

**STRADA STATALE 4 "VIA SALARIA"**  
**Adeguamento della piattaforma stradale e messa in  
sicurezza dal km 56+000 al km 64+000**  
**Stralcio 1 da pk 0+000 a pk 1+900**

**PROGETTO ESECUTIVO**

COD. **RM 368**

PROGETTAZIONE: R.T.I.: PROGER S.p.A. (capogruppo mandataria)  
PROGIN S.p.A.  
S.I.N.A. S.p.A. – BRENG S.r.l.

RESPONSABILE INTEGRAZIONE PRESTAZIONI SPECIALISTICHE:  
Dott. Ing. Antonio GRIMALDI (Progin S.p.A.)  
Ordine degli Ingegneri della Provincia di Napoli n. 23799

CAPOGRUPPO MANDATARIA:



IL GEOLOGO:  
Dott. Geol. Gianluca PANDOLFI ELMI (Progin S.p.A.)  
Ordine dei Geologi Regione Umbria n. 467



Direttore Tecnico:  
Dott. Ing. Lorenzo INFANTE

IL COORDINATORE PER LA SICUREZZA IN FASE DI PROGETTAZIONE:  
Dott. Ing. Michele CURIALE (Progin S.p.A.)



VISTO: IL RESPONSABILE UNICO DEL PROGETTO  
Dott. Ing. Paolo NARDOCCI



PROTOCOLLO

DATA

\_\_\_\_\_ 202\_

**OPERE D'ARTE MINORI - TOMBINI**

Tombino 2x2 pk 1+070 – Relazione di calcolo opere provvisionali

CODICE PROGETTO

D P R M 3 6 8 E 2 3

NOME FILE  
T01TM08STRRE02B

CODICE ELAB. T 0 1 T M 0 8 S T R R E 0 2

REVISIONE

SCALA:

B

-

B

Emissione a seguito di validazione e istruttoria ANAS

01/2024

M. Boccardi

P.Valente

L. Infante

A

Prima emissione

09/2022

E. Abbasciano

P.Valente

L. Infante

REV.

DESCRIZIONE

DATA

REDATTO

VERIFICATO

APPROVATO

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## 1 PREMESSA

Nell’ambito della progettazione definitiva dell’intervento di adeguamento della piattaforma stradale e messa in sicurezza della STRADA STATALE 4 “VIA SALARIA” dal km 56+000 al km 64+000, è prevista la realizzazione di una paratia provvisoria e gabbioni provvisori per la realizzazione del tombino **TM08**.

Le azioni considerate nel calcolo sono quelle tipiche di una struttura interrata determinate dall’interazione terreno – struttura, derivanti dall’applicazione della Normativa D.M. 2018 – Norme tecniche per le costruzioni.

L’opera oggetto della presente relazione è di tipo provvisorio, essa ha la finalità di sorreggere gli scavi e permettere la realizzazione del tombino in c.a.; le fasi del lavoro infatti prevedono la realizzazione dei micropali e del cordolo, uno sbancamento iniziale con conseguente realizzazione del tirante ed infine lo scavo completo. La realizzazione della paratia e dei gabbioni permettono quindi di garantire il flusso veicolare in destra (allargandone anche la carreggiata) e, a seguito dello scavo, la realizzazione della parte di tombino in sinistra. Una volta completata la parte del tombino di sinistra si demolisce il tirante e si effettua dall’altro lato lo sbancamento (con realizzazione del tirante) e uno scavo completo per poter realizzare la parte di tombino in destra, garantendo il traffico veicolare in sinistra.

### 1.1 Descrizione dell’opera

Sono stati previsti micropali tirantati di diametro  $\Phi 240$  mm, interasse 0.4m e altezza pari a 10m.

I modelli di calcolo analizzati sono riferiti a:

- fase sostegno scavo: interasse tiranti pari a 2.4 m
- fase di realizzazione del tombino: interasse tiranti pari a 4.8 m.

<b>h Scavo</b>	<b>h tot</b>
(m)	(m)
5.4	10

I tiranti hanno le seguenti caratteristiche:

<table border="0" style="width: 100%;"> <tr> <td>L. Libera</td><td><input type="text" value="5"/> m</td><td>&gt;</td><td>Angolo</td><td><input type="text" value="20"/> °</td></tr> <tr> <td>L. Bulbo (Lfix)</td><td><input type="text" value="6"/> m</td><td></td><td>Passo orizz.</td><td><input type="text" value="2.4"/> m</td></tr> <tr> <td>Efficacia bulbo (%)</td><td><input type="text" value="80"/></td><td></td><td>Precarico</td><td><input type="text" value="230"/> kN</td></tr> <tr> <td>Diametro Perforazione</td><td><input type="text" value="0.2"/> m</td><td></td><td></td><td></td></tr> <tr> <td><input checked="" type="checkbox"/> Usa coefficienti di aderenza personalizzati</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Metodo di Iniezione</td><td><input type="text" value="IGU"/></td><td></td><td></td><td></td></tr> <tr> <td><math>\alpha</math></td><td><input type="text" value="1.2"/></td><td></td><td>Qskin</td><td><input type="text" value="150"/> kPa</td></tr> </table>	L. Libera	<input type="text" value="5"/> m	>	Angolo	<input type="text" value="20"/> °	L. Bulbo (Lfix)	<input type="text" value="6"/> m		Passo orizz.	<input type="text" value="2.4"/> m	Efficacia bulbo (%)	<input type="text" value="80"/>		Precarico	<input type="text" value="230"/> kN	Diametro Perforazione	<input type="text" value="0.2"/> m				<input checked="" type="checkbox"/> Usa coefficienti di aderenza personalizzati					Metodo di Iniezione	<input type="text" value="IGU"/>				$\alpha$	<input type="text" value="1.2"/>		Qskin	<input type="text" value="150"/> kPa	<table border="0" style="width: 100%;"> <tr> <td>L. Libera</td><td><input type="text" value="5"/> m</td><td>&gt;</td><td>Angolo</td><td><input type="text" value="20"/> °</td></tr> <tr> <td>L. Bulbo (Lfix)</td><td><input type="text" value="6"/> m</td><td></td><td>Passo orizz.</td><td><input type="text" value="4.8"/> m</td></tr> <tr> <td>Bulbo deformabile</td><td><input type="text" value="80"/> %</td><td></td><td>Precarico</td><td><input type="text" value="230"/> kN</td></tr> <tr> <td>Diametro Perforazione</td><td><input type="text" value="0.2"/> m</td><td></td><td></td><td></td></tr> <tr> <td><input checked="" type="checkbox"/> Usa coefficienti di aderenza personalizzati</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Metodo di Iniezione</td><td><input type="text" value="IGU"/></td><td></td><td></td><td></td></tr> <tr> <td><math>\alpha</math></td><td><input type="text" value="1.2"/></td><td></td><td>Qskin</td><td><input type="text" value="150"/> kPa</td></tr> </table>	L. Libera	<input type="text" value="5"/> m	>	Angolo	<input type="text" value="20"/> °	L. Bulbo (Lfix)	<input type="text" value="6"/> m		Passo orizz.	<input type="text" value="4.8"/> m	Bulbo deformabile	<input type="text" value="80"/> %		Precarico	<input type="text" value="230"/> kN	Diametro Perforazione	<input type="text" value="0.2"/> m				<input checked="" type="checkbox"/> Usa coefficienti di aderenza personalizzati					Metodo di Iniezione	<input type="text" value="IGU"/>				$\alpha$	<input type="text" value="1.2"/>		Qskin	<input type="text" value="150"/> kPa
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Il profilato metallico utilizzato è il seguente:



La trave di ripartizione usata è del tipo 2\* HEB160.

Nel seguito si riportano alcune immagini rappresentative delle sezioni oggetto di analisi:

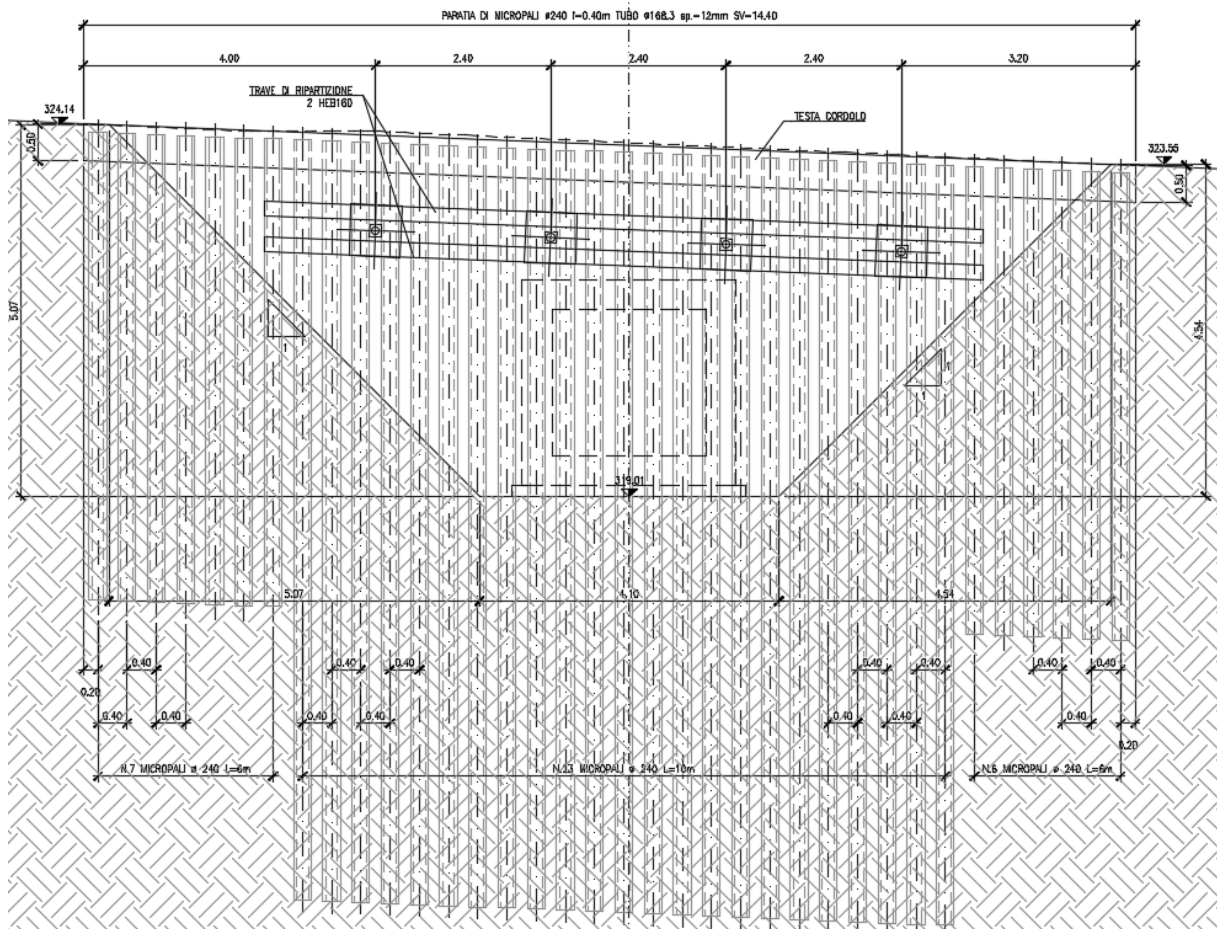


Fig. 1- prospettiva fase finale

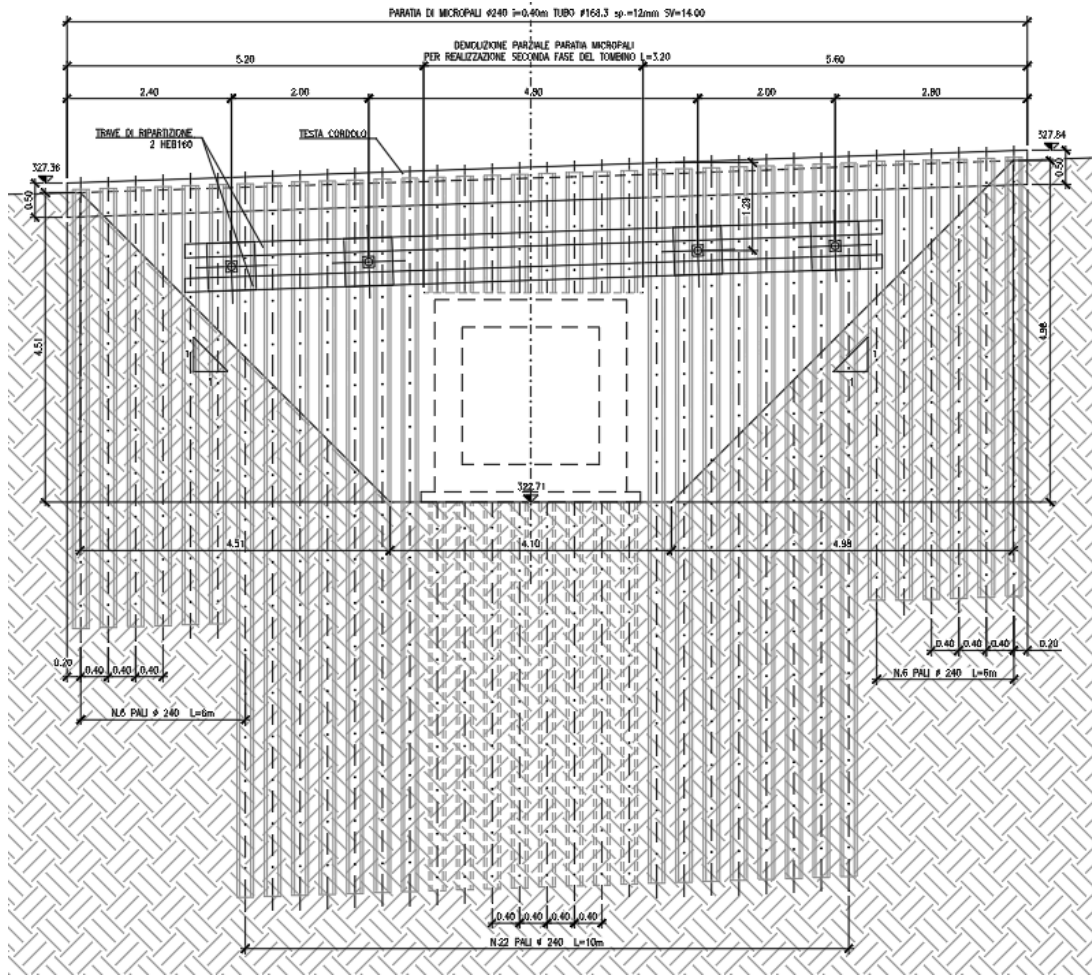


Fig. 2- prospetto fase realizzazione tombino

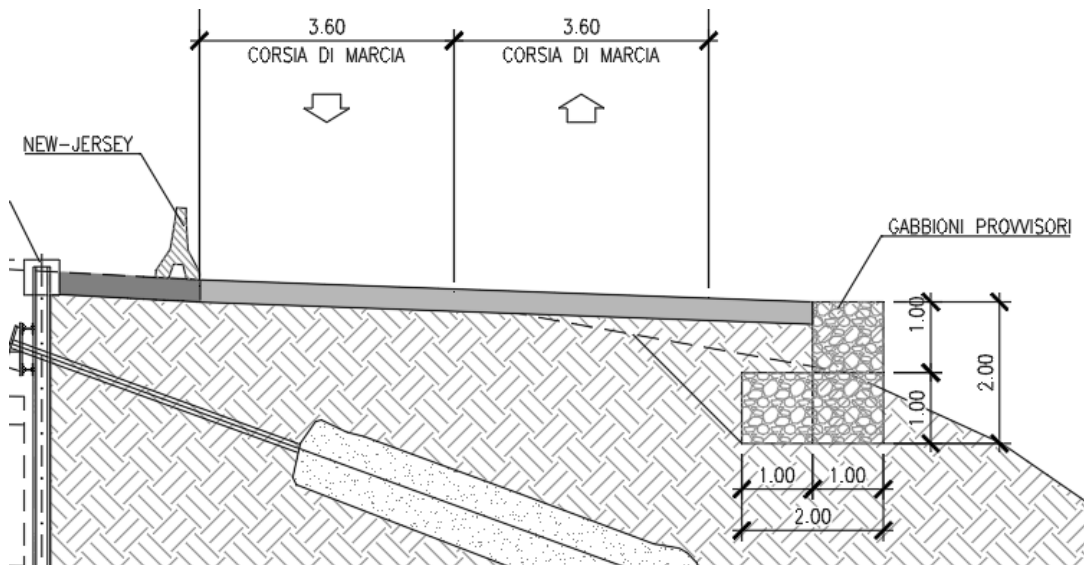


Fig. 3- prospetto fase realizzazione tombino, gabbioni provvisori

## 2 NORMATIVA DI RIFERIMENTO

Si riporta nel seguito l’elenco delle leggi e dei decreti di carattere generale, assunti come riferimento.

- D.M. 17 gennaio 2018 - *Norme Tecniche per le Costruzioni (NTC)*;
- Circolare n.7 del 21 gennaio 2019 - *Istruzioni per l’applicazione delle “Nuove norme tecniche per le costruzioni” di cui al D.M. 17 gennaio 2018*;
- UNI EN 1992-1-1 - *Progettazione delle strutture di calcestruzzo*;
- UNI EN 206-1-2014 - *Calcestruzzo: specificazione, prestazione, produzione e conformità*.
- UNI 11104\_2016: *Calcestruzzo: Specificazione, prestazione, produzione e conformità - Istruzioni complementari per l’applicazione della EN 206-1*
- Decreto Protezione Civile 21 ottobre 2003: Disposizioni attuative dell’art. 2, commi 2, 3 e 4, dell’ordinanza del Presidente del Consiglio dei Ministri n. 3274 del 20 marzo 2003.
- OPCM 20 marzo 2003 n. 3274, Primi elementi in materia di criteri generali per la classificazione sismica del territorio nazionale e di normative tecniche per le costruzioni in zona sismica.
- OPCM 3 maggio 2005 n. 3431: Ulteriori modifiche ed integrazioni dell’ordinanza del Presidente del consiglio dei Ministri n. 3274 del 20/3/2003 recante “Primi elementi in materia di criteri generali per la classificazione sismica del territorio nazionale e di normative tecniche per le costruzioni in zona sismica”.
- OPCM 8 luglio 2004 n. 3362: Modalità di attivazione del Fondo per investimenti straordinari della Presidenza del Consiglio dei Ministri istituito ai sensi dell’art. 32-bis del decreto legge 30 settembre 2003 n. 269 convertito, con modificazioni, dalla legge 24 novembre 2003 n. 326.
- OPCM 28 aprile 2006: Criteri generali per l’individuazione delle zone sismiche e per la formazione e l’aggiornamento degli elenchi delle medesime zone.
- Linee Guida per la valutazione e riduzione del rischio sismico del patrimonio culturale e successive modificazioni del Ministero per i Beni e le Attività Culturali, come licenziate dal Consiglio Superiore dei Lavori Pubblici e ss. mm. ii..
- Raccomandazioni AGI (1977);
- Modalità Tecniche ANISG (1977).
- Quaderni tecnici ANAS

### 2.1 Elaborati di riferimento

Costituiscono parte integrante di quanto esposto nel presente documento, l’insieme degli elaborati di progetto specifici relativi all’opera in esame e riportati in elenco elaborati:

T01TM08STRCA01

### 3 CARATTERISTICHE DEI MATERIALI

Di seguito si riportano le caratteristiche dei materiali previsti per la realizzazione delle strutture oggetto di calcolo nell'ambito del presente documento:

#### 3.1 Classe di esposizione e copriferro

Con riferimento alle specifiche di cui alla norma UNI EN 206-1-2006, si definiscono di seguito le classi di esposizione del calcestruzzo delle diverse parti della struttura oggetto dei dimensionamenti di cui al presente documento:

- XC2

Classe esposizione norma UNI 9558	Classe esposizione norma UNI 11104 UNI EN 206-1	Descrizione dell'ambiente	Esempio	Massimo rapporto a/c	Minima Classe di resistenza	Contenuto minimo in aria (%)
<b>1 Assenza di rischio di corrosione o attacco</b>						
1	X0	Per calcestruzzo privo di armatura o inserti metallici: tutte le esposizioni eccetto dove c'è gelo/disgelo, o attacco chimico. Calcestruzzi con armatura o inserti metallici in ambiente molto asciutto.	Interno di edifici con umidità relativa molto bassa. Calcestruzzo non armato all'interno di edifici. Calcestruzzo non armato immerso in suolo non aggressivo o in acqua non aggressiva. Calcestruzzo non armato soggetto a cicli di bagnato asciutto ma non soggetto ad abrasione, gelo o attacco chimico.	-	C 12/15	
<b>2 Corrosione indotta da carbonatazione</b>						
Nota: Le condizioni di umidità si riferiscono a quelle presenti nel copriferro o nel ricoprimento di inserti metallici, ma in molti casi si può considerare che tali condizioni riflettano quelle dell'ambiente circostante. In questi casi la classificazione dell'ambiente circostante può essere adeguata. Questo può non essere il caso se c'è una barriera fra il calcestruzzo e il suo ambiente.						
2 a	XC1	Asciutto o permanentemente bagnato.	Interni di edifici con umidità relativa bassa. Calcestruzzo armato ordinario o precompresso con le superfici all'interno di strutture con eccezione delle parti esposte a condensazione, o immerse in acqua.	0,60	C 25/30	
2 a	XC2	Bagnato, raramente asciutto.	Parti di strutture di contenimento liquidi, fondazioni. Calcestruzzo armato ordinario o precompresso prevalentemente immerso in acqua o terreno non aggressivo.	0,60	C 25/30	
5 a	XC3	Umidità moderata.	Calcestruzzo armato ordinario o precompresso in esterni con superfici esterne riparate dalla pioggia, o in interni con umidità da moderata ad alta.	0,55	C 28/35	
4 a 5 b	XC4	Ciclicamente asciutto e bagnato.	Calcestruzzo armato ordinario o precompresso in esterni con superfici soggette a alternanze di asciutto ed umido. Calcestruzzi a vista in ambienti urbani. Superfici a contatto con l'acqua non comprese nella classe XC2.	0,50	C 32/40	
<b>3 Corrosione indotta da cloruri esclusi quelli provenienti dall'acqua di mare</b>						
5 a	XD1	Umidità moderata.	Calcestruzzo armato ordinario o precompresso in superfici o parti di ponti e viadotti esposti a spruzzi d'acqua contenenti cloruri.	0,55	C 28/35	
4 a 5 b	XD2	Bagnato, raramente asciutto.	Calcestruzzo armato ordinario o precompresso, di elementi strutturali totalmente immersi in acqua anche industriale contenente cloruri (Piscine).	0,50	C 32/40	
5 c	XD3	Ciclicamente bagnato e asciutto.	Calcestruzzo armato ordinario o precompresso, elementi con una superficie immersa in acqua contenente cloruri e l'altra esposta all'aria. Parti di ponti, pavimentazioni e parcheggi per auto.	0,45	C 35/45	

Classe esposizione norma UNI 9558	Classe esposizione norma UNI 11104 UNI EN 206-1	Descrizione dell'ambiente	Esempio	Massimo rapporto a/c	Minima Classe di resistenza	Contenuto minimo in aria (%)
<b>4 Corrosione indotta da cloruri presenti nell'acqua di mare</b>						
4 a 5 b	XS1	Esposto alla salssedine marina ma non direttamente in contatto con l'acqua di mare.	Calcestruzzo armato ordinario o precompresso con elementi strutturali sulle coste o in prossimità.	0,50	C 32/40	
	XS2	Permanentemente sommerso.	Calcestruzzo armato ordinario o precompresso di strutture marine completamente immerse in acqua.	0,45	C 35/45	
	XS3	Zone esposte agli spruzzi o alle maree.	Calcestruzzo armato ordinario o precompresso con elementi strutturali esposti alla battigia o alle zone soggette agli spruzzi ed onde del mare.	0,45	C 35/45	
<b>5 Attacco dei cicli di gelo/disgelo con o senza disgelanti *</b>						
2 b	XF1	Moderata saturazione d'acqua, in assenza di agente disgelante.	Superfici verticali di calcestruzzo come facciate e colonne esposte alla pioggia ed al gelo. Superfici non verticali e non soggette alla completa saturazione ma esposte al gelo, alla pioggia e all'acqua.	0,50	C 32/40	
3	XF2	Moderata saturazione d'acqua, in presenza di agente disgelante.	Elementi come parti di ponti che in altro modo sarebbero classificati come XF1 ma che sono esposti direttamente o indirettamente agli agenti disgelanti.	0,50	C 25/30	3,0
2 b	XF3	Elevata saturazione d'acqua, in assenza di agente disgelante.	Superfici orizzontali in edifici dove l'acqua può accumularsi e che possono essere soggetti ai fenomeni di gelo, elementi soggetti a frequenti bagnature ed esposti al gelo.	0,50	C 25/30	3,0
3	XF4	Elevata saturazione d'acqua, con presenza di agente antigelo oppure acqua di mare.	Superfici orizzontali quali strade o pavimentazioni esposte al gelo, ed ai sali disgelanti in modo diretto o indiretto, elementi esposti al gelo e soggetti a frequenti bagnature in presenza di agenti disgelanti o di acqua di mare.	0,45	C 28/35	3,0
<b>6 Attacco chimico**</b>						
5 a	XA1	Ambiente chimicamente debolmente aggressivo secondo il prospetto 2 della UNI EN 206-1	Contentori di fanghi e vasche di decantazione. Contentori e vasche per acque reflue.	0,55	C 28/35	
4 a 5 b	XA2	Ambiente chimicamente moderatamente aggressivo secondo il prospetto 2 della UNI EN 206-1	Elementi strutturali o pareti a contatto di terreni aggressivi.	0,50	C 32/40	
5 c	XA3	Ambiente chimicamente fortemente aggressivo secondo il prospetto 2 della UNI EN 206-1	Elementi strutturali o pareti a contatto di acque industriali fortemente aggressive. Contentori di fanghi, mangimi e liquame provenienti dall'allevamento animale. Torri di raffreddamento di fumi di gas di scarico industriali.	0,45	C 35/45	

\*) Il grado di saturazione della seconda colonna riflette la relativa frequenza con cui si verifica il gelo in condizioni di saturazione:  
- moderato: occasionalmente gelato in condizione di saturazione;  
- elevato: alta frequenza di gelo in condizioni di saturazione.

\*\*\*) Da parte di acque del terreno e acque fluviali.

#### Classi di esposizione secondo norma UNI – EN 206-2006

La determinazione delle classi di resistenza dei conglomerati dei conglomerati, di cui ai successivi paragrafi, sono state inoltre determinate tenendo conto delle classi minime stabilite dalla stessa norma UNI-EN 11104, di cui alla successiva tabella:



prospetto 4 Valori limiti per la composizione e le proprietà del calcestruzzo

	Classi di esposizione																	
	Nessun rischio di corrosione dell'armatura	Corrosione delle armature indotta dalla carbonatazione				Corrosione delle armature indotta da cloruri						Attacco da cicli di gelo/disgelo				Ambiente aggressivo per attacco chimico		
		Acqua di mare			Cloruri provenienti da altre fonti													
	X0	XC1	XC2	XC3	XC4	XS1	XS2	XS3	XD1	XD2	XD3	XF1	XF2	XF3	XF4	XA1	XA2	XA3
Massimo rapporto a/c	-	0,60	0,55	0,50	0,50	0,45	0,55	0,50	0,45	0,50	0,45	0,50	0,50	0,45	0,55	0,50	0,45	
Minima classe di resistenza <sup>1)</sup>	C12/15	C25/30	C28/35	C32/40	C32/40	C35/45	C28/35	C32/40	C35/45	32/40	25/30	28/35	28,35	32/40	35/45			
Minimo contenuto in cemento (kg/m <sup>3</sup> )	-	300	320	340	340	360	320	340	360	320	340	360	320	340	360			
Contenuto minimo in aria (%)													3,0 <sup>2)</sup>					
Altri requisiti													Aggregati conformi alla UNI EN 12620 di adeguata resistenza al gelo/disgelo			È richiesto l'impiego di cementi resistenti ai solfati <sup>3)</sup>		

<sup>1)</sup> Nel prospetto 7 della UNI EN 206-1 viene riportata la classe C8/10 che corrisponde a specifici calcestruzzi destinati a sottofondazioni e ricoprimenti. Per tale classe dovrebbero essere definite le prescrizioni di durabilità nei riguardi di acque o terreni aggressivi.  
<sup>a)</sup> Quando il calcestruzzo non contiene aria aggiunta, le sue prestazioni devono essere verificate rispetto ad un calcestruzzo aerato per il quale è provata la resistenza al gelo/disgelo, da determinarsi secondo UNI 7087, per la relativa classe di esposizione.  
<sup>b)</sup> Qualora la presenza di solfati comporti le classi di esposizione XA2 e XA3 è essenziale utilizzare un cemento resistente ai solfati secondo UNI 9156.

*Classi di resistenza minima del calcestruzzo secondo UNI – 11104*

### 3.2 Calcestruzzo micropali

#### CARATTERISTICHE CALCESTRUZZO PER PALI

- Classe di resistenza C25/30
- Contenuto minimo di cemento 300 Kg/mc
- Tipo di cemento CEM II
- Rapporto massimo acqua/cemento 0.60
- Slump : S5
- Diametro massimo dell'inerte 18 mm
- Classe di esposizione XC2

### 3.3 Caratteristiche tiranti

#### TIRANTI

- CARATTERISTICHE DEI TREFOLI:  
 diametro nominale mm 15.20 (6/10").  
 sezione nominale mmq 139.  
 limite elastico convenzionale allo 0.1% tp(1)k = 1670 Mpa  
 carico di rottura ftpk = 1860 Mpa

- CONDOTTI DI INIEZIONE:  
 devono presentare il diametro minimo di 16 mm e pressione di scoppio non inferiore a 1Mpa(10 kg/cmq) per iniezione a bassa pressione. Non inferiore a 7.0 Mpa (70 kg/cmq) per iniezione ad alta pressione.

- MISCELA DI INIEZIONE DEI TIRANTI:  
 Densità >= 1.85 t/mc  
 Cemento tipo II  
 Rapporto a/c <= 0.45  
 Resistenza a compressione >= 25 Mpa dopo 3gg  
                                   >= 35 Mpa a 7gg  
                                   >= 50 Mpa a 28gg.

### 3.4 Materiale per Muri di Gabbionata

Di seguito sono illustrati i materiali della gabbionata utilizzata nel progetto:

Unità geotecnica Slg (sabbia ghiaiosa, localmente limosa)	
Peso di volume naturale	19 kN/m <sup>3</sup>
Coesione drenata	0 kPa
Angolo di Attrito	45°

### 3.5 Materiale per rete metallica di confinamento

Le gabbionate previste in progetto sono confinate con rete metallica a doppia torsione con maglia esagonale tipo 8x10 in accordo con le UNI 8018, tessuta con trafilato di ferro, conforme alle UNI 3598 per le caratteristiche meccaniche e UNI 10218 per le tolleranze sui diametri, avente carico di rottura compreso fra 38 e 50 kg/mm<sup>2</sup> e allungamento minimo pari al 12%, avente un diametro 2.70 mm, rivestiti in lega eutettica di Zinco-Alluminio (5%)-Cerio-Lantanio conforme alla ASTM 856 con un quantitativo non inferiore a 260 g/m<sup>2</sup>. Tale rivestimento dovrà superare un test di invecchiamento accelerato in ambiente contenente anidride solforosa (SO<sub>2</sub>) secondo la normativa DIN 50010 (KESTERNICH TEST) per un minimo di 28 cicli. La rete metallica costituente il manufatto dovrà rispettar le minime seguenti caratteristiche fisico-meccaniche, ricavate con modalità di prova conformi alla normativa ASTM A-975-97:

- Resistenza longitudinale alla torsione 42 kN/m
- Resistenza perpendicolare alla torsione 20 kN/m
- Resistenza in corrispondenza della stringitura 17 kN/m
- Resistenza al punzonamento 23 kN

Gli scatolari metallici verranno assemblati utilizzando sia per le cuciture che per i tiranti un filo con le stesse caratteristiche di quello usato per la fabbricazione della rete, l'operazione verrà compiuta in modo da realizzare una struttura monolitica e continua. Nel caso di utilizzo di punti metallici meccanizzati per le operazioni di legatura, questi saranno costituiti sempre in acciaio rivestito con lega Zinco-Alluminio (5%)-Cerio-Lantanio con diametro 3,00 mm e carico di rottura minimo pari a 170 Kg/mm<sup>2</sup>. Terminato l'assemblaggio degli scatolari si procederà alla sistemazione meccanica e manuale del ciottolame, che dovrà essere fornito di idonea pezzatura, né friabile né gelivo di dimensioni tali da non fuoriuscire dalla maglia della rete e da consentire il maggior costipamento possibile.

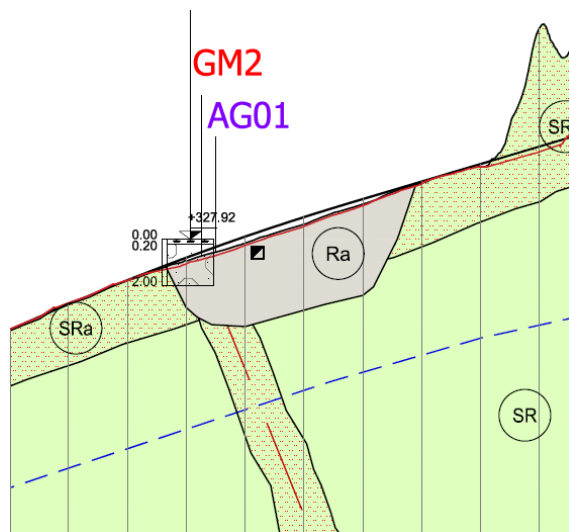
## 4 INQUADRAMENTO GEOTECNICO

Nel presente capitolo si riportano le principali unità geotecniche presenti lungo la linea ed a seguire i parametri geotecnici di progetto secondo quanto riportato nella relazione geotecnica generale alla quale si rimanda per ulteriori approfondimenti.

### 4.1 Stratigrafia di progetto e parametri geotecnici

Le caratteristiche geotecniche del volume di terreno che interagisce con l’opera sono state desunte tenendo conto di quanto risultante nel profilo geologico e dalla caratterizzazione dei litotipi riportati nella relazione geotecnica generale. In particolare l’opera provvisoria parte con la testa del cordolo da p.c., la stratigrafia geotecnica assunta nei modelli di calcolo è la seguente:

- I primi 4m unità Ra
- Unità Sr infinitamente distesa
- Falda a profondità di 7m dal p.c.



**Fig. 4 stratigrafia di progetto**

Come mostrato nella stratigrafia, in relazione all'ubicazione dell'opera e alle quote di approfondimento delle stesse, il terreno di fondazione è unico a tutte le opere oggetto della presente relazione ed è rappresentato dalle unità:

**Unità Ra (riporto antropico)**

$\gamma = 19 \text{ kN/m}^3$	peso di volume naturale
$c' = 0 \text{ kPa}$	coesione drenata
$\phi' = 35^\circ$	angolo di resistenza al taglio

**Unità SRa (calcarei marnosi alterati)**

$\gamma = 24.5 \text{ kN/m}^3$	peso di volume naturale
$c' = 45 \text{ kPa}$	coesione drenata
$\phi' = 40^\circ$	angolo di resistenza al taglio

L'opera è interessata dalla presenza della falda alla quota 7m dal p.c..



## 4.2 Tiranti di ancoraggio

Nella scelta dei valori di  $\alpha$  e  $s$  si rimanda ai diagrammi di Bustamante e Doix.

In particolare, data la natura del terreno attraversato dal tirante di tipo calcareo – marnoso, agendo a favore di sicurezza, si ha:

$$\alpha = 1.2$$

$$s = Q_{skin} = 150 \text{ kPa}$$

Il valore di  $\alpha$  adottato rappresenta il limite inferiore per terreni ghiaiosi, ma assume lo stesso valore per le argille, oltre ad essere il limite superiore dei terreni limosi. Tale valore è stato assunto per la verifica dei tiranti in quanto compatibile con entrambe le tipologie di terreno (ghiaia e argille) riscontrati nel profilo geotecnico.

### Indicazioni per la scelta del valore di $s$

TERRENO	Tipo di iniezione	
	IRS	IGU
Da ghiaia a sabbia limosa	SG1	SG2
Limo e argilla	AL1	AL2
Marna, calcare marnoso, calcare tenero fratturato	MC1	MC2
Roccia alterata e/o fratturata	$\geq R1$	$\geq R2$

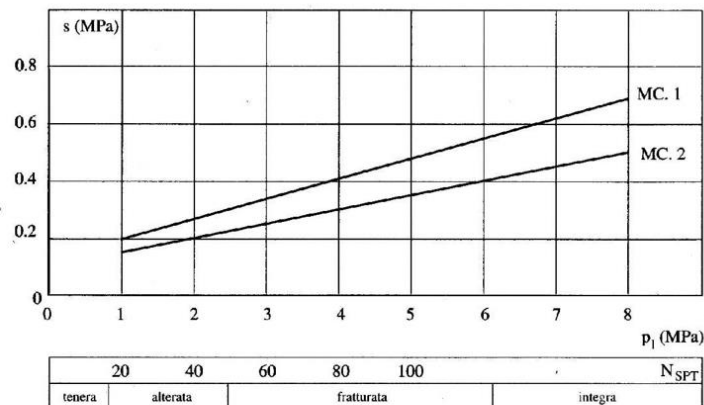


Fig. 13.18. Abaco per il calcolo di  $s$  per gessi, marne, marne calcaree

### Valori del coefficiente $\alpha$ ( $V_s = L_s \cdot \pi \cdot d \cdot s^2 / 4$ )

TERRENO	Valori di $\alpha$		Quantità minima di miscela consigliata	
	IRS	IGU	IRS	IGU
Ghiaia	1.8	1.3 - 1.4	1.5 Vs	1.5 Vs
Ghiaia sabbiosa	1.6 - 1.8	1.2 - 1.4	1.5 Vs	1.5 Vs
sabbia ghiaiosa	1.5 - 1.6	1.2 - 1.3	1.5 Vs	1.5 Vs
Sabbia grossa	1.4 - 1.5	1.1 - 1.2	1.5 Vs	1.5 Vs
Sabbia media	1.4 - 1.5	1.1 - 1.2	1.5 Vs	1.5 Vs
Sabbia fine	1.4 - 1.5	1.1 - 1.2	1.5 Vs	1.5 Vs
Sabbia limosa	1.4 - 1.5	1.1 - 1.2	(1.5 - 2) Vs	1.5 Vs
Limo	1.4 - 1.6	1.1 - 1.2	2 Vs	1.5 Vs
Argilla	1.8 - 2.0	1.2	(2.5 - 3) Vs	(1.5 - 2) Vs
<b>Marne</b>	<b>1.8</b>	<b>1.1 - 1.2</b>	<b>(1.5 - 2) Vs per strati compatti</b>	
<b>Calcari marnosi</b>	<b>1.8</b>	<b>1.1 - 1.2</b>	<b>(2 - 6) Vs o più per strati fratturati</b>	
Calcari alterati o fratturati	1.8	1.1 - 1.2		
Roccia alterata e/o fratturata	1.2	1.1	(1.1 - 1.5) Vs per strati poco fratturati; 2 Vs o più per strati fratturati	

## 5 MODELLAZIONE NUMERICA

### 5.1 Programmi per l'analisi automatica

Lo stato tenso-deformativo della paratia e le verifiche strutturali sono state svolte con il codice di calcolo *PARATIEPLUS*.

Per la gabbionata il calcolo è stato effettuato con il codice di calcolo MAX della Aztec Informatica.

### 5.2 Modelli di calcolo

Lo stato tenso-deformativo dei pali è stato investigato mediante il software di calcolo *PARATIE PLUS*, programma non lineare agli elementi finiti per l'analisi di strutture di sostegno flessibili. Si è considerato un comportamento piano nelle deformazioni, analizzando una striscia di parete di larghezza unitaria. La realizzazione dello scavo sostenuto da paratie è seguita in tutte le varie fasi attraverso un'analisi statica incrementale: ogni passo di carico coincide con una ben precisa configurazione caratterizzata da una quota di scavo, da un insieme di puntoni e tiranti applicati e da una ben precisa disposizione di carichi applicati.

In merito al calcolo della gabbionata invece il software prevede una serie di controlli automatici che consentono l'individuazione di errori di modellazione, di non rispetto di limitazioni geometriche e di armatura e di presenza di elementi non verificati. Il codice di calcolo consente di visualizzare e controllare, sia in forma grafica che tabellare, i dati del modello strutturale, in modo da avere una visione consapevole del comportamento corretto del modello strutturale. I risultati delle elaborazioni sono stati sottoposti a controlli dal sottoscritto utente del software. Tale valutazione ha compreso il confronto con i risultati di semplici calcoli, eseguiti con metodi tradizionali. Inoltre sulla base di considerazioni riguardanti gli stati tensionali e deformativi determinati, si è valutata la validità delle scelte operate in sede di schematizzazione e di modellazione della struttura e delle azioni. In base a quanto sopra, si asserisce che l'elaborazione è corretta ed idonea al caso specifico, pertanto i risultati di calcolo sono da ritenersi validi ed accettabili.

### 5.3 Paratia provvisoria

La paratia è costituita micropali D240 interasse 2.4 m, L=10 m. L'altezza di scavo finale è 5.4 m. Nella modellazione è implementata la seguente successione di step:

- 1) Inizializzazione
- 2) Realizzazione della paratia e applicazione carico stradale
- 3) Scavo per realizzazione tirante
- 4) realizzazione tirante
- 5) scavo finale

#### 5.4 Gabbionata

La gabbionata è costituita da elementi in serie di 1 metro cubo. Sono realizzati da due elementi alla base, ed un elemento in secondo strato allineato verso valle. Tale opera è di natura provvisoria e serve per allargare la carreggiata e garantire il traffico durante la realizzazione della parte sinistra del tombino TM08.

## 6 ANALISI DEI CARICHI

### 6.1 Condizioni di carico e spinta delle terre

Il peso proprio della struttura è calcolato in base alla geometria degli elementi strutturali e al peso specifico assunto per i materiali:

$$\gamma_{cls}=25.0 \quad \text{kN/m}^3$$

Nel modello di calcolo impiegato dal software di calcolo PARATIE, la spinta del terreno viene determinata investigando l'interazione statica tra terreno e la struttura deformabile a partire da uno stato di spinta a riposo del terreno sulla paratia.

I parametri che identificano il tipo di legge costitutiva possono essere distinti in due sottoclassi: parametri di spinta e parametri di deformabilità del terreno.

I parametri di spinta sono il coefficiente di spinta a riposo  $K_0$ , il coefficiente di spinta attiva  $K_a$  e il coefficiente di spinta passiva  $K_p$ .

Il coefficiente di spinta a riposo fornisce lo stato tensionale presente in sito prima delle operazioni di scavo. Esso lega la tensione orizzontale efficace  $\sigma'_h$  a quella verticale  $\sigma'_v$  attraverso la relazione:

$$\sigma'_h = K_0 \cdot \sigma'_v$$

$K_0$  dipende dalla resistenza del terreno, attraverso il suo angolo di attrito efficace  $\phi'$  e dalla sua storia geologica. Si può assumere che:

$$K_0 = K_0^{NC} \cdot (\text{OCR})^m$$

dove

$$K_0^{NC} = 1 - \text{sen } \phi'$$

è il coefficiente di spinta a riposo per un terreno normalconsolidato ( $\text{OCR}=1$ ).  $\text{OCR}$  è il grado di sovraconsolidazione e  $m$  è un parametro empirico, di solito compreso tra 0.4 e 0.7.

I coefficienti di spinta attiva e passiva sono forniti dalla teoria di Rankine per una parete liscia dalle seguenti espressioni:

$$K_a = \tan^2(45 - \phi'/2)$$

$$K_p = \tan^2(45 + \phi'/2)$$

Per tener conto dell'angolo di attrito  $\delta$  tra paratia e terreno il software PARATIE impiega per  $K_a$  e  $K_p$  la formulazione rispettivamente di Coulomb e Lancellotta.

*Formulazione di Coulomb per  $k_a$*

$$k_a = \frac{\cos^2(\varphi' - \beta)}{\cos^2 \beta \cdot \cos(\beta + \delta) \cdot \left[ 1 + \sqrt{\frac{\sin(\delta + \varphi') \cdot \sin(\varphi' - i)}{\cos(\beta + \delta) \cdot \cos(\beta - i)}} \right]^2}$$

dove:

$\varphi'$  è l'angolo di attrito del terreno

$\beta$  è l'angolo d'inclinazione del diaframma rispetto alla verticale

$\delta$  è l'angolo di attrito paratia-terreno

$i$  è l'angolo d'inclinazione del terreno a monte della paratia rispetto all'orizzontale

Il valore limite della tensione orizzontale sarà pari a

$$\sigma'_h = K_a \cdot \sigma'_v - 2 \cdot c' \cdot \sqrt{K_a}$$

$$\sigma'_h = K_p \cdot \sigma'_v + 2 \cdot c' \cdot \sqrt{K_p}$$

a seconda che il collasso avvenga in spinta attiva o passiva rispettivamente.  $c'$  è la coesione drenata del terreno.

*Formulazione di Lancellotta per  $k_p$*

$$K_p = \left[ \frac{\cos \delta}{1 - \sin \Phi'} (\cos \delta + \sqrt{\sin^2 \Phi' - \sin^2 \delta}) \right] e^{2\theta \tan \Phi'}$$

dove:

$$2\theta = \sin^{-1} \left( \frac{\sin \delta}{\sin \Phi'} \right) + \delta$$

## 6.2 Carico stradale

Si considera un carico di 20 kN/m<sup>2</sup> per la presenza del traffico veicolare a monte.

## 7 RISULTATI PARATIE

Nei paragrafi seguenti si riportano i risultati delle analisi condotte per il modello con interasse pari a 2.4m e per quello con interasse pari a 4m.

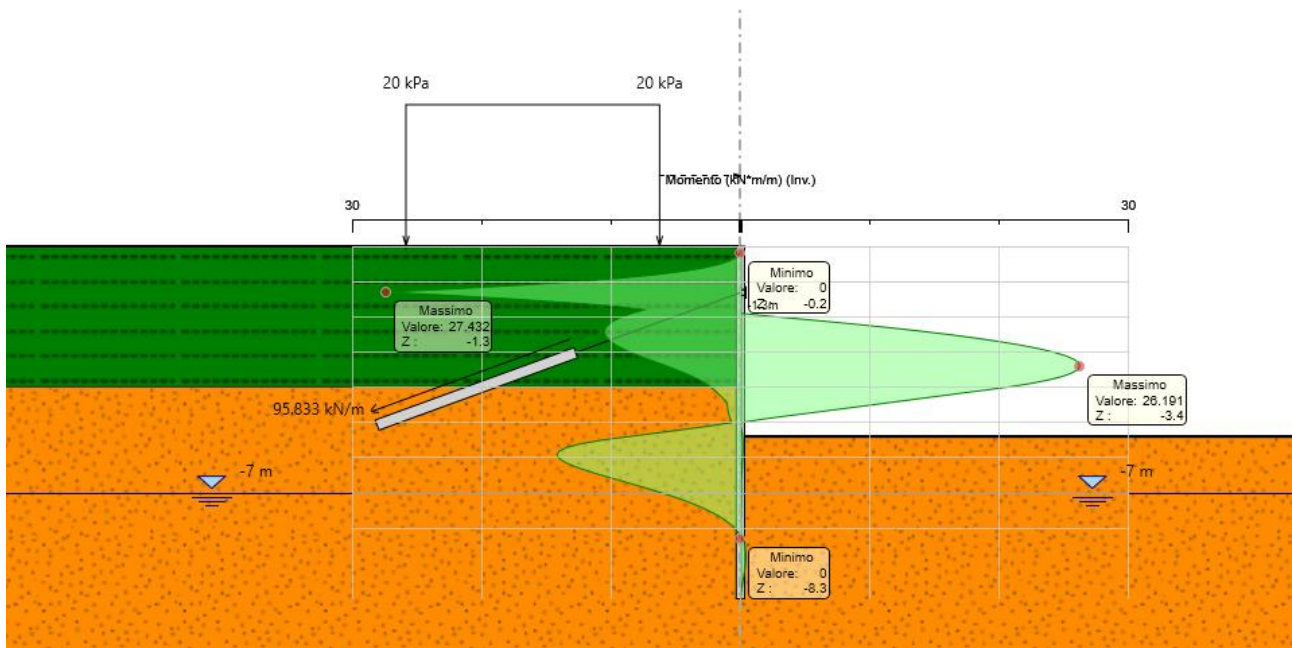
Si riporta l'indicazione dei valori massimi delle sollecitazioni flettenti e taglianti relativi all'analisi al metro .

Per i tabulati di calcolo e i risultati numerici estesi dei modelli, si rimanda agli allegati.

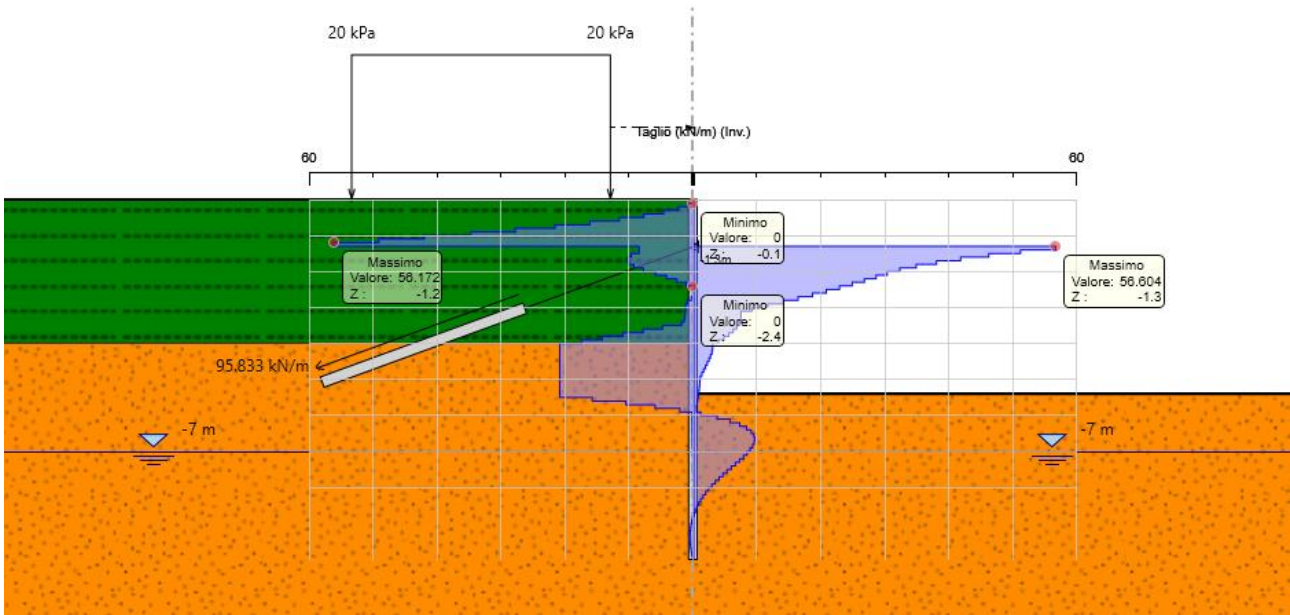
### 7.1 Verifiche SLU

#### 7.1.1 Modello con interasse tiranti di 2,4m

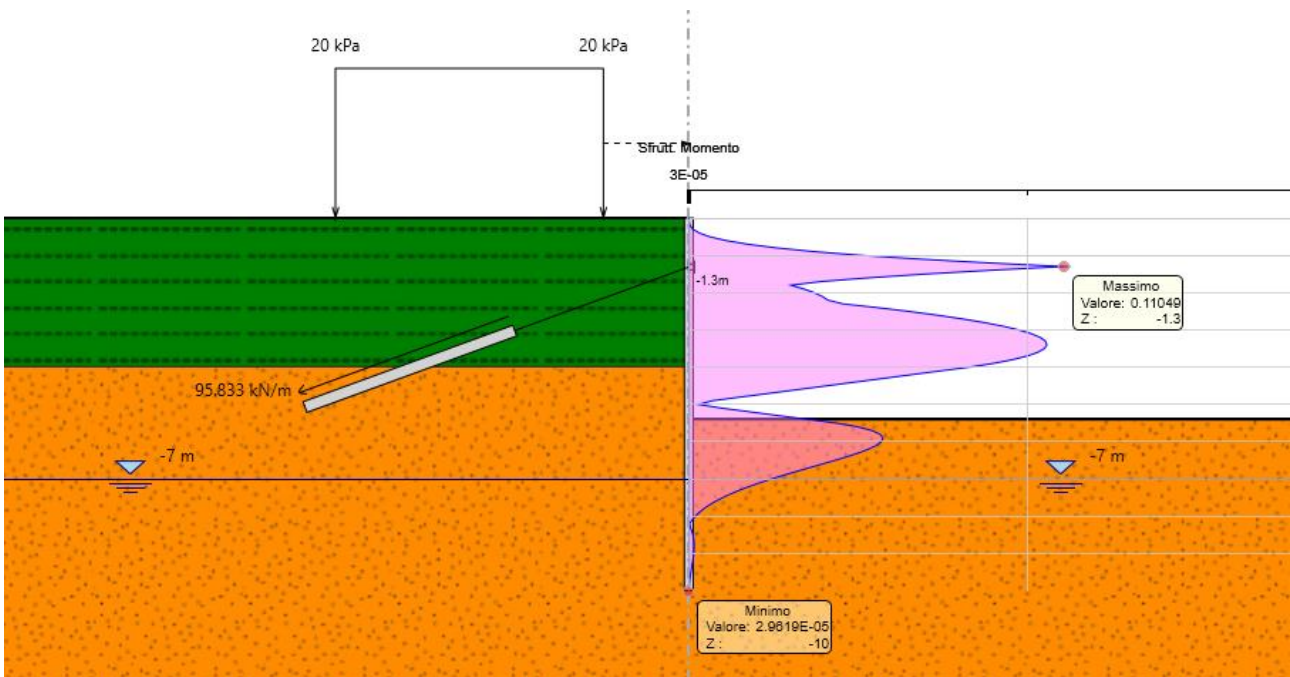
Dall'involuppo del momento flettente si osserva che il massimo valore risulta pari a 28 kNm/m.



Dall'involuppo del taglio si osserva che il massimo valore risulta pari a 57 kN/m.

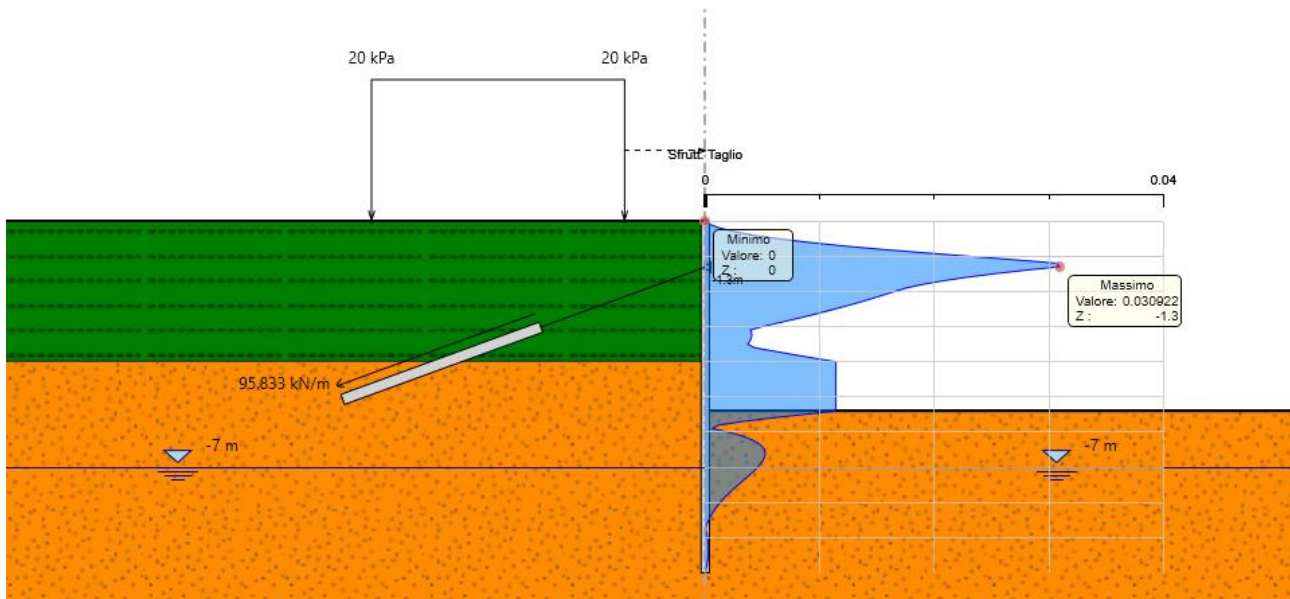


Nel seguito si riportano i risultati delle verifiche strutturali dei pali a flessione e a taglio condotte mediante l'ausilio di Paratie plus. In particolare si riportano i diagrammi dei tassi di sfruttamento, ottenuti come rapporto tra sollecitazione presente e resistenza disponibile in ogni sezione. Tasso di sfruttamento a momento T.S.F.max = 0.11 < 1



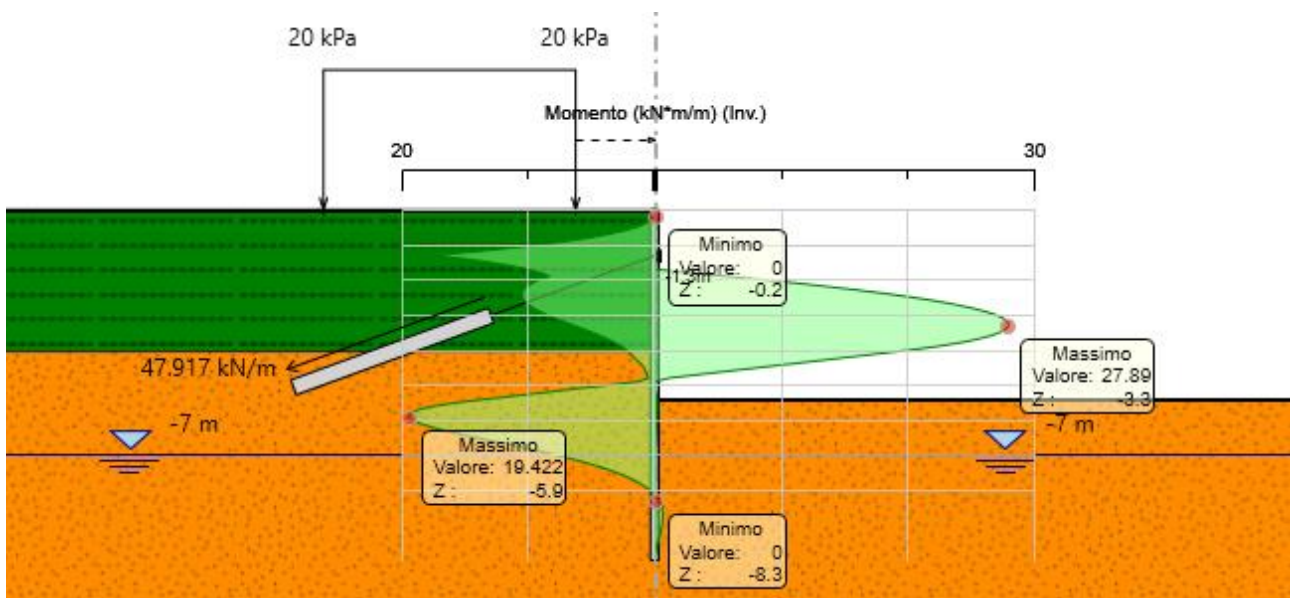


Tasso di sfruttamento a taglio T.S.F.max = 0.03 < 1

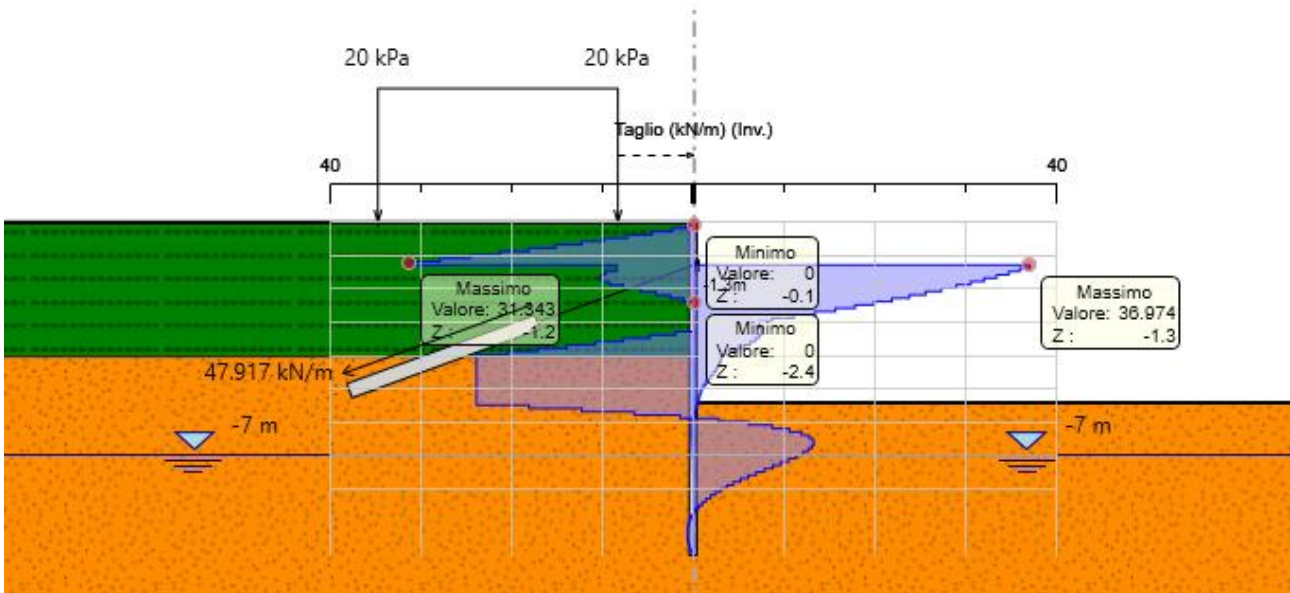


### 7.1.2 Modello con interasse tiranti di 4.8m

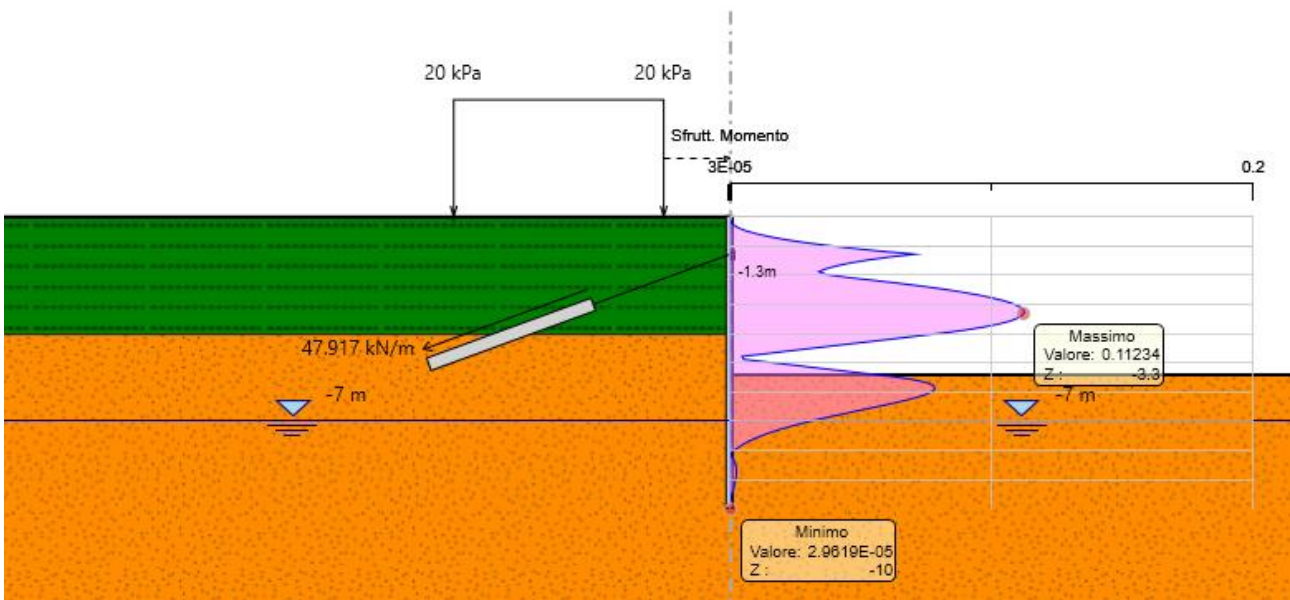
Dall'involuppo del momento flettente si osserva che il massimo valore risulta pari a 28 kNm/m.



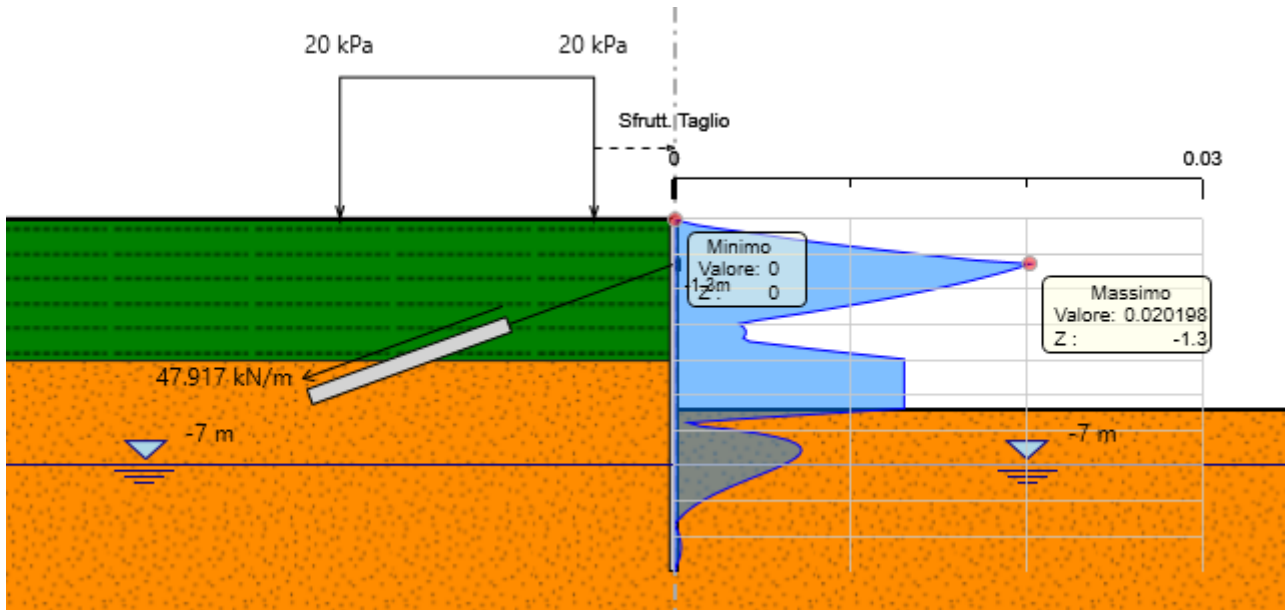
Dall'involuppo del taglio si osserva che il massimo valore risulta pari a 37 kN/m.



Nel seguito si riportano i risultati delle verifiche strutturali dei pali a flessione e a taglio condotte mediante l'ausilio di Paratie plus. In particolare si riportano i diagrammi dei tassi di sfruttamento, ottenuti come rapporto tra sollecitazione presente e resistenza disponibile in ogni sezione. Tasso di sfruttamento a momento  $T.S.F.max = 0.11 < 1$



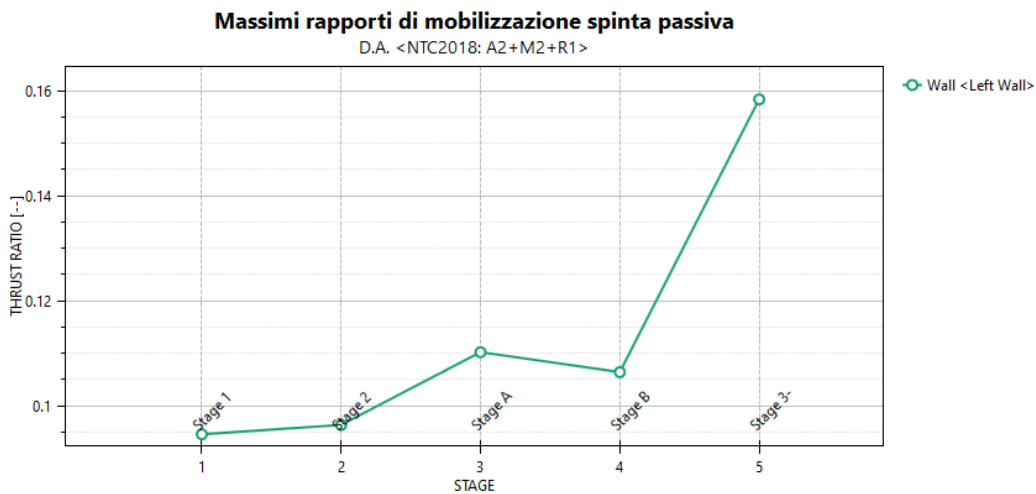
Tasso di sfruttamento a taglio T.S.F.max = 0.02 < 1



## 7.2 Verifiche SLE GEO

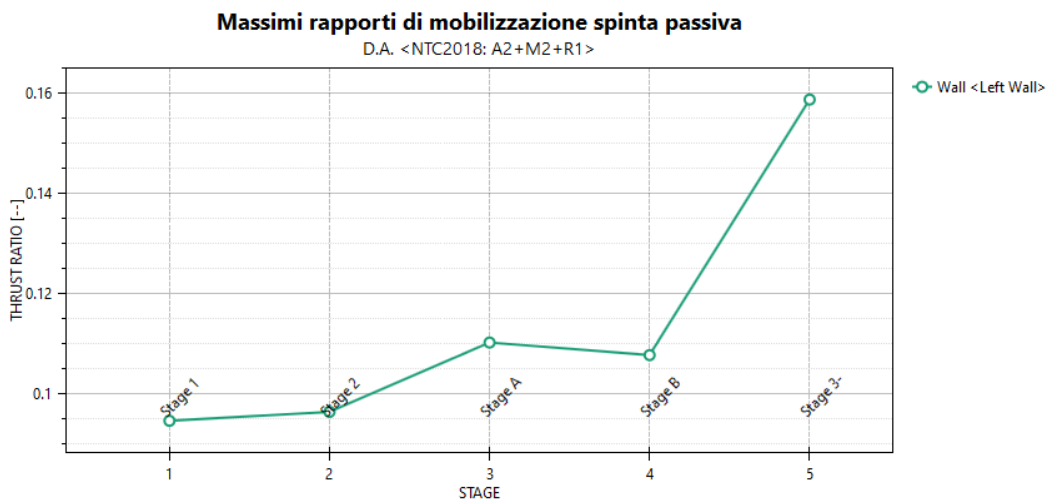
### 7.2.1 Modello con interasse tiranti di 2,4m

Le verifiche geotecniche sono svolte valutando il coefficiente di sicurezza in termini di rapporto di mobilitazione della spinta passiva, cioè come rapporto tra spinta passiva mobilitata al piede della paratia e la spinta passiva mobilitabile. La verifica è soddisfatta se tale rapporto è inferiore all'unità. Il massimo rapporto di mobilitazione della spinta passiva è circa il 17%.



### 7.2.2 Modello con interasse tiranti di 4.8m

Le verifiche geotecniche sono svolte valutando il coefficiente di sicurezza in termini di rapporto di mobilitazione della spinta passiva, cioè come rapporto tra spinta passiva mobilitata al piede della paratia e la spinta passiva mobilitabile. La verifica è soddisfatta se tale rapporto è inferiore all'unità. Il massimo rapporto di mobilitazione della spinta passiva è circa il 17%.



## 7.3 Risultati tiranti

### 7.3.1 Modello con interasse tiranti di 2,4m

Design Assumption: NTC2018: A2+M2+R1

Tiranti		Puntoni	Travi di Ripartizione in Acciaio	Travi di Ripartizione in Calcestruzzo					
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Sfruttamento GEO	Sfruttamento STR	Resistenza	Gerarchia delle Resistenze	
Tieback_New_New_N	Stage B	229.99	342.72	605.56	0.671	0.38	✓	✓	
Tieback_New_New_N	Stage 3-	232.08	342.72	605.56	0.677	0.383	✓	✓	

### 7.3.2 Modello con interasse tiranti di 4.8m

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)

Tiranti		Puntoni	Travi di Ripartizione in Acciaio	Travi di Ripartizione in Calcestruzzo					
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Sfruttamento GEO	Sfruttamento STR	Resistenza	Gerarchia delle Resistenze	
Tieback_New_New_N	Stage B	299.02	342.72	605.56	0.872	0.494	✓	✓	
Tieback_New_New_N	Stage 3-	304.12	342.72	605.56	0.887	0.502	✓	✓	

## 7.4 Risultati trave di ripartizione

### 7.4.1 Modello con interasse tiranti di 2,4m

Design Assumption: NTC2018: A2+M2+R1

Travi di Ripartizione		Puntoni	Travi di Ripartizione in Acciaio	Travi di Ripartizione in Calcestruzzo								
Trave di Ripartizione	Connessione	Sezione	Materiale	Passo orizz. (m)	D.A.	Stage	Carico distribuito (kN/m)	Azione Assiale (kN)	Sfruttamento M-N	Sfruttamento Taglio	Instabilità	
Default Waler	Tieback_New_N	HE 160B	S355	2.4	NTC2018: A2+I	Stage B	95.83	0	0.323	0.215	0	
Default Waler	Tieback_New_N	HE 160B	S355	2.4	NTC2018: A2+I	Stage 3-	96.702	0	0.326	0.217	0	

### 7.4.2 Modello con interasse tiranti di 4.8m

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)

Travi di Ripartizione		Puntoni	Travi di Ripartizione in Acciaio	Travi di Ripartizione in Calcestruzzo								
Trave di Ripartizione	Connessione	Sezione	Materiale	Passo orizz. (m)	D.A.	Stage	Carico distribuito (kN/m)	Azione Assiale (kN)	Sfruttamento M-N	Sfruttamento Taglio	Instabilità	
Default Waler	Tieback_New_N	HE 160B	S355	4.8	NTC2018: A1+I	Stage B	62.296	0	0.84	0.28	0	
Default Waler	Tieback_New_N	HE 160B	S355	4.8	NTC2018: A1+I	Stage 3-	63.357	0	0.854	0.285	0	

## 8 VERIFICHE DEL CORDOLO DELLE PARATIE

Le caratteristiche della sollecitazione sono determinate modellando gli elementi strutturali oggetto di verifica alla stregua di travi continue su più appoggi; la luce delle campate è data dall'interasse dei pali ed il carico, uniformemente distribuito, è determinato ripartendo il taglio sollecitante a metro lineare alla quota inferiore del cordolo, ottenute del modello di calcolo dell'opera di sostegno. Per essere più cautelativi lo schema considerato non è quello di una trave su più appoggi, ma quello ad una sola campata con luce pari a due volte l'interasse dei pali, in modo da considerare il cordolo sollecitato anche nel caso in cui un palo non è stato opportunamente ancorato. Secondo tale modello le massime azioni di calcolo sull'elemento strutturale saranno le seguenti:

$$M_{ed} = \frac{q_{ed} \cdot l^2}{8} \qquad V_{ed} = \frac{q_{ed} \cdot l}{2}$$

Elemento	Inviluppo SLU			SLE frequente			SLU	SLE	Luce
	$M_{Y, Ed}$	$N_{ed}$	$V_{Ed}$	$M_{, Ed}$	$V_{Ed}$	$N_{ed}$	Ved	Ved	L
	[kNm]	[kN]	[kN]	[kNm]	[kN]	[kN]	[kN/m]	[kN/m]	[m]
<b>Cordolo</b>	4.32	0.00	21.60	3.36	16.80	0.00	<b>54.00</b>	<b>42.00</b>	<b>0.80</b>

GEOMETRIA				VERIFICA A PRESSOFLESSIONE					FS	
Elemento	b	h	$M_{ed}$	Armature	As	c	d	$M_{Rd}$		
	[mm]	[mm]			[kNm]	[mm <sup>2</sup> ]	[mm]		[mm]	[kNm]
<b>Cordolo</b>	Lato DX	500	500	4.3	3 $\phi$ 16	603.19	60	440	103	<b>23.84</b>
	Lato SX				3 $\phi$ 16	603.19	60			

Elemento	Armature trasversali			Taglio Trazione		FS	
	$n_b$	$\emptyset$	p	$A_{sw}$	$V_{Rsd}$		$V_{rd}$
			(mm)	(mm <sup>2</sup> )	(KN)		
<b>Cordolo</b>	2	8	200	100.53	194.72	194.72	<b>9.02</b>

Verifica delle tensioni	$M_{ed}$	$\sigma_c$	$0,6 f_{ck}$	FS	$\sigma_f$	$0,8 f_{yk}$	FS
	[kNm]	[Mpa]	[Mpa]	[-]	[Mpa]	[Mpa]	[-]
<b>Comb. Rara</b>	3.4	0.30	19.9	<b>66.40</b>	17.00	360.0	<b>21.18</b>

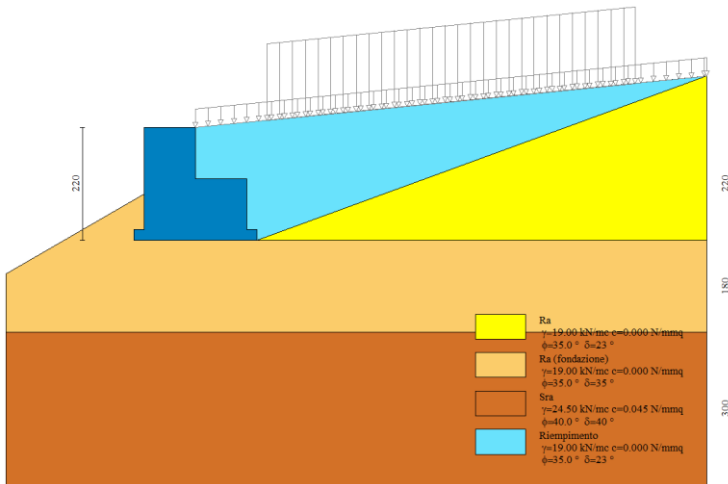
Verifica delle tensioni	$M_{ed}$	$\sigma_c$	$0,45 f_{ck}$	FS
	[kNm]	[Mpa]	[Mpa]	[-]
<b>Comb. Q.Perm.</b>	3.4	0.30	14.9	<b>49.80</b>

Verifica delle tensioni	$M_{ed}$	$\sigma_f$	Kt	$x_c$	$h_{c,eff}$	peff	$\epsilon_{sm}$	$\phi_{eq}$	K1	K2	$\Delta_{s,max}$	$w_f$	$w_1$	FS
	[kNm]	[Mpa]		mm	mm						mm	[mm]	[mm]	[-]
<b>Comb. Q. Perm.</b>	3.4	17.00	0.4	103	132	0.01	0.00	16	0.8	0.5	475	0.039	0.20	<b>5.10</b>
<b>Comb. Freq.</b>	3.4	17.00		103	132	0.01	0.00	16			475	0.039	0.30	<b>7.65</b>

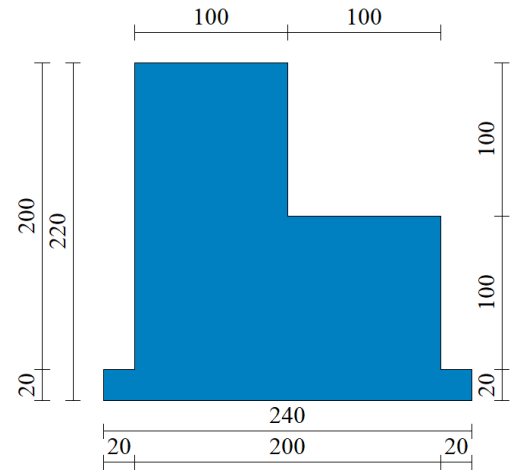


## 9 ANALISI E VERIFICHE DEL MURO DI SOSTEGNO

Di seguito si riporta una rappresentazione grafica del modello di calcolo adottato per il muro a gravità avente un'altezza totale pari a 2m.



*Modello di calcolo muro a gravità*



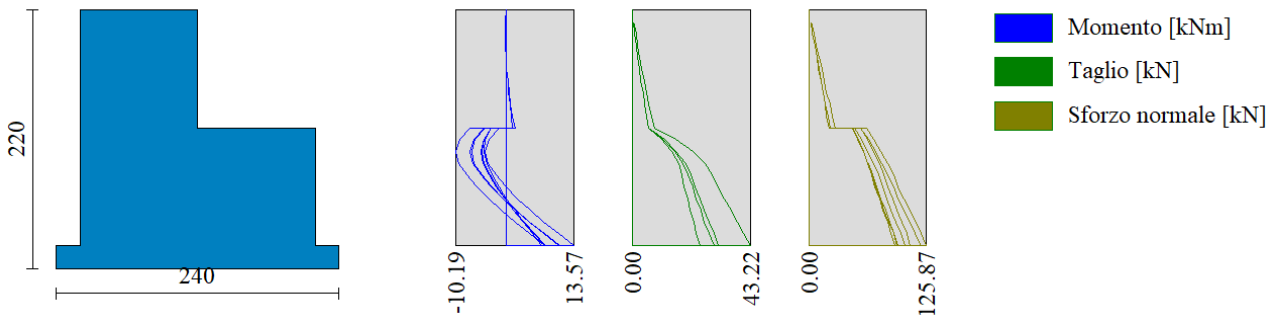
*Geometria del muro*

### 9.1.1 Risultati e Sollecitazioni

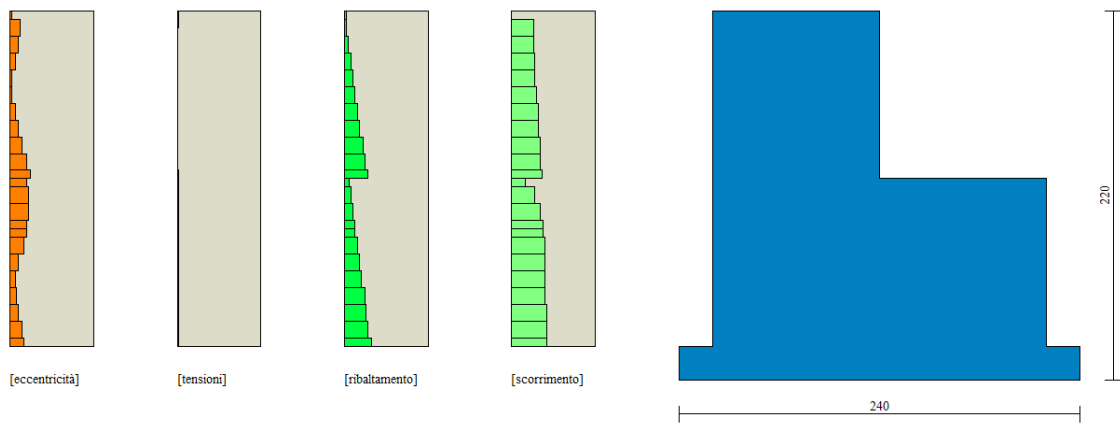
Si riportano i risultati delle verifiche geotecniche e le sollecitazioni per le combinazioni statiche dell'opera in oggetto.

n°	Combinazione	Sismica	FSsco	FSqlim	FSrib	FSstab	FShyd	FSupl
1	STR (A1-M1-R3)		2.063	2.441	--	--	--	--
2	STR (A1-M1-R3)		2.429	2.499	--	--	--	--
3	STR (A1-M1-R3)		2.169	2.398	--	--	--	--
4	STR (A1-M1-R3)		2.323	2.565	--	--	--	--
5	GEO (A2-M2-R2)		--	--	--	1.110	--	--
6	EQU (A1-M1-R3)		--	--	5.165	--	--	--

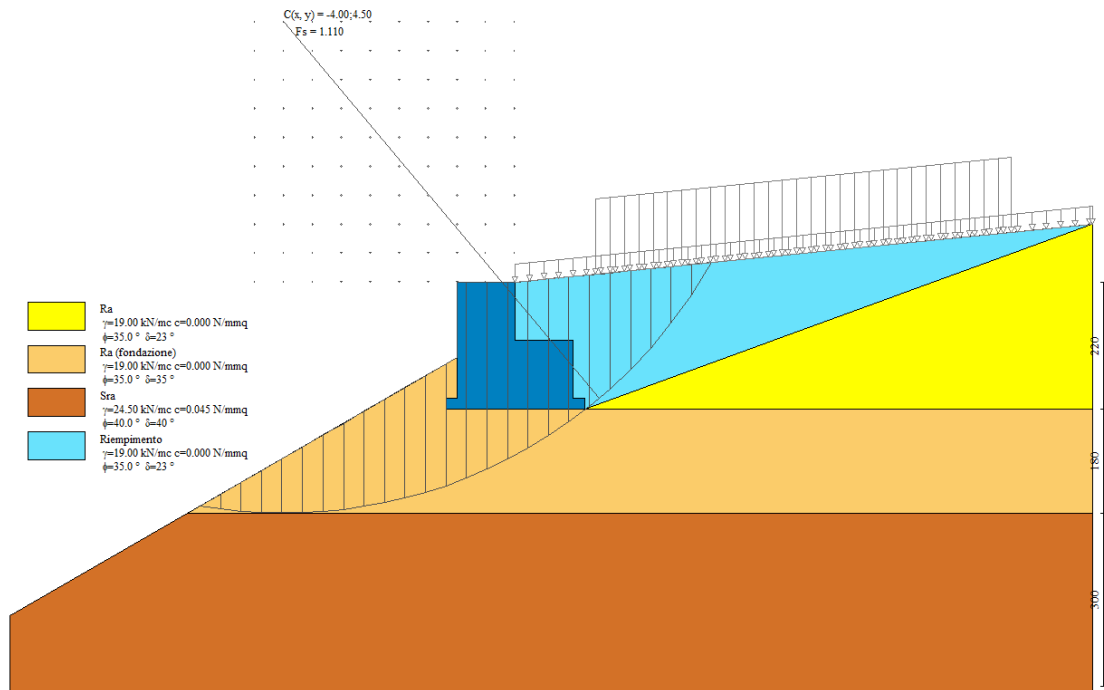
*Fattori di sicurezza verifiche statiche*



Involuppo sollecitazioni



Involuppo verifiche muro a gravità



Stabilità fronte di scavo - Cerchio critico (Combinazione n° 5) – FS=1.11



## 10 ALLEGATO 1: tabulato di calcolo paratia (interasse tiranti 2.4 m)

### Descrizione della Stratigrafia e degli Strati di Terreno

Tipo : POLYLINE

Punti

(-30;0)  
(10;0)  
(20;0)  
(20;-40)  
(-30;-40)

OCR : 1

Tipo : POLYLINE

Punti

(-30;-4)  
(20;-4)  
(20;-20)  
(-30;-20)

OCR : 1

Strato di Terreno	Terreno	$\gamma$ dry	$\gamma$ sat	$\phi'$	$\phi$	$c'_{cv}$	$\phi$	$c'$	Su	Modulo Elastico	Eu	Evc	Eur	Ah	Av	exp Pa	Rur/Rvc	Rvc	Ku	Kvc	Kur		
		kN/m <sup>3</sup>	kN/m <sup>3</sup>	°	°	°	°	kPa	kPa		kPa	kPa	kPa			kPa			kPa	kN/m <sup>3</sup>	kN/m <sup>3</sup>	kN/m <sup>3</sup>	
1	RILEVATO	19	19	35				0		Constant	50000	80000											
2	unità SRa (calcarei marnosi alterati litoidi)	24	24	40				45		Constant	150000	240000											

## **Descrizione Pareti**

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Muro di sinistra

Sezione : mc 240 inter 40 cm

Area equivalente : 0.0294745535317205 m

Inerzia equivalente : 0.0001 m<sup>4</sup>/m

Materiale calcestruzzo : C25/30

Tipo sezione : Tangent

Spaziatura : 0.4 m

Diametro : 0.24 m

Efficacia : 1

Materiale acciaio : S355

Sezione : CHS168.3\*12

Tipo sezione : O

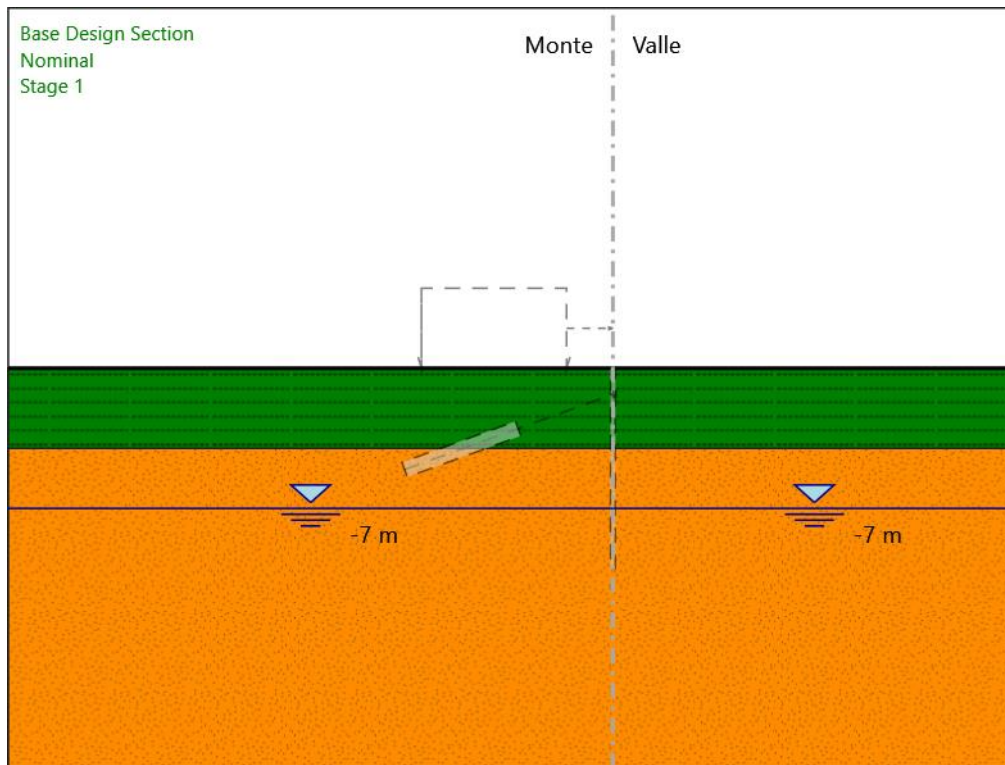
Spaziatura : 0.4 m

Spessore : 0.012 m

Diametro : 0.1683 m

## Fasi di Calcolo

### Stage 1



Stage 1

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : 0 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

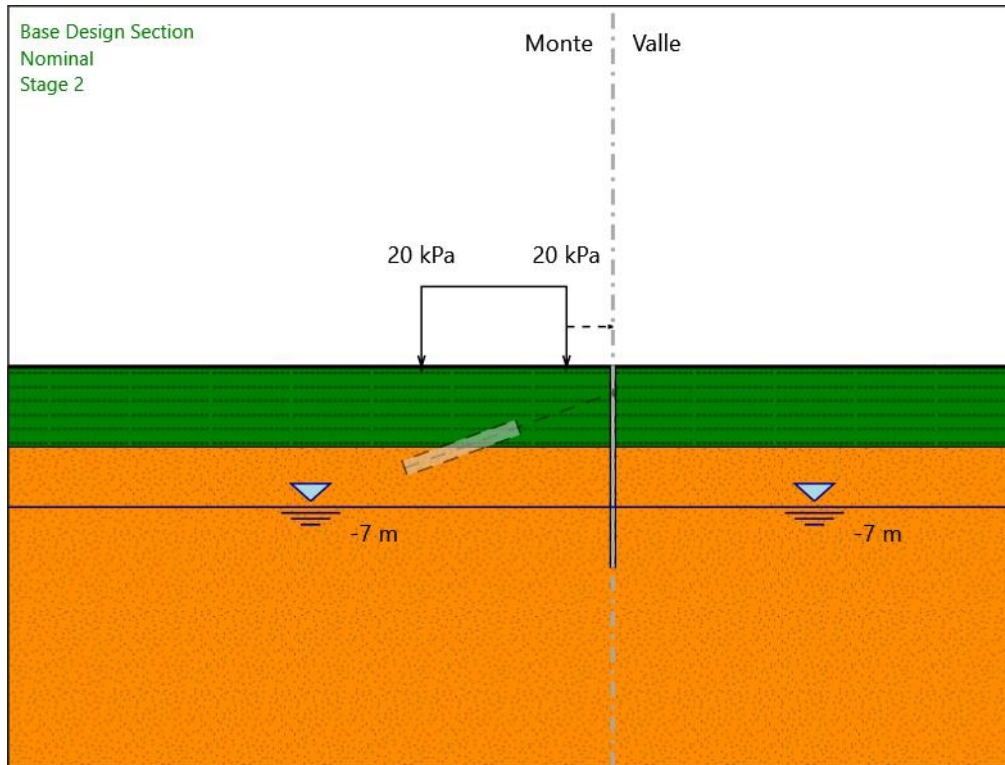
0 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

## Stage 2



Stage 2

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : 0 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

0 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

Elementi strutturali

Paratia : paratia sx

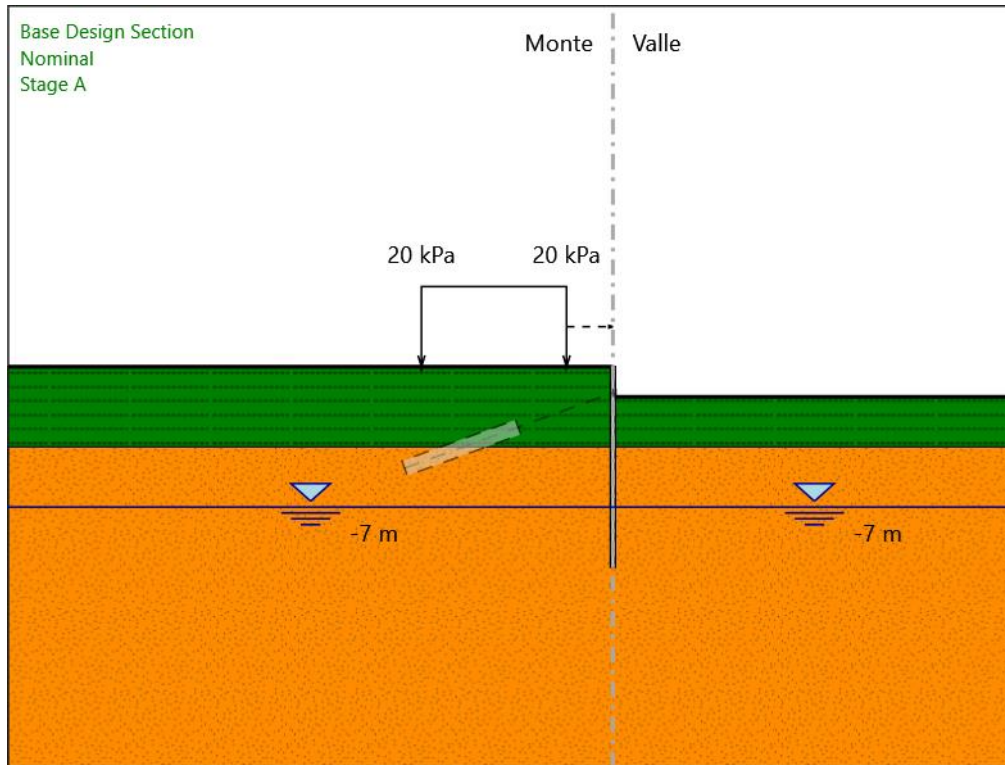
X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

## Stage A



Stage A

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -1.5 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-1.5 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

Elementi strutturali

Paratia : paratia sx

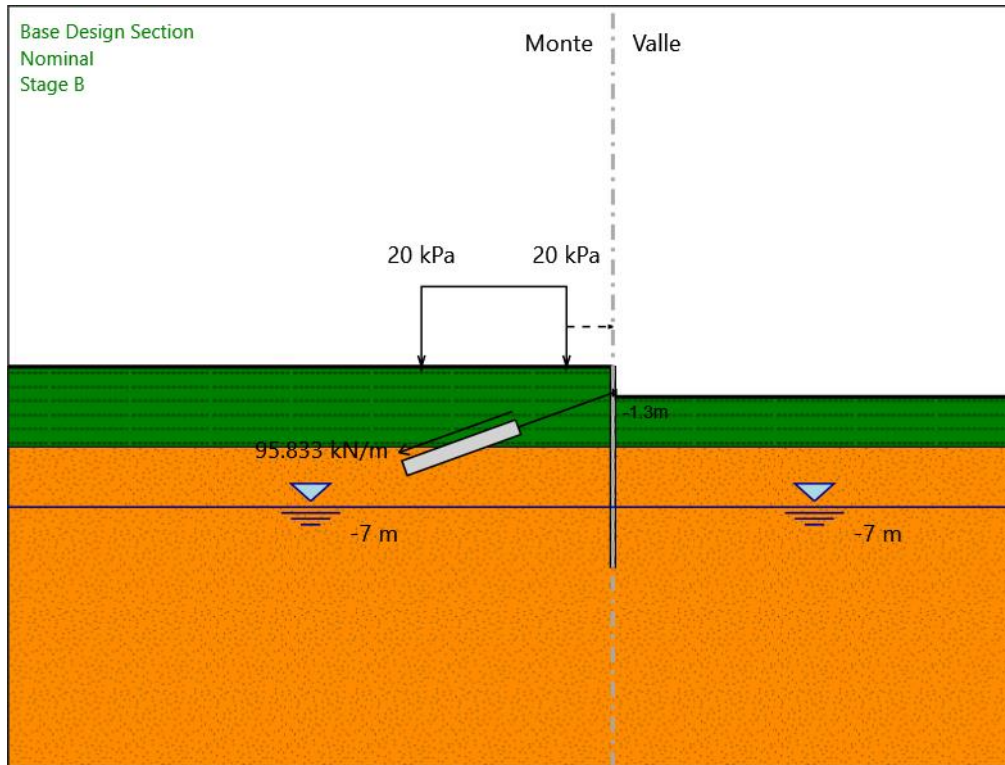
X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

## Stage B



Stage B

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -1.5 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-1.5 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m



Elementi strutturali

Paratia : paratia sx

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

Tirante : Tieback\_New\_New\_New\_New

X : 0 m

Z : -1.3 m

Lunghezza bulbo : 6 m

Diametro bulbo : 0.2 m

Lunghezza libera : 5 m

Spaziatura orizzontale : 2.4 m

Precarico : 230 kN

Angolo : 20 °

Sezione : 3 strands

Tipo di barre : Barre trefoli

Numero di barre : 3

Diametro : 0.01331 m

Area : 0.000417 m<sup>2</sup>

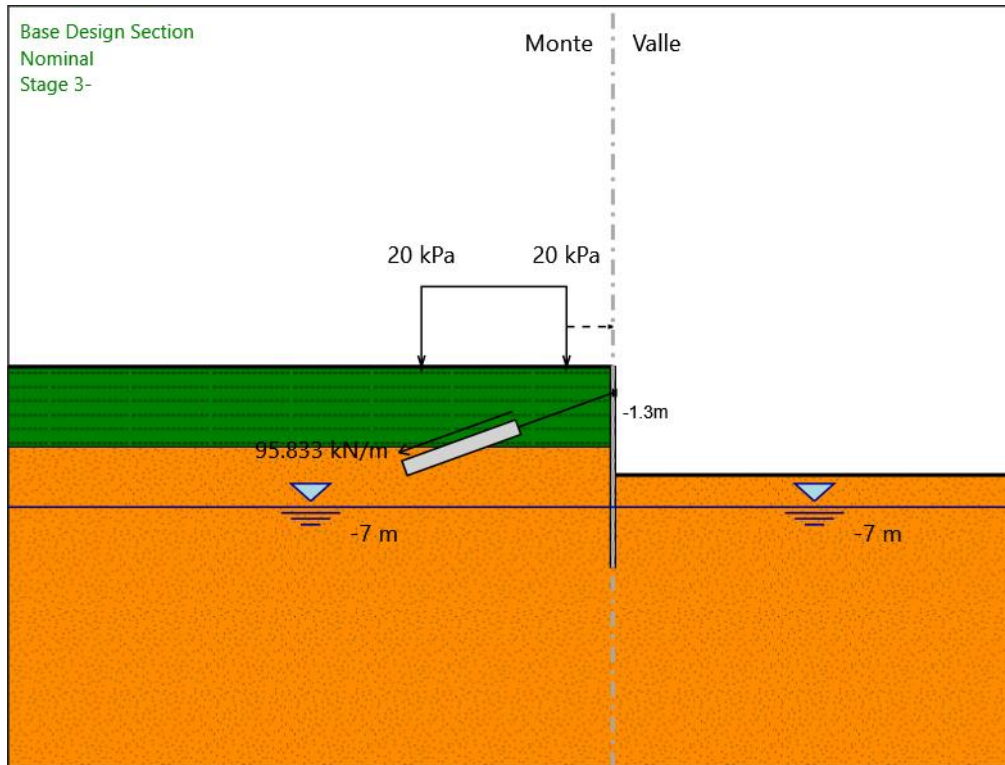
Trave di Ripartizione : Default Waler

Sezione : Waler Section 2 steel

HE 160B

Materiale : S355

### Stage 3-



Stage 3-

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -5.4 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-5.4 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

Elementi strutturali

Paratia : paratia sx

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

Tirante : Tieback\_New\_New\_New\_New

X : 0 m

Z : -1.3 m

Lunghezza bulbo : 6 m

Diametro bulbo : 0.2 m

Lunghezza libera : 5 m

Spaziatura orizzontale : 2.4 m

Precarico : 230 kN

Angolo : 20 °

Sezione : 3 strands

Tipo di barre : Barre trefoli

Numero di barre : 3

Diametro : 0.01331 m

Area : 0.000417 m<sup>2</sup>

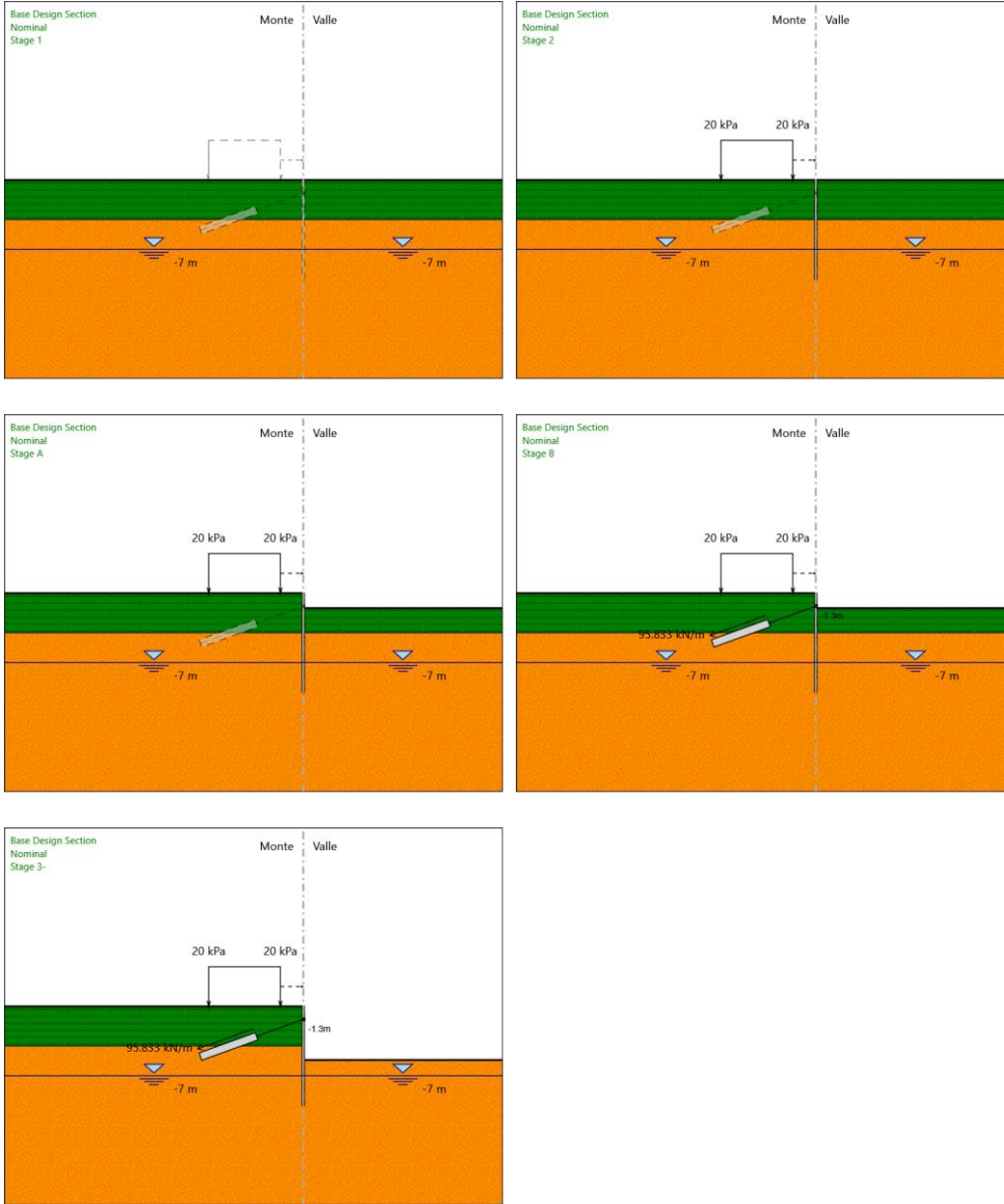
Trave di Ripartizione : Default Waler

Sezione : Waler Section 2 steel

HE 160B

Materiale : S355

### Tabella Configurazione Stage (Nominal)



## Grafici dei Risultati

### Design Assumption : Nominal

#### Tabella Spostamento Nominal - LEFT Stage: Stage 1

Design Assumption: Nominal	Tipo Risultato: Spostamento	Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 1	0	0
Stage 1	-0.1	0
Stage 1	-0.2	0
Stage 1	-0.3	0
Stage 1	-0.4	0
Stage 1	-0.5	0
Stage 1	-0.6	0
Stage 1	-0.7	0
Stage 1	-0.8	0
Stage 1	-0.9	0
Stage 1	-1	0
Stage 1	-1.1	0
Stage 1	-1.2	0
Stage 1	-1.3	0
Stage 1	-1.4	0
Stage 1	-1.5	0
Stage 1	-1.6	0
Stage 1	-1.7	0
Stage 1	-1.8	0
Stage 1	-1.9	0
Stage 1	-2	0
Stage 1	-2.1	0
Stage 1	-2.2	0
Stage 1	-2.3	0
Stage 1	-2.4	0
Stage 1	-2.5	0
Stage 1	-2.6	0
Stage 1	-2.7	0
Stage 1	-2.8	0
Stage 1	-2.9	0
Stage 1	-3	0
Stage 1	-3.1	0
Stage 1	-3.2	0
Stage 1	-3.3	0
Stage 1	-3.4	0
Stage 1	-3.5	0
Stage 1	-3.6	0
Stage 1	-3.7	0
Stage 1	-3.8	0
Stage 1	-3.9	0
Stage 1	-4	0
Stage 1	-4.1	0
Stage 1	-4.2	0
Stage 1	-4.3	0
Stage 1	-4.4	0
Stage 1	-4.5	0
Stage 1	-4.6	0
Stage 1	-4.7	0
Stage 1	-4.8	0
Stage 1	-4.9	0
Stage 1	-5	0
Stage 1	-5.1	0
Stage 1	-5.2	0
Stage 1	-5.3	0

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 1	-5.4	0
Stage 1	-5.5	0
Stage 1	-5.6	0
Stage 1	-5.7	0
Stage 1	-5.8	0
Stage 1	-5.9	0
Stage 1	-6	0
Stage 1	-6.1	0
Stage 1	-6.2	0
Stage 1	-6.3	0
Stage 1	-6.4	0
Stage 1	-6.5	0
Stage 1	-6.6	0
Stage 1	-6.7	0
Stage 1	-6.8	0
Stage 1	-6.9	0
Stage 1	-7	0
Stage 1	-7.1	0
Stage 1	-7.2	0
Stage 1	-7.3	0
Stage 1	-7.4	0
Stage 1	-7.5	0
Stage 1	-7.6	0
Stage 1	-7.7	0
Stage 1	-7.8	0
Stage 1	-7.9	0
Stage 1	-8	0
Stage 1	-8.1	0
Stage 1	-8.2	0
Stage 1	-8.3	0
Stage 1	-8.4	0
Stage 1	-8.5	0
Stage 1	-8.6	0
Stage 1	-8.7	0
Stage 1	-8.8	0
Stage 1	-8.9	0
Stage 1	-9	0
Stage 1	-9.1	0
Stage 1	-9.2	0
Stage 1	-9.3	0
Stage 1	-9.4	0
Stage 1	-9.5	0
Stage 1	-9.6	0
Stage 1	-9.7	0
Stage 1	-9.8	0
Stage 1	-9.9	0
Stage 1	-10	0

### Tabella Spostamento Nominal - LEFT Stage: Stage 2

Design Assumption: Nominal	Tipo Risultato: Spostamento	Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 2	0	0
Stage 2	-0.1	0
Stage 2	-0.2	0
Stage 2	-0.3	0
Stage 2	-0.4	0
Stage 2	-0.5	0
Stage 2	-0.6	0
Stage 2	-0.7	0
Stage 2	-0.8	0
Stage 2	-0.9	0
Stage 2	-1	0
Stage 2	-1.1	0
Stage 2	-1.2	0
Stage 2	-1.3	0
Stage 2	-1.4	0
Stage 2	-1.5	0
Stage 2	-1.6	0
Stage 2	-1.7	0
Stage 2	-1.8	0
Stage 2	-1.9	0
Stage 2	-2	0
Stage 2	-2.1	0.01
Stage 2	-2.2	0.01
Stage 2	-2.3	0.01
Stage 2	-2.4	0.01
Stage 2	-2.5	0.01
Stage 2	-2.6	0.01
Stage 2	-2.7	0.01
Stage 2	-2.8	0.01
Stage 2	-2.9	0.01
Stage 2	-3	0.01
Stage 2	-3.1	0.01
Stage 2	-3.2	0.01
Stage 2	-3.3	0.01
Stage 2	-3.4	0.01
Stage 2	-3.5	0.01
Stage 2	-3.6	0.01
Stage 2	-3.7	0.01
Stage 2	-3.8	0.01
Stage 2	-3.9	0.01
Stage 2	-4	0.01
Stage 2	-4.1	0.01
Stage 2	-4.2	0.01
Stage 2	-4.3	0.01
Stage 2	-4.4	0.01
Stage 2	-4.5	0.01
Stage 2	-4.6	0.01
Stage 2	-4.7	0.01
Stage 2	-4.8	0.01
Stage 2	-4.9	0.01
Stage 2	-5	0.01
Stage 2	-5.1	0.01
Stage 2	-5.2	0.01
Stage 2	-5.3	0.01
Stage 2	-5.4	0.01
Stage 2	-5.5	0.01
Stage 2	-5.6	0.01
Stage 2	-5.7	0.01
Stage 2	-5.8	0.01
Stage 2	-5.9	0.01
Stage 2	-6	0.01

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 2	-6.1	0.01
Stage 2	-6.2	0.01
Stage 2	-6.3	0.01
Stage 2	-6.4	0.01
Stage 2	-6.5	0.01
Stage 2	-6.6	0.01
Stage 2	-6.7	0.01
Stage 2	-6.8	0.01
Stage 2	-6.9	0.01
Stage 2	-7	0.01
Stage 2	-7.1	0.01
Stage 2	-7.2	0.01
Stage 2	-7.3	0.01
Stage 2	-7.4	0.01
Stage 2	-7.5	0.01
Stage 2	-7.6	0.01
Stage 2	-7.7	0.01
Stage 2	-7.8	0.01
Stage 2	-7.9	0.01
Stage 2	-8	0.01
Stage 2	-8.1	0.01
Stage 2	-8.2	0.01
Stage 2	-8.3	0.01
Stage 2	-8.4	0.01
Stage 2	-8.5	0.01
Stage 2	-8.6	0.01
Stage 2	-8.7	0.01
Stage 2	-8.8	0.01
Stage 2	-8.9	0.01
Stage 2	-9	0.01
Stage 2	-9.1	0.01
Stage 2	-9.2	0.01
Stage 2	-9.3	0.01
Stage 2	-9.4	0.01
Stage 2	-9.5	0.01
Stage 2	-9.6	0.01
Stage 2	-9.7	0.01
Stage 2	-9.8	0.01
Stage 2	-9.9	0.01
Stage 2	-10	0.01



### Tabella Spostamento Nominal - LEFT Stage: Stage A

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage A	0	1.99
Stage A	-0.1	1.91
Stage A	-0.2	1.84
Stage A	-0.3	1.76
Stage A	-0.4	1.68
Stage A	-0.5	1.61
Stage A	-0.6	1.53
Stage A	-0.7	1.45
Stage A	-0.8	1.38
Stage A	-0.9	1.3
Stage A	-1	1.22
Stage A	-1.1	1.15
Stage A	-1.2	1.07
Stage A	-1.3	1
Stage A	-1.4	0.93
Stage A	-1.5	0.85
Stage A	-1.6	0.78
Stage A	-1.7	0.72
Stage A	-1.8	0.65
Stage A	-1.9	0.59
Stage A	-2	0.53
Stage A	-2.1	0.47
Stage A	-2.2	0.42
Stage A	-2.3	0.37
Stage A	-2.4	0.32
Stage A	-2.5	0.28
Stage A	-2.6	0.24
Stage A	-2.7	0.21
Stage A	-2.8	0.18
Stage A	-2.9	0.15
Stage A	-3	0.13
Stage A	-3.1	0.11
Stage A	-3.2	0.09
Stage A	-3.3	0.08
Stage A	-3.4	0.07
Stage A	-3.5	0.06
Stage A	-3.6	0.05
Stage A	-3.7	0.04
Stage A	-3.8	0.04
Stage A	-3.9	0.03
Stage A	-4	0.03
Stage A	-4.1	0.02
Stage A	-4.2	0.02
Stage A	-4.3	0.02
Stage A	-4.4	0.02
Stage A	-4.5	0.02
Stage A	-4.6	0.02
Stage A	-4.7	0.02
Stage A	-4.8	0.02
Stage A	-4.9	0.02
Stage A	-5	0.02
Stage A	-5.1	0.02
Stage A	-5.2	0.02
Stage A	-5.3	0.02
Stage A	-5.4	0.03
Stage A	-5.5	0.03
Stage A	-5.6	0.03
Stage A	-5.7	0.03
Stage A	-5.8	0.03
Stage A	-5.9	0.03
Stage A	-6	0.03

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage A	-6.1	0.03
Stage A	-6.2	0.03
Stage A	-6.3	0.03
Stage A	-6.4	0.03
Stage A	-6.5	0.03
Stage A	-6.6	0.03
Stage A	-6.7	0.03
Stage A	-6.8	0.03
Stage A	-6.9	0.03
Stage A	-7	0.03
Stage A	-7.1	0.03
Stage A	-7.2	0.03
Stage A	-7.3	0.03
Stage A	-7.4	0.03
Stage A	-7.5	0.03
Stage A	-7.6	0.03
Stage A	-7.7	0.03
Stage A	-7.8	0.03
Stage A	-7.9	0.03
Stage A	-8	0.03
Stage A	-8.1	0.03
Stage A	-8.2	0.03
Stage A	-8.3	0.03
Stage A	-8.4	0.03
Stage A	-8.5	0.03
Stage A	-8.6	0.03
Stage A	-8.7	0.03
Stage A	-8.8	0.03
Stage A	-8.9	0.03
Stage A	-9	0.03
Stage A	-9.1	0.03
Stage A	-9.2	0.03
Stage A	-9.3	0.03
Stage A	-9.4	0.03
Stage A	-9.5	0.03
Stage A	-9.6	0.03
Stage A	-9.7	0.03
Stage A	-9.8	0.03
Stage A	-9.9	0.03
Stage A	-10	0.03

### Tabella Spostamento Nominal - LEFT Stage: Stage B

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage B	0	0.82
Stage B	-0.1	0.76
Stage B	-0.2	0.69
Stage B	-0.3	0.63
Stage B	-0.4	0.57
Stage B	-0.5	0.51
Stage B	-0.6	0.45
Stage B	-0.7	0.39
Stage B	-0.8	0.33
Stage B	-0.9	0.27
Stage B	-1	0.22
Stage B	-1.1	0.17
Stage B	-1.2	0.13
Stage B	-1.3	0.1
Stage B	-1.4	0.07
Stage B	-1.5	0.06
Stage B	-1.6	0.05
Stage B	-1.7	0.04
Stage B	-1.8	0.04
Stage B	-1.9	0.04
Stage B	-2	0.05
Stage B	-2.1	0.05
Stage B	-2.2	0.06
Stage B	-2.3	0.06
Stage B	-2.4	0.06
Stage B	-2.5	0.07
Stage B	-2.6	0.07
Stage B	-2.7	0.07
Stage B	-2.8	0.08
Stage B	-2.9	0.08
Stage B	-3	0.08
Stage B	-3.1	0.08
Stage B	-3.2	0.08
Stage B	-3.3	0.07
Stage B	-3.4	0.07
Stage B	-3.5	0.07
Stage B	-3.6	0.07
Stage B	-3.7	0.06
Stage B	-3.8	0.06
Stage B	-3.9	0.06
Stage B	-4	0.05
Stage B	-4.1	0.05
Stage B	-4.2	0.04
Stage B	-4.3	0.04
Stage B	-4.4	0.04
Stage B	-4.5	0.04
Stage B	-4.6	0.03
Stage B	-4.7	0.03
Stage B	-4.8	0.03
Stage B	-4.9	0.03
Stage B	-5	0.03
Stage B	-5.1	0.03
Stage B	-5.2	0.03
Stage B	-5.3	0.03
Stage B	-5.4	0.03
Stage B	-5.5	0.03
Stage B	-5.6	0.03
Stage B	-5.7	0.03
Stage B	-5.8	0.03
Stage B	-5.9	0.03
Stage B	-6	0.03

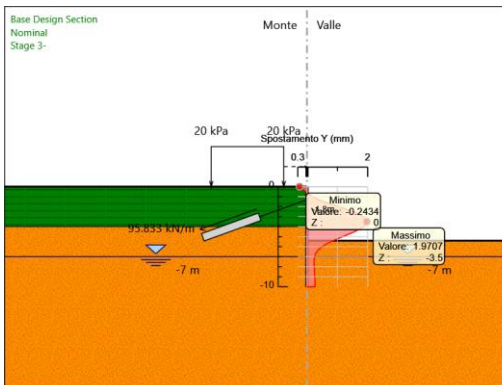
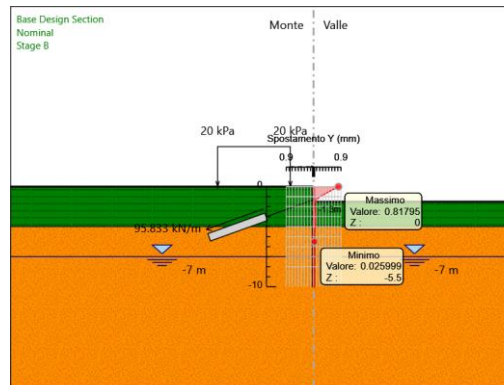
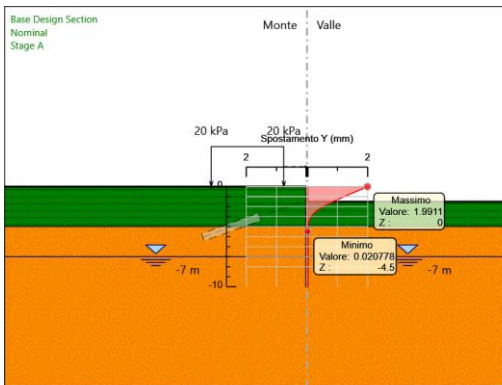
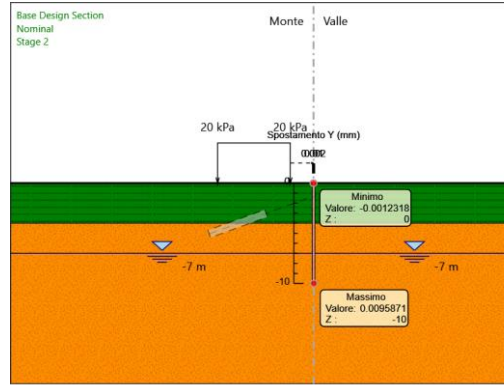
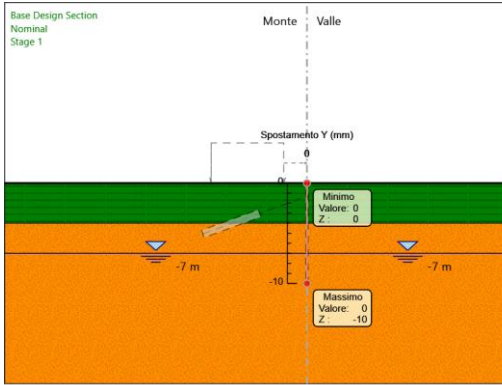
Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage B	-6.1	0.03
Stage B	-6.2	0.03
Stage B	-6.3	0.03
Stage B	-6.4	0.03
Stage B	-6.5	0.03
Stage B	-6.6	0.03
Stage B	-6.7	0.03
Stage B	-6.8	0.03
Stage B	-6.9	0.03
Stage B	-7	0.03
Stage B	-7.1	0.03
Stage B	-7.2	0.03
Stage B	-7.3	0.03
Stage B	-7.4	0.03
Stage B	-7.5	0.03
Stage B	-7.6	0.03
Stage B	-7.7	0.03
Stage B	-7.8	0.03
Stage B	-7.9	0.03
Stage B	-8	0.03
Stage B	-8.1	0.03
Stage B	-8.2	0.03
Stage B	-8.3	0.03
Stage B	-8.4	0.03
Stage B	-8.5	0.03
Stage B	-8.6	0.03
Stage B	-8.7	0.03
Stage B	-8.8	0.03
Stage B	-8.9	0.03
Stage B	-9	0.03
Stage B	-9.1	0.03
Stage B	-9.2	0.03
Stage B	-9.3	0.03
Stage B	-9.4	0.03
Stage B	-9.5	0.03
Stage B	-9.6	0.03
Stage B	-9.7	0.03
Stage B	-9.8	0.03
Stage B	-9.9	0.03
Stage B	-10	0.03

### Tabella Spostamento Nominal - LEFT Stage: Stage 3-

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 3-	0	-0.24
Stage 3-	-0.1	-0.2
Stage 3-	-0.2	-0.16
Stage 3-	-0.3	-0.12
Stage 3-	-0.4	-0.08
Stage 3-	-0.5	-0.04
Stage 3-	-0.6	0.01
Stage 3-	-0.7	0.05
Stage 3-	-0.8	0.09
Stage 3-	-0.9	0.14
Stage 3-	-1	0.19
Stage 3-	-1.1	0.25
Stage 3-	-1.2	0.31
Stage 3-	-1.3	0.38
Stage 3-	-1.4	0.46
Stage 3-	-1.5	0.55
Stage 3-	-1.6	0.64
Stage 3-	-1.7	0.74
Stage 3-	-1.8	0.84
Stage 3-	-1.9	0.94
Stage 3-	-2	1.04
Stage 3-	-2.1	1.14
Stage 3-	-2.2	1.24
Stage 3-	-2.3	1.34
Stage 3-	-2.4	1.43
Stage 3-	-2.5	1.52
Stage 3-	-2.6	1.6
Stage 3-	-2.7	1.67
Stage 3-	-2.8	1.74
Stage 3-	-2.9	1.8
Stage 3-	-3	1.85
Stage 3-	-3.1	1.89
Stage 3-	-3.2	1.93
Stage 3-	-3.3	1.95
Stage 3-	-3.4	1.97
Stage 3-	-3.5	1.97
Stage 3-	-3.6	1.97
Stage 3-	-3.7	1.95
Stage 3-	-3.8	1.93
Stage 3-	-3.9	1.9
Stage 3-	-4	1.86
Stage 3-	-4.1	1.81
Stage 3-	-4.2	1.76
Stage 3-	-4.3	1.7
Stage 3-	-4.4	1.63
Stage 3-	-4.5	1.56
Stage 3-	-4.6	1.49
Stage 3-	-4.7	1.41
Stage 3-	-4.8	1.33
Stage 3-	-4.9	1.25
Stage 3-	-5	1.17
Stage 3-	-5.1	1.09
Stage 3-	-5.2	1.01
Stage 3-	-5.3	0.94
Stage 3-	-5.4	0.86
Stage 3-	-5.5	0.79
Stage 3-	-5.6	0.72
Stage 3-	-5.7	0.66
Stage 3-	-5.8	0.6
Stage 3-	-5.9	0.54
Stage 3-	-6	0.5

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 3-	-6.1	0.45
Stage 3-	-6.2	0.41
Stage 3-	-6.3	0.38
Stage 3-	-6.4	0.35
Stage 3-	-6.5	0.32
Stage 3-	-6.6	0.3
Stage 3-	-6.7	0.29
Stage 3-	-6.8	0.27
Stage 3-	-6.9	0.26
Stage 3-	-7	0.25
Stage 3-	-7.1	0.24
Stage 3-	-7.2	0.24
Stage 3-	-7.3	0.23
Stage 3-	-7.4	0.23
Stage 3-	-7.5	0.23
Stage 3-	-7.6	0.23
Stage 3-	-7.7	0.23
Stage 3-	-7.8	0.23
Stage 3-	-7.9	0.24
Stage 3-	-8	0.24
Stage 3-	-8.1	0.24
Stage 3-	-8.2	0.24
Stage 3-	-8.3	0.24
Stage 3-	-8.4	0.25
Stage 3-	-8.5	0.25
Stage 3-	-8.6	0.25
Stage 3-	-8.7	0.25
Stage 3-	-8.8	0.25
Stage 3-	-8.9	0.25
Stage 3-	-9	0.26
Stage 3-	-9.1	0.26
Stage 3-	-9.2	0.26
Stage 3-	-9.3	0.26
Stage 3-	-9.4	0.26
Stage 3-	-9.5	0.26
Stage 3-	-9.6	0.26
Stage 3-	-9.7	0.26
Stage 3-	-9.8	0.26
Stage 3-	-9.9	0.26
Stage 3-	-10	0.27

### Grafici Spostamento in tabella





## Involuppi Spostamento Nominal

### Risultati Paratia

#### Tabella Risultati Paratia Nominal - Stage: Stage 1

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 1	0	0	0
Stage 1	-0.1	0	0
Stage 1	-0.2	0	0
Stage 1	-0.3	0	0
Stage 1	-0.4	0	0
Stage 1	-0.5	0	0
Stage 1	-0.6	0	0
Stage 1	-0.7	0	0
Stage 1	-0.8	0	0
Stage 1	-0.9	0	0
Stage 1	-1	0	0
Stage 1	-1.1	0	0
Stage 1	-1.2	0	0
Stage 1	-1.3	0	0
Stage 1	-1.4	0	0
Stage 1	-1.5	0	0
Stage 1	-1.6	0	0
Stage 1	-1.7	0	0
Stage 1	-1.8	0	0
Stage 1	-1.9	0	0
Stage 1	-2	0	0
Stage 1	-2.1	0	0
Stage 1	-2.2	0	0
Stage 1	-2.3	0	0
Stage 1	-2.4	0	0
Stage 1	-2.5	0	0
Stage 1	-2.6	0	0
Stage 1	-2.7	0	0
Stage 1	-2.8	0	0
Stage 1	-2.9	0	0
Stage 1	-3	0	0
Stage 1	-3.1	0	0
Stage 1	-3.2	0	0
Stage 1	-3.3	0	0
Stage 1	-3.4	0	0
Stage 1	-3.5	0	0
Stage 1	-3.6	0	0
Stage 1	-3.7	0	0
Stage 1	-3.8	0	0
Stage 1	-3.9	0	0
Stage 1	-4	0	0
Stage 1	-4.1	0	0
Stage 1	-4.2	0	0
Stage 1	-4.3	0	0
Stage 1	-4.4	0	0
Stage 1	-4.5	0	0
Stage 1	-4.6	0	0
Stage 1	-4.7	0	0
Stage 1	-4.8	0	0
Stage 1	-4.9	0	0
Stage 1	-5	0	0
Stage 1	-5.1	0	0
Stage 1	-5.2	0	0
Stage 1	-5.3	0	0

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 1	-5.4	0	0
Stage 1	-5.5	0	0
Stage 1	-5.6	0	0
Stage 1	-5.7	0	0
Stage 1	-5.8	0	0
Stage 1	-5.9	0	0
Stage 1	-6	0	0
Stage 1	-6.1	0	0
Stage 1	-6.2	0	0
Stage 1	-6.3	0	0
Stage 1	-6.4	0	0
Stage 1	-6.5	0	0
Stage 1	-6.6	0	0
Stage 1	-6.7	0	0
Stage 1	-6.8	0	0
Stage 1	-6.9	0	0
Stage 1	-7	0	0
Stage 1	-7.1	0	0
Stage 1	-7.2	0	0
Stage 1	-7.3	0	0
Stage 1	-7.4	0	0
Stage 1	-7.5	0	0
Stage 1	-7.6	0	0
Stage 1	-7.7	0	0
Stage 1	-7.8	0	0
Stage 1	-7.9	0	0
Stage 1	-8	0	0
Stage 1	-8.1	0	0
Stage 1	-8.2	0	0
Stage 1	-8.3	0	0
Stage 1	-8.4	0	0
Stage 1	-8.5	0	0
Stage 1	-8.6	0	0
Stage 1	-8.7	0	0
Stage 1	-8.8	0	0
Stage 1	-8.9	0	0
Stage 1	-9	0	0
Stage 1	-9.1	0	0
Stage 1	-9.2	0	0
Stage 1	-9.3	0	0
Stage 1	-9.4	0	0
Stage 1	-9.5	0	0
Stage 1	-9.6	0	0
Stage 1	-9.7	0	0
Stage 1	-9.8	0	0
Stage 1	-9.9	0	0
Stage 1	-10	0	0

### Tabella Risultati Paratia Nominal - Stage: Stage 2

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 2	0	0	0
Stage 2	-0.1	0	0
Stage 2	-0.1	0	0
Stage 2	-0.2	0	-0.01
Stage 2	-0.3	0	-0.02
Stage 2	-0.4	-0.01	-0.03
Stage 2	-0.5	-0.01	-0.04
Stage 2	-0.6	-0.01	-0.04
Stage 2	-0.7	-0.02	-0.04
Stage 2	-0.8	-0.02	-0.03
Stage 2	-0.9	-0.02	-0.03
Stage 2	-1	-0.03	-0.02
Stage 2	-1.1	-0.03	-0.02
Stage 2	-1.2	-0.03	-0.01
Stage 2	-1.3	-0.03	0
Stage 2	-1.4	-0.03	0.01
Stage 2	-1.5	-0.03	0.02
Stage 2	-1.6	-0.02	0.02
Stage 2	-1.7	-0.02	0.03
Stage 2	-1.8	-0.02	0.04
Stage 2	-1.9	-0.01	0.05
Stage 2	-2	-0.01	0.06
Stage 2	-2.1	0	0.07
Stage 2	-2.2	0.01	0.07
Stage 2	-2.3	0.02	0.08
Stage 2	-2.4	0.02	0.09
Stage 2	-2.5	0.03	0.1
Stage 2	-2.6	0.04	0.1
Stage 2	-2.7	0.06	0.11
Stage 2	-2.8	0.07	0.11
Stage 2	-2.9	0.08	0.12
Stage 2	-3	0.09	0.12
Stage 2	-3.1	0.1	0.12
Stage 2	-3.2	0.11	0.11
Stage 2	-3.3	0.12	0.09
Stage 2	-3.4	0.13	0.06
Stage 2	-3.5	0.13	0.02
Stage 2	-3.6	0.13	-0.03
Stage 2	-3.7	0.12	-0.1
Stage 2	-3.8	0.1	-0.17
Stage 2	-3.9	0.07	-0.26
Stage 2	-4	0.04	-0.37
Stage 2	-4.1	-0.01	-0.48
Stage 2	-4.2	-0.04	-0.34
Stage 2	-4.3	-0.07	-0.23
Stage 2	-4.4	-0.08	-0.13
Stage 2	-4.5	-0.09	-0.06
Stage 2	-4.6	-0.09	-0.01
Stage 2	-4.7	-0.08	0.04
Stage 2	-4.8	-0.08	0.06
Stage 2	-4.9	-0.07	0.08
Stage 2	-5	-0.06	0.09
Stage 2	-5.1	-0.05	0.09
Stage 2	-5.2	-0.04	0.09
Stage 2	-5.3	-0.03	0.09
Stage 2	-5.4	-0.02	0.08
Stage 2	-5.5	-0.02	0.07
Stage 2	-5.6	-0.01	0.06
Stage 2	-5.7	-0.01	0.05
Stage 2	-5.8	0	0.04
Stage 2	-5.9	0	0.03

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 2	-6	0	0.03
Stage 2	-6.1	0.01	0.02
Stage 2	-6.2	0.01	0.01
Stage 2	-6.3	0.01	0.01
Stage 2	-6.4	0.01	0
Stage 2	-6.5	0.01	0
Stage 2	-6.6	0.01	0
Stage 2	-6.7	0.01	0
Stage 2	-6.8	0.01	-0.01
Stage 2	-6.9	0.01	-0.01
Stage 2	-7	0.01	0
Stage 2	-7.1	0.01	-0.01
Stage 2	-7.2	0.01	0
Stage 2	-7.3	0.01	-0.01
Stage 2	-7.4	0	-0.01
Stage 2	-7.5	0	0
Stage 2	-7.6	0	0
Stage 2	-7.7	0	0
Stage 2	-7.8	0	0
Stage 2	-7.9	0	0
Stage 2	-8	0	0
Stage 2	-8.1	0	0
Stage 2	-8.2	0	0
Stage 2	-8.3	0	0.01
Stage 2	-8.4	0	0.01
Stage 2	-8.5	0.01	0.01
Stage 2	-8.6	0.01	0.01
Stage 2	-8.7	0.01	0.01
Stage 2	-8.8	0.01	0.01
Stage 2	-8.9	0.01	0.01
Stage 2	-9	0.01	0.01
Stage 2	-9.1	0.01	0
Stage 2	-9.2	0.01	0
Stage 2	-9.3	0.01	0
Stage 2	-9.4	0.01	-0.01
Stage 2	-9.5	0.01	-0.01
Stage 2	-9.6	0.01	-0.02
Stage 2	-9.7	0	-0.02
Stage 2	-9.8	0	-0.02
Stage 2	-9.9	0	-0.01
Stage 2	-10	0	-0.01

### Tabella Risultati Paratia Nominal - Stage: Stage A

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage A	0	0	0
Stage A	-0.1	0	0
Stage A	-0.1	0	0
Stage A	-0.2	-0.01	-0.06
Stage A	-0.3	-0.02	-0.18
Stage A	-0.4	-0.06	-0.36
Stage A	-0.5	-0.12	-0.61
Stage A	-0.6	-0.21	-0.91
Stage A	-0.7	-0.34	-1.28
Stage A	-0.8	-0.51	-1.71
Stage A	-0.9	-0.73	-2.2
Stage A	-1	-1.01	-2.75
Stage A	-1.1	-1.34	-3.37
Stage A	-1.2	-1.75	-4.05
Stage A	-1.3	-2.23	-4.8
Stage A	-1.4	-2.79	-5.6
Stage A	-1.5	-3.44	-6.47
Stage A	-1.6	-4.18	-7.41
Stage A	-1.7	-4.96	-7.82
Stage A	-1.8	-5.73	-7.71
Stage A	-1.9	-6.44	-7.07
Stage A	-2	-7.03	-5.91
Stage A	-2.1	-7.48	-4.48
Stage A	-2.2	-7.79	-3.16
Stage A	-2.3	-7.99	-1.93
Stage A	-2.4	-8.07	-0.79
Stage A	-2.5	-8.04	0.27
Stage A	-2.6	-7.92	1.25
Stage A	-2.7	-7.7	2.18
Stage A	-2.8	-7.39	3.05
Stage A	-2.9	-7.01	3.84
Stage A	-3	-6.55	4.54
Stage A	-3.1	-6.04	5.16
Stage A	-3.2	-5.49	5.52
Stage A	-3.3	-4.92	5.67
Stage A	-3.4	-4.35	5.65
Stage A	-3.5	-3.81	5.46
Stage A	-3.6	-3.29	5.16
Stage A	-3.7	-2.82	4.73
Stage A	-3.8	-2.4	4.23
Stage A	-3.9	-2.03	3.65
Stage A	-4	-1.73	3.01
Stage A	-4.1	-1.5	2.33
Stage A	-4.2	-1.27	2.3
Stage A	-4.3	-1.05	2.19
Stage A	-4.4	-0.85	2.03
Stage A	-4.5	-0.66	1.83
Stage A	-4.6	-0.5	1.62
Stage A	-4.7	-0.36	1.4
Stage A	-4.8	-0.24	1.19
Stage A	-4.9	-0.14	0.98
Stage A	-5	-0.06	0.79
Stage A	-5.1	0	0.62
Stage A	-5.2	0.04	0.47
Stage A	-5.3	0.08	0.33
Stage A	-5.4	0.1	0.23
Stage A	-5.5	0.11	0.13
Stage A	-5.6	0.12	0.06
Stage A	-5.7	0.12	0
Stage A	-5.8	0.11	-0.04
Stage A	-5.9	0.11	-0.07

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage A	-6	0.1	-0.09
Stage A	-6.1	0.09	-0.1
Stage A	-6.2	0.08	-0.11
Stage A	-6.3	0.07	-0.11
Stage A	-6.4	0.05	-0.11
Stage A	-6.5	0.04	-0.1
Stage A	-6.6	0.04	-0.09
Stage A	-6.7	0.03	-0.08
Stage A	-6.8	0.02	-0.07
Stage A	-6.9	0.01	-0.06
Stage A	-7	0.01	-0.05
Stage A	-7.1	0.01	-0.04
Stage A	-7.2	0	-0.03
Stage A	-7.3	0	-0.02
Stage A	-7.4	0	-0.02
Stage A	-7.5	0	-0.01
Stage A	-7.6	0	-0.01
Stage A	-7.7	0	0
Stage A	-7.8	0	0
Stage A	-7.9	0	0
Stage A	-8	0	0.01
Stage A	-8.1	0	0.01
Stage A	-8.2	0	0.01
Stage A	-8.3	0	0.01
Stage A	-8.4	0	0.01
Stage A	-8.5	0	0.01
Stage A	-8.6	0	0.01
Stage A	-8.7	0	0.01
Stage A	-8.8	0.01	0.01
Stage A	-8.9	0.01	0.01
Stage A	-9	0.01	0.01
Stage A	-9.1	0.01	0.01
Stage A	-9.2	0.01	0
Stage A	-9.3	0.01	0
Stage A	-9.4	0.01	-0.01
Stage A	-9.5	0.01	-0.01
Stage A	-9.6	0.01	-0.02
Stage A	-9.7	0	-0.02
Stage A	-9.8	0	-0.02
Stage A	-9.9	0	-0.01
Stage A	-10	0	-0.01

### Tabella Risultati Paratia Nominal - Stage: Stage B

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage B	0	0	0
Stage B	-0.1	0	0
Stage B	-0.1	0	0
Stage B	-0.2	-0.06	-0.59
Stage B	-0.3	-0.24	-1.77
Stage B	-0.4	-0.59	-3.54
Stage B	-0.5	-1.18	-5.9
Stage B	-0.6	-2.07	-8.86
Stage B	-0.7	-3.31	-12.41
Stage B	-0.8	-4.96	-16.57
Stage B	-0.9	-7.1	-21.33
Stage B	-1	-9.77	-26.7
Stage B	-1.1	-12.99	-32.26
Stage B	-1.2	-16.77	-37.77
Stage B	-1.3	-21.09	-43.19
Stage B	-1.4	-16.93	41.55
Stage B	-1.5	-13.29	36.41
Stage B	-1.6	-10.15	31.45
Stage B	-1.7	-7.47	26.76
Stage B	-1.8	-5.23	22.36
Stage B	-1.9	-3.41	18.25
Stage B	-2	-1.97	14.44
Stage B	-2.1	-0.84	11.29
Stage B	-2.2	0.02	8.56
Stage B	-2.3	0.64	6.24
Stage B	-2.4	1.07	4.3
Stage B	-2.5	1.35	2.72
Stage B	-2.6	1.49	1.45
Stage B	-2.7	1.54	0.49
Stage B	-2.8	1.52	-0.22
Stage B	-2.9	1.45	-0.68
Stage B	-3	1.36	-0.89
Stage B	-3.1	1.27	-0.91
Stage B	-3.2	1.18	-0.95
Stage B	-3.3	1.07	-1.01
Stage B	-3.4	0.97	-1.09
Stage B	-3.5	0.85	-1.2
Stage B	-3.6	0.71	-1.35
Stage B	-3.7	0.56	-1.55
Stage B	-3.8	0.38	-1.78
Stage B	-3.9	0.17	-2.07
Stage B	-4	-0.07	-2.41
Stage B	-4.1	-0.35	-2.8
Stage B	-4.2	-0.55	-1.95
Stage B	-4.3	-0.67	-1.26
Stage B	-4.4	-0.74	-0.68
Stage B	-4.5	-0.76	-0.24
Stage B	-4.6	-0.75	0.11
Stage B	-4.7	-0.72	0.36
Stage B	-4.8	-0.66	0.54
Stage B	-4.9	-0.6	0.65
Stage B	-5	-0.53	0.7
Stage B	-5.1	-0.46	0.72
Stage B	-5.2	-0.38	0.71
Stage B	-5.3	-0.32	0.67
Stage B	-5.4	-0.25	0.62
Stage B	-5.5	-0.2	0.56
Stage B	-5.6	-0.15	0.49
Stage B	-5.7	-0.11	0.42
Stage B	-5.8	-0.07	0.35
Stage B	-5.9	-0.04	0.29

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage B	-6	-0.02	0.24
Stage B	-6.1	0	0.18
Stage B	-6.2	0.01	0.14
Stage B	-6.3	0.02	0.1
Stage B	-6.4	0.03	0.07
Stage B	-6.5	0.03	0.04
Stage B	-6.6	0.03	0.02
Stage B	-6.7	0.03	0
Stage B	-6.8	0.03	-0.01
Stage B	-6.9	0.03	-0.02
Stage B	-7	0.03	-0.03
Stage B	-7.1	0.03	-0.03
Stage B	-7.2	0.02	-0.03
Stage B	-7.3	0.02	-0.03
Stage B	-7.4	0.02	-0.03
Stage B	-7.5	0.01	-0.03
Stage B	-7.6	0.01	-0.03
Stage B	-7.7	0.01	-0.02
Stage B	-7.8	0.01	-0.02
Stage B	-7.9	0.01	-0.01
Stage B	-8	0.01	-0.01
Stage B	-8.1	0	-0.01
Stage B	-8.2	0	-0.01
Stage B	-8.3	0	0
Stage B	-8.4	0	0
Stage B	-8.5	0	0
Stage B	-8.6	0	0
Stage B	-8.7	0.01	0.01
Stage B	-8.8	0.01	0.01
Stage B	-8.9	0.01	0.01
Stage B	-9	0.01	0.01
Stage B	-9.1	0.01	0
Stage B	-9.2	0.01	0
Stage B	-9.3	0.01	0
Stage B	-9.4	0.01	0
Stage B	-9.5	0.01	-0.01
Stage B	-9.6	0.01	-0.02
Stage B	-9.7	0	-0.02
Stage B	-9.8	0	-0.02
Stage B	-9.9	0	-0.01
Stage B	-10	0	-0.01

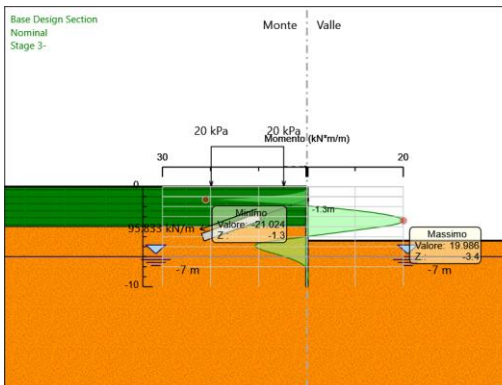
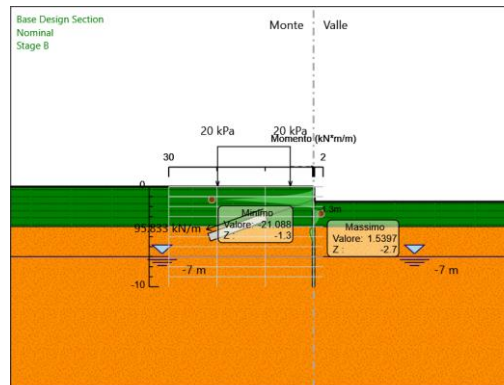
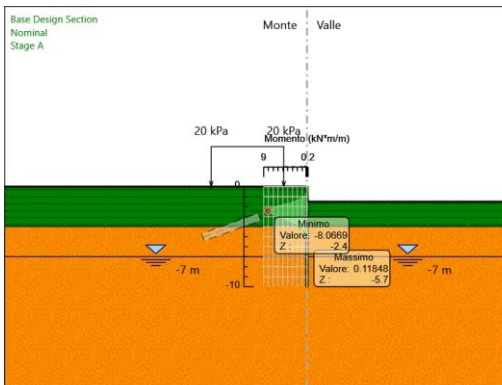
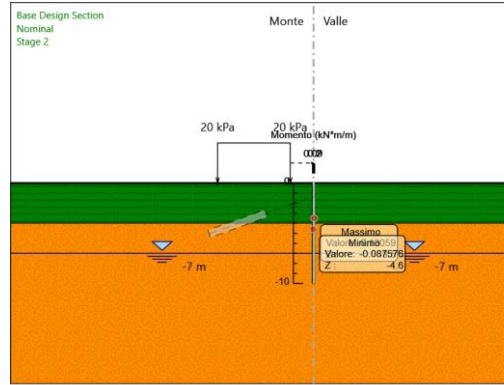
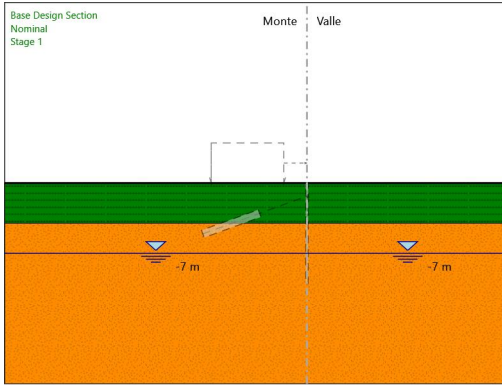


### Tabella Risultati Paratia Nominal - Stage: Stage 3-

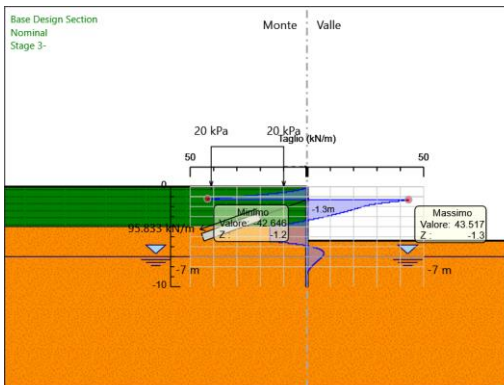
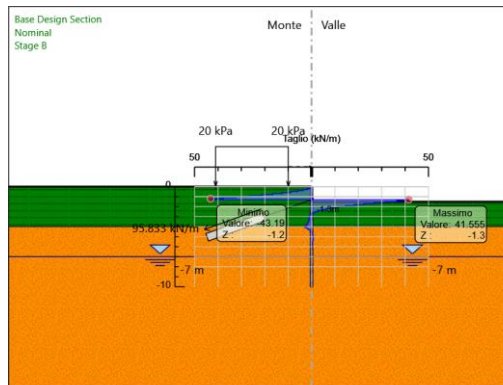
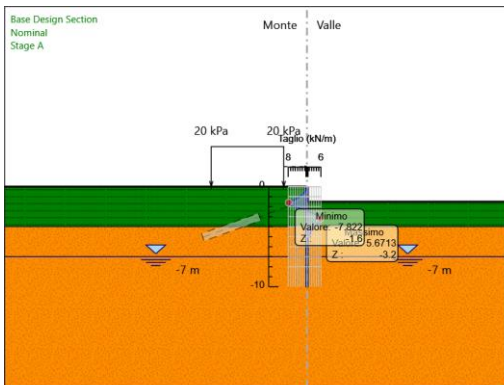
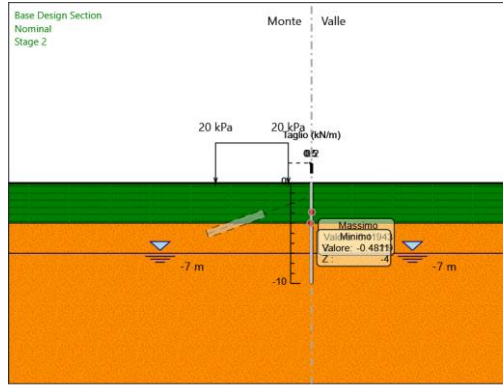
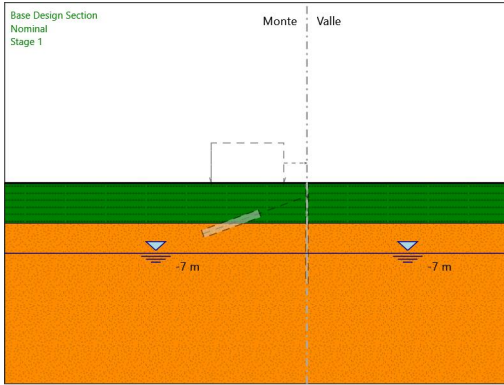
Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 3-	0	0	0
Stage 3-	-0.1	0	0
Stage 3-	-0.1	0	0
Stage 3-	-0.2	-0.06	-0.59
Stage 3-	-0.3	-0.24	-1.77
Stage 3-	-0.4	-0.59	-3.54
Stage 3-	-0.5	-1.18	-5.9
Stage 3-	-0.6	-2.07	-8.86
Stage 3-	-0.7	-3.31	-12.41
Stage 3-	-0.8	-4.96	-16.57
Stage 3-	-0.9	-7.1	-21.33
Stage 3-	-1	-9.77	-26.69
Stage 3-	-1.1	-13	-32.3
Stage 3-	-1.2	-16.76	-37.63
Stage 3-	-1.3	-21.02	-42.65
Stage 3-	-1.4	-16.67	43.52
Stage 3-	-1.5	-12.75	39.25
Stage 3-	-1.6	-9.2	35.42
Stage 3-	-1.7	-6	32.04
Stage 3-	-1.8	-3.09	29.11
Stage 3-	-1.9	-0.42	26.66
Stage 3-	-2	2.04	24.66
Stage 3-	-2.1	4.35	23.12
Stage 3-	-2.2	6.53	21.79
Stage 3-	-2.3	8.57	20.4
Stage 3-	-2.4	10.47	18.95
Stage 3-	-2.5	12.21	17.43
Stage 3-	-2.6	13.8	15.85
Stage 3-	-2.7	15.22	14.2
Stage 3-	-2.8	16.46	12.48
Stage 3-	-2.9	17.53	10.7
Stage 3-	-3	18.42	8.86
Stage 3-	-3.1	19.11	6.95
Stage 3-	-3.2	19.61	4.97
Stage 3-	-3.3	19.9	2.92
Stage 3-	-3.4	19.99	0.81
Stage 3-	-3.5	19.85	-1.37
Stage 3-	-3.6	19.49	-3.62
Stage 3-	-3.7	18.89	-5.94
Stage 3-	-3.8	18.06	-8.33
Stage 3-	-3.9	16.98	-10.78
Stage 3-	-4	15.65	-13.3
Stage 3-	-4.1	14.06	-15.89
Stage 3-	-4.2	12.47	-15.89
Stage 3-	-4.3	10.88	-15.89
Stage 3-	-4.4	9.3	-15.89
Stage 3-	-4.5	7.71	-15.89
Stage 3-	-4.6	6.12	-15.89
Stage 3-	-4.7	4.53	-15.89
Stage 3-	-4.8	2.94	-15.89
Stage 3-	-4.9	1.35	-15.89
Stage 3-	-5	-0.24	-15.89
Stage 3-	-5.1	-1.83	-15.89
Stage 3-	-5.2	-3.42	-15.89
Stage 3-	-5.3	-5	-15.89
Stage 3-	-5.4	-6.59	-15.89
Stage 3-	-5.5	-8.18	-15.89
Stage 3-	-5.6	-9.38	-12
Stage 3-	-5.7	-10.18	-8
Stage 3-	-5.8	-10.63	-4.52
Stage 3-	-5.9	-10.79	-1.58

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 3-	-6	-10.71	0.84
Stage 3-	-6.1	-10.43	2.79
Stage 3-	-6.2	-10	4.32
Stage 3-	-6.3	-9.45	5.47
Stage 3-	-6.4	-8.82	6.3
Stage 3-	-6.5	-8.14	6.85
Stage 3-	-6.6	-7.42	7.15
Stage 3-	-6.7	-6.7	7.26
Stage 3-	-6.8	-5.98	7.2
Stage 3-	-6.9	-5.27	7.01
Stage 3-	-7	-4.6	6.72
Stage 3-	-7.1	-3.97	6.36
Stage 3-	-7.2	-3.37	5.93
Stage 3-	-7.3	-2.83	5.47
Stage 3-	-7.4	-2.33	4.97
Stage 3-	-7.5	-1.88	4.47
Stage 3-	-7.6	-1.48	3.97
Stage 3-	-7.7	-1.14	3.49
Stage 3-	-7.8	-0.83	3.02
Stage 3-	-7.9	-0.58	2.58
Stage 3-	-8	-0.36	2.17
Stage 3-	-8.1	-0.18	1.79
Stage 3-	-8.2	-0.04	1.44
Stage 3-	-8.3	0.08	1.13
Stage 3-	-8.4	0.16	0.85
Stage 3-	-8.5	0.22	0.61
Stage 3-	-8.6	0.26	0.39
Stage 3-	-8.7	0.28	0.21
Stage 3-	-8.8	0.29	0.06
Stage 3-	-8.9	0.28	-0.07
Stage 3-	-9	0.27	-0.17
Stage 3-	-9.1	0.24	-0.25
Stage 3-	-9.2	0.21	-0.3
Stage 3-	-9.3	0.18	-0.33
Stage 3-	-9.4	0.14	-0.35
Stage 3-	-9.5	0.11	-0.35
Stage 3-	-9.6	0.07	-0.33
Stage 3-	-9.7	0.04	-0.29
Stage 3-	-9.8	0.02	-0.23
Stage 3-	-9.9	0.01	-0.16
Stage 3-	-10	0	-0.06

### Grafico Momento Nominal



### Grafico Taglio Nominal



## **Inviluppi Risultati Paratia Nominal**

### **Risultati Elementi strutturali**

<b>Design Assumption: Nominal Sollecitazione Tieback_New_New_New_New</b>	
<b>Stage</b>	<b>Forza (kN/m)</b>
Stage B	95.83
Stage 3-	96.64881

## Risultati Terreno

### Tabella Risultati Terreno Left Wall - Nominal - Stage 1

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	LEFT Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 1	0	0	0	V-C	0.32	3.1	0	0	0	0	0
Stage 1	-0.1	1.9	0.95	V-C	0.32	3.1	0	0	0	0	0.95
Stage 1	-0.2	3.8	1.9	V-C	0.32	3.1	0	0	0	0	1.9
Stage 1	-0.3	5.7	2.85	V-C	0.32	3.1	0	0	0	0	2.85
Stage 1	-0.4	7.6	3.8	V-C	0.32	3.1	0	0	0	0	3.8
Stage 1	-0.5	9.5	4.75	V-C	0.32	3.1	0	0	0	0	4.75
Stage 1	-0.6	11.4	5.7	V-C	0.32	3.1	0	0	0	0	5.7
Stage 1	-0.7	13.3	6.65	V-C	0.32	3.1	0	0	0	0	6.65
Stage 1	-0.8	15.2	7.6	V-C	0.32	3.1	0	0	0	0	7.6
Stage 1	-0.9	17.1	8.55	V-C	0.32	3.1	0	0	0	0	8.55
Stage 1	-1	19	9.5	V-C	0.32	3.1	0	0	0	0	9.5
Stage 1	-1.1	20.9	10.45	V-C	0.32	3.1	0	0	0	0	10.45
Stage 1	-1.2	22.8	11.4	V-C	0.32	3.1	0	0	0	0	11.4
Stage 1	-1.3	24.7	12.35	V-C	0.32	3.1	0	0	0	0	12.35
Stage 1	-1.4	26.6	13.3	V-C	0.32	3.1	0	0	0	0	13.3
Stage 1	-1.5	28.5	14.25	V-C	0.32	3.1	0	0	0	0	14.25
Stage 1	-1.6	30.4	15.2	V-C	0.32	3.1	0	0	0	0	15.2
Stage 1	-1.7	32.3	16.15	V-C	0.32	3.1	0	0	0	0	16.15
Stage 1	-1.8	34.2	17.1	V-C	0.32	3.1	0	0	0	0	17.1
Stage 1	-1.9	36.1	18.05	V-C	0.32	3.1	0	0	0	0	18.05
Stage 1	-2	38	19	V-C	0.32	3.1	0	0	0	0	19
Stage 1	-2.1	39.9	19.95	V-C	0.32	3.1	0	0	0	0	19.95
Stage 1	-2.2	41.8	20.9	V-C	0.32	3.1	0	0	0	0	20.9
Stage 1	-2.3	43.7	21.85	V-C	0.32	3.1	0	0	0	0	21.85
Stage 1	-2.4	45.6	22.8	V-C	0.32	3.1	0	0	0	0	22.8
Stage 1	-2.5	47.5	23.75	V-C	0.32	3.1	0	0	0	0	23.75
Stage 1	-2.6	49.4	24.7	V-C	0.32	3.1	0	0	0	0	24.7
Stage 1	-2.7	51.3	25.65	V-C	0.32	3.1	0	0	0	0	25.65
Stage 1	-2.8	53.2	26.6	V-C	0.32	3.1	0	0	0	0	26.6
Stage 1	-2.9	55.1	27.55	V-C	0.32	3.1	0	0	0	0	27.55
Stage 1	-3	57	28.5	V-C	0.32	3.1	0	0	0	0	28.5
Stage 1	-3.1	58.9	29.45	V-C	0.32	3.1	0	0	0	0	29.45
Stage 1	-3.2	60.8	30.4	V-C	0.32	3.1	0	0	0	0	30.4
Stage 1	-3.3	62.7	31.35	V-C	0.32	3.1	0	0	0	0	31.35
Stage 1	-3.4	64.6	32.3	V-C	0.32	3.1	0	0	0	0	32.3
Stage 1	-3.5	66.5	33.25	V-C	0.32	3.1	0	0	0	0	33.25
Stage 1	-3.6	68.4	34.2	V-C	0.32	3.1	0	0	0	0	34.2
Stage 1	-3.7	70.3	35.15	V-C	0.32	3.1	0	0	0	0	35.15
Stage 1	-3.8	72.2	36.1	V-C	0.32	3.1	0	0	0	0	36.1
Stage 1	-3.9	74.1	37.05	V-C	0.32	3.1	0	0	0	0	37.05
Stage 1	-4	76	38	V-C	0.32	3.1	0	0	0	0	38
Stage 1	-4.1	78.4	39.2	V-C	0.2174.599		45	0	0	0	39.2
Stage 1	-4.2	80.8	40.4	V-C	0.2174.599		45	0	0	0	40.4
Stage 1	-4.3	83.2	41.6	V-C	0.2174.599		45	0	0	0	41.6
Stage 1	-4.4	85.6	42.8	V-C	0.2174.599		45	0	0	0	42.8
Stage 1	-4.5	88	44	V-C	0.2174.599		45	0	0	0	44
Stage 1	-4.6	90.4	45.2	V-C	0.2174.599		45	0	0	0	45.2
Stage 1	-4.7	92.8	46.4	V-C	0.2174.599		45	0	0	0	46.4
Stage 1	-4.8	95.2	47.6	V-C	0.2174.599		45	0	0	0	47.6
Stage 1	-4.9	97.6	48.8	V-C	0.2174.599		45	0	0	0	48.8
Stage 1	-5	100	50	V-C	0.2174.599		45	0	0	0	50
Stage 1	-5.1	102.4	51.2	V-C	0.2174.599		45	0	0	0	51.2
Stage 1	-5.2	104.8	52.4	V-C	0.2174.599		45	0	0	0	52.4
Stage 1	-5.3	107.2	53.6	V-C	0.2174.599		45	0	0	0	53.6
Stage 1	-5.4	109.6	54.8	V-C	0.2174.599		45	0	0	0	54.8
Stage 1	-5.5	112	56	V-C	0.2174.599		45	0	0	0	56
Stage 1	-5.6	114.4	57.2	V-C	0.2174.599		45	0	0	0	57.2
Stage 1	-5.7	116.8	58.4	V-C	0.2174.599		45	0	0	0	58.4

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage 1	-5.8	119.2	59.6	V-C	0.2174.599	45	0	0	0	59.6
Stage 1	-5.9	121.6	60.8	V-C	0.2174.599	45	0	0	0	60.8
Stage 1	-6	124	62	V-C	0.2174.599	45	0	0	0	62
Stage 1	-6.1	126.4	63.2	V-C	0.2174.599	45	0	0	0	63.2
Stage 1	-6.2	128.8	64.4	V-C	0.2174.599	45	0	0	0	64.4
Stage 1	-6.3	131.2	65.6	V-C	0.2174.599	45	0	0	0	65.6
Stage 1	-6.4	133.6	66.8	V-C	0.2174.599	45	0	0	0	66.8
Stage 1	-6.5	136	68	V-C	0.2174.599	45	0	0	0	68
Stage 1	-6.6	138.4	69.2	V-C	0.2174.599	45	0	0	0	69.2
Stage 1	-6.7	140.8	70.4	V-C	0.2174.599	45	0	0	0	70.4
Stage 1	-6.8	143.2	71.6	V-C	0.2174.599	45	0	0	0	71.6
Stage 1	-6.9	145.6	72.8	V-C	0.2174.599	45	0	0	0	72.8
Stage 1	-7	148	74	V-C	0.2174.599	45	0	0	0	74
Stage 1	-7.1	149.4	74.7	V-C	0.2174.599	45	1	0	0	75.7
Stage 1	-7.2	150.8	75.4	V-C	0.2174.599	45	2	0	0	77.4
Stage 1	-7.3	152.2	76.1	V-C	0.2174.599	45	3	0	0	79.1
Stage 1	-7.4	153.6	76.8	V-C	0.2174.599	45	4	0	0	80.8
Stage 1	-7.5	155	77.5	V-C	0.2174.599	45	5	0	0	82.5
Stage 1	-7.6	156.4	78.2	V-C	0.2174.599	45	6	0	0	84.2
Stage 1	-7.7	157.8	78.9	V-C	0.2174.599	45	7	0	0	85.9
Stage 1	-7.8	159.2	79.6	V-C	0.2174.599	45	8	0	0	87.6
Stage 1	-7.9	160.6	80.3	V-C	0.2174.599	45	9	0	0	89.3
Stage 1	-8	162	81	V-C	0.2174.599	45	10	0	0	91
Stage 1	-8.1	163.4	81.7	V-C	0.2174.599	45	11	0	0	92.7
Stage 1	-8.2	164.8	82.4	V-C	0.2174.599	45	12	0	0	94.4
Stage 1	-8.3	166.2	83.1	V-C	0.2174.599	45	13	0	0	96.1
Stage 1	-8.4	167.6	83.8	V-C	0.2174.599	45	14	0	0	97.8
Stage 1	-8.5	169	84.5	V-C	0.2174.599	45	15	0	0	99.5
Stage 1	-8.6	170.4	85.2	V-C	0.2174.599	45	16	0	0	101.2
Stage 1	-8.7	171.8	85.9	V-C	0.2174.599	45	17	0	0	102.9
Stage 1	-8.8	173.2	86.6	V-C	0.2174.599	45	18	0	0	104.6
Stage 1	-8.9	174.6	87.3	V-C	0.2174.599	45	19	0	0	106.3
Stage 1	-9	176	88	V-C	0.2174.599	45	20	0	0	108
Stage 1	-9.1	177.4	88.7	V-C	0.2174.599	45	21	0	0	109.7
Stage 1	-9.2	178.8	89.4	V-C	0.2174.599	45	22	0	0	111.4
Stage 1	-9.3	180.2	90.1	V-C	0.2174.599	45	23	0	0	113.1
Stage 1	-9.4	181.6	90.8	V-C	0.2174.599	45	24	0	0	114.8
Stage 1	-9.5	183	91.5	V-C	0.2174.599	45	25	0	0	116.5
Stage 1	-9.6	184.4	92.2	V-C	0.2174.599	45	26	0	0	118.2
Stage 1	-9.7	185.8	92.9	V-C	0.2174.599	45	27	0	0	119.9
Stage 1	-9.8	187.2	93.6	V-C	0.2174.599	45	28	0	0	121.6
Stage 1	-9.9	188.6	94.3	V-C	0.2174.599	45	29	0	0	123.3
Stage 1	-10	190	95	V-C	0.2174.599	45	30	0	0	125

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Muro: LEFT	Lato	RIGHT					
				Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 1	0	0	0	V-C	0.32	3.1	0	0	0	0	0
Stage 1	-0.1	1.9	0.95	V-C	0.32	3.1	0	0	0	0	0.95
Stage 1	-0.2	3.8	1.9	V-C	0.32	3.1	0	0	0	0	1.9
Stage 1	-0.3	5.7	2.85	V-C	0.32	3.1	0	0	0	0	2.85
Stage 1	-0.4	7.6	3.8	V-C	0.32	3.1	0	0	0	0	3.8
Stage 1	-0.5	9.5	4.75	V-C	0.32	3.1	0	0	0	0	4.75
Stage 1	-0.6	11.4	5.7	V-C	0.32	3.1	0	0	0	0	5.7
Stage 1	-0.7	13.3	6.65	V-C	0.32	3.1	0	0	0	0	6.65
Stage 1	-0.8	15.2	7.6	V-C	0.32	3.1	0	0	0	0	7.6
Stage 1	-0.9	17.1	8.55	V-C	0.32	3.1	0	0	0	0	8.55
Stage 1	-1	19	9.5	V-C	0.32	3.1	0	0	0	0	9.5
Stage 1	-1.1	20.9	10.45	V-C	0.32	3.1	0	0	0	0	10.45
Stage 1	-1.2	22.8	11.4	V-C	0.32	3.1	0	0	0	0	11.4
Stage 1	-1.3	24.7	12.35	V-C	0.32	3.1	0	0	0	0	12.35
Stage 1	-1.4	26.6	13.3	V-C	0.32	3.1	0	0	0	0	13.3
Stage 1	-1.5	28.5	14.25	V-C	0.32	3.1	0	0	0	0	14.25
Stage 1	-1.6	30.4	15.2	V-C	0.32	3.1	0	0	0	0	15.2
Stage 1	-1.7	32.3	16.15	V-C	0.32	3.1	0	0	0	0	16.15
Stage 1	-1.8	34.2	17.1	V-C	0.32	3.1	0	0	0	0	17.1
Stage 1	-1.9	36.1	18.05	V-C	0.32	3.1	0	0	0	0	18.05
Stage 1	-2	38	19	V-C	0.32	3.1	0	0	0	0	19
Stage 1	-2.1	39.9	19.95	V-C	0.32	3.1	0	0	0	0	19.95
Stage 1	-2.2	41.8	20.9	V-C	0.32	3.1	0	0	0	0	20.9
Stage 1	-2.3	43.7	21.85	V-C	0.32	3.1	0	0	0	0	21.85
Stage 1	-2.4	45.6	22.8	V-C	0.32	3.1	0	0	0	0	22.8
Stage 1	-2.5	47.5	23.75	V-C	0.32	3.1	0	0	0	0	23.75
Stage 1	-2.6	49.4	24.7	V-C	0.32	3.1	0	0	0	0	24.7
Stage 1	-2.7	51.3	25.65	V-C	0.32	3.1	0	0	0	0	25.65
Stage 1	-2.8	53.2	26.6	V-C	0.32	3.1	0	0	0	0	26.6
Stage 1	-2.9	55.1	27.55	V-C	0.32	3.1	0	0	0	0	27.55
Stage 1	-3	57	28.5	V-C	0.32	3.1	0	0	0	0	28.5
Stage 1	-3.1	58.9	29.45	V-C	0.32	3.1	0	0	0	0	29.45
Stage 1	-3.2	60.8	30.4	V-C	0.32	3.1	0	0	0	0	30.4
Stage 1	-3.3	62.7	31.35	V-C	0.32	3.1	0	0	0	0	31.35
Stage 1	-3.4	64.6	32.3	V-C	0.32	3.1	0	0	0	0	32.3
Stage 1	-3.5	66.5	33.25	V-C	0.32	3.1	0	0	0	0	33.25
Stage 1	-3.6	68.4	34.2	V-C	0.32	3.1	0	0	0	0	34.2
Stage 1	-3.7	70.3	35.15	V-C	0.32	3.1	0	0	0	0	35.15
Stage 1	-3.8	72.2	36.1	V-C	0.32	3.1	0	0	0	0	36.1
Stage 1	-3.9	74.1	37.05	V-C	0.32	3.1	0	0	0	0	37.05
Stage 1	-4	76	38	V-C	0.32	3.1	0	0	0	0	38
Stage 1	-4.1	78.4	39.2	V-C	0.2174.599		45	0	0	0	39.2
Stage 1	-4.2	80.8	40.4	V-C	0.2174.599		45	0	0	0	40.4
Stage 1	-4.3	83.2	41.6	V-C	0.2174.599		45	0	0	0	41.6
Stage 1	-4.4	85.6	42.8	V-C	0.2174.599		45	0	0	0	42.8
Stage 1	-4.5	88	44	V-C	0.2174.599		45	0	0	0	44
Stage 1	-4.6	90.4	45.2	V-C	0.2174.599		45	0	0	0	45.2
Stage 1	-4.7	92.8	46.4	V-C	0.2174.599		45	0	0	0	46.4
Stage 1	-4.8	95.2	47.6	V-C	0.2174.599		45	0	0	0	47.6
Stage 1	-4.9	97.6	48.8	V-C	0.2174.599		45	0	0	0	48.8
Stage 1	-5	100	50	V-C	0.2174.599		45	0	0	0	50
Stage 1	-5.1	102.4	51.2	V-C	0.2174.599		45	0	0	0	51.2
Stage 1	-5.2	104.8	52.4	V-C	0.2174.599		45	0	0	0	52.4
Stage 1	-5.3	107.2	53.6	V-C	0.2174.599		45	0	0	0	53.6
Stage 1	-5.4	109.6	54.8	V-C	0.2174.599		45	0	0	0	54.8
Stage 1	-5.5	112	56	V-C	0.2174.599		45	0	0	0	56
Stage 1	-5.6	114.4	57.2	V-C	0.2174.599		45	0	0	0	57.2
Stage 1	-5.7	116.8	58.4	V-C	0.2174.599		45	0	0	0	58.4
Stage 1	-5.8	119.2	59.6	V-C	0.2174.599		45	0	0	0	59.6
Stage 1	-5.9	121.6	60.8	V-C	0.2174.599		45	0	0	0	60.8
Stage 1	-6	124	62	V-C	0.2174.599		45	0	0	0	62
Stage 1	-6.1	126.4	63.2	V-C	0.2174.599		45	0	0	0	63.2
Stage 1	-6.2	128.8	64.4	V-C	0.2174.599		45	0	0	0	64.4



Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	RIGHT Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage 1	-6.3	131.2	65.6	V-C	0.2174.599	45	45	0	0	65.6
Stage 1	-6.4	133.6	66.8	V-C	0.2174.599	45	45	0	0	66.8
Stage 1	-6.5	136	68	V-C	0.2174.599	45	45	0	0	68
Stage 1	-6.6	138.4	69.2	V-C	0.2174.599	45	45	0	0	69.2
Stage 1	-6.7	140.8	70.4	V-C	0.2174.599	45	45	0	0	70.4
Stage 1	-6.8	143.2	71.6	V-C	0.2174.599	45	45	0	0	71.6
Stage 1	-6.9	145.6	72.8	V-C	0.2174.599	45	45	0	0	72.8
Stage 1	-7	148	74	V-C	0.2174.599	45	45	0	0	74
Stage 1	-7.1	149.4	74.7	V-C	0.2174.599	45	45	1	0	75.7
Stage 1	-7.2	150.8	75.4	V-C	0.2174.599	45	45	2	0	77.4
Stage 1	-7.3	152.2	76.1	V-C	0.2174.599	45	45	3	0	79.1
Stage 1	-7.4	153.6	76.8	V-C	0.2174.599	45	45	4	0	80.8
Stage 1	-7.5	155	77.5	V-C	0.2174.599	45	45	5	0	82.5
Stage 1	-7.6	156.4	78.2	V-C	0.2174.599	45	45	6	0	84.2
Stage 1	-7.7	157.8	78.9	V-C	0.2174.599	45	45	7	0	85.9
Stage 1	-7.8	159.2	79.6	V-C	0.2174.599	45	45	8	0	87.6
Stage 1	-7.9	160.6	80.3	V-C	0.2174.599	45	45	9	0	89.3
Stage 1	-8	162	81	V-C	0.2174.599	45	45	10	0	91
Stage 1	-8.1	163.4	81.7	V-C	0.2174.599	45	45	11	0	92.7
Stage 1	-8.2	164.8	82.4	V-C	0.2174.599	45	45	12	0	94.4
Stage 1	-8.3	166.2	83.1	V-C	0.2174.599	45	45	13	0	96.1
Stage 1	-8.4	167.6	83.8	V-C	0.2174.599	45	45	14	0	97.8
Stage 1	-8.5	169	84.5	V-C	0.2174.599	45	45	15	0	99.5
Stage 1	-8.6	170.4	85.2	V-C	0.2174.599	45	45	16	0	101.2
Stage 1	-8.7	171.8	85.9	V-C	0.2174.599	45	45	17	0	102.9
Stage 1	-8.8	173.2	86.6	V-C	0.2174.599	45	45	18	0	104.6
Stage 1	-8.9	174.6	87.3	V-C	0.2174.599	45	45	19	0	106.3
Stage 1	-9	176	88	V-C	0.2174.599	45	45	20	0	108
Stage 1	-9.1	177.4	88.7	V-C	0.2174.599	45	45	21	0	109.7
Stage 1	-9.2	178.8	89.4	V-C	0.2174.599	45	45	22	0	111.4
Stage 1	-9.3	180.2	90.1	V-C	0.2174.599	45	45	23	0	113.1
Stage 1	-9.4	181.6	90.8	V-C	0.2174.599	45	45	24	0	114.8
Stage 1	-9.5	183	91.5	V-C	0.2174.599	45	45	25	0	116.5
Stage 1	-9.6	184.4	92.2	V-C	0.2174.599	45	45	26	0	118.2
Stage 1	-9.7	185.8	92.9	V-C	0.2174.599	45	45	27	0	119.9
Stage 1	-9.8	187.2	93.6	V-C	0.2174.599	45	45	28	0	121.6
Stage 1	-9.9	188.6	94.3	V-C	0.2174.599	45	45	29	0	123.3
Stage 1	-10	190	95	V-C	0.2174.599	45	45	30	0	125

### Tabella Risultati Terreno Left Wall - Nominal - Stage 2

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	LEFT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	0	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage 2	-0.1	1.9	1.021	V-C	0.32	3.1	0	0	0	0	1.021
Stage 2	-0.2	3.803	1.955	V-C	0.32	3.1	0	0	0	0	1.955
Stage 2	-0.3	5.709	2.891	V-C	0.32	3.1	0	0	0	0	2.891
Stage 2	-0.4	7.621	3.829	V-C	0.32	3.1	0	0	0	0	3.829
Stage 2	-0.5	9.541	4.771	V-C	0.32	3.1	0	0	0	0	4.771
Stage 2	-0.6	11.469	5.706	UL-RL	0.32	3.1	0	0	0	0	5.706
Stage 2	-0.7	13.406	6.645	UL-RL	0.32	3.1	0	0	0	0	6.645
Stage 2	-0.8	15.353	7.587	UL-RL	0.32	3.1	0	0	0	0	7.587
Stage 2	-0.9	17.311	8.534	UL-RL	0.32	3.1	0	0	0	0	8.534
Stage 2	-1	19.278	9.484	UL-RL	0.32	3.1	0	0	0	0	9.484
Stage 2	-1.1	21.256	10.438	UL-RL	0.32	3.1	0	0	0	0	10.438
Stage 2	-1.2	23.242	11.395	UL-RL	0.32	3.1	0	0	0	0	11.395
Stage 2	-1.3	25.237	12.354	UL-RL	0.32	3.1	0	0	0	0	12.354
Stage 2	-1.4	27.24	13.316	UL-RL	0.32	3.1	0	0	0	0	13.316
Stage 2	-1.5	29.25	14.279	UL-RL	0.32	3.1	0	0	0	0	14.279
Stage 2	-1.6	31.265	15.244	UL-RL	0.32	3.1	0	0	0	0	15.244
Stage 2	-1.7	33.286	16.21	UL-RL	0.32	3.1	0	0	0	0	16.21
Stage 2	-1.8	35.31	17.177	UL-RL	0.32	3.1	0	0	0	0	17.177
Stage 2	-1.9	37.337	18.144	UL-RL	0.32	3.1	0	0	0	0	18.144
Stage 2	-2	39.367	19.112	UL-RL	0.32	3.1	0	0	0	0	19.112
Stage 2	-2.1	41.398	20.08	UL-RL	0.32	3.1	0	0	0	0	20.08
Stage 2	-2.2	43.429	21.049	UL-RL	0.32	3.1	0	0	0	0	21.049
Stage 2	-2.3	45.461	22.017	UL-RL	0.32	3.1	0	0	0	0	22.017
Stage 2	-2.4	47.492	22.987	UL-RL	0.32	3.1	0	0	0	0	22.987
Stage 2	-2.5	49.522	23.957	UL-RL	0.32	3.1	0	0	0	0	23.957
Stage 2	-2.6	51.55	24.929	UL-RL	0.32	3.1	0	0	0	0	24.929
Stage 2	-2.7	53.577	25.902	UL-RL	0.32	3.1	0	0	0	0	25.902
Stage 2	-2.8	55.601	26.877	UL-RL	0.32	3.1	0	0	0	0	26.877
Stage 2	-2.9	57.623	27.854	UL-RL	0.32	3.1	0	0	0	0	27.854
Stage 2	-3	59.643	28.834	UL-RL	0.32	3.1	0	0	0	0	28.834
Stage 2	-3.1	61.85	29.914	UL-RL	0.32	3.1	0	0	0	0	29.914
Stage 2	-3.2	63.924	30.932	UL-RL	0.32	3.1	0	0	0	0	30.932
Stage 2	-3.3	65.991	31.953	UL-RL	0.32	3.1	0	0	0	0	31.953
Stage 2	-3.4	68.26	33.082	UL-RL	0.32	3.1	0	0	0	0	33.082
Stage 2	-3.5	70.308	34.107	UL-RL	0.32	3.1	0	0	0	0	34.107
Stage 2	-3.6	72.548	35.236	UL-RL	0.32	3.1	0	0	0	0	35.236
Stage 2	-3.7	74.579	36.267	UL-RL	0.32	3.1	0	0	0	0	36.267
Stage 2	-3.8	76.605	37.302	UL-RL	0.32	3.1	0	0	0	0	37.302
Stage 2	-3.9	78.81	38.432	UL-RL	0.32	3.1	0	0	0	0	38.432
Stage 2	-4	80.823	39.47	UL-RL	0.32	3.1	0	0	0	0	39.47
Stage 2	-4.1	83.332	38.623	UL-RL	0.2174.599		45	0	0	0	38.623
Stage 2	-4.2	86.008	40.071	UL-RL	0.2174.599		45	0	0	0	40.071
Stage 2	-4.3	88.506	41.423	UL-RL	0.2174.599		45	0	0	0	41.423
Stage 2	-4.4	91.163	42.842	UL-RL	0.2174.599		45	0	0	0	42.842
Stage 2	-4.5	93.651	44.162	UL-RL	0.2174.599		45	0	0	0	44.162
Stage 2	-4.6	96.136	45.464	UL-RL	0.2174.599		45	0	0	0	45.464
Stage 2	-4.7	98.771	46.825	UL-RL	0.2174.599		45	0	0	0	46.825
Stage 2	-4.8	101.248	48.092	UL-RL	0.2174.599		45	0	0	0	48.092
Stage 2	-4.9	103.869	49.417	UL-RL	0.2174.599		45	0	0	0	49.417
Stage 2	-5	106.339	50.653	UL-RL	0.2174.599		45	0	0	0	50.653
Stage 2	-5.1	108.807	51.877	UL-RL	0.2174.599		45	0	0	0	51.877
Stage 2	-5.2	111.411	53.16	UL-RL	0.2174.599		45	0	0	0	53.16
Stage 2	-5.3	113.872	54.364	UL-RL	0.2174.599		45	0	0	0	54.364
Stage 2	-5.4	116.465	55.628	UL-RL	0.2174.599		45	0	0	0	55.628
Stage 2	-5.5	118.921	56.819	UL-RL	0.2174.599		45	0	0	0	56.819
Stage 2	-5.6	121.376	58.006	UL-RL	0.2174.599		45	0	0	0	58.006
Stage 2	-5.7	123.954	59.253	UL-RL	0.2174.599		45	0	0	0	59.253
Stage 2	-5.8	126.404	60.434	UL-RL	0.2174.599		45	0	0	0	60.434
Stage 2	-5.9	128.852	61.615	UL-RL	0.2174.599		45	0	0	0	61.615
Stage 2	-6	131.419	62.854	UL-RL	0.2174.599		45	0	0	0	62.854

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	-6.1	133.864	64.033	UL-RL	0.2174.599	45	0	0	0	64.033
Stage 2	-6.2	136.422	65.27	UL-RL	0.2174.599	45	0	0	0	65.27
Stage 2	-6.3	138.863	66.45	UL-RL	0.2174.599	45	0	0	0	66.45
Stage 2	-6.4	141.302	67.63	UL-RL	0.2174.599	45	0	0	0	67.63
Stage 2	-6.5	143.851	68.867	UL-RL	0.2174.599	45	0	0	0	68.867
Stage 2	-6.6	146.287	70.049	UL-RL	0.2174.599	45	0	0	0	70.049
Stage 2	-6.7	148.829	71.285	UL-RL	0.2174.599	45	0	0	0	71.285
Stage 2	-6.8	151.262	72.468	UL-RL	0.2174.599	45	0	0	0	72.468
Stage 2	-6.9	153.695	73.653	UL-RL	0.2174.599	45	0	0	0	73.653
Stage 2	-7	156.229	74.889	UL-RL	0.2174.599	45	0	0	0	74.889
Stage 2	-7.1	157.658	75.575	UL-RL	0.2174.599	45	1	0	0	76.575
Stage 2	-7.2	159.187	76.311	UL-RL	0.2174.599	45	2	0	0	78.311
Stage 2	-7.3	160.614	76.997	UL-RL	0.2174.599	45	3	0	0	79.997
Stage 2	-7.4	162.041	77.685	UL-RL	0.2174.599	45	4	0	0	81.685
Stage 2	-7.5	163.562	78.42	UL-RL	0.2174.599	45	5	0	0	83.42
Stage 2	-7.6	164.987	79.108	UL-RL	0.2174.599	45	6	0	0	85.108
Stage 2	-7.7	166.41	79.796	UL-RL	0.2174.599	45	7	0	0	86.796
Stage 2	-7.8	167.926	80.53	UL-RL	0.2174.599	45	8	0	0	88.53
Stage 2	-7.9	169.348	81.218	UL-RL	0.2174.599	45	9	0	0	90.218
Stage 2	-8	170.859	81.951	UL-RL	0.2174.599	45	10	0	0	91.951
Stage 2	-8.1	172.279	82.64	UL-RL	0.2174.599	45	11	0	0	93.64
Stage 2	-8.2	173.698	83.329	UL-RL	0.2174.599	45	12	0	0	95.329
Stage 2	-8.3	175.204	84.061	UL-RL	0.2174.599	45	13	0	0	97.061
Stage 2	-8.4	176.622	84.751	UL-RL	0.2174.599	45	14	0	0	98.751
Stage 2	-8.5	178.124	85.483	UL-RL	0.2174.599	45	15	0	0	100.483
Stage 2	-8.6	179.54	86.173	UL-RL	0.2174.599	45	16	0	0	102.173
Stage 2	-8.7	180.957	86.865	UL-RL	0.2174.599	45	17	0	0	103.865
Stage 2	-8.8	182.454	87.598	UL-RL	0.2174.599	45	18	0	0	105.598
Stage 2	-8.9	183.869	88.291	UL-RL	0.2174.599	45	19	0	0	107.292
Stage 2	-9	185.363	89.026	UL-RL	0.2174.599	45	20	0	0	109.026
Stage 2	-9.1	186.776	89.722	UL-RL	0.2174.599	45	21	0	0	110.722
Stage 2	-9.2	188.19	90.419	UL-RL	0.2174.599	45	22	0	0	112.419
Stage 2	-9.3	189.68	91.157	UL-RL	0.2174.599	45	23	0	0	114.157
Stage 2	-9.4	191.092	91.857	UL-RL	0.2174.599	45	24	0	0	115.857
Stage 2	-9.5	192.504	92.559	UL-RL	0.2174.599	45	25	0	0	117.559
Stage 2	-9.6	193.84	93.224	UL-RL	0.2174.599	45	26	0	0	119.224
Stage 2	-9.7	195.178	93.891	UL-RL	0.2174.599	45	27	0	0	120.891
Stage 2	-9.8	196.516	94.559	UL-RL	0.2174.599	45	28	0	0	122.559
Stage 2	-9.9	197.855	95.227	UL-RL	0.2174.599	45	29	0	0	124.228
Stage 2	-10	199.195	95.897	UL-RL	0.2174.599	45	30	0	0	125.897

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	0	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage 2	-0.1	1.9	0.888	UL-RL	0.32	3.1	0	0	0	0	0.888
Stage 2	-0.2	3.8	1.853	UL-RL	0.32	3.1	0	0	0	0	1.853
Stage 2	-0.3	5.7	2.819	UL-RL	0.32	3.1	0	0	0	0	2.819
Stage 2	-0.4	7.6	3.784	UL-RL	0.32	3.1	0	0	0	0	3.784
Stage 2	-0.5	9.5	4.749	UL-RL	0.32	3.1	0	0	0	0	4.749
Stage 2	-0.6	11.4	5.71	UL-RL	0.32	3.1	0	0	0	0	5.71
Stage 2	-0.7	13.3	6.67	UL-RL	0.32	3.1	0	0	0	0	6.67
Stage 2	-0.8	15.2	7.63	UL-RL	0.32	3.1	0	0	0	0	7.63
Stage 2	-0.9	17.1	8.591	V-C	0.32	3.1	0	0	0	0	8.591
Stage 2	-1	19	9.552	V-C	0.32	3.1	0	0	0	0	9.552
Stage 2	-1.1	20.9	10.514	V-C	0.32	3.1	0	0	0	0	10.514
Stage 2	-1.2	22.8	11.477	V-C	0.32	3.1	0	0	0	0	11.477
Stage 2	-1.3	24.7	12.44	V-C	0.32	3.1	0	0	0	0	12.44
Stage 2	-1.4	26.6	13.403	V-C	0.32	3.1	0	0	0	0	13.403
Stage 2	-1.5	28.5	14.367	V-C	0.32	3.1	0	0	0	0	14.367
Stage 2	-1.6	30.4	15.332	V-C	0.32	3.1	0	0	0	0	15.332
Stage 2	-1.7	32.3	16.297	V-C	0.32	3.1	0	0	0	0	16.297
Stage 2	-1.8	34.2	17.262	V-C	0.32	3.1	0	0	0	0	17.262
Stage 2	-1.9	36.1	18.228	V-C	0.32	3.1	0	0	0	0	18.228
Stage 2	-2	38	19.194	V-C	0.32	3.1	0	0	0	0	19.194
Stage 2	-2.1	39.9	20.16	V-C	0.32	3.1	0	0	0	0	20.16
Stage 2	-2.2	41.8	21.126	V-C	0.32	3.1	0	0	0	0	21.126
Stage 2	-2.3	43.7	22.091	V-C	0.32	3.1	0	0	0	0	22.091
Stage 2	-2.4	45.6	23.057	V-C	0.32	3.1	0	0	0	0	23.057
Stage 2	-2.5	47.5	24.022	V-C	0.32	3.1	0	0	0	0	24.022
Stage 2	-2.6	49.4	24.987	V-C	0.32	3.1	0	0	0	0	24.987
Stage 2	-2.7	51.3	25.95	V-C	0.32	3.1	0	0	0	0	25.95
Stage 2	-2.8	53.2	26.913	V-C	0.32	3.1	0	0	0	0	26.913
Stage 2	-2.9	55.1	27.874	V-C	0.32	3.1	0	0	0	0	27.874
Stage 2	-3	57	28.834	V-C	0.32	3.1	0	0	0	0	28.834
Stage 2	-3.1	58.9	29.793	V-C	0.32	3.1	0	0	0	0	29.793
Stage 2	-3.2	60.8	30.749	V-C	0.32	3.1	0	0	0	0	30.749
Stage 2	-3.3	62.7	31.703	V-C	0.32	3.1	0	0	0	0	31.703
Stage 2	-3.4	64.6	32.655	V-C	0.32	3.1	0	0	0	0	32.655
Stage 2	-3.5	66.5	33.605	V-C	0.32	3.1	0	0	0	0	33.605
Stage 2	-3.6	68.4	34.552	V-C	0.32	3.1	0	0	0	0	34.552
Stage 2	-3.7	70.3	35.496	V-C	0.32	3.1	0	0	0	0	35.496
Stage 2	-3.8	72.2	36.439	V-C	0.32	3.1	0	0	0	0	36.439
Stage 2	-3.9	74.1	37.38	V-C	0.32	3.1	0	0	0	0	37.38
Stage 2	-4	76	38.319	V-C	0.32	3.1	0	0	0	0	38.319
Stage 2	-4.1	78.4	40.027	V-C	0.2174.599	45	45	0	0	0	40.027
Stage 2	-4.2	80.8	41.197	V-C	0.2174.599	45	45	0	0	0	41.197
Stage 2	-4.3	83.2	42.369	V-C	0.2174.599	45	45	0	0	0	42.369
Stage 2	-4.4	85.6	43.545	V-C	0.2174.599	45	45	0	0	0	43.545
Stage 2	-4.5	88	44.724	V-C	0.2174.599	45	45	0	0	0	44.724
Stage 2	-4.6	90.4	45.908	V-C	0.2174.599	45	45	0	0	0	45.908
Stage 2	-4.7	92.8	47.096	V-C	0.2174.599	45	45	0	0	0	47.096
Stage 2	-4.8	95.2	48.288	V-C	0.2174.599	45	45	0	0	0	48.288
Stage 2	-4.9	97.6	49.484	V-C	0.2174.599	45	45	0	0	0	49.484
Stage 2	-5	100	50.684	V-C	0.2174.599	45	45	0	0	0	50.684
Stage 2	-5.1	102.4	51.887	V-C	0.2174.599	45	45	0	0	0	51.887
Stage 2	-5.2	104.8	53.092	V-C	0.2174.599	45	45	0	0	0	53.092
Stage 2	-5.3	107.2	54.299	V-C	0.2174.599	45	45	0	0	0	54.299
Stage 2	-5.4	109.6	55.508	V-C	0.2174.599	45	45	0	0	0	55.508
Stage 2	-5.5	112	56.718	V-C	0.2174.599	45	45	0	0	0	56.718
Stage 2	-5.6	114.4	57.929	V-C	0.2174.599	45	45	0	0	0	57.929
Stage 2	-5.7	116.8	59.14	V-C	0.2174.599	45	45	0	0	0	59.14
Stage 2	-5.8	119.2	60.352	V-C	0.2174.599	45	45	0	0	0	60.352
Stage 2	-5.9	121.6	61.564	V-C	0.2174.599	45	45	0	0	0	61.564
Stage 2	-6	124	62.776	V-C	0.2174.599	45	45	0	0	0	62.776
Stage 2	-6.1	126.4	63.988	V-C	0.2174.599	45	45	0	0	0	63.988
Stage 2	-6.2	128.8	65.199	V-C	0.2174.599	45	45	0	0	0	65.199

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Muro:		LEFT		Lato		RIGHT			
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	-6.3	131.2	66.41	V-C	0.2174.599	45	0	0	0	0	66.41
Stage 2	-6.4	133.6	67.621	V-C	0.2174.599	45	0	0	0	0	67.621
Stage 2	-6.5	136	68.831	V-C	0.2174.599	45	0	0	0	0	68.831
Stage 2	-6.6	138.4	70.041	V-C	0.2174.599	45	0	0	0	0	70.041
Stage 2	-6.7	140.8	71.251	V-C	0.2174.599	45	0	0	0	0	71.251
Stage 2	-6.8	143.2	72.46	V-C	0.2174.599	45	0	0	0	0	72.46
Stage 2	-6.9	145.6	73.668	V-C	0.2174.599	45	0	0	0	0	73.668
Stage 2	-7	148	74.877	V-C	0.2174.599	45	0	0	0	0	74.877
Stage 2	-7.1	149.4	75.585	V-C	0.2174.599	45	1	0	0	0	76.584
Stage 2	-7.2	150.8	76.292	V-C	0.2174.599	45	2	0	0	0	78.292
Stage 2	-7.3	152.2	77	V-C	0.2174.599	45	3	0	0	0	79.999
Stage 2	-7.4	153.6	77.707	V-C	0.2174.599	45	4	0	0	0	81.707
Stage 2	-7.5	155	78.413	V-C	0.2174.599	45	5	0	0	0	83.413
Stage 2	-7.6	156.4	79.12	V-C	0.2174.599	45	6	0	0	0	85.12
Stage 2	-7.7	157.8	79.827	V-C	0.2174.599	45	7	0	0	0	86.827
Stage 2	-7.8	159.2	80.533	V-C	0.2174.599	45	8	0	0	0	88.533
Stage 2	-7.9	160.6	81.239	V-C	0.2174.599	45	9	0	0	0	90.239
Stage 2	-8	162	81.945	V-C	0.2174.599	45	10	0	0	0	91.945
Stage 2	-8.1	163.4	82.651	V-C	0.2174.599	45	11	0	0	0	93.651
Stage 2	-8.2	164.8	83.357	V-C	0.2174.599	45	12	0	0	0	95.357
Stage 2	-8.3	166.2	84.062	V-C	0.2174.599	45	13	0	0	0	97.062
Stage 2	-8.4	167.6	84.768	V-C	0.2174.599	45	14	0	0	0	98.768
Stage 2	-8.5	169	85.473	V-C	0.2174.599	45	15	0	0	0	100.473
Stage 2	-8.6	170.4	86.178	V-C	0.2174.599	45	16	0	0	0	102.178
Stage 2	-8.7	171.8	86.882	V-C	0.2174.599	45	17	0	0	0	103.882
Stage 2	-8.8	173.2	87.586	V-C	0.2174.599	45	18	0	0	0	105.586
Stage 2	-8.9	174.6	88.29	V-C	0.2174.599	45	19	0	0	0	107.29
Stage 2	-9	176	88.994	V-C	0.2174.599	45	20	0	0	0	108.994
Stage 2	-9.1	177.4	89.696	V-C	0.2174.599	45	21	0	0	0	110.696
Stage 2	-9.2	178.8	90.399	V-C	0.2174.599	45	22	0	0	0	112.399
Stage 2	-9.3	180.2	91.101	V-C	0.2174.599	45	23	0	0	0	114.101
Stage 2	-9.4	181.6	91.803	V-C	0.2174.599	45	24	0	0	0	115.803
Stage 2	-9.5	183	92.504	V-C	0.2174.599	45	25	0	0	0	117.504
Stage 2	-9.6	184.4	93.205	V-C	0.2174.599	45	26	0	0	0	119.205
Stage 2	-9.7	185.8	93.905	V-C	0.2174.599	45	27	0	0	0	120.905
Stage 2	-9.8	187.2	94.605	V-C	0.2174.599	45	28	0	0	0	122.606
Stage 2	-9.9	188.6	95.306	V-C	0.2174.599	45	29	0	0	0	124.306
Stage 2	-10	190	96.006	V-C	0.2174.599	45	30	0	0	0	126.006

### Tabella Risultati Terreno Left Wall - Nominal - Stage A

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	LEFT Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	0	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage A	-0.1	1.9	0.608	ACTIVE	0.32	3.1	0	0	0	0	0.608
Stage A	-0.2	3.803	1.217	ACTIVE	0.32	3.1	0	0	0	0	1.217
Stage A	-0.3	5.709	1.827	ACTIVE	0.32	3.1	0	0	0	0	1.827
Stage A	-0.4	7.621	2.439	ACTIVE	0.32	3.1	0	0	0	0	2.439
Stage A	-0.5	9.541	3.053	ACTIVE	0.32	3.1	0	0	0	0	3.053
Stage A	-0.6	11.469	3.67	ACTIVE	0.32	3.1	0	0	0	0	3.67
Stage A	-0.7	13.406	4.29	ACTIVE	0.32	3.1	0	0	0	0	4.29
Stage A	-0.8	15.353	4.913	ACTIVE	0.32	3.1	0	0	0	0	4.913
Stage A	-0.9	17.311	5.539	ACTIVE	0.32	3.1	0	0	0	0	5.539
Stage A	-1	19.278	6.169	ACTIVE	0.32	3.1	0	0	0	0	6.169
Stage A	-1.1	21.256	6.802	ACTIVE	0.32	3.1	0	0	0	0	6.802
Stage A	-1.2	23.242	7.438	ACTIVE	0.32	3.1	0	0	0	0	7.438
Stage A	-1.3	25.237	8.076	ACTIVE	0.32	3.1	0	0	0	0	8.076
Stage A	-1.4	27.24	8.717	ACTIVE	0.32	3.1	0	0	0	0	8.717
Stage A	-1.5	29.25	9.36	ACTIVE	0.32	3.1	0	0	0	0	9.36
Stage A	-1.6	31.265	10.005	ACTIVE	0.32	3.1	0	0	0	0	10.005
Stage A	-1.7	33.286	10.651	ACTIVE	0.32	3.1	0	0	0	0	10.651
Stage A	-1.8	35.31	11.299	ACTIVE	0.32	3.1	0	0	0	0	11.299
Stage A	-1.9	37.337	11.948	ACTIVE	0.32	3.1	0	0	0	0	11.948
Stage A	-2	39.367	12.597	ACTIVE	0.32	3.1	0	0	0	0	12.597
Stage A	-2.1	41.398	13.247	ACTIVE	0.32	3.1	0	0	0	0	13.247
Stage A	-2.2	43.429	13.897	ACTIVE	0.32	3.1	0	0	0	0	13.897
Stage A	-2.3	45.461	14.547	ACTIVE	0.32	3.1	0	0	0	0	14.547
Stage A	-2.4	47.492	15.197	ACTIVE	0.32	3.1	0	0	0	0	15.197
Stage A	-2.5	49.522	15.847	ACTIVE	0.32	3.1	0	0	0	0	15.847
Stage A	-2.6	51.55	16.496	ACTIVE	0.32	3.1	0	0	0	0	16.496
Stage A	-2.7	53.577	17.145	ACTIVE	0.32	3.1	0	0	0	0	17.145
Stage A	-2.8	55.601	17.792	ACTIVE	0.32	3.1	0	0	0	0	17.792
Stage A	-2.9	57.623	18.439	ACTIVE	0.32	3.1	0	0	0	0	18.439
Stage A	-3	59.643	19.461	UL-RL	0.32	3.1	0	0	0	0	19.461
Stage A	-3.1	61.85	22.108	UL-RL	0.32	3.1	0	0	0	0	22.108
Stage A	-3.2	63.924	24.469	UL-RL	0.32	3.1	0	0	0	0	24.469
Stage A	-3.3	65.991	26.627	UL-RL	0.32	3.1	0	0	0	0	26.627
Stage A	-3.4	68.26	28.708	UL-RL	0.32	3.1	0	0	0	0	28.708
Stage A	-3.5	70.308	30.519	UL-RL	0.32	3.1	0	0	0	0	30.519
Stage A	-3.6	72.548	32.289	UL-RL	0.32	3.1	0	0	0	0	32.289
Stage A	-3.7	74.579	33.836	UL-RL	0.32	3.1	0	0	0	0	33.836
Stage A	-3.8	76.605	35.278	UL-RL	0.32	3.1	0	0	0	0	35.278
Stage A	-3.9	78.81	36.723	UL-RL	0.32	3.1	0	0	0	0	36.723
Stage A	-4	80.823	37.999	UL-RL	0.32	3.1	0	0	0	0	37.999
Stage A	-4.1	83.332	34.273	UL-RL	0.2174.599		45	0	0	0	34.273
Stage A	-4.2	86.008	36.113	UL-RL	0.2174.599		45	0	0	0	36.113
Stage A	-4.3	88.506	37.706	UL-RL	0.2174.599		45	0	0	0	37.706
Stage A	-4.4	91.163	39.245	UL-RL	0.2174.599		45	0	0	0	39.245
Stage A	-4.5	93.651	40.59	UL-RL	0.2174.599		45	0	0	0	40.59
Stage A	-4.6	96.136	41.847	UL-RL	0.2174.599		45	0	0	0	41.847
Stage A	-4.7	98.771	43.11	UL-RL	0.2174.599		45	0	0	0	43.11
Stage A	-4.8	101.248	44.245	UL-RL	0.2174.599		45	0	0	0	44.245
Stage A	-4.9	103.869	45.417	UL-RL	0.2174.599		45	0	0	0	45.417
Stage A	-5	106.339	46.491	UL-RL	0.2174.599		45	0	0	0	46.491
Stage A	-5.1	108.807	47.552	UL-RL	0.2174.599		45	0	0	0	47.552
Stage A	-5.2	111.411	48.677	UL-RL	0.2174.599		45	0	0	0	48.677
Stage A	-5.3	113.872	49.733	UL-RL	0.2174.599		45	0	0	0	49.733
Stage A	-5.4	116.465	50.862	UL-RL	0.2174.599		45	0	0	0	50.862
Stage A	-5.5	118.921	51.934	UL-RL	0.2174.599		45	0	0	0	51.934
Stage A	-5.6	121.376	53.017	UL-RL	0.2174.599		45	0	0	0	53.017
Stage A	-5.7	123.954	54.176	UL-RL	0.2174.599		45	0	0	0	54.176
Stage A	-5.8	126.404	55.285	UL-RL	0.2174.599		45	0	0	0	55.285
Stage A	-5.9	128.852	56.407	UL-RL	0.2174.599		45	0	0	0	56.407
Stage A	-6	131.419	57.602	UL-RL	0.2174.599		45	0	0	0	57.602

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	-6.1	133.864	58.747	UL-RL	0.2174.599	45	0	0	0	58.747
Stage A	-6.2	136.422	59.961	UL-RL	0.2174.599	45	0	0	0	59.961
Stage A	-6.3	138.863	61.125	UL-RL	0.2174.599	45	0	0	0	61.125
Stage A	-6.4	141.302	62.297	UL-RL	0.2174.599	45	0	0	0	62.297
Stage A	-6.5	143.851	63.532	UL-RL	0.2174.599	45	0	0	0	63.532
Stage A	-6.6	146.287	64.716	UL-RL	0.2174.599	45	0	0	0	64.716
Stage A	-6.7	148.829	65.958	UL-RL	0.2174.599	45	0	0	0	65.958
Stage A	-6.8	151.262	67.149	UL-RL	0.2174.599	45	0	0	0	67.149
Stage A	-6.9	153.695	68.343	UL-RL	0.2174.599	45	0	0	0	68.343
Stage A	-7	156.229	69.591	UL-RL	0.2174.599	45	0	0	0	69.591
Stage A	-7.1	157.658	70.287	UL-RL	0.2174.599	45	1	0	0	71.287
Stage A	-7.2	159.187	71.035	UL-RL	0.2174.599	45	2	0	0	73.035
Stage A	-7.3	160.614	71.732	UL-RL	0.2174.599	45	3	0	0	74.732
Stage A	-7.4	162.041	72.429	UL-RL	0.2174.599	45	4	0	0	76.429
Stage A	-7.5	163.562	73.174	UL-RL	0.2174.599	45	5	0	0	78.174
Stage A	-7.6	164.987	73.871	UL-RL	0.2174.599	45	6	0	0	79.871
Stage A	-7.7	166.41	74.567	UL-RL	0.2174.599	45	7	0	0	81.567
Stage A	-7.8	167.926	75.308	UL-RL	0.2174.599	45	8	0	0	83.308
Stage A	-7.9	169.348	76.003	UL-RL	0.2174.599	45	9	0	0	85.002
Stage A	-8	170.859	76.741	UL-RL	0.2174.599	45	10	0	0	86.741
Stage A	-8.1	172.279	77.435	UL-RL	0.2174.599	45	11	0	0	88.435
Stage A	-8.2	173.698	78.128	UL-RL	0.2174.599	45	12	0	0	90.128
Stage A	-8.3	175.204	78.864	UL-RL	0.2174.599	45	13	0	0	91.864
Stage A	-8.4	176.622	79.557	UL-RL	0.2174.599	45	14	0	0	93.556
Stage A	-8.5	178.124	80.292	UL-RL	0.2174.599	45	15	0	0	95.292
Stage A	-8.6	179.54	80.985	UL-RL	0.2174.599	45	16	0	0	96.985
Stage A	-8.7	180.957	81.678	UL-RL	0.2174.599	45	17	0	0	98.678
Stage A	-8.8	182.454	82.413	UL-RL	0.2174.599	45	18	0	0	100.414
Stage A	-8.9	183.869	83.109	UL-RL	0.2174.599	45	19	0	0	102.109
Stage A	-9	185.363	83.845	UL-RL	0.2174.599	45	20	0	0	103.845
Stage A	-9.1	186.776	84.542	UL-RL	0.2174.599	45	21	0	0	105.542
Stage A	-9.2	188.19	85.241	UL-RL	0.2174.599	45	22	0	0	107.241
Stage A	-9.3	189.68	85.98	UL-RL	0.2174.599	45	23	0	0	108.98
Stage A	-9.4	191.092	86.682	UL-RL	0.2174.599	45	24	0	0	110.682
Stage A	-9.5	192.504	87.385	UL-RL	0.2174.599	45	25	0	0	112.385
Stage A	-9.6	193.84	88.052	UL-RL	0.2174.599	45	26	0	0	114.052
Stage A	-9.7	195.178	88.72	UL-RL	0.2174.599	45	27	0	0	115.72
Stage A	-9.8	196.516	89.389	UL-RL	0.2174.599	45	28	0	0	117.389
Stage A	-9.9	197.855	90.059	UL-RL	0.2174.599	45	29	0	0	119.059
Stage A	-10	199.195	90.73	UL-RL	0.2174.599	45	30	0	0	120.73



Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	0	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.5	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.6	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.7	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.8	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.9	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.5	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage A	-1.6	1.9	5.89	PASSIVE	0.32	3.1	0	0	0	0	5.89
Stage A	-1.7	3.8	11.78	PASSIVE	0.32	3.1	0	0	0	0	11.78
Stage A	-1.8	5.7	17.67	PASSIVE	0.32	3.1	0	0	0	0	17.67
Stage A	-1.9	7.6	23.56	PASSIVE	0.32	3.1	0	0	0	0	23.56
Stage A	-2	9.5	26.863	V-C	0.32	3.1	0	0	0	0	26.863
Stage A	-2.1	11.4	26.482	V-C	0.32	3.1	0	0	0	0	26.482
Stage A	-2.2	13.3	26.17	V-C	0.32	3.1	0	0	0	0	26.17
Stage A	-2.3	15.2	25.938	V-C	0.32	3.1	0	0	0	0	25.938
Stage A	-2.4	17.1	25.791	V-C	0.32	3.1	0	0	0	0	25.791
Stage A	-2.5	19	25.733	V-C	0.32	3.1	0	0	0	0	25.733
Stage A	-2.6	20.9	25.767	V-C	0.32	3.1	0	0	0	0	25.767
Stage A	-2.7	22.8	25.858	UL-RL	0.32	3.1	0	0	0	0	25.858
Stage A	-2.8	24.7	25.624	UL-RL	0.32	3.1	0	0	0	0	25.624
Stage A	-2.9	26.6	25.529	UL-RL	0.32	3.1	0	0	0	0	25.529
Stage A	-3	28.5	25.567	UL-RL	0.32	3.1	0	0	0	0	25.567
Stage A	-3.1	30.4	25.73	UL-RL	0.32	3.1	0	0	0	0	25.73
Stage A	-3.2	32.3	26.009	UL-RL	0.32	3.1	0	0	0	0	26.009
Stage A	-3.3	34.2	26.393	UL-RL	0.32	3.1	0	0	0	0	26.393
Stage A	-3.4	36.1	26.872	UL-RL	0.32	3.1	0	0	0	0	26.872
Stage A	-3.5	38	27.434	UL-RL	0.32	3.1	0	0	0	0	27.434
Stage A	-3.6	39.9	28.069	UL-RL	0.32	3.1	0	0	0	0	28.069
Stage A	-3.7	41.8	28.768	UL-RL	0.32	3.1	0	0	0	0	28.768
Stage A	-3.8	43.7	29.521	UL-RL	0.32	3.1	0	0	0	0	29.521
Stage A	-3.9	45.6	30.32	UL-RL	0.32	3.1	0	0	0	0	30.32
Stage A	-4	47.5	31.158	UL-RL	0.32	3.1	0	0	0	0	31.158
Stage A	-4.1	49.9	33.993	UL-RL	0.2174.599	45	45	0	0	0	33.993
Stage A	-4.2	52.3	35.022	UL-RL	0.2174.599	45	45	0	0	0	35.022
Stage A	-4.3	54.7	36.116	UL-RL	0.2174.599	45	45	0	0	0	36.116
Stage A	-4.4	57.1	37.265	UL-RL	0.2174.599	45	45	0	0	0	37.265
Stage A	-4.5	59.5	38.457	UL-RL	0.2174.599	45	45	0	0	0	38.457
Stage A	-4.6	61.9	39.683	UL-RL	0.2174.599	45	45	0	0	0	39.683
Stage A	-4.7	64.3	40.935	UL-RL	0.2174.599	45	45	0	0	0	40.935
Stage A	-4.8	66.7	42.204	UL-RL	0.2174.599	45	45	0	0	0	42.204
Stage A	-4.9	69.1	43.485	UL-RL	0.2174.599	45	45	0	0	0	43.485
Stage A	-5	71.5	44.773	UL-RL	0.2174.599	45	45	0	0	0	44.773
Stage A	-5.1	73.9	46.063	UL-RL	0.2174.599	45	45	0	0	0	46.063
Stage A	-5.2	76.3	47.352	UL-RL	0.2174.599	45	45	0	0	0	47.352
Stage A	-5.3	78.7	48.639	UL-RL	0.2174.599	45	45	0	0	0	48.639
Stage A	-5.4	81.1	49.92	UL-RL	0.2174.599	45	45	0	0	0	49.92
Stage A	-5.5	83.5	51.195	UL-RL	0.2174.599	45	45	0	0	0	51.195
Stage A	-5.6	85.9	52.464	UL-RL	0.2174.599	45	45	0	0	0	52.464
Stage A	-5.7	88.3	53.726	UL-RL	0.2174.599	45	45	0	0	0	53.726
Stage A	-5.8	90.7	54.981	UL-RL	0.2174.599	45	45	0	0	0	54.981
Stage A	-5.9	93.1	56.229	UL-RL	0.2174.599	45	45	0	0	0	56.229
Stage A	-6	95.5	57.471	UL-RL	0.2174.599	45	45	0	0	0	57.471
Stage A	-6.1	97.9	58.707	UL-RL	0.2174.599	45	45	0	0	0	58.707
Stage A	-6.2	100.3	59.938	UL-RL	0.2174.599	45	45	0	0	0	59.938



Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	RIGHT Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	-6.3	102.7	61.165	UL-RL	0.2174.599		45	0	0	0	61.165
Stage A	-6.4	105.1	62.388	UL-RL	0.2174.599		45	0	0	0	62.388
Stage A	-6.5	107.5	63.608	UL-RL	0.2174.599		45	0	0	0	63.608
Stage A	-6.6	109.9	64.825	UL-RL	0.2174.599		45	0	0	0	64.825
Stage A	-6.7	112.3	66.04	UL-RL	0.2174.599		45	0	0	0	66.04
Stage A	-6.8	114.7	67.253	UL-RL	0.2174.599		45	0	0	0	67.253
Stage A	-6.9	117.1	68.465	UL-RL	0.2174.599		45	0	0	0	68.465
Stage A	-7	119.5	69.675	UL-RL	0.2174.599		45	0	0	0	69.675
Stage A	-7.1	120.9	70.382	UL-RL	0.2174.599		45	1	0	0	71.382
Stage A	-7.2	122.3	71.089	UL-RL	0.2174.599		45	2	0	0	73.089
Stage A	-7.3	123.7	71.795	UL-RL	0.2174.599		45	3	0	0	74.795
Stage A	-7.4	125.1	72.502	UL-RL	0.2174.599		45	4	0	0	76.502
Stage A	-7.5	126.5	73.208	UL-RL	0.2174.599		45	5	0	0	78.208
Stage A	-7.6	127.9	73.915	UL-RL	0.2174.599		45	6	0	0	79.915
Stage A	-7.7	129.3	74.621	UL-RL	0.2174.599		45	7	0	0	81.621
Stage A	-7.8	130.7	75.328	UL-RL	0.2174.599		45	8	0	0	83.328
Stage A	-7.9	132.1	76.035	UL-RL	0.2174.599		45	9	0	0	85.035
Stage A	-8	133.5	76.742	UL-RL	0.2174.599		45	10	0	0	86.742
Stage A	-8.1	134.9	77.449	UL-RL	0.2174.599		45	11	0	0	88.449
Stage A	-8.2	136.3	78.156	UL-RL	0.2174.599		45	12	0	0	90.156
Stage A	-8.3	137.7	78.863	UL-RL	0.2174.599		45	13	0	0	91.863
Stage A	-8.4	139.1	79.57	UL-RL	0.2174.599		45	14	0	0	93.57
Stage A	-8.5	140.5	80.277	UL-RL	0.2174.599		45	15	0	0	95.277
Stage A	-8.6	141.9	80.983	UL-RL	0.2174.599		45	16	0	0	96.983
Stage A	-8.7	143.3	81.69	UL-RL	0.2174.599		45	17	0	0	98.69
Stage A	-8.8	144.7	82.396	UL-RL	0.2174.599		45	18	0	0	100.396
Stage A	-8.9	146.1	83.102	UL-RL	0.2174.599		45	19	0	0	102.102
Stage A	-9	147.5	83.807	UL-RL	0.2174.599		45	20	0	0	103.807
Stage A	-9.1	148.9	84.512	UL-RL	0.2174.599		45	21	0	0	105.512
Stage A	-9.2	150.3	85.217	UL-RL	0.2174.599		45	22	0	0	107.217
Stage A	-9.3	151.7	85.921	UL-RL	0.2174.599		45	23	0	0	108.921
Stage A	-9.4	153.1	86.624	UL-RL	0.2174.599		45	24	0	0	110.624
Stage A	-9.5	154.5	87.328	UL-RL	0.2174.599		45	25	0	0	112.328
Stage A	-9.6	155.9	88.03	UL-RL	0.2174.599		45	26	0	0	114.03
Stage A	-9.7	157.3	88.733	UL-RL	0.2174.599		45	27	0	0	115.733
Stage A	-9.8	158.7	89.435	UL-RL	0.2174.599		45	28	0	0	117.435
Stage A	-9.9	160.1	90.137	UL-RL	0.2174.599		45	29	0	0	119.137
Stage A	-10	161.5	90.839	UL-RL	0.2174.599		45	30	0	0	120.839

### Tabella Risultati Terreno Left Wall - Nominal - Stage B

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	LEFT Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage B	0	0	0	PASSIVE	0.32	3.1	0	0	0	0
Stage B	-0.1	1.9	5.891	PASSIVE	0.32	3.1	0	0	0	5.891
Stage B	-0.2	3.803	11.788	PASSIVE	0.32	3.1	0	0	0	11.788
Stage B	-0.3	5.709	17.698	PASSIVE	0.32	3.1	0	0	0	17.698
Stage B	-0.4	7.621	23.626	PASSIVE	0.32	3.1	0	0	0	23.626
Stage B	-0.5	9.541	29.576	PASSIVE	0.32	3.1	0	0	0	29.576
Stage B	-0.6	11.469	35.552	PASSIVE	0.32	3.1	0	0	0	35.552
Stage B	-0.7	13.406	41.558	PASSIVE	0.32	3.1	0	0	0	41.558
Stage B	-0.8	15.353	47.595	PASSIVE	0.32	3.1	0	0	0	47.595
Stage B	-0.9	17.311	53.663	PASSIVE	0.32	3.1	0	0	0	53.663
Stage B	-1	19.278	55.636	V-C	0.32	3.1	0	0	0	55.636
Stage B	-1.1	21.256	55.07	V-C	0.32	3.1	0	0	0	55.07
Stage B	-1.2	23.242	54.239	V-C	0.32	3.1	0	0	0	54.239
Stage B	-1.3	25.237	53.063	V-C	0.32	3.1	0	0	0	53.063
Stage B	-1.4	27.24	51.49	V-C	0.32	3.1	0	0	0	51.49
Stage B	-1.5	29.25	49.593	V-C	0.32	3.1	0	0	0	49.593
Stage B	-1.6	31.265	47.47	V-C	0.32	3.1	0	0	0	47.47
Stage B	-1.7	33.286	45.21	V-C	0.32	3.1	0	0	0	45.21
Stage B	-1.8	35.31	42.893	V-C	0.32	3.1	0	0	0	42.893
Stage B	-1.9	37.337	40.586	V-C	0.32	3.1	0	0	0	40.586
Stage B	-2	39.367	38.347	V-C	0.32	3.1	0	0	0	38.347
Stage B	-2.1	41.398	36.224	V-C	0.32	3.1	0	0	0	36.224
Stage B	-2.2	43.429	34.252	V-C	0.32	3.1	0	0	0	34.252
Stage B	-2.3	45.461	32.459	V-C	0.32	3.1	0	0	0	32.459
Stage B	-2.4	47.492	30.862	V-C	0.32	3.1	0	0	0	30.862
Stage B	-2.5	49.522	29.458	UL-RL	0.32	3.1	0	0	0	29.458
Stage B	-2.6	51.55	28.2	UL-RL	0.32	3.1	0	0	0	28.2
Stage B	-2.7	53.577	27.176	UL-RL	0.32	3.1	0	0	0	27.176
Stage B	-2.8	55.601	25.869	UL-RL	0.32	3.1	0	0	0	25.869
Stage B	-2.9	57.623	24.391	UL-RL	0.32	3.1	0	0	0	24.391
Stage B	-3	59.643	23.597	UL-RL	0.32	3.1	0	0	0	23.597
Stage B	-3.1	61.85	24.721	UL-RL	0.32	3.1	0	0	0	24.721
Stage B	-3.2	63.924	25.826	UL-RL	0.32	3.1	0	0	0	25.826
Stage B	-3.3	65.991	26.973	UL-RL	0.32	3.1	0	0	0	26.973
Stage B	-3.4	68.26	28.263	UL-RL	0.32	3.1	0	0	0	28.263
Stage B	-3.5	70.308	29.48	UL-RL	0.32	3.1	0	0	0	29.48
Stage B	-3.6	72.548	30.826	UL-RL	0.32	3.1	0	0	0	30.826
Stage B	-3.7	74.579	32.097	UL-RL	0.32	3.1	0	0	0	32.097
Stage B	-3.8	76.605	33.387	UL-RL	0.32	3.1	0	0	0	33.387
Stage B	-3.9	78.81	34.783	UL-RL	0.32	3.1	0	0	0	34.783
Stage B	-4	80.823	36.089	UL-RL	0.32	3.1	0	0	0	36.089
Stage B	-4.1	83.332	28.189	UL-RL	0.2174.599		45	0	0	28.189
Stage B	-4.2	86.008	30.483	UL-RL	0.2174.599		45	0	0	30.483
Stage B	-4.3	88.506	32.62	UL-RL	0.2174.599		45	0	0	32.62
Stage B	-4.4	91.163	34.751	UL-RL	0.2174.599		45	0	0	34.751
Stage B	-4.5	93.651	36.703	UL-RL	0.2174.599		45	0	0	36.703
Stage B	-4.6	96.136	38.554	UL-RL	0.2174.599		45	0	0	38.554
Stage B	-4.7	98.771	40.383	UL-RL	0.2174.599		45	0	0	40.383
Stage B	-4.8	101.248	42.04	UL-RL	0.2174.599		45	0	0	42.04
Stage B	-4.9	103.869	43.682	UL-RL	0.2174.599		45	0	0	43.682
Stage B	-5	106.339	45.172	UL-RL	0.2174.599		45	0	0	45.172
Stage B	-5.1	108.807	46.592	UL-RL	0.2174.599		45	0	0	46.592
Stage B	-5.2	111.411	48.02	UL-RL	0.2174.599		45	0	0	48.02
Stage B	-5.3	113.872	49.327	UL-RL	0.2174.599		45	0	0	49.327
Stage B	-5.4	116.465	50.659	UL-RL	0.2174.599		45	0	0	50.659
Stage B	-5.5	118.921	51.889	UL-RL	0.2174.599		45	0	0	51.889
Stage B	-5.6	121.376	53.093	UL-RL	0.2174.599		45	0	0	53.093
Stage B	-5.7	123.954	54.34	UL-RL	0.2174.599		45	0	0	54.34
Stage B	-5.8	126.404	55.508	UL-RL	0.2174.599		45	0	0	55.508
Stage B	-5.9	128.852	56.667	UL-RL	0.2174.599		45	0	0	56.667
Stage B	-6	131.419	57.879	UL-RL	0.2174.599		45	0	0	57.879

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	-6.1	133.864	59.028	UL-RL	0.2174.599	45	0	0	0	59.028
Stage B	-6.2	136.422	60.233	UL-RL	0.2174.599	45	0	0	0	60.233
Stage B	-6.3	138.863	61.382	UL-RL	0.2174.599	45	0	0	0	61.382
Stage B	-6.4	141.302	62.533	UL-RL	0.2174.599	45	0	0	0	62.533
Stage B	-6.5	143.851	63.743	UL-RL	0.2174.599	45	0	0	0	63.743
Stage B	-6.6	146.287	64.901	UL-RL	0.2174.599	45	0	0	0	64.901
Stage B	-6.7	148.829	66.117	UL-RL	0.2174.599	45	0	0	0	66.117
Stage B	-6.8	151.262	67.283	UL-RL	0.2174.599	45	0	0	0	67.283
Stage B	-6.9	153.695	68.454	UL-RL	0.2174.599	45	0	0	0	68.454
Stage B	-7	156.229	69.679	UL-RL	0.2174.599	45	0	0	0	69.679
Stage B	-7.1	157.658	70.356	UL-RL	0.2174.599	45	1	0	0	71.356
Stage B	-7.2	159.187	71.086	UL-RL	0.2174.599	45	2	0	0	73.086
Stage B	-7.3	160.614	71.769	UL-RL	0.2174.599	45	3	0	0	74.769
Stage B	-7.4	162.041	72.454	UL-RL	0.2174.599	45	4	0	0	76.454
Stage B	-7.5	163.562	73.189	UL-RL	0.2174.599	45	5	0	0	78.189
Stage B	-7.6	164.987	73.877	UL-RL	0.2174.599	45	6	0	0	79.877
Stage B	-7.7	166.41	74.567	UL-RL	0.2174.599	45	7	0	0	81.567
Stage B	-7.8	167.926	75.303	UL-RL	0.2174.599	45	8	0	0	83.303
Stage B	-7.9	169.348	75.994	UL-RL	0.2174.599	45	9	0	0	84.994
Stage B	-8	170.859	76.731	UL-RL	0.2174.599	45	10	0	0	86.731
Stage B	-8.1	172.279	77.423	UL-RL	0.2174.599	45	11	0	0	88.423
Stage B	-8.2	173.698	78.115	UL-RL	0.2174.599	45	12	0	0	90.115
Stage B	-8.3	175.204	78.852	UL-RL	0.2174.599	45	13	0	0	91.852
Stage B	-8.4	176.622	79.545	UL-RL	0.2174.599	45	14	0	0	93.545
Stage B	-8.5	178.124	80.28	UL-RL	0.2174.599	45	15	0	0	95.28
Stage B	-8.6	179.54	80.974	UL-RL	0.2174.599	45	16	0	0	96.974
Stage B	-8.7	180.957	81.669	UL-RL	0.2174.599	45	17	0	0	98.669
Stage B	-8.8	182.454	82.406	UL-RL	0.2174.599	45	18	0	0	100.406
Stage B	-8.9	183.869	83.102	UL-RL	0.2174.599	45	19	0	0	102.102
Stage B	-9	185.363	83.839	UL-RL	0.2174.599	45	20	0	0	103.839
Stage B	-9.1	186.776	84.538	UL-RL	0.2174.599	45	21	0	0	105.538
Stage B	-9.2	188.19	85.238	UL-RL	0.2174.599	45	22	0	0	107.238
Stage B	-9.3	189.68	85.978	UL-RL	0.2174.599	45	23	0	0	108.978
Stage B	-9.4	191.092	86.68	UL-RL	0.2174.599	45	24	0	0	110.68
Stage B	-9.5	192.504	87.384	UL-RL	0.2174.599	45	25	0	0	112.384
Stage B	-9.6	193.84	88.052	UL-RL	0.2174.599	45	26	0	0	114.052
Stage B	-9.7	195.178	88.72	UL-RL	0.2174.599	45	27	0	0	115.72
Stage B	-9.8	196.516	89.391	UL-RL	0.2174.599	45	28	0	0	117.39
Stage B	-9.9	197.855	90.061	UL-RL	0.2174.599	45	29	0	0	119.061
Stage B	-10	199.195	90.733	UL-RL	0.2174.599	45	30	0	0	120.733

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	0	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.5	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.6	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.7	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.8	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.9	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.5	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage B	-1.6	1.9	0.608	ACTIVE	0.32	3.1	0	0	0	0	0.608
Stage B	-1.7	3.8	1.216	ACTIVE	0.32	3.1	0	0	0	0	1.216
Stage B	-1.8	5.7	1.824	ACTIVE	0.32	3.1	0	0	0	0	1.824
Stage B	-1.9	7.6	2.432	ACTIVE	0.32	3.1	0	0	0	0	2.432
Stage B	-2	9.5	6.837	UL-RL	0.32	3.1	0	0	0	0	6.837
Stage B	-2.1	11.4	8.98	UL-RL	0.32	3.1	0	0	0	0	8.98
Stage B	-2.2	13.3	11.061	UL-RL	0.32	3.1	0	0	0	0	11.061
Stage B	-2.3	15.2	13.066	UL-RL	0.32	3.1	0	0	0	0	13.066
Stage B	-2.4	17.1	14.987	UL-RL	0.32	3.1	0	0	0	0	14.987
Stage B	-2.5	19	16.815	UL-RL	0.32	3.1	0	0	0	0	16.815
Stage B	-2.6	20.9	18.548	UL-RL	0.32	3.1	0	0	0	0	18.548
Stage B	-2.7	22.8	20.151	UL-RL	0.32	3.1	0	0	0	0	20.151
Stage B	-2.8	24.7	21.246	UL-RL	0.32	3.1	0	0	0	0	21.246
Stage B	-2.9	26.6	22.303	UL-RL	0.32	3.1	0	0	0	0	22.303
Stage B	-3	28.5	23.325	UL-RL	0.32	3.1	0	0	0	0	23.325
Stage B	-3.1	30.4	24.315	UL-RL	0.32	3.1	0	0	0	0	24.315
Stage B	-3.2	32.3	25.274	UL-RL	0.32	3.1	0	0	0	0	25.274
Stage B	-3.3	34.2	26.206	UL-RL	0.32	3.1	0	0	0	0	26.206
Stage B	-3.4	36.1	27.112	UL-RL	0.32	3.1	0	0	0	0	27.112
Stage B	-3.5	38	27.997	UL-RL	0.32	3.1	0	0	0	0	27.997
Stage B	-3.6	39.9	28.862	UL-RL	0.32	3.1	0	0	0	0	28.862
Stage B	-3.7	41.8	29.711	UL-RL	0.32	3.1	0	0	0	0	29.711
Stage B	-3.8	43.7	30.546	UL-RL	0.32	3.1	0	0	0	0	30.546
Stage B	-3.9	45.6	31.372	UL-RL	0.32	3.1	0	0	0	0	31.372
Stage B	-4	47.5	32.193	UL-RL	0.32	3.1	0	0	0	0	32.193
Stage B	-4.1	49.9	36.638	UL-RL	0.2174.599		45	0	0	0	36.638
Stage B	-4.2	52.3	37.47	UL-RL	0.2174.599		45	0	0	0	37.47
Stage B	-4.3	54.7	38.328	UL-RL	0.2174.599		45	0	0	0	38.328
Stage B	-4.4	57.1	39.219	UL-RL	0.2174.599		45	0	0	0	39.219
Stage B	-4.5	59.5	40.148	UL-RL	0.2174.599		45	0	0	0	40.148
Stage B	-4.6	61.9	41.115	UL-RL	0.2174.599		45	0	0	0	41.115
Stage B	-4.7	64.3	42.121	UL-RL	0.2174.599		45	0	0	0	42.121
Stage B	-4.8	66.7	43.163	UL-RL	0.2174.599		45	0	0	0	43.163
Stage B	-4.9	69.1	44.24	UL-RL	0.2174.599		45	0	0	0	44.24
Stage B	-5	71.5	45.347	UL-RL	0.2174.599		45	0	0	0	45.347
Stage B	-5.1	73.9	46.481	UL-RL	0.2174.599		45	0	0	0	46.481
Stage B	-5.2	76.3	47.638	UL-RL	0.2174.599		45	0	0	0	47.638
Stage B	-5.3	78.7	48.815	UL-RL	0.2174.599		45	0	0	0	48.815
Stage B	-5.4	81.1	50.008	UL-RL	0.2174.599		45	0	0	0	50.008
Stage B	-5.5	83.5	51.215	UL-RL	0.2174.599		45	0	0	0	51.215
Stage B	-5.6	85.9	52.431	UL-RL	0.2174.599		45	0	0	0	52.431
Stage B	-5.7	88.3	53.655	UL-RL	0.2174.599		45	0	0	0	53.655
Stage B	-5.8	90.7	54.884	UL-RL	0.2174.599		45	0	0	0	54.884
Stage B	-5.9	93.1	56.116	UL-RL	0.2174.599		45	0	0	0	56.116
Stage B	-6	95.5	57.35	UL-RL	0.2174.599		45	0	0	0	57.35
Stage B	-6.1	97.9	58.585	UL-RL	0.2174.599		45	0	0	0	58.585
Stage B	-6.2	100.3	59.82	UL-RL	0.2174.599		45	0	0	0	59.82

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Muro:		LEFT	Lato		RIGHT				
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	-6.3	102.7	61.054	UL-RL	0.2174.599	45	45	0	0	0	61.054
Stage B	-6.4	105.1	62.286	UL-RL	0.2174.599	45	45	0	0	0	62.286
Stage B	-6.5	107.5	63.516	UL-RL	0.2174.599	45	45	0	0	0	63.516
Stage B	-6.6	109.9	64.744	UL-RL	0.2174.599	45	45	0	0	0	64.744
Stage B	-6.7	112.3	65.971	UL-RL	0.2174.599	45	45	0	0	0	65.971
Stage B	-6.8	114.7	67.195	UL-RL	0.2174.599	45	45	0	0	0	67.195
Stage B	-6.9	117.1	68.417	UL-RL	0.2174.599	45	45	0	0	0	68.417
Stage B	-7	119.5	69.637	UL-RL	0.2174.599	45	45	0	0	0	69.637
Stage B	-7.1	120.9	70.352	UL-RL	0.2174.599	45	45	1	0	0	71.352
Stage B	-7.2	122.3	71.067	UL-RL	0.2174.599	45	45	2	0	0	73.066
Stage B	-7.3	123.7	71.779	UL-RL	0.2174.599	45	45	3	0	0	74.779
Stage B	-7.4	125.1	72.491	UL-RL	0.2174.599	45	45	4	0	0	76.491
Stage B	-7.5	126.5	73.202	UL-RL	0.2174.599	45	45	5	0	0	78.202
Stage B	-7.6	127.9	73.912	UL-RL	0.2174.599	45	45	6	0	0	79.912
Stage B	-7.7	129.3	74.621	UL-RL	0.2174.599	45	45	7	0	0	81.621
Stage B	-7.8	130.7	75.33	UL-RL	0.2174.599	45	45	8	0	0	83.33
Stage B	-7.9	132.1	76.038	UL-RL	0.2174.599	45	45	9	0	0	85.038
Stage B	-8	133.5	76.746	UL-RL	0.2174.599	45	45	10	0	0	86.746
Stage B	-8.1	134.9	77.454	UL-RL	0.2174.599	45	45	11	0	0	88.454
Stage B	-8.2	136.3	78.161	UL-RL	0.2174.599	45	45	12	0	0	90.161
Stage B	-8.3	137.7	78.868	UL-RL	0.2174.599	45	45	13	0	0	91.868
Stage B	-8.4	139.1	79.575	UL-RL	0.2174.599	45	45	14	0	0	93.575
Stage B	-8.5	140.5	80.281	UL-RL	0.2174.599	45	45	15	0	0	95.281
Stage B	-8.6	141.9	80.988	UL-RL	0.2174.599	45	45	16	0	0	96.988
Stage B	-8.7	143.3	81.694	UL-RL	0.2174.599	45	45	17	0	0	98.694
Stage B	-8.8	144.7	82.399	UL-RL	0.2174.599	45	45	18	0	0	100.4
Stage B	-8.9	146.1	83.105	UL-RL	0.2174.599	45	45	19	0	0	102.105
Stage B	-9	147.5	83.81	UL-RL	0.2174.599	45	45	20	0	0	103.81
Stage B	-9.1	148.9	84.514	UL-RL	0.2174.599	45	45	21	0	0	105.514
Stage B	-9.2	150.3	85.218	UL-RL	0.2174.599	45	45	22	0	0	107.218
Stage B	-9.3	151.7	85.922	UL-RL	0.2174.599	45	45	23	0	0	108.922
Stage B	-9.4	153.1	86.625	UL-RL	0.2174.599	45	45	24	0	0	110.625
Stage B	-9.5	154.5	87.328	UL-RL	0.2174.599	45	45	25	0	0	112.328
Stage B	-9.6	155.9	88.03	UL-RL	0.2174.599	45	45	26	0	0	114.03
Stage B	-9.7	157.3	88.732	UL-RL	0.2174.599	45	45	27	0	0	115.732
Stage B	-9.8	158.7	89.434	UL-RL	0.2174.599	45	45	28	0	0	117.434
Stage B	-9.9	160.1	90.136	UL-RL	0.2174.599	45	45	29	0	0	119.136
Stage B	-10	161.5	90.837	UL-RL	0.2174.599	45	45	30	0	0	120.837

**Tabella Risultati Terreno Left Wall - Nominal - Stage 3-**

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	LEFT				
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage 3-	0	0	0	PASSIVE	0.32	3.1	0	0	0	0
Stage 3-	-0.1	1.9	5.891	PASSIVE	0.32	3.1	0	0	0	5.891
Stage 3-	-0.2	3.803	11.788	PASSIVE	0.32	3.1	0	0	0	11.788
Stage 3-	-0.3	5.709	17.698	PASSIVE	0.32	3.1	0	0	0	17.698
Stage 3-	-0.4	7.621	23.626	PASSIVE	0.32	3.1	0	0	0	23.626
Stage 3-	-0.5	9.541	29.576	PASSIVE	0.32	3.1	0	0	0	29.576
Stage 3-	-0.6	11.469	35.552	PASSIVE	0.32	3.1	0	0	0	35.552
Stage 3-	-0.7	13.406	41.558	PASSIVE	0.32	3.1	0	0	0	41.558
Stage 3-	-0.8	15.353	47.595	PASSIVE	0.32	3.1	0	0	0	47.595
Stage 3-	-0.9	17.311	53.663	PASSIVE	0.32	3.1	0	0	0	53.663
Stage 3-	-1	19.278	56.044	V-C	0.32	3.1	0	0	0	56.044
Stage 3-	-1.1	21.256	53.342	UL-RL	0.32	3.1	0	0	0	53.342
Stage 3-	-1.2	23.242	50.129	UL-RL	0.32	3.1	0	0	0	50.129
Stage 3-	-1.3	25.237	46.572	UL-RL	0.32	3.1	0	0	0	46.572
Stage 3-	-1.4	27.24	42.619	UL-RL	0.32	3.1	0	0	0	42.619
Stage 3-	-1.5	29.25	38.345	UL-RL	0.32	3.1	0	0	0	38.345
Stage 3-	-1.6	31.265	33.851	UL-RL	0.32	3.1	0	0	0	33.851
Stage 3-	-1.7	33.286	29.231	UL-RL	0.32	3.1	0	0	0	29.231
Stage 3-	-1.8	35.31	24.57	UL-RL	0.32	3.1	0	0	0	24.57
Stage 3-	-1.9	37.337	19.943	UL-RL	0.32	3.1	0	0	0	19.943
Stage 3-	-2	39.367	15.418	UL-RL	0.32	3.1	0	0	0	15.418
Stage 3-	-2.1	41.398	13.247	ACTIVE	0.32	3.1	0	0	0	13.247
Stage 3-	-2.2	43.429	13.897	ACTIVE	0.32	3.1	0	0	0	13.897
Stage 3-	-2.3	45.461	14.547	ACTIVE	0.32	3.1	0	0	0	14.547
Stage 3-	-2.4	47.492	15.197	ACTIVE	0.32	3.1	0	0	0	15.197
Stage 3-	-2.5	49.522	15.847	ACTIVE	0.32	3.1	0	0	0	15.847
Stage 3-	-2.6	51.55	16.496	ACTIVE	0.32	3.1	0	0	0	16.496
Stage 3-	-2.7	53.577	17.145	ACTIVE	0.32	3.1	0	0	0	17.145
Stage 3-	-2.8	55.601	17.792	ACTIVE	0.32	3.1	0	0	0	17.792
Stage 3-	-2.9	57.623	18.439	ACTIVE	0.32	3.1	0	0	0	18.439
Stage 3-	-3	59.643	19.086	ACTIVE	0.32	3.1	0	0	0	19.086
Stage 3-	-3.1	61.85	19.792	ACTIVE	0.32	3.1	0	0	0	19.792
Stage 3-	-3.2	63.924	20.456	ACTIVE	0.32	3.1	0	0	0	20.456
Stage 3-	-3.3	65.991	21.117	ACTIVE	0.32	3.1	0	0	0	21.117
Stage 3-	-3.4	68.26	21.843	ACTIVE	0.32	3.1	0	0	0	21.843
Stage 3-	-3.5	70.308	22.499	ACTIVE	0.32	3.1	0	0	0	22.499
Stage 3-	-3.6	72.548	23.215	ACTIVE	0.32	3.1	0	0	0	23.215
Stage 3-	-3.7	74.579	23.865	ACTIVE	0.32	3.1	0	0	0	23.865
Stage 3-	-3.8	76.605	24.514	ACTIVE	0.32	3.1	0	0	0	24.514
Stage 3-	-3.9	78.81	25.219	ACTIVE	0.32	3.1	0	0	0	25.219
Stage 3-	-4	80.823	25.863	ACTIVE	0.32	3.1	0	0	0	25.863
Stage 3-	-4.1	83.332	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.2	86.008	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.3	88.506	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.4	91.163	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.5	93.651	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.6	96.136	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.7	98.771	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.8	101.248	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-4.9	103.869	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5	106.339	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.1	108.807	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.2	111.411	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.3	113.872	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.4	116.465	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.5	118.921	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.6	121.376	0	ACTIVE	0.2174.599	45	45	0	0	0
Stage 3-	-5.7	123.954	5.603	UL-RL	0.2174.599	45	45	0	0	5.603
Stage 3-	-5.8	126.404	11.339	UL-RL	0.2174.599	45	45	0	0	11.339
Stage 3-	-5.9	128.852	16.677	UL-RL	0.2174.599	45	45	0	0	16.677
Stage 3-	-6	131.419	21.673	UL-RL	0.2174.599	45	45	0	0	21.673

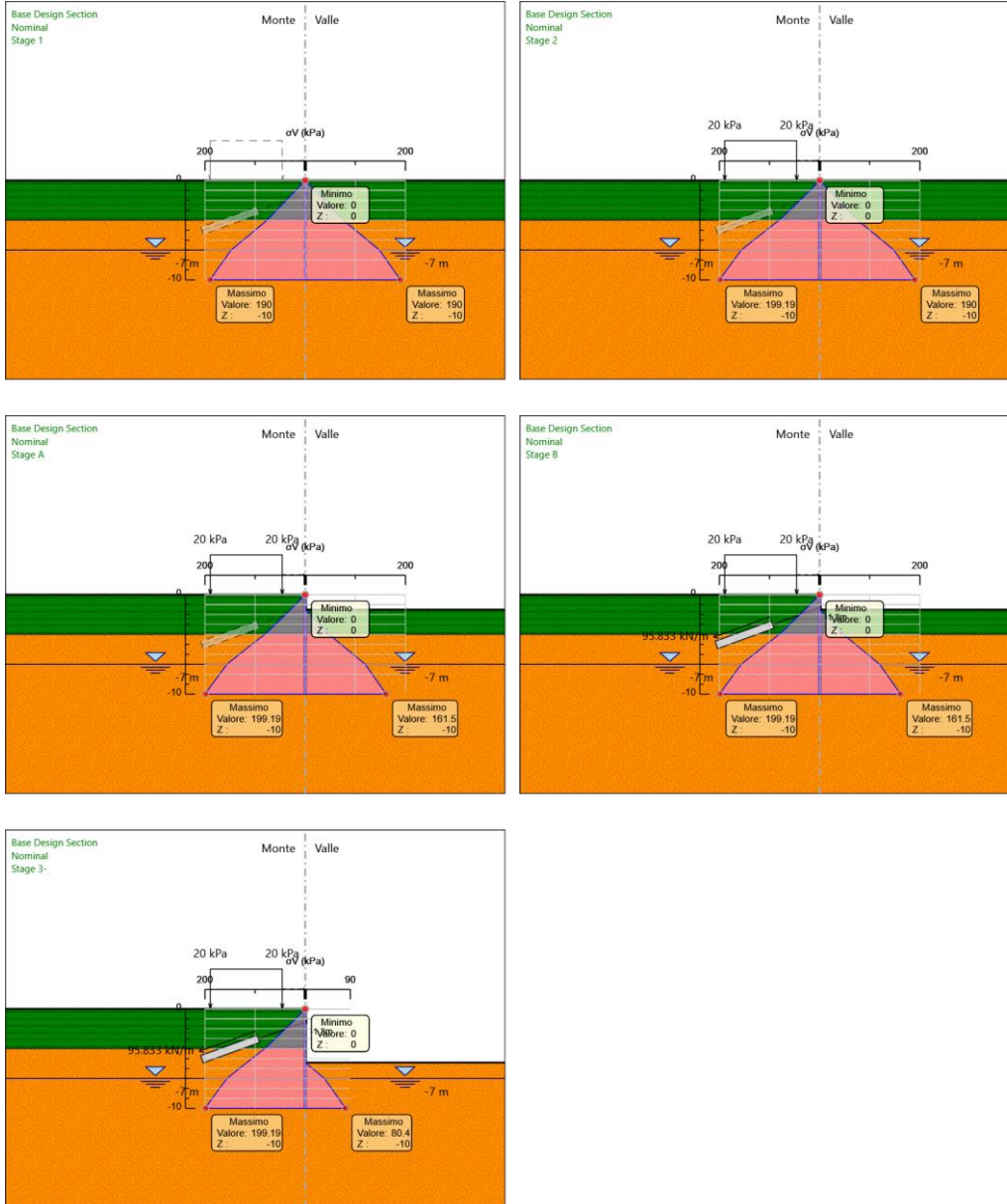
Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Muro: LEFT	Lato LEFT	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)		
				Stato	Ka	Kp					
Stage 3-	-6.1	133.864	26.212	UL-RL	0.2174.599	45	0	0	0		26.212
Stage 3-	-6.2	136.422	30.424	UL-RL	0.2174.599	45	0	0	0		30.424
Stage 3-	-6.3	138.863	34.209	UL-RL	0.2174.599	45	0	0	0		34.209
Stage 3-	-6.4	141.302	37.648	UL-RL	0.2174.599	45	0	0	0		37.648
Stage 3-	-6.5	143.851	40.819	UL-RL	0.2174.599	45	0	0	0		40.819
Stage 3-	-6.6	146.287	43.636	UL-RL	0.2174.599	45	0	0	0		43.636
Stage 3-	-6.7	148.829	46.236	UL-RL	0.2174.599	45	0	0	0		46.236
Stage 3-	-6.8	151.262	48.537	UL-RL	0.2174.599	45	0	0	0		48.537
Stage 3-	-6.9	153.695	50.62	UL-RL	0.2174.599	45	0	0	0		50.62
Stage 3-	-7	156.229	52.562	UL-RL	0.2174.599	45	0	0	0		52.562
Stage 3-	-7.1	157.658	53.785	UL-RL	0.2174.599	45	1	0	0		54.785
Stage 3-	-7.2	159.187	54.913	UL-RL	0.2174.599	45	2	0	0		56.913
Stage 3-	-7.3	160.614	55.867	UL-RL	0.2174.599	45	3	0	0		58.867
Stage 3-	-7.4	162.041	56.719	UL-RL	0.2174.599	45	4	0	0		60.719
Stage 3-	-7.5	163.562	57.534	UL-RL	0.2174.599	45	5	0	0		62.533
Stage 3-	-7.6	164.987	58.231	UL-RL	0.2174.599	45	6	0	0		64.231
Stage 3-	-7.7	166.41	58.874	UL-RL	0.2174.599	45	7	0	0		65.874
Stage 3-	-7.8	167.926	59.522	UL-RL	0.2174.599	45	8	0	0		67.522
Stage 3-	-7.9	169.348	60.093	UL-RL	0.2174.599	45	9	0	0		69.093
Stage 3-	-8	170.859	60.687	UL-RL	0.2174.599	45	10	0	0		70.687
Stage 3-	-8.1	172.279	61.224	UL-RL	0.2174.599	45	11	0	0		72.224
Stage 3-	-8.2	173.698	61.753	UL-RL	0.2174.599	45	12	0	0		73.753
Stage 3-	-8.3	175.204	62.325	UL-RL	0.2174.599	45	13	0	0		75.325
Stage 3-	-8.4	176.622	62.856	UL-RL	0.2174.599	45	14	0	0		76.856
Stage 3-	-8.5	178.124	63.436	UL-RL	0.2174.599	45	15	0	0		78.436
Stage 3-	-8.6	179.54	63.982	UL-RL	0.2174.599	45	16	0	0		79.982
Stage 3-	-8.7	180.957	64.538	UL-RL	0.2174.599	45	17	0	0		81.538
Stage 3-	-8.8	182.454	65.146	UL-RL	0.2174.599	45	18	0	0		83.146
Stage 3-	-8.9	183.869	65.724	UL-RL	0.2174.599	45	19	0	0		84.724
Stage 3-	-9	185.363	66.353	UL-RL	0.2174.599	45	20	0	0		86.353
Stage 3-	-9.1	186.776	66.953	UL-RL	0.2174.599	45	21	0	0		87.953
Stage 3-	-9.2	188.19	67.563	UL-RL	0.2174.599	45	22	0	0		89.563
Stage 3-	-9.3	189.68	68.22	UL-RL	0.2174.599	45	23	0	0		91.22
Stage 3-	-9.4	191.092	68.846	UL-RL	0.2174.599	45	24	0	0		92.846
Stage 3-	-9.5	192.504	69.479	UL-RL	0.2174.599	45	25	0	0		94.479
Stage 3-	-9.6	193.84	70.079	UL-RL	0.2174.599	45	26	0	0		96.079
Stage 3-	-9.7	195.178	70.682	UL-RL	0.2174.599	45	27	0	0		97.682
Stage 3-	-9.8	196.516	71.289	UL-RL	0.2174.599	45	28	0	0		99.289
Stage 3-	-9.9	197.855	71.897	UL-RL	0.2174.599	45	29	0	0		100.897
Stage 3-	-10	199.195	72.506	UL-RL	0.2174.599	45	30	0	0		102.506

Design Assumption: Nominal Risultati Terreno												
Stage	Z (m)	Muro:		LEFT	Lato		RIGHT		Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)					
Stage 3-	0	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.5	2.4	38.925	UL-RL	0.2174.599	45	0	0	0	0	38.925	
Stage 3-	-5.6	4.8	39.954	UL-RL	0.2174.599	45	0	0	0	0	39.954	
Stage 3-	-5.7	7.2	40.415	UL-RL	0.2174.599	45	0	0	0	0	40.415	
Stage 3-	-5.8	9.6	40.687	UL-RL	0.2174.599	45	0	0	0	0	40.687	
Stage 3-	-5.9	12	40.919	UL-RL	0.2174.599	45	0	0	0	0	40.919	
Stage 3-	-6	14.4	41.182	UL-RL	0.2174.599	45	0	0	0	0	41.182	
Stage 3-	-6.1	16.8	41.517	UL-RL	0.2174.599	45	0	0	0	0	41.517	
Stage 3-	-6.2	19.2	41.945	UL-RL	0.2174.599	45	0	0	0	0	41.945	

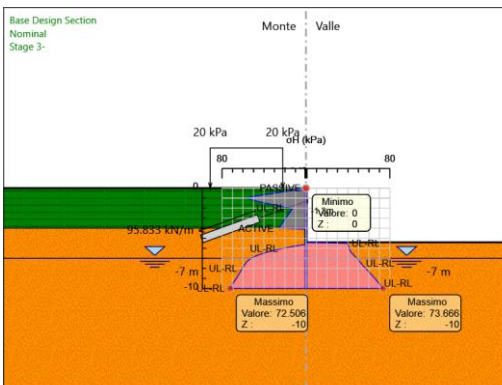
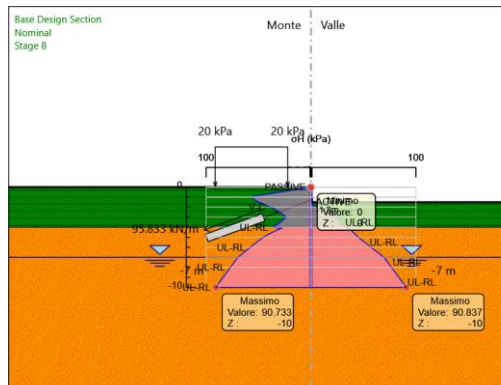
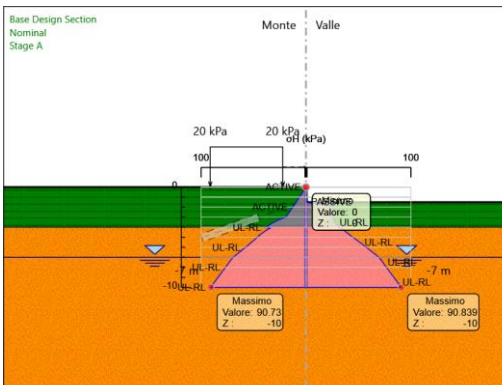
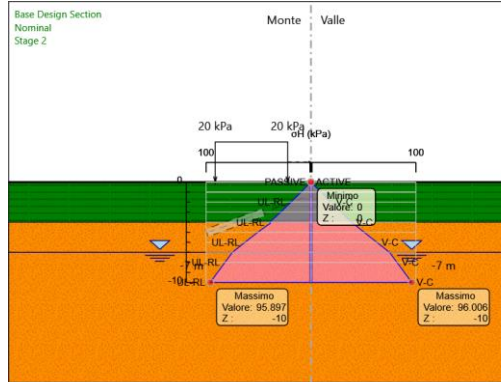
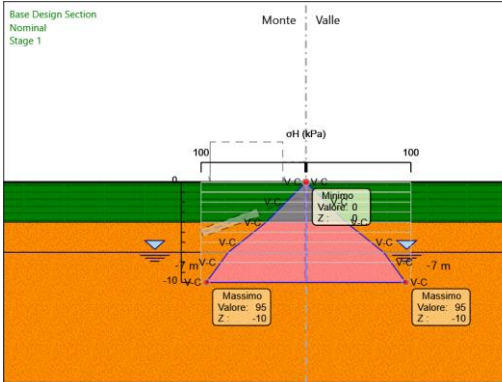


Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Muro:		LEFT	Lato		RIGHT				
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 3-	-6.3	21.6	42.476	UL-RL	0.2174.599	45	45	0	0	0	42.476
Stage 3-	-6.4	24	43.114	UL-RL	0.2174.599	45	45	0	0	0	43.114
Stage 3-	-6.5	26.4	43.856	UL-RL	0.2174.599	45	45	0	0	0	43.856
Stage 3-	-6.6	28.8	44.699	UL-RL	0.2174.599	45	45	0	0	0	44.699
Stage 3-	-6.7	31.2	45.636	UL-RL	0.2174.599	45	45	0	0	0	45.636
Stage 3-	-6.8	33.6	46.659	UL-RL	0.2174.599	45	45	0	0	0	46.659
Stage 3-	-6.9	36	47.759	UL-RL	0.2174.599	45	45	0	0	0	47.759
Stage 3-	-7	38.4	48.927	UL-RL	0.2174.599	45	45	0	0	0	48.927
Stage 3-	-7.1	39.8	49.543	UL-RL	0.2174.599	45	45	1	0	0	50.543
Stage 3-	-7.2	41.2	50.221	UL-RL	0.2174.599	45	45	2	0	0	52.221
Stage 3-	-7.3	42.6	50.951	UL-RL	0.2174.599	45	45	3	0	0	53.951
Stage 3-	-7.4	44	51.724	UL-RL	0.2174.599	45	45	4	0	0	55.724
Stage 3-	-7.5	45.4	52.532	UL-RL	0.2174.599	45	45	5	0	0	57.532
Stage 3-	-7.6	46.8	53.368	UL-RL	0.2174.599	45	45	6	0	0	59.368
Stage 3-	-7.7	48.2	54.225	UL-RL	0.2174.599	45	45	7	0	0	61.225
Stage 3-	-7.8	49.6	55.097	UL-RL	0.2174.599	45	45	8	0	0	63.096
Stage 3-	-7.9	51	55.979	UL-RL	0.2174.599	45	45	9	0	0	64.979
Stage 3-	-8	52.4	56.867	UL-RL	0.2174.599	45	45	10	0	0	66.867
Stage 3-	-8.1	53.8	57.757	UL-RL	0.2174.599	45	45	11	0	0	68.757
Stage 3-	-8.2	55.2	58.647	UL-RL	0.2174.599	45	45	12	0	0	70.647
Stage 3-	-8.3	56.6	59.535	UL-RL	0.2174.599	45	45	13	0	0	72.535
Stage 3-	-8.4	58	60.417	UL-RL	0.2174.599	45	45	14	0	0	74.417
Stage 3-	-8.5	59.4	61.294	UL-RL	0.2174.599	45	45	15	0	0	76.294
Stage 3-	-8.6	60.8	62.164	UL-RL	0.2174.599	45	45	16	0	0	78.164
Stage 3-	-8.7	62.2	63.026	UL-RL	0.2174.599	45	45	17	0	0	80.026
Stage 3-	-8.8	63.6	63.881	UL-RL	0.2174.599	45	45	18	0	0	81.881
Stage 3-	-8.9	65	64.728	UL-RL	0.2174.599	45	45	19	0	0	83.728
Stage 3-	-9	66.4	65.567	UL-RL	0.2174.599	45	45	20	0	0	85.567
Stage 3-	-9.1	67.8	66.399	UL-RL	0.2174.599	45	45	21	0	0	87.399
Stage 3-	-9.2	69.2	67.224	UL-RL	0.2174.599	45	45	22	0	0	89.224
Stage 3-	-9.3	70.6	68.044	UL-RL	0.2174.599	45	45	23	0	0	91.044
Stage 3-	-9.4	72	68.858	UL-RL	0.2174.599	45	45	24	0	0	92.858
Stage 3-	-9.5	73.4	69.667	UL-RL	0.2174.599	45	45	25	0	0	94.667
Stage 3-	-9.6	74.8	70.472	UL-RL	0.2174.599	45	45	26	0	0	96.472
Stage 3-	-9.7	76.2	71.274	UL-RL	0.2174.599	45	45	27	0	0	98.274
Stage 3-	-9.8	77.6	72.073	UL-RL	0.2174.599	45	45	28	0	0	100.073
Stage 3-	-9.9	79	72.87	UL-RL	0.2174.599	45	45	29	0	0	101.87
Stage 3-	-10	80.4	73.666	UL-RL	0.2174.599	45	45	30	0	0	103.666

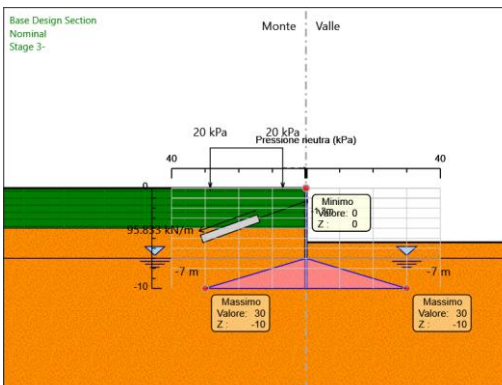
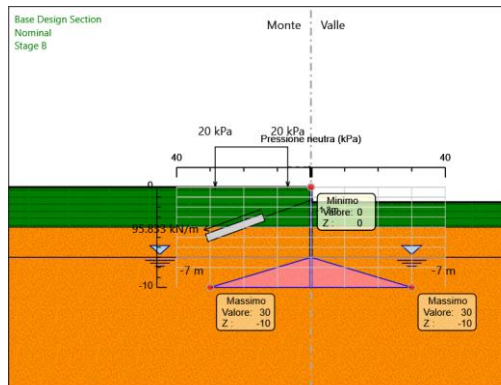
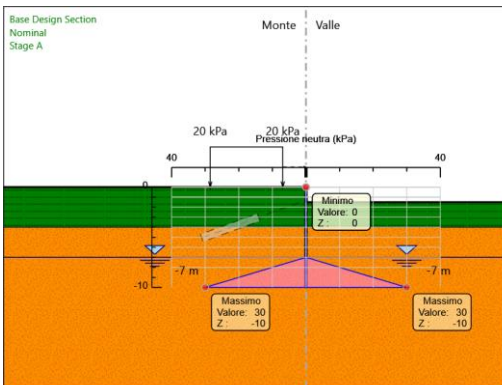
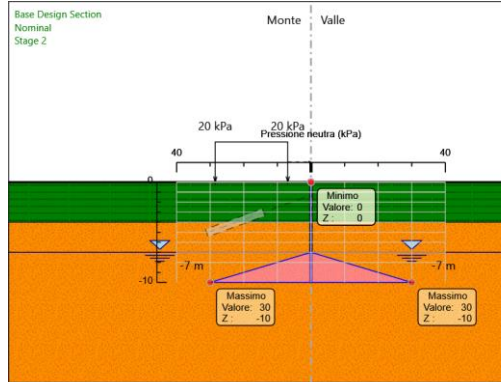
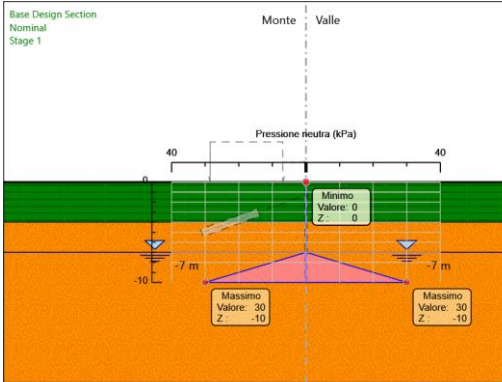
## Grafico Risultati Terreno Sigma V



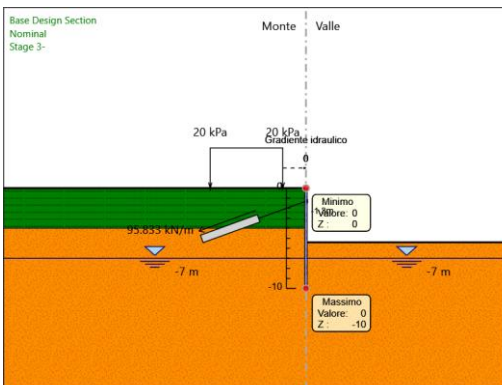
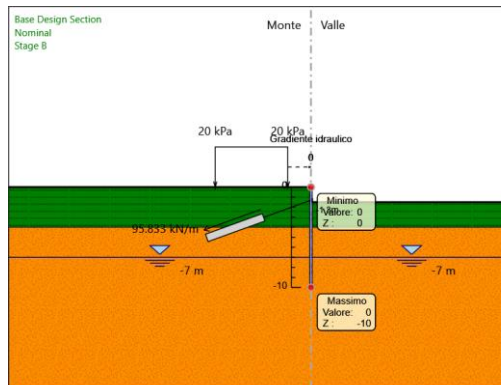
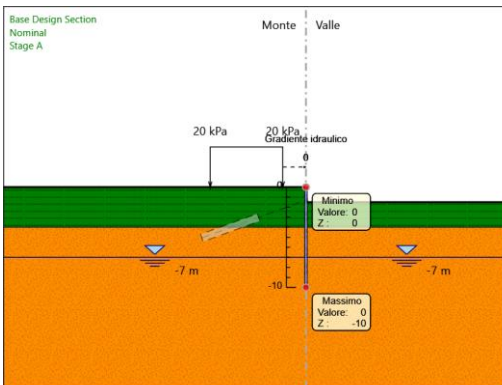
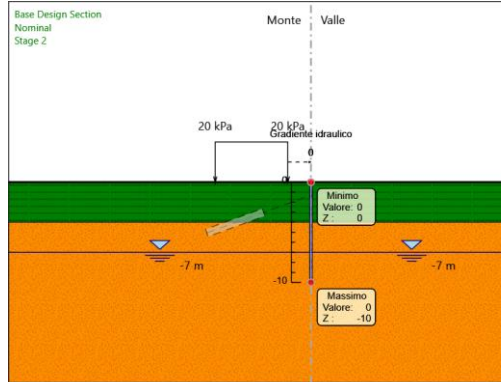
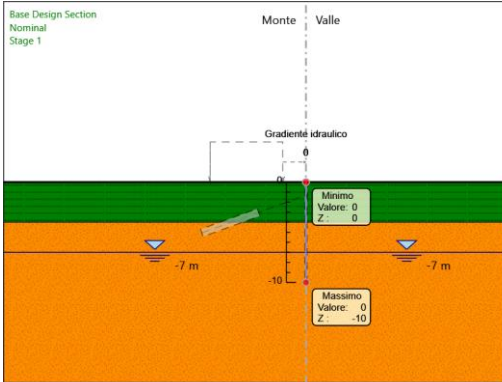
## Grafico Risultati Terreno Sigma H



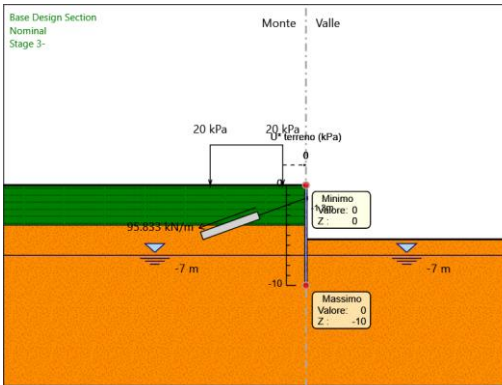
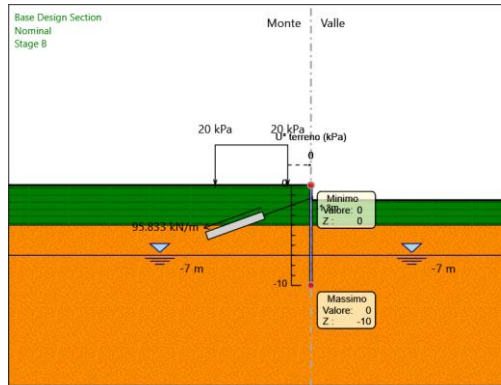
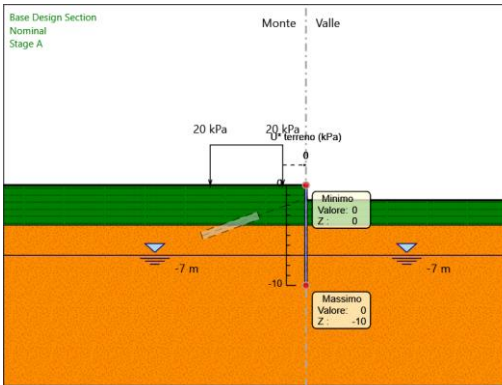
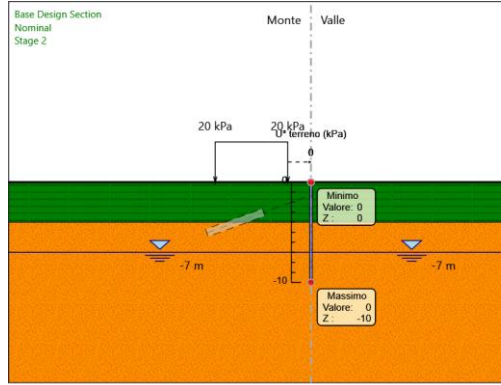
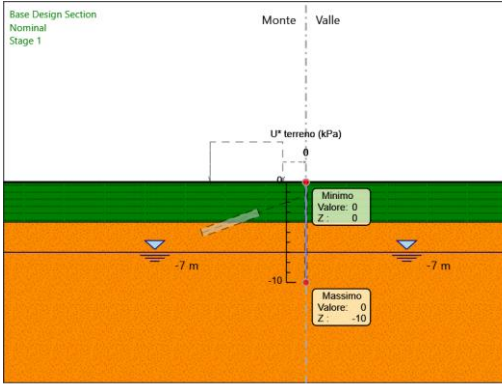
## Grafico Risultati Terreno Pore



## Grafico Risultati Terreno Gradiente



### Grafico Risultati Terreno U\*



## Riepilogo spinte

Design Assumption:	Tipo Risultato:	Muro:	LEFT	Lato	LEFT		
Nominal	Riepilogo spinte						
Stage	Vera effettiva	Pressione neutra	Vera Totale	Min ammissibile	Max ammissibile	Percentuale di resistenza massima	Vera / Attiva
	(kN/m)	(kN/m)	(kN/m)	(kN/m)	(kN/m)		
Stage 1	497.5	45	542.5	49.9	5490.9	9.06%	9.97
Stage 2	503.4	45	548.4	52.4	5728.9	8.79%	9.61
Stage A	455	45	500	52.4	5728.9	7.94%	8.68
Stage B	530.8	45	575.8	52.4	5728.9	9.27%	10.13
Stage 3-	340.8	45	385.8	52.4	5728.9	5.95%	6.5

Design Assumption:	Tipo Risultato:	Muro:	LEFT	Lato	RIGHT		
Nominal	Riepilogo spinte						
Stage	Vera effettiva	Pressione neutra	Vera Totale	Min ammissibile	Max ammissibile	Percentuale di resistenza massima	Vera / Attiva
	(kN/m)	(kN/m)	(kN/m)	(kN/m)	(kN/m)		
Stage 1	497.5	45	542.5	49.9	5490.9	9.06%	9.97
Stage 2	503.4	45	548.4	49.9	5490.9	9.17%	10.09
Stage A	455	45	500	19.8	4419.4	10.3%	22.98
Stage B	440.8	45	485.8	19.8	4419.4	9.97%	22.26
Stage 3-	250	45	295	0	1839	13.59%	∞

## Descrizione Coefficienti Design Assumption

Nome	Carichi Permanenti Sfavorevoli (F_dead_load_unfavour)	Carichi Permanenti Favorevoli (F_dead_load_favour)	Carichi Variabili Sfavorevoli (F_live_load_unfavour)	Carichi Variabili Favorevoli (F_live_load_favour)	Carico Sismico (F_seis)	Pressioni Acqua Lato Monte (F_Wa)	Pressioni Acqua Lato Valle (F_Wat)	Carichi Permanenti Destabilizzanti (F_UPL_GDStab)	Carichi Permanenti Stabilizzanti (F_UPL_GStab)	Carichi Variabili Destabilizzanti (F_UPL_QDStab)	Carichi Permanenti Destabilizzanti (F_HYD_GDStab)	Carichi Permanenti Stabilizzanti (F_HYD_GStab)	Carichi Variabili Destabilizzanti (F_HYD_QDStab)
Simbolo	$\gamma_G$	$\gamma_G$	$\gamma_Q$	$\gamma_Q$	$\gamma_{QE}$	$\gamma_G$	$\gamma_G$	$\gamma_{Gdst}$	$\gamma_{Gstb}$	$\gamma_{Qdst}$	$\gamma_{Gdst}$	$\gamma_{Gstb}$	$\gamma_{Qdst}$
Nominal	1	1	1	1	1	1	1	1	1	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1	0	1	1	1	1	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1.3	1	1.5	1	0	1.3	1	1	1	1	1.3	0.9	1
NTC2018: A2+M2+R1	1	1	1.3	1	0	1	1	1	1	1	1.3	0.9	1

Nome	Parziale su $\tan(\phi')$ (F_Fr)	Parziale su $c'$ (F_eff_cohe)	Parziale su Su (F_Su)	Parziale su qu (F_qu)	Parziale su peso specifico (F_gamma)
Simbolo	$\gamma_\phi$	$\gamma_c$	$\gamma_{cu}$	$\gamma_{qu}$	$\gamma_\gamma$
Nominal	1	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1	1	1	1	1
NTC2018: A2+M2+R1	1.25	1.25	1.4	1	1

Nome	Parziale resistenza terreno (es. Kp) (F_Soil_Res_walls)	Parziale resistenza Tiranti permanenti (F_Anch_P)	Parziale resistenza Tiranti temporanei (F_Anch_T)	Parziale elementi strutturali (F_wall)
Simbolo	$\gamma_{Re}$	$\gamma_p$	$\gamma_{at}$	
Nominal	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1	1.2	1.1	1
NTC2018: A2+M2+R1	1	1.2	1.1	1

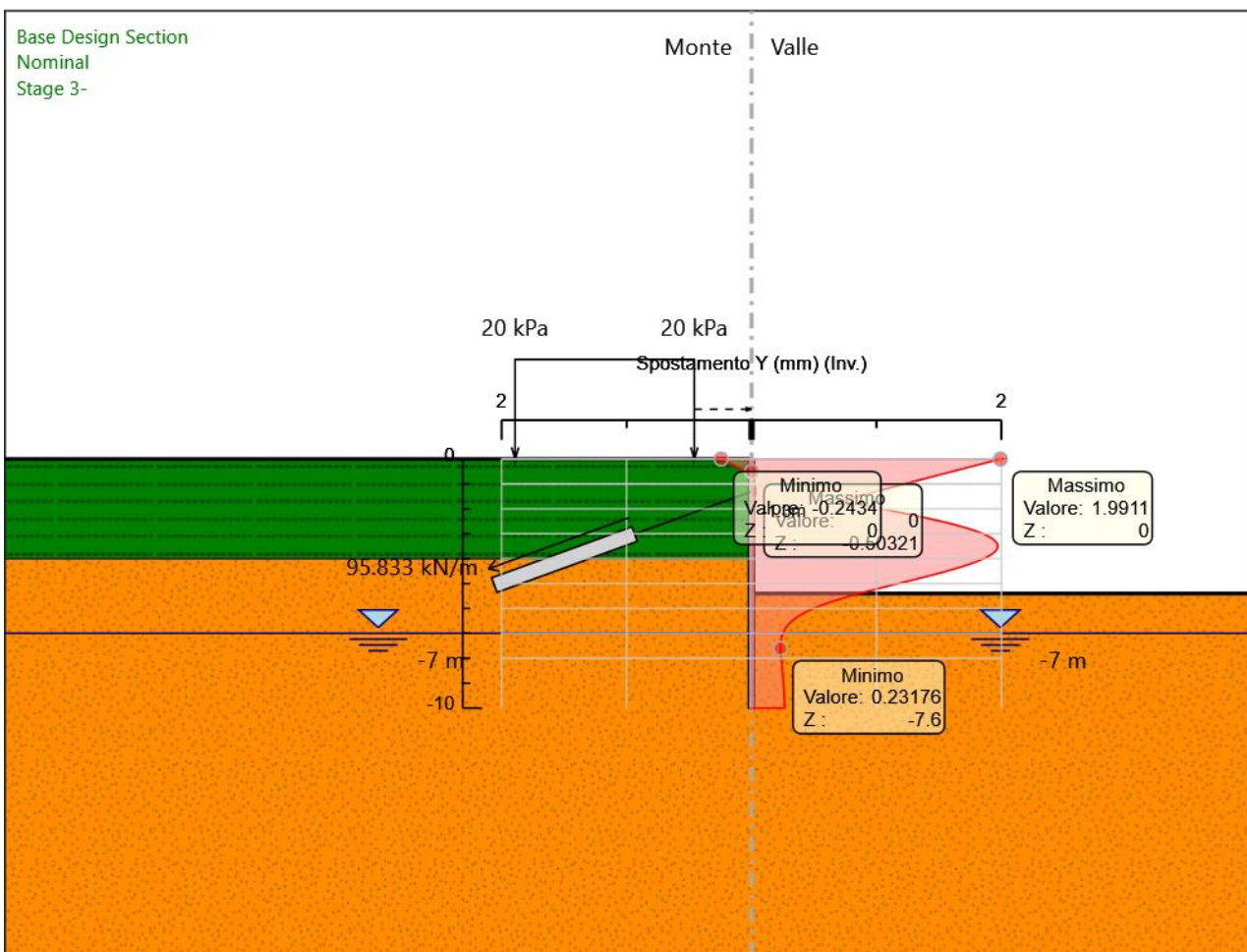
## Riepilogo Stage / Design Assumption per Inviluppo

Design Assumption	Stage 1	Stage 2	Stage A	Stage B	Stage 3-
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	V	V	V	V	V
NTC2018: A1+M1+R1 (R3 per tiranti)	V	V	V	V	V
NTC2018: A2+M2+R1	V	V	V	V	V



## Descrizione sintetica dei risultati delle Design Assumption (Inviluppi)

### Grafico Inviluppi Spostamento



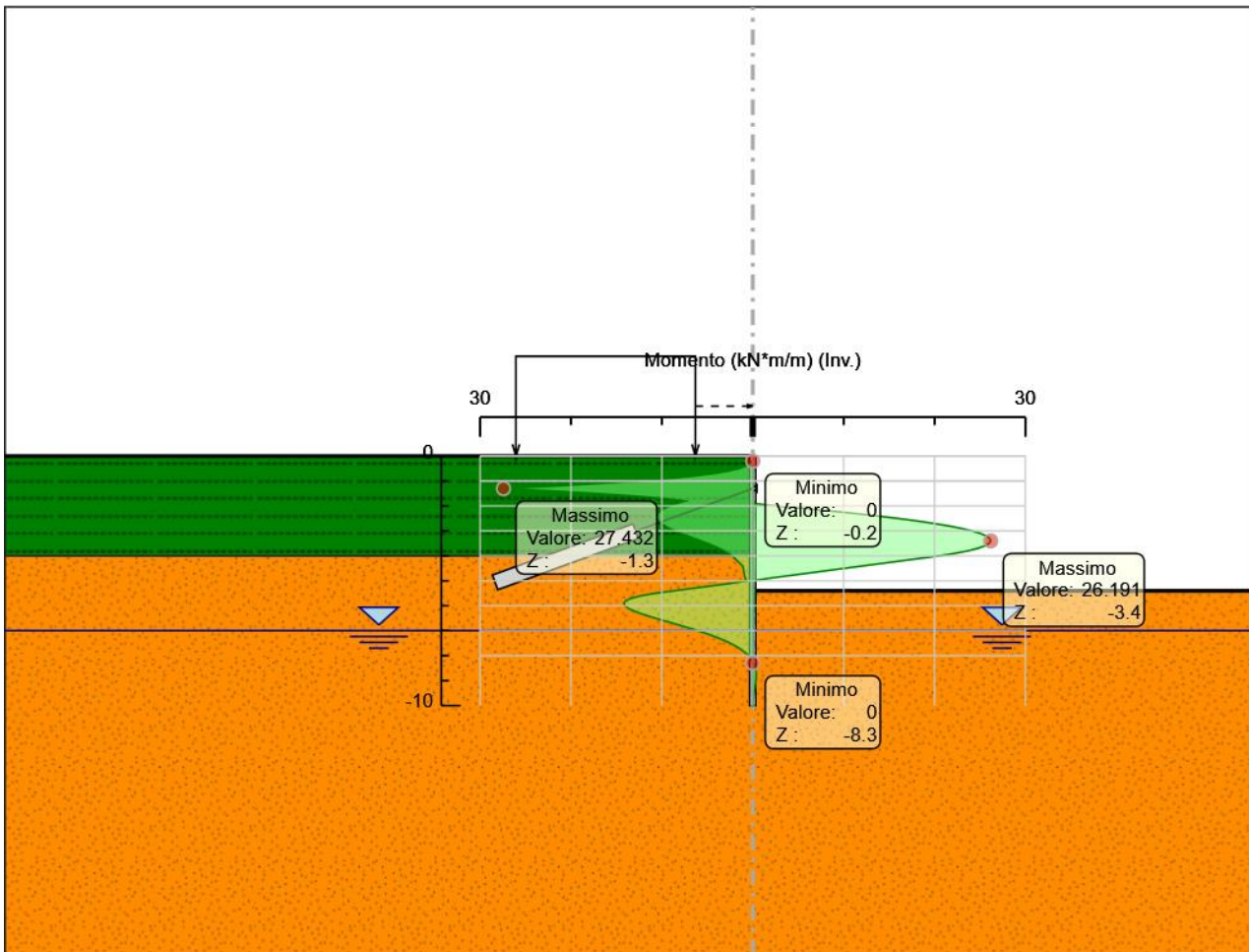
Spostamento

## Tabella Inviluppi Momento paratia sx

Selected Design Assumptions	Inviluppi: Momento	Muro: paratia sx
Z (m)	Lato sinistro (kN*m/m)	Lato destro (kN*m/m)
0	0	0
-0.1	0	0
-0.2	0.077	0
-0.3	0.306	0
-0.4	0.766	0
-0.5	1.534	0
-0.6	2.686	0
-0.7	4.3	0
-0.8	6.456	0
-0.9	9.231	0
-1	12.705	0
-1.1	16.907	0
-1.2	21.815	0
-1.3	27.432	0
-1.4	22.032	0
-1.5	17.302	0
-1.6	13.217	0
-1.7	9.741	0
-1.8	7.466	0
-1.9	8.39	0
-2	9.163	2.707
-2.1	9.75	5.732
-2.2	10.164	8.584
-2.3	10.418	11.255
-2.4	10.523	13.734
-2.5	10.49	16.016
-2.6	10.328	18.09
-2.7	10.046	19.948
-2.8	9.65	21.581
-2.9	9.153	22.982
-3	8.563	24.142
-3.1	7.892	25.052
-3.2	7.173	25.702
-3.3	6.432	26.085
-3.4	5.694	26.191
-3.5	4.98	26.01
-3.6	4.306	25.535
-3.7	3.689	24.756
-3.8	3.138	23.663
-3.9	2.664	22.249
-4	2.275	20.504
-4.1	1.977	18.419
-4.2	1.681	16.335
-4.3	1.396	14.251
-4.4	1.131	12.167
-4.5	1.021	10.082
-4.6	1.005	7.998
-4.7	0.954	5.914
-4.8	0.881	3.829
-4.9	0.793	1.745
-5	0.698	0
-5.1	2.424	0
-5.2	4.508	0.049
-5.3	6.592	0.095
-5.4	8.677	0.126
-5.5	10.761	0.145
-5.6	12.335	0.154
-5.7	13.387	0.155
-5.8	13.98	0.15
-5.9	14.188	0.141

Selected Design Assumptions	Involupi: Momento	Muro: paratia sx
Z (m)	Lato sinistro (kN*m/m)	Lato destro (kN*m/m)
-6	14.077	0.129
-6.1	13.71	0.116
-6.2	13.141	0.102
-6.3	12.421	0.088
-6.4	11.592	0.074
-6.5	10.692	0.061
-6.6	9.751	0.049
-6.7	8.797	0.047
-6.8	7.851	0.045
-6.9	6.929	0.042
-7	6.045	0.039
-7.1	5.21	0.035
-7.2	4.429	0.031
-7.3	3.711	0.027
-7.4	3.057	0.022
-7.5	2.47	0.019
-7.6	1.947	0.015
-7.7	1.489	0.013
-7.8	1.092	0.011
-7.9	0.753	0.009
-8	0.468	0.008
-8.1	0.233	0.007
-8.2	0.075	0.007
-8.3	0	0.104
-8.4	0	0.216
-8.5	0	0.295
-8.6	0	0.347
-8.7	0	0.375
-8.8	0	0.382
-8.9	0	0.374
-9	0	0.352
-9.1	0	0.319
-9.2	0	0.28
-9.3	0	0.235
-9.4	0	0.189
-9.5	0	0.143
-9.6	0	0.098
-9.7	0	0.06
-9.8	0	0.028
-9.9	0	0.008
-10	0	0

## Grafico Inviluppi Momento



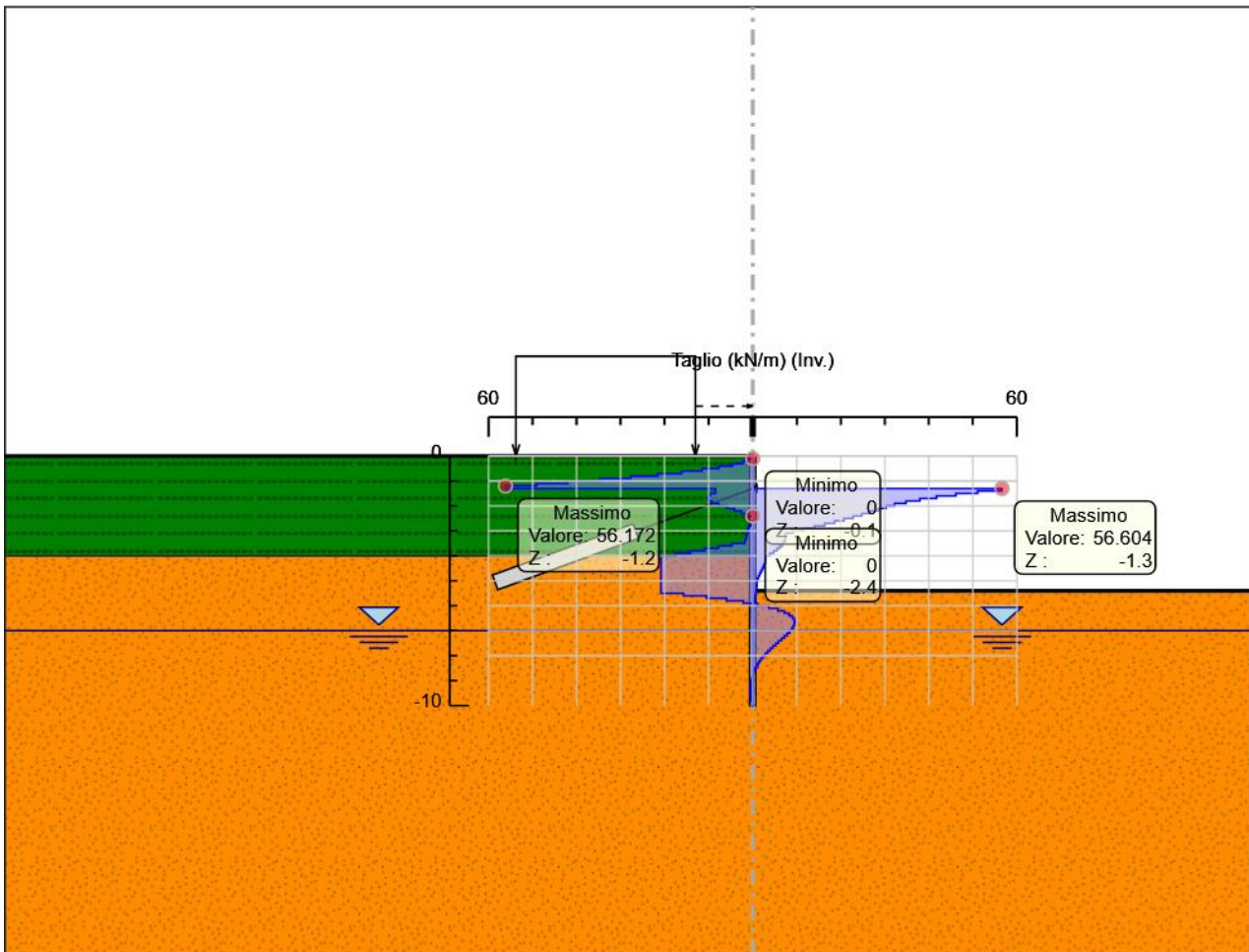
Momento

## Tabella Inviluppi Taglio paratia sx

Selected Design Assumptions Z (m)	Inviluppi: Taglio	
	Muro: paratia sx Lato sinistro (kN/m)	Lato destro (kN/m)
0	0	0
-0.1	0.766	0
-0.2	2.299	0
-0.3	4.6	0
-0.4	7.673	0
-0.5	11.52	0
-0.6	16.146	0
-0.7	21.556	0
-0.8	27.752	0
-0.9	34.742	0
-1	42.018	0
-1.1	49.124	0
-1.2	56.172	0
-1.3	56.172	56.604
-1.4	8.435	56.604
-1.5	9.657	51.082
-1.6	10.197	46.117
-1.7	10.197	41.738
-1.8	10.057	37.962
-1.9	9.236	34.793
-2	7.734	32.227
-2.1	5.869	30.251
-2.2	4.139	28.519
-2.3	2.537	26.702
-2.4	1.051	24.8
-2.5	0	22.812
-2.6	0	20.739
-2.7	0.286	18.581
-2.8	0.885	16.337
-2.9	1.157	14.009
-3	1.172	11.596
-3.1	1.31	9.098
-3.2	1.461	7.405
-3.3	1.611	7.405
-3.4	1.803	7.38
-3.5	4.752	7.141
-3.6	7.797	6.736
-3.7	10.926	6.178
-3.8	14.141	5.506
-3.9	17.45	4.742
-4	20.843	3.889
-4.1	20.843	2.977
-4.2	20.843	2.967
-4.3	20.843	2.844
-4.4	20.843	2.652
-4.5	20.843	2.405
-4.6	20.843	2.134
-4.7	20.843	1.857
-4.8	20.843	1.575
-4.9	20.843	1.31
-5	20.843	1.057
-5.1	20.843	0.968
-5.2	20.843	0.951
-5.3	20.843	0.897
-5.4	20.843	0.827
-5.5	20.843	0.739
-5.6	15.744	0.648
-5.7	10.515	0.559
-5.8	5.937	0.467
-5.9	2.077	1.111

Selected Design Assumptions	Involuppi: Taglio	Muro: paratia sx
Z (m)	Lato sinistro (kN/m)	Lato destro (kN/m)
-6	0.134	3.675
-6.1	0.14	5.687
-6.2	0.145	7.201
-6.3	0.145	8.287
-6.4	0.14	9.005
-6.5	0.128	9.404
-6.6	0.119	9.543
-6.7	0.105	9.543
-6.8	0.094	9.463
-6.9	0.081	9.215
-7	0.065	8.838
-7.1	0.054	8.359
-7.2	0.043	7.801
-7.3	0.043	7.183
-7.4	0.041	6.536
-7.5	0.036	5.88
-7.6	0.034	5.222
-7.7	0.03	4.582
-7.8	0.022	3.972
-7.9	0.018	3.39
-8	0.012	2.849
-8.1	0.01	2.347
-8.2	0.006	1.891
-8.3	0.001	1.484
-8.4	0	1.117
-8.5	0	0.797
-8.6	0	0.515
-8.7	0	0.276
-8.8	0.089	0.097
-8.9	0.219	0.015
-9	0.323	0.014
-9.1	0.396	0.008
-9.2	0.441	0.004
-9.3	0.465	0.001
-9.4	0.465	0
-9.5	0.465	0
-9.6	0.441	0
-9.7	0.389	0
-9.8	0.311	0
-9.9	0.207	0
-10	0.077	0

### Grafico Inviluppi Taglio



Taglio

## Inviluppo Spinta Reale Efficace / Spinta Passiva

Design Assumption	Stage	Muro	Lato	Inviluppo Spinta Reale Efficace / Spinta Passiva %
NTC2018: A2+M2+R1 Stage B Left Wall		LEFT	LEFT	9.62
NTC2018: A2+M2+R1 Stage 3- Left Wall		RIGHT	RIGHT	15.83

## Inviluppo Spinta Reale Efficace / Spinta Attiva

Design Assumption	Stage	Muro	Lato	Inviluppo Spinta Reale Efficace / Spinta Attiva %
NTC2018: A2+M2+R1 Stage 3- Left Wall		LEFT	LEFT	507.31
NTC2018: A2+M2+R1 Stage 1 Left Wall		RIGHT	RIGHT	834.84



## **Normative adottate per le verifiche degli Elementi Strutturali**

### **Normative Verifiche**

Calcestruzzo	NTC
Acciaio	NTC
Tirante	NTC

### **Coefficienti per Verifica Tiranti**

GEO FS	1
$\xi_{a3}$	1.8
$\gamma_s$	1.15

## **Riepilogo Stage / Design Assumption per Involuppo**

<b>Design Assumption</b>	<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage A</b>	<b>Stage B</b>	<b>Stage 3-</b>
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	V	V	V	V	V
NTC2018: A1+M1+R1 (R3 per tiranti)	V	V	V	V	V
NTC2018: A2+M2+R1	V	V	V	V	V

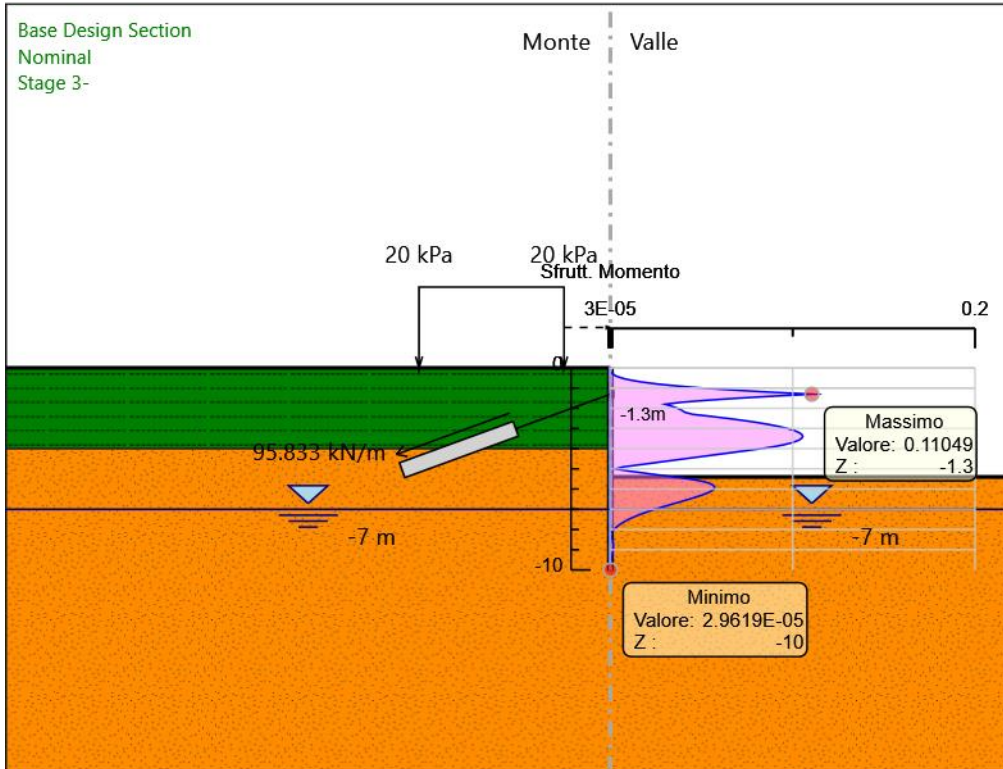
## Risultati SteelWorld

### Tabella Inviluppi Tasso di Sfruttamento M-N - SteelWorld : LEFT

Z (m)	Tasso di Sfruttamento M-N - SteelWorld
0	0
-0.1	0
-0.2	0
-0.3	0.001
-0.4	0.003
-0.5	0.006
-0.6	0.011
-0.7	0.017
-0.8	0.026
-0.9	0.037
-1	0.051
-1.1	0.068
-1.2	0.088
-1.3	0.11
-1.4	0.089
-1.5	0.07
-1.6	0.053
-1.7	0.039
-1.8	0.03
-1.9	0.034
-2	0.037
-2.1	0.039
-2.2	0.041
-2.3	0.045
-2.4	0.055
-2.5	0.065
-2.6	0.073
-2.7	0.08
-2.8	0.087
-2.9	0.093
-3	0.097
-3.1	0.101
-3.2	0.104
-3.3	0.105
-3.4	0.105
-3.5	0.105
-3.6	0.103
-3.7	0.1
-3.8	0.095
-3.9	0.09
-4	0.083
-4.1	0.074
-4.2	0.066
-4.3	0.057
-4.4	0.049
-4.5	0.041
-4.6	0.032
-4.7	0.024
-4.8	0.015
-4.9	0.007
-5	0.003
-5.1	0.01
-5.2	0.018
-5.3	0.027
-5.4	0.035
-5.5	0.043
-5.6	0.05
-5.7	0.054

Z (m)	LEFT Tasso di Sfruttamento M-N - SteelWorld
-5.8	0.056
-5.9	0.057
-6	0.057
-6.1	0.055
-6.2	0.053
-6.3	0.05
-6.4	0.047
-6.5	0.043
-6.6	0.039
-6.7	0.035
-6.8	0.032
-6.9	0.028
-7	0.024
-7.1	0.021
-7.2	0.018
-7.3	0.015
-7.4	0.012
-7.5	0.01
-7.6	0.008
-7.7	0.006
-7.8	0.004
-7.9	0.003
-8	0.002
-8.1	0.001
-8.2	0
-8.3	0
-8.4	0.001
-8.5	0.001
-8.6	0.001
-8.7	0.002
-8.8	0.002
-8.9	0.002
-9	0.001
-9.1	0.001
-9.2	0.001
-9.3	0.001
-9.4	0.001
-9.5	0.001
-9.6	0
-9.7	0
-9.8	0
-9.9	0
-10	0

Grafico Involuppi Tasso di Sfruttamento M-N - SteelWorld



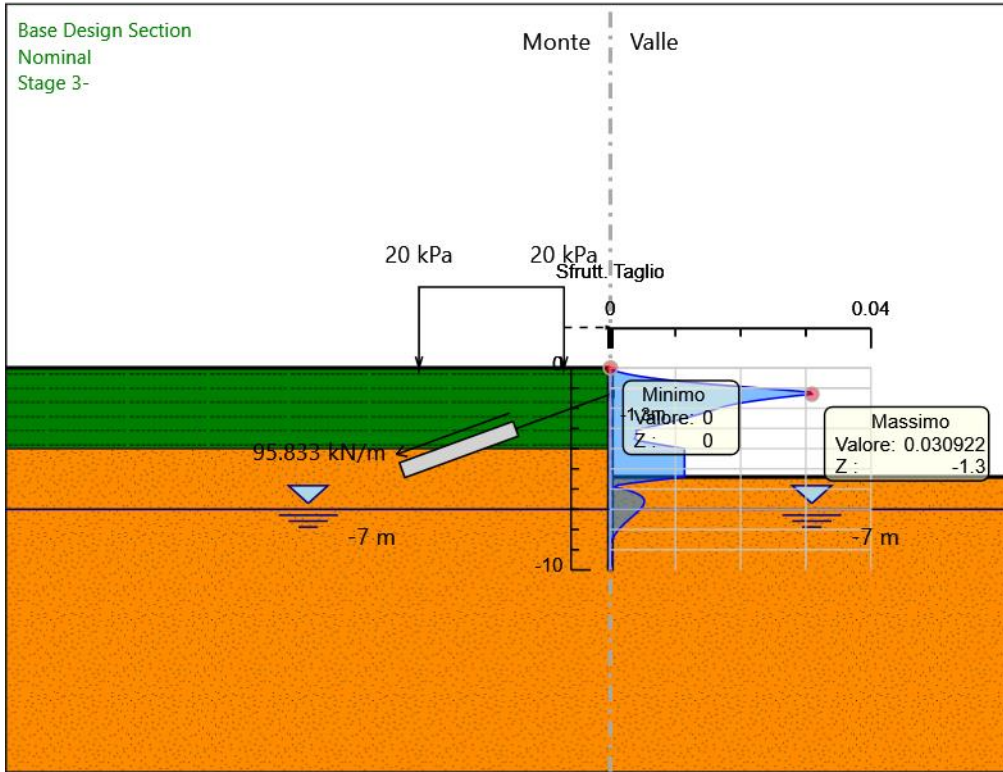
Involuppi  
Tasso di Sfruttamento M-N - SteelWorld

### Tabella Involuppi Tasso di Sfruttamento a Taglio - SteelWorld : LEFT

Z (m)	Tasso di Sfruttamento a Taglio - SteelWorld
0	0
-0.1	0
-0.2	0.001
-0.3	0.003
-0.4	0.004
-0.5	0.006
-0.6	0.009
-0.7	0.012
-0.8	0.015
-0.9	0.019
-1	0.023
-1.1	0.027
-1.2	0.031
-1.3	0.031
-1.4	0.028
-1.5	0.025
-1.6	0.023
-1.7	0.021
-1.8	0.019
-1.9	0.018
-2	0.017
-2.1	0.016
-2.2	0.015
-2.3	0.014
-2.4	0.012
-2.5	0.011
-2.6	0.01
-2.7	0.009
-2.8	0.008
-2.9	0.006
-3	0.005
-3.1	0.004
-3.2	0.004
-3.3	0.004
-3.4	0.004
-3.5	0.004
-3.6	0.004
-3.7	0.006
-3.8	0.008
-3.9	0.01
-4	0.011
-4.1	0.011
-4.2	0.011
-4.3	0.011
-4.4	0.011
-4.5	0.011
-4.6	0.011
-4.7	0.011
-4.8	0.011
-4.9	0.011
-5	0.011
-5.1	0.011
-5.2	0.011
-5.3	0.011
-5.4	0.011
-5.5	0.009
-5.6	0.006
-5.7	0.003
-5.8	0.001
-5.9	0.001
-6	0.002

Z (m)	LEFT Tasso di Sfruttamento a Taglio - SteelWorld
-6.1	0.003
-6.2	0.004
-6.3	0.005
-6.4	0.005
-6.5	0.005
-6.6	0.005
-6.7	0.005
-6.8	0.005
-6.9	0.005
-7	0.005
-7.1	0.004
-7.2	0.004
-7.3	0.004
-7.4	0.003
-7.5	0.003
-7.6	0.003
-7.7	0.002
-7.8	0.002
-7.9	0.002
-8	0.001
-8.1	0.001
-8.2	0.001
-8.3	0.001
-8.4	0
-8.5	0
-8.6	0
-8.7	0
-8.8	0
-8.9	0
-9	0
-9.1	0
-9.2	0
-9.3	0
-9.4	0
-9.5	0
-9.6	0
-9.7	0
-9.8	0
-9.9	0
-10	0

**Grafico Involuppi Tasso di Sfruttamento a Taglio - SteelWorld**



Involuppi  
Tasso di Sfruttamento a Taglio - SteelWorld

### Verifiche Tiranti NTC2018: SLE (Rara/Frequente/Quasi Permanente)

Design Assumption: NTC2018: SLE (Rara/Frequente/Quasi Permanente)	Tipo Risultato: Verifiche Tiranti	NTC2018 (ITA)						Gerarchia delle Resistenze	
		Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO		Ratio STR
Tieback_New_New_New_New	Stage B		229.992	678.584	605.557	0.339	0.38		NO
Tieback_New_New_New_New	Stage 3-		231.957	678.584	605.557	0.342	0.383		NO



### Verifiche Tiranti NTC2018: A1+M1+R1 (R3 per tiranti)

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)	Tipo Risultato: Verifiche Tiranti	NTC2018 (ITA)						
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza	Gerarchia delle Resistenze
Tieback_New_New_New_New	Stage B	298.99	342.719	605.557	0.872	0.494		
Tieback_New_New_New_New	Stage 3-	301.59	342.719	605.557	0.88	0.498		

### Verifiche Tiranti NTC2018: A2+M2+R1

Design Assumption: NTC2018: A2+M2+R1	Tipo Risultato: Verifiche Tiranti	NTC2018 (ITA)						
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza	Gerarchia delle Resistenze
Tieback_New_New_New_New	Stage B	229.992	342.719	605.557	0.671	0.38		
Tieback_New_New_New_New	Stage 3-	232.084	342.719	605.557	0.677	0.383		

### Inviluppo Verifiche Tiranti (su tutte le D.A. attive)

Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza	Gerarchia delle Resistenze	Design Assumption
Tieback_New_New_New_New	Stage 3-	301.59	342.719	605.557	0.88	0.498			NTC2018: A1+M1+R1 (R3 per tiranti)

### Verifiche Travi di Ripartizione Nominal

Design Assumption: Nominal	Tipo Risultato: Verifiche Travi di Ripartizione								
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage	Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	95.83	0	0	0	0
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	96.649	0	0	0	0

### Verifiche Travi di Ripartizione NTC2018: SLE (Rara/Frequente/Quasi Permanente)

Design Assumption: NTC2018: SLE (Rara/Frequente/Quasi Permanente)	Tipo Risultato: Verifiche Travi di Ripartizione	NTC2018 (ITA)							
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage	Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	95.83	0	0.323	0.215	0
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	96.649	0	0.326	0.217	0

### Verifiche Travi di Ripartizione NTC2018: A1+M1+R1 (R3 per tiranti)

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)		Tipo Risultato: Verifiche Travi di Ripartizione		NTC2018 (ITA)						
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage	Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	124.579	0	0.42	0.28	0	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	125.662	0	0.423	0.282	0	

### Verifiche Travi di Ripartizione NTC2018: A2+M2+R1

Design Assumption: NTC2018: A2+M2+R1		Tipo Risultato: Verifiche Travi di Ripartizione		NTC2018 (ITA)						
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage	Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	95.83	0	0.323	0.215	0	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	96.702	0	0.326	0.217	0	

## 11 ALLEGATO 2: tabulato di calcolo paratia (interasse tiranti 4.8m)

### Descrizione della Stratigrafia e degli Strati di Terreno

Tipo : POLYLINE

Punti

(-30;0)  
(10;0)  
(20;0)  
(20;-40)  
(-30;-40)

OCR : 1

Tipo : POLYLINE

Punti

(-30;-4)  
(20;-4)  
(20;-20)  
(-30;-20)

OCR : 1

Strato di Terreno	Terreno	$\gamma$ dry	$\gamma$ sat	$\phi'$	$\phi$	$c'_{cv}$	$\phi$	$c'$	Su	Modulo Elastico	Eu	Evc	Eur	Ah	Av	exp Pa	Rur/Rvc	Rvc	Ku	Kvc	Kur		
		kN/m <sup>3</sup>	kN/m <sup>3</sup>	°	°	°	°	kPa	kPa		kPa	kPa	kPa			kPa			kPa	kN/m <sup>3</sup>	kN/m <sup>3</sup>	kN/m <sup>3</sup>	
1	RILEVATO	19	19	35				0		Constant	50000	80000											
2	unità SRa (calcarei marnosi alterati litoidi)	24	24	40				45		Constant	150000	240000											

## **Descrizione Pareti**

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Muro di sinistra

Sezione : mc 240 inter 40 cm

Area equivalente : 0.0294745535317205 m

Inerzia equivalente : 0.0001 m<sup>4</sup>/m

Materiale calcestruzzo : C25/30

Tipo sezione : Tangent

Spaziatura : 0.4 m

Diametro : 0.24 m

Efficacia : 1

Materiale acciaio : S355

Sezione : CHS168.3\*12

Tipo sezione : O

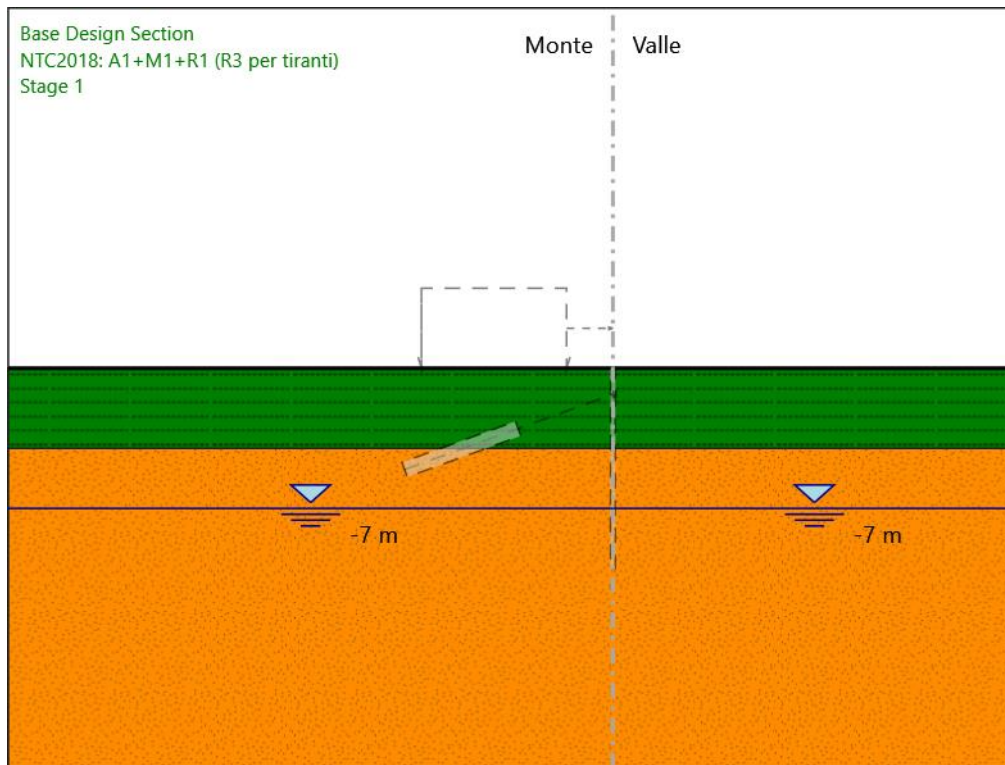
Spaziatura : 0.4 m

Spessore : 0.012 m

Diametro : 0.1683 m

## Fasi di Calcolo

### Stage 1



Stage 1

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : 0 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

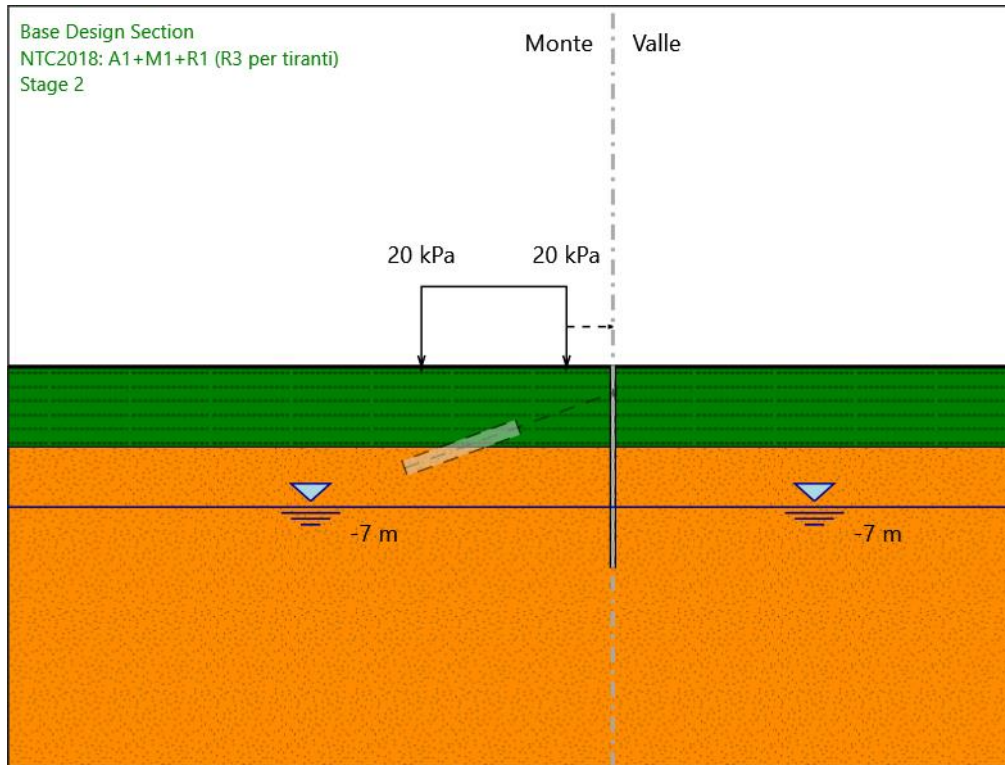
0 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

## Stage 2



Stage 2

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : 0 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

0 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

#### Carichi

Carico lineare in superficie : SurfaceSurcharge

X iniziale : -9.5 m

X finale : -2.3 m

Pressione iniziale : 20 kPa

Pressione finale : 20 kPa

#### Elementi strutturali

Paratia : paratia sx

X : 0 m

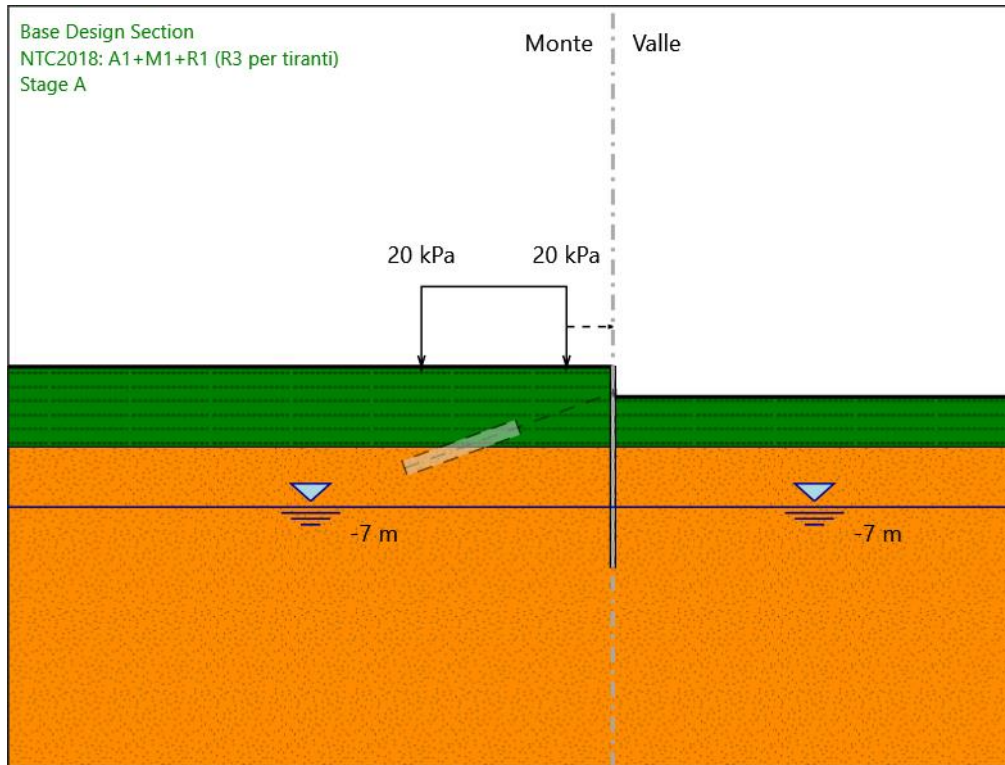
Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm



## Stage A



Stage A

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -1.5 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-1.5 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

#### Carichi

Carico lineare in superficie : SurfaceSurcharge

X iniziale : -9.5 m

X finale : -2.3 m

Pressione iniziale : 20 kPa

Pressione finale : 20 kPa

#### Elementi strutturali

Paratia : paratia sx

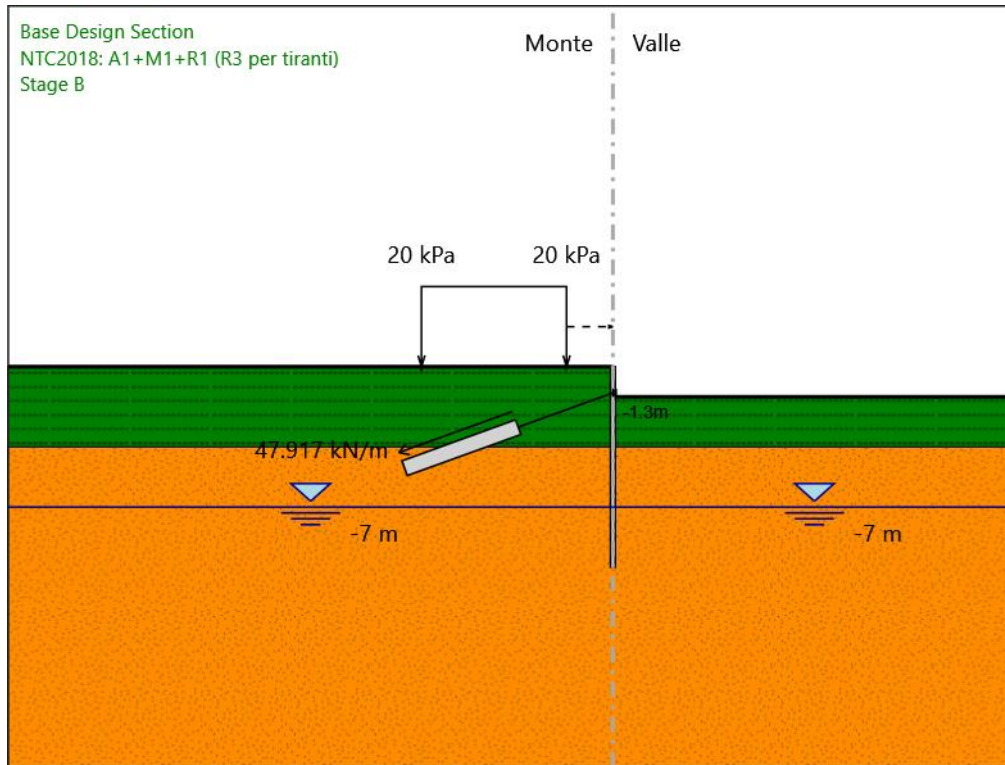
X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

## Stage B



Stage B

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -1.5 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-1.5 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

#### Carichi

Carico lineare in superficie : SurfaceSurcharge

X iniziale : -9.5 m

X finale : -2.3 m

Pressione iniziale : 20 kPa

Pressione finale : 20 kPa

#### Elementi strutturali

Paratia : paratia sx

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

Tirante : Tieback\_New\_New\_New\_New

X : 0 m

Z : -1.3 m

Lunghezza bulbo : 6 m

Diametro bulbo : 0.2 m

Lunghezza libera : 5 m

Spaziatura orizzontale : 4.8 m

Precarico : 230 kN

Angolo : 20 °

Sezione : 3 strands

Tipo di barre : Barre trefoli

Numero di barre : 3

Diametro : 0.01331 m

Area : 0.000417 m<sup>2</sup>

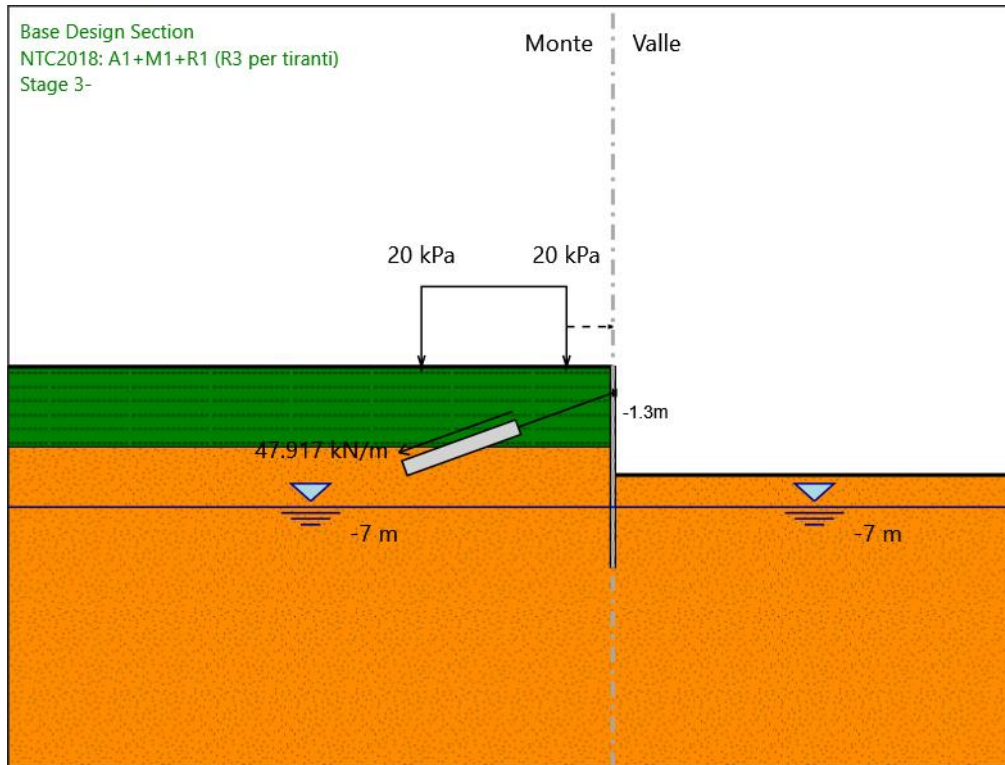
Trave di Ripartizione : Default Waler

Sezione : Waler Section 2 steel

HE 160B

Materiale : S355

### Stage 3-



Stage 3-

Scavo

Muro di sinistra

Lato monte : 0 m

Lato valle : -5.4 m

Linea di scavo di sinistra (Orizzontale)

0 m

Linea di scavo di destra (Orizzontale)

-5.4 m

Falda acquifera

Falda di sinistra : -7 m

Falda di destra : -7 m

#### Carichi

Carico lineare in superficie : SurfaceSurcharge

X iniziale : -9.5 m

X finale : -2.3 m

Pressione iniziale : 20 kPa

Pressione finale : 20 kPa

#### Elementi strutturali

Paratia : paratia sx

X : 0 m

Quota in alto : 0 m

Quota di fondo : -10 m

Sezione : mc 240 inter 40 cm

Tirante : Tieback\_New\_New\_New\_New

X : 0 m

Z : -1.3 m

Lunghezza bulbo : 6 m

Diametro bulbo : 0.2 m

Lunghezza libera : 5 m

Spaziatura orizzontale : 4.8 m

Precarico : 230 kN

Angolo : 20 °

Sezione : 3 strands

Tipo di barre : Barre trefoli

Numero di barre : 3

Diametro : 0.01331 m

Area : 0.000417 m<sup>2</sup>

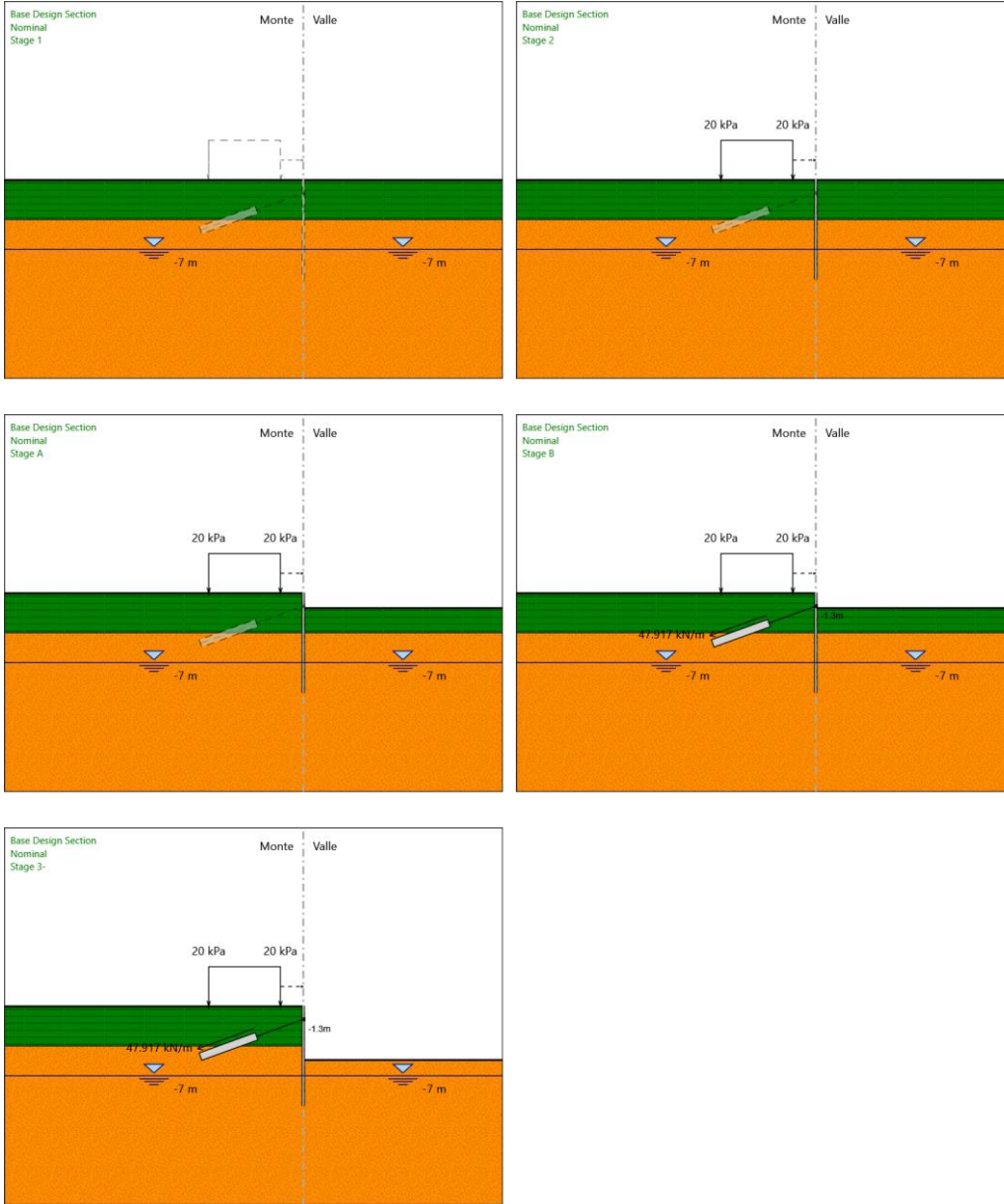
Trave di Ripartizione : Default Waler

Sezione : Waler Section 2 steel

HE 160B

Materiale : S355

### Tabella Configurazione Stage (Nominal)



## Grafici dei Risultati

### Design Assumption : Nominal

#### Tabella Spostamento Nominal - LEFT Stage: Stage 1

Design Assumption: Nominal	Tipo Risultato: Spostamento	Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 1	0	0
Stage 1	-0.1	0
Stage 1	-0.2	0
Stage 1	-0.3	0
Stage 1	-0.4	0
Stage 1	-0.5	0
Stage 1	-0.6	0
Stage 1	-0.7	0
Stage 1	-0.8	0
Stage 1	-0.9	0
Stage 1	-1	0
Stage 1	-1.1	0
Stage 1	-1.2	0
Stage 1	-1.3	0
Stage 1	-1.4	0
Stage 1	-1.5	0
Stage 1	-1.6	0
Stage 1	-1.7	0
Stage 1	-1.8	0
Stage 1	-1.9	0
Stage 1	-2	0
Stage 1	-2.1	0
Stage 1	-2.2	0
Stage 1	-2.3	0
Stage 1	-2.4	0
Stage 1	-2.5	0
Stage 1	-2.6	0
Stage 1	-2.7	0
Stage 1	-2.8	0
Stage 1	-2.9	0
Stage 1	-3	0
Stage 1	-3.1	0
Stage 1	-3.2	0
Stage 1	-3.3	0
Stage 1	-3.4	0
Stage 1	-3.5	0
Stage 1	-3.6	0
Stage 1	-3.7	0
Stage 1	-3.8	0
Stage 1	-3.9	0
Stage 1	-4	0
Stage 1	-4.1	0
Stage 1	-4.2	0
Stage 1	-4.3	0
Stage 1	-4.4	0
Stage 1	-4.5	0
Stage 1	-4.6	0
Stage 1	-4.7	0
Stage 1	-4.8	0
Stage 1	-4.9	0
Stage 1	-5	0
Stage 1	-5.1	0
Stage 1	-5.2	0
Stage 1	-5.3	0



Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 1	-5.4	0
Stage 1	-5.5	0
Stage 1	-5.6	0
Stage 1	-5.7	0
Stage 1	-5.8	0
Stage 1	-5.9	0
Stage 1	-6	0
Stage 1	-6.1	0
Stage 1	-6.2	0
Stage 1	-6.3	0
Stage 1	-6.4	0
Stage 1	-6.5	0
Stage 1	-6.6	0
Stage 1	-6.7	0
Stage 1	-6.8	0
Stage 1	-6.9	0
Stage 1	-7	0
Stage 1	-7.1	0
Stage 1	-7.2	0
Stage 1	-7.3	0
Stage 1	-7.4	0
Stage 1	-7.5	0
Stage 1	-7.6	0
Stage 1	-7.7	0
Stage 1	-7.8	0
Stage 1	-7.9	0
Stage 1	-8	0
Stage 1	-8.1	0
Stage 1	-8.2	0
Stage 1	-8.3	0
Stage 1	-8.4	0
Stage 1	-8.5	0
Stage 1	-8.6	0
Stage 1	-8.7	0
Stage 1	-8.8	0
Stage 1	-8.9	0
Stage 1	-9	0
Stage 1	-9.1	0
Stage 1	-9.2	0
Stage 1	-9.3	0
Stage 1	-9.4	0
Stage 1	-9.5	0
Stage 1	-9.6	0
Stage 1	-9.7	0
Stage 1	-9.8	0
Stage 1	-9.9	0
Stage 1	-10	0

### Tabella Spostamento Nominal - LEFT Stage: Stage 2

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 2	0	0
Stage 2	-0.1	0
Stage 2	-0.2	0
Stage 2	-0.3	0
Stage 2	-0.4	0
Stage 2	-0.5	0
Stage 2	-0.6	0
Stage 2	-0.7	0
Stage 2	-0.8	0
Stage 2	-0.9	0
Stage 2	-1	0
Stage 2	-1.1	0
Stage 2	-1.2	0
Stage 2	-1.3	0
Stage 2	-1.4	0
Stage 2	-1.5	0
Stage 2	-1.6	0
Stage 2	-1.7	0
Stage 2	-1.8	0
Stage 2	-1.9	0
Stage 2	-2	0
Stage 2	-2.1	0.01
Stage 2	-2.2	0.01
Stage 2	-2.3	0.01
Stage 2	-2.4	0.01
Stage 2	-2.5	0.01
Stage 2	-2.6	0.01
Stage 2	-2.7	0.01
Stage 2	-2.8	0.01
Stage 2	-2.9	0.01
Stage 2	-3	0.01
Stage 2	-3.1	0.01
Stage 2	-3.2	0.01
Stage 2	-3.3	0.01
Stage 2	-3.4	0.01
Stage 2	-3.5	0.01
Stage 2	-3.6	0.01
Stage 2	-3.7	0.01
Stage 2	-3.8	0.01
Stage 2	-3.9	0.01
Stage 2	-4	0.01
Stage 2	-4.1	0.01
Stage 2	-4.2	0.01
Stage 2	-4.3	0.01
Stage 2	-4.4	0.01
Stage 2	-4.5	0.01
Stage 2	-4.6	0.01
Stage 2	-4.7	0.01
Stage 2	-4.8	0.01
Stage 2	-4.9	0.01
Stage 2	-5	0.01
Stage 2	-5.1	0.01
Stage 2	-5.2	0.01
Stage 2	-5.3	0.01
Stage 2	-5.4	0.01
Stage 2	-5.5	0.01
Stage 2	-5.6	0.01
Stage 2	-5.7	0.01
Stage 2	-5.8	0.01
Stage 2	-5.9	0.01
Stage 2	-6	0.01

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 2	-6.1	0.01
Stage 2	-6.2	0.01
Stage 2	-6.3	0.01
Stage 2	-6.4	0.01
Stage 2	-6.5	0.01
Stage 2	-6.6	0.01
Stage 2	-6.7	0.01
Stage 2	-6.8	0.01
Stage 2	-6.9	0.01
Stage 2	-7	0.01
Stage 2	-7.1	0.01
Stage 2	-7.2	0.01
Stage 2	-7.3	0.01
Stage 2	-7.4	0.01
Stage 2	-7.5	0.01
Stage 2	-7.6	0.01
Stage 2	-7.7	0.01
Stage 2	-7.8	0.01
Stage 2	-7.9	0.01
Stage 2	-8	0.01
Stage 2	-8.1	0.01
Stage 2	-8.2	0.01
Stage 2	-8.3	0.01
Stage 2	-8.4	0.01
Stage 2	-8.5	0.01
Stage 2	-8.6	0.01
Stage 2	-8.7	0.01
Stage 2	-8.8	0.01
Stage 2	-8.9	0.01
Stage 2	-9	0.01
Stage 2	-9.1	0.01
Stage 2	-9.2	0.01
Stage 2	-9.3	0.01
Stage 2	-9.4	0.01
Stage 2	-9.5	0.01
Stage 2	-9.6	0.01
Stage 2	-9.7	0.01
Stage 2	-9.8	0.01
Stage 2	-9.9	0.01
Stage 2	-10	0.01

### Tabella Spostamento Nominal - LEFT Stage: Stage A

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage A	0	1.99
Stage A	-0.1	1.91
Stage A	-0.2	1.84
Stage A	-0.3	1.76
Stage A	-0.4	1.68
Stage A	-0.5	1.61
Stage A	-0.6	1.53
Stage A	-0.7	1.45
Stage A	-0.8	1.38
Stage A	-0.9	1.3
Stage A	-1	1.22
Stage A	-1.1	1.15
Stage A	-1.2	1.07
Stage A	-1.3	1
Stage A	-1.4	0.93
Stage A	-1.5	0.85
Stage A	-1.6	0.78
Stage A	-1.7	0.72
Stage A	-1.8	0.65
Stage A	-1.9	0.59
Stage A	-2	0.53
Stage A	-2.1	0.47
Stage A	-2.2	0.42
Stage A	-2.3	0.37
Stage A	-2.4	0.32
Stage A	-2.5	0.28
Stage A	-2.6	0.24
Stage A	-2.7	0.21
Stage A	-2.8	0.18
Stage A	-2.9	0.15
Stage A	-3	0.13
Stage A	-3.1	0.11
Stage A	-3.2	0.09
Stage A	-3.3	0.08
Stage A	-3.4	0.07
Stage A	-3.5	0.06
Stage A	-3.6	0.05
Stage A	-3.7	0.04
Stage A	-3.8	0.04
Stage A	-3.9	0.03
Stage A	-4	0.03
Stage A	-4.1	0.02
Stage A	-4.2	0.02
Stage A	-4.3	0.02
Stage A	-4.4	0.02
Stage A	-4.5	0.02
Stage A	-4.6	0.02
Stage A	-4.7	0.02
Stage A	-4.8	0.02
Stage A	-4.9	0.02
Stage A	-5	0.02
Stage A	-5.1	0.02
Stage A	-5.2	0.02
Stage A	-5.3	0.02
Stage A	-5.4	0.03
Stage A	-5.5	0.03
Stage A	-5.6	0.03
Stage A	-5.7	0.03
Stage A	-5.8	0.03
Stage A	-5.9	0.03
Stage A	-6	0.03

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage A	-6.1	0.03
Stage A	-6.2	0.03
Stage A	-6.3	0.03
Stage A	-6.4	0.03
Stage A	-6.5	0.03
Stage A	-6.6	0.03
Stage A	-6.7	0.03
Stage A	-6.8	0.03
Stage A	-6.9	0.03
Stage A	-7	0.03
Stage A	-7.1	0.03
Stage A	-7.2	0.03
Stage A	-7.3	0.03
Stage A	-7.4	0.03
Stage A	-7.5	0.03
Stage A	-7.6	0.03
Stage A	-7.7	0.03
Stage A	-7.8	0.03
Stage A	-7.9	0.03
Stage A	-8	0.03
Stage A	-8.1	0.03
Stage A	-8.2	0.03
Stage A	-8.3	0.03
Stage A	-8.4	0.03
Stage A	-8.5	0.03
Stage A	-8.6	0.03
Stage A	-8.7	0.03
Stage A	-8.8	0.03
Stage A	-8.9	0.03
Stage A	-9	0.03
Stage A	-9.1	0.03
Stage A	-9.2	0.03
Stage A	-9.3	0.03
Stage A	-9.4	0.03
Stage A	-9.5	0.03
Stage A	-9.6	0.03
Stage A	-9.7	0.03
Stage A	-9.8	0.03
Stage A	-9.9	0.03
Stage A	-10	0.03

### Tabella Spostamento Nominal - LEFT Stage: Stage B

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage B	0	1.7
Stage B	-0.1	1.62
Stage B	-0.2	1.53
Stage B	-0.3	1.44
Stage B	-0.4	1.36
Stage B	-0.5	1.27
Stage B	-0.6	1.19
Stage B	-0.7	1.1
Stage B	-0.8	1.02
Stage B	-0.9	0.94
Stage B	-1	0.86
Stage B	-1.1	0.78
Stage B	-1.2	0.71
Stage B	-1.3	0.64
Stage B	-1.4	0.58
Stage B	-1.5	0.53
Stage B	-1.6	0.48
Stage B	-1.7	0.44
Stage B	-1.8	0.39
Stage B	-1.9	0.36
Stage B	-2	0.32
Stage B	-2.1	0.29
Stage B	-2.2	0.26
Stage B	-2.3	0.23
Stage B	-2.4	0.21
Stage B	-2.5	0.19
Stage B	-2.6	0.17
Stage B	-2.7	0.15
Stage B	-2.8	0.13
Stage B	-2.9	0.12
Stage B	-3	0.1
Stage B	-3.1	0.09
Stage B	-3.2	0.08
Stage B	-3.3	0.07
Stage B	-3.4	0.07
Stage B	-3.5	0.06
Stage B	-3.6	0.05
Stage B	-3.7	0.05
Stage B	-3.8	0.04
Stage B	-3.9	0.04
Stage B	-4	0.04
Stage B	-4.1	0.03
Stage B	-4.2	0.03
Stage B	-4.3	0.03
Stage B	-4.4	0.03
Stage B	-4.5	0.03
Stage B	-4.6	0.03
Stage B	-4.7	0.03
Stage B	-4.8	0.03
Stage B	-4.9	0.03
Stage B	-5	0.03
Stage B	-5.1	0.03
Stage B	-5.2	0.03
Stage B	-5.3	0.03
Stage B	-5.4	0.03
Stage B	-5.5	0.03
Stage B	-5.6	0.03
Stage B	-5.7	0.03
Stage B	-5.8	0.03
Stage B	-5.9	0.03
Stage B	-6	0.03

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage B	-6.1	0.03
Stage B	-6.2	0.03
Stage B	-6.3	0.03
Stage B	-6.4	0.03
Stage B	-6.5	0.03
Stage B	-6.6	0.03
Stage B	-6.7	0.03
Stage B	-6.8	0.03
Stage B	-6.9	0.03
Stage B	-7	0.03
Stage B	-7.1	0.03
Stage B	-7.2	0.03
Stage B	-7.3	0.03
Stage B	-7.4	0.03
Stage B	-7.5	0.03
Stage B	-7.6	0.03
Stage B	-7.7	0.03
Stage B	-7.8	0.03
Stage B	-7.9	0.03
Stage B	-8	0.03
Stage B	-8.1	0.03
Stage B	-8.2	0.03
Stage B	-8.3	0.03
Stage B	-8.4	0.03
Stage B	-8.5	0.03
Stage B	-8.6	0.03
Stage B	-8.7	0.03
Stage B	-8.8	0.03
Stage B	-8.9	0.03
Stage B	-9	0.03
Stage B	-9.1	0.03
Stage B	-9.2	0.03
Stage B	-9.3	0.03
Stage B	-9.4	0.03
Stage B	-9.5	0.03
Stage B	-9.6	0.03
Stage B	-9.7	0.03
Stage B	-9.8	0.03
Stage B	-9.9	0.03
Stage B	-10	0.03

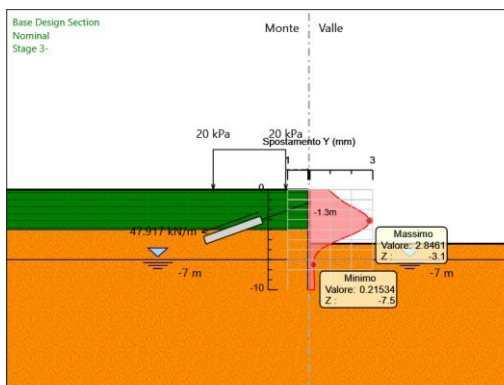
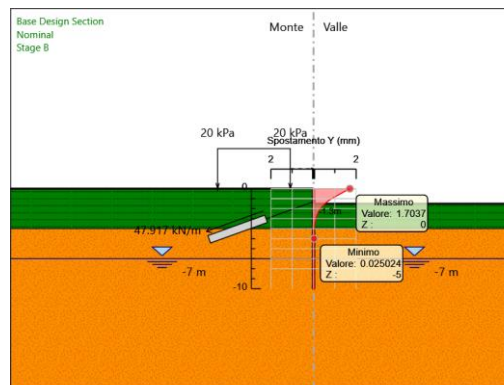
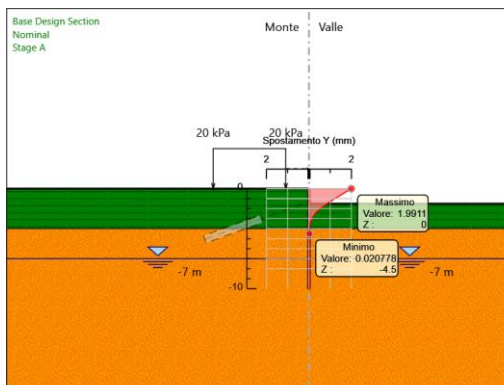
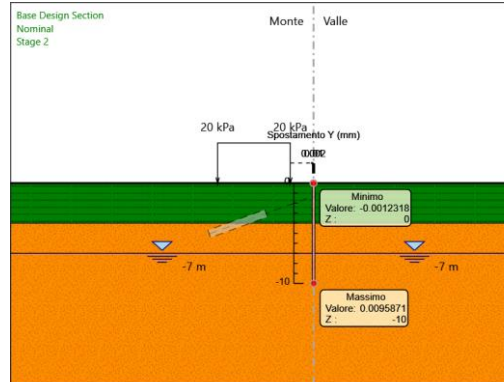
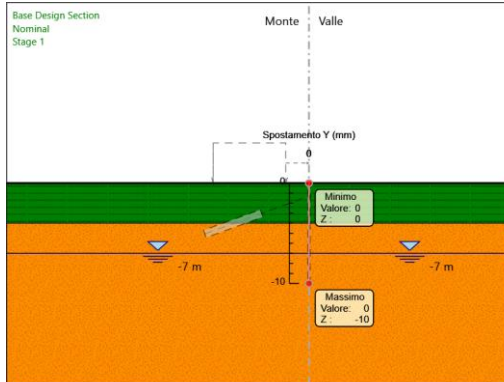
### Tabella Spostamento Nominal - LEFT Stage: Stage 3-

Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 3-	0	0.91
Stage 3-	-0.1	0.97
Stage 3-	-0.2	1.02
Stage 3-	-0.3	1.08
Stage 3-	-0.4	1.13
Stage 3-	-0.5	1.19
Stage 3-	-0.6	1.25
Stage 3-	-0.7	1.3
Stage 3-	-0.8	1.36
Stage 3-	-0.9	1.42
Stage 3-	-1	1.48
Stage 3-	-1.1	1.55
Stage 3-	-1.2	1.62
Stage 3-	-1.3	1.69
Stage 3-	-1.4	1.77
Stage 3-	-1.5	1.86
Stage 3-	-1.6	1.94
Stage 3-	-1.7	2.03
Stage 3-	-1.8	2.12
Stage 3-	-1.9	2.21
Stage 3-	-2	2.29
Stage 3-	-2.1	2.37
Stage 3-	-2.2	2.45
Stage 3-	-2.3	2.53
Stage 3-	-2.4	2.59
Stage 3-	-2.5	2.65
Stage 3-	-2.6	2.71
Stage 3-	-2.7	2.75
Stage 3-	-2.8	2.79
Stage 3-	-2.9	2.82
Stage 3-	-3	2.84
Stage 3-	-3.1	2.85
Stage 3-	-3.2	2.84
Stage 3-	-3.3	2.83
Stage 3-	-3.4	2.81
Stage 3-	-3.5	2.78
Stage 3-	-3.6	2.74
Stage 3-	-3.7	2.69
Stage 3-	-3.8	2.63
Stage 3-	-3.9	2.56
Stage 3-	-4	2.48
Stage 3-	-4.1	2.4
Stage 3-	-4.2	2.31
Stage 3-	-4.3	2.21
Stage 3-	-4.4	2.11
Stage 3-	-4.5	2
Stage 3-	-4.6	1.9
Stage 3-	-4.7	1.79
Stage 3-	-4.8	1.67
Stage 3-	-4.9	1.56
Stage 3-	-5	1.45
Stage 3-	-5.1	1.34
Stage 3-	-5.2	1.23
Stage 3-	-5.3	1.13
Stage 3-	-5.4	1.03
Stage 3-	-5.5	0.93
Stage 3-	-5.6	0.84
Stage 3-	-5.7	0.76
Stage 3-	-5.8	0.68
Stage 3-	-5.9	0.61
Stage 3-	-6	0.54



Design Assumption: Nominal Tipo Risultato: Spostamento		Muro: LEFT
Stage	Z (m)	Spostamento orizzontale (mm)
Stage 3-	-6.1	0.49
Stage 3-	-6.2	0.44
Stage 3-	-6.3	0.39
Stage 3-	-6.4	0.36
Stage 3-	-6.5	0.32
Stage 3-	-6.6	0.3
Stage 3-	-6.7	0.28
Stage 3-	-6.8	0.26
Stage 3-	-6.9	0.24
Stage 3-	-7	0.23
Stage 3-	-7.1	0.23
Stage 3-	-7.2	0.22
Stage 3-	-7.3	0.22
Stage 3-	-7.4	0.22
Stage 3-	-7.5	0.22
Stage 3-	-7.6	0.22
Stage 3-	-7.7	0.22
Stage 3-	-7.8	0.22
Stage 3-	-7.9	0.22
Stage 3-	-8	0.23
Stage 3-	-8.1	0.23
Stage 3-	-8.2	0.23
Stage 3-	-8.3	0.24
Stage 3-	-8.4	0.24
Stage 3-	-8.5	0.24
Stage 3-	-8.6	0.25
Stage 3-	-8.7	0.25
Stage 3-	-8.8	0.25
Stage 3-	-8.9	0.25
Stage 3-	-9	0.25
Stage 3-	-9.1	0.26
Stage 3-	-9.2	0.26
Stage 3-	-9.3	0.26
Stage 3-	-9.4	0.26
Stage 3-	-9.5	0.26
Stage 3-	-9.6	0.26
Stage 3-	-9.7	0.27
Stage 3-	-9.8	0.27
Stage 3-	-9.9	0.27
Stage 3-	-10	0.27

### Grafici Spostamento in tabella



## Risultati Paratia

**Tabella Risultati Paratia Nominal - Stage: Stage 1**

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 1	0	0	0
Stage 1	-0.1	0	0
Stage 1	-0.2	0	0
Stage 1	-0.3	0	0
Stage 1	-0.4	0	0
Stage 1	-0.5	0	0
Stage 1	-0.6	0	0
Stage 1	-0.7	0	0
Stage 1	-0.8	0	0
Stage 1	-0.9	0	0
Stage 1	-1	0	0
Stage 1	-1.1	0	0
Stage 1	-1.2	0	0
Stage 1	-1.3	0	0
Stage 1	-1.4	0	0
Stage 1	-1.5	0	0
Stage 1	-1.6	0	0
Stage 1	-1.7	0	0
Stage 1	-1.8	0	0
Stage 1	-1.9	0	0
Stage 1	-2	0	0
Stage 1	-2.1	0	0
Stage 1	-2.2	0	0
Stage 1	-2.3	0	0
Stage 1	-2.4	0	0
Stage 1	-2.5	0	0
Stage 1	-2.6	0	0
Stage 1	-2.7	0	0
Stage 1	-2.8	0	0
Stage 1	-2.9	0	0
Stage 1	-3	0	0
Stage 1	-3.1	0	0
Stage 1	-3.2	0	0
Stage 1	-3.3	0	0
Stage 1	-3.4	0	0
Stage 1	-3.5	0	0
Stage 1	-3.6	0	0
Stage 1	-3.7	0	0
Stage 1	-3.8	0	0
Stage 1	-3.9	0	0
Stage 1	-4	0	0
Stage 1	-4.1	0	0
Stage 1	-4.2	0	0
Stage 1	-4.3	0	0
Stage 1	-4.4	0	0
Stage 1	-4.5	0	0
Stage 1	-4.6	0	0
Stage 1	-4.7	0	0
Stage 1	-4.8	0	0
Stage 1	-4.9	0	0
Stage 1	-5	0	0
Stage 1	-5.1	0	0
Stage 1	-5.2	0	0
Stage 1	-5.3	0	0
Stage 1	-5.4	0	0
Stage 1	-5.5	0	0
Stage 1	-5.6	0	0
Stage 1	-5.7	0	0

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 1	-5.8	0	0
Stage 1	-5.9	0	0
Stage 1	-6	0	0
Stage 1	-6.1	0	0
Stage 1	-6.2	0	0
Stage 1	-6.3	0	0
Stage 1	-6.4	0	0
Stage 1	-6.5	0	0
Stage 1	-6.6	0	0
Stage 1	-6.7	0	0
Stage 1	-6.8	0	0
Stage 1	-6.9	0	0
Stage 1	-7	0	0
Stage 1	-7.1	0	0
Stage 1	-7.2	0	0
Stage 1	-7.3	0	0
Stage 1	-7.4	0	0
Stage 1	-7.5	0	0
Stage 1	-7.6	0	0
Stage 1	-7.7	0	0
Stage 1	-7.8	0	0
Stage 1	-7.9	0	0
Stage 1	-8	0	0
Stage 1	-8.1	0	0
Stage 1	-8.2	0	0
Stage 1	-8.3	0	0
Stage 1	-8.4	0	0
Stage 1	-8.5	0	0
Stage 1	-8.6	0	0
Stage 1	-8.7	0	0
Stage 1	-8.8	0	0
Stage 1	-8.9	0	0
Stage 1	-9	0	0
Stage 1	-9.1	0	0
Stage 1	-9.2	0	0
Stage 1	-9.3	0	0
Stage 1	-9.4	0	0
Stage 1	-9.5	0	0
Stage 1	-9.6	0	0
Stage 1	-9.7	0	0
Stage 1	-9.8	0	0
Stage 1	-9.9	0	0
Stage 1	-10	0	0

### Tabella Risultati Paratia Nominal - Stage: Stage 2

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 2	0	0	0
Stage 2	-0.1	0	0
Stage 2	-0.1	0	0
Stage 2	-0.2	0	-0.01
Stage 2	-0.3	0	-0.02
Stage 2	-0.4	-0.01	-0.03
Stage 2	-0.5	-0.01	-0.04
Stage 2	-0.6	-0.01	-0.04
Stage 2	-0.7	-0.02	-0.04
Stage 2	-0.8	-0.02	-0.03
Stage 2	-0.9	-0.02	-0.03
Stage 2	-1	-0.03	-0.02
Stage 2	-1.1	-0.03	-0.02
Stage 2	-1.2	-0.03	-0.01
Stage 2	-1.3	-0.03	0
Stage 2	-1.4	-0.03	0.01
Stage 2	-1.5	-0.03	0.02
Stage 2	-1.6	-0.02	0.02
Stage 2	-1.7	-0.02	0.03
Stage 2	-1.8	-0.02	0.04
Stage 2	-1.9	-0.01	0.05
Stage 2	-2	-0.01	0.06
Stage 2	-2.1	0	0.07
Stage 2	-2.2	0.01	0.07
Stage 2	-2.3	0.02	0.08
Stage 2	-2.4	0.02	0.09
Stage 2	-2.5	0.03	0.1
Stage 2	-2.6	0.04	0.1
Stage 2	-2.7	0.06	0.11
Stage 2	-2.8	0.07	0.11
Stage 2	-2.9	0.08	0.12
Stage 2	-3	0.09	0.12
Stage 2	-3.1	0.1	0.12
Stage 2	-3.2	0.11	0.11
Stage 2	-3.3	0.12	0.09
Stage 2	-3.4	0.13	0.06
Stage 2	-3.5	0.13	0.02
Stage 2	-3.6	0.13	-0.03
Stage 2	-3.7	0.12	-0.1
Stage 2	-3.8	0.1	-0.17
Stage 2	-3.9	0.07	-0.26
Stage 2	-4	0.04	-0.37
Stage 2	-4.1	-0.01	-0.48
Stage 2	-4.2	-0.04	-0.34
Stage 2	-4.3	-0.07	-0.23
Stage 2	-4.4	-0.08	-0.13
Stage 2	-4.5	-0.09	-0.06
Stage 2	-4.6	-0.09	-0.01
Stage 2	-4.7	-0.08	0.04
Stage 2	-4.8	-0.08	0.06
Stage 2	-4.9	-0.07	0.08
Stage 2	-5	-0.06	0.09
Stage 2	-5.1	-0.05	0.09
Stage 2	-5.2	-0.04	0.09
Stage 2	-5.3	-0.03	0.09
Stage 2	-5.4	-0.02	0.08
Stage 2	-5.5	-0.02	0.07
Stage 2	-5.6	-0.01	0.06
Stage 2	-5.7	-0.01	0.05
Stage 2	-5.8	0	0.04
Stage 2	-5.9	0	0.03

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 2	-6	0	0.03
Stage 2	-6.1	0.01	0.02
Stage 2	-6.2	0.01	0.01
Stage 2	-6.3	0.01	0.01
Stage 2	-6.4	0.01	0
Stage 2	-6.5	0.01	0
Stage 2	-6.6	0.01	0
Stage 2	-6.7	0.01	0
Stage 2	-6.8	0.01	-0.01
Stage 2	-6.9	0.01	-0.01
Stage 2	-7	0.01	0
Stage 2	-7.1	0.01	-0.01
Stage 2	-7.2	0.01	0
Stage 2	-7.3	0.01	-0.01
Stage 2	-7.4	0	-0.01
Stage 2	-7.5	0	0
Stage 2	-7.6	0	0
Stage 2	-7.7	0	0
Stage 2	-7.8	0	0
Stage 2	-7.9	0	0
Stage 2	-8	0	0
Stage 2	-8.1	0	0
Stage 2	-8.2	0	0
Stage 2	-8.3	0	0.01
Stage 2	-8.4	0	0.01
Stage 2	-8.5	0.01	0.01
Stage 2	-8.6	0.01	0.01
Stage 2	-8.7	0.01	0.01
Stage 2	-8.8	0.01	0.01
Stage 2	-8.9	0.01	0.01
Stage 2	-9	0.01	0.01
Stage 2	-9.1	0.01	0
Stage 2	-9.2	0.01	0
Stage 2	-9.3	0.01	0
Stage 2	-9.4	0.01	-0.01
Stage 2	-9.5	0.01	-0.01
Stage 2	-9.6	0.01	-0.02
Stage 2	-9.7	0	-0.02
Stage 2	-9.8	0	-0.02
Stage 2	-9.9	0	-0.01
Stage 2	-10	0	-0.01

### Tabella Risultati Paratia Nominal - Stage: Stage A

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage A	0	0	0
Stage A	-0.1	0	0
Stage A	-0.1	0	0
Stage A	-0.2	-0.01	-0.06
Stage A	-0.3	-0.02	-0.18
Stage A	-0.4	-0.06	-0.36
Stage A	-0.5	-0.12	-0.61
Stage A	-0.6	-0.21	-0.91
Stage A	-0.7	-0.34	-1.28
Stage A	-0.8	-0.51	-1.71
Stage A	-0.9	-0.73	-2.2
Stage A	-1	-1.01	-2.75
Stage A	-1.1	-1.34	-3.37
Stage A	-1.2	-1.75	-4.05
Stage A	-1.3	-2.23	-4.8
Stage A	-1.4	-2.79	-5.6
Stage A	-1.5	-3.44	-6.47
Stage A	-1.6	-4.18	-7.41
Stage A	-1.7	-4.96	-7.82
Stage A	-1.8	-5.73	-7.71
Stage A	-1.9	-6.44	-7.07
Stage A	-2	-7.03	-5.91
Stage A	-2.1	-7.48	-4.48
Stage A	-2.2	-7.79	-3.16
Stage A	-2.3	-7.99	-1.93
Stage A	-2.4	-8.07	-0.79
Stage A	-2.5	-8.04	0.27
Stage A	-2.6	-7.92	1.25
Stage A	-2.7	-7.7	2.18
Stage A	-2.8	-7.39	3.05
Stage A	-2.9	-7.01	3.84
Stage A	-3	-6.55	4.54
Stage A	-3.1	-6.04	5.16
Stage A	-3.2	-5.49	5.52
Stage A	-3.3	-4.92	5.67
Stage A	-3.4	-4.35	5.65
Stage A	-3.5	-3.81	5.46
Stage A	-3.6	-3.29	5.16
Stage A	-3.7	-2.82	4.73
Stage A	-3.8	-2.4	4.23
Stage A	-3.9	-2.03	3.65
Stage A	-4	-1.73	3.01
Stage A	-4.1	-1.5	2.33
Stage A	-4.2	-1.27	2.3
Stage A	-4.3	-1.05	2.19
Stage A	-4.4	-0.85	2.03
Stage A	-4.5	-0.66	1.83
Stage A	-4.6	-0.5	1.62
Stage A	-4.7	-0.36	1.4
Stage A	-4.8	-0.24	1.19
Stage A	-4.9	-0.14	0.98
Stage A	-5	-0.06	0.79
Stage A	-5.1	0	0.62
Stage A	-5.2	0.04	0.47
Stage A	-5.3	0.08	0.33
Stage A	-5.4	0.1	0.23
Stage A	-5.5	0.11	0.13
Stage A	-5.6	0.12	0.06
Stage A	-5.7	0.12	0
Stage A	-5.8	0.11	-0.04
Stage A	-5.9	0.11	-0.07

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage A	-6	0.1	-0.09
Stage A	-6.1	0.09	-0.1
Stage A	-6.2	0.08	-0.11
Stage A	-6.3	0.07	-0.11
Stage A	-6.4	0.05	-0.11
Stage A	-6.5	0.04	-0.1
Stage A	-6.6	0.04	-0.09
Stage A	-6.7	0.03	-0.08
Stage A	-6.8	0.02	-0.07
Stage A	-6.9	0.01	-0.06
Stage A	-7	0.01	-0.05
Stage A	-7.1	0.01	-0.04
Stage A	-7.2	0	-0.03
Stage A	-7.3	0	-0.02
Stage A	-7.4	0	-0.02
Stage A	-7.5	0	-0.01
Stage A	-7.6	0	-0.01
Stage A	-7.7	0	0
Stage A	-7.8	0	0
Stage A	-7.9	0	0
Stage A	-8	0	0.01
Stage A	-8.1	0	0.01
Stage A	-8.2	0	0.01
Stage A	-8.3	0	0.01
Stage A	-8.4	0	0.01
Stage A	-8.5	0	0.01
Stage A	-8.6	0	0.01
Stage A	-8.7	0	0.01
Stage A	-8.8	0.01	0.01
Stage A	-8.9	0.01	0.01
Stage A	-9	0.01	0.01
Stage A	-9.1	0.01	0.01
Stage A	-9.2	0.01	0
Stage A	-9.3	0.01	0
Stage A	-9.4	0.01	-0.01
Stage A	-9.5	0.01	-0.01
Stage A	-9.6	0.01	-0.02
Stage A	-9.7	0	-0.02
Stage A	-9.8	0	-0.02
Stage A	-9.9	0	-0.01
Stage A	-10	0	-0.01



### Tabella Risultati Paratia Nominal - Stage: Stage B

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage B	0	0	0
Stage B	-0.1	0	0
Stage B	-0.1	0	0
Stage B	-0.2	-0.06	-0.59
Stage B	-0.3	-0.24	-1.77
Stage B	-0.4	-0.59	-3.51
Stage B	-0.5	-1.12	-5.37
Stage B	-0.6	-1.86	-7.35
Stage B	-0.7	-2.8	-9.44
Stage B	-0.8	-3.97	-11.65
Stage B	-0.9	-5.36	-13.96
Stage B	-1	-7	-16.38
Stage B	-1.1	-8.89	-18.88
Stage B	-1.2	-11.04	-21.46
Stage B	-1.3	-13.45	-24.1
Stage B	-1.4	-11.62	18.25
Stage B	-1.5	-10.07	15.56
Stage B	-1.6	-8.78	12.87
Stage B	-1.7	-7.75	10.26
Stage B	-1.8	-6.98	7.75
Stage B	-1.9	-6.39	5.86
Stage B	-2	-5.92	4.69
Stage B	-2.1	-5.52	4.01
Stage B	-2.2	-5.18	3.42
Stage B	-2.3	-4.89	2.93
Stage B	-2.4	-4.63	2.54
Stage B	-2.5	-4.41	2.24
Stage B	-2.6	-4.2	2.08
Stage B	-2.7	-3.99	2.07
Stage B	-2.8	-3.78	2.18
Stage B	-2.9	-3.54	2.37
Stage B	-3	-3.28	2.63
Stage B	-3.1	-2.98	2.91
Stage B	-3.2	-2.68	3.05
Stage B	-3.3	-2.37	3.07
Stage B	-3.4	-2.08	2.98
Stage B	-3.5	-1.8	2.78
Stage B	-3.6	-1.55	2.51
Stage B	-3.7	-1.33	2.16
Stage B	-3.8	-1.16	1.74
Stage B	-3.9	-1.03	1.27
Stage B	-4	-0.96	0.74
Stage B	-4.1	-0.94	0.17
Stage B	-4.2	-0.89	0.48
Stage B	-4.3	-0.82	0.69
Stage B	-4.4	-0.74	0.83
Stage B	-4.5	-0.65	0.89
Stage B	-4.6	-0.56	0.91
Stage B	-4.7	-0.47	0.89
Stage B	-4.8	-0.38	0.84
Stage B	-4.9	-0.31	0.78
Stage B	-5	-0.24	0.7
Stage B	-5.1	-0.18	0.61
Stage B	-5.2	-0.12	0.53
Stage B	-5.3	-0.08	0.44
Stage B	-5.4	-0.04	0.36
Stage B	-5.5	-0.02	0.28
Stage B	-5.6	0.01	0.22
Stage B	-5.7	0.02	0.16
Stage B	-5.8	0.03	0.11
Stage B	-5.9	0.04	0.07

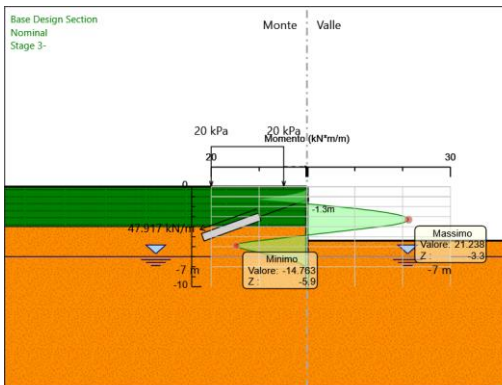
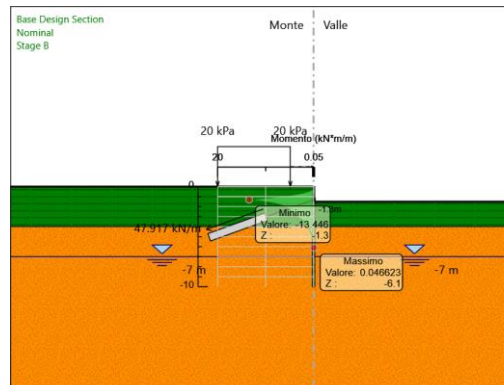
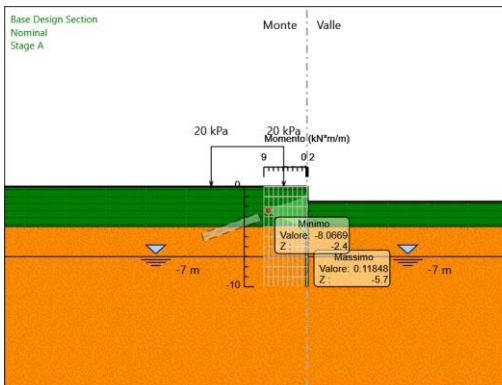
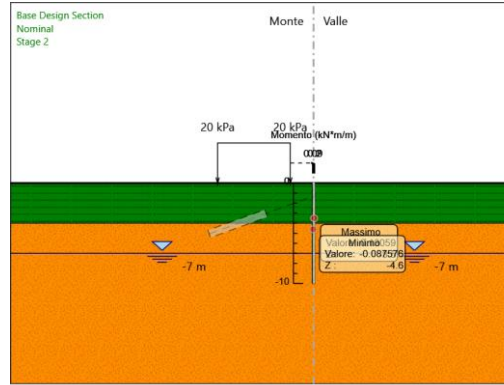
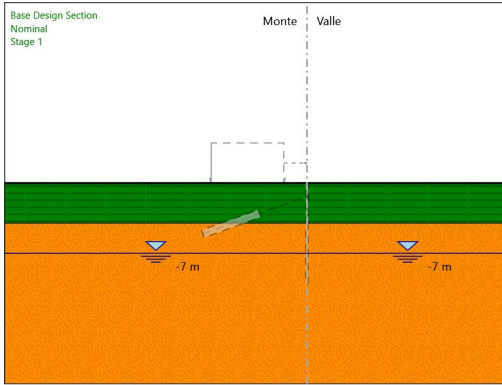
Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage B	-6	0.05	0.04
Stage B	-6.1	0.05	0.01
Stage B	-6.2	0.05	-0.01
Stage B	-6.3	0.04	-0.02
Stage B	-6.4	0.04	-0.03
Stage B	-6.5	0.04	-0.04
Stage B	-6.6	0.03	-0.04
Stage B	-6.7	0.03	-0.04
Stage B	-6.8	0.02	-0.04
Stage B	-6.9	0.02	-0.04
Stage B	-7	0.02	-0.04
Stage B	-7.1	0.01	-0.03
Stage B	-7.2	0.01	-0.03
Stage B	-7.3	0.01	-0.03
Stage B	-7.4	0.01	-0.02
Stage B	-7.5	0	-0.02
Stage B	-7.6	0	-0.01
Stage B	-7.7	0	-0.01
Stage B	-7.8	0	-0.01
Stage B	-7.9	0	0
Stage B	-8	0	0
Stage B	-8.1	0	0
Stage B	-8.2	0	0
Stage B	-8.3	0	0.01
Stage B	-8.4	0	0.01
Stage B	-8.5	0	0.01
Stage B	-8.6	0	0.01
Stage B	-8.7	0.01	0.01
Stage B	-8.8	0.01	0.01
Stage B	-8.9	0.01	0.01
Stage B	-9	0.01	0.01
Stage B	-9.1	0.01	0.01
Stage B	-9.2	0.01	0
Stage B	-9.3	0.01	0
Stage B	-9.4	0.01	-0.01
Stage B	-9.5	0.01	-0.01
Stage B	-9.6	0.01	-0.02
Stage B	-9.7	0	-0.02
Stage B	-9.8	0	-0.02
Stage B	-9.9	0	-0.01
Stage B	-10	0	-0.01

### Tabella Risultati Paratia Nominal - Stage: Stage 3-

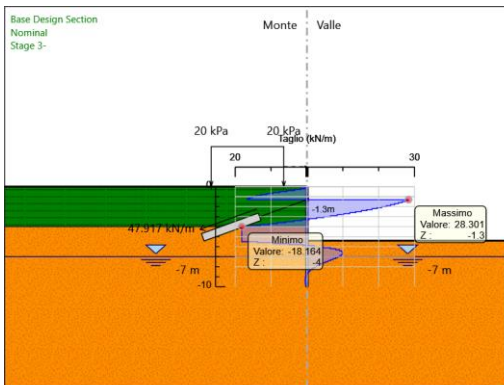
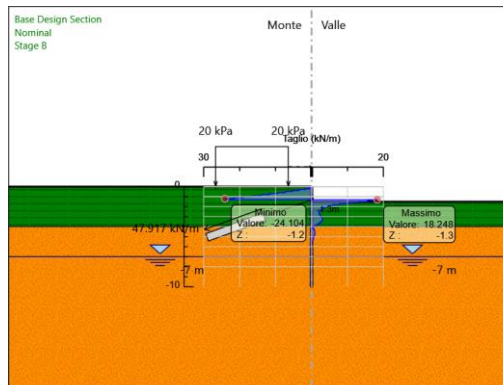
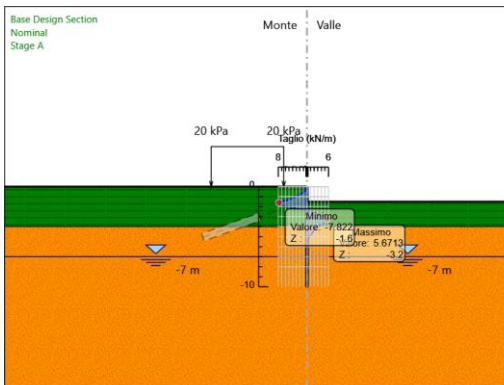
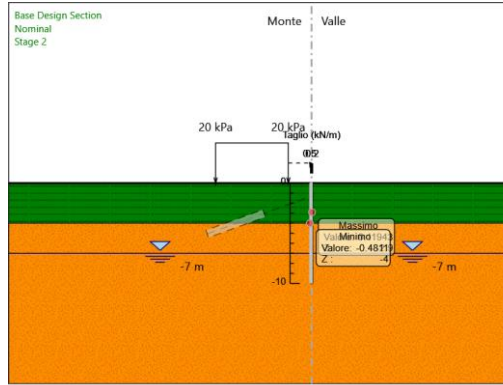
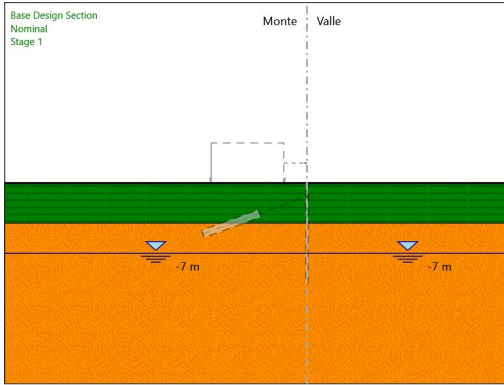
Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 3-	0	0	0
Stage 3-	-0.1	0	0
Stage 3-	-0.1	0	0
Stage 3-	-0.2	-0.06	-0.58
Stage 3-	-0.3	-0.23	-1.73
Stage 3-	-0.4	-0.58	-3.45
Stage 3-	-0.5	-1.13	-5.58
Stage 3-	-0.6	-1.89	-7.6
Stage 3-	-0.7	-2.84	-9.49
Stage 3-	-0.8	-3.97	-11.24
Stage 3-	-0.9	-5.24	-12.76
Stage 3-	-1	-6.65	-14.06
Stage 3-	-1.1	-8.16	-15.12
Stage 3-	-1.2	-9.75	-15.93
Stage 3-	-1.3	-11.42	-16.68
Stage 3-	-1.4	-8.59	28.3
Stage 3-	-1.5	-5.85	27.43
Stage 3-	-1.6	-3.2	26.49
Stage 3-	-1.7	-0.65	25.49
Stage 3-	-1.8	1.79	24.43
Stage 3-	-1.9	4.12	23.3
Stage 3-	-2	6.33	22.1
Stage 3-	-2.1	8.42	20.84
Stage 3-	-2.2	10.37	19.52
Stage 3-	-2.3	12.18	18.13
Stage 3-	-2.4	13.85	16.67
Stage 3-	-2.5	15.37	15.15
Stage 3-	-2.6	16.72	13.57
Stage 3-	-2.7	17.91	11.92
Stage 3-	-2.8	18.93	10.21
Stage 3-	-2.9	19.78	8.43
Stage 3-	-3	20.44	6.58
Stage 3-	-3.1	20.9	4.67
Stage 3-	-3.2	21.17	2.69
Stage 3-	-3.3	21.24	0.65
Stage 3-	-3.4	21.09	-1.46
Stage 3-	-3.5	20.73	-3.65
Stage 3-	-3.6	20.14	-5.9
Stage 3-	-3.7	19.32	-8.22
Stage 3-	-3.8	18.25	-10.6
Stage 3-	-3.9	16.95	-13.06
Stage 3-	-4	15.39	-15.58
Stage 3-	-4.1	13.57	-18.16
Stage 3-	-4.2	11.76	-18.16
Stage 3-	-4.3	9.94	-18.16
Stage 3-	-4.4	8.13	-18.16
Stage 3-	-4.5	6.31	-18.16
Stage 3-	-4.6	4.49	-18.16
Stage 3-	-4.7	2.68	-18.16
Stage 3-	-4.8	0.86	-18.16
Stage 3-	-4.9	-0.96	-18.16
Stage 3-	-5	-2.77	-18.16
Stage 3-	-5.1	-4.59	-18.16
Stage 3-	-5.2	-6.41	-18.16
Stage 3-	-5.3	-8.22	-18.16
Stage 3-	-5.4	-10.04	-18.16
Stage 3-	-5.5	-11.86	-18.16
Stage 3-	-5.6	-13.23	-13.76
Stage 3-	-5.7	-14.16	-9.33
Stage 3-	-5.8	-14.66	-4.93
Stage 3-	-5.9	-14.76	-1.07

Design Assumption: Nominal Risultati Paratia		Muro: LEFT	
Stage	Z (m)	Momento (kN*m/m)	Taglio (kN/m)
Stage 3-	-6	-14.56	2.08
Stage 3-	-6.1	-14.09	4.6
Stage 3-	-6.2	-13.44	6.55
Stage 3-	-6.3	-12.64	7.99
Stage 3-	-6.4	-11.74	9
Stage 3-	-6.5	-10.78	9.64
Stage 3-	-6.6	-9.78	9.96
Stage 3-	-6.7	-8.78	10.02
Stage 3-	-6.8	-7.79	9.86
Stage 3-	-6.9	-6.84	9.54
Stage 3-	-7	-5.93	9.09
Stage 3-	-7.1	-5.08	8.55
Stage 3-	-7.2	-4.28	7.93
Stage 3-	-7.3	-3.56	7.26
Stage 3-	-7.4	-2.9	6.57
Stage 3-	-7.5	-2.31	5.88
Stage 3-	-7.6	-1.79	5.19
Stage 3-	-7.7	-1.34	4.53
Stage 3-	-7.8	-0.95	3.9
Stage 3-	-7.9	-0.62	3.3
Stage 3-	-8	-0.34	2.75
Stage 3-	-8.1	-0.12	2.24
Stage 3-	-8.2	0.06	1.78
Stage 3-	-8.3	0.2	1.38
Stage 3-	-8.4	0.3	1.01
Stage 3-	-8.5	0.37	0.69
Stage 3-	-8.6	0.41	0.42
Stage 3-	-8.7	0.43	0.18
Stage 3-	-8.8	0.43	-0.01
Stage 3-	-8.9	0.41	-0.17
Stage 3-	-9	0.38	-0.29
Stage 3-	-9.1	0.34	-0.39
Stage 3-	-9.2	0.3	-0.45
Stage 3-	-9.3	0.25	-0.49
Stage 3-	-9.4	0.2	-0.5
Stage 3-	-9.5	0.15	-0.49
Stage 3-	-9.6	0.1	-0.46
Stage 3-	-9.7	0.06	-0.4
Stage 3-	-9.8	0.03	-0.32
Stage 3-	-9.9	0.01	-0.21
Stage 3-	-10	0	-0.08

### Grafico Momento Nominal



### Grafico Taglio Nominal



## Risultati Elementi strutturali

Design Assumption: Nominal Sollecitazione Tieback\_New\_New\_New\_New

Stage	Forza (kN/m)
Stage B	47.92
Stage 3-	48.72459

## Risultati Terreno

Tabella Risultati Terreno Left Wall - Nominal - Stage 1

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 1	0	0	0	V-C	0.32	3.1	0	0	0	0	0
Stage 1	-0.1	1.9	0.95	V-C	0.32	3.1	0	0	0	0	0.95
Stage 1	-0.2	3.8	1.9	V-C	0.32	3.1	0	0	0	0	1.9
Stage 1	-0.3	5.7	2.85	V-C	0.32	3.1	0	0	0	0	2.85
Stage 1	-0.4	7.6	3.8	V-C	0.32	3.1	0	0	0	0	3.8
Stage 1	-0.5	9.5	4.75	V-C	0.32	3.1	0	0	0	0	4.75
Stage 1	-0.6	11.4	5.7	V-C	0.32	3.1	0	0	0	0	5.7
Stage 1	-0.7	13.3	6.65	V-C	0.32	3.1	0	0	0	0	6.65
Stage 1	-0.8	15.2	7.6	V-C	0.32	3.1	0	0	0	0	7.6
Stage 1	-0.9	17.1	8.55	V-C	0.32	3.1	0	0	0	0	8.55
Stage 1	-1	19	9.5	V-C	0.32	3.1	0	0	0	0	9.5
Stage 1	-1.1	20.9	10.45	V-C	0.32	3.1	0	0	0	0	10.45
Stage 1	-1.2	22.8	11.4	V-C	0.32	3.1	0	0	0	0	11.4
Stage 1	-1.3	24.7	12.35	V-C	0.32	3.1	0	0	0	0	12.35
Stage 1	-1.4	26.6	13.3	V-C	0.32	3.1	0	0	0	0	13.3
Stage 1	-1.5	28.5	14.25	V-C	0.32	3.1	0	0	0	0	14.25
Stage 1	-1.6	30.4	15.2	V-C	0.32	3.1	0	0	0	0	15.2
Stage 1	-1.7	32.3	16.15	V-C	0.32	3.1	0	0	0	0	16.15
Stage 1	-1.8	34.2	17.1	V-C	0.32	3.1	0	0	0	0	17.1
Stage 1	-1.9	36.1	18.05	V-C	0.32	3.1	0	0	0	0	18.05
Stage 1	-2	38	19	V-C	0.32	3.1	0	0	0	0	19
Stage 1	-2.1	39.9	19.95	V-C	0.32	3.1	0	0	0	0	19.95
Stage 1	-2.2	41.8	20.9	V-C	0.32	3.1	0	0	0	0	20.9
Stage 1	-2.3	43.7	21.85	V-C	0.32	3.1	0	0	0	0	21.85
Stage 1	-2.4	45.6	22.8	V-C	0.32	3.1	0	0	0	0	22.8
Stage 1	-2.5	47.5	23.75	V-C	0.32	3.1	0	0	0	0	23.75
Stage 1	-2.6	49.4	24.7	V-C	0.32	3.1	0	0	0	0	24.7
Stage 1	-2.7	51.3	25.65	V-C	0.32	3.1	0	0	0	0	25.65
Stage 1	-2.8	53.2	26.6	V-C	0.32	3.1	0	0	0	0	26.6
Stage 1	-2.9	55.1	27.55	V-C	0.32	3.1	0	0	0	0	27.55
Stage 1	-3	57	28.5	V-C	0.32	3.1	0	0	0	0	28.5
Stage 1	-3.1	58.9	29.45	V-C	0.32	3.1	0	0	0	0	29.45
Stage 1	-3.2	60.8	30.4	V-C	0.32	3.1	0	0	0	0	30.4
Stage 1	-3.3	62.7	31.35	V-C	0.32	3.1	0	0	0	0	31.35
Stage 1	-3.4	64.6	32.3	V-C	0.32	3.1	0	0	0	0	32.3
Stage 1	-3.5	66.5	33.25	V-C	0.32	3.1	0	0	0	0	33.25
Stage 1	-3.6	68.4	34.2	V-C	0.32	3.1	0	0	0	0	34.2
Stage 1	-3.7	70.3	35.15	V-C	0.32	3.1	0	0	0	0	35.15
Stage 1	-3.8	72.2	36.1	V-C	0.32	3.1	0	0	0	0	36.1
Stage 1	-3.9	74.1	37.05	V-C	0.32	3.1	0	0	0	0	37.05
Stage 1	-4	76	38	V-C	0.32	3.1	0	0	0	0	38
Stage 1	-4.1	78.4	39.2	V-C	0.2174.599		45	0	0	0	39.2
Stage 1	-4.2	80.8	40.4	V-C	0.2174.599		45	0	0	0	40.4
Stage 1	-4.3	83.2	41.6	V-C	0.2174.599		45	0	0	0	41.6
Stage 1	-4.4	85.6	42.8	V-C	0.2174.599		45	0	0	0	42.8
Stage 1	-4.5	88	44	V-C	0.2174.599		45	0	0	0	44
Stage 1	-4.6	90.4	45.2	V-C	0.2174.599		45	0	0	0	45.2
Stage 1	-4.7	92.8	46.4	V-C	0.2174.599		45	0	0	0	46.4
Stage 1	-4.8	95.2	47.6	V-C	0.2174.599		45	0	0	0	47.6
Stage 1	-4.9	97.6	48.8	V-C	0.2174.599		45	0	0	0	48.8

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	LEFT Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage 1	-5	100	50	V-C	0.2174.599	45	0	0	0	50
Stage 1	-5.1	102.4	51.2	V-C	0.2174.599	45	0	0	0	51.2
Stage 1	-5.2	104.8	52.4	V-C	0.2174.599	45	0	0	0	52.4
Stage 1	-5.3	107.2	53.6	V-C	0.2174.599	45	0	0	0	53.6
Stage 1	-5.4	109.6	54.8	V-C	0.2174.599	45	0	0	0	54.8
Stage 1	-5.5	112	56	V-C	0.2174.599	45	0	0	0	56
Stage 1	-5.6	114.4	57.2	V-C	0.2174.599	45	0	0	0	57.2
Stage 1	-5.7	116.8	58.4	V-C	0.2174.599	45	0	0	0	58.4
Stage 1	-5.8	119.2	59.6	V-C	0.2174.599	45	0	0	0	59.6
Stage 1	-5.9	121.6	60.8	V-C	0.2174.599	45	0	0	0	60.8
Stage 1	-6	124	62	V-C	0.2174.599	45	0	0	0	62
Stage 1	-6.1	126.4	63.2	V-C	0.2174.599	45	0	0	0	63.2
Stage 1	-6.2	128.8	64.4	V-C	0.2174.599	45	0	0	0	64.4
Stage 1	-6.3	131.2	65.6	V-C	0.2174.599	45	0	0	0	65.6
Stage 1	-6.4	133.6	66.8	V-C	0.2174.599	45	0	0	0	66.8
Stage 1	-6.5	136	68	V-C	0.2174.599	45	0	0	0	68
Stage 1	-6.6	138.4	69.2	V-C	0.2174.599	45	0	0	0	69.2
Stage 1	-6.7	140.8	70.4	V-C	0.2174.599	45	0	0	0	70.4
Stage 1	-6.8	143.2	71.6	V-C	0.2174.599	45	0	0	0	71.6
Stage 1	-6.9	145.6	72.8	V-C	0.2174.599	45	0	0	0	72.8
Stage 1	-7	148	74	V-C	0.2174.599	45	0	0	0	74
Stage 1	-7.1	149.4	74.7	V-C	0.2174.599	45	1	0	0	75.7
Stage 1	-7.2	150.8	75.4	V-C	0.2174.599	45	2	0	0	77.4
Stage 1	-7.3	152.2	76.1	V-C	0.2174.599	45	3	0	0	79.1
Stage 1	-7.4	153.6	76.8	V-C	0.2174.599	45	4	0	0	80.8
Stage 1	-7.5	155	77.5	V-C	0.2174.599	45	5	0	0	82.5
Stage 1	-7.6	156.4	78.2	V-C	0.2174.599	45	6	0	0	84.2
Stage 1	-7.7	157.8	78.9	V-C	0.2174.599	45	7	0	0	85.9
Stage 1	-7.8	159.2	79.6	V-C	0.2174.599	45	8	0	0	87.6
Stage 1	-7.9	160.6	80.3	V-C	0.2174.599	45	9	0	0	89.3
Stage 1	-8	162	81	V-C	0.2174.599	45	10	0	0	91
Stage 1	-8.1	163.4	81.7	V-C	0.2174.599	45	11	0	0	92.7
Stage 1	-8.2	164.8	82.4	V-C	0.2174.599	45	12	0	0	94.4
Stage 1	-8.3	166.2	83.1	V-C	0.2174.599	45	13	0	0	96.1
Stage 1	-8.4	167.6	83.8	V-C	0.2174.599	45	14	0	0	97.8
Stage 1	-8.5	169	84.5	V-C	0.2174.599	45	15	0	0	99.5
Stage 1	-8.6	170.4	85.2	V-C	0.2174.599	45	16	0	0	101.2
Stage 1	-8.7	171.8	85.9	V-C	0.2174.599	45	17	0	0	102.9
Stage 1	-8.8	173.2	86.6	V-C	0.2174.599	45	18	0	0	104.6
Stage 1	-8.9	174.6	87.3	V-C	0.2174.599	45	19	0	0	106.3
Stage 1	-9	176	88	V-C	0.2174.599	45	20	0	0	108
Stage 1	-9.1	177.4	88.7	V-C	0.2174.599	45	21	0	0	109.7
Stage 1	-9.2	178.8	89.4	V-C	0.2174.599	45	22	0	0	111.4
Stage 1	-9.3	180.2	90.1	V-C	0.2174.599	45	23	0	0	113.1
Stage 1	-9.4	181.6	90.8	V-C	0.2174.599	45	24	0	0	114.8
Stage 1	-9.5	183	91.5	V-C	0.2174.599	45	25	0	0	116.5
Stage 1	-9.6	184.4	92.2	V-C	0.2174.599	45	26	0	0	118.2
Stage 1	-9.7	185.8	92.9	V-C	0.2174.599	45	27	0	0	119.9
Stage 1	-9.8	187.2	93.6	V-C	0.2174.599	45	28	0	0	121.6
Stage 1	-9.9	188.6	94.3	V-C	0.2174.599	45	29	0	0	123.3
Stage 1	-10	190	95	V-C	0.2174.599	45	30	0	0	125



Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Muro: LEFT	Lato	RIGHT					
				Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 1	0	0	0	V-C	0.32	3.1	0	0	0	0	0
Stage 1	-0.1	1.9	0.95	V-C	0.32	3.1	0	0	0	0	0.95
Stage 1	-0.2	3.8	1.9	V-C	0.32	3.1	0	0	0	0	1.9
Stage 1	-0.3	5.7	2.85	V-C	0.32	3.1	0	0	0	0	2.85
Stage 1	-0.4	7.6	3.8	V-C	0.32	3.1	0	0	0	0	3.8
Stage 1	-0.5	9.5	4.75	V-C	0.32	3.1	0	0	0	0	4.75
Stage 1	-0.6	11.4	5.7	V-C	0.32	3.1	0	0	0	0	5.7
Stage 1	-0.7	13.3	6.65	V-C	0.32	3.1	0	0	0	0	6.65
Stage 1	-0.8	15.2	7.6	V-C	0.32	3.1	0	0	0	0	7.6
Stage 1	-0.9	17.1	8.55	V-C	0.32	3.1	0	0	0	0	8.55
Stage 1	-1	19	9.5	V-C	0.32	3.1	0	0	0	0	9.5
Stage 1	-1.1	20.9	10.45	V-C	0.32	3.1	0	0	0	0	10.45
Stage 1	-1.2	22.8	11.4	V-C	0.32	3.1	0	0	0	0	11.4
Stage 1	-1.3	24.7	12.35	V-C	0.32	3.1	0	0	0	0	12.35
Stage 1	-1.4	26.6	13.3	V-C	0.32	3.1	0	0	0	0	13.3
Stage 1	-1.5	28.5	14.25	V-C	0.32	3.1	0	0	0	0	14.25
Stage 1	-1.6	30.4	15.2	V-C	0.32	3.1	0	0	0	0	15.2
Stage 1	-1.7	32.3	16.15	V-C	0.32	3.1	0	0	0	0	16.15
Stage 1	-1.8	34.2	17.1	V-C	0.32	3.1	0	0	0	0	17.1
Stage 1	-1.9	36.1	18.05	V-C	0.32	3.1	0	0	0	0	18.05
Stage 1	-2	38	19	V-C	0.32	3.1	0	0	0	0	19
Stage 1	-2.1	39.9	19.95	V-C	0.32	3.1	0	0	0	0	19.95
Stage 1	-2.2	41.8	20.9	V-C	0.32	3.1	0	0	0	0	20.9
Stage 1	-2.3	43.7	21.85	V-C	0.32	3.1	0	0	0	0	21.85
Stage 1	-2.4	45.6	22.8	V-C	0.32	3.1	0	0	0	0	22.8
Stage 1	-2.5	47.5	23.75	V-C	0.32	3.1	0	0	0	0	23.75
Stage 1	-2.6	49.4	24.7	V-C	0.32	3.1	0	0	0	0	24.7
Stage 1	-2.7	51.3	25.65	V-C	0.32	3.1	0	0	0	0	25.65
Stage 1	-2.8	53.2	26.6	V-C	0.32	3.1	0	0	0	0	26.6
Stage 1	-2.9	55.1	27.55	V-C	0.32	3.1	0	0	0	0	27.55
Stage 1	-3	57	28.5	V-C	0.32	3.1	0	0	0	0	28.5
Stage 1	-3.1	58.9	29.45	V-C	0.32	3.1	0	0	0	0	29.45
Stage 1	-3.2	60.8	30.4	V-C	0.32	3.1	0	0	0	0	30.4
Stage 1	-3.3	62.7	31.35	V-C	0.32	3.1	0	0	0	0	31.35
Stage 1	-3.4	64.6	32.3	V-C	0.32	3.1	0	0	0	0	32.3
Stage 1	-3.5	66.5	33.25	V-C	0.32	3.1	0	0	0	0	33.25
Stage 1	-3.6	68.4	34.2	V-C	0.32	3.1	0	0	0	0	34.2
Stage 1	-3.7	70.3	35.15	V-C	0.32	3.1	0	0	0	0	35.15
Stage 1	-3.8	72.2	36.1	V-C	0.32	3.1	0	0	0	0	36.1
Stage 1	-3.9	74.1	37.05	V-C	0.32	3.1	0	0	0	0	37.05
Stage 1	-4	76	38	V-C	0.32	3.1	0	0	0	0	38
Stage 1	-4.1	78.4	39.2	V-C	0.2174.599		45	0	0	0	39.2
Stage 1	-4.2	80.8	40.4	V-C	0.2174.599		45	0	0	0	40.4
Stage 1	-4.3	83.2	41.6	V-C	0.2174.599		45	0	0	0	41.6
Stage 1	-4.4	85.6	42.8	V-C	0.2174.599		45	0	0	0	42.8
Stage 1	-4.5	88	44	V-C	0.2174.599		45	0	0	0	44
Stage 1	-4.6	90.4	45.2	V-C	0.2174.599		45	0	0	0	45.2
Stage 1	-4.7	92.8	46.4	V-C	0.2174.599		45	0	0	0	46.4
Stage 1	-4.8	95.2	47.6	V-C	0.2174.599		45	0	0	0	47.6
Stage 1	-4.9	97.6	48.8	V-C	0.2174.599		45	0	0	0	48.8
Stage 1	-5	100	50	V-C	0.2174.599		45	0	0	0	50
Stage 1	-5.1	102.4	51.2	V-C	0.2174.599		45	0	0	0	51.2
Stage 1	-5.2	104.8	52.4	V-C	0.2174.599		45	0	0	0	52.4
Stage 1	-5.3	107.2	53.6	V-C	0.2174.599		45	0	0	0	53.6
Stage 1	-5.4	109.6	54.8	V-C	0.2174.599		45	0	0	0	54.8
Stage 1	-5.5	112	56	V-C	0.2174.599		45	0	0	0	56
Stage 1	-5.6	114.4	57.2	V-C	0.2174.599		45	0	0	0	57.2
Stage 1	-5.7	116.8	58.4	V-C	0.2174.599		45	0	0	0	58.4
Stage 1	-5.8	119.2	59.6	V-C	0.2174.599		45	0	0	0	59.6
Stage 1	-5.9	121.6	60.8	V-C	0.2174.599		45	0	0	0	60.8
Stage 1	-6	124	62	V-C	0.2174.599		45	0	0	0	62
Stage 1	-6.1	126.4	63.2	V-C	0.2174.599		45	0	0	0	63.2
Stage 1	-6.2	128.8	64.4	V-C	0.2174.599		45	0	0	0	64.4

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	RIGHT Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)
Stage 1	-6.3	131.2	65.6	V-C	0.2174.599	45	45	0	0	65.6
Stage 1	-6.4	133.6	66.8	V-C	0.2174.599	45	45	0	0	66.8
Stage 1	-6.5	136	68	V-C	0.2174.599	45	45	0	0	68
Stage 1	-6.6	138.4	69.2	V-C	0.2174.599	45	45	0	0	69.2
Stage 1	-6.7	140.8	70.4	V-C	0.2174.599	45	45	0	0	70.4
Stage 1	-6.8	143.2	71.6	V-C	0.2174.599	45	45	0	0	71.6
Stage 1	-6.9	145.6	72.8	V-C	0.2174.599	45	45	0	0	72.8
Stage 1	-7	148	74	V-C	0.2174.599	45	45	0	0	74
Stage 1	-7.1	149.4	74.7	V-C	0.2174.599	45	45	1	0	75.7
Stage 1	-7.2	150.8	75.4	V-C	0.2174.599	45	45	2	0	77.4
Stage 1	-7.3	152.2	76.1	V-C	0.2174.599	45	45	3	0	79.1
Stage 1	-7.4	153.6	76.8	V-C	0.2174.599	45	45	4	0	80.8
Stage 1	-7.5	155	77.5	V-C	0.2174.599	45	45	5	0	82.5
Stage 1	-7.6	156.4	78.2	V-C	0.2174.599	45	45	6	0	84.2
Stage 1	-7.7	157.8	78.9	V-C	0.2174.599	45	45	7	0	85.9
Stage 1	-7.8	159.2	79.6	V-C	0.2174.599	45	45	8	0	87.6
Stage 1	-7.9	160.6	80.3	V-C	0.2174.599	45	45	9	0	89.3
Stage 1	-8	162	81	V-C	0.2174.599	45	45	10	0	91
Stage 1	-8.1	163.4	81.7	V-C	0.2174.599	45	45	11	0	92.7
Stage 1	-8.2	164.8	82.4	V-C	0.2174.599	45	45	12	0	94.4
Stage 1	-8.3	166.2	83.1	V-C	0.2174.599	45	45	13	0	96.1
Stage 1	-8.4	167.6	83.8	V-C	0.2174.599	45	45	14	0	97.8
Stage 1	-8.5	169	84.5	V-C	0.2174.599	45	45	15	0	99.5
Stage 1	-8.6	170.4	85.2	V-C	0.2174.599	45	45	16	0	101.2
Stage 1	-8.7	171.8	85.9	V-C	0.2174.599	45	45	17	0	102.9
Stage 1	-8.8	173.2	86.6	V-C	0.2174.599	45	45	18	0	104.6
Stage 1	-8.9	174.6	87.3	V-C	0.2174.599	45	45	19	0	106.3
Stage 1	-9	176	88	V-C	0.2174.599	45	45	20	0	108
Stage 1	-9.1	177.4	88.7	V-C	0.2174.599	45	45	21	0	109.7
Stage 1	-9.2	178.8	89.4	V-C	0.2174.599	45	45	22	0	111.4
Stage 1	-9.3	180.2	90.1	V-C	0.2174.599	45	45	23	0	113.1
Stage 1	-9.4	181.6	90.8	V-C	0.2174.599	45	45	24	0	114.8
Stage 1	-9.5	183	91.5	V-C	0.2174.599	45	45	25	0	116.5
Stage 1	-9.6	184.4	92.2	V-C	0.2174.599	45	45	26	0	118.2
Stage 1	-9.7	185.8	92.9	V-C	0.2174.599	45	45	27	0	119.9
Stage 1	-9.8	187.2	93.6	V-C	0.2174.599	45	45	28	0	121.6
Stage 1	-9.9	188.6	94.3	V-C	0.2174.599	45	45	29	0	123.3
Stage 1	-10	190	95	V-C	0.2174.599	45	45	30	0	125

### Tabella Risultati Terreno Left Wall - Nominal - Stage 2

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	LEFT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	0	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage 2	-0.1	1.9	1.021	V-C	0.32	3.1	0	0	0	0	1.021
Stage 2	-0.2	3.803	1.955	V-C	0.32	3.1	0	0	0	0	1.955
Stage 2	-0.3	5.709	2.891	V-C	0.32	3.1	0	0	0	0	2.891
Stage 2	-0.4	7.621	3.829	V-C	0.32	3.1	0	0	0	0	3.829
Stage 2	-0.5	9.541	4.771	V-C	0.32	3.1	0	0	0	0	4.771
Stage 2	-0.6	11.469	5.706	UL-RL	0.32	3.1	0	0	0	0	5.706
Stage 2	-0.7	13.406	6.645	UL-RL	0.32	3.1	0	0	0	0	6.645
Stage 2	-0.8	15.353	7.587	UL-RL	0.32	3.1	0	0	0	0	7.587
Stage 2	-0.9	17.311	8.534	UL-RL	0.32	3.1	0	0	0	0	8.534
Stage 2	-1	19.278	9.484	UL-RL	0.32	3.1	0	0	0	0	9.484
Stage 2	-1.1	21.256	10.438	UL-RL	0.32	3.1	0	0	0	0	10.438
Stage 2	-1.2	23.242	11.395	UL-RL	0.32	3.1	0	0	0	0	11.395
Stage 2	-1.3	25.237	12.354	UL-RL	0.32	3.1	0	0	0	0	12.354
Stage 2	-1.4	27.24	13.316	UL-RL	0.32	3.1	0	0	0	0	13.316
Stage 2	-1.5	29.25	14.279	UL-RL	0.32	3.1	0	0	0	0	14.279
Stage 2	-1.6	31.265	15.244	UL-RL	0.32	3.1	0	0	0	0	15.244
Stage 2	-1.7	33.286	16.21	UL-RL	0.32	3.1	0	0	0	0	16.21
Stage 2	-1.8	35.31	17.177	UL-RL	0.32	3.1	0	0	0	0	17.177
Stage 2	-1.9	37.337	18.144	UL-RL	0.32	3.1	0	0	0	0	18.144
Stage 2	-2	39.367	19.112	UL-RL	0.32	3.1	0	0	0	0	19.112
Stage 2	-2.1	41.398	20.08	UL-RL	0.32	3.1	0	0	0	0	20.08
Stage 2	-2.2	43.429	21.049	UL-RL	0.32	3.1	0	0	0	0	21.049
Stage 2	-2.3	45.461	22.017	UL-RL	0.32	3.1	0	0	0	0	22.017
Stage 2	-2.4	47.492	22.987	UL-RL	0.32	3.1	0	0	0	0	22.987
Stage 2	-2.5	49.522	23.957	UL-RL	0.32	3.1	0	0	0	0	23.957
Stage 2	-2.6	51.55	24.929	UL-RL	0.32	3.1	0	0	0	0	24.929
Stage 2	-2.7	53.577	25.902	UL-RL	0.32	3.1	0	0	0	0	25.902
Stage 2	-2.8	55.601	26.877	UL-RL	0.32	3.1	0	0	0	0	26.877
Stage 2	-2.9	57.623	27.854	UL-RL	0.32	3.1	0	0	0	0	27.854
Stage 2	-3	59.643	28.834	UL-RL	0.32	3.1	0	0	0	0	28.834
Stage 2	-3.1	61.85	29.914	UL-RL	0.32	3.1	0	0	0	0	29.914
Stage 2	-3.2	63.924	30.932	UL-RL	0.32	3.1	0	0	0	0	30.932
Stage 2	-3.3	65.991	31.953	UL-RL	0.32	3.1	0	0	0	0	31.953
Stage 2	-3.4	68.26	33.082	UL-RL	0.32	3.1	0	0	0	0	33.082
Stage 2	-3.5	70.308	34.107	UL-RL	0.32	3.1	0	0	0	0	34.107
Stage 2	-3.6	72.548	35.236	UL-RL	0.32	3.1	0	0	0	0	35.236
Stage 2	-3.7	74.579	36.267	UL-RL	0.32	3.1	0	0	0	0	36.267
Stage 2	-3.8	76.605	37.302	UL-RL	0.32	3.1	0	0	0	0	37.302
Stage 2	-3.9	78.81	38.432	UL-RL	0.32	3.1	0	0	0	0	38.432
Stage 2	-4	80.823	39.47	UL-RL	0.32	3.1	0	0	0	0	39.47
Stage 2	-4.1	83.332	38.623	UL-RL	0.2174.599		45	0	0	0	38.623
Stage 2	-4.2	86.008	40.071	UL-RL	0.2174.599		45	0	0	0	40.071
Stage 2	-4.3	88.506	41.423	UL-RL	0.2174.599		45	0	0	0	41.423
Stage 2	-4.4	91.163	42.842	UL-RL	0.2174.599		45	0	0	0	42.842
Stage 2	-4.5	93.651	44.162	UL-RL	0.2174.599		45	0	0	0	44.162
Stage 2	-4.6	96.136	45.464	UL-RL	0.2174.599		45	0	0	0	45.464
Stage 2	-4.7	98.771	46.825	UL-RL	0.2174.599		45	0	0	0	46.825
Stage 2	-4.8	101.248	48.092	UL-RL	0.2174.599		45	0	0	0	48.092
Stage 2	-4.9	103.869	49.417	UL-RL	0.2174.599		45	0	0	0	49.417
Stage 2	-5	106.339	50.653	UL-RL	0.2174.599		45	0	0	0	50.653
Stage 2	-5.1	108.807	51.877	UL-RL	0.2174.599		45	0	0	0	51.877
Stage 2	-5.2	111.411	53.16	UL-RL	0.2174.599		45	0	0	0	53.16
Stage 2	-5.3	113.872	54.364	UL-RL	0.2174.599		45	0	0	0	54.364
Stage 2	-5.4	116.465	55.628	UL-RL	0.2174.599		45	0	0	0	55.628
Stage 2	-5.5	118.921	56.819	UL-RL	0.2174.599		45	0	0	0	56.819
Stage 2	-5.6	121.376	58.006	UL-RL	0.2174.599		45	0	0	0	58.006
Stage 2	-5.7	123.954	59.253	UL-RL	0.2174.599		45	0	0	0	59.253
Stage 2	-5.8	126.404	60.434	UL-RL	0.2174.599		45	0	0	0	60.434
Stage 2	-5.9	128.852	61.615	UL-RL	0.2174.599		45	0	0	0	61.615
Stage 2	-6	131.419	62.854	UL-RL	0.2174.599		45	0	0	0	62.854

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)		
Stage 2	-6.1	133.864	64.033	UL-RL	0.2174.599	45	0	0	0	64.033	
Stage 2	-6.2	136.422	65.27	UL-RL	0.2174.599	45	0	0	0	65.27	
Stage 2	-6.3	138.863	66.45	UL-RL	0.2174.599	45	0	0	0	66.45	
Stage 2	-6.4	141.302	67.63	UL-RL	0.2174.599	45	0	0	0	67.63	
Stage 2	-6.5	143.851	68.867	UL-RL	0.2174.599	45	0	0	0	68.867	
Stage 2	-6.6	146.287	70.049	UL-RL	0.2174.599	45	0	0	0	70.049	
Stage 2	-6.7	148.829	71.285	UL-RL	0.2174.599	45	0	0	0	71.285	
Stage 2	-6.8	151.262	72.468	UL-RL	0.2174.599	45	0	0	0	72.468	
Stage 2	-6.9	153.695	73.653	UL-RL	0.2174.599	45	0	0	0	73.653	
Stage 2	-7	156.229	74.889	UL-RL	0.2174.599	45	0	0	0	74.889	
Stage 2	-7.1	157.658	75.575	UL-RL	0.2174.599	45	1	0	0	76.575	
Stage 2	-7.2	159.187	76.311	UL-RL	0.2174.599	45	2	0	0	78.311	
Stage 2	-7.3	160.614	76.997	UL-RL	0.2174.599	45	3	0	0	79.997	
Stage 2	-7.4	162.041	77.685	UL-RL	0.2174.599	45	4	0	0	81.685	
Stage 2	-7.5	163.562	78.42	UL-RL	0.2174.599	45	5	0	0	83.42	
Stage 2	-7.6	164.987	79.108	UL-RL	0.2174.599	45	6	0	0	85.108	
Stage 2	-7.7	166.41	79.796	UL-RL	0.2174.599	45	7	0	0	86.796	
Stage 2	-7.8	167.926	80.53	UL-RL	0.2174.599	45	8	0	0	88.53	
Stage 2	-7.9	169.348	81.218	UL-RL	0.2174.599	45	9	0	0	90.218	
Stage 2	-8	170.859	81.951	UL-RL	0.2174.599	45	10	0	0	91.951	
Stage 2	-8.1	172.279	82.64	UL-RL	0.2174.599	45	11	0	0	93.64	
Stage 2	-8.2	173.698	83.329	UL-RL	0.2174.599	45	12	0	0	95.329	
Stage 2	-8.3	175.204	84.061	UL-RL	0.2174.599	45	13	0	0	97.061	
Stage 2	-8.4	176.622	84.751	UL-RL	0.2174.599	45	14	0	0	98.751	
Stage 2	-8.5	178.124	85.483	UL-RL	0.2174.599	45	15	0	0	100.483	
Stage 2	-8.6	179.54	86.173	UL-RL	0.2174.599	45	16	0	0	102.173	
Stage 2	-8.7	180.957	86.865	UL-RL	0.2174.599	45	17	0	0	103.865	
Stage 2	-8.8	182.454	87.598	UL-RL	0.2174.599	45	18	0	0	105.598	
Stage 2	-8.9	183.869	88.291	UL-RL	0.2174.599	45	19	0	0	107.292	
Stage 2	-9	185.363	89.026	UL-RL	0.2174.599	45	20	0	0	109.026	
Stage 2	-9.1	186.776	89.722	UL-RL	0.2174.599	45	21	0	0	110.722	
Stage 2	-9.2	188.19	90.419	UL-RL	0.2174.599	45	22	0	0	112.419	
Stage 2	-9.3	189.68	91.157	UL-RL	0.2174.599	45	23	0	0	114.157	
Stage 2	-9.4	191.092	91.857	UL-RL	0.2174.599	45	24	0	0	115.857	
Stage 2	-9.5	192.504	92.559	UL-RL	0.2174.599	45	25	0	0	117.559	
Stage 2	-9.6	193.84	93.224	UL-RL	0.2174.599	45	26	0	0	119.224	
Stage 2	-9.7	195.178	93.891	UL-RL	0.2174.599	45	27	0	0	120.891	
Stage 2	-9.8	196.516	94.559	UL-RL	0.2174.599	45	28	0	0	122.559	
Stage 2	-9.9	197.855	95.227	UL-RL	0.2174.599	45	29	0	0	124.228	
Stage 2	-10	199.195	95.897	UL-RL	0.2174.599	45	30	0	0	125.897	

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 2	0	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage 2	-0.1	1.9	0.888	UL-RL	0.32	3.1	0	0	0	0	0.888
Stage 2	-0.2	3.8	1.853	UL-RL	0.32	3.1	0	0	0	0	1.853
Stage 2	-0.3	5.7	2.819	UL-RL	0.32	3.1	0	0	0	0	2.819
Stage 2	-0.4	7.6	3.784	UL-RL	0.32	3.1	0	0	0	0	3.784
Stage 2	-0.5	9.5	4.749	UL-RL	0.32	3.1	0	0	0	0	4.749
Stage 2	-0.6	11.4	5.71	UL-RL	0.32	3.1	0	0	0	0	5.71
Stage 2	-0.7	13.3	6.67	UL-RL	0.32	3.1	0	0	0	0	6.67
Stage 2	-0.8	15.2	7.63	UL-RL	0.32	3.1	0	0	0	0	7.63
Stage 2	-0.9	17.1	8.591	V-C	0.32	3.1	0	0	0	0	8.591
Stage 2	-1	19	9.552	V-C	0.32	3.1	0	0	0	0	9.552
Stage 2	-1.1	20.9	10.514	V-C	0.32	3.1	0	0	0	0	10.514
Stage 2	-1.2	22.8	11.477	V-C	0.32	3.1	0	0	0	0	11.477
Stage 2	-1.3	24.7	12.44	V-C	0.32	3.1	0	0	0	0	12.44
Stage 2	-1.4	26.6	13.403	V-C	0.32	3.1	0	0	0	0	13.403
Stage 2	-1.5	28.5	14.367	V-C	0.32	3.1	0	0	0	0	14.367
Stage 2	-1.6	30.4	15.332	V-C	0.32	3.1	0	0	0	0	15.332
Stage 2	-1.7	32.3	16.297	V-C	0.32	3.1	0	0	0	0	16.297
Stage 2	-1.8	34.2	17.262	V-C	0.32	3.1	0	0	0	0	17.262
Stage 2	-1.9	36.1	18.228	V-C	0.32	3.1	0	0	0	0	18.228
Stage 2	-2	38	19.194	V-C	0.32	3.1	0	0	0	0	19.194
Stage 2	-2.1	39.9	20.16	V-C	0.32	3.1	0	0	0	0	20.16
Stage 2	-2.2	41.8	21.126	V-C	0.32	3.1	0	0	0	0	21.126
Stage 2	-2.3	43.7	22.091	V-C	0.32	3.1	0	0	0	0	22.091
Stage 2	-2.4	45.6	23.057	V-C	0.32	3.1	0	0	0	0	23.057
Stage 2	-2.5	47.5	24.022	V-C	0.32	3.1	0	0	0	0	24.022
Stage 2	-2.6	49.4	24.987	V-C	0.32	3.1	0	0	0	0	24.987
Stage 2	-2.7	51.3	25.95	V-C	0.32	3.1	0	0	0	0	25.95
Stage 2	-2.8	53.2	26.913	V-C	0.32	3.1	0	0	0	0	26.913
Stage 2	-2.9	55.1	27.874	V-C	0.32	3.1	0	0	0	0	27.874
Stage 2	-3	57	28.834	V-C	0.32	3.1	0	0	0	0	28.834
Stage 2	-3.1	58.9	29.793	V-C	0.32	3.1	0	0	0	0	29.793
Stage 2	-3.2	60.8	30.749	V-C	0.32	3.1	0	0	0	0	30.749
Stage 2	-3.3	62.7	31.703	V-C	0.32	3.1	0	0	0	0	31.703
Stage 2	-3.4	64.6	32.655	V-C	0.32	3.1	0	0	0	0	32.655
Stage 2	-3.5	66.5	33.605	V-C	0.32	3.1	0	0	0	0	33.605
Stage 2	-3.6	68.4	34.552	V-C	0.32	3.1	0	0	0	0	34.552
Stage 2	-3.7	70.3	35.496	V-C	0.32	3.1	0	0	0	0	35.496
Stage 2	-3.8	72.2	36.439	V-C	0.32	3.1	0	0	0	0	36.439
Stage 2	-3.9	74.1	37.38	V-C	0.32	3.1	0	0	0	0	37.38
Stage 2	-4	76	38.319	V-C	0.32	3.1	0	0	0	0	38.319
Stage 2	-4.1	78.4	40.027	V-C	0.2174.599		45	0	0	0	40.027
Stage 2	-4.2	80.8	41.197	V-C	0.2174.599		45	0	0	0	41.197
Stage 2	-4.3	83.2	42.369	V-C	0.2174.599		45	0	0	0	42.369
Stage 2	-4.4	85.6	43.545	V-C	0.2174.599		45	0	0	0	43.545
Stage 2	-4.5	88	44.724	V-C	0.2174.599		45	0	0	0	44.724
Stage 2	-4.6	90.4	45.908	V-C	0.2174.599		45	0	0	0	45.908
Stage 2	-4.7	92.8	47.096	V-C	0.2174.599		45	0	0	0	47.096
Stage 2	-4.8	95.2	48.288	V-C	0.2174.599		45	0	0	0	48.288
Stage 2	-4.9	97.6	49.484	V-C	0.2174.599		45	0	0	0	49.484
Stage 2	-5	100	50.684	V-C	0.2174.599		45	0	0	0	50.684
Stage 2	-5.1	102.4	51.887	V-C	0.2174.599		45	0	0	0	51.887
Stage 2	-5.2	104.8	53.092	V-C	0.2174.599		45	0	0	0	53.092
Stage 2	-5.3	107.2	54.299	V-C	0.2174.599		45	0	0	0	54.299
Stage 2	-5.4	109.6	55.508	V-C	0.2174.599		45	0	0	0	55.508
Stage 2	-5.5	112	56.718	V-C	0.2174.599		45	0	0	0	56.718
Stage 2	-5.6	114.4	57.929	V-C	0.2174.599		45	0	0	0	57.929
Stage 2	-5.7	116.8	59.14	V-C	0.2174.599		45	0	0	0	59.14
Stage 2	-5.8	119.2	60.352	V-C	0.2174.599		45	0	0	0	60.352
Stage 2	-5.9	121.6	61.564	V-C	0.2174.599		45	0	0	0	61.564
Stage 2	-6	124	62.776	V-C	0.2174.599		45	0	0	0	62.776
Stage 2	-6.1	126.4	63.988	V-C	0.2174.599		45	0	0	0	63.988
Stage 2	-6.2	128.8	65.199	V-C	0.2174.599		45	0	0	0	65.199

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Muro:		LEFT		Lato		RIGHT		Gradiente U* (kPa)	Peq (kPa)
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)			
Stage 2	-6.3	131.2	66.41	V-C	0.2174.599	45	0	0	0	0	66.41
Stage 2	-6.4	133.6	67.621	V-C	0.2174.599	45	0	0	0	0	67.621
Stage 2	-6.5	136	68.831	V-C	0.2174.599	45	0	0	0	0	68.831
Stage 2	-6.6	138.4	70.041	V-C	0.2174.599	45	0	0	0	0	70.041
Stage 2	-6.7	140.8	71.251	V-C	0.2174.599	45	0	0	0	0	71.251
Stage 2	-6.8	143.2	72.46	V-C	0.2174.599	45	0	0	0	0	72.46
Stage 2	-6.9	145.6	73.668	V-C	0.2174.599	45	0	0	0	0	73.668
Stage 2	-7	148	74.877	V-C	0.2174.599	45	0	0	0	0	74.877
Stage 2	-7.1	149.4	75.585	V-C	0.2174.599	45	1	0	0	0	76.584
Stage 2	-7.2	150.8	76.292	V-C	0.2174.599	45	2	0	0	0	78.292
Stage 2	-7.3	152.2	77	V-C	0.2174.599	45	3	0	0	0	79.999
Stage 2	-7.4	153.6	77.707	V-C	0.2174.599	45	4	0	0	0	81.707
Stage 2	-7.5	155	78.413	V-C	0.2174.599	45	5	0	0	0	83.413
Stage 2	-7.6	156.4	79.12	V-C	0.2174.599	45	6	0	0	0	85.12
Stage 2	-7.7	157.8	79.827	V-C	0.2174.599	45	7	0	0	0	86.827
Stage 2	-7.8	159.2	80.533	V-C	0.2174.599	45	8	0	0	0	88.533
Stage 2	-7.9	160.6	81.239	V-C	0.2174.599	45	9	0	0	0	90.239
Stage 2	-8	162	81.945	V-C	0.2174.599	45	10	0	0	0	91.945
Stage 2	-8.1	163.4	82.651	V-C	0.2174.599	45	11	0	0	0	93.651
Stage 2	-8.2	164.8	83.357	V-C	0.2174.599	45	12	0	0	0	95.357
Stage 2	-8.3	166.2	84.062	V-C	0.2174.599	45	13	0	0	0	97.062
Stage 2	-8.4	167.6	84.768	V-C	0.2174.599	45	14	0	0	0	98.768
Stage 2	-8.5	169	85.473	V-C	0.2174.599	45	15	0	0	0	100.473
Stage 2	-8.6	170.4	86.178	V-C	0.2174.599	45	16	0	0	0	102.178
Stage 2	-8.7	171.8	86.882	V-C	0.2174.599	45	17	0	0	0	103.882
Stage 2	-8.8	173.2	87.586	V-C	0.2174.599	45	18	0	0	0	105.586
Stage 2	-8.9	174.6	88.29	V-C	0.2174.599	45	19	0	0	0	107.29
Stage 2	-9	176	88.994	V-C	0.2174.599	45	20	0	0	0	108.994
Stage 2	-9.1	177.4	89.696	V-C	0.2174.599	45	21	0	0	0	110.696
Stage 2	-9.2	178.8	90.399	V-C	0.2174.599	45	22	0	0	0	112.399
Stage 2	-9.3	180.2	91.101	V-C	0.2174.599	45	23	0	0	0	114.101
Stage 2	-9.4	181.6	91.803	V-C	0.2174.599	45	24	0	0	0	115.803
Stage 2	-9.5	183	92.504	V-C	0.2174.599	45	25	0	0	0	117.504
Stage 2	-9.6	184.4	93.205	V-C	0.2174.599	45	26	0	0	0	119.205
Stage 2	-9.7	185.8	93.905	V-C	0.2174.599	45	27	0	0	0	120.905
Stage 2	-9.8	187.2	94.605	V-C	0.2174.599	45	28	0	0	0	122.606
Stage 2	-9.9	188.6	95.306	V-C	0.2174.599	45	29	0	0	0	124.306
Stage 2	-10	190	96.006	V-C	0.2174.599	45	30	0	0	0	126.006

### Tabella Risultati Terreno Left Wall - Nominal - Stage A

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	LEFT Ka	Lato Kp	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	0	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage A	-0.1	1.9	0.608	ACTIVE	0.32	3.1	0	0	0	0	0.608
Stage A	-0.2	3.803	1.217	ACTIVE	0.32	3.1	0	0	0	0	1.217
Stage A	-0.3	5.709	1.827	ACTIVE	0.32	3.1	0	0	0	0	1.827
Stage A	-0.4	7.621	2.439	ACTIVE	0.32	3.1	0	0	0	0	2.439
Stage A	-0.5	9.541	3.053	ACTIVE	0.32	3.1	0	0	0	0	3.053
Stage A	-0.6	11.469	3.67	ACTIVE	0.32	3.1	0	0	0	0	3.67
Stage A	-0.7	13.406	4.29	ACTIVE	0.32	3.1	0	0	0	0	4.29
Stage A	-0.8	15.353	4.913	ACTIVE	0.32	3.1	0	0	0	0	4.913
Stage A	-0.9	17.311	5.539	ACTIVE	0.32	3.1	0	0	0	0	5.539
Stage A	-1	19.278	6.169	ACTIVE	0.32	3.1	0	0	0	0	6.169
Stage A	-1.1	21.256	6.802	ACTIVE	0.32	3.1	0	0	0	0	6.802
Stage A	-1.2	23.242	7.438	ACTIVE	0.32	3.1	0	0	0	0	7.438
Stage A	-1.3	25.237	8.076	ACTIVE	0.32	3.1	0	0	0	0	8.076
Stage A	-1.4	27.24	8.717	ACTIVE	0.32	3.1	0	0	0	0	8.717
Stage A	-1.5	29.25	9.36	ACTIVE	0.32	3.1	0	0	0	0	9.36
Stage A	-1.6	31.265	10.005	ACTIVE	0.32	3.1	0	0	0	0	10.005
Stage A	-1.7	33.286	10.651	ACTIVE	0.32	3.1	0	0	0	0	10.651
Stage A	-1.8	35.31	11.299	ACTIVE	0.32	3.1	0	0	0	0	11.299
Stage A	-1.9	37.337	11.948	ACTIVE	0.32	3.1	0	0	0	0	11.948
Stage A	-2	39.367	12.597	ACTIVE	0.32	3.1	0	0	0	0	12.597
Stage A	-2.1	41.398	13.247	ACTIVE	0.32	3.1	0	0	0	0	13.247
Stage A	-2.2	43.429	13.897	ACTIVE	0.32	3.1	0	0	0	0	13.897
Stage A	-2.3	45.461	14.547	ACTIVE	0.32	3.1	0	0	0	0	14.547
Stage A	-2.4	47.492	15.197	ACTIVE	0.32	3.1	0	0	0	0	15.197
Stage A	-2.5	49.522	15.847	ACTIVE	0.32	3.1	0	0	0	0	15.847
Stage A	-2.6	51.55	16.496	ACTIVE	0.32	3.1	0	0	0	0	16.496
Stage A	-2.7	53.577	17.145	ACTIVE	0.32	3.1	0	0	0	0	17.145
Stage A	-2.8	55.601	17.792	ACTIVE	0.32	3.1	0	0	0	0	17.792
Stage A	-2.9	57.623	18.439	ACTIVE	0.32	3.1	0	0	0	0	18.439
Stage A	-3	59.643	19.461	UL-RL	0.32	3.1	0	0	0	0	19.461
Stage A	-3.1	61.85	22.108	UL-RL	0.32	3.1	0	0	0	0	22.108
Stage A	-3.2	63.924	24.469	UL-RL	0.32	3.1	0	0	0	0	24.469
Stage A	-3.3	65.991	26.627	UL-RL	0.32	3.1	0	0	0	0	26.627
Stage A	-3.4	68.26	28.708	UL-RL	0.32	3.1	0	0	0	0	28.708
Stage A	-3.5	70.308	30.519	UL-RL	0.32	3.1	0	0	0	0	30.519
Stage A	-3.6	72.548	32.289	UL-RL	0.32	3.1	0	0	0	0	32.289
Stage A	-3.7	74.579	33.836	UL-RL	0.32	3.1	0	0	0	0	33.836
Stage A	-3.8	76.605	35.278	UL-RL	0.32	3.1	0	0	0	0	35.278
Stage A	-3.9	78.81	36.723	UL-RL	0.32	3.1	0	0	0	0	36.723
Stage A	-4	80.823	37.999	UL-RL	0.32	3.1	0	0	0	0	37.999
Stage A	-4.1	83.332	34.273	UL-RL	0.2174.599		45	0	0	0	34.273
Stage A	-4.2	86.008	36.113	UL-RL	0.2174.599		45	0	0	0	36.113
Stage A	-4.3	88.506	37.706	UL-RL	0.2174.599		45	0	0	0	37.706
Stage A	-4.4	91.163	39.245	UL-RL	0.2174.599		45	0	0	0	39.245
Stage A	-4.5	93.651	40.59	UL-RL	0.2174.599		45	0	0	0	40.59
Stage A	-4.6	96.136	41.847	UL-RL	0.2174.599		45	0	0	0	41.847
Stage A	-4.7	98.771	43.11	UL-RL	0.2174.599		45	0	0	0	43.11
Stage A	-4.8	101.248	44.245	UL-RL	0.2174.599		45	0	0	0	44.245
Stage A	-4.9	103.869	45.417	UL-RL	0.2174.599		45	0	0	0	45.417
Stage A	-5	106.339	46.491	UL-RL	0.2174.599		45	0	0	0	46.491
Stage A	-5.1	108.807	47.552	UL-RL	0.2174.599		45	0	0	0	47.552
Stage A	-5.2	111.411	48.677	UL-RL	0.2174.599		45	0	0	0	48.677
Stage A	-5.3	113.872	49.733	UL-RL	0.2174.599		45	0	0	0	49.733
Stage A	-5.4	116.465	50.862	UL-RL	0.2174.599		45	0	0	0	50.862
Stage A	-5.5	118.921	51.934	UL-RL	0.2174.599		45	0	0	0	51.934
Stage A	-5.6	121.376	53.017	UL-RL	0.2174.599		45	0	0	0	53.017
Stage A	-5.7	123.954	54.176	UL-RL	0.2174.599		45	0	0	0	54.176
Stage A	-5.8	126.404	55.285	UL-RL	0.2174.599		45	0	0	0	55.285
Stage A	-5.9	128.852	56.407	UL-RL	0.2174.599		45	0	0	0	56.407
Stage A	-6	131.419	57.602	UL-RL	0.2174.599		45	0	0	0	57.602



Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	-6.1	133.864	58.747	UL-RL	0.2174.599	45	0	0	0	58.747
Stage A	-6.2	136.422	59.961	UL-RL	0.2174.599	45	0	0	0	59.961
Stage A	-6.3	138.863	61.125	UL-RL	0.2174.599	45	0	0	0	61.125
Stage A	-6.4	141.302	62.297	UL-RL	0.2174.599	45	0	0	0	62.297
Stage A	-6.5	143.851	63.532	UL-RL	0.2174.599	45	0	0	0	63.532
Stage A	-6.6	146.287	64.716	UL-RL	0.2174.599	45	0	0	0	64.716
Stage A	-6.7	148.829	65.958	UL-RL	0.2174.599	45	0	0	0	65.958
Stage A	-6.8	151.262	67.149	UL-RL	0.2174.599	45	0	0	0	67.149
Stage A	-6.9	153.695	68.343	UL-RL	0.2174.599	45	0	0	0	68.343
Stage A	-7	156.229	69.591	UL-RL	0.2174.599	45	0	0	0	69.591
Stage A	-7.1	157.658	70.287	UL-RL	0.2174.599	45	1	0	0	71.287
Stage A	-7.2	159.187	71.035	UL-RL	0.2174.599	45	2	0	0	73.035
Stage A	-7.3	160.614	71.732	UL-RL	0.2174.599	45	3	0	0	74.732
Stage A	-7.4	162.041	72.429	UL-RL	0.2174.599	45	4	0	0	76.429
Stage A	-7.5	163.562	73.174	UL-RL	0.2174.599	45	5	0	0	78.174
Stage A	-7.6	164.987	73.871	UL-RL	0.2174.599	45	6	0	0	79.871
Stage A	-7.7	166.41	74.567	UL-RL	0.2174.599	45	7	0	0	81.567
Stage A	-7.8	167.926	75.308	UL-RL	0.2174.599	45	8	0	0	83.308
Stage A	-7.9	169.348	76.003	UL-RL	0.2174.599	45	9	0	0	85.002
Stage A	-8	170.859	76.741	UL-RL	0.2174.599	45	10	0	0	86.741
Stage A	-8.1	172.279	77.435	UL-RL	0.2174.599	45	11	0	0	88.435
Stage A	-8.2	173.698	78.128	UL-RL	0.2174.599	45	12	0	0	90.128
Stage A	-8.3	175.204	78.864	UL-RL	0.2174.599	45	13	0	0	91.864
Stage A	-8.4	176.622	79.557	UL-RL	0.2174.599	45	14	0	0	93.556
Stage A	-8.5	178.124	80.292	UL-RL	0.2174.599	45	15	0	0	95.292
Stage A	-8.6	179.54	80.985	UL-RL	0.2174.599	45	16	0	0	96.985
Stage A	-8.7	180.957	81.678	UL-RL	0.2174.599	45	17	0	0	98.678
Stage A	-8.8	182.454	82.413	UL-RL	0.2174.599	45	18	0	0	100.414
Stage A	-8.9	183.869	83.109	UL-RL	0.2174.599	45	19	0	0	102.109
Stage A	-9	185.363	83.845	UL-RL	0.2174.599	45	20	0	0	103.845
Stage A	-9.1	186.776	84.542	UL-RL	0.2174.599	45	21	0	0	105.542
Stage A	-9.2	188.19	85.241	UL-RL	0.2174.599	45	22	0	0	107.241
Stage A	-9.3	189.68	85.98	UL-RL	0.2174.599	45	23	0	0	108.98
Stage A	-9.4	191.092	86.682	UL-RL	0.2174.599	45	24	0	0	110.682
Stage A	-9.5	192.504	87.385	UL-RL	0.2174.599	45	25	0	0	112.385
Stage A	-9.6	193.84	88.052	UL-RL	0.2174.599	45	26	0	0	114.052
Stage A	-9.7	195.178	88.72	UL-RL	0.2174.599	45	27	0	0	115.72
Stage A	-9.8	196.516	89.389	UL-RL	0.2174.599	45	28	0	0	117.389
Stage A	-9.9	197.855	90.059	UL-RL	0.2174.599	45	29	0	0	119.059
Stage A	-10	199.195	90.73	UL-RL	0.2174.599	45	30	0	0	120.73



Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	0	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.5	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.6	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.7	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.8	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-0.9	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage A	-1.5	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage A	-1.6	1.9	5.89	PASSIVE	0.32	3.1	0	0	0	0	5.89
Stage A	-1.7	3.8	11.78	PASSIVE	0.32	3.1	0	0	0	0	11.78
Stage A	-1.8	5.7	17.67	PASSIVE	0.32	3.1	0	0	0	0	17.67
Stage A	-1.9	7.6	23.56	PASSIVE	0.32	3.1	0	0	0	0	23.56
Stage A	-2	9.5	26.863	V-C	0.32	3.1	0	0	0	0	26.863
Stage A	-2.1	11.4	26.482	V-C	0.32	3.1	0	0	0	0	26.482
Stage A	-2.2	13.3	26.17	V-C	0.32	3.1	0	0	0	0	26.17
Stage A	-2.3	15.2	25.938	V-C	0.32	3.1	0	0	0	0	25.938
Stage A	-2.4	17.1	25.791	V-C	0.32	3.1	0	0	0	0	25.791
Stage A	-2.5	19	25.733	V-C	0.32	3.1	0	0	0	0	25.733
Stage A	-2.6	20.9	25.767	V-C	0.32	3.1	0	0	0	0	25.767
Stage A	-2.7	22.8	25.858	UL-RL	0.32	3.1	0	0	0	0	25.858
Stage A	-2.8	24.7	25.624	UL-RL	0.32	3.1	0	0	0	0	25.624
Stage A	-2.9	26.6	25.529	UL-RL	0.32	3.1	0	0	0	0	25.529
Stage A	-3	28.5	25.567	UL-RL	0.32	3.1	0	0	0	0	25.567
Stage A	-3.1	30.4	25.73	UL-RL	0.32	3.1	0	0	0	0	25.73
Stage A	-3.2	32.3	26.009	UL-RL	0.32	3.1	0	0	0	0	26.009
Stage A	-3.3	34.2	26.393	UL-RL	0.32	3.1	0	0	0	0	26.393
Stage A	-3.4	36.1	26.872	UL-RL	0.32	3.1	0	0	0	0	26.872
Stage A	-3.5	38	27.434	UL-RL	0.32	3.1	0	0	0	0	27.434
Stage A	-3.6	39.9	28.069	UL-RL	0.32	3.1	0	0	0	0	28.069
Stage A	-3.7	41.8	28.768	UL-RL	0.32	3.1	0	0	0	0	28.768
Stage A	-3.8	43.7	29.521	UL-RL	0.32	3.1	0	0	0	0	29.521
Stage A	-3.9	45.6	30.32	UL-RL	0.32	3.1	0	0	0	0	30.32
Stage A	-4	47.5	31.158	UL-RL	0.32	3.1	0	0	0	0	31.158
Stage A	-4.1	49.9	33.993	UL-RL	0.2174.599	45	45	0	0	0	33.993
Stage A	-4.2	52.3	35.022	UL-RL	0.2174.599	45	45	0	0	0	35.022
Stage A	-4.3	54.7	36.116	UL-RL	0.2174.599	45	45	0	0	0	36.116
Stage A	-4.4	57.1	37.265	UL-RL	0.2174.599	45	45	0	0	0	37.265
Stage A	-4.5	59.5	38.457	UL-RL	0.2174.599	45	45	0	0	0	38.457
Stage A	-4.6	61.9	39.683	UL-RL	0.2174.599	45	45	0	0	0	39.683
Stage A	-4.7	64.3	40.935	UL-RL	0.2174.599	45	45	0	0	0	40.935
Stage A	-4.8	66.7	42.204	UL-RL	0.2174.599	45	45	0	0	0	42.204
Stage A	-4.9	69.1	43.485	UL-RL	0.2174.599	45	45	0	0	0	43.485
Stage A	-5	71.5	44.773	UL-RL	0.2174.599	45	45	0	0	0	44.773
Stage A	-5.1	73.9	46.063	UL-RL	0.2174.599	45	45	0	0	0	46.063
Stage A	-5.2	76.3	47.352	UL-RL	0.2174.599	45	45	0	0	0	47.352
Stage A	-5.3	78.7	48.639	UL-RL	0.2174.599	45	45	0	0	0	48.639
Stage A	-5.4	81.1	49.92	UL-RL	0.2174.599	45	45	0	0	0	49.92
Stage A	-5.5	83.5	51.195	UL-RL	0.2174.599	45	45	0	0	0	51.195
Stage A	-5.6	85.9	52.464	UL-RL	0.2174.599	45	45	0	0	0	52.464
Stage A	-5.7	88.3	53.726	UL-RL	0.2174.599	45	45	0	0	0	53.726
Stage A	-5.8	90.7	54.981	UL-RL	0.2174.599	45	45	0	0	0	54.981
Stage A	-5.9	93.1	56.229	UL-RL	0.2174.599	45	45	0	0	0	56.229
Stage A	-6	95.5	57.471	UL-RL	0.2174.599	45	45	0	0	0	57.471
Stage A	-6.1	97.9	58.707	UL-RL	0.2174.599	45	45	0	0	0	58.707
Stage A	-6.2	100.3	59.938	UL-RL	0.2174.599	45	45	0	0	0	59.938

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Muro:		LEFT	Lato		RIGHT				
		Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage A	-6.3	102.7	61.165	UL-RL	0.2174.599	45	0	0	0	61.165	
Stage A	-6.4	105.1	62.388	UL-RL	0.2174.599	45	0	0	0	62.388	
Stage A	-6.5	107.5	63.608	UL-RL	0.2174.599	45	0	0	0	63.608	
Stage A	-6.6	109.9	64.825	UL-RL	0.2174.599	45	0	0	0	64.825	
Stage A	-6.7	112.3	66.04	UL-RL	0.2174.599	45	0	0	0	66.04	
Stage A	-6.8	114.7	67.253	UL-RL	0.2174.599	45	0	0	0	67.253	
Stage A	-6.9	117.1	68.465	UL-RL	0.2174.599	45	0	0	0	68.465	
Stage A	-7	119.5	69.675	UL-RL	0.2174.599	45	0	0	0	69.675	
Stage A	-7.1	120.9	70.382	UL-RL	0.2174.599	45	1	0	0	71.382	
Stage A	-7.2	122.3	71.089	UL-RL	0.2174.599	45	2	0	0	73.089	
Stage A	-7.3	123.7	71.795	UL-RL	0.2174.599	45	3	0	0	74.795	
Stage A	-7.4	125.1	72.502	UL-RL	0.2174.599	45	4	0	0	76.502	
Stage A	-7.5	126.5	73.208	UL-RL	0.2174.599	45	5	0	0	78.208	
Stage A	-7.6	127.9	73.915	UL-RL	0.2174.599	45	6	0	0	79.915	
Stage A	-7.7	129.3	74.621	UL-RL	0.2174.599	45	7	0	0	81.621	
Stage A	-7.8	130.7	75.328	UL-RL	0.2174.599	45	8	0	0	83.328	
Stage A	-7.9	132.1	76.035	UL-RL	0.2174.599	45	9	0	0	85.035	
Stage A	-8	133.5	76.742	UL-RL	0.2174.599	45	10	0	0	86.742	
Stage A	-8.1	134.9	77.449	UL-RL	0.2174.599	45	11	0	0	88.449	
Stage A	-8.2	136.3	78.156	UL-RL	0.2174.599	45	12	0	0	90.156	
Stage A	-8.3	137.7	78.863	UL-RL	0.2174.599	45	13	0	0	91.863	
Stage A	-8.4	139.1	79.57	UL-RL	0.2174.599	45	14	0	0	93.57	
Stage A	-8.5	140.5	80.277	UL-RL	0.2174.599	45	15	0	0	95.277	
Stage A	-8.6	141.9	80.983	UL-RL	0.2174.599	45	16	0	0	96.983	
Stage A	-8.7	143.3	81.69	UL-RL	0.2174.599	45	17	0	0	98.69	
Stage A	-8.8	144.7	82.396	UL-RL	0.2174.599	45	18	0	0	100.396	
Stage A	-8.9	146.1	83.102	UL-RL	0.2174.599	45	19	0	0	102.102	
Stage A	-9	147.5	83.807	UL-RL	0.2174.599	45	20	0	0	103.807	
Stage A	-9.1	148.9	84.512	UL-RL	0.2174.599	45	21	0	0	105.512	
Stage A	-9.2	150.3	85.217	UL-RL	0.2174.599	45	22	0	0	107.217	
Stage A	-9.3	151.7	85.921	UL-RL	0.2174.599	45	23	0	0	108.921	
Stage A	-9.4	153.1	86.624	UL-RL	0.2174.599	45	24	0	0	110.624	
Stage A	-9.5	154.5	87.328	UL-RL	0.2174.599	45	25	0	0	112.328	
Stage A	-9.6	155.9	88.03	UL-RL	0.2174.599	45	26	0	0	114.03	
Stage A	-9.7	157.3	88.733	UL-RL	0.2174.599	45	27	0	0	115.733	
Stage A	-9.8	158.7	89.435	UL-RL	0.2174.599	45	28	0	0	117.435	
Stage A	-9.9	160.1	90.137	UL-RL	0.2174.599	45	29	0	0	119.137	
Stage A	-10	161.5	90.839	UL-RL	0.2174.599	45	30	0	0	120.839	

### Tabella Risultati Terreno Left Wall - Nominal - Stage B

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT		Lato		LEFT			
				Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	0	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage B	-0.1	1.9	5.891	PASSIVE	0.32	3.1	0	0	0	0	5.891
Stage B	-0.2	3.803	11.788	PASSIVE	0.32	3.1	0	0	0	0	11.788
Stage B	-0.3	5.709	17.411	V-C	0.32	3.1	0	0	0	0	17.411
Stage B	-0.4	7.621	18.599	V-C	0.32	3.1	0	0	0	0	18.599
Stage B	-0.5	9.541	19.778	V-C	0.32	3.1	0	0	0	0	19.778
Stage B	-0.6	11.469	20.942	V-C	0.32	3.1	0	0	0	0	20.942
Stage B	-0.7	13.406	22.072	V-C	0.32	3.1	0	0	0	0	22.072
Stage B	-0.8	15.353	23.149	V-C	0.32	3.1	0	0	0	0	23.149
Stage B	-0.9	17.311	24.149	V-C	0.32	3.1	0	0	0	0	24.149
Stage B	-1	19.278	25.047	V-C	0.32	3.1	0	0	0	0	25.047
Stage B	-1.1	21.256	25.809	V-C	0.32	3.1	0	0	0	0	25.809
Stage B	-1.2	23.242	26.401	V-C	0.32	3.1	0	0	0	0	26.401
Stage B	-1.3	25.237	26.782	V-C	0.32	3.1	0	0	0	0	26.782
Stage B	-1.4	27.24	26.925	V-C	0.32	3.1	0	0	0	0	26.925
Stage B	-1.5	29.25	26.867	V-C	0.32	3.1	0	0	0	0	26.867
Stage B	-1.6	31.265	26.658	V-C	0.32	3.1	0	0	0	0	26.658
Stage B	-1.7	33.286	26.345	V-C	0.32	3.1	0	0	0	0	26.345
Stage B	-1.8	35.31	25.968	V-C	0.32	3.1	0	0	0	0	25.968
Stage B	-1.9	37.337	25.562	V-C	0.32	3.1	0	0	0	0	25.562
Stage B	-2	39.367	25.157	V-C	0.32	3.1	0	0	0	0	25.157
Stage B	-2.1	41.398	24.778	V-C	0.32	3.1	0	0	0	0	24.778
Stage B	-2.2	43.429	24.443	V-C	0.32	3.1	0	0	0	0	24.443
Stage B	-2.3	45.461	24.167	V-C	0.32	3.1	0	0	0	0	24.167
Stage B	-2.4	47.492	23.962	V-C	0.32	3.1	0	0	0	0	23.962
Stage B	-2.5	49.522	23.28	UL-RL	0.32	3.1	0	0	0	0	23.28
Stage B	-2.6	51.55	22.6	UL-RL	0.32	3.1	0	0	0	0	22.6
Stage B	-2.7	53.577	22.055	UL-RL	0.32	3.1	0	0	0	0	22.055
Stage B	-2.8	55.601	21.645	UL-RL	0.32	3.1	0	0	0	0	21.645
Stage B	-2.9	57.623	21.368	UL-RL	0.32	3.1	0	0	0	0	21.368
Stage B	-3	59.643	21.591	UL-RL	0.32	3.1	0	0	0	0	21.591
Stage B	-3.1	61.85	23.562	UL-RL	0.32	3.1	0	0	0	0	23.562
Stage B	-3.2	63.924	25.358	UL-RL	0.32	3.1	0	0	0	0	25.358
Stage B	-3.3	65.991	27.054	UL-RL	0.32	3.1	0	0	0	0	27.054
Stage B	-3.4	68.26	28.766	UL-RL	0.32	3.1	0	0	0	0	28.766
Stage B	-3.5	70.308	30.293	UL-RL	0.32	3.1	0	0	0	0	30.293
Stage B	-3.6	72.548	31.853	UL-RL	0.32	3.1	0	0	0	0	31.853
Stage B	-3.7	74.579	33.253	UL-RL	0.32	3.1	0	0	0	0	33.253
Stage B	-3.8	76.605	34.604	UL-RL	0.32	3.1	0	0	0	0	34.604
Stage B	-3.9	78.81	36.004	UL-RL	0.32	3.1	0	0	0	0	36.004
Stage B	-4	80.823	37.27	UL-RL	0.32	3.1	0	0	0	0	37.27
Stage B	-4.1	83.332	31.9	UL-RL	0.2174.599		45	0	0	0	31.9
Stage B	-4.2	86.008	33.877	UL-RL	0.2174.599		45	0	0	0	33.877
Stage B	-4.3	88.506	35.653	UL-RL	0.2174.599		45	0	0	0	35.653
Stage B	-4.4	91.163	37.403	UL-RL	0.2174.599		45	0	0	0	37.403
Stage B	-4.5	93.651	38.974	UL-RL	0.2174.599		45	0	0	0	38.974
Stage B	-4.6	96.136	40.458	UL-RL	0.2174.599		45	0	0	0	40.458
Stage B	-4.7	98.771	41.942	UL-RL	0.2174.599		45	0	0	0	41.942
Stage B	-4.8	101.248	43.285	UL-RL	0.2174.599		45	0	0	0	43.285
Stage B	-4.9	103.869	44.647	UL-RL	0.2174.599		45	0	0	0	44.647
Stage B	-5	106.339	45.891	UL-RL	0.2174.599		45	0	0	0	45.891
Stage B	-5.1	108.807	47.101	UL-RL	0.2174.599		45	0	0	0	47.101
Stage B	-5.2	111.411	48.354	UL-RL	0.2174.599		45	0	0	0	48.354
Stage B	-5.3	113.872	49.518	UL-RL	0.2174.599		45	0	0	0	49.518
Stage B	-5.4	116.465	50.736	UL-RL	0.2174.599		45	0	0	0	50.736
Stage B	-5.5	118.921	51.878	UL-RL	0.2174.599		45	0	0	0	51.878
Stage B	-5.6	121.376	53.016	UL-RL	0.2174.599		45	0	0	0	53.016
Stage B	-5.7	123.954	54.217	UL-RL	0.2174.599		45	0	0	0	54.217
Stage B	-5.8	126.404	55.355	UL-RL	0.2174.599		45	0	0	0	55.355
Stage B	-5.9	128.852	56.496	UL-RL	0.2174.599		45	0	0	0	56.496
Stage B	-6	131.419	57.702	UL-RL	0.2174.599		45	0	0	0	57.702

Design Assumption: Nominal Risultati Terreno										
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	-6.1	133.864	58.852	UL-RL	0.2174.599	45	0	0	0	58.852
Stage B	-6.2	136.422	60.066	UL-RL	0.2174.599	45	0	0	0	60.066
Stage B	-6.3	138.863	61.226	UL-RL	0.2174.599	45	0	0	0	61.226
Stage B	-6.4	141.302	62.392	UL-RL	0.2174.599	45	0	0	0	62.392
Stage B	-6.5	143.851	63.618	UL-RL	0.2174.599	45	0	0	0	63.618
Stage B	-6.6	146.287	64.792	UL-RL	0.2174.599	45	0	0	0	64.792
Stage B	-6.7	148.829	66.024	UL-RL	0.2174.599	45	0	0	0	66.024
Stage B	-6.8	151.262	67.206	UL-RL	0.2174.599	45	0	0	0	67.206
Stage B	-6.9	153.695	68.391	UL-RL	0.2174.599	45	0	0	0	68.391
Stage B	-7	156.229	69.629	UL-RL	0.2174.599	45	0	0	0	69.629
Stage B	-7.1	157.658	70.318	UL-RL	0.2174.599	45	1	0	0	71.318
Stage B	-7.2	159.187	71.058	UL-RL	0.2174.599	45	2	0	0	73.058
Stage B	-7.3	160.614	71.749	UL-RL	0.2174.599	45	3	0	0	74.749
Stage B	-7.4	162.041	72.442	UL-RL	0.2174.599	45	4	0	0	76.442
Stage B	-7.5	163.562	73.182	UL-RL	0.2174.599	45	5	0	0	78.182
Stage B	-7.6	164.987	73.875	UL-RL	0.2174.599	45	6	0	0	79.875
Stage B	-7.7	166.41	74.568	UL-RL	0.2174.599	45	7	0	0	81.568
Stage B	-7.8	167.926	75.307	UL-RL	0.2174.599	45	8	0	0	83.307
Stage B	-7.9	169.348	76	UL-RL	0.2174.599	45	9	0	0	85
Stage B	-8	170.859	76.738	UL-RL	0.2174.599	45	10	0	0	86.738
Stage B	-8.1	172.279	77.431	UL-RL	0.2174.599	45	11	0	0	88.43
Stage B	-8.2	173.698	78.123	UL-RL	0.2174.599	45	12	0	0	90.123
Stage B	-8.3	175.204	78.859	UL-RL	0.2174.599	45	13	0	0	91.859
Stage B	-8.4	176.622	79.552	UL-RL	0.2174.599	45	14	0	0	93.552
Stage B	-8.5	178.124	80.287	UL-RL	0.2174.599	45	15	0	0	95.287
Stage B	-8.6	179.54	80.98	UL-RL	0.2174.599	45	16	0	0	96.98
Stage B	-8.7	180.957	81.674	UL-RL	0.2174.599	45	17	0	0	98.674
Stage B	-8.8	182.454	82.41	UL-RL	0.2174.599	45	18	0	0	100.41
Stage B	-8.9	183.869	83.106	UL-RL	0.2174.599	45	19	0	0	102.106
Stage B	-9	185.363	83.842	UL-RL	0.2174.599	45	20	0	0	103.842
Stage B	-9.1	186.776	84.54	UL-RL	0.2174.599	45	21	0	0	105.54
Stage B	-9.2	188.19	85.24	UL-RL	0.2174.599	45	22	0	0	107.24
Stage B	-9.3	189.68	85.979	UL-RL	0.2174.599	45	23	0	0	108.979
Stage B	-9.4	191.092	86.681	UL-RL	0.2174.599	45	24	0	0	110.681
Stage B	-9.5	192.504	87.384	UL-RL	0.2174.599	45	25	0	0	112.384
Stage B	-9.6	193.84	88.051	UL-RL	0.2174.599	45	26	0	0	114.051
Stage B	-9.7	195.178	88.72	UL-RL	0.2174.599	45	27	0	0	115.72
Stage B	-9.8	196.516	89.39	UL-RL	0.2174.599	45	28	0	0	117.39
Stage B	-9.9	197.855	90.06	UL-RL	0.2174.599	45	29	0	0	119.06
Stage B	-10	199.195	90.731	UL-RL	0.2174.599	45	30	0	0	120.731

Design Assumption: Nominal Risultati Terreno			Muro:	LEFT	Lato	RIGHT					
Stage	Z (m)	Sigma V (kPa)	Sigma H (kPa)	Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	0	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.5	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.6	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.7	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.8	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-0.9	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.1	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.2	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.3	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.4	0	0	REMOVED	0	0	0	0	0	0	0
Stage B	-1.5	0	0	ACTIVE	0.32	3.1	0	0	0	0	0
Stage B	-1.6	1.9	0.608	ACTIVE	0.32	3.1	0	0	0	0	0.608
Stage B	-1.7	3.8	1.216	ACTIVE	0.32	3.1	0	0	0	0	1.216
Stage B	-1.8	5.7	7.017	UL-RL	0.32	3.1	0	0	0	0	7.017
Stage B	-1.9	7.6	13.94	UL-RL	0.32	3.1	0	0	0	0	13.94
Stage B	-2	9.5	18.275	UL-RL	0.32	3.1	0	0	0	0	18.275
Stage B	-2.1	11.4	18.906	UL-RL	0.32	3.1	0	0	0	0	18.906
Stage B	-2.2	13.3	19.568	UL-RL	0.32	3.1	0	0	0	0	19.568
Stage B	-2.3	15.2	20.257	UL-RL	0.32	3.1	0	0	0	0	20.257
Stage B	-2.4	17.1	20.97	UL-RL	0.32	3.1	0	0	0	0	20.97
Stage B	-2.5	19	21.705	UL-RL	0.32	3.1	0	0	0	0	21.705
Stage B	-2.6	20.9	22.459	UL-RL	0.32	3.1	0	0	0	0	22.459
Stage B	-2.7	22.8	23.196	UL-RL	0.32	3.1	0	0	0	0	23.196
Stage B	-2.8	24.7	23.535	UL-RL	0.32	3.1	0	0	0	0	23.535
Stage B	-2.9	26.6	23.942	UL-RL	0.32	3.1	0	0	0	0	23.942
Stage B	-3	28.5	24.412	UL-RL	0.32	3.1	0	0	0	0	24.412
Stage B	-3.1	30.4	24.943	UL-RL	0.32	3.1	0	0	0	0	24.943
Stage B	-3.2	32.3	25.528	UL-RL	0.32	3.1	0	0	0	0	25.528
Stage B	-3.3	34.2	26.162	UL-RL	0.32	3.1	0	0	0	0	26.162
Stage B	-3.4	36.1	26.84	UL-RL	0.32	3.1	0	0	0	0	26.84
Stage B	-3.5	38	27.556	UL-RL	0.32	3.1	0	0	0	0	27.556
Stage B	-3.6	39.9	28.306	UL-RL	0.32	3.1	0	0	0	0	28.306
Stage B	-3.7	41.8	29.084	UL-RL	0.32	3.1	0	0	0	0	29.084
Stage B	-3.8	43.7	29.886	UL-RL	0.32	3.1	0	0	0	0	29.886
Stage B	-3.9	45.6	30.71	UL-RL	0.32	3.1	0	0	0	0	30.71
Stage B	-4	47.5	31.553	UL-RL	0.32	3.1	0	0	0	0	31.553
Stage B	-4.1	49.9	35.024	UL-RL	0.2174.599	45	45	0	0	0	35.024
Stage B	-4.2	52.3	35.994	UL-RL	0.2174.599	45	45	0	0	0	35.994
Stage B	-4.3	54.7	37.009	UL-RL	0.2174.599	45	45	0	0	0	37.009
Stage B	-4.4	57.1	38.066	UL-RL	0.2174.599	45	45	0	0	0	38.066
Stage B	-4.5	59.5	39.16	UL-RL	0.2174.599	45	45	0	0	0	39.16
Stage B	-4.6	61.9	40.287	UL-RL	0.2174.599	45	45	0	0	0	40.287
Stage B	-4.7	64.3	41.443	UL-RL	0.2174.599	45	45	0	0	0	41.443
Stage B	-4.8	66.7	42.622	UL-RL	0.2174.599	45	45	0	0	0	42.622
Stage B	-4.9	69.1	43.82	UL-RL	0.2174.599	45	45	0	0	0	43.82
Stage B	-5	71.5	45.034	UL-RL	0.2174.599	45	45	0	0	0	45.034
Stage B	-5.1	73.9	46.259	UL-RL	0.2174.599	45	45	0	0	0	46.259
Stage B	-5.2	76.3	47.493	UL-RL	0.2174.599	45	45	0	0	0	47.493
Stage B	-5.3	78.7	48.732	UL-RL	0.2174.599	45	45	0	0	0	48.732
Stage B	-5.4	81.1	49.975	UL-RL	0.2174.599	45	45	0	0	0	49.975
Stage B	-5.5	83.5	51.22	UL-RL	0.2174.599	45	45	0	0	0	51.22
Stage B	-5.6	85.9	52.464	UL-RL	0.2174.599	45	45	0	0	0	52.464
Stage B	-5.7	88.3	53.708	UL-RL	0.2174.599	45	45	0	0	0	53.708
Stage B	-5.8	90.7	54.95	UL-RL	0.2174.599	45	45	0	0	0	54.95
Stage B	-5.9	93.1	56.19	UL-RL	0.2174.599	45	45	0	0	0	56.19
Stage B	-6	95.5	57.427	UL-RL	0.2174.599	45	45	0	0	0	57.427
Stage B	-6.1	97.9	58.661	UL-RL	0.2174.599	45	45	0	0	0	58.661
Stage B	-6.2	100.3	59.893	UL-RL	0.2174.599	45	45	0	0	0	59.893

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	RIGHT Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage B	-6.3	102.7	61.121	UL-RL	0.2174.599		45	0	0	0	61.121
Stage B	-6.4	105.1	62.347	UL-RL	0.2174.599		45	0	0	0	62.347
Stage B	-6.5	107.5	63.571	UL-RL	0.2174.599		45	0	0	0	63.571
Stage B	-6.6	109.9	64.792	UL-RL	0.2174.599		45	0	0	0	64.792
Stage B	-6.7	112.3	66.011	UL-RL	0.2174.599		45	0	0	0	66.011
Stage B	-6.8	114.7	67.228	UL-RL	0.2174.599		45	0	0	0	67.228
Stage B	-6.9	117.1	68.444	UL-RL	0.2174.599		45	0	0	0	68.444
Stage B	-7	119.5	69.658	UL-RL	0.2174.599		45	0	0	0	69.658
Stage B	-7.1	120.9	70.369	UL-RL	0.2174.599		45	1	0	0	71.369
Stage B	-7.2	122.3	71.079	UL-RL	0.2174.599		45	2	0	0	73.079
Stage B	-7.3	123.7	71.788	UL-RL	0.2174.599		45	3	0	0	74.788
Stage B	-7.4	125.1	72.496	UL-RL	0.2174.599		45	4	0	0	76.496
Stage B	-7.5	126.5	73.205	UL-RL	0.2174.599		45	5	0	0	78.205
Stage B	-7.6	127.9	73.913	UL-RL	0.2174.599		45	6	0	0	79.913
Stage B	-7.7	129.3	74.621	UL-RL	0.2174.599		45	7	0	0	81.62
Stage B	-7.8	130.7	75.328	UL-RL	0.2174.599		45	8	0	0	83.328
Stage B	-7.9	132.1	76.036	UL-RL	0.2174.599		45	9	0	0	85.036
Stage B	-8	133.5	76.743	UL-RL	0.2174.599		45	10	0	0	86.743
Stage B	-8.1	134.9	77.45	UL-RL	0.2174.599		45	11	0	0	88.45
Stage B	-8.2	136.3	78.158	UL-RL	0.2174.599		45	12	0	0	90.158
Stage B	-8.3	137.7	78.865	UL-RL	0.2174.599		45	13	0	0	91.865
Stage B	-8.4	139.1	79.572	UL-RL	0.2174.599		45	14	0	0	93.572
Stage B	-8.5	140.5	80.279	UL-RL	0.2174.599		45	15	0	0	95.279
Stage B	-8.6	141.9	80.985	UL-RL	0.2174.599		45	16	0	0	96.985
Stage B	-8.7	143.3	81.691	UL-RL	0.2174.599		45	17	0	0	98.691
Stage B	-8.8	144.7	82.397	UL-RL	0.2174.599		45	18	0	0	100.397
Stage B	-8.9	146.1	83.103	UL-RL	0.2174.599		45	19	0	0	102.103
Stage B	-9	147.5	83.808	UL-RL	0.2174.599		45	20	0	0	103.808
Stage B	-9.1	148.9	84.513	UL-RL	0.2174.599		45	21	0	0	105.513
Stage B	-9.2	150.3	85.218	UL-RL	0.2174.599		45	22	0	0	107.218
Stage B	-9.3	151.7	85.921	UL-RL	0.2174.599		45	23	0	0	108.921
Stage B	-9.4	153.1	86.625	UL-RL	0.2174.599		45	24	0	0	110.625
Stage B	-9.5	154.5	87.328	UL-RL	0.2174.599		45	25	0	0	112.328
Stage B	-9.6	155.9	88.03	UL-RL	0.2174.599		45	26	0	0	114.03
Stage B	-9.7	157.3	88.732	UL-RL	0.2174.599		45	27	0	0	115.732
Stage B	-9.8	158.7	89.434	UL-RL	0.2174.599		45	28	0	0	117.434
Stage B	-9.9	160.1	90.136	UL-RL	0.2174.599		45	29	0	0	119.136
Stage B	-10	161.5	90.838	UL-RL	0.2174.599		45	30	0	0	120.838

### Tabella Risultati Terreno Left Wall - Nominal - Stage 3-

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT		Lato		LEFT			
				Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 3-	0	0	0	PASSIVE	0.32	3.1	0	0	0	0	0
Stage 3-	-0.1	1.9	5.768	UL-RL	0.32	3.1	0	0	0	0	5.768
Stage 3-	-0.2	3.803	11.535	UL-RL	0.32	3.1	0	0	0	0	11.535
Stage 3-	-0.3	5.709	17.193	UL-RL	0.32	3.1	0	0	0	0	17.193
Stage 3-	-0.4	7.621	21.315	UL-RL	0.32	3.1	0	0	0	0	21.315
Stage 3-	-0.5	9.541	20.147	UL-RL	0.32	3.1	0	0	0	0	20.147
Stage 3-	-0.6	11.469	18.964	UL-RL	0.32	3.1	0	0	0	0	18.964
Stage 3-	-0.7	13.406	17.432	UL-RL	0.32	3.1	0	0	0	0	17.432
Stage 3-	-0.8	15.353	15.247	UL-RL	0.32	3.1	0	0	0	0	15.247
Stage 3-	-0.9	17.311	12.985	UL-RL	0.32	3.1	0	0	0	0	12.985
Stage 3-	-1	19.278	10.622	UL-RL	0.32	3.1	0	0	0	0	10.622
Stage 3-	-1.1	21.256	8.129	UL-RL	0.32	3.1	0	0	0	0	8.129
Stage 3-	-1.2	23.242	7.438	UL-RL	0.32	3.1	0	0	0	0	7.438
Stage 3-	-1.3	25.237	8.076	ACTIVE	0.32	3.1	0	0	0	0	8.076
Stage 3-	-1.4	27.24	8.717	ACTIVE	0.32	3.1	0	0	0	0	8.717
Stage 3-	-1.5	29.25	9.36	ACTIVE	0.32	3.1	0	0	0	0	9.36
Stage 3-	-1.6	31.265	10.005	ACTIVE	0.32	3.1	0	0	0	0	10.005
Stage 3-	-1.7	33.286	10.651	ACTIVE	0.32	3.1	0	0	0	0	10.651
Stage 3-	-1.8	35.31	11.299	ACTIVE	0.32	3.1	0	0	0	0	11.299
Stage 3-	-1.9	37.337	11.948	ACTIVE	0.32	3.1	0	0	0	0	11.948
Stage 3-	-2	39.367	12.597	ACTIVE	0.32	3.1	0	0	0	0	12.597
Stage 3-	-2.1	41.398	13.247	ACTIVE	0.32	3.1	0	0	0	0	13.247
Stage 3-	-2.2	43.429	13.897	ACTIVE	0.32	3.1	0	0	0	0	13.897
Stage 3-	-2.3	45.461	14.547	ACTIVE	0.32	3.1	0	0	0	0	14.547
Stage 3-	-2.4	47.492	15.197	ACTIVE	0.32	3.1	0	0	0	0	15.197
Stage 3-	-2.5	49.522	15.847	ACTIVE	0.32	3.1	0	0	0	0	15.847
Stage 3-	-2.6	51.55	16.496	ACTIVE	0.32	3.1	0	0	0	0	16.496
Stage 3-	-2.7	53.577	17.145	ACTIVE	0.32	3.1	0	0	0	0	17.145
Stage 3-	-2.8	55.601	17.792	ACTIVE	0.32	3.1	0	0	0	0	17.792
Stage 3-	-2.9	57.623	18.439	ACTIVE	0.32	3.1	0	0	0	0	18.439
Stage 3-	-3	59.643	19.086	ACTIVE	0.32	3.1	0	0	0	0	19.086
Stage 3-	-3.1	61.85	19.792	ACTIVE	0.32	3.1	0	0	0	0	19.792
Stage 3-	-3.2	63.924	20.456	ACTIVE	0.32	3.1	0	0	0	0	20.456
Stage 3-	-3.3	65.991	21.117	ACTIVE	0.32	3.1	0	0	0	0	21.117
Stage 3-	-3.4	68.26	21.843	ACTIVE	0.32	3.1	0	0	0	0	21.843
Stage 3-	-3.5	70.308	22.499	ACTIVE	0.32	3.1	0	0	0	0	22.499
Stage 3-	-3.6	72.548	23.215	ACTIVE	0.32	3.1	0	0	0	0	23.215
Stage 3-	-3.7	74.579	23.865	ACTIVE	0.32	3.1	0	0	0	0	23.865
Stage 3-	-3.8	76.605	24.514	ACTIVE	0.32	3.1	0	0	0	0	24.514
Stage 3-	-3.9	78.81	25.219	ACTIVE	0.32	3.1	0	0	0	0	25.219
Stage 3-	-4	80.823	25.863	ACTIVE	0.32	3.1	0	0	0	0	25.863
Stage 3-	-4.1	83.332	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.2	86.008	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.3	88.506	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.4	91.163	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.5	93.651	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.6	96.136	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.7	98.771	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.8	101.248	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-4.9	103.869	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5	106.339	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.1	108.807	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.2	111.411	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.3	113.872	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.4	116.465	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.5	118.921	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.6	121.376	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.7	123.954	0	ACTIVE	0.2174.599	45	45	0	0	0	0
Stage 3-	-5.8	126.404	5.094	UL-RL	0.2174.599	45	45	0	0	0	5.094
Stage 3-	-5.9	128.852	11.703	UL-RL	0.2174.599	45	45	0	0	0	11.703
Stage 3-	-6	131.419	17.83	UL-RL	0.2174.599	45	45	0	0	0	17.83



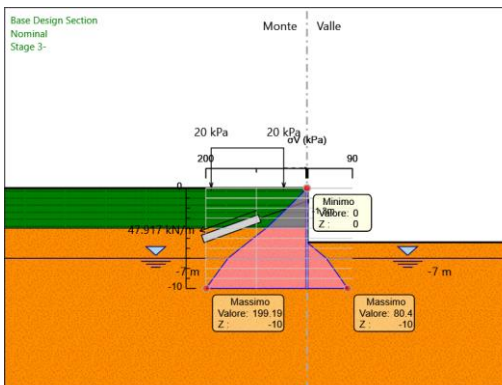
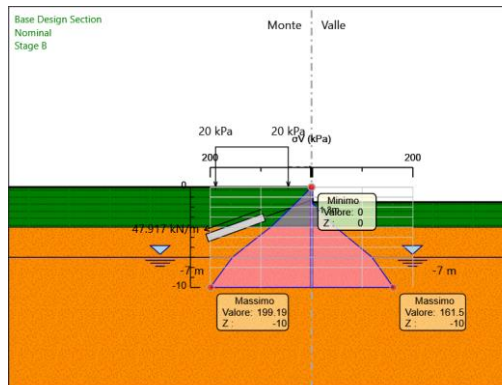
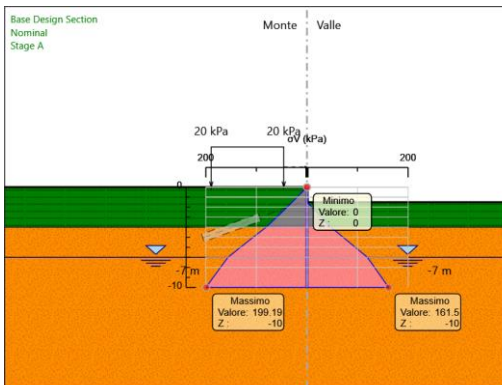
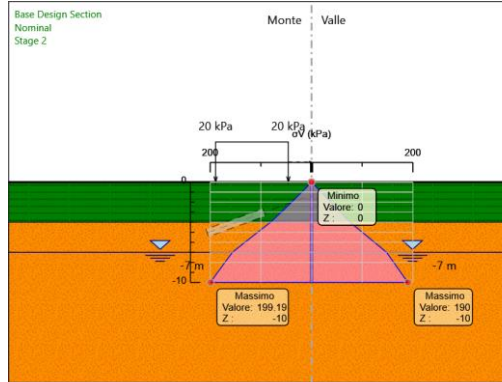
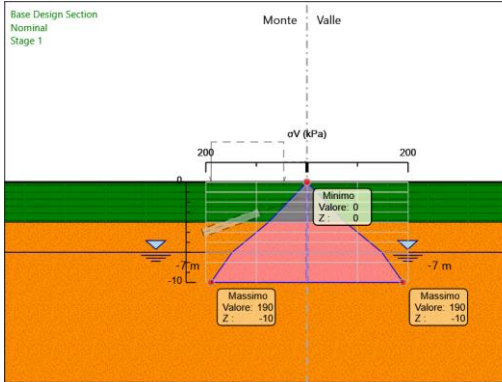
Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	LEFT Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)		
Stage 3-	-6.1	133.864	23.364	UL-RL	0.2174.599	45	0	0	0	23.364	
Stage 3-	-6.2	136.422	28.441	UL-RL	0.2174.599	45	0	0	0	28.441	
Stage 3-	-6.3	138.863	32.966	UL-RL	0.2174.599	45	0	0	0	32.966	
Stage 3-	-6.4	141.302	37.03	UL-RL	0.2174.599	45	0	0	0	37.03	
Stage 3-	-6.5	143.851	40.718	UL-RL	0.2174.599	45	0	0	0	40.718	
Stage 3-	-6.6	146.287	43.956	UL-RL	0.2174.599	45	0	0	0	43.956	
Stage 3-	-6.7	148.829	46.889	UL-RL	0.2174.599	45	0	0	0	46.889	
Stage 3-	-6.8	151.262	49.446	UL-RL	0.2174.599	45	0	0	0	49.446	
Stage 3-	-6.9	153.695	51.717	UL-RL	0.2174.599	45	0	0	0	51.717	
Stage 3-	-7	156.229	53.788	UL-RL	0.2174.599	45	0	0	0	53.788	
Stage 3-	-7.1	157.658	55.089	UL-RL	0.2174.599	45	1	0	0	56.089	
Stage 3-	-7.2	159.187	56.254	UL-RL	0.2174.599	45	2	0	0	58.254	
Stage 3-	-7.3	160.614	57.21	UL-RL	0.2174.599	45	3	0	0	60.21	
Stage 3-	-7.4	162.041	58.035	UL-RL	0.2174.599	45	4	0	0	62.035	
Stage 3-	-7.5	163.562	58.801	UL-RL	0.2174.599	45	5	0	0	63.801	
Stage 3-	-7.6	164.987	59.434	UL-RL	0.2174.599	45	6	0	0	65.434	
Stage 3-	-7.7	166.41	60	UL-RL	0.2174.599	45	7	0	0	66.999	
Stage 3-	-7.8	167.926	60.562	UL-RL	0.2174.599	45	8	0	0	68.562	
Stage 3-	-7.9	169.348	61.042	UL-RL	0.2174.599	45	9	0	0	70.042	
Stage 3-	-8	170.859	61.544	UL-RL	0.2174.599	45	10	0	0	71.544	
Stage 3-	-8.1	172.279	61.987	UL-RL	0.2174.599	45	11	0	0	72.987	
Stage 3-	-8.2	173.698	62.427	UL-RL	0.2174.599	45	12	0	0	74.426	
Stage 3-	-8.3	175.204	62.911	UL-RL	0.2174.599	45	13	0	0	75.911	
Stage 3-	-8.4	176.622	63.359	UL-RL	0.2174.599	45	14	0	0	77.359	
Stage 3-	-8.5	178.124	63.861	UL-RL	0.2174.599	45	15	0	0	78.861	
Stage 3-	-8.6	179.54	64.333	UL-RL	0.2174.599	45	16	0	0	80.333	
Stage 3-	-8.7	180.957	64.822	UL-RL	0.2174.599	45	17	0	0	81.822	
Stage 3-	-8.8	182.454	65.367	UL-RL	0.2174.599	45	18	0	0	83.367	
Stage 3-	-8.9	183.869	65.888	UL-RL	0.2174.599	45	19	0	0	84.888	
Stage 3-	-9	185.363	66.465	UL-RL	0.2174.599	45	20	0	0	86.464	
Stage 3-	-9.1	186.776	67.016	UL-RL	0.2174.599	45	21	0	0	88.016	
Stage 3-	-9.2	188.19	67.581	UL-RL	0.2174.599	45	22	0	0	89.581	
Stage 3-	-9.3	189.68	68.197	UL-RL	0.2174.599	45	23	0	0	91.197	
Stage 3-	-9.4	191.092	68.784	UL-RL	0.2174.599	45	24	0	0	92.784	
Stage 3-	-9.5	192.504	69.38	UL-RL	0.2174.599	45	25	0	0	94.38	
Stage 3-	-9.6	193.84	69.945	UL-RL	0.2174.599	45	26	0	0	95.945	
Stage 3-	-9.7	195.178	70.514	UL-RL	0.2174.599	45	27	0	0	97.514	
Stage 3-	-9.8	196.516	71.087	UL-RL	0.2174.599	45	28	0	0	99.087	
Stage 3-	-9.9	197.855	71.661	UL-RL	0.2174.599	45	29	0	0	100.661	
Stage 3-	-10	199.195	72.237	UL-RL	0.2174.599	45	30	0	0	102.237	



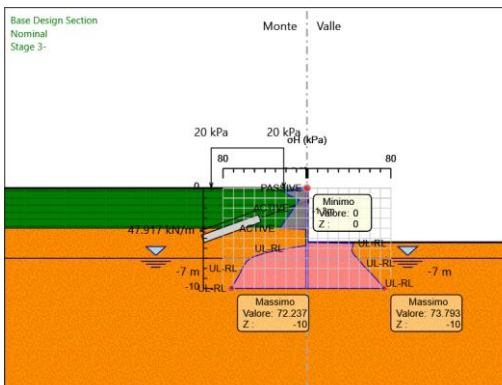
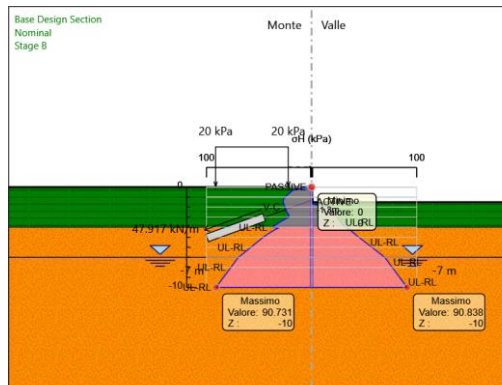
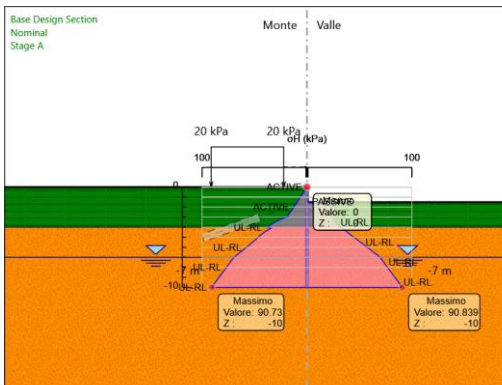
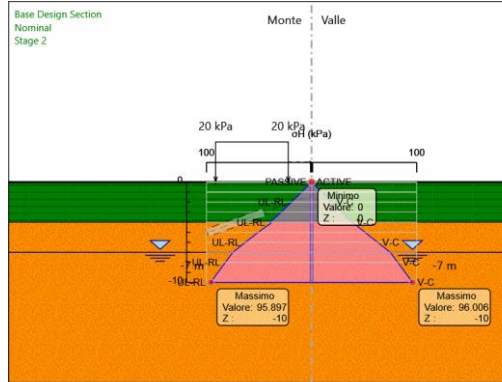
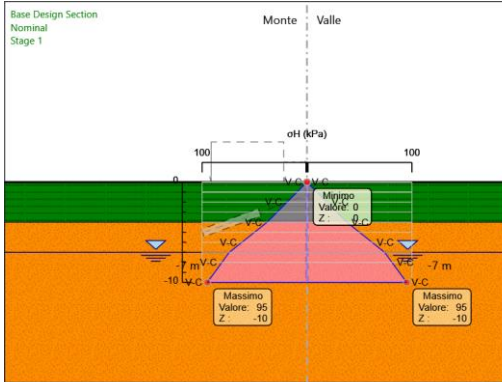
Design Assumption: Nominal Risultati Terreno												
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT		Lato		RIGHT				
				Stato	Ka	Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)		
Stage 3-	0	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-0.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-1.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-2.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-3.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.6	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.7	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.8	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-4.9	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.1	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.2	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.3	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.4	0	0	REMOVED	0	0	0	0	0	0	0	
Stage 3-	-5.5	2.4	44.064	UL-RL	0.2174.599	45	0	0	0	44.064		
Stage 3-	-5.6	4.8	44.299	UL-RL	0.2174.599	45	0	0	0	44.299		
Stage 3-	-5.7	7.2	44.028	UL-RL	0.2174.599	45	0	0	0	44.028		
Stage 3-	-5.8	9.6	43.633	UL-RL	0.2174.599	45	0	0	0	43.633		
Stage 3-	-5.9	12	43.264	UL-RL	0.2174.599	45	0	0	0	43.264		
Stage 3-	-6	14.4	42.992	UL-RL	0.2174.599	45	0	0	0	42.992		
Stage 3-	-6.1	16.8	42.857	UL-RL	0.2174.599	45	0	0	0	42.857		
Stage 3-	-6.2	19.2	42.876	UL-RL	0.2174.599	45	0	0	0	42.876		

Design Assumption: Nominal Risultati Terreno											
Stage	Z (m)	Sigma V (kPa)	Muro: Sigma H (kPa)	LEFT Stato	Lato Ka	RIGHT Kp	Coesione (kPa)	Pore (kPa)	Gradiente U* (kPa)	Peq (kPa)	
Stage 3-	-6.3	21.6	43.058	UL-RL	0.2174.599		45	0	0	0	43.058
Stage 3-	-6.4	24	43.4	UL-RL	0.2174.599		45	0	0	0	43.4
Stage 3-	-6.5	26.4	43.899	UL-RL	0.2174.599		45	0	0	0	43.899
Stage 3-	-6.6	28.8	44.543	UL-RL	0.2174.599		45	0	0	0	44.543
Stage 3-	-6.7	31.2	45.323	UL-RL	0.2174.599		45	0	0	0	45.323
Stage 3-	-6.8	33.6	46.226	UL-RL	0.2174.599		45	0	0	0	46.226
Stage 3-	-6.9	36	47.238	UL-RL	0.2174.599		45	0	0	0	47.238
Stage 3-	-7	38.4	48.346	UL-RL	0.2174.599		45	0	0	0	48.346
Stage 3-	-7.1	39.8	48.925	UL-RL	0.2174.599		45	1	0	0	49.925
Stage 3-	-7.2	41.2	49.586	UL-RL	0.2174.599		45	2	0	0	51.586
Stage 3-	-7.3	42.6	50.315	UL-RL	0.2174.599		45	3	0	0	53.315
Stage 3-	-7.4	44	51.101	UL-RL	0.2174.599		45	4	0	0	55.101
Stage 3-	-7.5	45.4	51.933	UL-RL	0.2174.599		45	5	0	0	56.933
Stage 3-	-7.6	46.8	52.799	UL-RL	0.2174.599		45	6	0	0	58.799
Stage 3-	-7.7	48.2	53.693	UL-RL	0.2174.599		45	7	0	0	60.693
Stage 3-	-7.8	49.6	54.605	UL-RL	0.2174.599		45	8	0	0	62.605
Stage 3-	-7.9	51	55.53	UL-RL	0.2174.599		45	9	0	0	64.53
Stage 3-	-8	52.4	56.462	UL-RL	0.2174.599		45	10	0	0	66.462
Stage 3-	-8.1	53.8	57.397	UL-RL	0.2174.599		45	11	0	0	68.396
Stage 3-	-8.2	55.2	58.329	UL-RL	0.2174.599		45	12	0	0	70.329
Stage 3-	-8.3	56.6	59.258	UL-RL	0.2174.599		45	13	0	0	72.258
Stage 3-	-8.4	58	60.18	UL-RL	0.2174.599		45	14	0	0	74.18
Stage 3-	-8.5	59.4	61.094	UL-RL	0.2174.599		45	15	0	0	76.094
Stage 3-	-8.6	60.8	61.998	UL-RL	0.2174.599		45	16	0	0	77.998
Stage 3-	-8.7	62.2	62.892	UL-RL	0.2174.599		45	17	0	0	79.892
Stage 3-	-8.8	63.6	63.776	UL-RL	0.2174.599		45	18	0	0	81.776
Stage 3-	-8.9	65	64.65	UL-RL	0.2174.599		45	19	0	0	83.65
Stage 3-	-9	66.4	65.514	UL-RL	0.2174.599		45	20	0	0	85.514
Stage 3-	-9.1	67.8	66.369	UL-RL	0.2174.599		45	21	0	0	87.369
Stage 3-	-9.2	69.2	67.216	UL-RL	0.2174.599		45	22	0	0	89.216
Stage 3-	-9.3	70.6	68.055	UL-RL	0.2174.599		45	23	0	0	91.055
Stage 3-	-9.4	72	68.887	UL-RL	0.2174.599		45	24	0	0	92.887
Stage 3-	-9.5	73.4	69.713	UL-RL	0.2174.599		45	25	0	0	94.713
Stage 3-	-9.6	74.8	70.535	UL-RL	0.2174.599		45	26	0	0	96.535
Stage 3-	-9.7	76.2	71.353	UL-RL	0.2174.599		45	27	0	0	98.353
Stage 3-	-9.8	77.6	72.169	UL-RL	0.2174.599		45	28	0	0	100.169
Stage 3-	-9.9	79	72.982	UL-RL	0.2174.599		45	29	0	0	101.982
Stage 3-	-10	80.4	73.793	UL-RL	0.2174.599		45	30	0	0	103.793

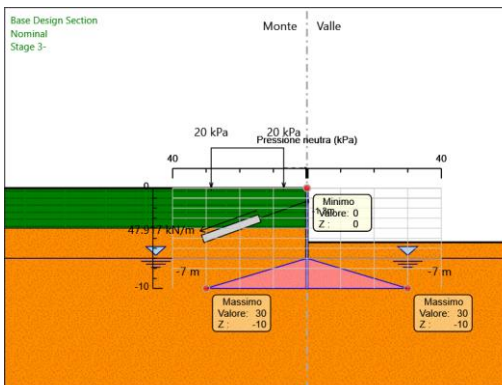
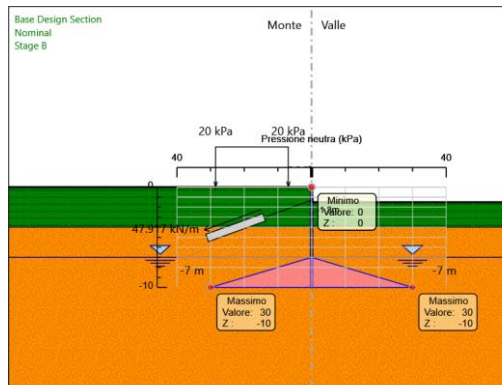
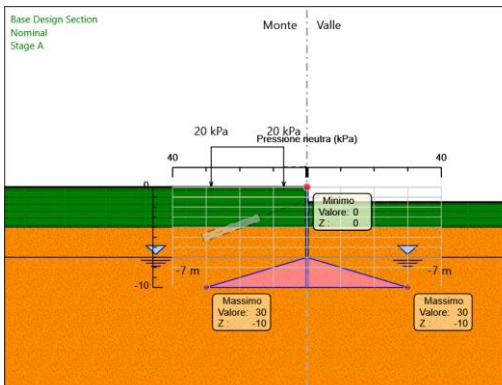
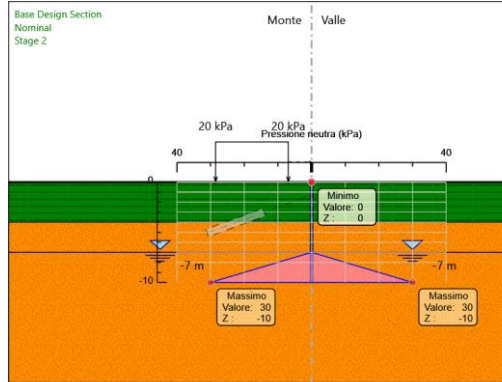
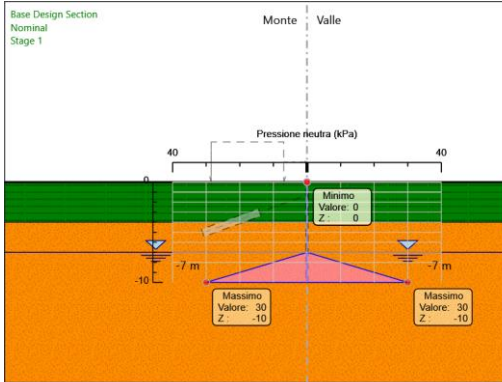
## Grafico Risultati Terreno Sigma V



## Grafico Risultati Terreno Sigma H

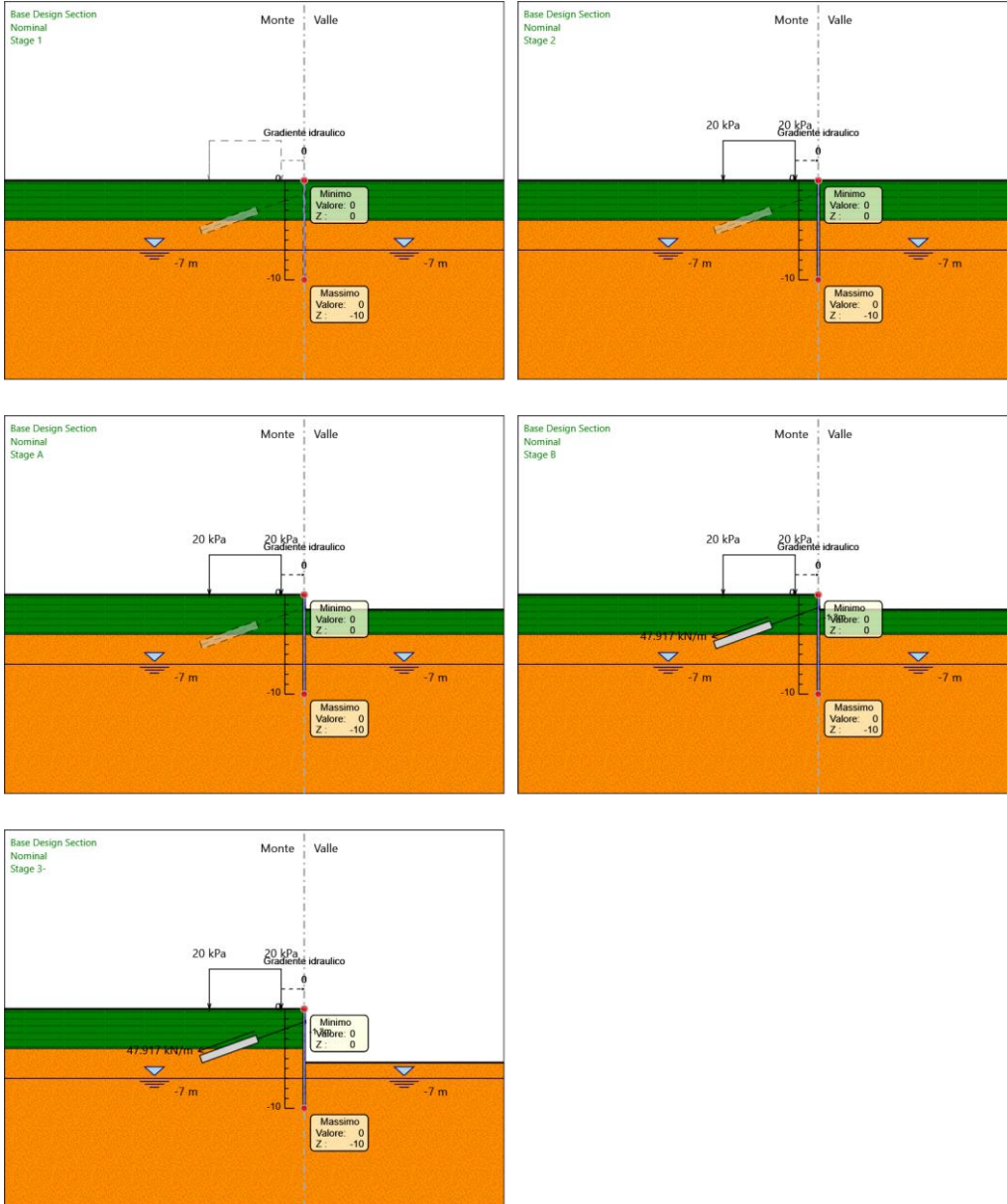


## Grafico Risultati Terreno Pore

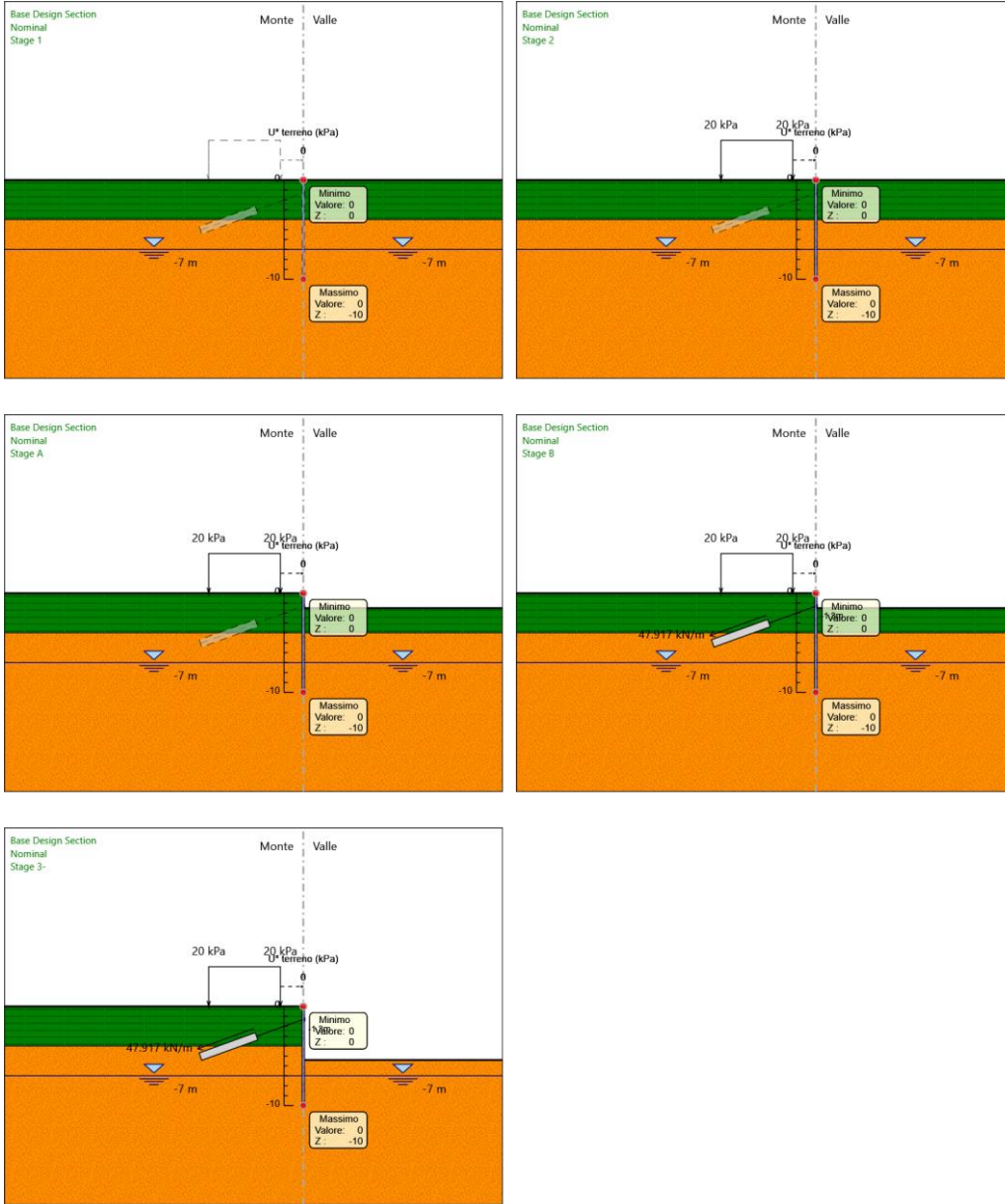




## Grafico Risultati Terreno Gradiente



### Grafico Risultati Terreno U\*



## Riepilogo spinte

Design Assumption:	Tipo Risultato:	Muro:	LEFT	Lato	LEFT		
Nominal	Riepilogo spinte						
Stage	Vera effettiva	Pressione neutra	Vera Totale	Min ammissibile	Max ammissibile	Percentuale di resistenza massima	Vera / Attiva
	(kN/m)	(kN/m)	(kN/m)	(kN/m)	(kN/m)		
Stage 1	497.5	45	542.5	49.9	5490.9	9.06%	9.97
Stage 2	503.4	45	548.4	52.4	5728.9	8.79%	9.61
Stage A	455	45	500	52.4	5728.9	7.94%	8.68
Stage B	492.3	45	537.3	52.4	5728.9	8.59%	9.4
Stage 3-	297.2	45	342.2	52.4	5728.9	5.19%	5.67

Design Assumption:	Tipo Risultato:	Muro:	LEFT	Lato	RIGHT		
Nominal	Riepilogo spinte						
Stage	Vera effettiva	Pressione neutra	Vera Totale	Min ammissibile	Max ammissibile	Percentuale di resistenza massima	Vera / Attiva
	(kN/m)	(kN/m)	(kN/m)	(kN/m)	(kN/m)		
Stage 1	497.5	45	542.5	49.9	5490.9	9.06%	9.97
Stage 2	503.4	45	548.4	49.9	5490.9	9.17%	10.09
Stage A	455	45	500	19.8	4419.4	10.3%	22.98
Stage B	447.2	45	492.2	19.8	4419.4	10.12%	22.59
Stage 3-	251.4	45	296.4	0	1839	13.67%	∞



## Descrizione Coefficienti Design Assumption

Nome	Carichi Permanenti Sfavorevoli (F_dead_load_unfavour)	Carichi Permanenti Favorevoli (F_dead_load_d_favour)	Carichi Variabili Sfavorevoli (F_live_load_unfavour)	Carichi Variabili Favorevoli (F_live_load_d_favour)	Carico Sismico (F_seis_m_load)	Pressioni Acqua Lato Monte (F_WaterDR)	Pressioni Acqua Lato Valle (F_WaterRes)	Carichi Permanenti Destabilizzanti (F_UPL_GDStab)	Carichi Permanenti Stabilizzanti (F_UPL_GStab)	Carichi Variabili Destabilizzanti (F_UPL_QDStab)	Carichi Permanenti Destabilizzanti (F_HYD_GDStab)	Carichi Permanenti Stabilizzanti (F_HYD_GStab)	Carichi Variabili Destabilizzanti (F_HYD_QDStab)
Simbolo	$\gamma_G$	$\gamma_G$	$\gamma_Q$	$\gamma_Q$	$\gamma_{QE}$	$\gamma_G$	$\gamma_G$	$\gamma_{Gdst}$	$\gamma_{Gstb}$	$\gamma_{Qdst}$	$\gamma_{Gdst}$	$\gamma_{Gstb}$	$\gamma_{Qdst}$
Nominal	1	1	1	1	1	1	1	1	1	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1	0	1	1	1	1	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1.3	1	1.5	1	0	1.3	1	1	1	1	1.3	0.9	1
NTC2018: A2+M2+R1	1	1	1.3	1	0	1	1	1	1	1	1.3	0.9	1

Nome	Parziale su $\tan(\phi')$ (F_Fr)	Parziale su $c'$ (F_eff_cohe)	Parziale su Su (F_Su)	Parziale su qu (F_qu)	Parziale su peso specifico (F_gamma)
Simbolo	$\gamma_\phi$	$\gamma_c$	$\gamma_{cu}$	$\gamma_{qu}$	$\gamma_\gamma$
Nominal	1	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1	1	1	1	1
NTC2018: A2+M2+R1	1.25	1.25	1.4	1	1

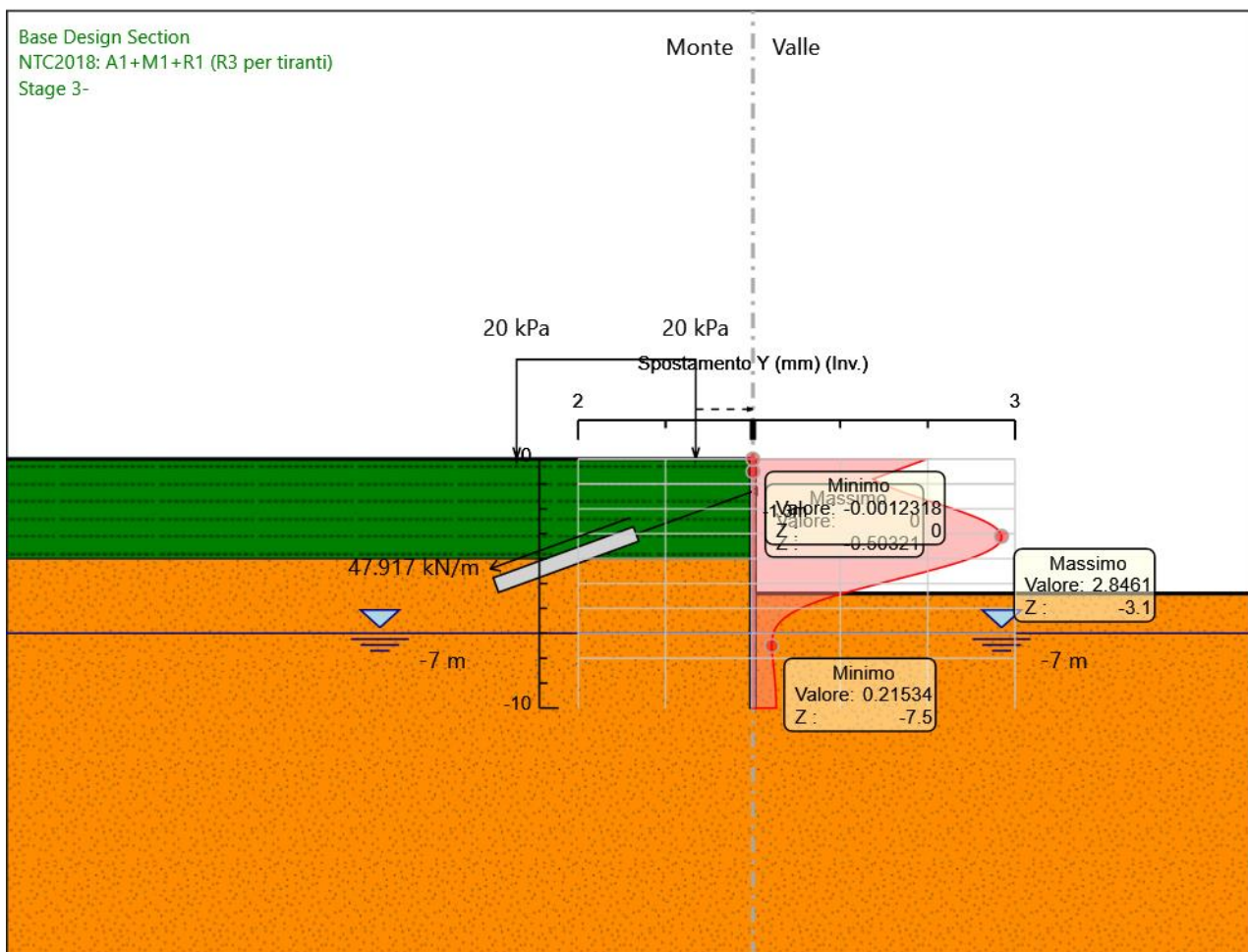
Nome	Parziale resistenza terreno (es. Kp) (F_Soil_Res_walls)	Parziale resistenza Tiranti permanenti (F_Anch_P)	Parziale resistenza Tiranti temporanei (F_Anch_T)	Parziale elementi strutturali (F_wall)
Simbolo	$\gamma_{Re}$	$\gamma_p$	$\gamma_t$	
Nominal	1	1	1	1
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	1	1	1	1
NTC2018: A1+M1+R1 (R3 per tiranti)	1	1.2	1.1	1
NTC2018: A2+M2+R1	1	1.2	1.1	1

## Riepilogo Stage / Design Assumption per Inviluppo

Design Assumption	Stage 1	Stage 2	Stage A	Stage B	Stage 3-
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	V	V	V	V	V
NTC2018: A1+M1+R1 (R3 per tiranti)	V	V	V	V	V
NTC2018: A2+M2+R1	V	V	V	V	V

## Descrizione sintetica dei risultati delle Design Assumption (Inviluppi)

### Grafico Inviluppi Spostamento



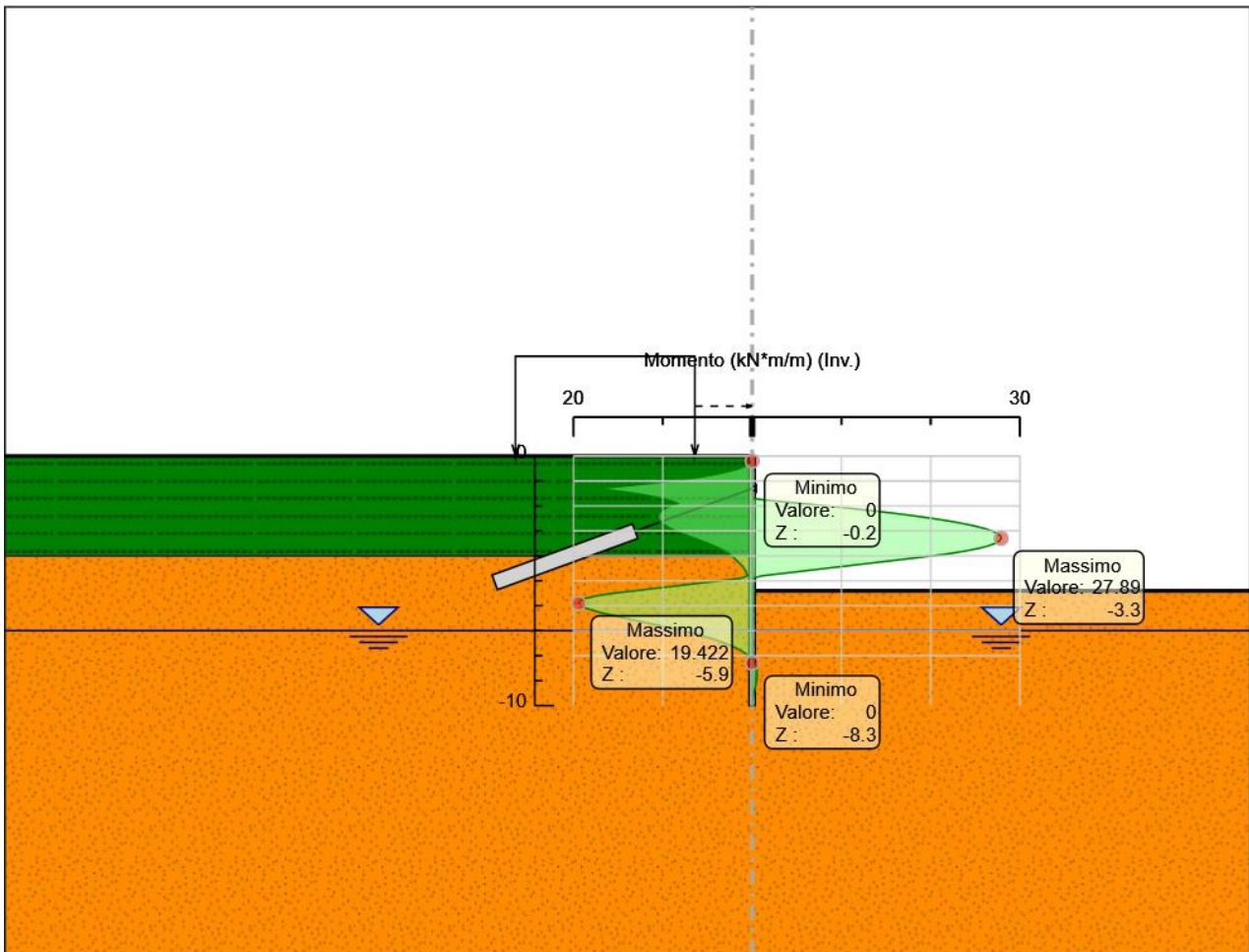
Spostamento

## Tabella Inviluppi Momento paratia sx

Selected Design Assumptions Z (m)	Inviluppi: Momento	
	Lato sinistro (kN*m/m)	Lato destro (kN*m/m)
0	0	0
-0.1	0	0
-0.2	0.077	0
-0.3	0.306	0
-0.4	0.763	0
-0.5	1.47	0
-0.6	2.455	0
-0.7	3.684	0
-0.8	5.157	0
-0.9	6.973	0
-1	9.102	0
-1.1	11.557	0
-1.2	14.348	0
-1.3	17.482	0
-1.4	15.111	0
-1.5	13.09	0
-1.6	11.42	0
-1.7	10.088	0
-1.8	9.084	2.502
-1.9	8.39	5.546
-2	9.163	8.434
-2.1	9.75	11.158
-2.2	10.164	13.708
-2.3	10.418	16.076
-2.4	10.523	18.255
-2.5	10.49	20.234
-2.6	10.328	22.006
-2.7	10.046	23.563
-2.8	9.65	24.895
-2.9	9.153	25.994
-3	8.563	26.852
-3.1	7.892	27.46
-3.2	7.173	27.809
-3.3	6.432	27.89
-3.4	5.694	27.694
-3.5	4.98	27.212
-3.6	4.306	26.435
-3.7	3.689	25.354
-3.8	3.138	23.96
-3.9	2.664	22.244
-4	2.275	20.197
-4.1	1.977	17.811
-4.2	1.681	15.425
-4.3	1.396	13.039
-4.4	1.131	10.653
-4.5	0.89	8.267
-4.6	0.753	5.881
-4.7	0.633	3.495
-4.8	0.52	1.109
-4.9	1.277	0
-5	3.662	0
-5.1	6.048	0
-5.2	8.434	0.049
-5.3	10.82	0.095
-5.4	13.206	0.126
-5.5	15.592	0.145
-5.6	17.4	0.154
-5.7	18.628	0.155
-5.8	19.279	0.15
-5.9	19.422	0.141

Selected Design Assumptions	Involupi: Momento	Muro: paratia sx
Z (m)	Lato sinistro (kN*m/m)	Lato destro (kN*m/m)
-6	19.15	0.129
-6.1	18.545	0.116
-6.2	17.684	0.102
-6.3	16.633	0.088
-6.4	15.449	0.074
-6.5	14.181	0.061
-6.6	12.87	0.049
-6.7	11.552	0.039
-6.8	10.254	0.033
-6.9	8.999	0.028
-7	7.803	0.023
-7.1	6.678	0.018
-7.2	5.634	0.015
-7.3	4.679	0.011
-7.4	3.813	0.009
-7.5	3.04	0.007
-7.6	2.356	0.005
-7.7	1.76	0.005
-7.8	1.247	0.005
-7.9	0.812	0.005
-8	0.45	0.005
-8.1	0.154	0.005
-8.2	0.001	0.081
-8.3	0	0.262
-8.4	0	0.395
-8.5	0	0.486
-8.6	0	0.541
-8.7	0	0.565
-8.8	0	0.563
-8.9	0	0.541
-9	0	0.502
-9.1	0	0.451
-9.2	0	0.391
-9.3	0	0.327
-9.4	0	0.26
-9.5	0	0.195
-9.6	0	0.134
-9.7	0	0.08
-9.8	0	0.038
-9.9	0	0.01
-10	0	0

## Grafico Involuppi Momento



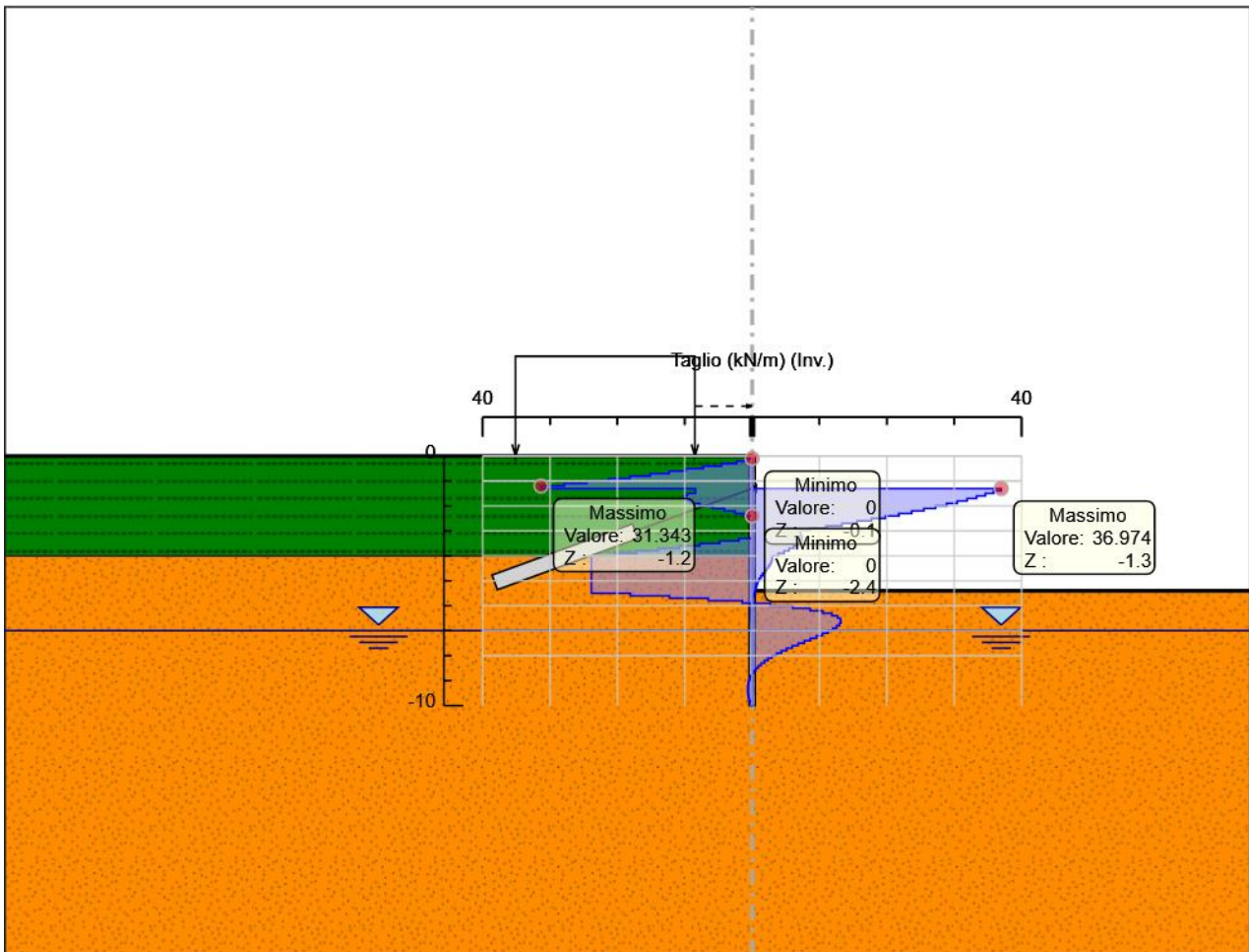
Momento

## Tabella Inviluppi Taglio paratia sx

Selected Design Assumptions Z (m)	Inviluppi: Taglio Muro: paratia sx	
	Lato sinistro (kN/m)	Lato destro (kN/m)
0	0	0
-0.1	0.766	0
-0.2	2.299	0
-0.3	4.562	0
-0.4	7.237	0
-0.5	9.846	0
-0.6	12.298	0
-0.7	15.143	0
-0.8	18.153	0
-0.9	21.293	0
-1	24.551	0
-1.1	27.908	0
-1.2	31.343	0
-1.3	31.343	36.974
-1.4	8.435	36.974
-1.5	9.657	35.836
-1.6	10.197	34.615
-1.7	10.197	33.309
-1.8	10.057	31.918
-1.9	9.236	30.442
-2	7.734	28.881
-2.1	5.869	27.234
-2.2	4.139	25.502
-2.3	2.537	23.685
-2.4	1.051	21.783
-2.5	0	19.795
-2.6	0	17.722
-2.7	0	15.564
-2.8	0	13.321
-2.9	0	10.992
-3	0	8.579
-3.1	0	7.195
-3.2	0	7.405
-3.3	1.956	7.405
-3.4	4.82	7.38
-3.5	7.769	7.141
-3.6	10.813	6.736
-3.7	13.943	6.178
-3.8	17.158	5.506
-3.9	20.467	4.742
-4	23.86	3.889
-4.1	23.86	2.977
-4.2	23.86	2.967
-4.3	23.86	2.844
-4.4	23.86	2.652
-4.5	23.86	2.405
-4.6	23.86	2.134
-4.7	23.86	1.857
-4.8	23.86	1.575
-4.9	23.86	1.31
-5	23.86	1.057
-5.1	23.86	0.831
-5.2	23.86	0.71
-5.3	23.86	0.594
-5.4	23.86	0.489
-5.5	23.86	0.386
-5.6	18.081	0.297
-5.7	12.276	0.222
-5.8	6.51	0.153
-5.9	1.433	2.726

Selected Design Assumptions	Involuppi: Taglio	Muro: paratia sx
Z (m)	Lato sinistro (kN/m)	Lato destro (kN/m)
-6	0.134	6.042
-6.1	0.14	8.61
-6.2	0.145	10.513
-6.3	0.145	11.843
-6.4	0.14	12.683
-6.5	0.128	13.103
-6.6	0.119	13.182
-6.7	0.105	13.182
-6.8	0.094	12.976
-6.9	0.081	12.553
-7	0.065	11.964
-7.1	0.054	11.247
-7.2	0.041	10.436
-7.3	0.035	9.558
-7.4	0.03	8.651
-7.5	0.022	7.739
-7.6	0.019	6.834
-7.7	0.014	5.961
-7.8	0.007	5.132
-7.9	0.004	4.348
-8	0	3.623
-8.1	0	2.954
-8.2	0	2.35
-8.3	0	1.811
-8.4	0	1.33
-8.5	0	0.912
-8.6	0	0.547
-8.7	0.014	0.24
-8.8	0.223	0.017
-8.9	0.386	0.015
-9	0.512	0.014
-9.1	0.598	0.008
-9.2	0.646	0.004
-9.3	0.666	0
-9.4	0.666	0
-9.5	0.653	0
-9.6	0.61	0
-9.7	0.533	0
-9.8	0.422	0
-9.9	0.279	0
-10	0.103	0

### Grafico Inviluppi Taglio



Taglio



## Inviluppo Spinta Reale Efficace / Spinta Passiva

Design Assumption	Stage	Muro	Lato	Inviluppo Spinta Reale Efficace / Spinta Passiva %
NTC2018: A2+M2+R1	Stage 1	Left Wall	LEFT	9.46
NTC2018: A2+M2+R1	Stage 3-	Left Wall	RIGHT	15.91

## Inviluppo Spinta Reale Efficace / Spinta Attiva

Design Assumption	Stage	Muro	Lato	Inviluppo Spinta Reale Efficace / Spinta Attiva %
NTC2018: A2+M2+R1	Stage 3-	Left Wall	LEFT	444.64
NTC2018: A2+M2+R1	Stage 1	Left Wall	RIGHT	834.84

## Normative adottate per le verifiche degli Elementi Strutturali

### Normative Verifiche

Calcestruzzo	NTC
Acciaio	NTC
Tirante	NTC

### Coefficienti per Verifica Tiranti

GEO FS	1
$\xi_{a3}$	1.8
$\gamma_s$	1.15

## Riepilogo Stage / Design Assumption per Inviluppo

Design Assumption	Stage 1	Stage 2	Stage A	Stage B	Stage 3-
NTC2018: SLE (Rara/Frequente/Quasi Permanente)	V	V	V	V	V
NTC2018: A1+M1+R1 (R3 per tiranti)	V	V	V	V	V
NTC2018: A2+M2+R1	V	V	V	V	V

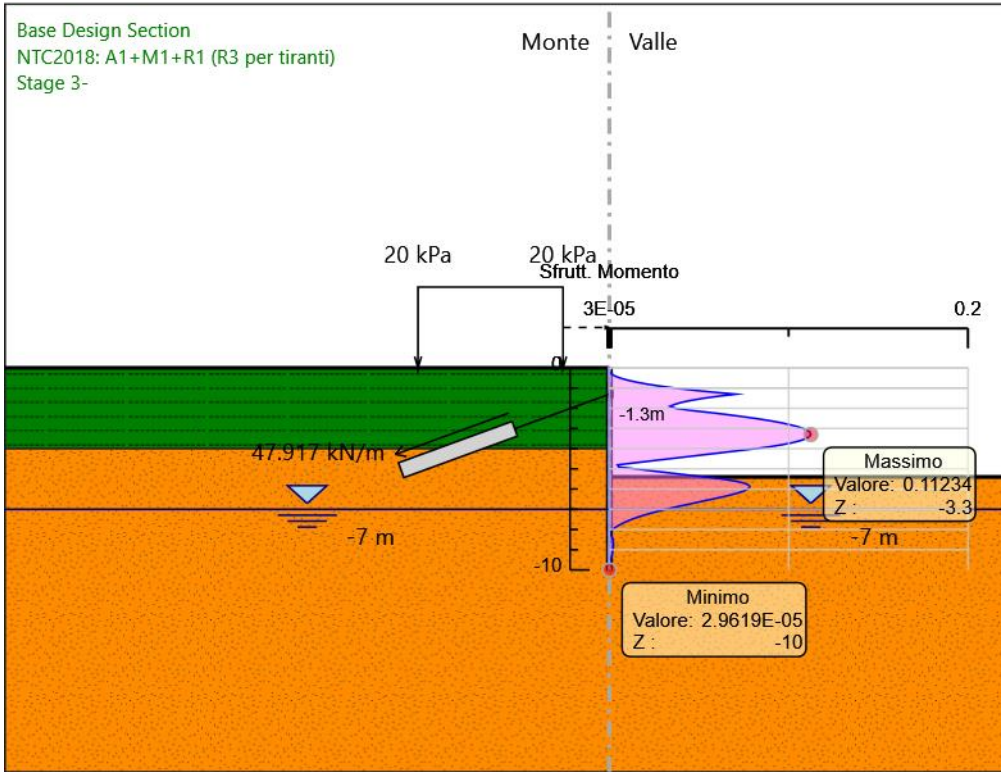
## Risultati SteelWorld

### Tabella Inviluppi Tasso di Sfruttamento M-N - SteelWorld : LEFT

Inviluppi Tasso di Sfruttamento M-N - SteelWorld		LEFT
Z (m)	Tasso di Sfruttamento M-N - SteelWorld	
0	0	
-0.1	0	
-0.2	0	
-0.3	0.001	
-0.4	0.003	
-0.5	0.006	
-0.6	0.01	
-0.7	0.015	
-0.8	0.021	
-0.9	0.028	
-1	0.037	
-1.1	0.047	
-1.2	0.058	
-1.3	0.07	
-1.4	0.061	
-1.5	0.053	
-1.6	0.046	
-1.7	0.041	
-1.8	0.037	
-1.9	0.034	
-2	0.037	
-2.1	0.045	
-2.2	0.055	
-2.3	0.065	
-2.4	0.074	
-2.5	0.081	
-2.6	0.089	
-2.7	0.095	
-2.8	0.1	
-2.9	0.105	
-3	0.108	
-3.1	0.111	
-3.2	0.112	
-3.3	0.112	
-3.4	0.112	
-3.5	0.11	
-3.6	0.106	
-3.7	0.102	
-3.8	0.097	
-3.9	0.09	
-4	0.081	
-4.1	0.072	
-4.2	0.062	
-4.3	0.053	
-4.4	0.043	
-4.5	0.033	
-4.6	0.024	
-4.7	0.014	
-4.8	0.004	
-4.9	0.005	
-5	0.015	
-5.1	0.024	
-5.2	0.034	
-5.3	0.044	
-5.4	0.053	
-5.5	0.063	
-5.6	0.07	
-5.7	0.075	

Z (m)	LEFT Tasso di Sfruttamento M-N - SteelWorld
-5.8	0.078
-5.9	0.078
-6	0.077
-6.1	0.075
-6.2	0.071
-6.3	0.067
-6.4	0.062
-6.5	0.057
-6.6	0.052
-6.7	0.047
-6.8	0.041
-6.9	0.036
-7	0.031
-7.1	0.027
-7.2	0.023
-7.3	0.019
-7.4	0.015
-7.5	0.012
-7.6	0.009
-7.7	0.007
-7.8	0.005
-7.9	0.003
-8	0.002
-8.1	0.001
-8.2	0
-8.3	0.001
-8.4	0.002
-8.5	0.002
-8.6	0.002
-8.7	0.002
-8.8	0.002
-8.9	0.002
-9	0.002
-9.1	0.002
-9.2	0.002
-9.3	0.001
-9.4	0.001
-9.5	0.001
-9.6	0.001
-9.7	0
-9.8	0
-9.9	0
-10	0

**Grafico Involuppi Tasso di Sfruttamento M-N - SteelWorld**



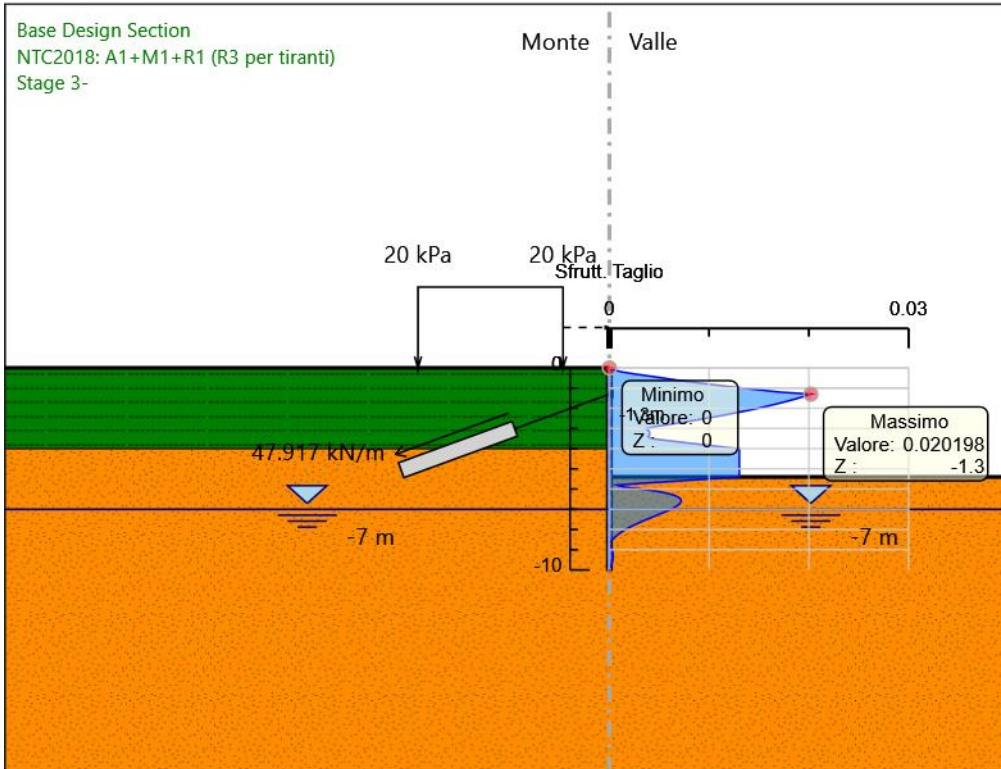
Involuppi  
Tasso di Sfruttamento M-N - SteelWorld

### Tabella Involuppi Tasso di Sfruttamento a Taglio - SteelWorld : LEFT

Z (m)	Tasso di Sfruttamento a Taglio - SteelWorld
0	0
-0.1	0
-0.2	0.001
-0.3	0.002
-0.4	0.004
-0.5	0.005
-0.6	0.007
-0.7	0.008
-0.8	0.01
-0.9	0.012
-1	0.013
-1.1	0.015
-1.2	0.017
-1.3	0.02
-1.4	0.02
-1.5	0.019
-1.6	0.018
-1.7	0.017
-1.8	0.017
-1.9	0.016
-2	0.015
-2.1	0.014
-2.2	0.013
-2.3	0.012
-2.4	0.011
-2.5	0.01
-2.6	0.009
-2.7	0.007
-2.8	0.006
-2.9	0.005
-3	0.004
-3.1	0.004
-3.2	0.004
-3.3	0.004
-3.4	0.004
-3.5	0.004
-3.6	0.006
-3.7	0.008
-3.8	0.009
-3.9	0.011
-4	0.013
-4.1	0.013
-4.2	0.013
-4.3	0.013
-4.4	0.013
-4.5	0.013
-4.6	0.013
-4.7	0.013
-4.8	0.013
-4.9	0.013
-5	0.013
-5.1	0.013
-5.2	0.013
-5.3	0.013
-5.4	0.013
-5.5	0.01
-5.6	0.007
-5.7	0.004
-5.8	0.001
-5.9	0.001
-6	0.003

Z (m)	LEFT Tasso di Sfruttamento a Taglio - SteelWorld
-6.1	0.005
-6.2	0.006
-6.3	0.006
-6.4	0.007
-6.5	0.007
-6.6	0.007
-6.7	0.007
-6.8	0.007
-6.9	0.007
-7	0.006
-7.1	0.006
-7.2	0.005
-7.3	0.005
-7.4	0.004
-7.5	0.004
-7.6	0.003
-7.7	0.003
-7.8	0.002
-7.9	0.002
-8	0.002
-8.1	0.001
-8.2	0.001
-8.3	0.001
-8.4	0
-8.5	0
-8.6	0
-8.7	0
-8.8	0
-8.9	0
-9	0
-9.1	0
-9.2	0
-9.3	0
-9.4	0
-9.5	0
-9.6	0
-9.7	0
-9.8	0
-9.9	0
-10	0

**Grafico Inviluppi Tasso di Sfruttamento a Taglio - SteelWorld**



Inviluppi  
 Tasso di Sfruttamento a Taglio - SteelWorld

### Verifiche Tiranti NTC2018: SLE (Rara/Frequente/Quasi Permanente)

Design Assumption: NTC2018: SLE (Rara/Frequente/Quasi Permanente)		Tipo Risultato: Verifiche Tiranti		NTC2018 (ITA)					Gerarchia delle Resistenze
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza		
Tieback_New_New_New_New	Stage B	230.016	678.584	605.557	0.339	0.38		NO	
Tieback_New_New_New_New	Stage 3-	233.878	678.584	605.557	0.345	0.386		NO	

### Verifiche Tiranti NTC2018: A1+M1+R1 (R3 per tiranti)

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)		Tipo Risultato: Verifiche Tiranti		NTC2018 (ITA)					Gerarchia delle Resistenze
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza		
Tieback_New_New_New_New	Stage B	299.021	342.719	605.557	0.872	0.494			
Tieback_New_New_New_New	Stage 3-	304.116	342.719	605.557	0.887	0.502			

### Verifiche Tiranti NTC2018: A2+M2+R1

Design Assumption: NTC2018: A2+M2+R1		Tipo Risultato: Verifiche Tiranti		NTC2018 (ITA)					Gerarchia delle Resistenze
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza		
Tieback_New_New_New_New	Stage B	230.016	342.719	605.557	0.671	0.38			
Tieback_New_New_New_New	Stage 3-	234.041	342.719	605.557	0.683	0.386			

### Inviluppo Verifiche Tiranti (su tutte le D.A. attive)

Tipo Risultato: Verifiche Tiranti		NTC2018 (ITA)							Design Assumption
Tirante	Stage	Sollecitazione (kN)	Resistenza GEO (kN)	Resistenza STR (kN)	Ratio GEO	Ratio STR	Resistenza	Gerarchia delle Resistenze	
Tieback_New_New_New_New	Stage 3-	304.116	342.719	605.557	0.887	0.502			NTC2018: A1+M1+R1 (R3 per tiranti)

### Verifiche Travi di Ripartizione Nominal

Design Assumption: Nominal		Tipo Risultato: Verifiche Travi di Ripartizione		NTC2018 (ITA)						
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage	Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	47.92	0	0	0	0	
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	48.725	0	0	0	0	



## Verifiche Travi di Ripartizione NTC2018: SLE (Rara/Frequente/Quasi Permanente)

Design Assumption: NTC2018: SLE (Rara/Frequente/Quasi Permanente)	Tipo Risultato: Verifiche Travi di Ripartizione	NTC2018 (ITA)			Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage					
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	47.92	0	0.646	0.215	0
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	48.725	0	0.657	0.219	0

## Verifiche Travi di Ripartizione NTC2018: A1+M1+R1 (R3 per tiranti)

Design Assumption: NTC2018: A1+M1+R1 (R3 per tiranti)	Tipo Risultato: Verifiche Travi di Ripartizione	NTC2018 (ITA)			Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage					
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	62.296	0	0.84	0.28	0
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	63.357	0	0.854	0.285	0

## Verifiche Travi di Ripartizione NTC2018: A2+M2+R1

Design Assumption: NTC2018: A2+M2+R1	Tipo Risultato: Verifiche Travi di Ripartizione	NTC2018 (ITA)			Carico distribuito (kN/m)	Assiale (kN)	Ratio M-N	Ratio taglio	Instabilità
Trave di Ripartizione	Elemento strutturale	Sezione	Materiale	Stage					
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage B	47.92	0	0.646	0.215	0
Default Waler	Tieback_New_New_New_New	HE 160B	S355	Stage 3-	48.759	0	0.657	0.219	0

## 12 ALLEGATO 3: tabulato di calcolo gabbioni

### Dati

#### Materiali

##### Simbologia adottata

n°	Indice materiale
Descr	Descrizione del materiale
<b>Calcestruzzo non armato</b>	
C	Classe di resistenza
$\gamma$	Peso specifico, espresso in [kN/mc]
R <sub>ck</sub>	Resistenza caratteristica a compressione, espressa in [N/mm <sup>2</sup> ]
E	Modulo elastico, espresso in [N/mm <sup>2</sup> ]
ntc	Coeff. di omogenizzazione cls tesoro/compresso
<b>Pietrame</b>	
$\gamma$	Peso di volume, espresso in [kN/mc]
$\sigma_{cp}$	Tensione di compressione, espresso in [N/mm <sup>2</sup> ]
$\phi$	Angolo di attrito interno, espresso in [°]
$\tau_p$	Resistenza a taglio, espressa in [N/mm <sup>2</sup> ]

#### Calcestruzzo non armato

n°	Descr	C	$\gamma$ [kN/mc]	R <sub>ck</sub> [N/mm <sup>2</sup> ]	E [N/mm <sup>2</sup> ]	ntc
3	Cls non Armato	Rck 250	24.5170	24.517	30073.438	0.50

#### Pietrame

n°	Descr	$\gamma$ [kN/mc]	$\sigma_{cp}$ [N/mm <sup>2</sup> ]	$\phi$ [°]	$\tau_p$ [N/mm <sup>2</sup> ]
4	Gabbionata	19.0000	2.900	45.00	0.000

#### 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	0.00	0.000
2	10.00	1.00	5.711

Inclinazione terreno a valle del muro rispetto all'orizzontale 30.000 [°]

#### Geometria muro

##### Geometria paramento e fondazione

Lunghezza muro	3.00	[m]
<b>Paramento</b>		
Materiale	Gabbionata	
Altezza paramento	2.00	[m]
Altezza paramento libero	1.30	[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	1.00	1.00	1.00	0.00	0.00
2	1.00	2.00	2.00	1.00	0.00	0.00

**Fondazione**

Materiale	Cis non Armato	
Lunghezza mensola di valle	0.20	[m]
Lunghezza mensola di monte	0.20	[m]
Lunghezza totale	2.40	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.20	[m]
Spessore magrone	0.00	[m]

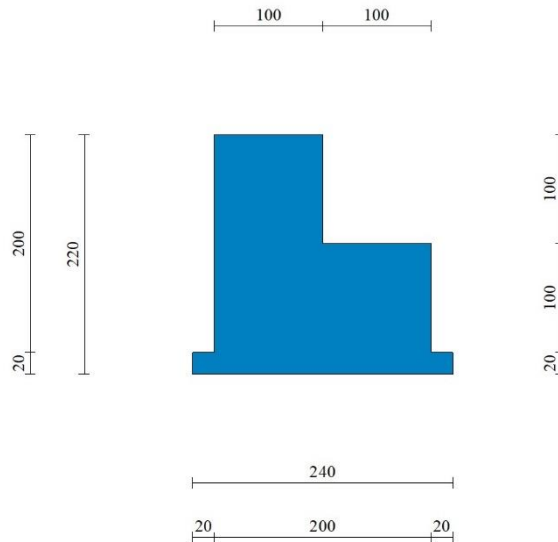


Fig. 1 - Sezione quotata del muro

**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 [N/mm<sup>2</sup>]  
ca Adesione terra-muro espressa in [N/mm<sup>2</sup>]  
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 [N/mm<sup>2</sup>]

n°	Descr	$\gamma$ [kN/mc]	$\gamma_{sat}$ [kN/mc]	$\phi$ [°]	$\delta$ [°]	c [N/mm <sup>2</sup> ]	ca [N/mm <sup>2</sup> ]	Cesp	$\tau_l$ [N/mm <sup>2</sup> ]
1	Ra (fondazione)	19.0000	19.0000	35.000	35.000	0.000	0.000	---	---
2	Ra	19.0000	19.0000	35.000	23.330	0.000	0.000	---	---
3	Sra	24.5000	24.5000	40.000	40.000	0.045	0.000	---	---
4	Riempimento	19.0000	19.0000	35.000	23.330	0.000	0.000	---	---

### Parametri di deformabilità

#### Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
E	Modulo elastico, espresso in [N/mm <sup>2</sup> ]
v	Coeff. di Poisson
Ed	Modulo edometrico, espresso in [N/mm <sup>2</sup> ]
CR	Rapporto di compressione
RR	Rapporto di ricomprensione
OCR	Grado di sovraconsolidazione

n°	Descr	E [N/mm <sup>2</sup> ]	v	Ed [N/mm <sup>2</sup> ]	CR	RR	OCR
1	Ra (fondazione)	20.000	0.300	20.000	0.000	0.000	1.000
2	Ra	20.000	0.300	20.000	0.000	0.000	1.000
3	Sra	30.000	0.300	30.000	0.000	0.000	1.000
4	Riempimento	30.000	0.300	30.000	0.000	0.000	1.000

### Stratigrafia

#### Simbologia adottata

n°	Indice dello strato
H	Spessore dello strato espresso in [m]
α	Inclinazione espressa in [°]
Terreno	Terreno dello strato
<u>Per calcolo pali (solo se presenti)</u>	
Kw	Costante di Winkler orizzontale espressa in Kg/cm <sup>2</sup> /cm
Ks	Coefficiente di spinta
Cesp	Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kst<sub>sta</sub>, Kst<sub>sis</sub> Coeff. di spinta statico e sismico

n°	H [m]	α [°]	Terreno	Kw [Kg/cm <sup>2</sup> ]	Ks	Cesp	Kst <sub>sta</sub>	Kst <sub>sis</sub>
1	2.20	0.000	Ra	---	---	---	---	---
2	1.80	0.000	Ra (fondazione)	---	---	---	---	---
3	3.00	0.000	Sra	---	---	---	---	---

Terreno di riempimento: Riempimento  
Inclinazione riempimento (rispetto alla verticale): 70.00 [°]

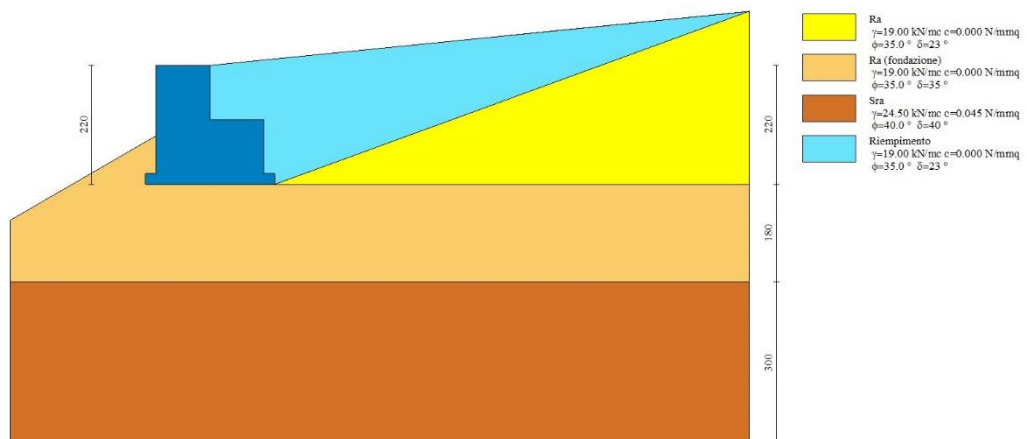


Fig. 2 - Stratigrafia

### 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]

F<sub>x</sub> Componente orizzontale del carico concentrato espressa in [kN]

F<sub>y</sub> Componente verticale del carico concentrato espressa in [kN]

M Momento espresso in [kNm]

X<sub>i</sub> Ascissa del punto iniziale del carico ripartito espressa in [m]

X<sub>f</sub> Ascissa del punto finale del carico ripartito espressa in [m]

Q<sub>i</sub> Intensità del carico per x=X<sub>i</sub> espressa in [kN]

Q<sub>f</sub> Intensità del carico per x=X<sub>f</sub> espressa in [kN]

**Condizione n° 1 (Pacchetto Stradale) - PERMANENTE NS**

*Carichi sul terreno*

n°	Tipo	X [m]	F <sub>x</sub> [kN]	F <sub>y</sub> [kN]	M [kNm]	X <sub>i</sub> [m]	X <sub>f</sub> [m]	Q <sub>i</sub> [kN]	Q <sub>f</sub> [kN]
1	Distribuito					0.00	10.00	4.8000	4.8000

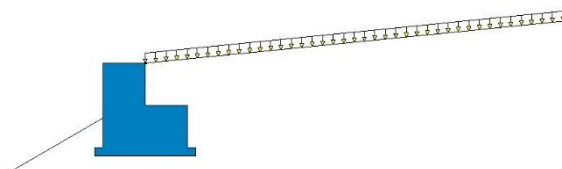


Fig. 3 - Carichi sul terreno

**Condizione n° 2 (Traffico) - VARIABILE**

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

*Carichi sul terreno*

n°	Tipo	X [m]	F <sub>x</sub> [kN]	F <sub>y</sub> [kN]	M [kNm]	X <sub>i</sub> [m]	X <sub>f</sub> [m]	Q <sub>i</sub> [kN]	Q <sub>f</sub> [kN]
1	Distribuito					1.40	8.60	20.0000	20.0000

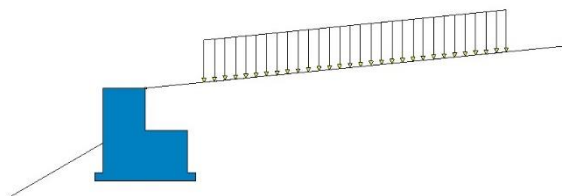


Fig. 4 - Carichi sul terreno

**Condizione n° 3 (Condizione 3) - VARIABILE**

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

**Condizione n° 4 (Condizione 4) - VARIABILE**

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

**Condizione n° 5 (Condizione 5) - VARIABILE**

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

Condizione n° 6 (Condizione 6) - VARIABILE

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

Condizione n° 7 (Condizione 7) - VARIABILE

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

Condizione n° 8 (Condizione 8) - VARIABILE

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

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

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

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1, fav}$	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1, sfav}$	1.10	1.30	1.30	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2, fav}$	0.80	0.80	0.80	0.80	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2, sfav}$	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
Variabili	Sfavorevoli	$\gamma_{Q, sfav}$	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
Variabili da traffico	Sfavorevoli	$\gamma_{QT, sfav}$	1.50	1.35	1.35	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	--

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:

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

I valori dei coeff.  $\Psi_{0,j}$ ,  $\Psi_{1,j}$ ,  $\Psi_{2,j}$  sono definiti nelle singole condizioni variabili.

I valori dei coeff.  $\gamma_G$  e  $\gamma_{Qj}$  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
Pacchetto Stradale	1.50	--	Sfavorevole
Traffico	1.50	1.00	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole
Pacchetto Stradale	1.50	--	Sfavorevole
Traffico	1.50	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole
Pacchetto Stradale	1.50	--	Sfavorevole
Traffico	1.50	1.00	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
Pacchetto Stradale	1.50	--	Sfavorevole
Traffico	1.50	1.00	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Pacchetto Stradale	1.30	--	Sfavorevole
Traffico	1.30	1.00	Sfavorevole

Combinazione n° 6 - EQU (A1-M1-R3)

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
Pacchetto Stradale	1.50	--	Sfavorevole
Traffico	1.50	1.00	Sfavorevole

Combinazione n° 7 - SLER

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Pacchetto Stradale	1.00	--	Sfavorevole
Traffico	1.00	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
Pacchetto Stradale	1.00	--	Sfavorevole
Traffico	1.00	0.75	Sfavorevole

Combinazione n° 9 - SLEQ

Condizione	$\gamma$	$\Psi$	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Pacchetto Stradale	1.00	--	Sfavorevole

## 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

### Capacità portante

Metodo di calcolo della portanza	Hansen
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Meyerhof
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ( $0.5B\gamma N_c$ )	Larghezza ridotta (B')
Fattori di forma e inclinazione del carico	Solo i fattori di inclinazione
Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra	

### Stabilità globale

Metodo di calcolo della stabilità globale	Bishop
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### Altro

Partecipazione spinta passiva terreno antistante	0.00
Partecipazione resistenza passiva dente di fondazione	0.50
Componente verticale della spinta nel calcolo delle sollecitazioni	SI
Considera terreno sulla fondazione di valle	NO
Considera spinta e peso acqua fondazione di valle	NO
Sezioni verifica muri a gravità	Tutte
Richiesto controllo eccentricità verifiche muro a gravità in cls	

### Spostamenti

Non è stato richiesto il calcolo degli spostamenti

### Cedimenti

Metodo di calcolo delle tensioni	Boussinesq
Metodo di calcolo dei cedimenti	Elastico
Profondità calcolo cedimenti	Automatica
$\Delta H$ massimo suddivisione strati	0.50 [m]



## Risultati per combinazione

### 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	80.16	46.26	55.43	57.92	1.20	-1.22
	Peso/Inerzia muro			0.00	68.77/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	36.61/0.00	0.66	-0.60
2	Spinta statica	80.16	46.26	55.43	57.92	1.20	-1.22
	Peso/Inerzia muro			0.00	89.40/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	45.00/0.00	0.66	-0.60
3	Spinta statica	80.16	46.26	55.43	57.92	1.20	-1.22
	Peso/Inerzia muro			0.00	68.77/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	45.00/0.00	0.66	-0.60
4	Spinta statica	80.16	46.26	55.43	57.92	1.20	-1.22
	Peso/Inerzia muro			0.00	89.40/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	36.61/0.00	0.66	-0.60
7	Spinta statica	58.21	47.18	39.56	42.70	1.20	-1.22
	Peso/Inerzia muro			0.00	68.77/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	33.73/0.00	0.67	-0.60
8	Spinta statica	55.08	48.18	36.73	41.05	1.20	-1.21
	Peso/Inerzia muro			0.00	68.77/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	33.73/0.00	0.67	-0.60
9	Spinta statica	47.64	51.47	29.68	37.27	1.20	-1.16
	Peso/Inerzia muro			0.00	68.77/0.00	-0.14	-1.33
	Peso/Inerzia terrapieno			0.00	33.73/0.00	0.67	-0.60

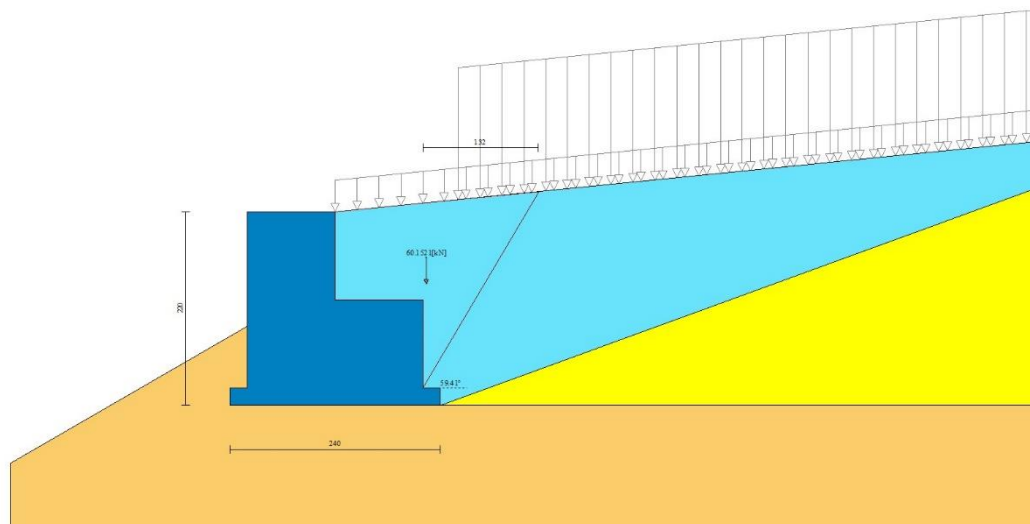


Fig. 5 - Cuneo di spinta (combinazione statica) (Combinazione n° 1)

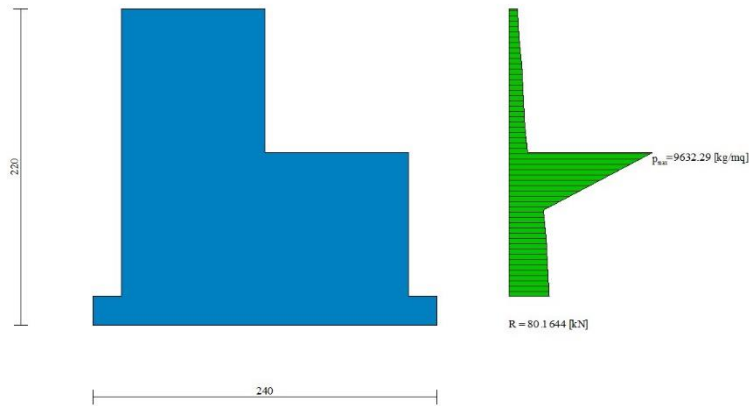


Fig. 6 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 1)

## Verifiche geotecniche

### Quadro riassuntivo coeff. di sicurezza calcolati

#### Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS <sub>SCO</sub>	Coeff. di sicurezza allo scorrimento
FS <sub>RIB</sub>	Coeff. di sicurezza al ribaltamento
FS <sub>QLIM</sub>	Coeff. di sicurezza a carico limite
FS <sub>STAB</sub>	Coeff. di sicurezza a stabilità globale
FS <sub>HYD</sub>	Coeff. di sicurezza a sifonamento
FS <sub>SUPL</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>SUPL</sub>
1 - STR (A1-M1-R3)		2.063		2.441			
2 - STR (A1-M1-R3)		2.429		2.499			
3 - STR (A1-M1-R3)		2.169		2.398			
4 - STR (A1-M1-R3)		2.323		2.565			
5 - GEO (A2-M2-R2)					1.110		
6 - EQU (A1-M1-R3)			5.165				

### Verifica a scorrimento fondazione

#### Simbologia adottata

n°	Indice combinazione
Rsa	Resistenza allo scorrimento per attrito, espresso in [kN]
Rpt	Resistenza passiva terreno antistante, espresso in [kN]
Rps	Resistenza passiva sperone, espresso in [kN]
Rp	Resistenza a carichi orizzontali pali (solo per fondazione mista), espresso in [kN]
Rt	Resistenza a carichi orizzontali tiranti (solo se presenti), espresso in [kN]
R	Resistenza allo scorrimento (somma di Rsa+Rpt+Rps+Rp), espresso in [kN]
T	Carico parallelo al piano di posa, espresso in [kN]
FS	Fattore di sicurezza (rapporto R/T)

n°	Rsa [kN]	Rpt [kN]	Rps [kN]	Rp [kN]	Rt [kN]	R [kN]	T [kN]	FS
1 - STR (A1-M1-R3)	114.34	0.00	0.00	--	--	114.34	55.43	2.063
2 - STR (A1-M1-R3)	134.66	0.00	0.00	--	--	134.66	55.43	2.429
3 - STR (A1-M1-R3)	120.21	0.00	0.00	--	--	120.21	55.43	2.169
4 - STR (A1-M1-R3)	128.78	0.00	0.00	--	--	128.78	55.43	2.323

### Verifica a carico limite

### Simbologia adottata

n°	Indice combinazione
N	Carico normale totale al piano di posa, espresso in [kN]
Qu	carico limite del terreno, espresso in [kN]
Qd	Portanza di progetto, espresso in [kN]
FS	Fattore di sicurezza (rapporto tra il carico limite e carico agente al piano di posa)

n°	N [kN]	Qu [kN]	Qd [kN]	FS
1 - STR (A1-M1-R3)	163.29	398.64	284.74	2.441
2 - STR (A1-M1-R3)	192.31	480.64	343.32	2.499
3 - STR (A1-M1-R3)	171.68	411.67	294.05	2.398
4 - STR (A1-M1-R3)	183.92	471.74	336.96	2.565

### Dettagli calcolo portanza

#### Simbologia adottata

n°	Indice combinazione
Nc, Nq, Ny	Fattori di capacità portante
ic, iq, iy	Fattori di inclinazione del carico
dc, dq, dy	Fattori di profondità del piano di posa
gc, gq, gy	Fattori di inclinazione del profilo topografico
bc, bq, by	Fattori di inclinazione del piano di posa
sc, sq, sy	Fattori di forma della fondazione
pc, pq, py	Fattori di riduzione per punzonamento secondo Vesic
Re	Fattore di riduzione capacità portante per eccentricità secondo Meyerhof
Ir, Irc	Indici di rigidezza per punzonamento secondo Vesic
r <sub>γ</sub>	Fattori per tener conto dell'effetto piastra. Per fondazioni che hanno larghezza maggiore di 2 m, il terzo termine della formula trinomia 0.5B <sub>γ</sub> N <sub>γ</sub> viene moltiplicato per questo fattore
D	Affondamento del piano di posa, espresso in [m]
B'	Larghezza fondazione ridotta, espresso in [m]
H	Altezza del cuneo di rottura, espresso in [m]
γ	Peso di volume del terreno medio, espresso in [kN/mc]
φ	Angolo di attrito del terreno medio, espresso in [°]
c	Coesione del terreno medio, espresso in [N/mmq]

Per i coeff. che in tabella sono indicati con il simbolo '--' sono coeff. non presenti nel metodo scelto (Hansen).

n°	Nc Nq Ny	ic iq iy	dc dq dy	gc gq gy	bc bq by	sc sq sy	pc pq py	Ir	Irc	Re	r <sub>γ</sub>
1	50.238	0.378	1.131	0.796	1.000	--	--	--	--	0.724	0.980
	37.402	0.395	1.081	0.182	1.000	--	--	--	--		
	39.564	0.258	1.000	0.182	1.000	--	--	--	--		
2	50.238	0.444	1.131	0.796	1.000	--	--	--	--	0.733	0.980
	37.402	0.459	1.081	0.182	1.000	--	--	--	--		
	39.564	0.324	1.000	0.182	1.000	--	--	--	--		
3	50.238	0.399	1.131	0.796	1.000	--	--	--	--	0.706	0.980
	37.402	0.415	1.081	0.182	1.000	--	--	--	--		
	39.564	0.278	1.000	0.182	1.000	--	--	--	--		
4	50.238	0.427	1.131	0.796	1.000	--	--	--	--	0.752	0.980
	37.402	0.442	1.081	0.182	1.000	--	--	--	--		
	39.564	0.306	1.000	0.182	1.000	--	--	--	--		

n°	D [m]	B' [m]	H [m]	γ [°]	φ [kN/mc]	c [N/mmq]
1	0.78	2.40	2.35	20.02	35.93	0.008
2	0.78	2.40	2.35	20.02	35.93	0.008
3	0.78	2.40	2.35	20.02	35.93	0.008
4	0.78	2.40	2.35	20.02	35.93	0.008

### Verifica a ribaltamento

#### Simbologia adottata

n°	Indice combinazione
Ms	Momento stabilizzante, espresso in [kNm]
Mr	Momento ribaltante, espresso in [kNm]
FS	Fattore di sicurezza (rapporto tra momento stabilizzante e momento ribaltante)

La verifica viene eseguita rispetto allo spigolo inferiore esterno della fondazione

n°	Ms [kNm]	Mr [kNm]	FS
6 - EQU (A1-M1-R3)	280.14	54.24	5.165

### 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]	
5 - GEO (A2-M2-R2)	-4.00; 4.50	8.49	1.110

### 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]  
 Qy carico sulla striscia espresso in [kN]  
 Qf carico acqua sulla striscia espresso in [kN]  
 $\alpha$  angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)  
 $\phi$  angolo d'attrito del terreno lungo la base della striscia  
 c coesione del terreno lungo la base della striscia espressa in [N/mmq]  
 b larghezza della striscia espressa in [m]  
 u pressione neutra lungo la base della striscia espressa in [N/mmq]  
 Tx; Ty Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [N/mmq]

#### Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	$\alpha$	$\phi$	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[N/mmq]	[N/mmq]	[kN]
1	1.77	11.44	0.00	3.41 - 0.35	57.616	29.256	0.000	0.0000	
2	5.07	11.44	0.00	0.35	54.198	29.256	0.000	0.0000	
3	7.93	11.44	0.00	0.35	50.278	29.256	0.000	0.0000	
4	10.40	11.44	0.00	0.35	46.660	29.256	0.000	0.0000	
5	12.55	11.44	0.00	0.35	43.271	29.256	0.000	0.0000	
6	14.44	8.47	0.00	0.35	40.062	29.256	0.000	0.0000	
7	16.11	2.21	0.00	0.35	36.999	29.256	0.000	0.0000	
8	17.58	2.21	0.00	0.35	34.054	29.256	0.000	0.0000	
9	18.88	2.21	0.00	0.35	31.209	29.256	0.000	0.0000	
10	20.03	1.38	0.00	0.35	28.448	29.256	0.000	0.0000	
11	21.21	0.00	0.00	0.35	25.757	29.256	0.000	0.0000	
12	22.29	0.00	0.00	0.35	23.126	29.256	0.000	0.0000	
13	18.14	0.00	0.00	0.35	20.545	29.256	0.000	0.0000	
14	13.87	0.00	0.00	0.35	18.008	29.256	0.000	0.0000	
15	13.20	0.00	0.00	0.35	15.506	29.256	0.000	0.0000	
16	12.43	0.00	0.00	0.35	13.035	29.256	0.000	0.0000	
17	11.55	0.00	0.00	0.35	10.588	29.256	0.000	0.0000	
18	10.56	0.00	0.00	0.35	8.161	29.256	0.000	0.0000	
19	9.48	0.00	0.00	0.35	5.748	29.256	0.000	0.0000	
20	8.28	0.00	0.00	0.35	3.345	29.256	0.000	0.0000	
21	6.99	0.00	0.00	0.35	0.949	29.256	0.000	0.0000	
22	5.60	0.00	0.00	0.35	-1.446	29.256	0.000	0.0000	
23	4.11	0.00	0.00	0.35	-3.844	29.256	0.000	0.0000	
24	2.52	0.00	0.00	0.35	-6.248	29.256	0.000	0.0000	
25	0.82	0.00	0.00	-5.46 - 0.35	-7.493	29.256	0.000	0.0000	

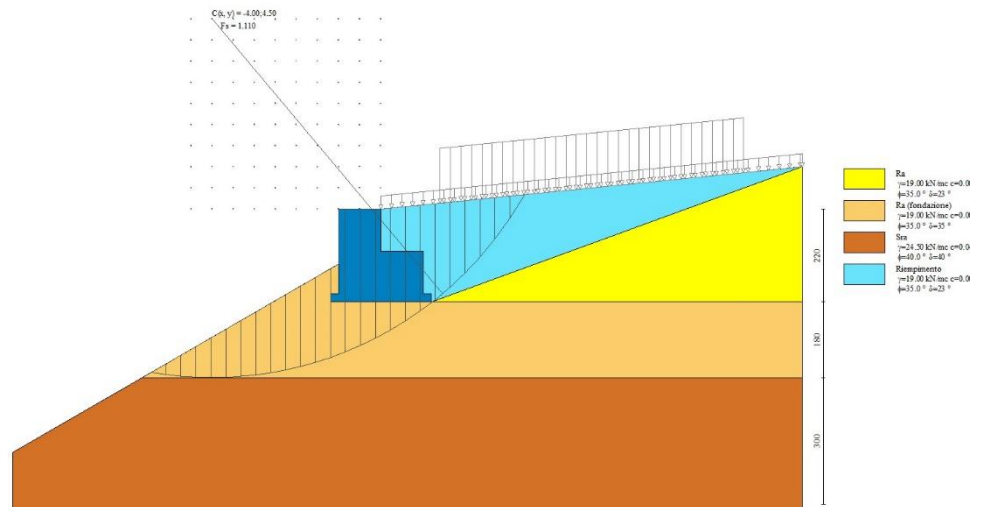


Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 5)

### Cedimenti

#### Simbologia adottata

Ic	Indice combinazione
X, Y	Punto di calcolo del cedimento, espressa in [m]
w	Cedimento, espressa in [cm]
dw	Cedimento differenziale, espressa in [cm]

Ic	X; Y [m]	w [cm]	dw [cm]
7	-1.20; -2.20	0.371	0.000
7	0.00; -2.20	0.704	0.333
7	1.20; -2.20	0.533	0.162
8	-1.20; -2.20	0.365	0.000
8	0.00; -2.20	0.696	0.331
8	1.20; -2.20	0.529	0.164
9	-1.20; -2.20	0.350	0.000
9	0.00; -2.20	0.678	0.328
9	1.20; -2.20	0.521	0.171

### Sollecitazioni

#### Elementi calcolati a trave

#### Simbologia adottata

n°	Indice della sezione
X	Posizione della sezione, espresso in [m]
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)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

### Paramento

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

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.13	0.54	-0.09
3	-0.20	4.29	1.14	-0.14
4	-0.30	6.47	1.80	-0.13
5	-0.40	8.68	2.52	-0.07
6	-0.50	10.91	3.29	0.05
7	-0.60	13.17	4.13	0.24
8	-0.70	15.45	5.02	0.50
9	-0.80	17.76	5.97	0.85
10	-0.90	20.10	6.98	1.28
11	-1.00	22.46	8.06	1.80
12	-1.00	49.70	8.15	-4.26
13	-1.10	56.83	15.93	-6.40
14	-1.20	63.25	22.07	-7.15
15	-1.30	68.98	26.58	-6.66
16	-1.30	69.08	26.66	-6.64
17	-1.40	74.13	29.55	-5.07
18	-1.50	78.84	31.67	-2.93
19	-1.60	83.58	33.86	-0.60
20	-1.70	88.34	36.11	1.92
21	-1.80	93.13	38.42	4.64
22	-1.90	97.95	40.79	7.58
23	-2.00	102.79	43.22	10.72

#### Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.70	0.54	-0.09
3	-0.20	5.43	1.14	-0.14
4	-0.30	8.18	1.80	-0.13
5	-0.40	10.96	2.52	-0.07
6	-0.50	13.76	3.29	0.05
7	-0.60	16.59	4.13	0.24
8	-0.70	19.44	5.02	0.50
9	-0.80	22.32	5.97	0.85
10	-0.90	25.22	6.98	1.28
11	-1.00	28.15	8.06	1.80

n°	X [m]	N [kN]	T [kN]	M [kNm]
12	-1.00	61.40	8.15	-4.45
13	-1.10	69.66	15.93	-6.59
14	-1.20	77.22	22.07	-7.34
15	-1.30	84.07	26.58	-6.85
16	-1.30	84.20	26.66	-6.83
17	-1.40	90.38	29.55	-5.26
18	-1.50	96.23	31.67	-3.12
19	-1.60	102.11	33.86	-0.79
20	-1.70	108.01	36.11	1.73
21	-1.80	113.94	38.42	4.45
22	-1.90	119.89	40.79	7.39
23	-2.00	125.87	43.22	10.53

Combinazione n° 3 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.13	0.54	-0.09
3	-0.20	4.29	1.14	-0.14
4	-0.30	6.47	1.80	-0.13
5	-0.40	8.68	2.52	-0.07
6	-0.50	10.91	3.29	0.05
7	-0.60	13.17	4.13	0.24
8	-0.70	15.45	5.02	0.50
9	-0.80	17.76	5.97	0.85
10	-0.90	20.10	6.98	1.28
11	-1.00	22.46	8.06	1.80
12	-1.00	55.69	8.15	-7.30
13	-1.10	62.82	15.93	-9.44
14	-1.20	69.24	22.07	-10.19
15	-1.30	74.96	26.58	-9.70
16	-1.30	75.07	26.66	-9.68
17	-1.40	80.11	29.55	-8.11
18	-1.50	84.82	31.67	-5.97
19	-1.60	89.56	33.86	-3.64
20	-1.70	94.33	36.11	-1.12
21	-1.80	99.12	38.42	1.60
22	-1.90	103.93	40.79	4.54
23	-2.00	108.77	43.22	7.68

Combinazione n° 4 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.70	0.54	-0.09
3	-0.20	5.43	1.14	-0.14
4	-0.30	8.18	1.80	-0.13
5	-0.40	10.96	2.52	-0.07
6	-0.50	13.76	3.29	0.05
7	-0.60	16.59	4.13	0.24
8	-0.70	19.44	5.02	0.50
9	-0.80	22.32	5.97	0.85
10	-0.90	25.22	6.98	1.28
11	-1.00	28.15	8.06	1.80
12	-1.00	55.42	8.15	-1.41
13	-1.10	63.68	15.93	-3.55
14	-1.20	71.23	22.07	-4.30
15	-1.30	78.08	26.58	-3.81
16	-1.30	78.22	26.66	-3.79
17	-1.40	84.40	29.55	-2.22
18	-1.50	90.25	31.67	-0.08
19	-1.60	96.12	33.86	2.25
20	-1.70	102.03	36.11	4.77
21	-1.80	107.95	38.42	7.49
22	-1.90	113.91	40.79	10.43
23	-2.00	119.89	43.22	13.57

Combinazione n° 7 - SLER

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.07	0.40	-0.07
3	-0.20	4.16	0.84	-0.10
4	-0.30	6.27	1.33	-0.10
5	-0.40	8.40	1.87	-0.05
6	-0.50	10.54	2.44	0.04
7	-0.60	12.71	3.07	0.18
8	-0.70	14.90	3.74	0.37
9	-0.80	17.11	4.45	0.63
10	-0.90	19.33	5.21	0.94

n°	X [m]	N [kN]	T [kN]	M [kNm]
11	-1.00	21.58	6.02	1.33
12	-1.00	46.41	6.09	-3.06
13	-1.10	52.61	11.70	-4.58
14	-1.20	58.29	16.12	-5.10
15	-1.30	63.47	19.38	-4.73
16	-1.30	63.57	19.43	-4.71
17	-1.40	68.26	21.52	-3.56
18	-1.50	72.72	23.06	-2.00
19	-1.60	77.20	24.65	-0.30
20	-1.70	81.70	26.29	1.53
21	-1.80	86.22	27.97	3.52
22	-1.90	90.76	29.70	5.65
23	-2.00	95.33	31.48	7.94

Combinazione n° 8 - SLEF

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.07	0.40	-0.07
3	-0.20	4.16	0.84	-0.10
4	-0.30	6.27	1.33	-0.10
5	-0.40	8.40	1.87	-0.05
6	-0.50	10.54	2.44	0.04
7	-0.60	12.71	3.07	0.18
8	-0.70	14.90	3.74	0.37
9	-0.80	17.11	4.45	0.63
10	-0.90	19.33	5.21	0.94
11	-1.00	21.58	6.02	1.33
12	-1.00	46.41	6.09	-3.05
13	-1.10	52.46	11.36	-4.45
14	-1.20	58.03	15.51	-4.90
15	-1.30	63.11	18.55	-4.51
16	-1.30	63.21	18.60	-4.49
17	-1.40	67.84	20.53	-3.36
18	-1.50	72.24	21.94	-1.85
19	-1.60	76.66	23.40	-0.22
20	-1.70	81.11	24.90	1.54
21	-1.80	85.57	26.46	3.44
22	-1.90	90.06	28.06	5.47
23	-2.00	94.57	29.72	7.64

Combinazione n° 9 - SLEQ

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	2.07	0.40	-0.07
3	-0.20	4.16	0.84	-0.10
4	-0.30	6.27	1.33	-0.10
5	-0.40	8.40	1.87	-0.05
6	-0.50	10.54	2.44	0.04
7	-0.60	12.71	3.07	0.18
8	-0.70	14.90	3.74	0.37
9	-0.80	17.11	4.45	0.63
10	-0.90	19.33	5.21	0.94
11	-1.00	21.58	6.02	1.33
12	-1.00	46.41	6.08	-3.05
13	-1.10	52.17	10.68	-4.19
14	-1.20	57.47	14.21	-4.47
15	-1.30	62.31	16.69	-4.00
16	-1.30	62.40	16.73	-3.98
17	-1.40	66.81	18.16	-2.85
18	-1.50	71.01	19.10	-1.39
19	-1.60	75.25	20.11	0.13
20	-1.70	79.50	21.19	1.73
21	-1.80	83.79	22.32	3.41
22	-1.90	88.09	23.51	5.18
23	-2.00	92.43	24.76	7.05

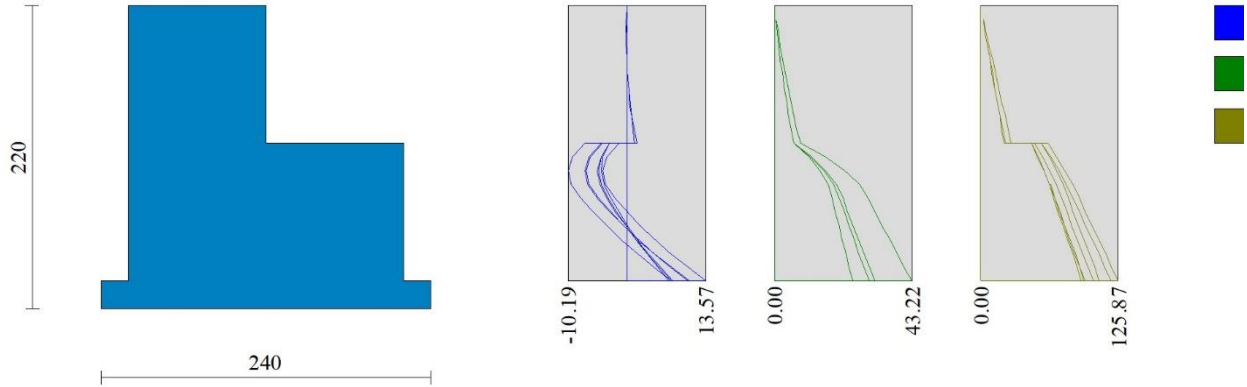


Fig. 8 - Paramento (Inviluppo)

### Fondazione

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

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	3.32	0.16
3	-1.00	0.00	6.91	0.67
4	1.00	0.00	6.48	0.66
5	1.10	0.00	3.36	0.17
6	1.20	0.00	0.00	0.00

#### Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	4.10	0.20
3	-1.00	0.00	8.49	0.83
4	1.00	0.00	9.15	0.93
5	1.10	0.00	4.70	0.24
6	1.20	0.00	0.00	0.00

#### Combinazione n° 3 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	3.11	0.15
3	-1.00	0.00	6.52	0.63
4	1.00	0.00	8.27	0.85
5	1.10	0.00	4.28	0.22
6	1.20	0.00	0.00	0.00

#### Combinazione n° 4 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	4.32	0.21
3	-1.00	0.00	8.88	0.87
4	1.00	0.00	7.36	0.75
5	1.10	0.00	3.79	0.19
6	1.20	0.00	0.00	0.00

#### Combinazione n° 7 - SLER



n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	3.03	0.15
3	-1.00	0.00	6.27	0.61
4	1.00	0.00	6.99	0.71
5	1.10	0.00	3.59	0.18
6	1.20	0.00	0.00	0.00

Combinazione n° 8 - SLEF

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	2.92	0.14
3	-1.00	0.00	6.06	0.59
4	1.00	0.00	6.93	0.71
5	1.10	0.00	3.57	0.18
6	1.20	0.00	0.00	0.00

Combinazione n° 9 - SLEQ

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.20	0.00	0.00	0.00
2	-1.10	0.00	2.66	0.13
3	-1.00	0.00	5.55	0.54
4	1.00	0.00	6.81	0.69
5	1.10	0.00	3.51	0.18
6	1.20	0.00	0.00	0.00

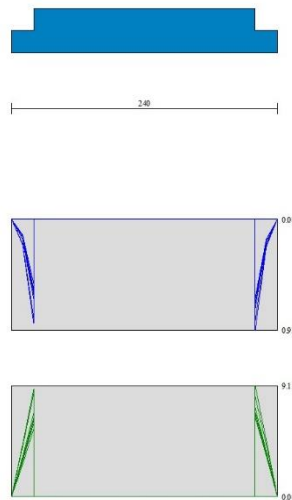


Fig. 9 - Fondazione (Inviluppo)

Verifiche strutturali

*Paramento in pietrame*

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
As	area sezione reagente espressa in [cmq]
e	eccentricità espressa in [cm]
$\sigma$	tensione espressa in [N/mm <sup>2</sup> ]
Rt	resistenza ai carichi orizzontali espressa in [kN]
Et	Azione orizzontale espressa in [kN]
FSsco	fattore di sicurezza allo scorrimento (Rt/Et)
Ms	momento stabilizzante espresso in [kNm]
Mr	momento ribaltante espresso in [kNm]
FSrib	fattore di sicurezza a ribaltamento (Ms/Mr)

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

n°	Y [m]	As [cmq]	e [cm]	σ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-4.22	0.003	2.1311	0.5403	3.944	1.1821	0.0265	44.622
3	-0.20	10000	-3.17	0.005	4.2880	1.1403	3.760	2.3899	0.1099	21.738
4	-0.30	10000	-2.04	0.007	6.4703	1.7993	3.596	3.6232	0.2563	14.137
5	-0.40	10000	-0.82	0.009	8.6777	2.5165	3.448	4.8815	0.4714	10.356
6	-0.50	10000	0.47	0.011	10.9104	3.2922	3.314	6.1652	0.7610	8.101
7	-0.60	10000	1.83	0.015	13.1685	4.1270	3.191	7.4742	1.1311	6.608
8	-0.70	10000	3.27	0.018	15.4520	5.0206	3.078	8.8087	1.5876	5.549
9	-0.80	10000	4.78	0.023	17.7610	5.9733	2.973	10.1686	2.1362	4.760
10	-0.90	10000	6.35	0.028	20.0954	6.9848	2.877	11.5539	2.7830	4.152
11	-1.00	10000	8.00	0.033	22.4552	8.0554	2.788	12.9647	3.5338	3.669
12	-1.00	20000	-8.56	0.031	49.7043	8.1530	6.096	53.9948	3.5499	15.210
13	-1.10	20000	-11.26	0.038	56.8337	15.9314	3.567	61.1242	4.7597	12.842
14	-1.20	20000	-11.30	0.042	63.2548	22.0674	2.866	67.5453	6.6606	10.141
15	-1.30	20000	-9.66	0.044	68.9763	26.5816	2.595	73.2668	9.0901	8.060
16	-1.30	20000	-9.62	0.045	69.0844	26.6560	2.592	73.3749	9.1433	8.025
17	-1.40	20000	-6.84	0.045	74.1261	29.5476	2.509	78.4166	11.9629	6.555
18	-1.50	20000	-3.72	0.044	78.8382	31.6749	2.489	83.1287	15.0192	5.535
19	-1.60	20000	-0.72	0.043	83.5764	33.8629	2.468	87.8669	18.2909	4.804
20	-1.70	20000	2.17	0.047	88.3407	36.1114	2.446	92.6312	21.7841	4.252
21	-1.80	20000	4.99	0.054	93.1310	38.4200	2.424	97.4214	25.5049	3.820
22	-1.90	20000	7.74	0.060	97.9472	40.7887	2.401	102.2376	29.4591	3.470
23	-2.00	20000	10.43	0.067	102.7893	43.2177	2.378	107.0798	33.6529	3.182

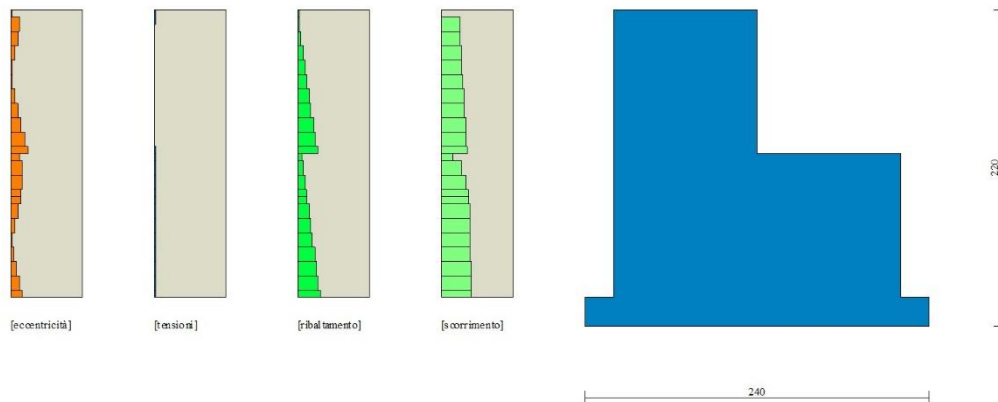


Fig. 10 - Verifiche paramento pietrame (Combinazione n° 1)

**Combinazione n° 2 - STR (A1-M1-R3)**

n°	Y [m]	As [cmq]	e [cm]	σ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-3.33	0.003	2.7006	0.5403	4.998	1.4668	0.0265	55.369
3	-0.20	10000	-2.51	0.006	5.4269	1.1403	4.759	2.9593	0.1099	26.918
4	-0.30	10000	-1.61	0.009	8.1786	1.7993	4.545	4.4773	0.2563	17.470
5	-0.40	10000	-0.65	0.011	10.9554	2.5165	4.353	6.0204	0.4714	12.772
6	-0.50	10000	0.37	0.014	13.7576	3.2922	4.179	7.5887	0.7610	9.972
7	-0.60	10000	1.45	0.018	16.5851	4.1270	4.019	9.1825	1.1311	8.118
8	-0.70	10000	2.60	0.022	19.4381	5.0206	3.872	10.8017	1.5876	6.804
9	-0.80	10000	3.80	0.027	22.3164	5.9733	3.736	12.4463	2.1362	5.826
10	-0.90	10000	5.06	0.033	25.2203	6.9848	3.611	14.1164	2.7830	5.072
11	-1.00	10000	6.38	0.039	28.1495	8.0554	3.494	15.8118	3.5338	4.475
12	-1.00	20000	-7.24	0.037	61.4007	8.1530	7.531	65.8812	3.5499	18.558
13	-1.10	20000	-9.46	0.045	69.6625	15.9314	4.373	74.1430	4.7597	15.577
14	-1.20	20000	-9.50	0.050	77.2160	22.0674	3.499	81.6965	6.6606	12.266
15	-1.30	20000	-8.15	0.052	84.0699	26.5816	3.163	88.5504	9.0901	9.741
16	-1.30	20000	-8.12	0.052	84.2008	26.6560	3.159	88.6813	9.1433	9.699
17	-1.40	20000	-5.82	0.053	90.3809	29.5476	3.059	94.8614	11.9629	7.930
18	-1.50	20000	-3.24	0.053	96.2313	31.6749	3.038	100.7118	15.0192	6.706

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
19	-1.60	20000	-0.78	0.052	102.1079	33.8629	3.015	106.5884	18.2909	5.827
20	-1.70	20000	1.60	0.057	108.0106	36.1114	2.991	112.4911	21.7841	5.164
21	-1.80	20000	3.91	0.064	113.9392	38.4200	2.966	118.4197	25.5049	4.643
22	-1.90	20000	6.16	0.071	119.8938	40.7887	2.939	124.3743	29.4591	4.222
23	-2.00	20000	8.37	0.079	125.8743	43.2177	2.913	130.3548	33.6529	3.874

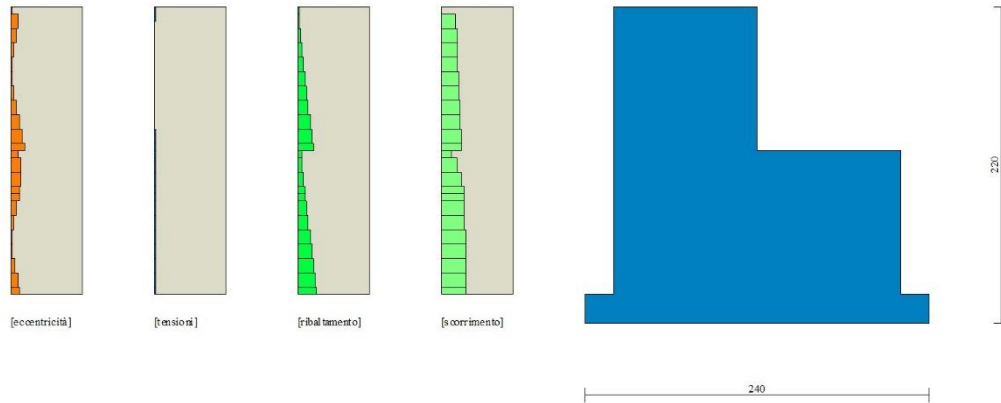


Fig. 11 - Verifiche paramento pietrame (Combinazione n° 2)

Combinazione n° 3 - STR (A1-M1-R3)

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-4.22	0.003	2.1311	0.5403	3.944	1.1821	0.0265	44.622
3	-0.20	10000	-3.17	0.005	4.2880	1.1403	3.760	2.3899	0.1099	21.738
4	-0.30	10000	-2.04	0.007	6.4703	1.7993	3.596	3.6232	0.2563	14.137
5	-0.40	10000	-0.82	0.009	8.6777	2.5165	3.448	4.8815	0.4714	10.356
6	-0.50	10000	0.47	0.011	10.9104	3.2922	3.314	6.1652	0.7610	8.101
7	-0.60	10000	1.83	0.015	13.1685	4.1270	3.191	7.4742	1.1311	6.608
8	-0.70	10000	3.27	0.018	15.4520	5.0206	3.078	8.8087	1.5876	5.549
9	-0.80	10000	4.78	0.023	17.7610	5.9733	2.973	10.1686	2.1362	4.760
10	-0.90	10000	6.35	0.028	20.0954	6.9848	2.877	11.5539	2.7830	4.152
11	-1.00	10000	8.00	0.033	22.4552	8.0554	2.788	12.9647	3.5338	3.669
12	-1.00	20000	-13.10	0.039	55.6893	8.1530	6.830	63.0198	3.5499	17.752
13	-1.10	20000	-15.03	0.046	62.8187	15.9314	3.943	70.1492	4.7597	14.738
14	-1.20	20000	-14.71	0.050	69.2398	22.0674	3.138	76.5703	6.6606	11.496
15	-1.30	20000	-12.95	0.052	74.9613	26.5816	2.820	82.2918	9.0901	9.053
16	-1.30	20000	-12.90	0.052	75.0694	26.6560	2.816	82.3999	9.1433	9.012
17	-1.40	20000	-10.12	0.052	80.1111	29.5476	2.711	87.4416	11.9629	7.309
18	-1.50	20000	-7.04	0.051	84.8232	31.6749	2.678	92.1537	15.0192	6.136
19	-1.60	20000	-4.07	0.050	89.5614	33.8629	2.645	96.8919	18.2909	5.297
20	-1.70	20000	-1.19	0.049	94.3257	36.1114	2.612	101.6562	21.7841	4.667
21	-1.80	20000	1.62	0.052	99.1160	38.4200	2.580	106.4464	25.5049	4.174
22	-1.90	20000	4.37	0.059	103.9322	40.7887	2.548	111.2626	29.4591	3.777
23	-2.00	20000	7.06	0.066	108.7743	43.2177	2.517	116.1048	33.6529	3.450

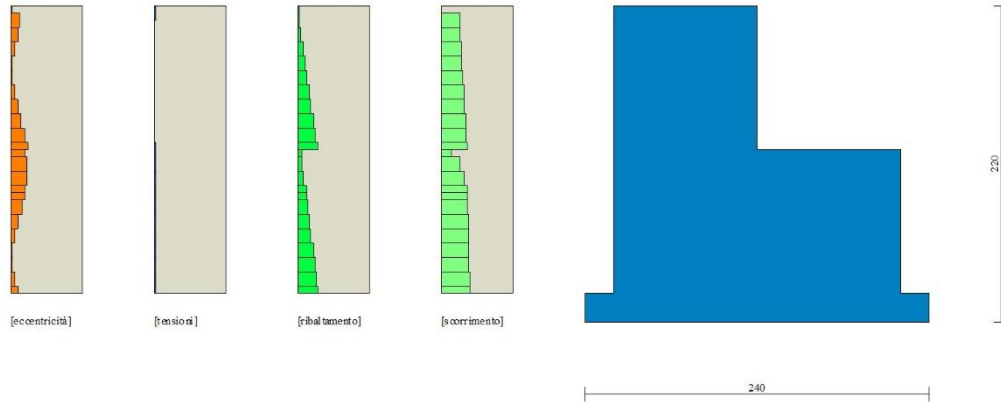


Fig. 12 - Verifiche paramento pietrame (Combinazione n° 3)

Combinazione n° 4 - STR (A1-M1-R3)

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-3.33	0.003	2.7006	0.5403	4.998	1.4668	0.0265	55.369
3	-0.20	10000	-2.51	0.006	5.4269	1.1403	4.759	2.9593	0.1099	26.918
4	-0.30	10000	-1.61	0.009	8.1786	1.7993	4.545	4.4773	0.2563	17.470
5	-0.40	10000	-0.65	0.011	10.9554	2.5165	4.353	6.0204	0.4714	12.772
6	-0.50	10000	0.37	0.014	13.7576	3.2922	4.179	7.5887	0.7610	9.972
7	-0.60	10000	1.45	0.018	16.5851	4.1270	4.019	9.1825	1.1311	8.118
8	-0.70	10000	2.60	0.022	19.4381	5.0206	3.872	10.8017	1.5876	6.804
9	-0.80	10000	3.80	0.027	22.3164	5.9733	3.736	12.4463	2.1362	5.826
10	-0.90	10000	5.06	0.033	25.2203	6.9848	3.611	14.1164	2.7830	5.072
11	-1.00	10000	6.38	0.039	28.1495	8.0554	3.494	15.8118	3.5338	4.475
12	-1.00	20000	-2.54	0.030	55.4157	8.1530	6.797	56.8562	3.5499	16.016
13	-1.10	20000	-5.58	0.037	63.6775	15.9314	3.997	65.1180	4.7597	13.681
14	-1.20	20000	-6.03	0.042	71.2310	22.0674	3.228	72.6715	6.6606	10.911
15	-1.30	20000	-4.89	0.045	78.0849	26.5816	2.938	79.5254	9.0901	8.749
16	-1.30	20000	-4.85	0.045	78.2158	26.6560	2.934	79.6563	9.1433	8.712
17	-1.40	20000	-2.63	0.046	84.3959	29.5476	2.856	85.8364	11.9629	7.175
18	-1.50	20000	-0.09	0.045	90.2463	31.6749	2.849	91.6868	15.0192	6.105
19	-1.60	20000	2.34	0.051	96.1229	33.8629	2.839	97.5634	18.2909	5.334
20	-1.70	20000	4.67	0.058	102.0256	36.1114	2.825	103.4661	21.7841	4.750
21	-1.80	20000	6.94	0.065	107.9542	38.4200	2.810	109.3947	25.5049	4.289
22	-1.90	20000	9.15	0.073	113.9088	40.7887	2.793	115.3493	29.4591	3.916
23	-2.00	20000	11.32	0.080	119.8893	43.2177	2.774	121.3298	33.6529	3.605

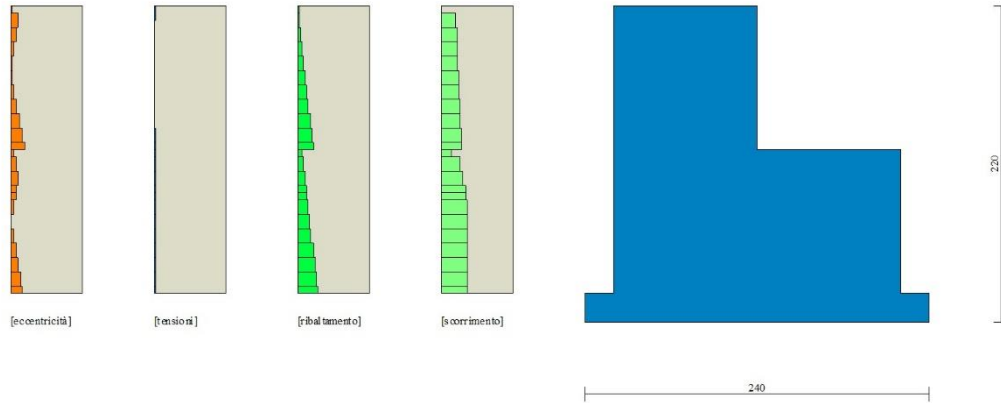


Fig. 13 - Verifiche paramento pietrame (Combinazione n° 4)

Combinazione n° 6 - EQU (A1-M1-R3)

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-4.22	0.003	2.1311	0.5403	3.944	1.1821	0.0265	44.622
3	-0.20	10000	-3.17	0.005	4.2880	1.1403	3.760	2.3899	0.1099	21.738
4	-0.30	10000	-2.04	0.007	6.4703	1.7993	3.596	3.6232	0.2563	14.137
5	-0.40	10000	-0.82	0.009	8.6777	2.5165	3.448	4.8815	0.4714	10.356
6	-0.50	10000	0.47	0.011	10.9104	3.2922	3.314	6.1652	0.7610	8.101
7	-0.60	10000	1.83	0.015	13.1685	4.1270	3.191	7.4742	1.1311	6.608
8	-0.70	10000	3.27	0.018	15.4520	5.0206	3.078	8.8087	1.5876	5.549
9	-0.80	10000	4.78	0.023	17.7610	5.9733	2.973	10.1686	2.1362	4.760
10	-0.90	10000	6.35	0.028	20.0954	6.9848	2.877	11.5539	2.7830	4.152
11	-1.00	10000	8.00	0.033	22.4552	8.0554	2.788	12.9647	3.5338	3.669
12	-1.00	20000	-8.56	0.031	49.7043	8.1530	6.096	53.9948	3.5499	15.210
13	-1.10	20000	-11.26	0.038	56.8337	15.9314	3.567	61.1242	4.7597	12.842
14	-1.20	20000	-11.30	0.042	63.2548	22.0674	2.866	67.5453	6.6606	10.141
15	-1.30	20000	-9.66	0.044	68.9763	26.5816	2.595	73.2668	9.0901	8.060
16	-1.30	20000	-9.62	0.045	69.0844	26.6560	2.592	73.3749	9.1433	8.025
17	-1.40	20000	-6.84	0.045	74.1261	29.5476	2.509	78.4166	11.9629	6.555
18	-1.50	20000	-3.72	0.044	78.8382	31.6749	2.489	83.1287	15.0192	5.535
19	-1.60	20000	-0.72	0.043	83.5764	33.8629	2.468	87.8669	18.2909	4.804
20	-1.70	20000	2.17	0.047	88.3407	36.1114	2.446	92.6312	21.7841	4.252
21	-1.80	20000	4.99	0.054	93.1310	38.4200	2.424	97.4214	25.5049	3.820
22	-1.90	20000	7.74	0.060	97.9472	40.7887	2.401	102.2376	29.4591	3.470
23	-2.00	20000	10.43	0.067	102.7893	43.2177	2.378	107.0798	33.6529	3.182

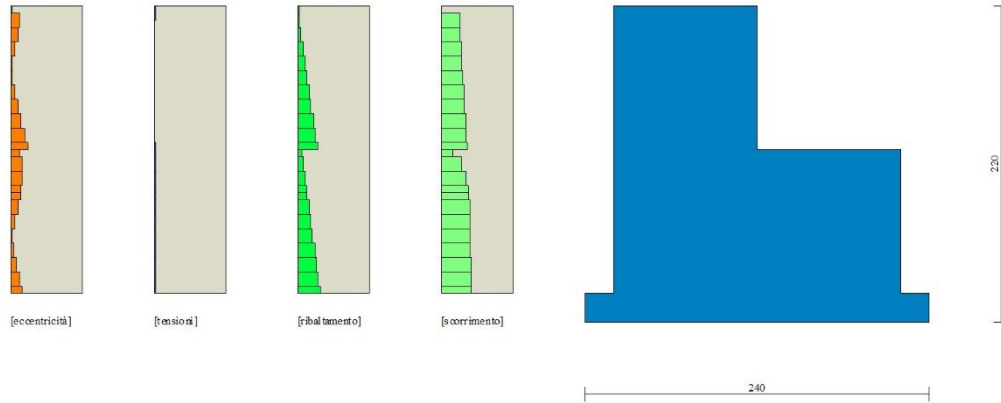


Fig. 14 - Verifiche paramento pietrame (Combinazione n° 6)

Combinazione n° 7 - SLER

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-3.20	0.002	2.0697	0.3980	5.201	1.1207	0.0195	57.482
3	-0.20	10000	-2.42	0.005	4.1593	0.8419	4.940	2.2612	0.0810	27.901
4	-0.30	10000	-1.56	0.007	6.2684	1.3311	4.709	3.4213	0.1892	18.081
5	-0.40	10000	-0.64	0.009	8.3968	1.8652	4.502	4.6006	0.3485	13.201
6	-0.50	10000	0.34	0.011	10.5447	2.4443	4.314	5.7994	0.5634	10.294
7	-0.60	10000	1.39	0.014	12.7121	3.0687	4.142	7.0178	0.8384	8.371
8	-0.70	10000	2.50	0.017	14.8991	3.7385	3.985	8.2557	1.1780	7.008
9	-0.80	10000	3.66	0.021	17.1056	4.4537	3.841	9.5132	1.5868	5.995
10	-0.90	10000	4.89	0.025	19.3317	5.2142	3.708	10.7903	2.0694	5.214
11	-1.00	10000	6.17	0.030	21.5774	6.0200	3.584	12.0869	2.6301	4.596
12	-1.00	20000	-6.58	0.028	46.4149	6.0907	7.621	49.4863	2.6422	18.729
13	-1.10	20000	-8.71	0.033	52.6066	11.6950	4.498	55.6780	3.5354	15.749
14	-1.20	20000	-8.74	0.037	58.2890	16.1184	3.616	61.3604	4.9265	12.455
15	-1.30	20000	-7.45	0.039	63.4684	19.3753	3.276	66.5398	6.6989	9.933
16	-1.30	20000	-7.41	0.039	63.5676	19.4291	3.272	66.6390	6.7377	9.890
17	-1.40	20000	-5.22	0.039	68.2637	21.5194	3.172	71.3351	8.7919	8.114
18	-1.50	20000	-2.75	0.039	72.7234	23.0618	3.153	75.7949	11.0174	6.880
19	-1.60	20000	-0.39	0.039	77.2036	24.6513	3.132	80.2750	13.3993	5.991
20	-1.70	20000	1.88	0.043	81.7039	26.2877	3.108	84.7753	15.9422	5.318
21	-1.80	20000	4.08	0.048	86.2242	27.9706	3.083	89.2957	18.6508	4.788
22	-1.90	20000	6.22	0.054	90.7647	29.7000	3.056	93.8361	21.5298	4.358
23	-2.00	20000	8.33	0.060	95.3252	31.4759	3.029	98.3966	24.5839	4.002

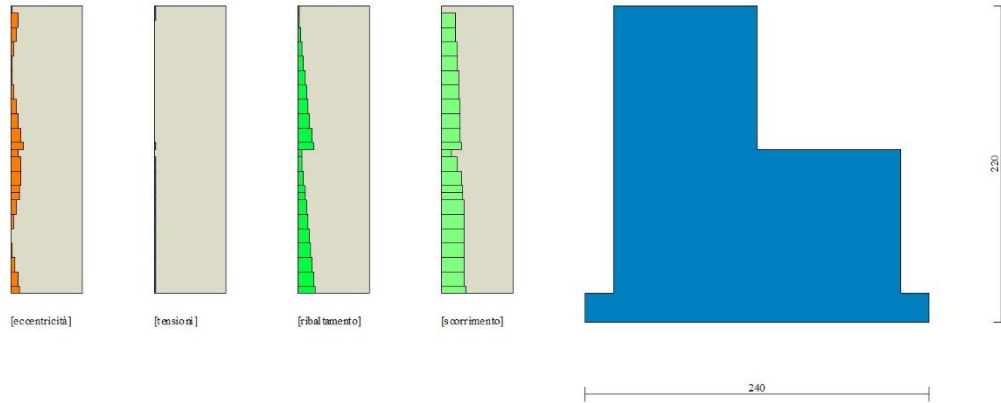


Fig. 15 - Verifiche paramento pietrame (Combinazione n° 7)

Combinazione n° 8 - SLEF

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-3.20	0.002	2.0697	0.3980	5.201	1.1207	0.0195	57.482
3	-0.20	10000	-2.42	0.005	4.1593	0.8419	4.940	2.2612	0.0810	27.901
4	-0.30	10000	-1.56	0.007	6.2684	1.3311	4.709	3.4213	0.1892	18.081
5	-0.40	10000	-0.64	0.009	8.3968	1.8652	4.502	4.6006	0.3485	13.201
6	-0.50	10000	0.34	0.011	10.5447	2.4443	4.314	5.7994	0.5634	10.294
7	-0.60	10000	1.39	0.014	12.7121	3.0687	4.142	7.0178	0.8384	8.371
8	-0.70	10000	2.50	0.017	14.8991	3.7385	3.985	8.2557	1.1780	7.008
9	-0.80	10000	3.66	0.021	17.1056	4.4537	3.841	9.5132	1.5868	5.995
10	-0.90	10000	4.89	0.025	19.3317	5.2142	3.708	10.7903	2.0694	5.214
11	-1.00	10000	6.17	0.030	21.5774	6.0200	3.584	12.0869	2.6301	4.596
12	-1.00	20000	-6.58	0.028	46.4133	6.0871	7.625	49.4847	2.6422	18.728
13	-1.10	20000	-8.49	0.033	52.4613	11.3581	4.619	55.5327	3.5180	15.785
14	-1.20	20000	-8.44	0.036	58.0251	15.5064	3.742	61.0965	4.8615	12.567
15	-1.30	20000	-7.14	0.038	63.1106	18.5458	3.403	66.1820	6.5619	10.086
16	-1.30	20000	-7.11	0.038	63.2082	18.5958	3.399	66.2796	6.5990	10.044
17	-1.40	20000	-4.96	0.039	67.8351	20.5258	3.305	70.9065	8.5615	8.282
18	-1.50	20000	-2.56	0.039	72.2383	21.9369	3.293	75.3097	10.6812	7.051
19	-1.60	20000	-0.28	0.039	76.6625	23.3968	3.277	79.7339	12.9442	6.160
20	-1.70	20000	1.90	0.043	81.1075	24.9049	3.257	84.1789	15.3555	5.482
21	-1.80	20000	4.02	0.048	85.5730	26.4607	3.234	88.6445	17.9197	4.947
22	-1.90	20000	6.07	0.053	90.0591	28.0641	3.209	93.1306	20.6416	4.512
23	-2.00	20000	8.08	0.059	94.5658	29.7151	3.182	97.6372	23.5260	4.150

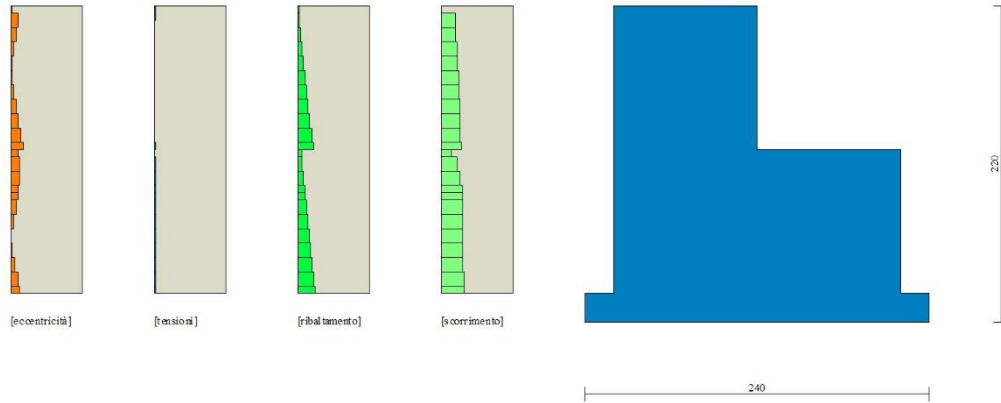


Fig. 16 - Verifiche paramento pietrame (Combinazione n° 8)

Combinazione n° 9 - SLEQ

n°	Y [m]	As [cmq]	e [cm]	$\sigma$ [N/mmq]	Rt [kN]	Et [kN]	FSsco	Ms [kNm]	Mr [kNm]	FSrib
1	0.00	10000	0.00	0.000	0.0000	0.0000	100.000	0.0000	0.0000	100.000
2	-0.10	10000	-3.20	0.002	2.0697	0.3980	5.201	1.1207	0.0195	57.482
3	-0.20	10000	-2.42	0.005	4.1593	0.8419	4.940	2.2612	0.0810	27.901
4	-0.30	10000	-1.56	0.007	6.2684	1.3311	4.709	3.4213	0.1892	18.081
5	-0.40	10000	-0.64	0.009	8.3968	1.8652	4.502	4.6006	0.3485	13.201
6	-0.50	10000	0.34	0.011	10.5447	2.4443	4.314	5.7994	0.5634	10.294
7	-0.60	10000	1.39	0.014	12.7121	3.0687	4.142	7.0178	0.8384	8.371
8	-0.70	10000	2.50	0.017	14.8991	3.7385	3.985	8.2557	1.1780	7.008
9	-0.80	10000	3.66	0.021	17.1056	4.4537	3.841	9.5132	1.5868	5.995
10	-0.90	10000	4.89	0.025	19.3317	5.2142	3.708	10.7903	2.0694	5.214
11	-1.00	10000	6.17	0.030	21.5774	6.0200	3.584	12.0869	2.6301	4.596
12	-1.00	20000	-6.57	0.028	46.4102	6.0800	7.633	49.4817	2.6422	18.727
13	-1.10	20000	-8.04	0.032	52.1678	10.6776	4.886	55.2392	3.4833	15.858
14	-1.20	20000	-7.78	0.035	57.4660	14.2101	4.044	60.5374	4.7282	12.803
15	-1.30	20000	-6.42	0.037	62.3105	16.6907	3.733	65.3819	6.2716	10.425
16	-1.30	20000	-6.38	0.037	62.4035	16.7300	3.730	65.4749	6.3050	10.385
17	-1.40	20000	-4.26	0.038	66.8130	18.1559	3.680	69.8845	8.0555	8.675
18	-1.50	20000	-1.96	0.038	71.0148	19.1001	3.718	74.0863	9.9151	7.472
19	-1.60	20000	0.17	0.038	75.2455	20.1113	3.741	78.3169	11.8723	6.597
20	-1.70	20000	2.17	0.042	79.5032	21.1851	3.753	82.5746	13.9337	5.926
21	-1.80	20000	4.07	0.047	83.7863	22.3178	3.754	86.8577	16.1053	5.393
22	-1.90	20000	5.88	0.052	88.0947	23.5092	3.747	91.1661	18.3929	4.957
23	-2.00	20000	7.63	0.057	92.4285	24.7594	3.733	95.4999	20.8024	4.591



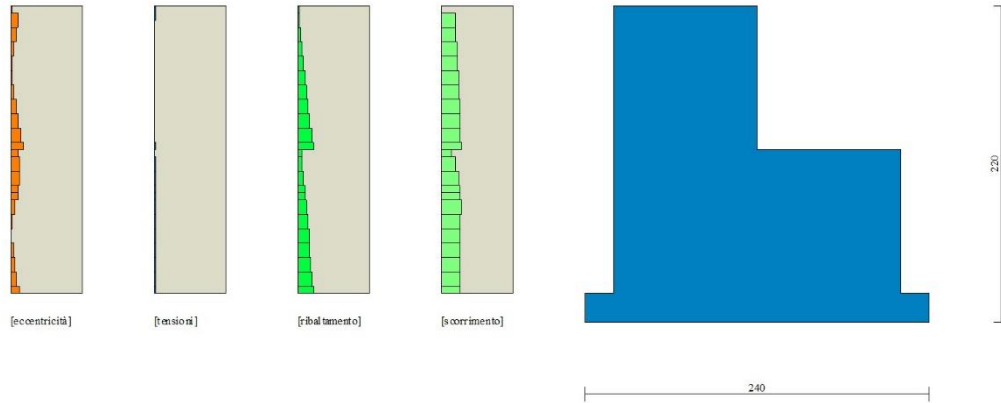


Fig. 17 - Verifiche paramento pietrame (Combinazione n° 9)

*Fondazione in cls non armato*

Combinazione n° 1 - STR (A1-M1-R3)

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>r</sub>
Valle	-1.00	1657	0.017	1910.55	39.25	48.678	111.22	6.91	16.101
Monte	1.00	1657	0.017	1910.55	38.69	49.384	111.05	6.48	17.129

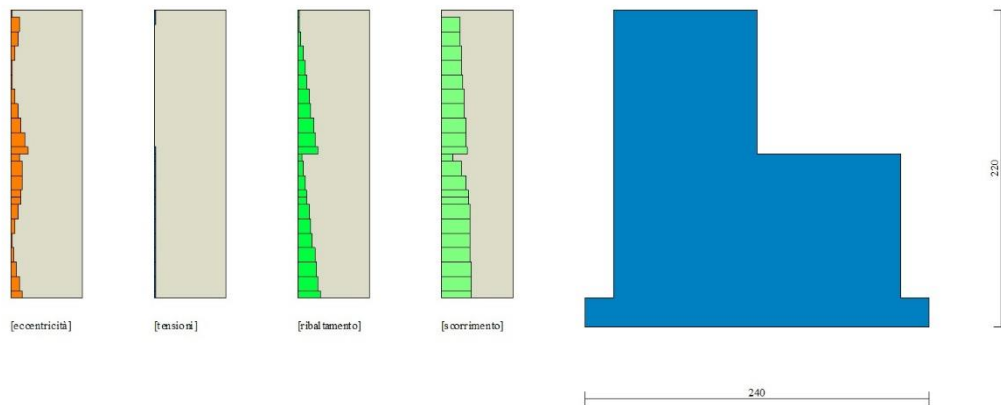


Fig. 18 - Verifiche paramento cls non armato (Combinazione n° 1)

Combinazione n° 2 - STR (A1-M1-R3)

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>r</sub>
Valle	-1.00	1657	0.017	1910.55	48.38	39.493	113.89	8.49	13.415
Monte	1.00	1657	0.017	1910.55	54.32	35.171	115.60	9.15	12.635

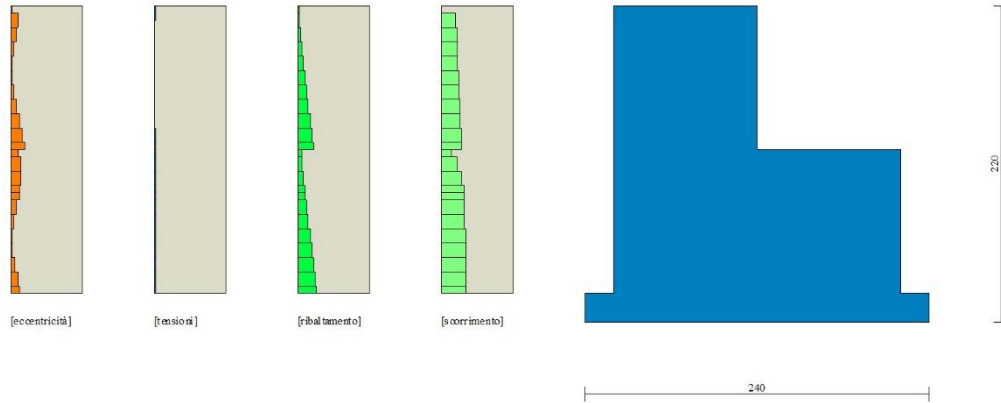


Fig. 19 - Verifiche paramento cls non armato (Combinazione n° 2)

Combinazione n° 3 - STR (A1-M1-R3)

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>r</sub>
Valle	-1.00	1657	0.017	1910.55	36.80	51.913	110.49	6.52	16.945
Monte	1.00	1657	0.017	1910.55	49.28	38.766	114.15	8.27	13.806

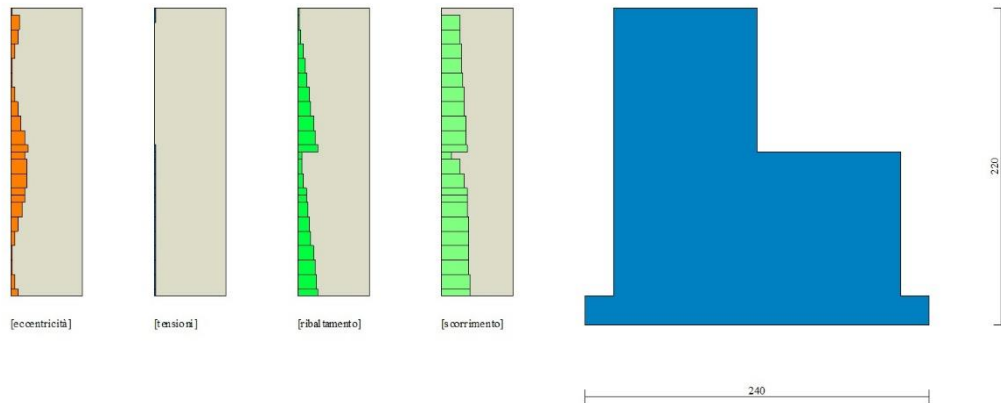


Fig. 20 - Verifiche paramento cls non armato (Combinazione n° 3)

Combinazione n° 4 - STR (A1-M1-R3)

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>r</sub>
Valle	-1.00	1657	0.017	1910.55	50.82	37.593	114.60	8.88	12.910
Monte	1.00	1657	0.017	1910.55	43.72	43.695	112.54	7.36	15.282

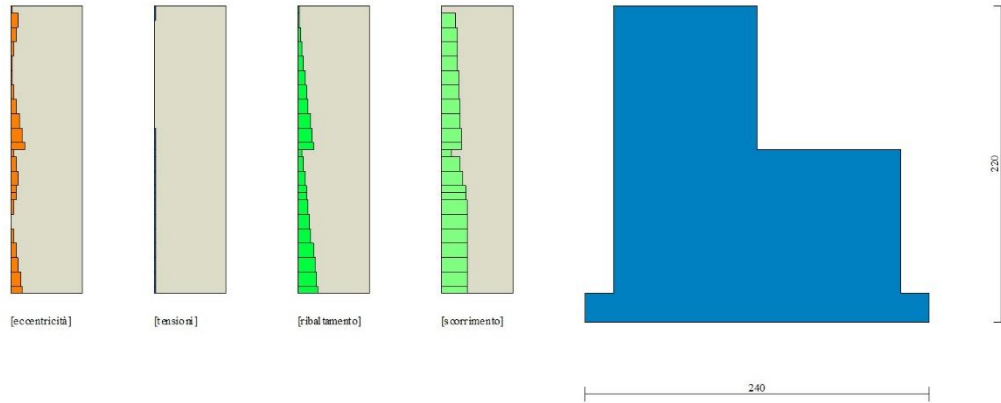


Fig. 21 - Verifiche paramento cls non armato (Combinazione n° 4)

Combinazione n° 6 - EQU (A1-M1-R3)

Dest	Y [m]	As [cm <sup>2</sup> ]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>T</sub>
Valle	-1.00	1657	0.017	1910.55	39.25	48.678	111.22	6.91	16.101
Monte	1.00	1657	0.017	1910.55	38.69	49.384	111.05	6.48	17.129

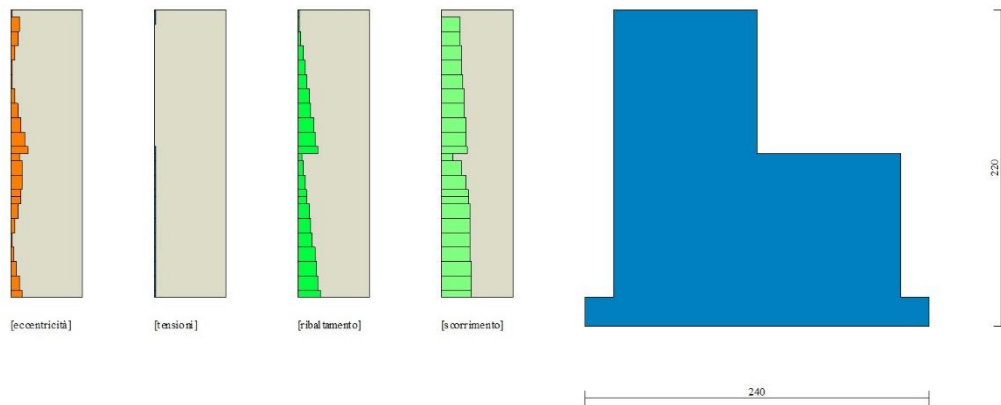


Fig. 22 - Verifiche paramento cls non armato (Combinazione n° 6)

Combinazione n° 7 - SLER

Dest	Y [m]	As [cm <sup>2</sup> ]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>T</sub>
Valle	-1.00	1657	0.017	1910.55	35.71	53.507	110.16	6.27	17.561
Monte	1.00	1657	0.017	1910.55	41.49	46.044	111.88	6.99	16.014

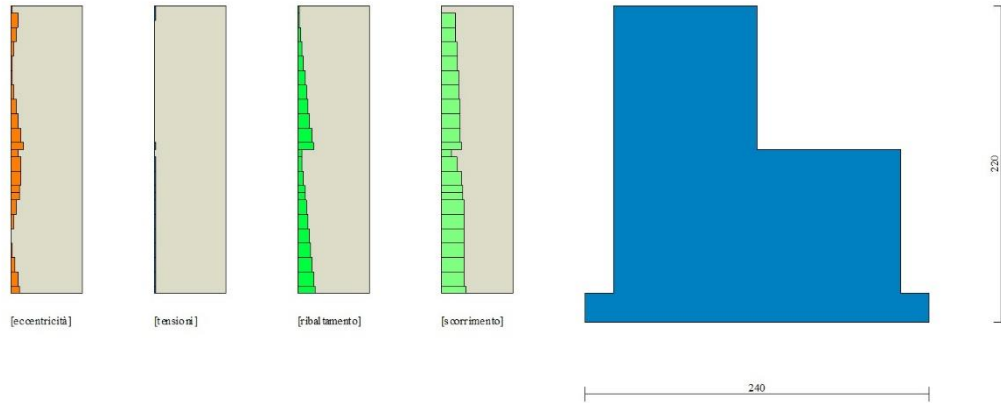


Fig. 23 - Verifiche paramento cls non armato (Combinazione n° 7)

Combinazione n° 8 - SLEF

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>T</sub>
Valle	-1.00	1657	0.017	1910.55	34.44	55.480	109.78	6.06	18.123
Monte	1.00	1657	0.017	1910.55	41.16	46.416	111.78	6.93	16.137

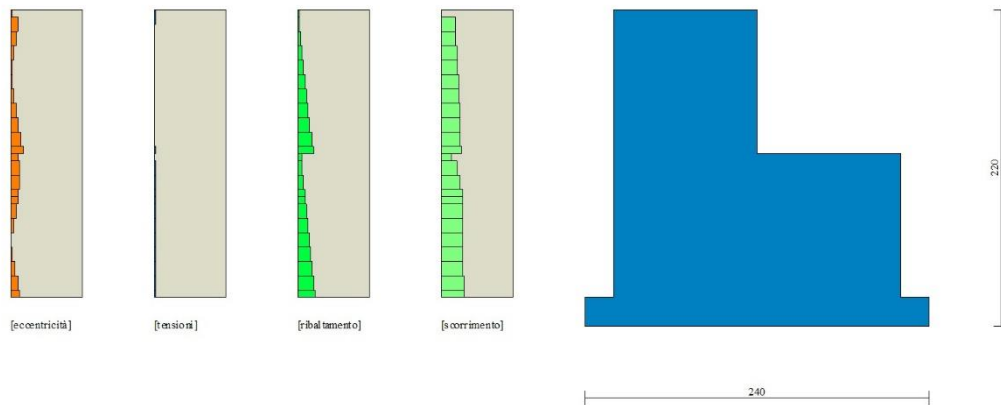


Fig. 24 - Verifiche paramento cls non armato (Combinazione n° 8)

Combinazione n° 9 - SLEQ

Dest	Y [m]	As [cmq]	e [m]	NRd [kN]	Ned [kN]	FS <sub>N</sub>	VRd [kN]	Ved [kN]	FS <sub>T</sub>
Valle	-1.00	1657	0.017	1910.55	31.43	60.789	108.87	5.55	19.626
Monte	1.00	1657	0.017	1910.55	40.50	47.175	111.59	6.81	16.391

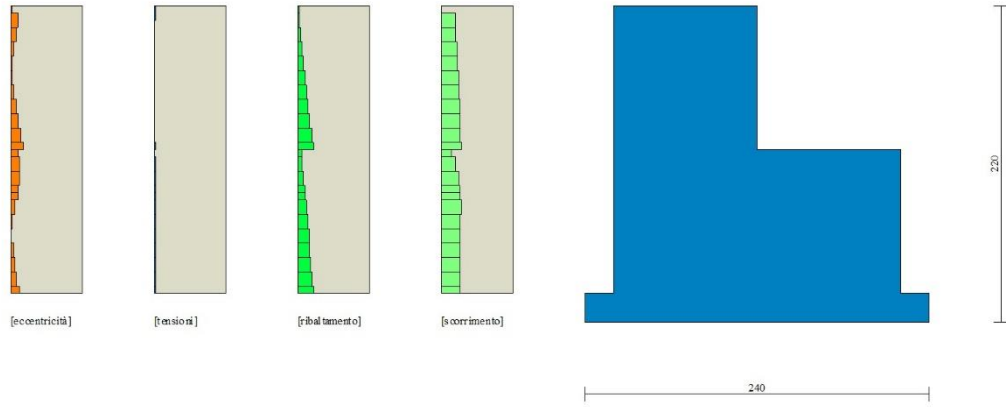


Fig. 25 - Verifiche paramento cls non armato (Combinazione n° 9)