000
12-1-S	100	130	31.42	5158.75	16.33	-1135.80	0.000000	0.00	0.000
12-2-S	100	130	31.42	5158.75	24.66	-1135.80	0.000000	0.00	0.000
12-3-S	100	130	31.42	5158.75	-20.73	-1135.80	0.000000	0.00	0.000
12-4-S	100	130	31.42	5158.75	-107.52	-1135.80	0.000000	0.00	0.000
12-5-S	100	130	31.42	5158.75	-64.93	-1135.80	0.000000	0.00	0.000
12-6-S	100	130	31.42	5158.75	27.75	-1135.80	0.000000	0.00	0.000
12-7-S	100	130	31.42	2000.00	134.10	1135.80	0.000000	0.00	0.000
12-8-S	100	130	31.42	5158.75	-67.15	-1135.80	0.000000	0.00	0.000
12-9-S	100	130	31.42	5158.75	-84.73	-1135.80	0.000000	0.00	0.000
12-10-S	100	130	31.42	5158.75	-198.23	-1135.80	0.000000	0.00	0.000
12-11-S	100	130	31.42	5158.75	-166.09	-1135.80	0.000000	0.00	0.000
12-12-S	100	130	31.42	5158.75	-122.52	-1135.80	0.000000	0.00	0.000
12-13-S	100	130	31.42	5158.75	-65.81	-1135.80	0.000000	0.00	0.000
12-14-S	100	130	31.42	5158.75	-24.08	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	111 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
12-15-S	100	130	31.42	5158.75	11.20	-1135.80	0.000000	0.00	0.000
12-16-S	100	130	31.42	5158.75	35.69	-1135.80	0.000000	0.00	0.000
12-17-S	100	130	31.42	5158.75	55.75	-1135.80	0.000000	0.00	0.000
12-18-S	100	130	31.42	5158.75	72.10	-1135.80	0.000000	0.00	0.000
12-19-S	100	130	31.42	5158.75	19.81	-1135.80	0.000000	0.00	0.000
12-20-S	100	130	31.42	5158.75	-44.68	-1135.80	0.000000	0.00	0.000
12-21-S	100	130	31.42	5158.75	-39.12	-1135.80	0.000000	0.00	0.000
12-22-S	100	130	31.42	5158.75	-25.45	-1135.80	0.000000	0.00	0.000
12-23-S	100	130	31.42	5158.75	-6.70	-1135.80	0.000000	0.00	0.000
13-1-S	100	130	31.42	5158.75	-9.20	-1135.80	0.000000	0.00	0.000
13-2-S	100	130	31.42	5158.75	-13.97	-1135.80	0.000000	0.00	0.000
13-3-S	100	130	31.42	5158.75	-12.79	-1135.80	0.000000	0.00	0.000
13-4-S	100	130	31.42	5158.75	10.68	-1135.80	0.000000	0.00	0.000
13-5-S	100	130	31.42	2000.00	33.64	1135.80	0.000000	0.00	0.000
13-6-S	100	130	31.42	2000.00	75.42	1135.80	0.000000	0.00	0.000
13-7-S	100	130	31.42	2000.00	128.61	1135.80	0.000000	0.00	0.000
13-8-S	100	130	31.42	5158.75	-183.95	-1135.80	0.000000	0.00	0.000
13-9-S	100	130	31.42	5158.75	-161.32	-1135.80	0.000000	0.00	0.000
13-10-S	100	130	31.42	5158.75	-136.35	-1135.80	0.000000	0.00	0.000
13-11-S	100	130	31.42	5158.75	-109.70	-1135.80	0.000000	0.00	0.000
13-12-S	100	130	31.42	5158.75	-81.22	-1135.80	0.000000	0.00	0.000
13-13-S	100	130	31.42	5158.75	-49.40	-1135.80	0.000000	0.00	0.000
13-14-S	100	130	31.42	5158.75	-22.18	-1135.80	0.000000	0.00	0.000
13-15-S	100	130	31.42	5158.75	2.52	-1135.80	0.000000	0.00	0.000
13-16-S	100	130	31.42	5158.75	15.32	-1135.80	0.000000	0.00	0.000
13-17-S	100	130	31.42	5158.75	21.64	-1135.80	0.000000	0.00	0.000
13-18-S	100	130	31.42	5158.75	21.17	-1135.80	0.000000	0.00	0.000
13-19-S	100	130	31.42	5158.75	18.84	-1135.80	0.000000	0.00	0.000
13-20-S	100	130	31.42	5158.75	15.43	-1135.80	0.000000	0.00	0.000
13-21-S	100	130	31.42	5158.75	9.47	-1135.80	0.000000	0.00	0.000
13-22-S	100	130	31.42	5158.75	5.64	-1135.80	0.000000	0.00	0.000
13-23-S	100	130	31.42	5158.75	3.31	-1135.80	0.000000	0.00	0.000
14-1-S	100	130	34.56	5110.99	9.24	-1153.55	0.000000	0.00	0.000
14-2-S	100	130	34.56	5110.99	-14.15	-1153.55	0.000000	0.00	0.000
14-3-S	100	130	34.56	5110.99	-19.40	-1153.55	0.000000	0.00	0.000
14-4-S	100	130	34.56	5110.99	-58.48	-1153.55	0.000000	0.00	0.000
14-5-S	100	130	34.56	5110.99	-33.00	-1153.55	0.000000	0.00	0.000
14-6-S	100	130	34.56	5110.99	49.79	-1153.55	0.000000	0.00	0.000
14-7-S	100	130	34.56	2000.00	131.61	1153.55	0.000000	0.00	0.000
14-8-S	100	130	34.56	5110.99	-123.60	-1153.55	0.000000	0.00	0.000
14-9-S	100	130	34.56	5110.99	-122.18	-1153.55	0.000000	0.00	0.000
14-10-S	100	130	34.56	5110.99	-167.03	-1153.55	0.000000	0.00	0.000
14-11-S	100	130	34.56	5110.99	-137.99	-1153.55	0.000000	0.00	0.000
14-12-S	100	130	34.56	5110.99	-102.00	-1153.55	0.000000	0.00	0.000
14-13-S	100	130	34.56	5110.99	-57.20	-1153.55	0.000000	0.00	0.000
14-14-S	100	130	34.56	5110.99	-22.25	-1153.55	0.000000	0.00	0.000
14-15-S	100	130	34.56	5110.99	7.83	-1153.55	0.000000	0.00	0.000
14-16-S	100	130	34.56	5110.99	26.52	-1153.55	0.000000	0.00	0.000
14-17-S	100	130	34.56	5110.99	39.32	-1153.55	0.000000	0.00	0.000
14-18-S	100	130	34.56	5110.99	46.60	-1153.55	0.000000	0.00	0.000
14-19-S	100	130	34.56	5110.99	19.24	-1153.55	0.000000	0.00	0.000
14-20-S	100	130	34.56	5110.99	-23.57	-1153.55	0.000000	0.00	0.000
14-21-S	100	130	34.56	5110.99	-20.29	-1153.55	0.000000	0.00	0.000
14-22-S	100	130	34.56	5110.99	-13.18	-1153.55	0.000000	0.00	0.000
14-23-S	100	130	34.56	5110.99	-3.73	-1153.55	0.000000	0.00	0.000
15-1-S	100	130	31.42	5158.75	9.24	-1135.80	0.000000	0.00	0.000
15-2-S	100	130	31.42	5158.75	-14.15	-1135.80	0.000000	0.00	0.000
15-3-S	100	130	31.42	5158.75	-19.40	-1135.80	0.000000	0.00	0.000
15-4-S	100	130	31.42	5158.75	-58.48	-1135.80	0.000000	0.00	0.000
15-5-S	100	130	31.42	5158.75	-33.00	-1135.80	0.000000	0.00	0.000
15-6-S	100	130	31.42	5158.75	49.79	-1135.80	0.000000	0.00	0.000
15-7-S	100	130	31.42	2000.00	131.61	1135.80	0.000000	0.00	0.000
15-8-S	100	130	31.42	5158.75	-123.60	-1135.80	0.000000	0.00	0.000
15-9-S	100	130	31.42	5158.75	-122.18	-1135.80	0.000000	0.00	0.000
15-10-S	100	130	31.42	5158.75	-167.03	-1135.80	0.000000	0.00	0.000
15-11-S	100	130	31.42	5158.75	-137.99	-1135.80	0.000000	0.00	0.000
15-12-S	100	130	31.42	5158.75	-102.00	-1135.80	0.000000	0.00	0.000
15-13-S	100	130	31.42	5158.75	-57.20	-1135.80	0.000000	0.00	0.000
15-14-S	100	130	31.42	5158.75	-22.25	-1135.80	0.000000	0.00	0.000
15-15-S	100	130	31.42	5158.75	7.83	-1135.80	0.000000	0.00	0.000
15-16-S	100	130	31.42	5158.75	26.52	-1135.80	0.000000	0.00	0.000
15-17-S	100	130	31.42	5158.75	39.32	-1135.80	0.000000	0.00	0.000
15-18-S	100	130	31.42	5158.75	46.60	-1135.80	0.000000	0.00	0.000
15-19-S	100	130	31.42	5158.75	19.24	-1135.80	0.000000	0.00	0.000
15-20-S	100	130	31.42	5158.75	-23.57	-1135.80	0.000000	0.00	0.000
15-21-S	100	130	31.42	5158.75	-20.29	-1135.80	0.000000	0.00	0.000
15-22-S	100	130	31.42	5158.75	-13.18	-1135.80	0.000000	0.00	0.000
15-23-S	100	130	31.42	5158.75	-3.73	-1135.80	0.000000	0.00	0.000
16-1-S	100	130	31.42	5158.75	-9.20	-1135.80	0.000000	0.00	0.000
16-2-S	100	130	31.42	5158.75	-13.97	-1135.80	0.000000	0.00	0.000
16-3-S	100	130	31.42	5158.75	-12.79	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	112 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
16-4-S	100	130	31.42	5158.75	10.68	-1135.80	0.000000	0.00	0.000
16-5-S	100	130	31.42	2000.00	33.64	1135.80	0.000000	0.00	0.000
16-6-S	100	130	31.42	2000.00	75.42	1135.80	0.000000	0.00	0.000
16-7-S	100	130	31.42	2000.00	128.61	1135.80	0.000000	0.00	0.000
16-8-S	100	130	31.42	5158.75	-183.95	-1135.80	0.000000	0.00	0.000
16-9-S	100	130	31.42	5158.75	-161.32	-1135.80	0.000000	0.00	0.000
16-10-S	100	130	31.42	5158.75	-136.35	-1135.80	0.000000	0.00	0.000
16-11-S	100	130	31.42	5158.75	-109.70	-1135.80	0.000000	0.00	0.000
16-12-S	100	130	31.42	5158.75	-81.22	-1135.80	0.000000	0.00	0.000
16-13-S	100	130	31.42	5158.75	-49.40	-1135.80	0.000000	0.00	0.000
16-14-S	100	130	31.42	5158.75	-22.18	-1135.80	0.000000	0.00	0.000
16-15-S	100	130	31.42	5158.75	2.52	-1135.80	0.000000	0.00	0.000
16-16-S	100	130	31.42	5158.75	15.32	-1135.80	0.000000	0.00	0.000
16-17-S	100	130	31.42	5158.75	21.64	-1135.80	0.000000	0.00	0.000
16-18-S	100	130	31.42	5158.75	21.17	-1135.80	0.000000	0.00	0.000
16-19-S	100	130	31.42	5158.75	18.84	-1135.80	0.000000	0.00	0.000
16-20-S	100	130	31.42	5158.75	15.43	-1135.80	0.000000	0.00	0.000
16-21-S	100	130	31.42	5158.75	9.47	-1135.80	0.000000	0.00	0.000
16-22-S	100	130	31.42	5158.75	5.64	-1135.80	0.000000	0.00	0.000
16-23-S	100	130	31.42	5158.75	3.31	-1135.80	0.000000	0.00	0.000
17-1-S	100	130	31.42	5158.75	16.33	-1135.80	0.000000	0.00	0.000
17-2-S	100	130	31.42	5158.75	24.66	-1135.80	0.000000	0.00	0.000
17-3-S	100	130	31.42	5158.75	-20.73	-1135.80	0.000000	0.00	0.000
17-4-S	100	130	31.42	5158.75	-107.52	-1135.80	0.000000	0.00	0.000
17-5-S	100	130	31.42	5158.75	-64.93	-1135.80	0.000000	0.00	0.000
17-6-S	100	130	31.42	5158.75	27.75	-1135.80	0.000000	0.00	0.000
17-7-S	100	130	31.42	2000.00	134.10	1135.80	0.000000	0.00	0.000
17-8-S	100	130	31.42	5158.75	-67.15	-1135.80	0.000000	0.00	0.000
17-9-S	100	130	31.42	5158.75	-84.73	-1135.80	0.000000	0.00	0.000
17-10-S	100	130	31.42	5158.75	-198.23	-1135.80	0.000000	0.00	0.000
17-11-S	100	130	31.42	5158.75	-166.09	-1135.80	0.000000	0.00	0.000
17-12-S	100	130	31.42	5158.75	-122.52	-1135.80	0.000000	0.00	0.000
17-13-S	100	130	31.42	5158.75	-65.81	-1135.80	0.000000	0.00	0.000
17-14-S	100	130	31.42	5158.75	-24.08	-1135.80	0.000000	0.00	0.000
17-15-S	100	130	31.42	5158.75	11.20	-1135.80	0.000000	0.00	0.000
17-16-S	100	130	31.42	5158.75	35.69	-1135.80	0.000000	0.00	0.000
17-17-S	100	130	31.42	5158.75	55.75	-1135.80	0.000000	0.00	0.000
17-18-S	100	130	31.42	5158.75	72.10	-1135.80	0.000000	0.00	0.000
17-19-S	100	130	31.42	5158.75	19.81	-1135.80	0.000000	0.00	0.000
17-20-S	100	130	31.42	5158.75	-44.68	-1135.80	0.000000	0.00	0.000
17-21-S	100	130	31.42	5158.75	-39.12	-1135.80	0.000000	0.00	0.000
17-22-S	100	130	31.42	5158.75	-25.45	-1135.80	0.000000	0.00	0.000
17-23-S	100	130	31.42	5158.75	-6.70	-1135.80	0.000000	0.00	0.000
18-1-S	100	130	31.42	5158.75	-10.23	-1135.80	0.000000	0.00	0.000
18-2-S	100	130	31.42	5158.75	-10.36	-1135.80	0.000000	0.00	0.000
18-3-S	100	130	31.42	5158.75	-5.72	-1135.80	0.000000	0.00	0.000
18-4-S	100	130	31.42	5158.75	11.45	-1135.80	0.000000	0.00	0.000
18-5-S	100	130	31.42	2000.00	40.88	1135.80	0.000000	0.00	0.000
18-6-S	100	130	31.42	2000.00	81.14	1135.80	0.000000	0.00	0.000
18-7-S	100	130	31.42	2000.00	129.38	1135.80	0.000000	0.00	0.000
18-8-S	100	130	31.42	5158.75	-197.30	-1135.80	0.000000	0.00	0.000
18-9-S	100	130	31.42	5158.75	-161.83	-1135.80	0.000000	0.00	0.000
18-10-S	100	130	31.42	5158.75	-137.47	-1135.80	0.000000	0.00	0.000
18-11-S	100	130	31.42	5158.75	-109.84	-1135.80	0.000000	0.00	0.000
18-12-S	100	130	31.42	5158.75	-81.12	-1135.80	0.000000	0.00	0.000
18-13-S	100	130	31.42	5158.75	-50.55	-1135.80	0.000000	0.00	0.000
18-14-S	100	130	31.42	5158.75	-24.22	-1135.80	0.000000	0.00	0.000
18-15-S	100	130	31.42	5158.75	-2.36	-1135.80	0.000000	0.00	0.000
18-16-S	100	130	31.42	5158.75	11.54	-1135.80	0.000000	0.00	0.000
18-17-S	100	130	31.42	5158.75	18.89	-1135.80	0.000000	0.00	0.000
18-18-S	100	130	31.42	5158.75	21.08	-1135.80	0.000000	0.00	0.000
18-19-S	100	130	31.42	5158.75	18.13	-1135.80	0.000000	0.00	0.000
18-20-S	100	130	31.42	5158.75	14.16	-1135.80	0.000000	0.00	0.000
18-21-S	100	130	31.42	5158.75	9.22	-1135.80	0.000000	0.00	0.000
18-22-S	100	130	31.42	5158.75	5.46	-1135.80	0.000000	0.00	0.000
18-23-S	100	130	31.42	5158.75	2.80	-1135.80	0.000000	0.00	0.000
19-1-S	100	130	31.42	5158.75	13.24	-1135.80	0.000000	0.00	0.000
19-2-S	100	130	31.42	5158.75	23.68	-1135.80	0.000000	0.00	0.000
19-3-S	100	130	31.42	5158.75	-18.50	-1135.80	0.000000	0.00	0.000
19-4-S	100	130	31.42	5158.75	-94.52	-1135.80	0.000000	0.00	0.000
19-5-S	100	130	31.42	5158.75	-58.82	-1135.80	0.000000	0.00	0.000
19-6-S	100	130	31.42	5158.75	35.20	-1135.80	0.000000	0.00	0.000
19-7-S	100	130	31.42	2000.00	133.90	1135.80	0.000000	0.00	0.000
19-8-S	100	130	31.42	5158.75	-92.88	-1135.80	0.000000	0.00	0.000
19-9-S	100	130	31.42	5158.75	-99.45	-1135.80	0.000000	0.00	0.000
19-10-S	100	130	31.42	5158.75	-196.14	-1135.80	0.000000	0.00	0.000
19-11-S	100	130	31.42	5158.75	-163.47	-1135.80	0.000000	0.00	0.000
19-12-S	100	130	31.42	5158.75	-120.81	-1135.80	0.000000	0.00	0.000
19-13-S	100	130	31.42	5158.75	-66.74	-1135.80	0.000000	0.00	0.000
19-14-S	100	130	31.42	5158.75	-26.31	-1135.80	0.000000	0.00	0.000
19-15-S	100	130	31.42	5158.75	8.17	-1135.80	0.000000	0.00	0.000

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:

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	113 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
19-16-S	100	130	31.42	5158.75	31.02	-1135.80	0.000000	0.00	0.000
19-17-S	100	130	31.42	5158.75	49.97	-1135.80	0.000000	0.00	0.000
19-18-S	100	130	31.42	5158.75	65.26	-1135.80	0.000000	0.00	0.000
19-19-S	100	130	31.42	5158.75	18.26	-1135.80	0.000000	0.00	0.000
19-20-S	100	130	31.42	5158.75	-38.36	-1135.80	0.000000	0.00	0.000
19-21-S	100	130	31.42	5158.75	-34.53	-1135.80	0.000000	0.00	0.000
19-22-S	100	130	31.42	5158.75	-22.49	-1135.80	0.000000	0.00	0.000
19-23-S	100	130	31.42	5158.75	-5.82	-1135.80	0.000000	0.00	0.000
20-1-S	100	130	31.42	5158.75	-8.07	-1135.80	0.000000	0.00	0.000
20-2-S	100	130	31.42	5158.75	-13.99	-1135.80	0.000000	0.00	0.000
20-3-S	100	130	31.42	5158.75	-19.00	-1135.80	0.000000	0.00	0.000
20-4-S	100	130	31.42	5158.75	-23.26	-1135.80	0.000000	0.00	0.000
20-5-S	100	130	31.42	5158.75	19.47	-1135.80	0.000000	0.00	0.000
20-6-S	100	130	31.42	5158.75	58.57	-1135.80	0.000000	0.00	0.000
20-7-S	100	130	31.42	2000.00	123.37	1135.80	0.000000	0.00	0.000
20-8-S	100	130	31.42	5158.75	-178.78	-1135.80	0.000000	0.00	0.000
20-9-S	100	130	31.42	5158.75	-163.30	-1135.80	0.000000	0.00	0.000
20-10-S	100	130	31.42	5158.75	-155.53	-1135.80	0.000000	0.00	0.000
20-11-S	100	130	31.42	5158.75	-127.02	-1135.80	0.000000	0.00	0.000
20-12-S	100	130	31.42	5158.75	-94.88	-1135.80	0.000000	0.00	0.000
20-13-S	100	130	31.42	5158.75	-57.11	-1135.80	0.000000	0.00	0.000
20-14-S	100	130	31.42	5158.75	-25.84	-1135.80	0.000000	0.00	0.000
20-15-S	100	130	31.42	5158.75	6.57	-1135.80	0.000000	0.00	0.000
20-16-S	100	130	31.42	5158.75	20.31	-1135.80	0.000000	0.00	0.000
20-17-S	100	130	31.42	5158.75	27.72	-1135.80	0.000000	0.00	0.000
20-18-S	100	130	31.42	5158.75	27.27	-1135.80	0.000000	0.00	0.000
20-19-S	100	130	31.42	5158.75	20.01	-1135.80	0.000000	0.00	0.000
20-20-S	100	130	31.42	5158.75	13.81	-1135.80	0.000000	0.00	0.000
20-21-S	100	130	31.42	5158.75	7.55	-1135.80	0.000000	0.00	0.000
20-22-S	100	130	31.42	5158.75	4.96	-1135.80	0.000000	0.00	0.000
20-23-S	100	130	31.42	5158.75	4.81	-1135.80	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	58.81	3599.94	251.41	-298.38	232.32	0.000000	0.00	0.00
2	1	34.56	3596.10	254.80	-298.38	655.98	0.000000	0.00	0.00
3	1	28.27	2805.90	283.25	-298.38	1079.64	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	0.000000	0.00	0.000 (7)
2	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (7)
6	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
7	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
8	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
9	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
10	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
11	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (7)
14	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
15	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
16	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
17	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
18	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
19	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	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)

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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	114 di 123

n°	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
24	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
25	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
26	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
27	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	0.000 (7)
28	100	70	0.00	0.00	0.00	0.00	0.000000	0.00	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	0.000000	0.00	0.000 (7)
32	100	70	15.71	2000.00	0.04	353.52	0.000000	0.00	0.000 (7)
33	100	70	15.71	2000.00	0.16	353.74	0.000000	0.00	0.000 (7)
34	100	70	15.71	2000.00	0.37	353.95	0.000000	0.00	0.000 (7)
35	100	70	15.71	2000.00	0.66	354.17	0.000000	0.00	0.000 (7)
36	100	70	15.71	2000.00	1.06	354.37	0.000000	0.00	0.000 (7)
37	100	70	15.71	2000.00	1.55	354.60	0.000000	0.00	0.000 (7)
38	100	70	15.71	2000.00	2.15	354.80	0.000000	0.00	0.000 (7)
39	100	70	15.71	2000.00	2.86	355.01	0.000000	0.00	0.000 (7)
40	100	70	15.71	2000.00	3.69	355.22	0.000000	0.00	0.000 (7)
41	100	70	15.71	2000.00	4.63	355.44	0.000000	0.00	0.000 (7)
42	100	120	15.71	2000.00	18.58	993.83	0.000000	0.00	0.000 (7)
43	100	120	15.71	2000.00	19.92	994.47	0.000000	0.00	0.000 (7)
44	100	120	15.71	2000.00	21.80	995.04	0.000000	0.00	0.000 (7)
45	100	120	15.71	2000.00	24.07	995.67	0.000000	0.00	0.000 (7)
46	100	120	15.71	2000.00	26.59	996.28	0.000000	0.00	0.000 (7)
47	100	120	15.71	2000.00	29.26	996.92	0.000000	0.00	0.000 (7)
48	100	120	15.71	2000.00	32.06	997.53	0.000000	0.00	0.000 (7)
49	100	120	15.71	2000.00	34.99	998.12	0.000000	0.00	0.000 (7)
50	100	120	15.71	2000.00	38.06	998.75	0.000000	0.00	0.000 (7)
51	100	120	15.71	2000.00	41.29	999.37	0.000000	0.00	0.000 (7)
52	100	120	15.71	2000.00	44.67	999.99	0.000000	0.00	0.000 (7)
53	100	120	15.71	2000.00	48.22	1000.59	0.000000	0.00	0.000 (7)
54	100	120	15.71	2000.00	51.93	1001.20	0.000000	0.00	0.000 (7)
55	100	120	15.71	2000.00	55.82	1001.83	0.000000	0.00	0.000 (7)
56	100	120	15.71	2000.00	59.89	1002.42	0.000000	0.00	0.000 (7)
57	100	120	15.71	2000.00	64.15	1003.07	0.000000	0.00	0.000 (7)
58	100	120	15.71	2000.00	68.59	1003.68	0.000000	0.00	0.000 (7)
59	100	120	15.71	2000.00	73.23	1004.26	0.000000	0.00	0.000 (7)
60	100	120	15.71	2000.00	78.07	1004.89	0.000000	0.00	0.000 (7)
61	100	120	15.71	2000.00	83.12	1005.50	0.000000	0.00	0.000 (7)
62	100	120	15.71	2000.00	88.38	1006.12	0.000000	0.00	0.000 (7)
63	100	120	15.71	2000.00	93.85	1006.73	0.000000	0.00	0.000 (7)
64	100	120	15.71	2000.00	99.55	1007.37	0.000000	0.00	0.000 (7)
65	100	120	15.71	2000.00	105.47	1031.29	0.000000	0.00	0.000 (7)
66	100	120	15.71	2000.00	111.62	1031.93	0.000000	0.00	0.000 (7)
67	100	120	15.71	2000.00	118.01	1009.21	0.000000	0.00	0.000 (7)
68	100	120	15.71	2000.00	118.14	1009.22	0.000000	0.00	0.000 (7)
69	100	120	15.71	2000.00	124.36	1009.81	0.000000	0.00	0.000 (7)
70	100	120	15.71	2000.00	130.80	1010.35	0.000000	0.00	0.000 (7)
71	100	120	15.71	2000.00	137.46	1010.95	0.000000	0.00	0.000 (7)
72	100	120	15.71	2000.00	144.34	1011.55	0.000000	0.00	0.000 (7)
73	100	120	15.71	2000.00	151.45	1012.11	0.000000	0.00	0.000 (7)
74	100	120	15.71	2000.00	158.79	1012.67	0.000000	0.00	0.000 (7)
75	100	120	15.71	2000.00	166.37	1013.28	0.000000	0.00	0.000 (7)
76	100	120	15.71	2000.00	174.18	1013.82	0.000000	0.00	0.000 (7)
77	100	120	15.71	2000.00	182.25	1014.41	0.000000	0.00	0.000 (7)

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	75	130	25.13	3844.88	1.77	-860.73	0.000000	0.00	0.000
1-2-P	75	130	25.13	3844.88	-3.43	-860.73	0.000000	0.00	0.000
1-3-P	75	130	25.13	3844.88	-12.18	-860.73	0.000000	0.00	0.000
1-4-P	75	130	25.13	3844.88	-30.73	-860.73	0.000000	0.00	0.000
1-5-P	75	130	25.13	3844.88	-50.67	-860.73	0.000000	0.00	0.000
1-6-P	75	130	25.13	3844.88	-61.93	-860.73	0.000000	0.00	0.000
1-7-P	75	130	25.13	3844.88	-33.91	-860.73	0.000000	0.00	0.000
1-8-P	75	130	25.13	3844.88	-10.96	-860.73	0.000000	0.00	0.000
1-9-P	75	130	25.13	3844.88	17.22	-860.73	0.000000	0.00	0.000
1-10-P	75	130	25.13	3844.88	23.97	-860.73	0.000000	0.00	0.000
1-11-P	75	130	25.13	3844.88	26.24	-860.73	0.000000	0.00	0.000
1-12-P	75	130	25.13	3844.88	21.46	-860.73	0.000000	0.00	0.000
1-13-P	75	130	25.13	3844.88	6.96	-860.73	0.000000	0.00	0.000
1-14-P	75	130	25.13	3844.88	-20.37	-860.73	0.000000	0.00	0.000
1-15-P	75	130	25.13	3844.88	-44.87	-860.73	0.000000	0.00	0.000
1-16-P	75	130	25.13	3844.88	-39.49	-860.73	0.000000	0.00	0.000
1-17-P	75	130	25.13	3844.88	-17.49	-860.73	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	115 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1-18-P	75	130	25.13	3844.88	10.20	-860.73	0.000000	0.00	0.000
1-19-P	75	130	25.13	3844.88	23.90	-860.73	0.000000	0.00	0.000
1-20-P	75	130	25.13	1500.00	29.59	860.73	0.000000	0.00	0.000
1-21-P	75	130	25.13	3844.88	26.12	-860.73	0.000000	0.00	0.000
1-22-P	75	130	25.13	3844.88	17.53	-860.73	0.000000	0.00	0.000
1-23-P	75	130	25.13	3844.88	-9.82	-860.73	0.000000	0.00	0.000
1-24-P	75	130	25.13	3844.88	-29.87	-860.73	0.000000	0.00	0.000
1-25-P	75	130	25.13	3844.88	-54.60	-860.73	0.000000	0.00	0.000
1-26-P	75	130	25.13	3844.88	-29.87	-860.73	0.000000	0.00	0.000
1-27-P	75	130	25.13	3844.88	-9.82	-860.73	0.000000	0.00	0.000
1-28-P	75	130	25.13	3844.88	17.53	-860.73	0.000000	0.00	0.000
1-29-P	75	130	25.13	3844.88	26.12	-860.73	0.000000	0.00	0.000
1-30-P	75	130	25.13	1500.00	29.59	860.73	0.000000	0.00	0.000
1-31-P	75	130	25.13	3844.88	23.90	-860.73	0.000000	0.00	0.000
1-32-P	75	130	25.13	3844.88	10.20	-860.73	0.000000	0.00	0.000
1-33-P	75	130	25.13	3844.88	-17.49	-860.73	0.000000	0.00	0.000
1-34-P	75	130	25.13	3844.88	-39.49	-860.73	0.000000	0.00	0.000
1-35-P	75	130	25.13	3844.88	-44.87	-860.73	0.000000	0.00	0.000
1-36-P	75	130	25.13	3844.88	-20.37	-860.73	0.000000	0.00	0.000
1-37-P	75	130	25.13	3844.88	6.96	-860.73	0.000000	0.00	0.000
1-38-P	75	130	25.13	3844.88	21.46	-860.73	0.000000	0.00	0.000
1-39-P	75	130	25.13	3844.88	26.24	-860.73	0.000000	0.00	0.000
1-40-P	75	130	25.13	3844.88	23.97	-860.73	0.000000	0.00	0.000
1-41-P	75	130	25.13	3844.88	17.22	-860.73	0.000000	0.00	0.000
1-42-P	75	130	25.13	3844.88	-10.96	-860.73	0.000000	0.00	0.000
1-43-P	75	130	25.13	3844.88	-33.91	-860.73	0.000000	0.00	0.000
1-44-P	75	130	25.13	3844.88	-61.93	-860.73	0.000000	0.00	0.000
1-45-P	75	130	25.13	3844.88	-50.67	-860.73	0.000000	0.00	0.000
1-46-P	75	130	25.13	3844.88	-30.73	-860.73	0.000000	0.00	0.000
1-47-P	75	130	25.13	3844.88	-12.18	-860.73	0.000000	0.00	0.000
1-48-P	75	130	25.13	3844.88	-3.43	-860.73	0.000000	0.00	0.000
1-49-P	75	130	25.13	3844.88	1.77	-860.73	0.000000	0.00	0.000
2-1-P	75	130	25.13	1500.00	9.70	860.73	0.000000	0.00	0.000
2-2-P	75	130	25.13	1500.00	9.11	860.73	0.000000	0.00	0.000
2-3-P	75	130	25.13	3844.88	7.30	-860.73	0.000000	0.00	0.000
2-4-P	75	130	25.13	3844.88	6.53	-860.73	0.000000	0.00	0.000
2-5-P	75	130	25.13	3844.88	-36.50	-860.73	0.000000	0.00	0.000
2-6-P	75	130	25.13	3844.88	-59.27	-860.73	0.000000	0.00	0.000
2-7-P	75	130	25.13	3844.88	-15.37	-860.73	0.000000	0.00	0.000
2-8-P	75	130	25.13	3844.88	13.78	-860.73	0.000000	0.00	0.000
2-9-P	75	130	25.13	1500.00	23.78	860.73	0.000000	0.00	0.000
2-10-P	75	130	25.13	1500.00	27.04	860.73	0.000000	0.00	0.000
2-11-P	75	130	25.13	1500.00	28.07	860.73	0.000000	0.00	0.000
2-12-P	75	130	25.13	1500.00	25.75	860.73	0.000000	0.00	0.000
2-13-P	75	130	25.13	3844.88	17.98	-860.73	0.000000	0.00	0.000
2-14-P	75	130	25.13	3844.88	6.43	-860.73	0.000000	0.00	0.000
2-15-P	75	130	25.13	3844.88	-45.82	-860.73	0.000000	0.00	0.000
2-16-P	75	130	25.13	3844.88	-37.18	-860.73	0.000000	0.00	0.000
2-17-P	75	130	25.13	3844.88	12.19	-860.73	0.000000	0.00	0.000
2-18-P	75	130	25.13	3844.88	19.92	-860.73	0.000000	0.00	0.000
2-19-P	75	130	25.13	1500.00	26.58	860.73	0.000000	0.00	0.000
2-20-P	75	130	25.13	1500.00	29.19	860.73	0.000000	0.00	0.000
2-21-P	75	130	25.13	1500.00	27.57	860.73	0.000000	0.00	0.000
2-22-P	75	130	25.13	1500.00	23.53	860.73	0.000000	0.00	0.000
2-23-P	75	130	25.13	3844.88	14.60	-860.73	0.000000	0.00	0.000
2-24-P	75	130	25.13	3844.88	-20.17	-860.73	0.000000	0.00	0.000
2-25-P	75	130	25.13	3844.88	-62.38	-860.73	0.000000	0.00	0.000
2-26-P	75	130	25.13	3844.88	-20.17	-860.73	0.000000	0.00	0.000
2-27-P	75	130	25.13	3844.88	14.60	-860.73	0.000000	0.00	0.000
2-28-P	75	130	25.13	1500.00	23.53	860.73	0.000000	0.00	0.000
2-29-P	75	130	25.13	1500.00	27.57	860.73	0.000000	0.00	0.000
2-30-P	75	130	25.13	1500.00	29.19	860.73	0.000000	0.00	0.000
2-31-P	75	130	25.13	1500.00	26.58	860.73	0.000000	0.00	0.000
2-32-P	75	130	25.13	3844.88	19.92	-860.73	0.000000	0.00	0.000
2-33-P	75	130	25.13	3844.88	12.19	-860.73	0.000000	0.00	0.000
2-34-P	75	130	25.13	3844.88	-37.18	-860.73	0.000000	0.00	0.000
2-35-P	75	130	25.13	3844.88	-45.82	-860.73	0.000000	0.00	0.000
2-36-P	75	130	25.13	3844.88	6.43	-860.73	0.000000	0.00	0.000
2-37-P	75	130	25.13	3844.88	17.98	-860.73	0.000000	0.00	0.000
2-38-P	75	130	25.13	1500.00	25.75	860.73	0.000000	0.00	0.000
2-39-P	75	130	25.13	1500.00	28.07	860.73	0.000000	0.00	0.000
2-40-P	75	130	25.13	1500.00	27.04	860.73	0.000000	0.00	0.000
2-41-P	75	130	25.13	1500.00	23.78	860.73	0.000000	0.00	0.000
2-42-P	75	130	25.13	3844.88	13.78	-860.73	0.000000	0.00	0.000
2-43-P	75	130	25.13	3844.88	-15.37	-860.73	0.000000	0.00	0.000
2-44-P	75	130	25.13	3844.88	-59.27	-860.73	0.000000	0.00	0.000
2-45-P	75	130	25.13	3844.88	-36.50	-860.73	0.000000	0.00	0.000
2-46-P	75	130	25.13	3844.88	6.53	-860.73	0.000000	0.00	0.000
2-47-P	75	130	25.13	3844.88	7.30	-860.73	0.000000	0.00	0.000
2-48-P	75	130	25.13	1500.00	9.11	860.73	0.000000	0.00	0.000
2-49-P	75	130	25.13	1500.00	9.70	860.73	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	116 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
5-1-P	93	130	31.42	4735.77	-7.17	-1063.93	0.000000	0.00	0.000
5-2-P	93	130	31.42	4735.77	-9.00	-1063.93	0.000000	0.00	0.000
5-3-P	93	130	31.42	4735.77	-15.87	-1063.93	0.000000	0.00	0.000
5-4-P	93	130	31.42	4735.77	-27.91	-1063.93	0.000000	0.00	0.000
5-5-P	93	130	31.42	4735.77	-64.53	-1063.93	0.000000	0.00	0.000
5-6-P	93	130	31.42	4735.77	-90.37	-1063.93	0.000000	0.00	0.000
5-7-P	93	130	31.42	4735.77	-48.27	-1063.93	0.000000	0.00	0.000
5-8-P	93	130	31.42	4735.77	-25.27	-1063.93	0.000000	0.00	0.000
5-9-P	93	130	31.42	4735.77	-15.01	-1063.93	0.000000	0.00	0.000
5-10-P	93	130	31.42	4735.77	-13.77	-1063.93	0.000000	0.00	0.000
5-11-P	93	130	31.42	4735.77	-13.17	-1063.93	0.000000	0.00	0.000
5-12-P	93	130	31.42	4735.77	-13.53	-1063.93	0.000000	0.00	0.000
5-13-P	93	130	31.42	4735.77	-21.24	-1063.93	0.000000	0.00	0.000
5-14-P	93	130	31.42	4735.77	-37.24	-1063.93	0.000000	0.00	0.000
5-15-P	93	130	31.42	4735.77	-79.13	-1063.93	0.000000	0.00	0.000
5-16-P	93	130	31.42	4735.77	-70.39	-1063.93	0.000000	0.00	0.000
5-17-P	93	130	31.42	4735.77	-28.17	-1063.93	0.000000	0.00	0.000
5-18-P	93	130	31.42	4735.77	-18.09	-1063.93	0.000000	0.00	0.000
5-19-P	93	130	31.42	4735.77	-11.71	-1063.93	0.000000	0.00	0.000
5-20-P	93	130	31.42	4735.77	-11.16	-1063.93	0.000000	0.00	0.000
5-21-P	93	130	31.42	4735.77	-11.23	-1063.93	0.000000	0.00	0.000
5-22-P	93	130	31.42	4735.77	-13.78	-1063.93	0.000000	0.00	0.000
5-23-P	93	130	31.42	4735.77	-23.64	-1063.93	0.000000	0.00	0.000
5-24-P	93	130	31.42	4735.77	-52.82	-1063.93	0.000000	0.00	0.000
5-25-P	93	130	31.42	4735.77	-95.10	-1063.93	0.000000	0.00	0.000
5-26-P	93	130	31.42	4735.77	-52.82	-1063.93	0.000000	0.00	0.000
5-27-P	93	130	31.42	4735.77	-23.64	-1063.93	0.000000	0.00	0.000
5-28-P	93	130	31.42	4735.77	-13.78	-1063.93	0.000000	0.00	0.000
5-29-P	93	130	31.42	4735.77	-11.23	-1063.93	0.000000	0.00	0.000
5-30-P	93	130	31.42	4735.77	-11.16	-1063.93	0.000000	0.00	0.000
5-31-P	93	130	31.42	4735.77	-11.71	-1063.93	0.000000	0.00	0.000
5-32-P	93	130	31.42	4735.77	-18.09	-1063.93	0.000000	0.00	0.000
5-33-P	93	130	31.42	4735.77	-28.17	-1063.93	0.000000	0.00	0.000
5-34-P	93	130	31.42	4735.77	-70.39	-1063.93	0.000000	0.00	0.000
5-35-P	93	130	31.42	4735.77	-79.13	-1063.93	0.000000	0.00	0.000
5-36-P	93	130	31.42	4735.77	-37.24	-1063.93	0.000000	0.00	0.000
5-37-P	93	130	31.42	4735.77	-21.24	-1063.93	0.000000	0.00	0.000
5-38-P	93	130	31.42	4735.77	-13.53	-1063.93	0.000000	0.00	0.000
5-39-P	93	130	31.42	4735.77	-13.17	-1063.93	0.000000	0.00	0.000
5-40-P	93	130	31.42	4735.77	-13.77	-1063.93	0.000000	0.00	0.000
5-41-P	93	130	31.42	4735.77	-15.01	-1063.93	0.000000	0.00	0.000
5-42-P	93	130	31.42	4735.77	-25.27	-1063.93	0.000000	0.00	0.000
5-43-P	93	130	31.42	4735.77	-48.27	-1063.93	0.000000	0.00	0.000
5-44-P	93	130	31.42	4735.77	-90.37	-1063.93	0.000000	0.00	0.000
5-45-P	93	130	31.42	4735.77	-64.53	-1063.93	0.000000	0.00	0.000
5-46-P	93	130	31.42	4735.77	-27.91	-1063.93	0.000000	0.00	0.000
5-47-P	93	130	31.42	4735.77	-15.87	-1063.93	0.000000	0.00	0.000
5-48-P	93	130	31.42	4735.77	-9.00	-1063.93	0.000000	0.00	0.000
5-49-P	93	130	31.42	4735.77	-7.17	-1063.93	0.000000	0.00	0.000
6-1-P	92	130	28.27	4784.38	-2.53	-1046.17	0.000000	0.00	0.000
6-2-P	92	130	28.27	4784.38	-6.26	-1046.17	0.000000	0.00	0.000
6-3-P	92	130	28.27	4784.38	-12.23	-1046.17	0.000000	0.00	0.000
6-4-P	92	130	28.27	4784.38	-21.24	-1046.17	0.000000	0.00	0.000
6-5-P	92	130	28.27	4784.38	-26.91	-1046.17	0.000000	0.00	0.000
6-6-P	92	130	28.27	4784.38	-29.57	-1046.17	0.000000	0.00	0.000
6-7-P	92	130	28.27	4784.38	-23.14	-1046.17	0.000000	0.00	0.000
6-8-P	92	130	28.27	4784.38	-14.52	-1046.17	0.000000	0.00	0.000
6-9-P	92	130	28.27	4784.38	-4.63	-1046.17	0.000000	0.00	0.000
6-10-P	92	130	28.27	4784.38	1.56	-1046.17	0.000000	0.00	0.000
6-11-P	92	130	28.27	4784.38	2.40	-1046.17	0.000000	0.00	0.000
6-12-P	92	130	28.27	4784.38	-2.65	-1046.17	0.000000	0.00	0.000
6-13-P	92	130	28.27	4784.38	-9.30	-1046.17	0.000000	0.00	0.000
6-14-P	92	130	28.27	4784.38	-17.03	-1046.17	0.000000	0.00	0.000
6-15-P	92	130	28.27	4784.38	-21.99	-1046.17	0.000000	0.00	0.000
6-16-P	92	130	28.27	4784.38	-20.38	-1046.17	0.000000	0.00	0.000
6-17-P	92	130	28.27	4784.38	-14.43	-1046.17	0.000000	0.00	0.000
6-18-P	92	130	28.27	4784.38	-5.64	-1046.17	0.000000	0.00	0.000
6-19-P	92	130	28.27	4784.38	3.24	-1046.17	0.000000	0.00	0.000
6-20-P	92	130	28.27	4784.38	6.98	-1046.17	0.000000	0.00	0.000
6-21-P	92	130	28.27	4784.38	4.74	-1046.17	0.000000	0.00	0.000
6-22-P	92	130	28.27	4784.38	-2.37	-1046.17	0.000000	0.00	0.000
6-23-P	92	130	28.27	4784.38	-9.77	-1046.17	0.000000	0.00	0.000
6-24-P	92	130	28.27	4784.38	-16.49	-1046.17	0.000000	0.00	0.000
6-25-P	92	130	28.27	4784.38	-22.04	-1046.17	0.000000	0.00	0.000
6-26-P	92	130	28.27	4784.38	-16.49	-1046.17	0.000000	0.00	0.000
6-27-P	92	130	28.27	4784.38	-9.77	-1046.17	0.000000	0.00	0.000
6-28-P	92	130	28.27	4784.38	-2.37	-1046.17	0.000000	0.00	0.000
6-29-P	92	130	28.27	4784.38	4.74	-1046.17	0.000000	0.00	0.000
6-30-P	92	130	28.27	4784.38	6.98	-1046.17	0.000000	0.00	0.000
6-31-P	92	130	28.27	4784.38	3.24	-1046.17	0.000000	0.00	0.000
6-32-P	92	130	28.27	4784.38	-5.64	-1046.17	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	117 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
6-33-P	92	130	28.27	4784.38	-14.43	-1046.17	0.000000	0.00	0.000
6-34-P	92	130	28.27	4784.38	-20.38	-1046.17	0.000000	0.00	0.000
6-35-P	92	130	28.27	4784.38	-21.99	-1046.17	0.000000	0.00	0.000
6-36-P	92	130	28.27	4784.38	-17.03	-1046.17	0.000000	0.00	0.000
6-37-P	92	130	28.27	4784.38	-9.30	-1046.17	0.000000	0.00	0.000
6-38-P	92	130	28.27	4784.38	-2.65	-1046.17	0.000000	0.00	0.000
6-39-P	92	130	28.27	4784.38	2.40	-1046.17	0.000000	0.00	0.000
6-40-P	92	130	28.27	4784.38	1.56	-1046.17	0.000000	0.00	0.000
6-41-P	92	130	28.27	4784.38	-4.63	-1046.17	0.000000	0.00	0.000
6-42-P	92	130	28.27	4784.38	-14.52	-1046.17	0.000000	0.00	0.000
6-43-P	92	130	28.27	4784.38	-23.14	-1046.17	0.000000	0.00	0.000
6-44-P	92	130	28.27	4784.38	-29.57	-1046.17	0.000000	0.00	0.000
6-45-P	92	130	28.27	4784.38	-26.91	-1046.17	0.000000	0.00	0.000
6-46-P	92	130	28.27	4784.38	-21.24	-1046.17	0.000000	0.00	0.000
6-47-P	92	130	28.27	4784.38	-12.23	-1046.17	0.000000	0.00	0.000
6-48-P	92	130	28.27	4784.38	-6.26	-1046.17	0.000000	0.00	0.000
6-49-P	92	130	28.27	4784.38	-2.53	-1046.17	0.000000	0.00	0.000
7-1-P	93	130	28.27	4784.38	2.74	-1046.17	0.000000	0.00	0.000
7-2-P	93	130	28.27	4784.38	-5.38	-1046.17	0.000000	0.00	0.000
7-3-P	93	130	28.27	4784.38	-12.09	-1046.17	0.000000	0.00	0.000
7-4-P	93	130	28.27	4784.38	-24.67	-1046.17	0.000000	0.00	0.000
7-5-P	93	130	28.27	4784.38	-29.51	-1046.17	0.000000	0.00	0.000
7-6-P	93	130	28.27	4784.38	-31.34	-1046.17	0.000000	0.00	0.000
7-7-P	93	130	28.27	4784.38	-20.87	-1046.17	0.000000	0.00	0.000
7-8-P	93	130	28.27	4784.38	-8.64	-1046.17	0.000000	0.00	0.000
7-9-P	93	130	28.27	1850.00	10.95	1046.17	0.000000	0.00	0.000
7-10-P	93	130	28.27	1850.00	15.83	1046.17	0.000000	0.00	0.000
7-11-P	93	130	28.27	1850.00	17.75	1046.17	0.000000	0.00	0.000
7-12-P	93	130	28.27	1850.00	15.22	1046.17	0.000000	0.00	0.000
7-13-P	93	130	28.27	4784.38	6.96	-1046.17	0.000000	0.00	0.000
7-14-P	93	130	28.27	4784.38	-13.62	-1046.17	0.000000	0.00	0.000
7-15-P	93	130	28.27	4784.38	-18.43	-1046.17	0.000000	0.00	0.000
7-16-P	93	130	28.27	4784.38	-16.06	-1046.17	0.000000	0.00	0.000
7-17-P	93	130	28.27	4784.38	-11.17	-1046.17	0.000000	0.00	0.000
7-18-P	93	130	28.27	4784.38	9.89	-1046.17	0.000000	0.00	0.000
7-19-P	93	130	28.27	1850.00	20.48	1046.17	0.000000	0.00	0.000
7-20-P	93	130	28.27	1850.00	24.40	1046.17	0.000000	0.00	0.000
7-21-P	93	130	28.27	1850.00	22.49	1046.17	0.000000	0.00	0.000
7-22-P	93	130	28.27	1850.00	16.71	1046.17	0.000000	0.00	0.000
7-23-P	93	130	28.27	4784.38	6.43	-1046.17	0.000000	0.00	0.000
7-24-P	93	130	28.27	4784.38	-10.85	-1046.17	0.000000	0.00	0.000
7-25-P	93	130	28.27	4784.38	-18.67	-1046.17	0.000000	0.00	0.000
7-26-P	93	130	28.27	4784.38	-10.85	-1046.17	0.000000	0.00	0.000
7-27-P	93	130	28.27	4784.38	6.43	-1046.17	0.000000	0.00	0.000
7-28-P	93	130	28.27	1850.00	16.71	1046.17	0.000000	0.00	0.000
7-29-P	93	130	28.27	1850.00	22.49	1046.17	0.000000	0.00	0.000
7-30-P	93	130	28.27	1850.00	24.40	1046.17	0.000000	0.00	0.000
7-31-P	93	130	28.27	1850.00	20.48	1046.17	0.000000	0.00	0.000
7-32-P	93	130	28.27	4784.38	9.89	-1046.17	0.000000	0.00	0.000
7-33-P	93	130	28.27	4784.38	-11.17	-1046.17	0.000000	0.00	0.000
7-34-P	93	130	28.27	4784.38	-16.06	-1046.17	0.000000	0.00	0.000
7-35-P	93	130	28.27	4784.38	-18.43	-1046.17	0.000000	0.00	0.000
7-36-P	93	130	28.27	4784.38	-13.62	-1046.17	0.000000	0.00	0.000
7-37-P	93	130	28.27	4784.38	6.96	-1046.17	0.000000	0.00	0.000
7-38-P	93	130	28.27	1850.00	15.22	1046.17	0.000000	0.00	0.000
7-39-P	93	130	28.27	1850.00	17.75	1046.17	0.000000	0.00	0.000
7-40-P	93	130	28.27	1850.00	15.83	1046.17	0.000000	0.00	0.000
7-41-P	93	130	28.27	1850.00	10.95	1046.17	0.000000	0.00	0.000
7-42-P	93	130	28.27	4784.38	-8.64	-1046.17	0.000000	0.00	0.000
7-43-P	93	130	28.27	4784.38	-20.87	-1046.17	0.000000	0.00	0.000
7-44-P	93	130	28.27	4784.38	-31.34	-1046.17	0.000000	0.00	0.000
7-45-P	93	130	28.27	4784.38	-29.51	-1046.17	0.000000	0.00	0.000
7-46-P	93	130	28.27	4784.38	-24.67	-1046.17	0.000000	0.00	0.000
7-47-P	93	130	28.27	4784.38	-12.09	-1046.17	0.000000	0.00	0.000
7-48-P	93	130	28.27	4784.38	-5.38	-1046.17	0.000000	0.00	0.000
7-49-P	93	130	28.27	4784.38	2.74	-1046.17	0.000000	0.00	0.000
8-1-P	92	130	31.42	4735.77	0.91	-1063.93	0.000000	0.00	0.000
8-2-P	92	130	31.42	4735.77	-4.71	-1063.93	0.000000	0.00	0.000
8-3-P	92	130	31.42	4735.77	-12.84	-1063.93	0.000000	0.00	0.000
8-4-P	92	130	31.42	4735.77	-25.93	-1063.93	0.000000	0.00	0.000
8-5-P	92	130	31.42	4735.77	-55.84	-1063.93	0.000000	0.00	0.000
8-6-P	92	130	31.42	4735.77	-78.11	-1063.93	0.000000	0.00	0.000
8-7-P	92	130	31.42	4735.77	-35.34	-1063.93	0.000000	0.00	0.000
8-8-P	92	130	31.42	4735.77	-12.54	-1063.93	0.000000	0.00	0.000
8-9-P	92	130	31.42	4735.77	6.33	-1063.93	0.000000	0.00	0.000
8-10-P	92	130	31.42	1850.00	13.23	1063.93	0.000000	0.00	0.000
8-11-P	92	130	31.42	1850.00	15.79	1063.93	0.000000	0.00	0.000
8-12-P	92	130	31.42	4735.77	11.23	-1063.93	0.000000	0.00	0.000
8-13-P	92	130	31.42	4735.77	5.99	-1063.93	0.000000	0.00	0.000
8-14-P	92	130	31.42	4735.77	-19.24	-1063.93	0.000000	0.00	0.000
8-15-P	92	130	31.42	4735.77	-57.17	-1063.93	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	118 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
8-16-P	92	130	31.42	4735.77	-48.30	-1063.93	0.000000	0.00	0.000
8-17-P	92	130	31.42	4735.77	-13.26	-1063.93	0.000000	0.00	0.000
8-18-P	92	130	31.42	4735.77	8.20	-1063.93	0.000000	0.00	0.000
8-19-P	92	130	31.42	1850.00	17.63	1063.93	0.000000	0.00	0.000
8-20-P	92	130	31.42	1850.00	23.85	1063.93	0.000000	0.00	0.000
8-21-P	92	130	31.42	1850.00	20.64	1063.93	0.000000	0.00	0.000
8-22-P	92	130	31.42	1850.00	13.56	1063.93	0.000000	0.00	0.000
8-23-P	92	130	31.42	4735.77	7.09	-1063.93	0.000000	0.00	0.000
8-24-P	92	130	31.42	4735.77	-29.21	-1063.93	0.000000	0.00	0.000
8-25-P	92	130	31.42	4735.77	-69.86	-1063.93	0.000000	0.00	0.000
8-26-P	92	130	31.42	4735.77	-29.21	-1063.93	0.000000	0.00	0.000
8-27-P	92	130	31.42	4735.77	7.09	-1063.93	0.000000	0.00	0.000
8-28-P	92	130	31.42	1850.00	13.56	1063.93	0.000000	0.00	0.000
8-29-P	92	130	31.42	1850.00	20.64	1063.93	0.000000	0.00	0.000
8-30-P	92	130	31.42	1850.00	23.85	1063.93	0.000000	0.00	0.000
8-31-P	92	130	31.42	1850.00	17.63	1063.93	0.000000	0.00	0.000
8-32-P	92	130	31.42	4735.77	8.20	-1063.93	0.000000	0.00	0.000
8-33-P	92	130	31.42	4735.77	-13.26	-1063.93	0.000000	0.00	0.000
8-34-P	92	130	31.42	4735.77	-48.30	-1063.93	0.000000	0.00	0.000
8-35-P	92	130	31.42	4735.77	-57.17	-1063.93	0.000000	0.00	0.000
8-36-P	92	130	31.42	4735.77	-19.24	-1063.93	0.000000	0.00	0.000
8-37-P	92	130	31.42	4735.77	5.99	-1063.93	0.000000	0.00	0.000
8-38-P	92	130	31.42	4735.77	11.23	-1063.93	0.000000	0.00	0.000
8-39-P	92	130	31.42	1850.00	15.79	1063.93	0.000000	0.00	0.000
8-40-P	92	130	31.42	1850.00	13.23	1063.93	0.000000	0.00	0.000
8-41-P	92	130	31.42	4735.77	6.33	-1063.93	0.000000	0.00	0.000
8-42-P	92	130	31.42	4735.77	-12.54	-1063.93	0.000000	0.00	0.000
8-43-P	92	130	31.42	4735.77	-35.34	-1063.93	0.000000	0.00	0.000
8-44-P	92	130	31.42	4735.77	-78.11	-1063.93	0.000000	0.00	0.000
8-45-P	92	130	31.42	4735.77	-55.84	-1063.93	0.000000	0.00	0.000
8-46-P	92	130	31.42	4735.77	-25.93	-1063.93	0.000000	0.00	0.000
8-47-P	92	130	31.42	4735.77	-12.84	-1063.93	0.000000	0.00	0.000
8-48-P	92	130	31.42	4735.77	-4.71	-1063.93	0.000000	0.00	0.000
8-49-P	92	130	31.42	4735.77	0.91	-1063.93	0.000000	0.00	0.000
9-1-S	100	130	31.42	5158.75	-6.05	-1135.80	0.000000	0.00	0.000
9-2-S	100	130	31.42	5158.75	-10.71	-1135.80	0.000000	0.00	0.000
9-3-S	100	130	31.42	5158.75	-14.33	-1135.80	0.000000	0.00	0.000
9-4-S	100	130	31.42	5158.75	-17.05	-1135.80	0.000000	0.00	0.000
9-5-S	100	130	31.42	5158.75	19.72	-1135.80	0.000000	0.00	0.000
9-6-S	100	130	31.42	5158.75	55.54	-1135.80	0.000000	0.00	0.000
9-7-S	100	130	31.42	2000.00	110.40	1135.80	0.000000	0.00	0.000
9-8-S	100	130	31.42	5158.75	-151.81	-1135.80	0.000000	0.00	0.000
9-9-S	100	130	31.42	5158.75	-138.07	-1135.80	0.000000	0.00	0.000
9-10-S	100	130	31.42	5158.75	-129.32	-1135.80	0.000000	0.00	0.000
9-11-S	100	130	31.42	5158.75	-102.43	-1135.80	0.000000	0.00	0.000
9-12-S	100	130	31.42	5158.75	-72.88	-1135.80	0.000000	0.00	0.000
9-13-S	100	130	31.42	5158.75	-39.31	-1135.80	0.000000	0.00	0.000
9-14-S	100	130	31.42	5158.75	-13.22	-1135.80	0.000000	0.00	0.000
9-15-S	100	130	31.42	5158.75	11.18	-1135.80	0.000000	0.00	0.000
9-16-S	100	130	31.42	5158.75	21.22	-1135.80	0.000000	0.00	0.000
9-17-S	100	130	31.42	5158.75	24.26	-1135.80	0.000000	0.00	0.000
9-18-S	100	130	31.42	5158.75	20.02	-1135.80	0.000000	0.00	0.000
9-19-S	100	130	31.42	5158.75	11.69	-1135.80	0.000000	0.00	0.000
9-20-S	100	130	31.42	5158.75	-10.87	-1135.80	0.000000	0.00	0.000
9-21-S	100	130	31.42	5158.75	-6.55	-1135.80	0.000000	0.00	0.000
9-22-S	100	130	31.42	5158.75	-3.15	-1135.80	0.000000	0.00	0.000
9-23-S	100	130	31.42	5158.75	2.58	-1135.80	0.000000	0.00	0.000
10-1-S	100	130	31.42	5158.75	9.95	-1135.80	0.000000	0.00	0.000
10-2-S	100	130	31.42	5158.75	16.87	-1135.80	0.000000	0.00	0.000
10-3-S	100	130	31.42	5158.75	-15.31	-1135.80	0.000000	0.00	0.000
10-4-S	100	130	31.42	5158.75	-75.99	-1135.80	0.000000	0.00	0.000
10-5-S	100	130	31.42	5158.75	-41.26	-1135.80	0.000000	0.00	0.000
10-6-S	100	130	31.42	5158.75	40.98	-1135.80	0.000000	0.00	0.000
10-7-S	100	130	31.42	2000.00	124.83	1135.80	0.000000	0.00	0.000
10-8-S	100	130	31.42	5158.75	-78.99	-1135.80	0.000000	0.00	0.000
10-9-S	100	130	31.42	5158.75	-88.06	-1135.80	0.000000	0.00	0.000
10-10-S	100	130	31.42	5158.75	-170.10	-1135.80	0.000000	0.00	0.000
10-11-S	100	130	31.42	5158.75	-131.88	-1135.80	0.000000	0.00	0.000
10-12-S	100	130	31.42	5158.75	-89.07	-1135.80	0.000000	0.00	0.000
10-13-S	100	130	31.42	5158.75	-44.07	-1135.80	0.000000	0.00	0.000
10-14-S	100	130	31.42	5158.75	-11.70	-1135.80	0.000000	0.00	0.000
10-15-S	100	130	31.42	5158.75	14.97	-1135.80	0.000000	0.00	0.000
10-16-S	100	130	31.42	5158.75	30.08	-1135.80	0.000000	0.00	0.000
10-17-S	100	130	31.42	5158.75	40.32	-1135.80	0.000000	0.00	0.000
10-18-S	100	130	31.42	5158.75	46.08	-1135.80	0.000000	0.00	0.000
10-19-S	100	130	31.42	5158.75	-9.23	-1135.80	0.000000	0.00	0.000
10-20-S	100	130	31.42	5158.75	-47.86	-1135.80	0.000000	0.00	0.000
10-21-S	100	130	31.42	5158.75	-31.06	-1135.80	0.000000	0.00	0.000
10-22-S	100	130	31.42	5158.75	-16.25	-1135.80	0.000000	0.00	0.000
10-23-S	100	130	31.42	5158.75	-2.86	-1135.80	0.000000	0.00	0.000
11-1-S	100	130	31.42	5158.75	-7.94	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	119 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
11-2-S	100	130	31.42	5158.75	-7.33	-1135.80	0.000000	0.00	0.000
11-3-S	100	130	31.42	5158.75	-3.34	-1135.80	0.000000	0.00	0.000
11-4-S	100	130	31.42	5158.75	12.12	-1135.80	0.000000	0.00	0.000
11-5-S	100	130	31.42	2000.00	38.73	1135.80	0.000000	0.00	0.000
11-6-S	100	130	31.42	2000.00	73.05	1135.80	0.000000	0.00	0.000
11-7-S	100	130	31.42	2000.00	113.31	1135.80	0.000000	0.00	0.000
11-8-S	100	130	31.42	5158.75	-161.61	-1135.80	0.000000	0.00	0.000
11-9-S	100	130	31.42	5158.75	-130.54	-1135.80	0.000000	0.00	0.000
11-10-S	100	130	31.42	5158.75	-109.01	-1135.80	0.000000	0.00	0.000
11-11-S	100	130	31.42	5158.75	-84.69	-1135.80	0.000000	0.00	0.000
11-12-S	100	130	31.42	5158.75	-59.68	-1135.80	0.000000	0.00	0.000
11-13-S	100	130	31.42	5158.75	-33.54	-1135.80	0.000000	0.00	0.000
11-14-S	100	130	31.42	5158.75	-12.00	-1135.80	0.000000	0.00	0.000
11-15-S	100	130	31.42	5158.75	6.64	-1135.80	0.000000	0.00	0.000
11-16-S	100	130	31.42	2000.00	14.27	1135.80	0.000000	0.00	0.000
11-17-S	100	130	31.42	2000.00	17.59	1135.80	0.000000	0.00	0.000
11-18-S	100	130	31.42	5158.75	16.56	-1135.80	0.000000	0.00	0.000
11-19-S	100	130	31.42	5158.75	12.58	-1135.80	0.000000	0.00	0.000
11-20-S	100	130	31.42	5158.75	8.41	-1135.80	0.000000	0.00	0.000
11-21-S	100	130	31.42	5158.75	4.76	-1135.80	0.000000	0.00	0.000
11-22-S	100	130	31.42	5158.75	2.26	-1135.80	0.000000	0.00	0.000
11-23-S	100	130	31.42	5158.75	0.90	-1135.80	0.000000	0.00	0.000
12-1-S	100	130	31.42	5158.75	12.41	-1135.80	0.000000	0.00	0.000
12-2-S	100	130	31.42	5158.75	17.44	-1135.80	0.000000	0.00	0.000
12-3-S	100	130	31.42	5158.75	-17.15	-1135.80	0.000000	0.00	0.000
12-4-S	100	130	31.42	5158.75	-86.97	-1135.80	0.000000	0.00	0.000
12-5-S	100	130	31.42	5158.75	-45.04	-1135.80	0.000000	0.00	0.000
12-6-S	100	130	31.42	5158.75	36.69	-1135.80	0.000000	0.00	0.000
12-7-S	100	130	31.42	2000.00	126.27	1135.80	0.000000	0.00	0.000
12-8-S	100	130	31.42	5158.75	-55.90	-1135.80	0.000000	0.00	0.000
12-9-S	100	130	31.42	5158.75	-74.84	-1135.80	0.000000	0.00	0.000
12-10-S	100	130	31.42	5158.75	-171.45	-1135.80	0.000000	0.00	0.000
12-11-S	100	130	31.42	5158.75	-132.69	-1135.80	0.000000	0.00	0.000
12-12-S	100	130	31.42	5158.75	-88.55	-1135.80	0.000000	0.00	0.000
12-13-S	100	130	31.42	5158.75	-41.62	-1135.80	0.000000	0.00	0.000
12-14-S	100	130	31.42	5158.75	-8.60	-1135.80	0.000000	0.00	0.000
12-15-S	100	130	31.42	5158.75	18.11	-1135.80	0.000000	0.00	0.000
12-16-S	100	130	31.42	5158.75	34.34	-1135.80	0.000000	0.00	0.000
12-17-S	100	130	31.42	5158.75	45.05	-1135.80	0.000000	0.00	0.000
12-18-S	100	130	31.42	5158.75	51.17	-1135.80	0.000000	0.00	0.000
12-19-S	100	130	31.42	5158.75	-12.10	-1135.80	0.000000	0.00	0.000
12-20-S	100	130	31.42	5158.75	-55.04	-1135.80	0.000000	0.00	0.000
12-21-S	100	130	31.42	5158.75	-36.42	-1135.80	0.000000	0.00	0.000
12-22-S	100	130	31.42	5158.75	-18.93	-1135.80	0.000000	0.00	0.000
12-23-S	100	130	31.42	5158.75	-3.18	-1135.80	0.000000	0.00	0.000
13-1-S	100	130	31.42	5158.75	-7.04	-1135.80	0.000000	0.00	0.000
13-2-S	100	130	31.42	5158.75	-10.26	-1135.80	0.000000	0.00	0.000
13-3-S	100	130	31.42	5158.75	-9.04	-1135.80	0.000000	0.00	0.000
13-4-S	100	130	31.42	5158.75	10.54	-1135.80	0.000000	0.00	0.000
13-5-S	100	130	31.42	2000.00	32.76	1135.80	0.000000	0.00	0.000
13-6-S	100	130	31.42	2000.00	68.51	1135.80	0.000000	0.00	0.000
13-7-S	100	130	31.42	2000.00	113.38	1135.80	0.000000	0.00	0.000
13-8-S	100	130	31.42	5158.75	-149.71	-1135.80	0.000000	0.00	0.000
13-9-S	100	130	31.42	5158.75	-129.67	-1135.80	0.000000	0.00	0.000
13-10-S	100	130	31.42	5158.75	-107.56	-1135.80	0.000000	0.00	0.000
13-11-S	100	130	31.42	5158.75	-84.26	-1135.80	0.000000	0.00	0.000
13-12-S	100	130	31.42	5158.75	-59.39	-1135.80	0.000000	0.00	0.000
13-13-S	100	130	31.42	5158.75	-31.65	-1135.80	0.000000	0.00	0.000
13-14-S	100	130	31.42	5158.75	-9.34	-1135.80	0.000000	0.00	0.000
13-15-S	100	130	31.42	5158.75	9.66	-1135.80	0.000000	0.00	0.000
13-16-S	100	130	31.42	2000.00	17.88	1135.80	0.000000	0.00	0.000
13-17-S	100	130	31.42	5158.75	19.93	-1135.80	0.000000	0.00	0.000
13-18-S	100	130	31.42	5158.75	16.17	-1135.80	0.000000	0.00	0.000
13-19-S	100	130	31.42	5158.75	12.59	-1135.80	0.000000	0.00	0.000
13-20-S	100	130	31.42	5158.75	8.91	-1135.80	0.000000	0.00	0.000
13-21-S	100	130	31.42	5158.75	4.28	-1135.80	0.000000	0.00	0.000
13-22-S	100	130	31.42	5158.75	1.83	-1135.80	0.000000	0.00	0.000
13-23-S	100	130	31.42	5158.75	1.47	-1135.80	0.000000	0.00	0.000
14-1-S	100	130	34.56	5110.99	7.02	-1153.55	0.000000	0.00	0.000
14-2-S	100	130	34.56	5110.99	-10.69	-1153.55	0.000000	0.00	0.000
14-3-S	100	130	34.56	5110.99	-14.87	-1153.55	0.000000	0.00	0.000
14-4-S	100	130	34.56	5110.99	-46.08	-1153.55	0.000000	0.00	0.000
14-5-S	100	130	34.56	5110.99	-22.91	-1153.55	0.000000	0.00	0.000
14-6-S	100	130	34.56	5110.99	50.92	-1153.55	0.000000	0.00	0.000
14-7-S	100	130	34.56	2000.00	120.14	1153.55	0.000000	0.00	0.000
14-8-S	100	130	34.56	5110.99	-100.98	-1153.55	0.000000	0.00	0.000
14-9-S	100	130	34.56	5110.99	-101.63	-1153.55	0.000000	0.00	0.000
14-10-S	100	130	34.56	5110.99	-139.31	-1153.55	0.000000	0.00	0.000
14-11-S	100	130	34.56	5110.99	-108.53	-1153.55	0.000000	0.00	0.000
14-12-S	100	130	34.56	5110.99	-73.98	-1153.55	0.000000	0.00	0.000
14-13-S	100	130	34.56	5110.99	-36.07	-1153.55	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	120 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
14-14-S	100	130	34.56	5110.99	-7.96	-1153.55	0.000000	0.00	0.000
14-15-S	100	130	34.56	5110.99	15.18	-1153.55	0.000000	0.00	0.000
14-16-S	100	130	34.56	5110.99	27.14	-1153.55	0.000000	0.00	0.000
14-17-S	100	130	34.56	5110.99	32.99	-1153.55	0.000000	0.00	0.000
14-18-S	100	130	34.56	5110.99	33.51	-1153.55	0.000000	0.00	0.000
14-19-S	100	130	34.56	5110.99	8.30	-1153.55	0.000000	0.00	0.000
14-20-S	100	130	34.56	5110.99	-28.75	-1153.55	0.000000	0.00	0.000
14-21-S	100	130	34.56	5110.99	-19.17	-1153.55	0.000000	0.00	0.000
14-22-S	100	130	34.56	5110.99	-9.80	-1153.55	0.000000	0.00	0.000
14-23-S	100	130	34.56	5110.99	1.75	-1153.55	0.000000	0.00	0.000
15-1-S	100	130	31.42	5158.75	7.02	-1135.80	0.000000	0.00	0.000
15-2-S	100	130	31.42	5158.75	-10.69	-1135.80	0.000000	0.00	0.000
15-3-S	100	130	31.42	5158.75	-14.87	-1135.80	0.000000	0.00	0.000
15-4-S	100	130	31.42	5158.75	-46.08	-1135.80	0.000000	0.00	0.000
15-5-S	100	130	31.42	5158.75	-22.91	-1135.80	0.000000	0.00	0.000
15-6-S	100	130	31.42	5158.75	50.92	-1135.80	0.000000	0.00	0.000
15-7-S	100	130	31.42	2000.00	120.14	1135.80	0.000000	0.00	0.000
15-8-S	100	130	31.42	5158.75	-100.98	-1135.80	0.000000	0.00	0.000
15-9-S	100	130	31.42	5158.75	-101.63	-1135.80	0.000000	0.00	0.000
15-10-S	100	130	31.42	5158.75	-139.31	-1135.80	0.000000	0.00	0.000
15-11-S	100	130	31.42	5158.75	-108.53	-1135.80	0.000000	0.00	0.000
15-12-S	100	130	31.42	5158.75	-73.98	-1135.80	0.000000	0.00	0.000
15-13-S	100	130	31.42	5158.75	-36.07	-1135.80	0.000000	0.00	0.000
15-14-S	100	130	31.42	5158.75	-7.96	-1135.80	0.000000	0.00	0.000
15-15-S	100	130	31.42	5158.75	15.18	-1135.80	0.000000	0.00	0.000
15-16-S	100	130	31.42	5158.75	27.14	-1135.80	0.000000	0.00	0.000
15-17-S	100	130	31.42	5158.75	32.99	-1135.80	0.000000	0.00	0.000
15-18-S	100	130	31.42	5158.75	33.51	-1135.80	0.000000	0.00	0.000
15-19-S	100	130	31.42	5158.75	8.30	-1135.80	0.000000	0.00	0.000
15-20-S	100	130	31.42	5158.75	-28.75	-1135.80	0.000000	0.00	0.000
15-21-S	100	130	31.42	5158.75	-19.17	-1135.80	0.000000	0.00	0.000
15-22-S	100	130	31.42	5158.75	-9.80	-1135.80	0.000000	0.00	0.000
15-23-S	100	130	31.42	5158.75	1.75	-1135.80	0.000000	0.00	0.000
16-1-S	100	130	31.42	5158.75	-7.04	-1135.80	0.000000	0.00	0.000
16-2-S	100	130	31.42	5158.75	-10.26	-1135.80	0.000000	0.00	0.000
16-3-S	100	130	31.42	5158.75	-9.04	-1135.80	0.000000	0.00	0.000
16-4-S	100	130	31.42	5158.75	10.54	-1135.80	0.000000	0.00	0.000
16-5-S	100	130	31.42	2000.00	32.76	1135.80	0.000000	0.00	0.000
16-6-S	100	130	31.42	2000.00	68.51	1135.80	0.000000	0.00	0.000
16-7-S	100	130	31.42	2000.00	113.38	1135.80	0.000000	0.00	0.000
16-8-S	100	130	31.42	5158.75	-149.71	-1135.80	0.000000	0.00	0.000
16-9-S	100	130	31.42	5158.75	-129.67	-1135.80	0.000000	0.00	0.000
16-10-S	100	130	31.42	5158.75	-107.56	-1135.80	0.000000	0.00	0.000
16-11-S	100	130	31.42	5158.75	-84.26	-1135.80	0.000000	0.00	0.000
16-12-S	100	130	31.42	5158.75	-59.39	-1135.80	0.000000	0.00	0.000
16-13-S	100	130	31.42	5158.75	-31.65	-1135.80	0.000000	0.00	0.000
16-14-S	100	130	31.42	5158.75	-9.34	-1135.80	0.000000	0.00	0.000
16-15-S	100	130	31.42	5158.75	9.66	-1135.80	0.000000	0.00	0.000
16-16-S	100	130	31.42	2000.00	17.88	1135.80	0.000000	0.00	0.000
16-17-S	100	130	31.42	5158.75	19.93	-1135.80	0.000000	0.00	0.000
16-18-S	100	130	31.42	5158.75	16.17	-1135.80	0.000000	0.00	0.000
16-19-S	100	130	31.42	5158.75	12.59	-1135.80	0.000000	0.00	0.000
16-20-S	100	130	31.42	5158.75	8.91	-1135.80	0.000000	0.00	0.000
16-21-S	100	130	31.42	5158.75	4.28	-1135.80	0.000000	0.00	0.000
16-22-S	100	130	31.42	5158.75	1.83	-1135.80	0.000000	0.00	0.000
16-23-S	100	130	31.42	5158.75	1.47	-1135.80	0.000000	0.00	0.000
17-1-S	100	130	31.42	5158.75	12.41	-1135.80	0.000000	0.00	0.000
17-2-S	100	130	31.42	5158.75	17.44	-1135.80	0.000000	0.00	0.000
17-3-S	100	130	31.42	5158.75	-17.15	-1135.80	0.000000	0.00	0.000
17-4-S	100	130	31.42	5158.75	-86.97	-1135.80	0.000000	0.00	0.000
17-5-S	100	130	31.42	5158.75	-45.04	-1135.80	0.000000	0.00	0.000
17-6-S	100	130	31.42	5158.75	36.69	-1135.80	0.000000	0.00	0.000
17-7-S	100	130	31.42	2000.00	126.27	1135.80	0.000000	0.00	0.000
17-8-S	100	130	31.42	5158.75	-55.90	-1135.80	0.000000	0.00	0.000
17-9-S	100	130	31.42	5158.75	-74.84	-1135.80	0.000000	0.00	0.000
17-10-S	100	130	31.42	5158.75	-171.45	-1135.80	0.000000	0.00	0.000
17-11-S	100	130	31.42	5158.75	-132.69	-1135.80	0.000000	0.00	0.000
17-12-S	100	130	31.42	5158.75	-88.55	-1135.80	0.000000	0.00	0.000
17-13-S	100	130	31.42	5158.75	-41.62	-1135.80	0.000000	0.00	0.000
17-14-S	100	130	31.42	5158.75	-8.60	-1135.80	0.000000	0.00	0.000
17-15-S	100	130	31.42	5158.75	18.11	-1135.80	0.000000	0.00	0.000
17-16-S	100	130	31.42	5158.75	34.34	-1135.80	0.000000	0.00	0.000
17-17-S	100	130	31.42	5158.75	45.05	-1135.80	0.000000	0.00	0.000
17-18-S	100	130	31.42	5158.75	51.17	-1135.80	0.000000	0.00	0.000
17-19-S	100	130	31.42	5158.75	-12.10	-1135.80	0.000000	0.00	0.000
17-20-S	100	130	31.42	5158.75	-55.04	-1135.80	0.000000	0.00	0.000
17-21-S	100	130	31.42	5158.75	-36.42	-1135.80	0.000000	0.00	0.000
17-22-S	100	130	31.42	5158.75	-18.93	-1135.80	0.000000	0.00	0.000
17-23-S	100	130	31.42	5158.75	-3.18	-1135.80	0.000000	0.00	0.000
18-1-S	100	130	31.42	5158.75	-7.94	-1135.80	0.000000	0.00	0.000
18-2-S	100	130	31.42	5158.75	-7.33	-1135.80	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.16.0.5.004.A.DOCX

COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	121 di 123

Is	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
18-3-S	100	130	31.42	5158.75	-3.34	-1135.80	0.000000	0.00	0.000
18-4-S	100	130	31.42	5158.75	12.12	-1135.80	0.000000	0.00	0.000
18-5-S	100	130	31.42	2000.00	38.73	1135.80	0.000000	0.00	0.000
18-6-S	100	130	31.42	2000.00	73.05	1135.80	0.000000	0.00	0.000
18-7-S	100	130	31.42	2000.00	113.31	1135.80	0.000000	0.00	0.000
18-8-S	100	130	31.42	5158.75	-161.61	-1135.80	0.000000	0.00	0.000
18-9-S	100	130	31.42	5158.75	-130.54	-1135.80	0.000000	0.00	0.000
18-10-S	100	130	31.42	5158.75	-109.01	-1135.80	0.000000	0.00	0.000
18-11-S	100	130	31.42	5158.75	-84.69	-1135.80	0.000000	0.00	0.000
18-12-S	100	130	31.42	5158.75	-59.68	-1135.80	0.000000	0.00	0.000
18-13-S	100	130	31.42	5158.75	-33.54	-1135.80	0.000000	0.00	0.000
18-14-S	100	130	31.42	5158.75	-12.00	-1135.80	0.000000	0.00	0.000
18-15-S	100	130	31.42	5158.75	6.64	-1135.80	0.000000	0.00	0.000
18-16-S	100	130	31.42	2000.00	14.27	1135.80	0.000000	0.00	0.000
18-17-S	100	130	31.42	2000.00	17.59	1135.80	0.000000	0.00	0.000
18-18-S	100	130	31.42	5158.75	16.56	-1135.80	0.000000	0.00	0.000
18-19-S	100	130	31.42	5158.75	12.58	-1135.80	0.000000	0.00	0.000
18-20-S	100	130	31.42	5158.75	8.41	-1135.80	0.000000	0.00	0.000
18-21-S	100	130	31.42	5158.75	4.76	-1135.80	0.000000	0.00	0.000
18-22-S	100	130	31.42	5158.75	2.26	-1135.80	0.000000	0.00	0.000
18-23-S	100	130	31.42	5158.75	0.90	-1135.80	0.000000	0.00	0.000
19-1-S	100	130	31.42	5158.75	9.95	-1135.80	0.000000	0.00	0.000
19-2-S	100	130	31.42	5158.75	16.87	-1135.80	0.000000	0.00	0.000
19-3-S	100	130	31.42	5158.75	-15.31	-1135.80	0.000000	0.00	0.000
19-4-S	100	130	31.42	5158.75	-75.99	-1135.80	0.000000	0.00	0.000
19-5-S	100	130	31.42	5158.75	-41.26	-1135.80	0.000000	0.00	0.000
19-6-S	100	130	31.42	5158.75	40.98	-1135.80	0.000000	0.00	0.000
19-7-S	100	130	31.42	2000.00	124.83	1135.80	0.000000	0.00	0.000
19-8-S	100	130	31.42	5158.75	-78.99	-1135.80	0.000000	0.00	0.000
19-9-S	100	130	31.42	5158.75	-88.06	-1135.80	0.000000	0.00	0.000
19-10-S	100	130	31.42	5158.75	-170.10	-1135.80	0.000000	0.00	0.000
19-11-S	100	130	31.42	5158.75	-131.88	-1135.80	0.000000	0.00	0.000
19-12-S	100	130	31.42	5158.75	-89.07	-1135.80	0.000000	0.00	0.000
19-13-S	100	130	31.42	5158.75	-44.07	-1135.80	0.000000	0.00	0.000
19-14-S	100	130	31.42	5158.75	-11.70	-1135.80	0.000000	0.00	0.000
19-15-S	100	130	31.42	5158.75	14.97	-1135.80	0.000000	0.00	0.000
19-16-S	100	130	31.42	5158.75	30.08	-1135.80	0.000000	0.00	0.000
19-17-S	100	130	31.42	5158.75	40.32	-1135.80	0.000000	0.00	0.000
19-18-S	100	130	31.42	5158.75	46.08	-1135.80	0.000000	0.00	0.000
19-19-S	100	130	31.42	5158.75	-9.23	-1135.80	0.000000	0.00	0.000
19-20-S	100	130	31.42	5158.75	-47.86	-1135.80	0.000000	0.00	0.000
19-21-S	100	130	31.42	5158.75	-31.06	-1135.80	0.000000	0.00	0.000
19-22-S	100	130	31.42	5158.75	-16.25	-1135.80	0.000000	0.00	0.000
19-23-S	100	130	31.42	5158.75	-2.86	-1135.80	0.000000	0.00	0.000
20-1-S	100	130	31.42	5158.75	-6.05	-1135.80	0.000000	0.00	0.000
20-2-S	100	130	31.42	5158.75	-10.71	-1135.80	0.000000	0.00	0.000
20-3-S	100	130	31.42	5158.75	-14.33	-1135.80	0.000000	0.00	0.000
20-4-S	100	130	31.42	5158.75	-17.05	-1135.80	0.000000	0.00	0.000
20-5-S	100	130	31.42	5158.75	19.72	-1135.80	0.000000	0.00	0.000
20-6-S	100	130	31.42	5158.75	55.54	-1135.80	0.000000	0.00	0.000
20-7-S	100	130	31.42	2000.00	110.40	1135.80	0.000000	0.00	0.000
20-8-S	100	130	31.42	5158.75	-151.81	-1135.80	0.000000	0.00	0.000
20-9-S	100	130	31.42	5158.75	-138.07	-1135.80	0.000000	0.00	0.000
20-10-S	100	130	31.42	5158.75	-129.32	-1135.80	0.000000	0.00	0.000
20-11-S	100	130	31.42	5158.75	-102.43	-1135.80	0.000000	0.00	0.000
20-12-S	100	130	31.42	5158.75	-72.88	-1135.80	0.000000	0.00	0.000
20-13-S	100	130	31.42	5158.75	-39.31	-1135.80	0.000000	0.00	0.000
20-14-S	100	130	31.42	5158.75	-13.22	-1135.80	0.000000	0.00	0.000
20-15-S	100	130	31.42	5158.75	11.18	-1135.80	0.000000	0.00	0.000
20-16-S	100	130	31.42	5158.75	21.22	-1135.80	0.000000	0.00	0.000
20-17-S	100	130	31.42	5158.75	24.26	-1135.80	0.000000	0.00	0.000
20-18-S	100	130	31.42	5158.75	20.02	-1135.80	0.000000	0.00	0.000
20-19-S	100	130	31.42	5158.75	11.69	-1135.80	0.000000	0.00	0.000
20-20-S	100	130	31.42	5158.75	-10.87	-1135.80	0.000000	0.00	0.000
20-21-S	100	130	31.42	5158.75	-6.55	-1135.80	0.000000	0.00	0.000
20-22-S	100	130	31.42	5158.75	-3.15	-1135.80	0.000000	0.00	0.000
20-23-S	100	130	31.42	5158.75	2.58	-1135.80	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	58.81	3599.94	251.41	-298.38	232.32	0.000000	0.00	0.00
2	1	34.56	3596.10	254.80	-298.38	655.98	0.000000	0.00	0.00
3	1	28.27	2805.90	283.25	-298.38	1079.64	0.000000	0.00	0.00

APPALTATORE: <b>TELESE S.c.a r.l.</b> <i>Consorzio Telese Società Consortile a Responsabilità Limitata</i>	<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> <u>Mandante:</u> <b>SYSTRA S.A.</b> <b>SWS Engineering S.p.A.</b> <b>SYSTRA-SOTECNI S.p.A.</b>													
<b>Relazione di calcolo</b> <b>IF2R.2.2.E.ZZ.CL.TR.16.0.5.004.A.DOCX</b>	<table border="1"> <thead> <tr> <th>COMMESSA</th> <th>LOTTO</th> <th>CODIFICA</th> <th>DOCUMENTO</th> <th>REV.</th> <th>FOGLIO</th> </tr> </thead> <tbody> <tr> <td>IF2R</td> <td>2.2.E.ZZ</td> <td>CL</td> <td>TR.16.0.5.004</td> <td>A</td> <td>122 di 123</td> </tr> </tbody> </table>	COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO	IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	122 di 123
COMMESSA	LOTTO	CODIFICA	DOCUMENTO	REV.	FOGLIO								
IF2R	2.2.E.ZZ	CL	TR.16.0.5.004	A	122 di 123								