

ANEXA 3

RAPORT PLAXIS

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0.....	20
1.....	20
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Plastic	20
0.933492.....	20
1.....	20
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1	20
1	20
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1.1.1.1.1 Materials - Soil and interfaces - Linear elastic

Identification		Rocă bază şisturi cristaline
Identification number		1
Drainage type		Non-porous
Colour		
Comments		
γ_{unsat}	kN/m ³	27.00
γ_{sat}	kN/m ³	27.00
Dilatancy cut-off		No
e_{init}		0.5000
e_{min}		0.000
e_{max}		999.0
Rayleigh α		0.000
Rayleigh β		0.000
E	kN/m ²	42.00E6
ν (nu)		0.1000
G	kN/m ²	19.09E6
E_{oed}	kN/m ²	42.95E6
V_s	m/s	2634
V_p	m/s	3951

Identification		Rocă bază șisturi cristaline
Set to default values		Yes
E_{inc}	kN/m ² /m	0.000
y_{ref}	m	0.000
Strength		Rigid
R_{inter}		1.000
Consider gap closure		Yes
δ_{inter}		0.000
K_0 determination		Automatic
$K_{0,x} = K_{0,z}$		Yes
$K_{0,x}$		1.000
$K_{0,z}$		1.000
k_x	m/day	0.000
k_y	m/day	0.000
$-\psi_{unsat}$	m	10.00E3
c_{init}		0.5000
c_k		1.000E15

1.1.1.1.2 Materials - Soil and interfaces - Hardening soil

Identification		Deluviu de pantă	Deluviu de pantă umed	Sistem rutier
Identification number		2	3	4
Drainage type		Drained	Drained	Drained
Colour				
Comments				
γ_{unsat}	kN/m ³	16.00	16.00	17.00
γ_{sat}	kN/m ³	20.00	20.00	19.00
Dilatancy cut-off		No	No	No
e_{init}		0.6700	0.6700	0.5000
e_{min}		0.000	0.000	0.000
e_{max}		999.0	999.0	999.0
Rayleigh α		0.000	0.000	0.000
Rayleigh β		0.000	0.000	0.000
E_{50}^{ref}	kN/m ²	15.00E3	15.00E3	15.00E3
$E_{\text{oed}}^{\text{ref}}$	kN/m ²	15.00E3	18.00E3	27.00E3
$E_{\text{ur}}^{\text{ref}}$	kN/m ²	45.00E3	45.00E3	120.0E3
power (m)		0.5000	0.5000	1.000
Use alternatives		No	No	No
C_c		0.02561	0.02134	0.01278

Identification		Deluviu de pantă	Deluviu de pantă umed	Sistem rutier
C _s		7.682E-3	7.682E-3	2.587E-3
c _{init}		0.6700	0.6700	0.5000
c _{ref}	kN/m ²	5.000	5.000	2.000
φ (phi)	°	15.00	8.000	40.00
ψ (psi)	°	0.000	0.000	0.000
Set to default values		Yes	Yes	Yes
v _{ur}		0.2000	0.2000	0.2000
p _{ref}	kN/m ²	100.0	100.0	100.0
K ₀ ^{nc}		0.7412	0.8608	0.3572
c _{inc}	kN/m ² /m	0.000	0.000	0.000
y _{ref}	m	0.000	0.000	0.000
R _f		0.9000	0.9000	0.9000
Tension cut-off		Yes	Yes	Yes
Tensile strength	kN/m ²	0.000	0.000	0.000
Undrained behaviour		Standard	Standard	Standard
Skempton-B		0.9866	0.9866	0.9866
v _u		0.4950	0.4950	0.4950
K _{w,ref} / n	kN/m ²	1.844E6	1.844E6	4.917E6
Strength		Manual	Manual	Rigid
R _{inter}		0.7000	0.7000	1.000

Identification		Deluviu de pantă	Deluviu de pantă umed	Sistem rutier
Consider gap closure		Yes	Yes	Yes
δ_{inter}		0.000	0.000	0.000
K_0 determination		Automatic	Automatic	Automatic
$K_{0,x} = K_{0,z}$		Yes	Yes	Yes
$K_{0,x}$		0.7412	0.8608	0.3572
$K_{0,z}$		0.7412	0.8608	0.3572
OCR		1.000	1.000	1.000
POP	kN/m ²	0.000	0.000	0.000
Data set		Standard	Standard	USDA
Model		Van Genuchten	Van Genuchten	Van Genuchten
Type		Coarse	Coarse	Coarse
Type		Sand	Sand	Loamy sand
< 2 μm	%	10.00	10.00	6.000
2 μm - 50 μm	%	13.00	13.00	11.00
50 μm - 2 mm	%	77.00	77.00	83.00
Set to default values		No	No	No
k_x	m/day	0.000	0.000	8.000
k_y	m/day	0.000	0.000	8.000
$-\psi_{\text{unsat}}$	m	0.000	0.000	10.00E3
e_{init}		0.6700	0.6700	0.5000

Identification		Deluviu de pantă	Deluviu de pantă umed	Sistem rutier
S _s	1/m	0.000	0.000	0.000
C _k		1.000E15	1.000E15	1.000E15

1.1.1.2 Materiale - Embedded beam row -

Identification		Minipilot balast+var+ciment
Identification number		1
Comments		
Colour		
E	kN/m ²	20.00E6
γ	kN/m ³	12.00
Pile type		Predefined
Predefined pile type		Massive circular pile
Diameter	m	0.2000
A	m ²	0.03142
I ₃	m ⁴	0.07854E-3
I ₂	m ⁴	0.07854E-3
Rayleigh α		0.000
Rayleigh β		0.000
Axial skin resistance		Linear
T _{skin, start, max}	kN/m	15.00
T _{skin, end, max}	kN/m	30.00
F _{max}	kN	6000
Identification number		1

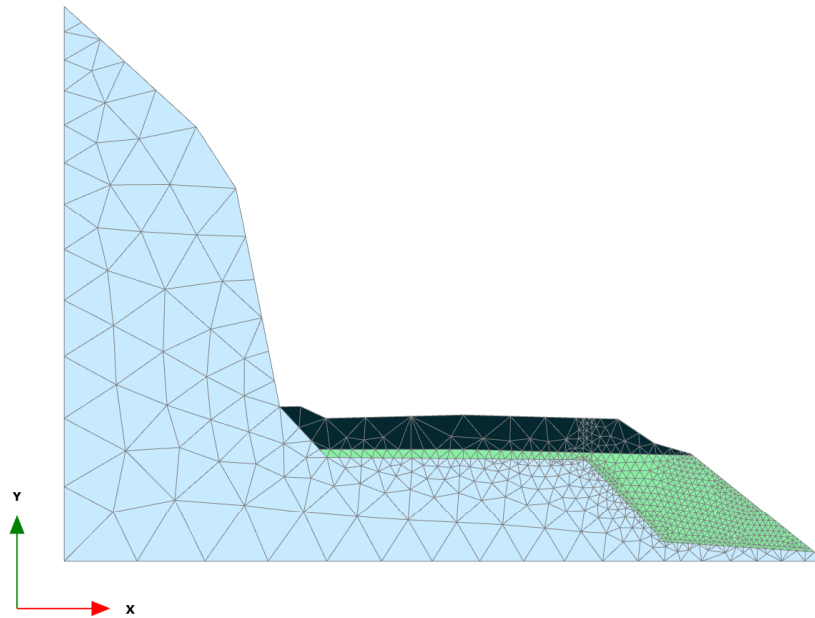
Identification		Minipilot balast+var+ciment
Comments		
Colour		
Material type		Elastic
E	kN/m ²	20.00E6
γ	kN/m ³	12.00
Pile type		Predefined
Predefined pile type		Massive circular pile
Diameter	m	0.2000
A	m ²	0.03142
I	m ⁴	0.07854E-3
L _{spacing}	m	1.000
Rayleigh α		0.000
Rayleigh β		0.000
Axial skin resistance		Linear
T _{skin, start, max}	kN/m	15.00
T _{skin, end, max}	kN/m	30.00
Lateral skin resistance		Unlimited
F _{max}	kN	6000
Default values		Yes
Axial stiffness factor		0.7477

Identification	Minipilot balast+var+ciment
Lateral stiffness factor	0.7477
Base stiffness factor	7.477
Identification number	1



ID	Start from phase	Calculation type	$\Sigma M_stage\#$ - Reached phase proportion (R)	$\Sigma M_sf\#$ - Reached safety factor (R)
Initial phase [InitialPhase]	N/A	K0 procedure	0	1
Infiltrații sub drum [Phase_1]	Initial phase	Plastic	0.933492	1
Micropiloți și drenaje [Phase_2]	Initial phase	Plastic	1	1
Factor de siguranță [Phase_3]	Micropiloți și drenaje	Safety	0	1.12222

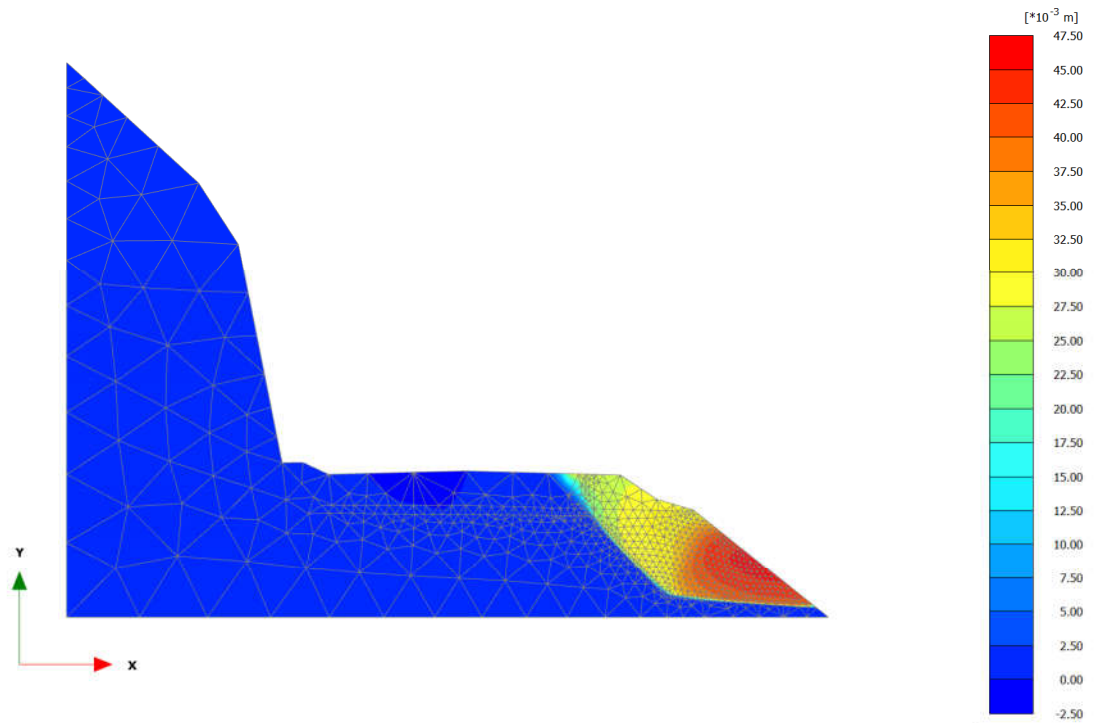
2.1.1.1.1 Calculation results, Initial phase [InitialPhase] (0/0), Phase displacements Pu_x



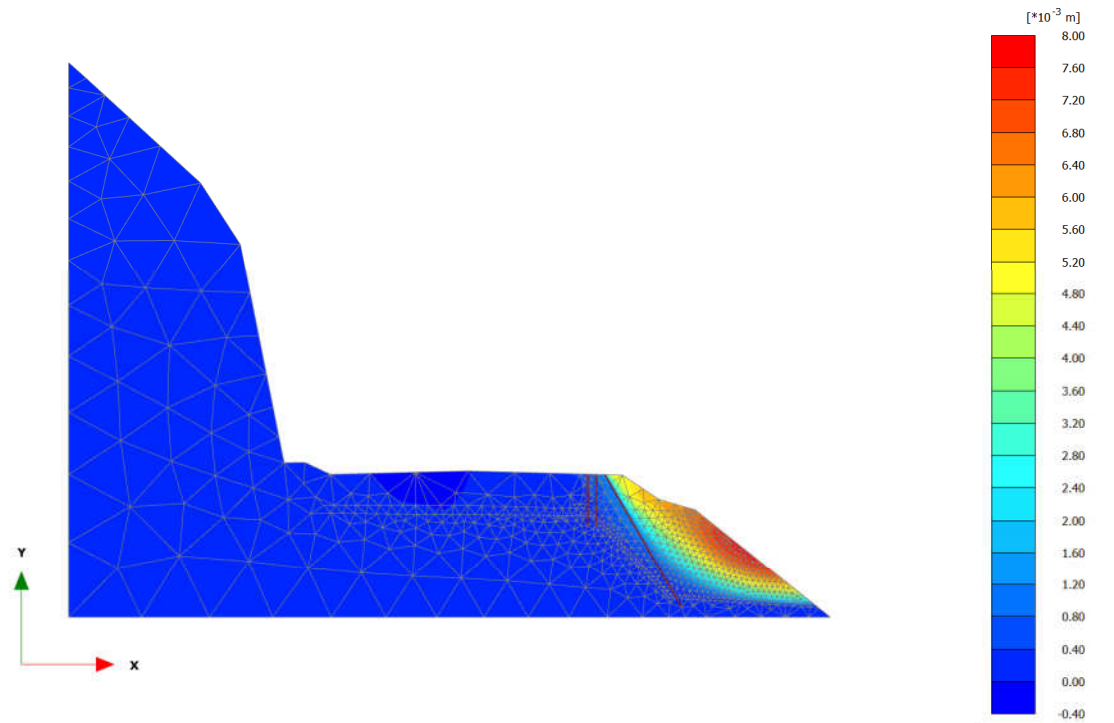
Phase displacements Pu_x

Uniform value of 0.000 m

2.1.1.1.2 Calculation results, Infiltrații sub drum [Phase_1] (1/82), Phase displacements Pu_x



2.1.1.1.3 Calculation results, Micropiloți și drenaje [Phase_2] (2/148), Phase displacements Pu_x

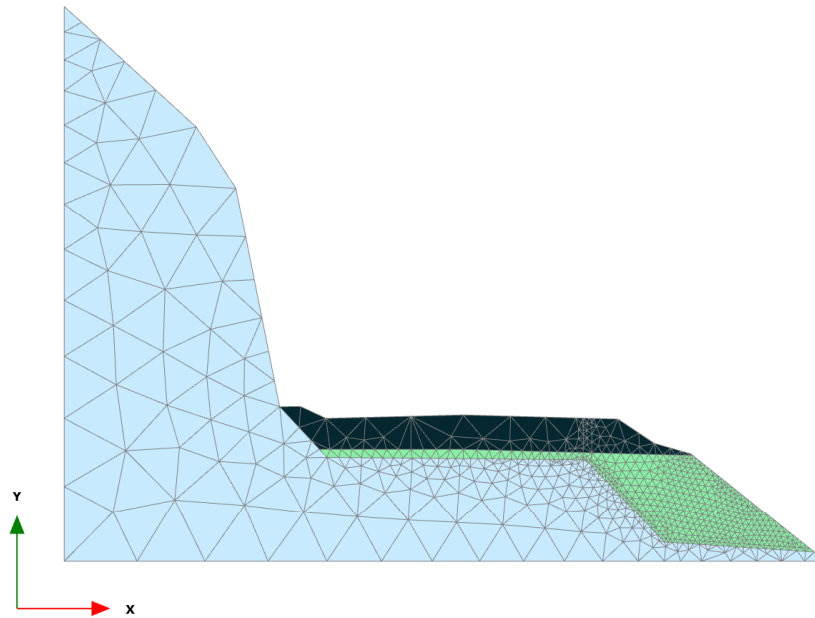


Phase displacements Pu_x

Maximum value = 7.735×10^{-3} m (Element 1251 at Node 38)

Minimum value = -0.01887×10^{-3} m (Element 415 at Node 9970)

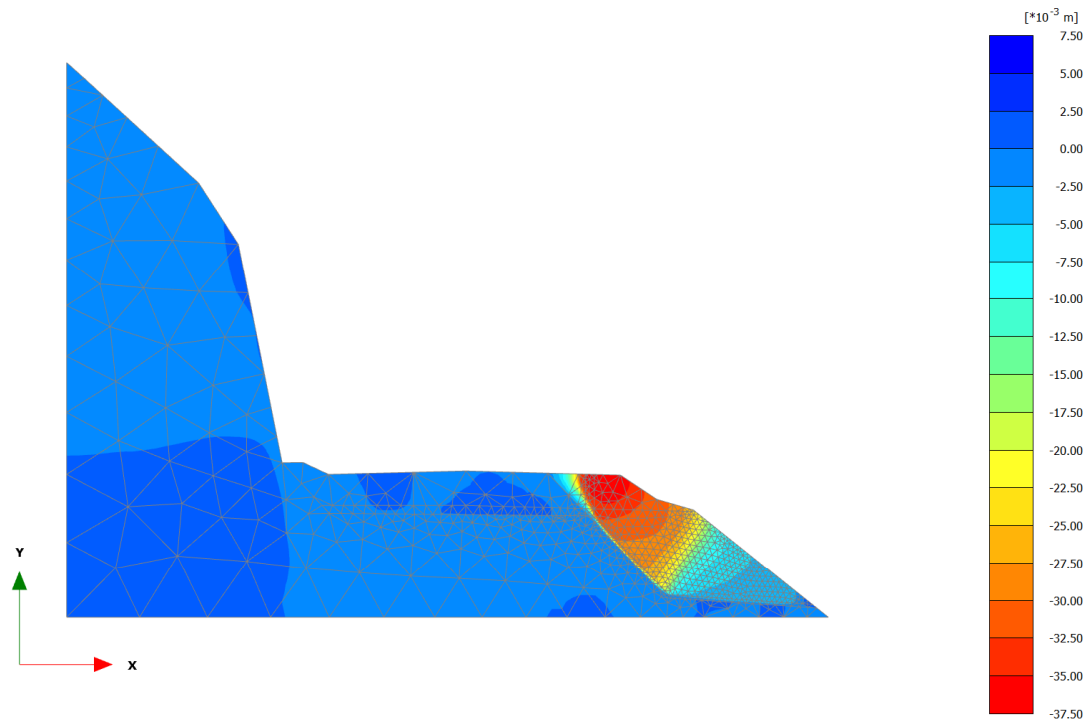
2.1.1.2.1 Calculation results, Initial phase [InitialPhase] (0/0), Phase displacements Pu_y



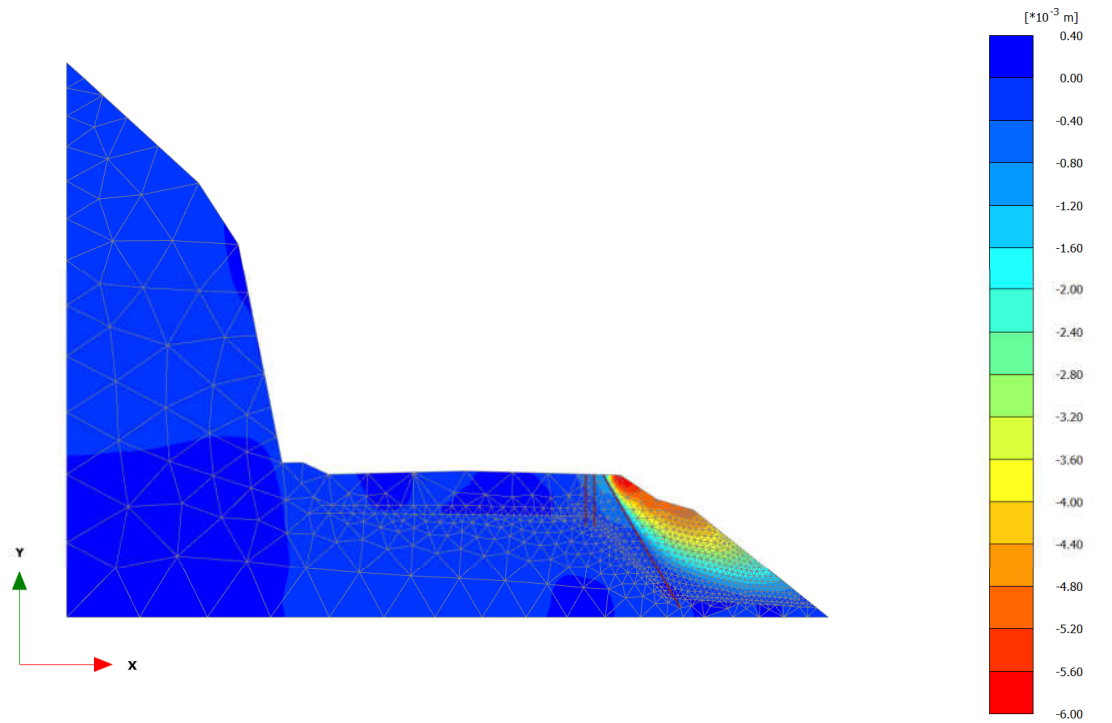
Phase displacements Pu_y

Uniform value of 0.000 m

2.1.1.2.2 Calculation results, Infiltrații sub drum [Phase_1] (1/82), Phase displacements Pu_y



2.1.1.2.3 Calculation results, Micropiloți și drenaje [Phase_2] (2/148), Phase displacements Pu_y

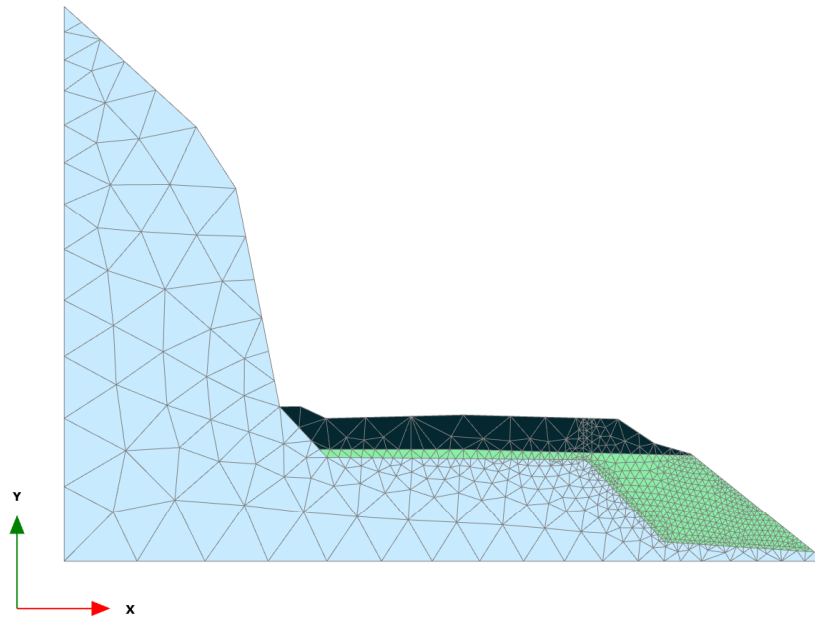


Phase displacements Pu_y

Maximum value = 0.3198×10^{-3} m (Element 474 at Node 7147)

Minimum value = -5.963×10^{-3} m (Element 524 at Node 6533)

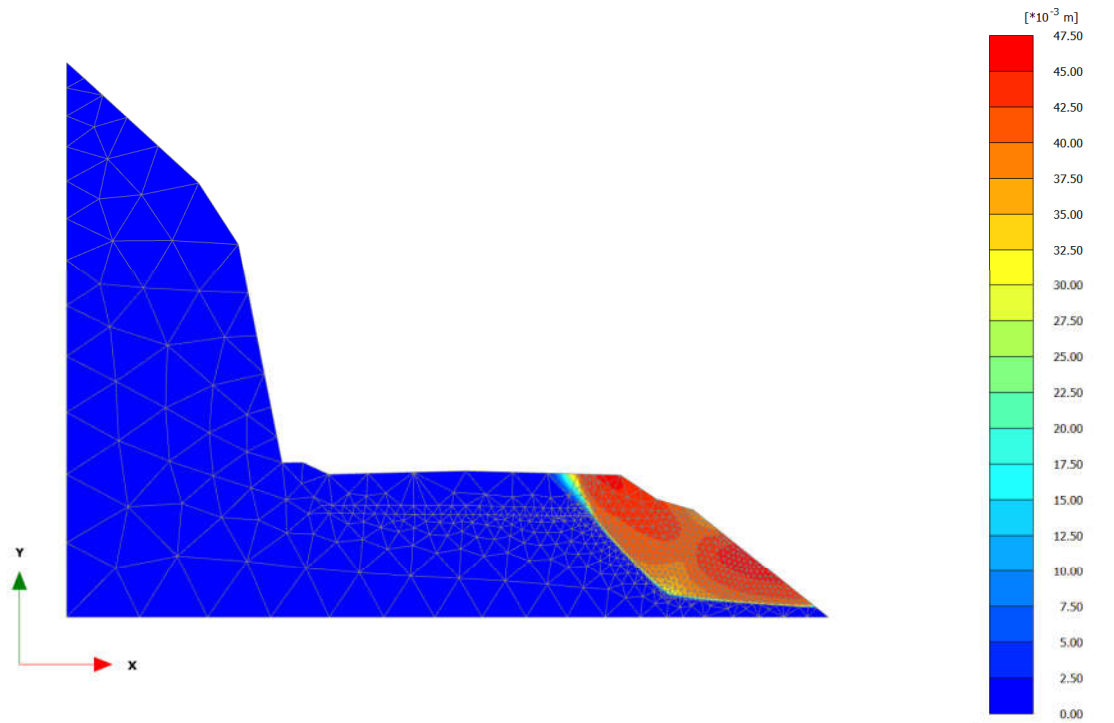
2.1.2.1.1 Calculation results, Initial phase [InitialPhase] (0/0), Total displacements $|u|$



Total displacements $|u|$

Uniform value of 0.000 m

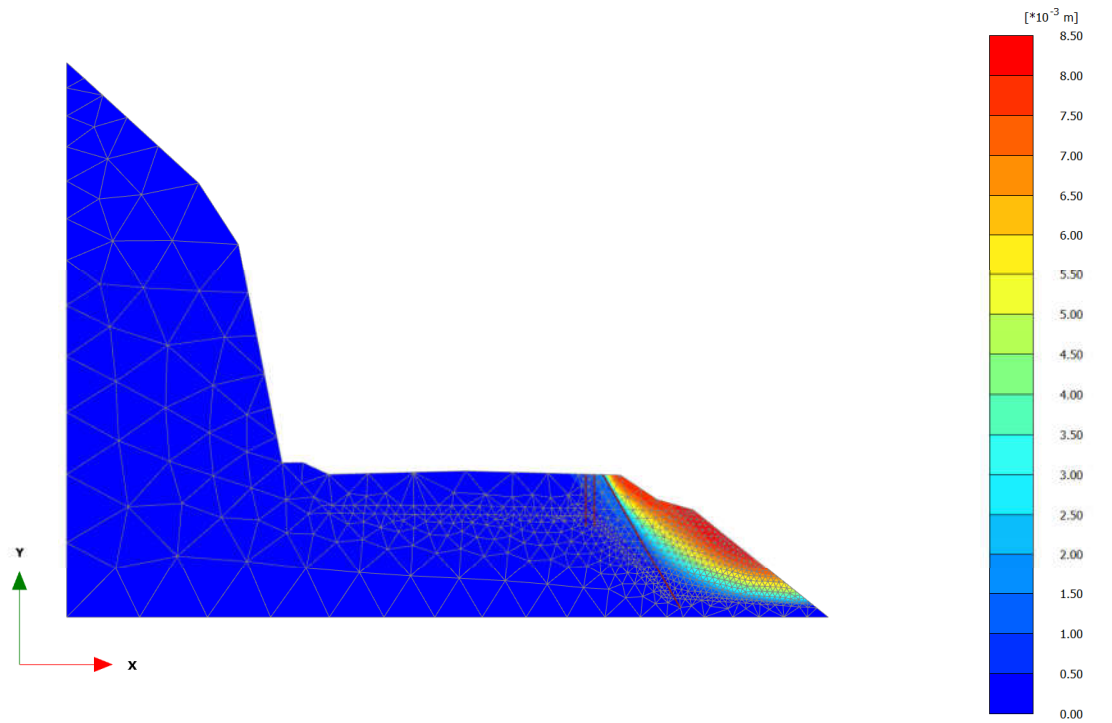
2.1.2.1.2 Calculation results, Infiltrații sub drum [Phase_1] (1/82), Total displacements $|u|$



Total displacements $|u|$

Maximum value = 0.04612 m (Element 1216 at Node 673)

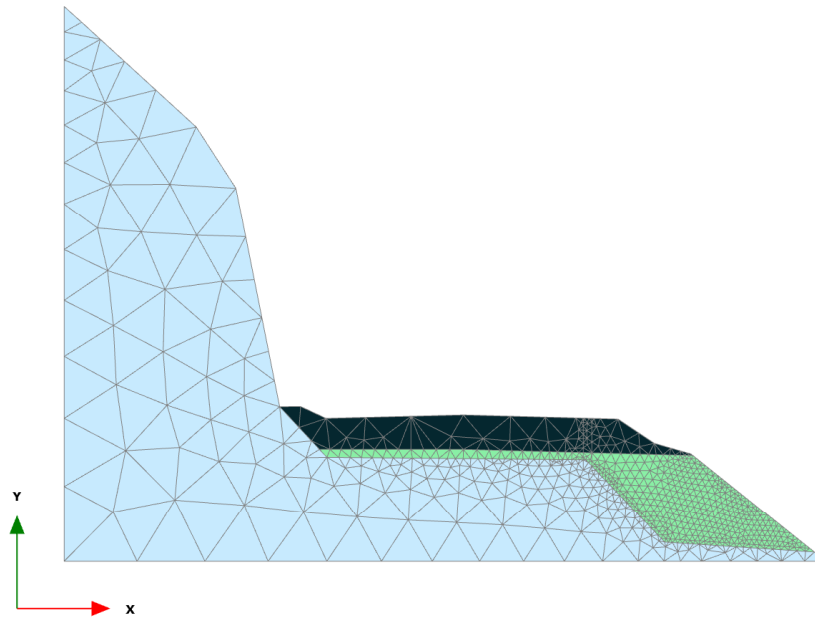
2.1.2.1.3 Calculation results, Micropiloți și drenaje [Phase_2] (2/148), Total displacements |u|



Total displacements |u|

Maximum value = 8.385×10^{-3} m (Element 1264 at Node 213)

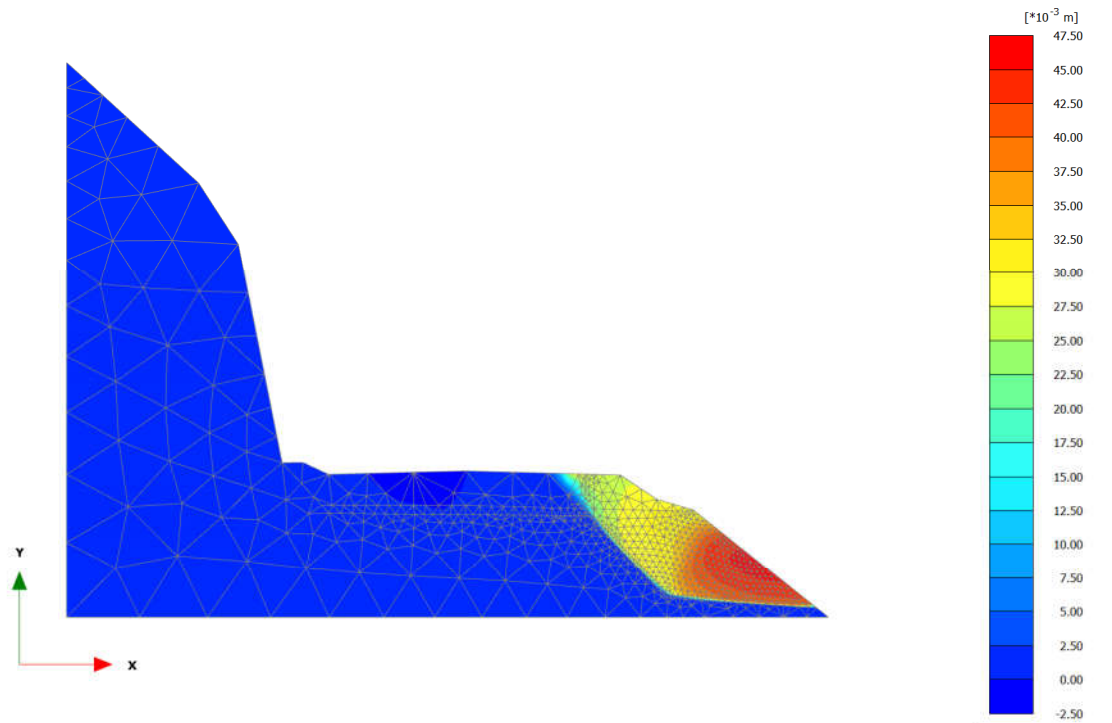
2.1.2.2.1 Calculation results, Initial phase [InitialPhase] (0/0), Total displacements u_x



Total displacements u_x

Uniform value of 0.000 m

2.1.2.2.2 Calculation results, Infiltrații sub drum [Phase_1] (1/82), Total displacements u_x

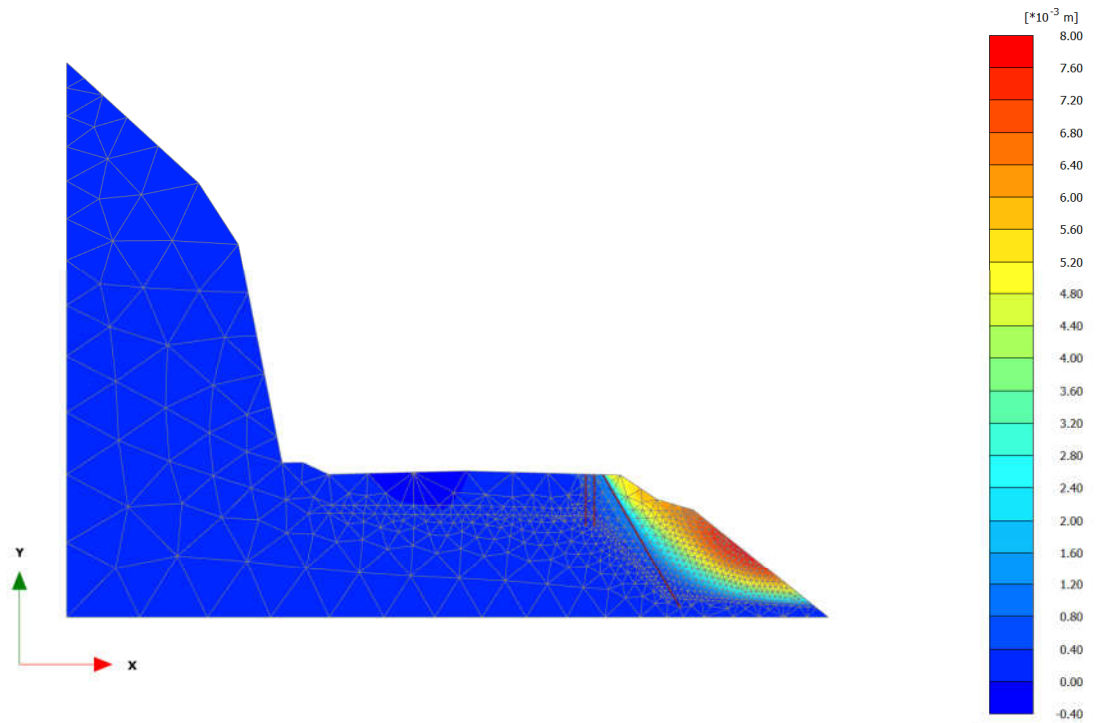


Total displacements u_x

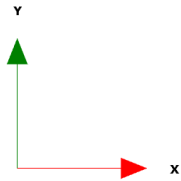
Maximum value = 0.04590 m (Element 1216 at Node 673)

Minimum value = $-0.01734 \cdot 10^{-3}$ m (Element 415 at Node 9970)

2.1.2.2.3 Calculation results, Micropiloți și drenaje [Phase_2] (2/148), Total displacements u_x



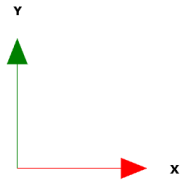
3.1.1.1.1 Calculation results, Embedded beam row, Initial phase [InitialPhase] (0/0), Total displacements $|u|$



Total displacements $|u|$ (at true scale)

No results

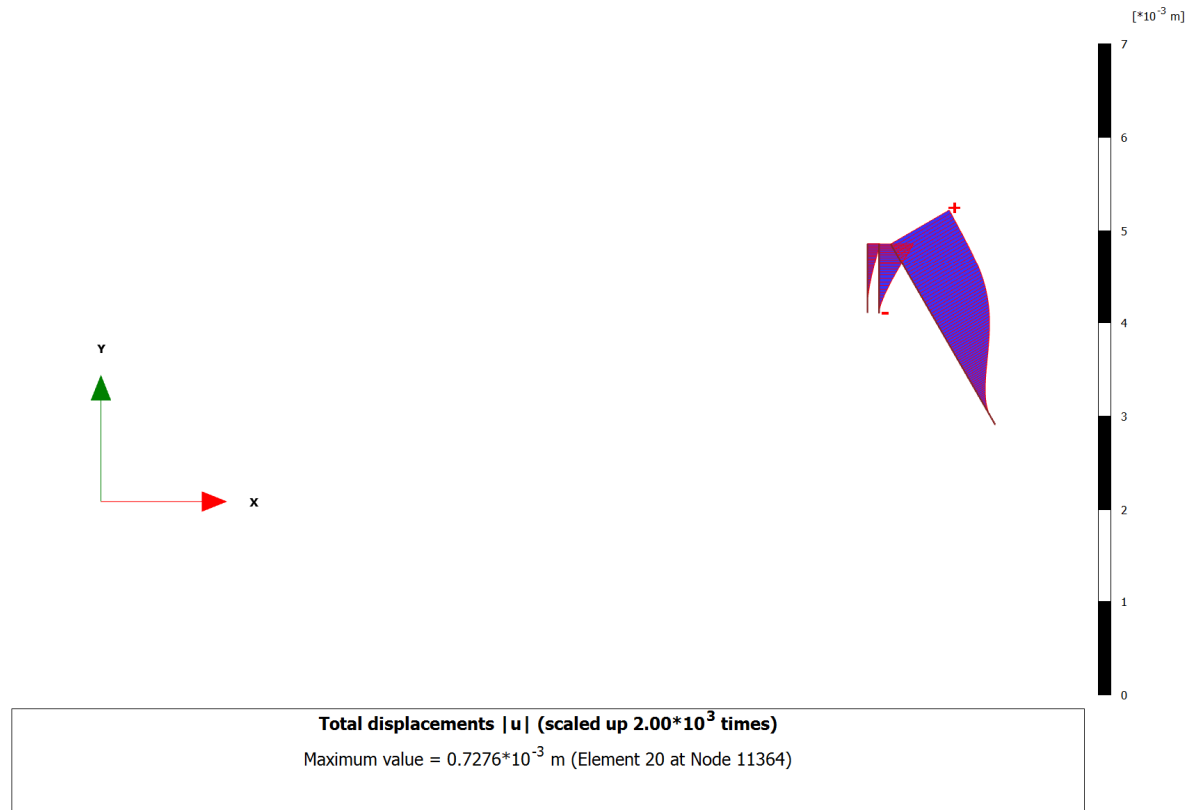
3.1.1.1.2 Calculation results, Embedded beam row, Infiltrații sub drum [Phase_1] (1/82), Total displacements $|u|$



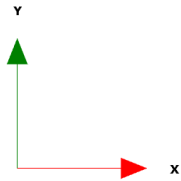
Total displacements $|u|$ (at true scale)

No results

3.1.1.1.3 Calculation results, Embedded beam row, Micropiloți și drenaje [Phase_2] (2/148), Total displacements $|u|$



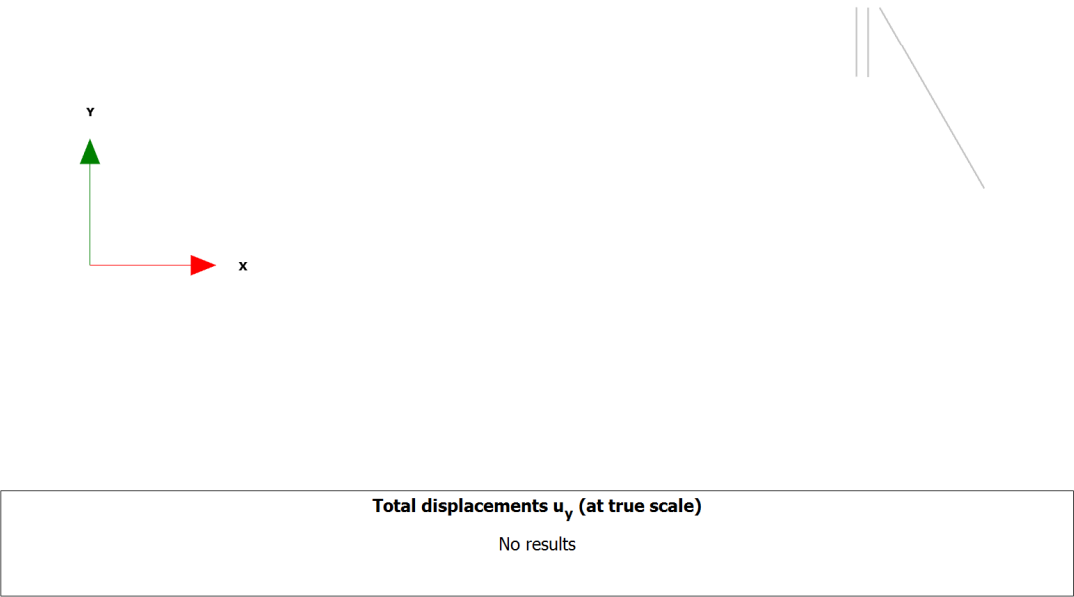
3.1.1.1.2.1 Calculation results, Embedded beam row, Initial phase [InitialPhase] (0/0), Total displacements u_y



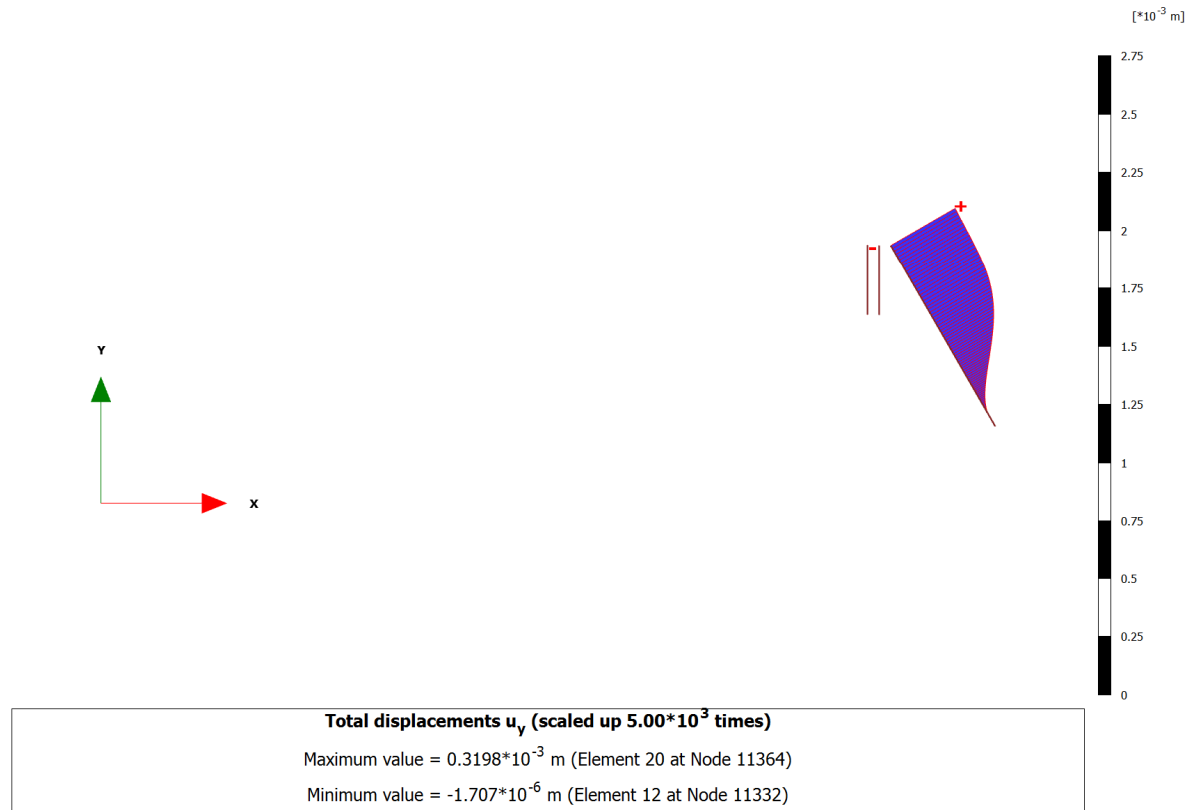
Total displacements u_y (at true scale)

No results

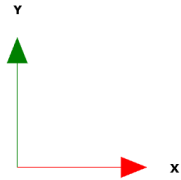
3.1.1.1.2.2 Calculation results, Embedded beam row, Infiltrații sub drum [Phase_1] (1/82), Total displacements u_y



3.1.1.1.2.3 Calculation results, Embedded beam row, Micropiloți și drenaje [Phase_2] (2/148), Total displacements u_y



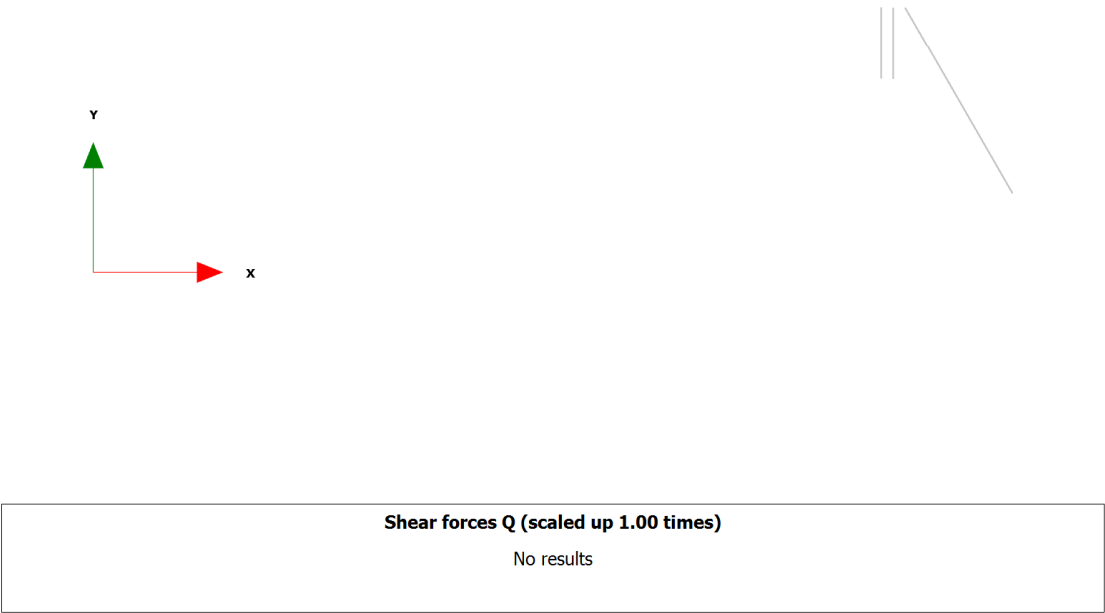
3.1.2.1.1 Calculation results, Embedded beam row, Initial phase [InitialPhase] (0/0), Shear forces Q



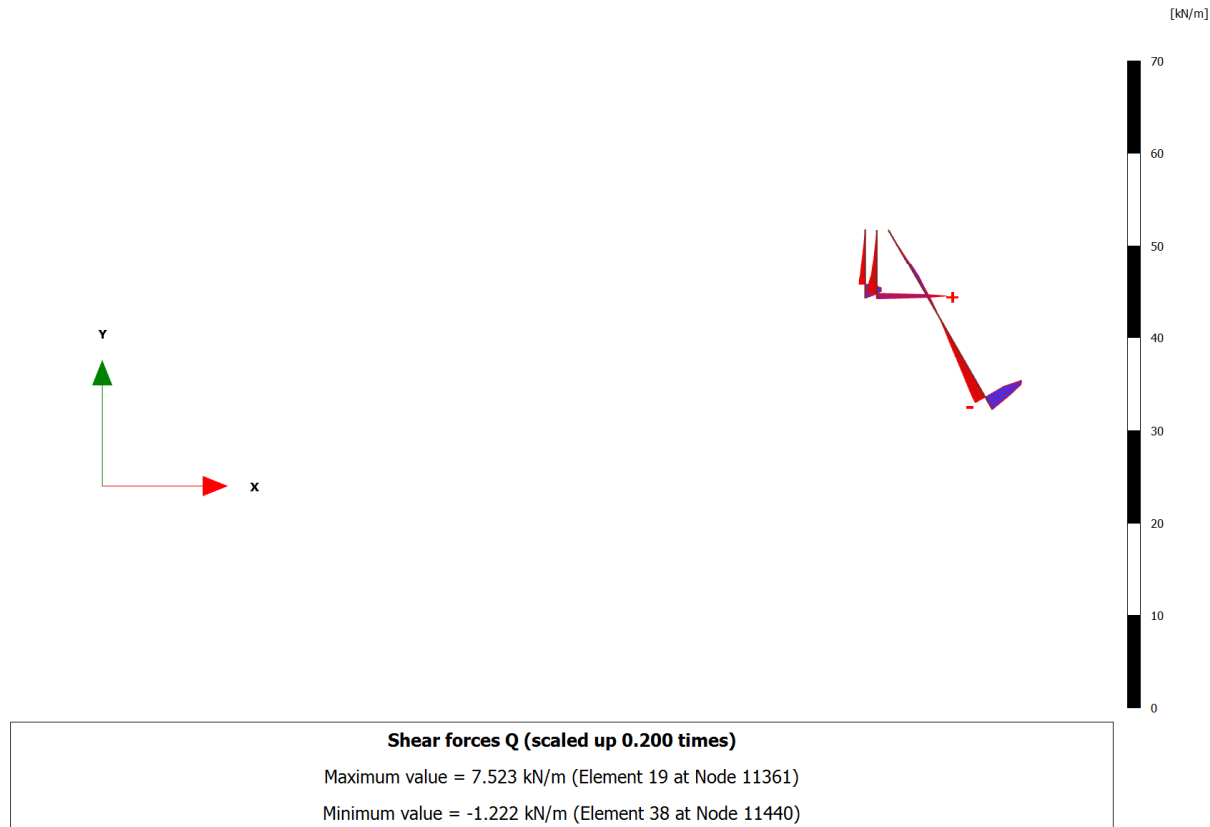
Shear forces Q (scaled up 1.00 times)

No results

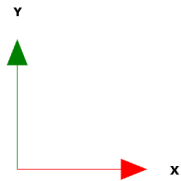
3.1.2.1.2 Calculation results, Embedded beam row, Infiltrații sub drum [Phase_1] (1/82), Shear forces Q



3.1.2.1.3 Calculation results, Embedded beam row, Micropiloți și drenaje [Phase_2] (2/148), Shear forces Q



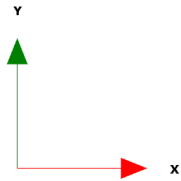
3.1.2.2.1 Calculation results, Embedded beam row, Initial phase [InitialPhase] (0/0), Bending moments M



Bending moments M (scaled up 1.00 times)

No results

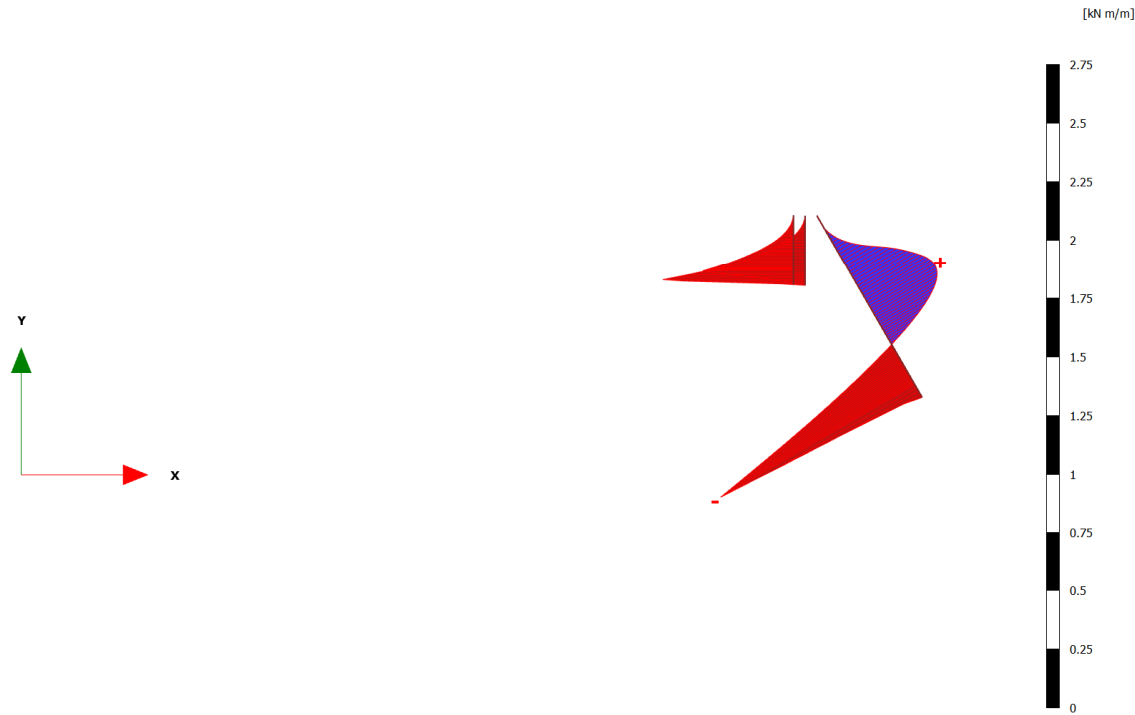
3.1.2.2.2 Calculation results, Embedded beam row, Infiltrații sub drum [Phase_1] (1/82), Bending moments M



Bending moments M (scaled up 1.00 times)

No results

3.1.2.2.3 Calculation results, Embedded beam row, Micropiloți și drenaje [Phase_2] (2/148), Bending moments M

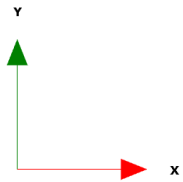


Bending moments M (scaled up 5.00 times)

Maximum value = 0.3304 kN m/m (Element 27 at Node 11395)

Minimum value = -0.9580 kN m/m (Element 38 at Node 11440)

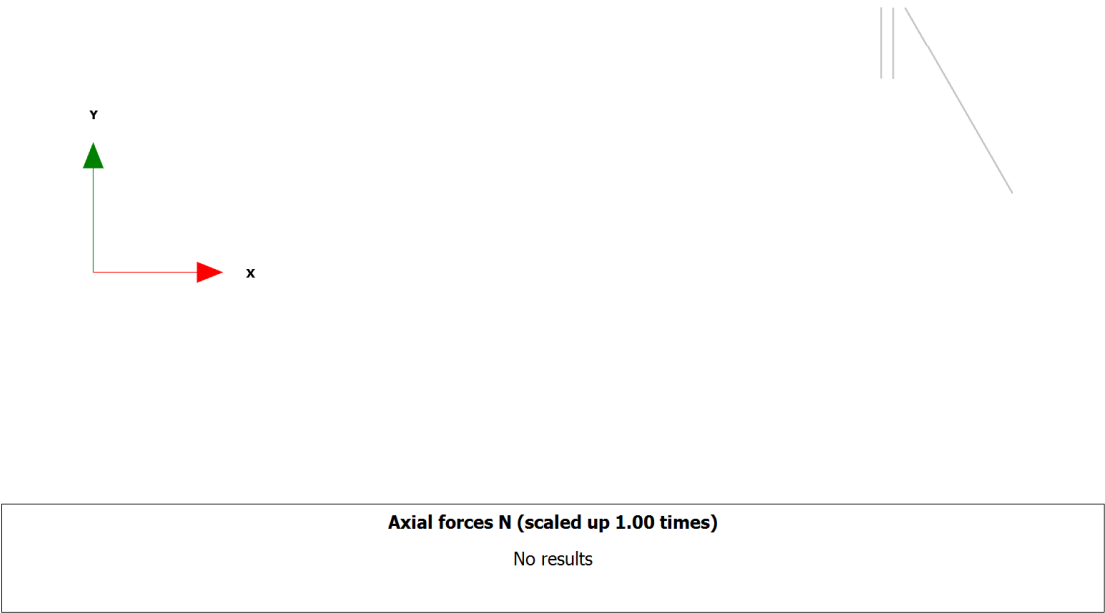
3.1.2.3.1 Calculation results, Embedded beam row, Initial phase [InitialPhase] (0/0), Axial forces N



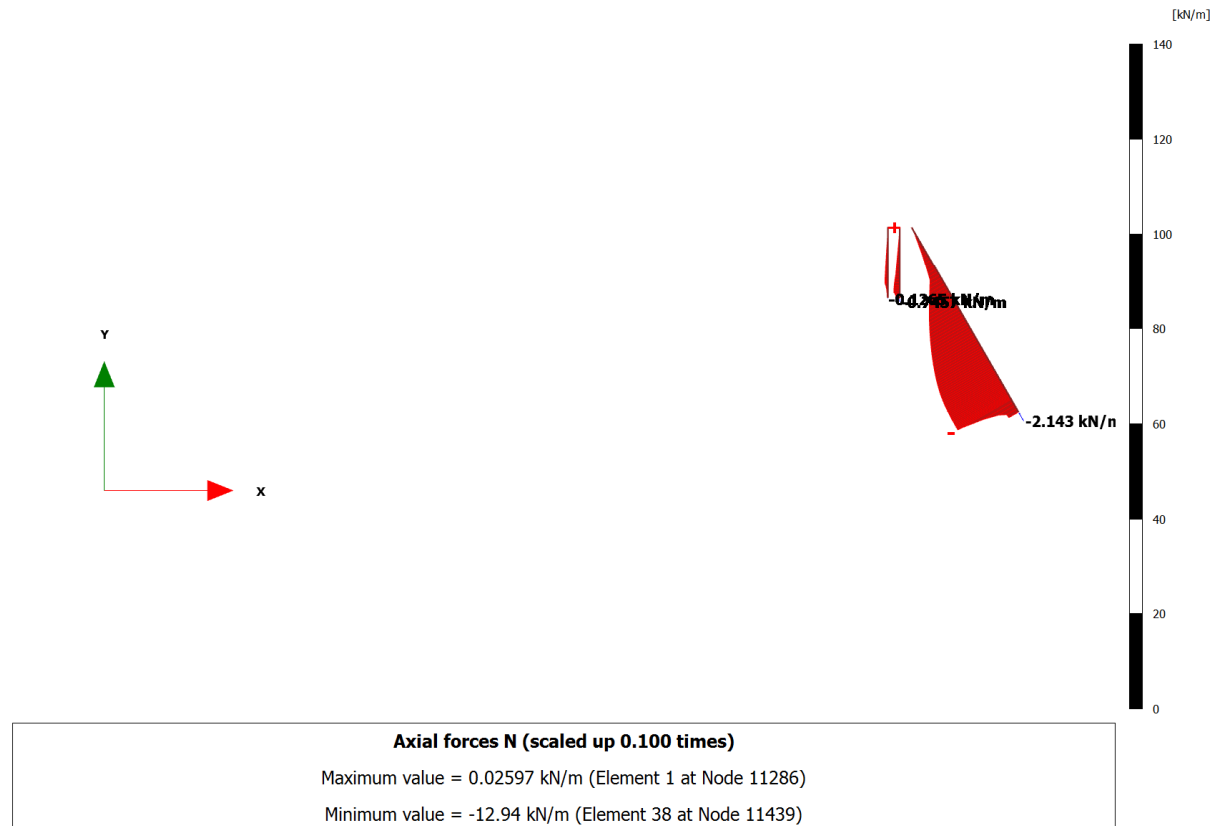
Axial forces N (scaled up 1.00 times)

No results

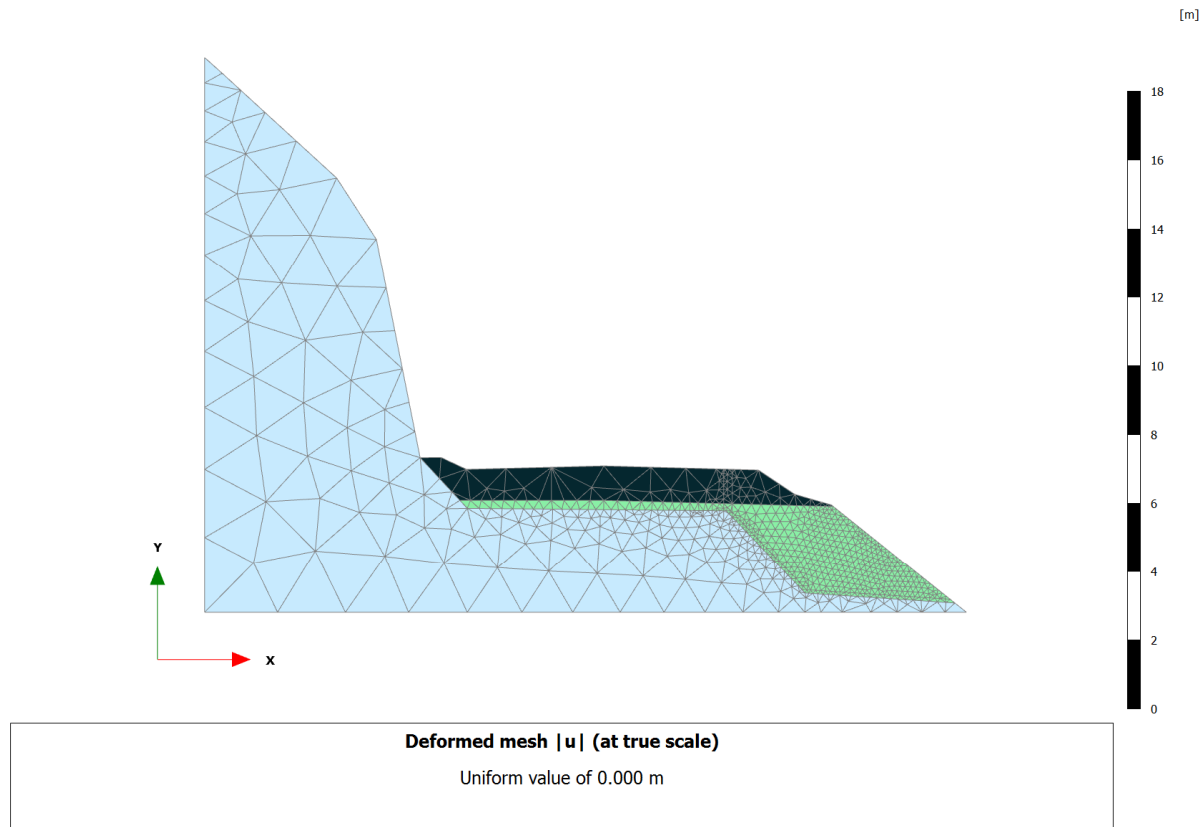
3.1.2.3.2 Calculation results, Embedded beam row, Infiltrații sub drum [Phase_1] (1/82), Axial forces N



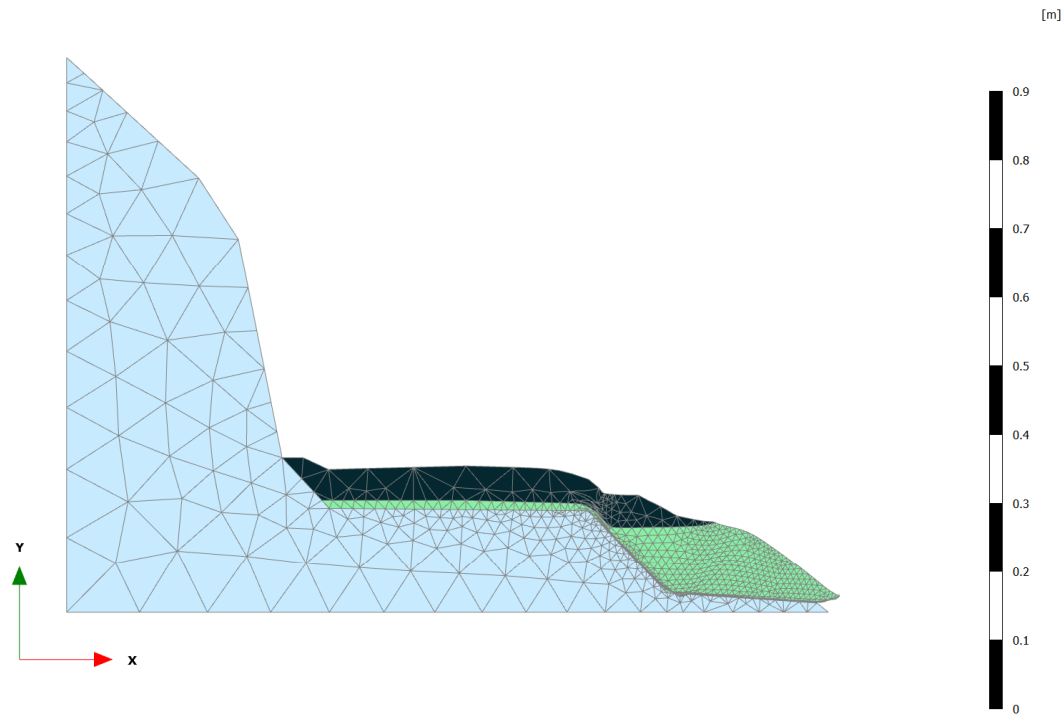
3.1.2.3.3 Calculation results, Embedded beam row, Micropiloți și drenaje [Phase_2] (2/148), Axial forces N



4.1.1 Calculation results, Initial phase [InitialPhase] (0/0), Deformed mesh |u|



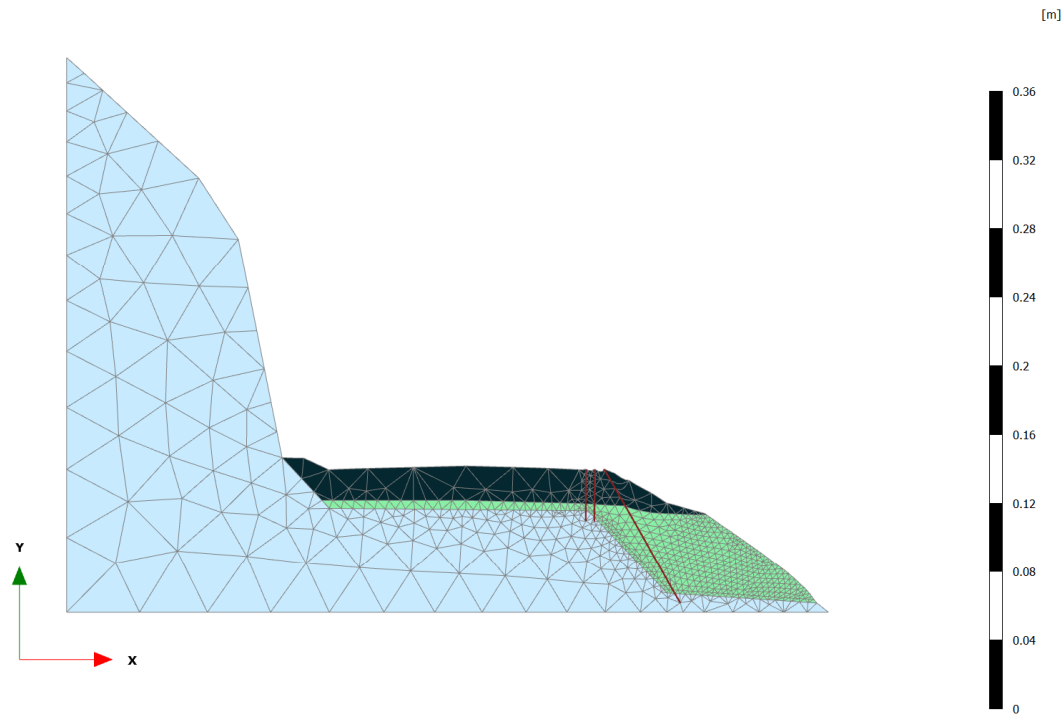
4.1.2 Calculation results, Infiltrații sub drum [Phase_1] (1/82), Deformed mesh |u|



Deformed mesh |u| (scaled up 20.0 times)

Maximum value = 0.04612 m (Element 1216 at Node 673)

4.1.3 Calculation results, Micropiloți și drenaje [Phase_2] (2/148), Deformed mesh |u|



Deformed mesh |u| (scaled up 50.0 times)

Maximum value = $8.385 \cdot 10^{-3}$ m (Element 1264 at Node 213)