



Bashkia Malesia e Madhe

Raport Konstruktiv

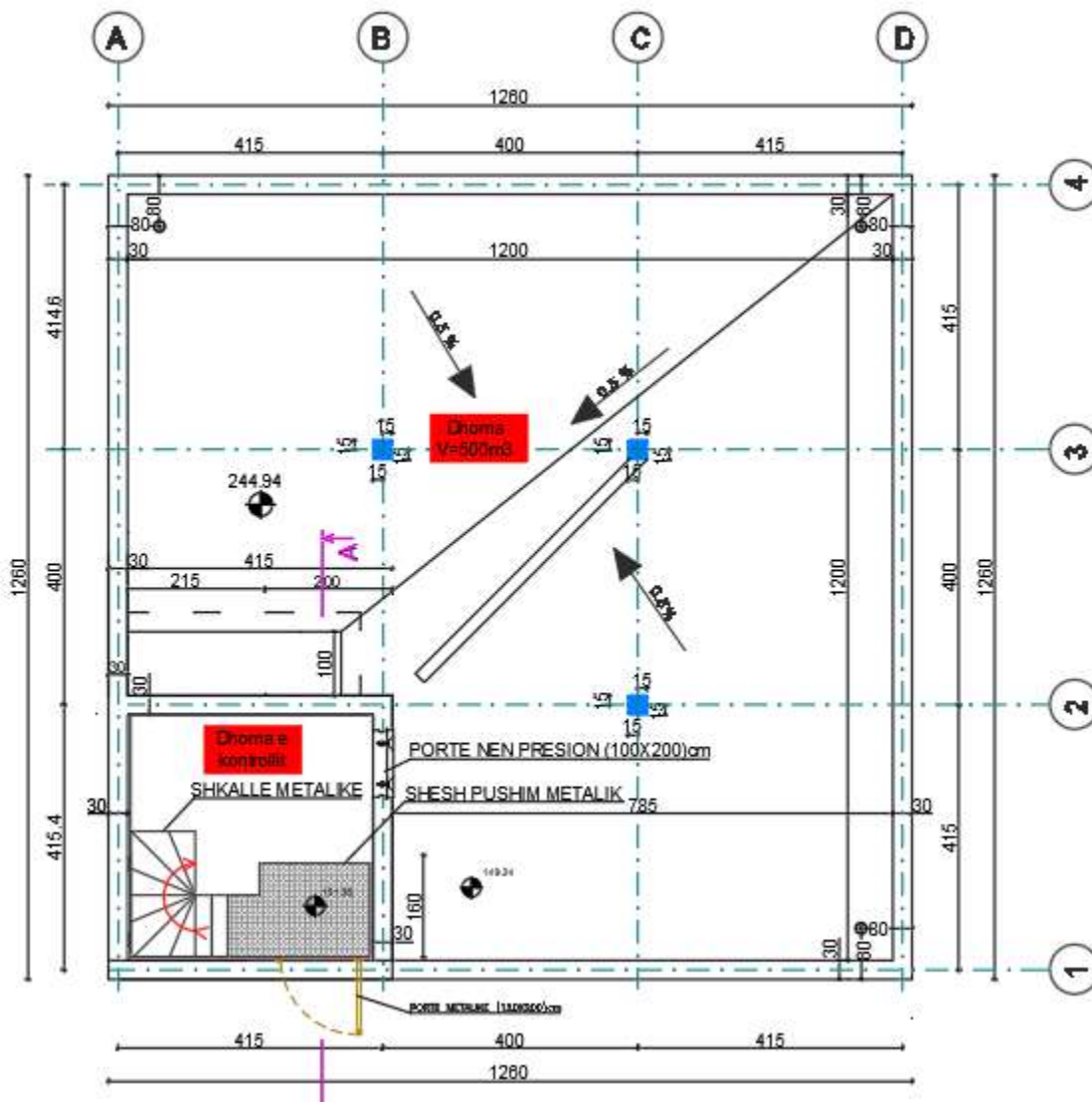
Objekti: *“NDERTIM I UJESJELLESIT TE BAJZES DHE FSHATRAVE
PERRETH” LOTI II, BASHKIA MALESI E MADHE”*

1. Hyrje

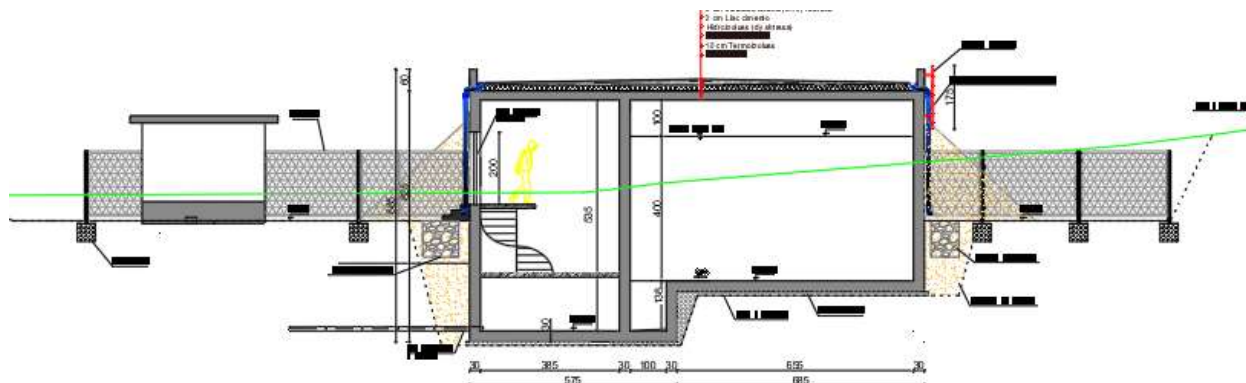
Ky raport permban projektimin e nje rezervuari uji 500m³. Raporti ka te beje me verifikimet sipas metodës gjysme-probabilistike te Gjendjeve Kufitare (S.L.). Te gjithë analizat strukturore dhe verifikimet jane kryer ne perputhje me Eurokodet.

Rezervuari eshte pjeserisht i zhytur ne toke dhe eshte i ndare ne nje depo uji dhe nje dhome kontrolli.

Rezervuari eshte nje strukture b/arme e perbere nga nje dysheme me trashesi 30cm, mure me trashesi 30cm, solete me trashesi 25cm si edhe 3 kollona 30x30cm.



Planimetria



Prerje terthore

2. Standartet e Projektimit

Ndertimi i struktures do te zhvillohet ne perputhje me standardet aktuale evropiane teknike, te cilat jane te perbere nga Eurocodes. Eurocodet kryesore perbehen nga tete dokumente te caktuara per ndertimin. Çdo Eurokod, perveç EN 1990, eshte e ndare ne pjese te vecanta qe mbulojne aspekte te ndryshme. Eurokodet per betonin e armuar perfshihen ne Pjesen e 2-te. Procesi i projektimit eshte bere duke ju referuar EN 1990 per projektimin e pergjithshem, per forcat vepruese EN 1991, EN 1992 per projektimin strukturor, EN 1997 per aspektet gjeoteknike dhe EN 1998 per projektimin antisizmik.

Mqs Shqiperia nuk ka Aneks Kometare, vlerat e te gjithë parametrave te cilat jane lene ne Eurokod per zgjedhje te lire nga shtete, e njohur si Parametra te Percaktuar ne Shkalle Kometare, jane marre nga Anekset Kometare Italiane.

3. Materialet

- Betoni

Klasa C25/30

$R_{ck} = 30.00 \text{ N/mm}^2$

$f_{ck} = 25.00 \text{ N/mm}^2$

$\gamma_M = 1.5$ -

$f_{cd} = 16.6 \text{ N/mm}^2$

- Armatura e zakonshme

Klasa B450C (FeB44k)

$f_yk = 450 \text{ N/mm}^2$

$f_{yd} = 391.3 \text{ N/mm}^2$

$\gamma_M = 1.15$

Shtresa mbrojtese per dyshemene dhe per muret do te jete $t=4\text{cm}$.

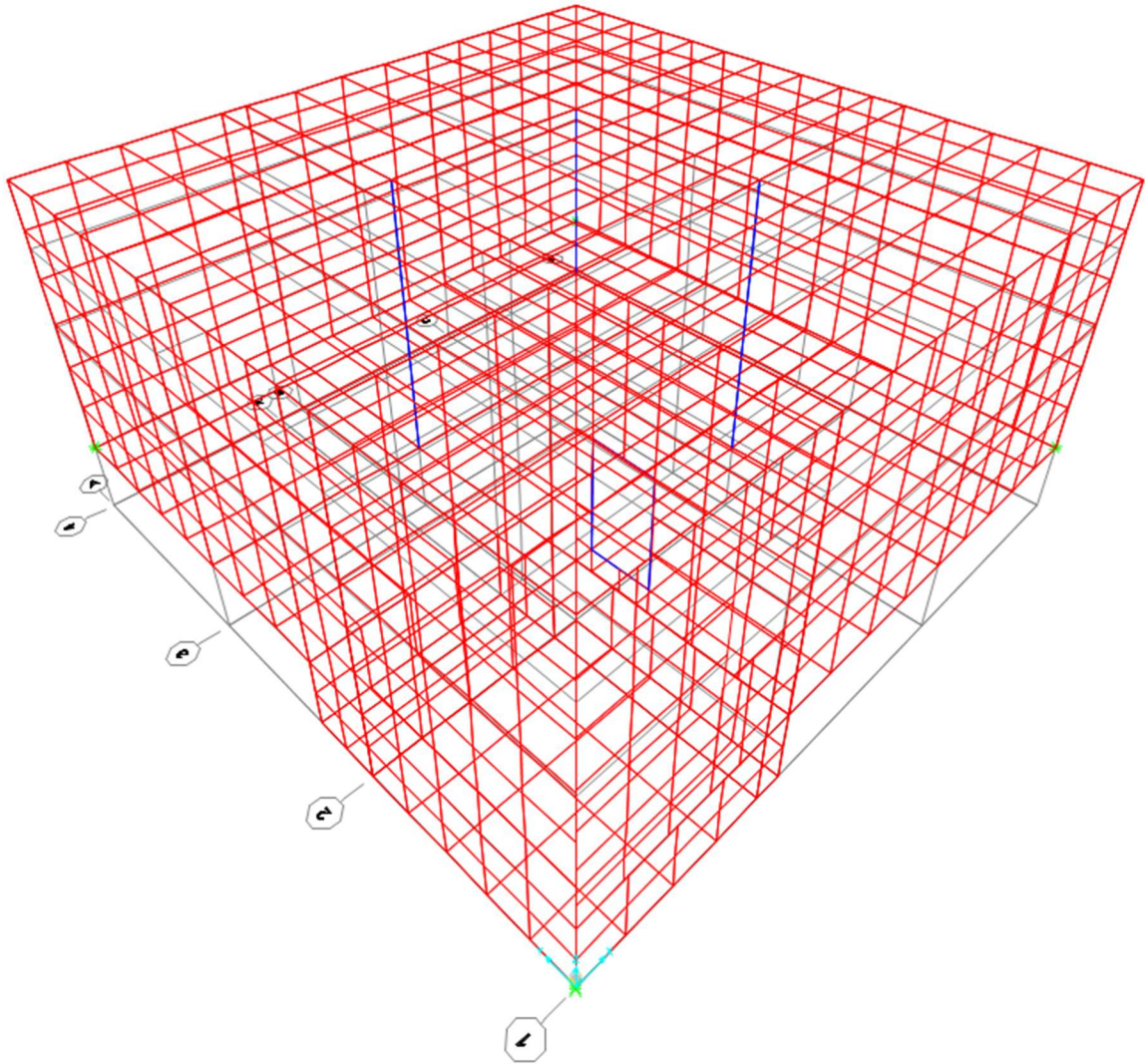
Shtresa mbrojtese per kollonen dhe soleten do te jete $t=3\text{cm}$.

4. Modelet e analizes strukture

Per llogaritjen e forcave te brendshme te struktures eshte perdorur nje model tre dimensional me elemente te fundem, i zhvilluar me ndihmen e programit kompjuterik CSI SAP2000.

Modeli i analizes strukturele perbehet nga kollona, te modeluar si frame, dysheme, mure dhe soleta te modeluara si shell.

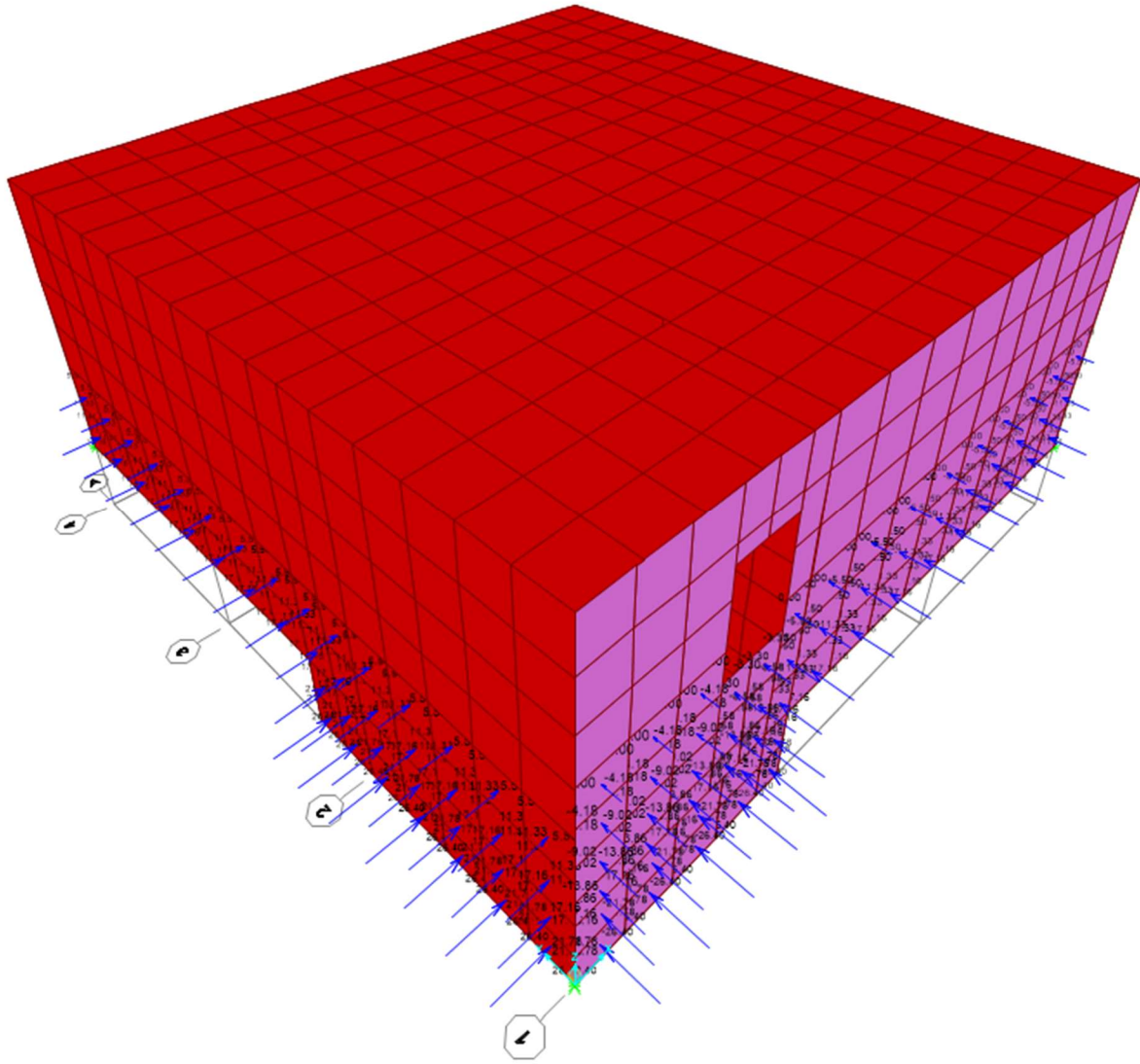
Ne modelin e analizes strukture X perfaqeson drejtimin sipas akseve 1, 2, 3 dhe 4, dhe Y perfaqeson drejtimin sipas akseve A, B, C dhe D, si edhe Z eshte drejtimi vertikal.



5. Ngarkesat

Veprimet te cilat jane marre ne konsiderate per te percaktuar forcat e projektimit jane: pesha vetiake, ngarkesat e perhershme jo-strukturore e shtresave te soletës, ngarkesa e shfrytëzimit dhe presioni anësor i dheut, presioni i ujit, ngarkesa e dëborës dhe veprimi sizmik.

Kombinimet e ngarkesës që do të konsiderohen jane ne perputhje me Eurokodet.



Combination of Actions



For each critical load case design values of the effects of actions are determined by combining the effects of actions that are considered to act simultaneously

Either

$$\Sigma \gamma_{G,j} \cdot G_{k,j} + \gamma_{Q,1} \cdot Q_{k,1} + \Sigma \gamma_{Q,i} \cdot \psi_{0,i} \cdot Q_{k,i} \quad \text{Exp. (6.10)}$$

Or (for STR and GEO) the more adverse of

$$\Sigma \gamma_{G,j} \cdot G_{k,j} + \gamma_{Q,1} \cdot \psi_{0,1} \cdot Q_{k,1} + \Sigma \gamma_{Q,i} \cdot \psi_{0,i} \cdot Q_{k,i} \quad \text{Exp. (6.10 a)}$$

or

$$\Sigma \xi \cdot \gamma_{G,j} \cdot G_{k,j} + \gamma_{Q,1} \cdot Q_{k,1} + \Sigma \gamma_{Q,i} \cdot \psi_{0,i} \cdot Q_{k,i} \quad \text{Exp. (6.10 b)}$$

Design values of actions, ultimate limit state - persistent and transient design situations (Table A1.2(B) Eurocode)					
Comb'tion expression reference	Permanent actions		Leading variable action	Accompanying variable actions	
	Unfavourable	Favourable		Main(if any)	Others
Eqn (6.10)	$\gamma_{G,j,sup} G_{k,j,sup}$	$\gamma_{G,j,inf} G_{k,j,inf}$	$\gamma_{Q,1} Q_{k,1}$		$\gamma_{Q,i} \psi_{0,i} Q_{k,i}$
Eqn (6.10a)	$\gamma_{G,j,sup} G_{k,j,sup}$	$\gamma_{G,j,inf} G_{k,j,inf}$		$\gamma_{Q,1} \psi_{0,1} Q_{k,1}$	$\gamma_{Q,i} \psi_{0,i} Q_{k,i}$
Eqn (6.10b)	$\xi \gamma_{G,j,sup} G_{k,j,sup}$	$\gamma_{G,j,inf} G_{k,j,inf}$	$\gamma_{Q,1} Q_{k,1}$		$\gamma_{Q,i} \psi_{0,i} Q_{k,i}$

Design values of actions, ultimate limit state - persistent and transient design situations (Table A1.2(B) Eurocode)					
Comb'tion expression reference	Permanent actions		Leading variable action	Accompanying variable actions	
	Unfavourable	Favourable		Main(if any)	Others
Eqn (6.10)	$1.35 G_k$	$1.0 G_k$	$1.5 Q_{k,1}$		$1.5 \psi_{0,i} Q_{k,i}$
Eqn (6.10a)	$1.35 G_k$	$1.0 G_k$		$1.5 \psi_{0,1} Q_k$	$1.5 \psi_{0,i} Q_{k,i}$
Eqn (6.10b)	$0.925 \times 1.35 G_k$	$1.0 G_k$	$1.5 Q_{k,1}$		$1.5 \psi_{0,i} Q_{k,i}$

For buildings Exp (6.10) is usually used: $1.35 G_k + 1.5 Q_k$

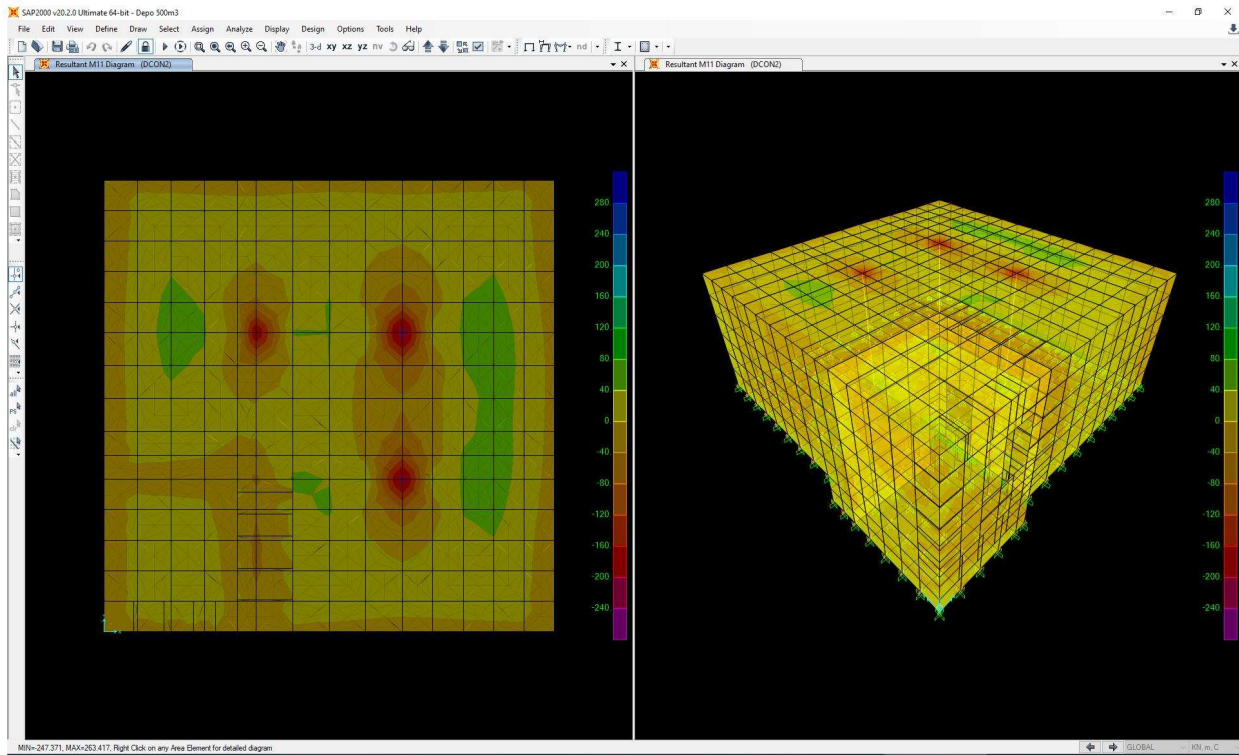
But Exp (6.10b) could be used and for one variable action: $1.25 G_k + 1.5 Q_k$

Provided:

1. Permanent actions < 4.5 x variable actions
2. Excludes storage loads

6. Rezultatet e llogaritjes

Nga program Sap2000 nxjerrim diagramat e forcave te brendshme te struktures te cilat jane perdorur ne llogaritjen e armimit te elementeve te rezervuarit:



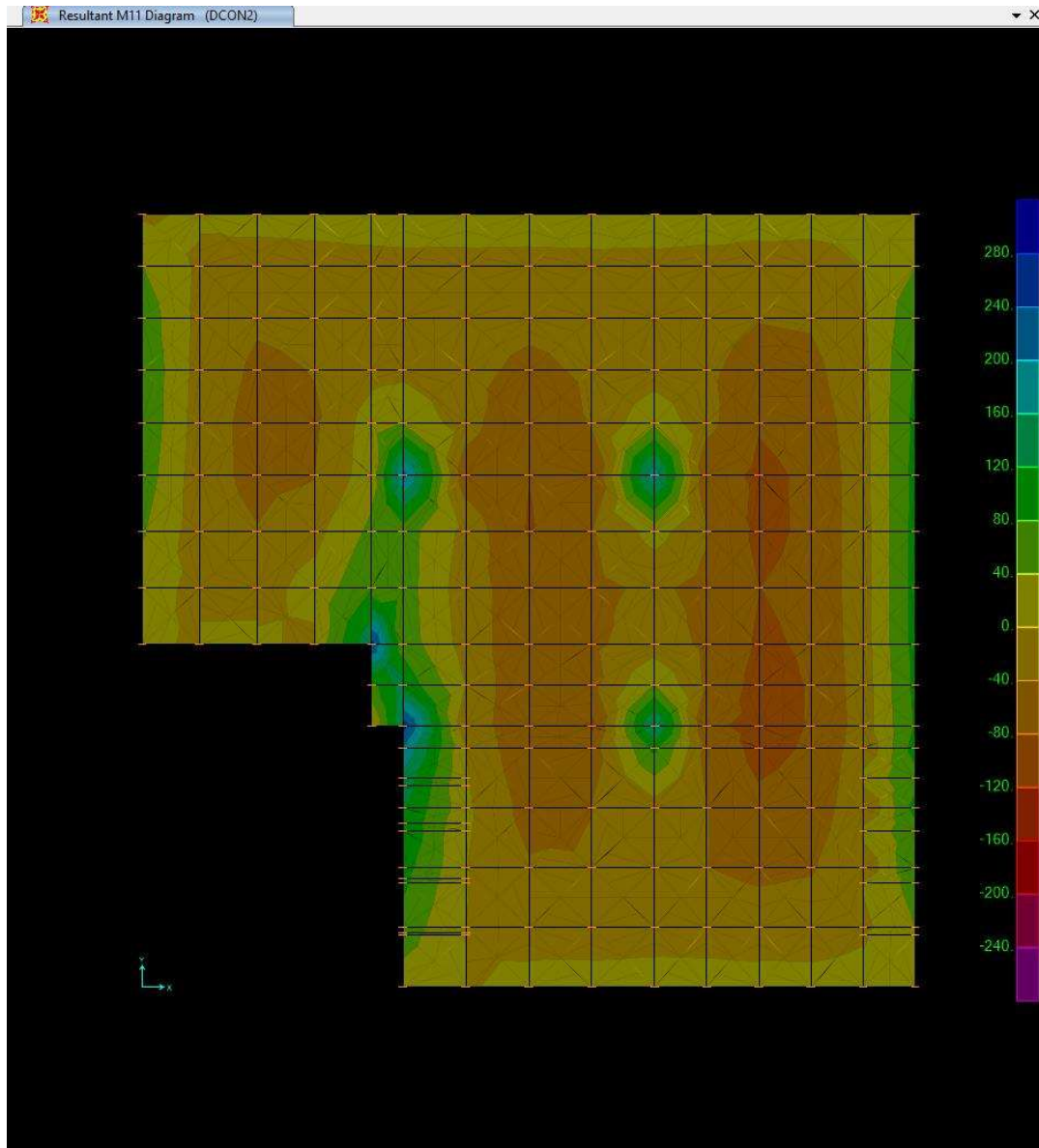


Diagrama e momenteve M11

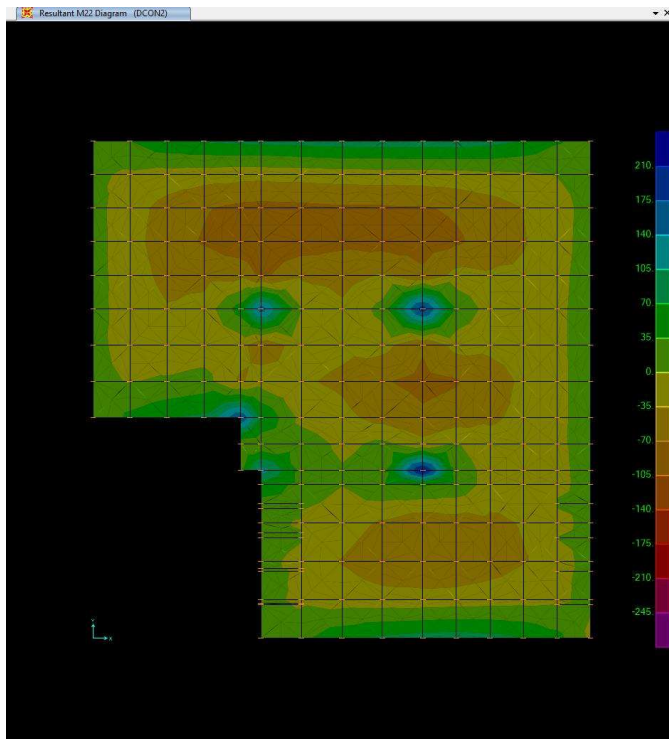
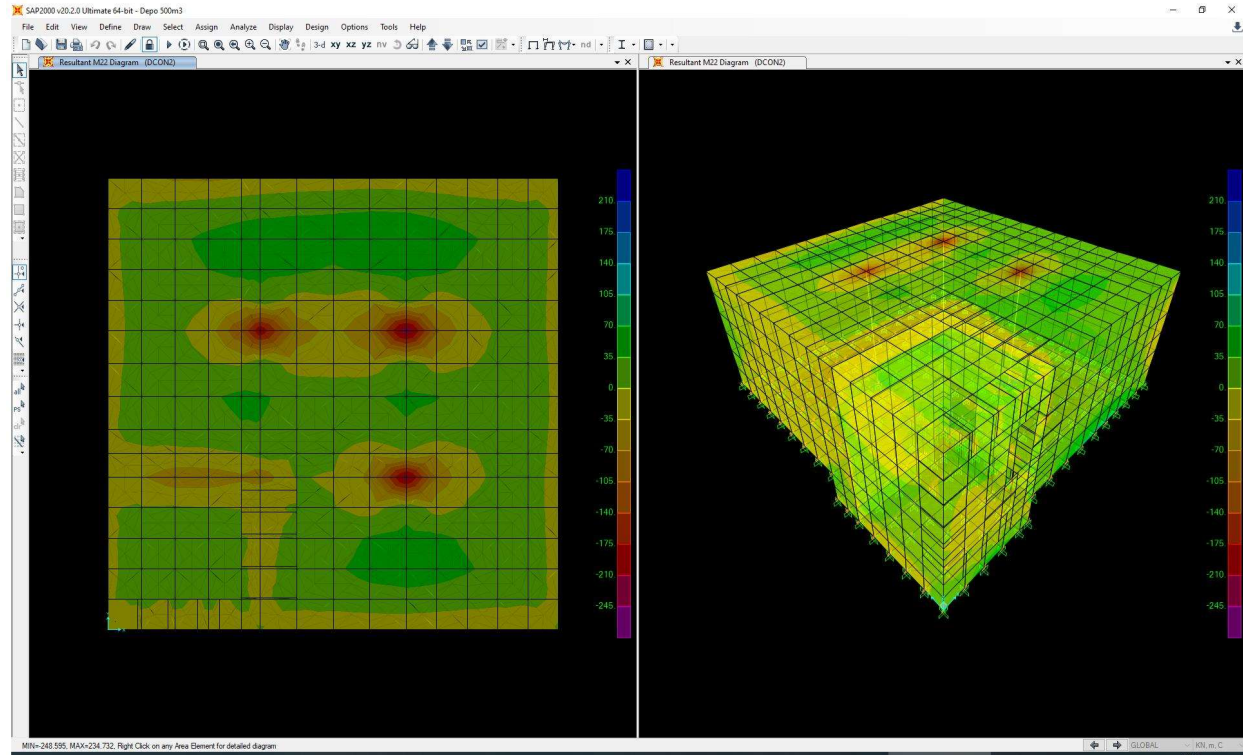


Diagrama e momenteve M22

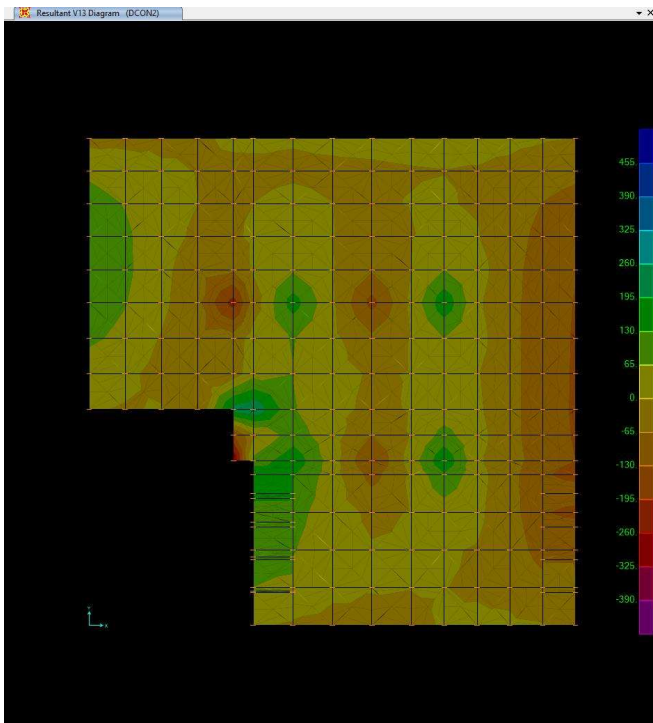
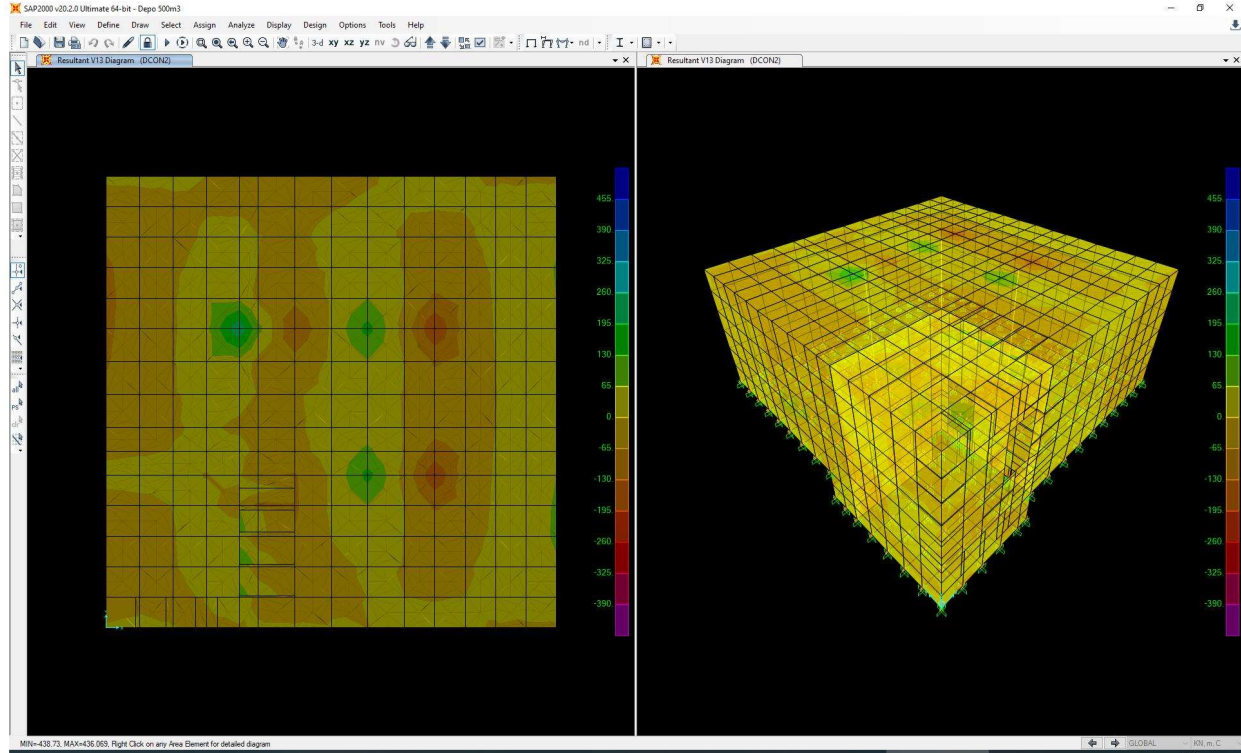


Diagrama e forces preres V12

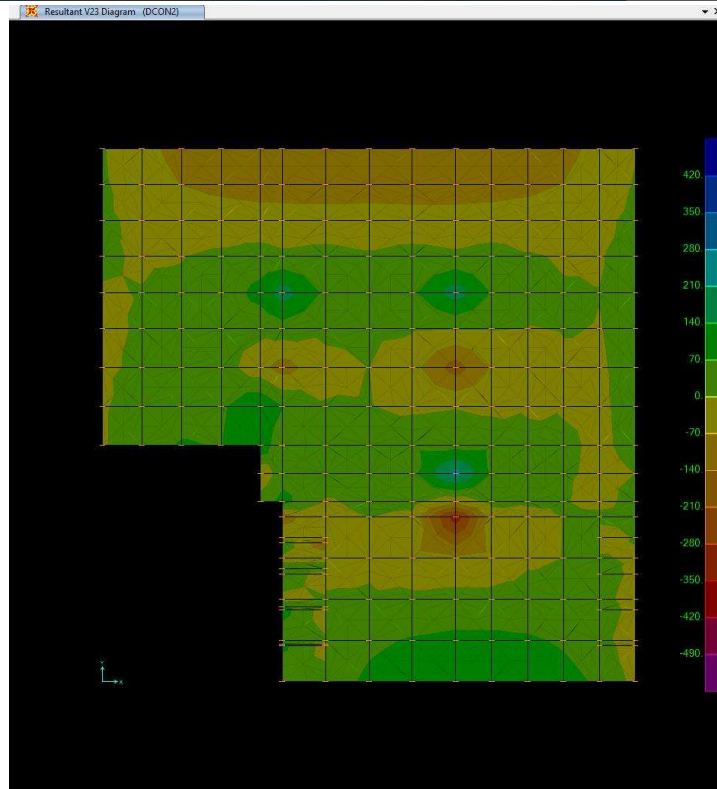
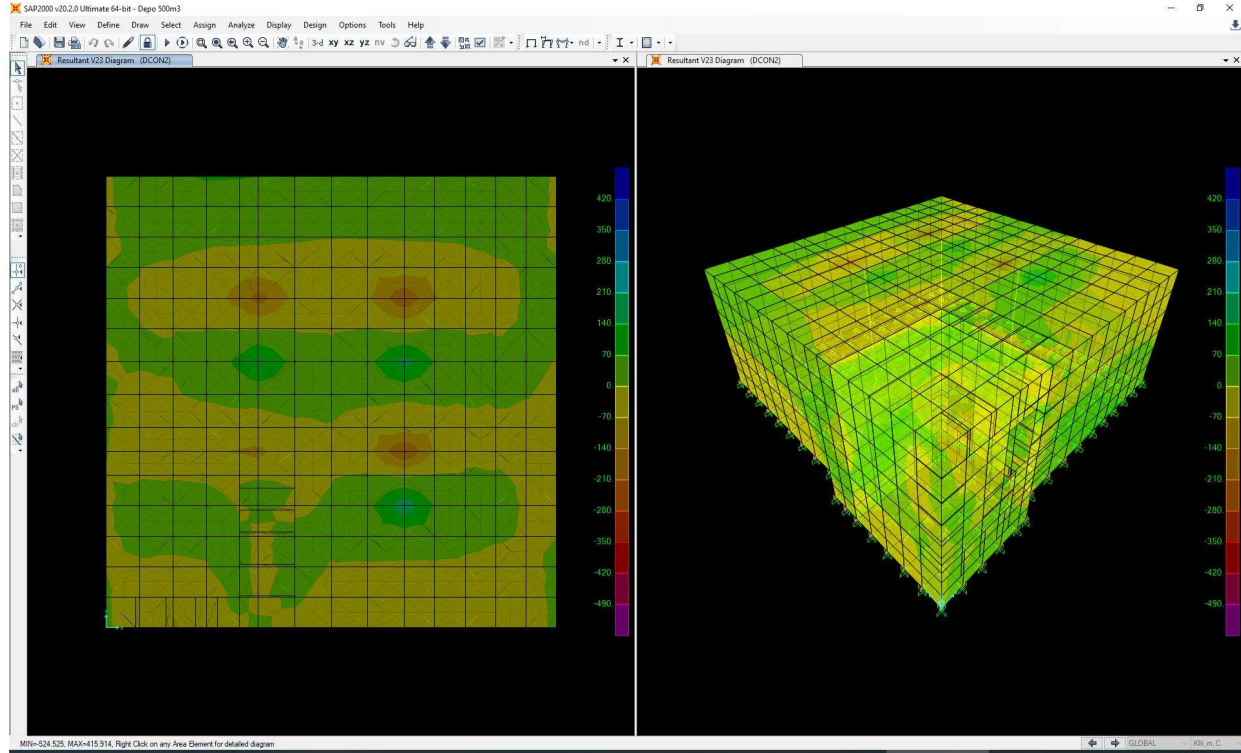


Diagrama e forces prerese V23



InfraKonsult

Address: Rr. "Qemal Stafa", P 25, Shk 4, Ap 4

Mob:+355 (0)68 90 10 844 / +355 (0)69 40 17 013

E-mail:infrakonsult@yahoo.com

“Infakonsult” sh.p.k
Drejtues Ligjor
Ing. Redi STRUGA

