RAPORT TEKNIK

Gezim Islami

Digitally signed by Gezim Islami
Date: 2022.01.18 09:56:21 +02'00'

RAPORT TEKNIK

STUDIM PROJEKTIM NDERTIM URE NE FSHATIN DOM, KLOS

AUTORITETI KONTRAKTOR:

BASHKIA KLOS

KONSULENTI:

“ERALD-G” SHPK

RELACION TEKNIK MBI ZGJIDHJEN KONSTRUKTIVE TE URES 4 x 16.40 m.

1.1 Pershkrimi i objektit

Ne kete projekt parashikohet ndertimi i nje ure beton-arme. Percaktimi i pozicionit per vendosjen e ures, eshte bere ne bashkepunim me autoritetin kontraktor.

Ura do te kete nje pozicion planimetrik, 90°, me shtratin e lumit. Mbistruktura eshte e vendosur horizontalisht duke bere rakordimet perkatese me projektin e rruges. Gjeresia totale e ures eshte 4x16.4 m, me 1 kalim me gjeresi 4.10 m gjeresi te pjeses kaluese (asfalt) dhe 2 trotuare nga 95 cm.

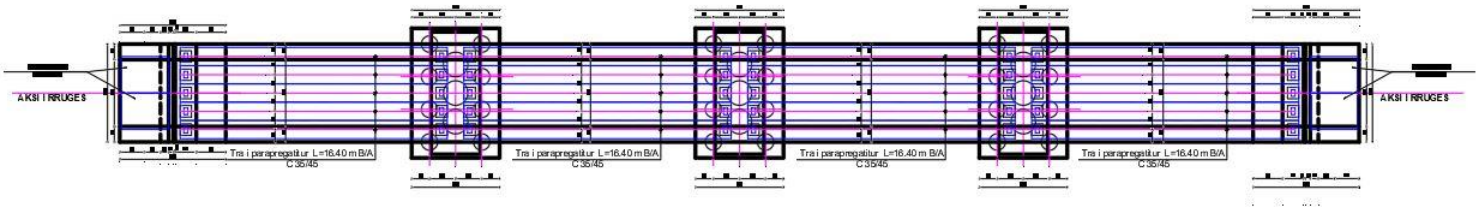


Fig.1 (Planimetria)

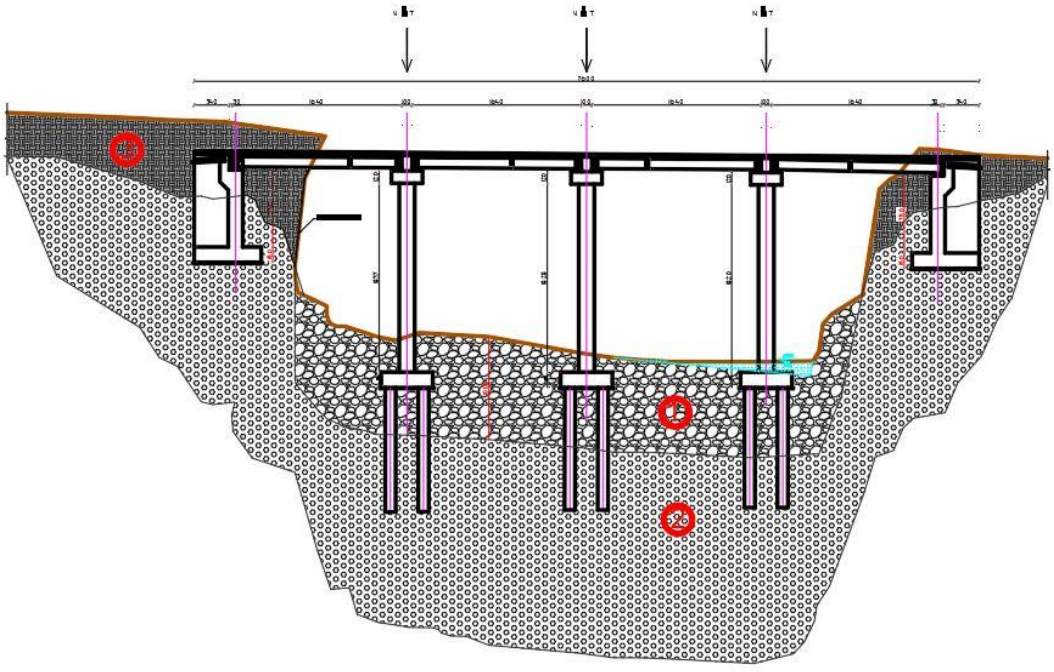


Fig.2 (Prerje gjatesore)

Nenstruktura e ures eshte realizuar me ane te jastekeve me pilota beton arme, nisur edhe nga rekomandimet gjeologo-inxhinierike. Pilotat beton arme jane me diameter Ø100 cm dhe gjatesi te parashikuar 12.0 m. Materiali i pilotave eshte beton i klasit C25/30 (M-300), Materiali i pilave eshte beton i klasit C30/37 (M-400). Pilat jane parashkuar me diameter 1.50 m, pasi lartesia e tyre eshte shume e madhe, H=18.37m.

Pilotat zhyten deri ne shtresen e cila sipas relacionit gjeologjik eshte e pershtatshme per te suportuar ngarkesat qe vijen ne themel.

Mbeshtetjet anesore te ures jane realizuar me anen e ballnave beton arme.

Trashesia e murit vertikal te ballnave eshte 100 cm. Nga pas shpatullave jane vendosur soletat rakorduese me trashesi 25cm dhe permasa 4.0 m x 2.8 m ne plan.

Per te mbrojtur skarpaten e mbushjes nga pas ballnave, keto te fundit zgjatohen ne formen e mureve beton arme.

Ballnat jane realizuar me beton te klasit C30/37 (M-400).

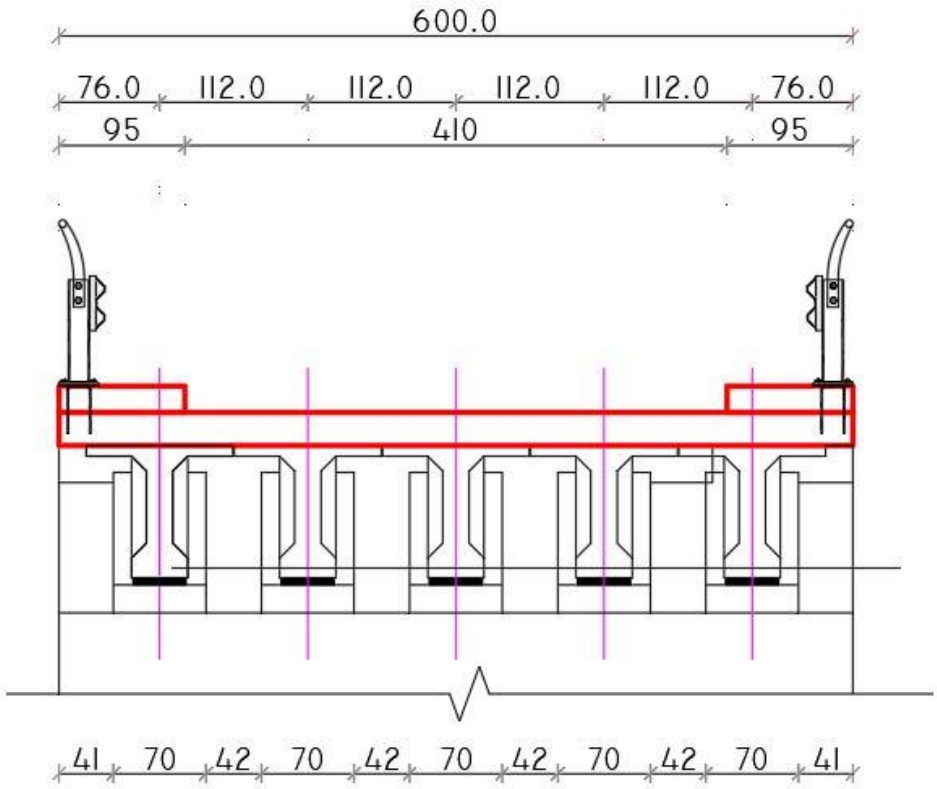


Fig. 3 (Prerja terthore ne ballna)

Mbistruktura e ures eshte e parashikuar te ndertohet me trare beton arme te zakonshem C35/45 (M-450). Traret do te kene prerje terthore ne forme "T". Gjatesia e tyre do te jete 16.40 m dhe lartesia 120 cm. Ne ure do te vendosen 20 trare.

Ne pjesen e siperme te tyre traret monolitizohen me ane te nje solete beton arme me trashesi 20-25 cm. Ne te dy ekstremet e trareve jane vendosur diafragma b/a me trashesi 40 cm. Mbeshtetjet e trareve me jastekun e pilave dhe shpatullave do te realizohet me ane te cernierave prej neopreni me permasa 40x30x10.

Trotuaret e ures do te jene beton arme monolite dhe do te kene gjeresi 95 cm. Trashesia e tyre do te jete 30 cm dhe ne brendesi te tyre do te vendosen 2 tuba plastik me diameter Ø110 mm. Ne ane te trotuareve eshte parashikuar te vendoset mbrojtese te tipit guardrail.

Mbi mbeshtetjet e mbistruktures, ne pila dhe ne ballna jane lene hapesira prej 10 cm ku do te vendosen fugat e diletacionit.

Ne ure do te vendoset shtresa asfaltike 4.0 cm, shtresa e binderit 5.0 cm, nje shtrese beton pendence me trashesi maksimale 10 cm ne mesin e ures si dhe hidroizolimi. Gjithashtu ne ure do te vendosen dhe tubat e kullimit te ujrave te shiut.

Per rregullimin e trafikut ne ure eshte parashikuar te vendosen te gjithe elementet e nevojshem te sinjalistikes horizontale dhe vertikale.

1.2 Materialet

Betoni C25/30

• Rezistenca karakteristike kubike	Rck	=	30	N/mm2
• Rezistenca karakteristike cilindrike	fck	=	25	N/mm2
• Sforcimi mesatar aksial ne terheqje	fctm	=	2.2	N/mm2
• Moduli sekant i elasticitetit	E	=	31	kN/mm2
• Vlera llogaritese e rrezistences ne shtypje	fcd	=	15	N/mm2
• Vlera llogaritese e rrezistences ne terheqje	ftd	=	1.15	N/mm2

Betoni C30/37

• Rezistenca karakteristike kubike	Rck	=	37	N/mm2
• Rezistenca karakteristike cilindrike	fck	=	30	N/mm2
• Sforcimi mesatar aksial ne terheqje	fctm	=	2.9	N/mm2
• Moduli sekant i elasticitetit	E	=	32	kN/mm2
• Vlera llogaritese e rrezistences ne shtypje	fcd	=	20	N/mm2
• Vlera llogaritese e rrezistences ne terheqje	ftd	=	1.3	N/mm2

Betoni C35/45

• Rezistenca karakteristike kubike	Rck	=	45	N/mm2
• Rezistenca karakteristike cilindrike	fck	=	35	N/mm2
• Sforcimi mesatar aksial ne terheqje	fctm	=	3.2	N/mm2
• Moduli sekant i elasticitetit	E	=	33	kN/mm2
• Vlera llogaritese e rrezistences ne shtypje	fcd	=	20	N/mm2
• Vlera llogaritese e rrezistences ne terheqje	ftd	=	1.3	N/mm2

Armatura e çelikut FeB44k

• Rezistenca karakteristike ne terheqje	ftk	=	540	N/mm2
• Rezistenca karakteristike e rrjedhshmerise	fyk	=	430	N/mm2
• Vlera mesatare e modulit te elasticitetit	Esm	=	210	kN/mm2
• Faktori i pjesshem i sigurise	ɣc	=	1.15	
• Vlera llogaritese e rrezistences se rrjedhshmerise	fyd	=	374	N/mm2
• Vlera llogaritese e zgjatimit te rrjedhshmerise	esyd	=	0.187%	

1.3 Ngarkesat

a) Te perhershme

Si ngarkese e perhershme konsiderohet pesha vetjake e elementeve, ngarkesat nga shtresat si dhe presioni i dheut. Pesha vetjake e elementeve llogaritet automatikisht nga programi *(Dead load)* ndersa ngarkesa e shtresave te trotuarit dhe rruges si dhe presioni i dheut (mbushjes nga pas ballnave) futen ne program si ngarkese uniformisht e shperndare.

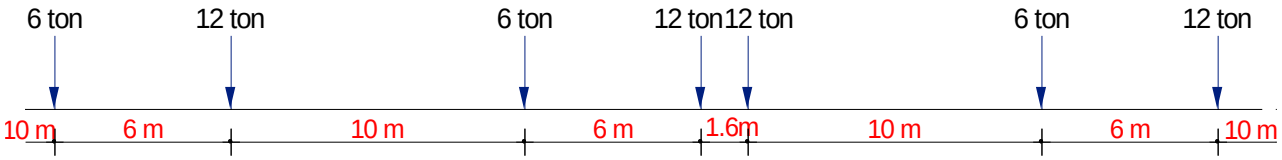
b) Te perkohshme

Si ngarkese e perkohshme, konsiderohet ngarkesa e trafikut dhe ngarkesa nga turma. Ngarkesa e trafikut futet ne program si ngarkese *(Moving load)* ndersa ngarkesa nga turma ne trotuar vendoset si ngarkese uniformisht e shperndare *(Live load)*. Jane marre ne konsiderate dy tipe skeme ngarkesash:

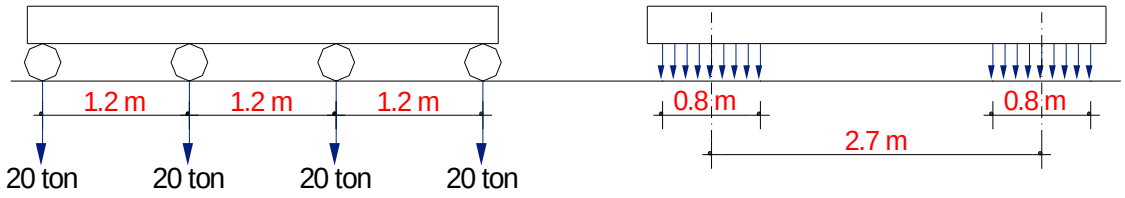
1. *Ngarkesat sipas KTP*

Ngarkesat vertikale normative te levizshme per llogaritjen e urave ne rruget automobilistike, qe jane marre ne keto llogaritje, perbehen nga dy lloj skemash N-18 dhe T-80. Cdo skeme eshte e perbere nga nje kolone e vazhdueshme automjetesh si ne figuren e meposhtme.

N - 18



T - 80



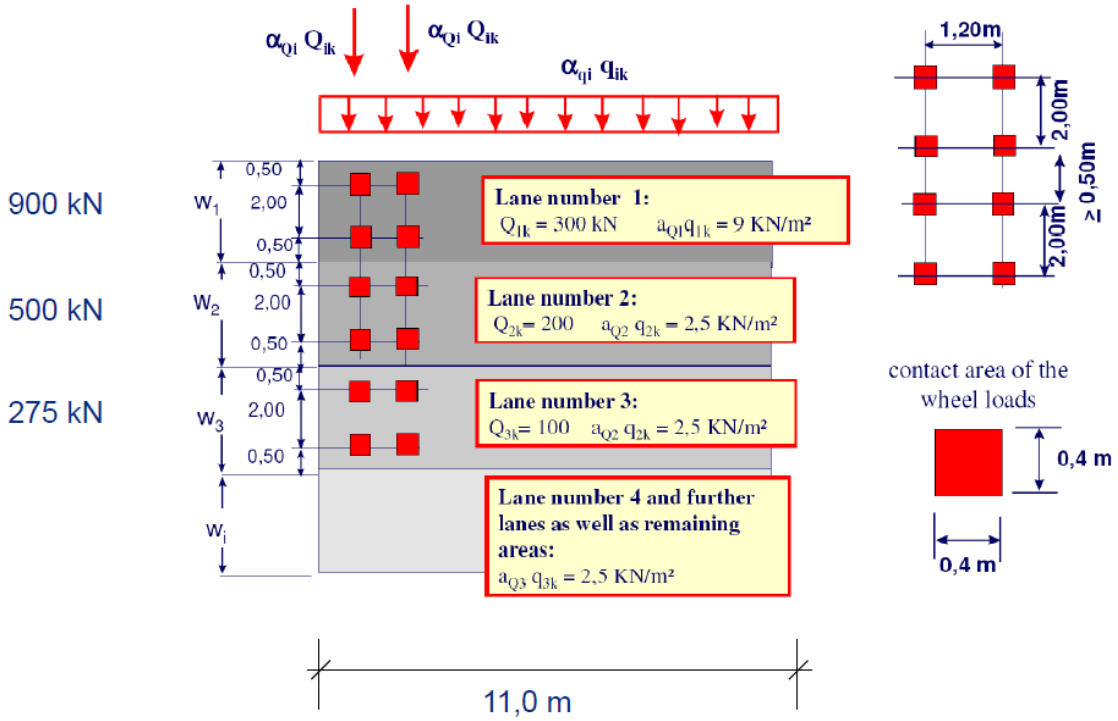
2. *Ngarkesat sipas Eurocode*

Per percaktimin e efekteve te trafikut rrugor, sipas eurocode, lidhur me verifikimet e gjendjes kufitare limit ULS dhe gjendjes kufitare te sherbimit SLS eshte marre ne konsiderate modelet e meposhtme te ngarkesave:

- Modeli 1 i ngarkeses *(LM1)* eshte e perbere nga dy nensisteme ngarkesash:
  1) Nje sistem prej dy ngarkesash boshti te perqendruara, sipas skices se meposhtme, ku cdo bosht ka peshen $\alpha_Q Q_k = 300kN$ perfshire dhe amplifikimin dinamik.

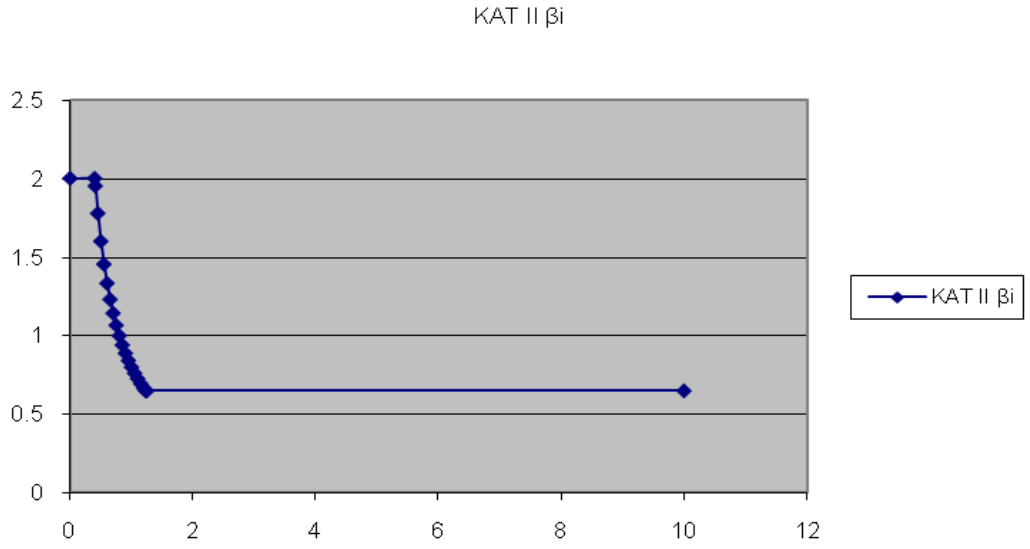
2) Nje sistem prej ngarkesash te shperndara qe kane nje dendesi peshe

$$\alpha_q q_k = 9\frac{kN}{m^2}$$



c) Te veçanta

Reagimi sizmik eshte llogaritur per troje te kategorise II dhe intensitet 8 balle me koeficient sizmik $k_E = 0.22$. Ndersa vlerat e koeficientit dinamik β_i merren nga grafiku i meposhtem.



Grafiku i ndryshimit te koeficentit dinamik β ne funksion te periodes T.

1.4 Kombinimi i ngarkesave

Me poshte po paraqit disa nga kombinimet e perdoruara

a) *Sipas EC*

Kombinimi ULS

Comb 1 $1.35 \cdot D + 1.35 \cdot L + 1.5 \cdot (0.75TS + 0.4UDL)$

Comb 5 $1 \cdot D + 0.2 \cdot L + 0.2 \cdot LM1 + 1 \cdot E$

Kombinimi SLS

Comb 7 $1 \cdot D + 1 \cdot L + 1 \cdot LM1$

Comb 8 $1 \cdot D + 1 \cdot L + 1 \cdot N18$

b) *Sipas KTP*

Kombinimi

Comb 9 $1.2 \cdot D + 1.4 \cdot L + 1.4 \cdot N18$

Comb 10 $1.2 \cdot D + 1.1 \cdot T80$

Ku:

D – *Te gjitha ngarkesat e perhershme (pesha vetjake, shtresat dhe presioni i dheut)*

E – *Ngarkesa sizmike*

L – *Ngarkesa ne trotuar*

LM1=TS+UDL – *Modeli i ngarkeses sipas EC*

1.5 Metoda e analizes

Per llogaritjen e ures eshte perdorur programi Sap2000v14.0.0. Ky program bazohet ne metoden e elementeve te fundem. Ura eshte modeluar si nje strukture tredimensionale ku cdo element plan i saj eshte modeluar si element ***shell*** ndersa elementet njedimensional (kolona, trare dhe pilota) jane modeluar si element ***frame***. Ndersa dheu si bazament eshte modeluar nga nje seri sustash te shperndara uniformisht nen themel.

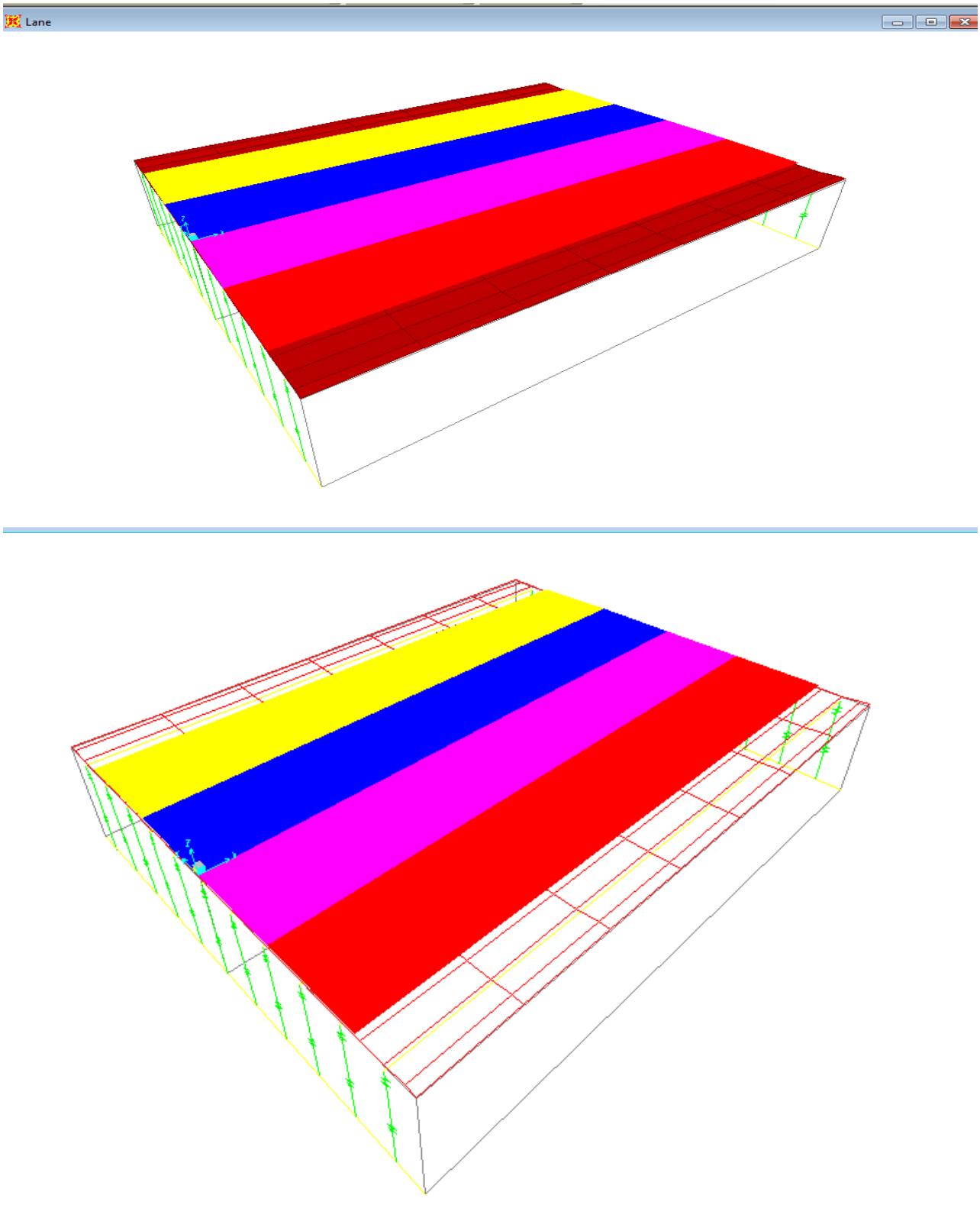
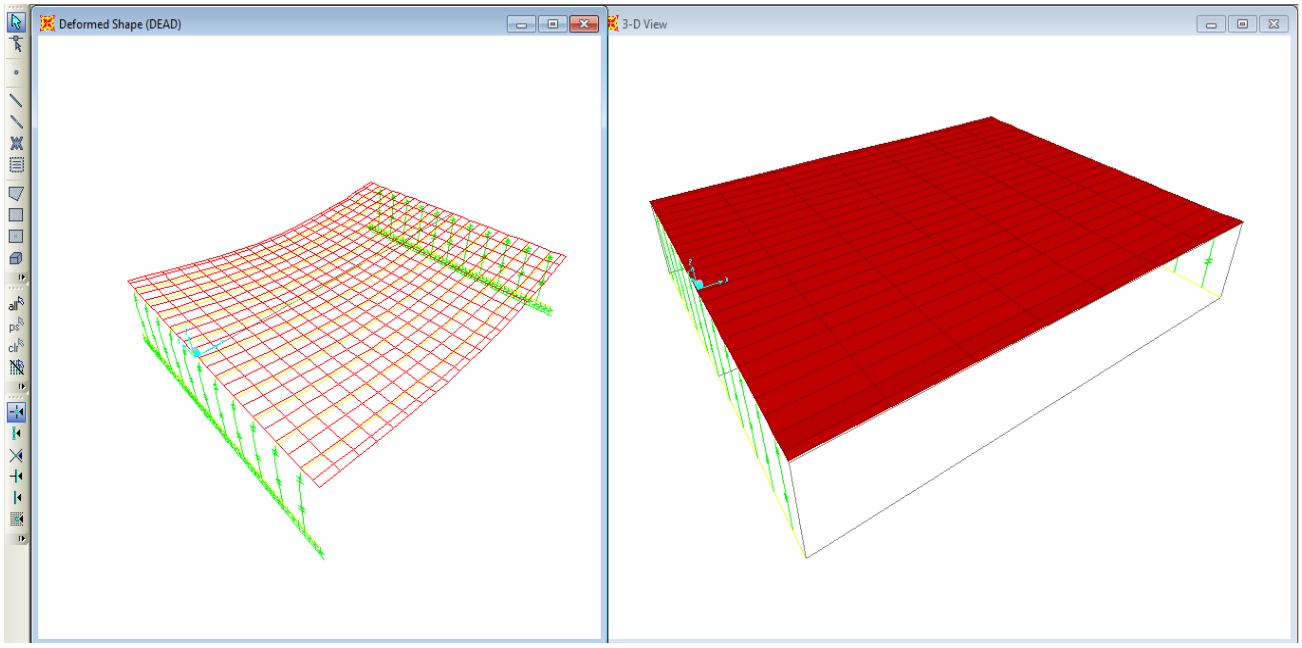
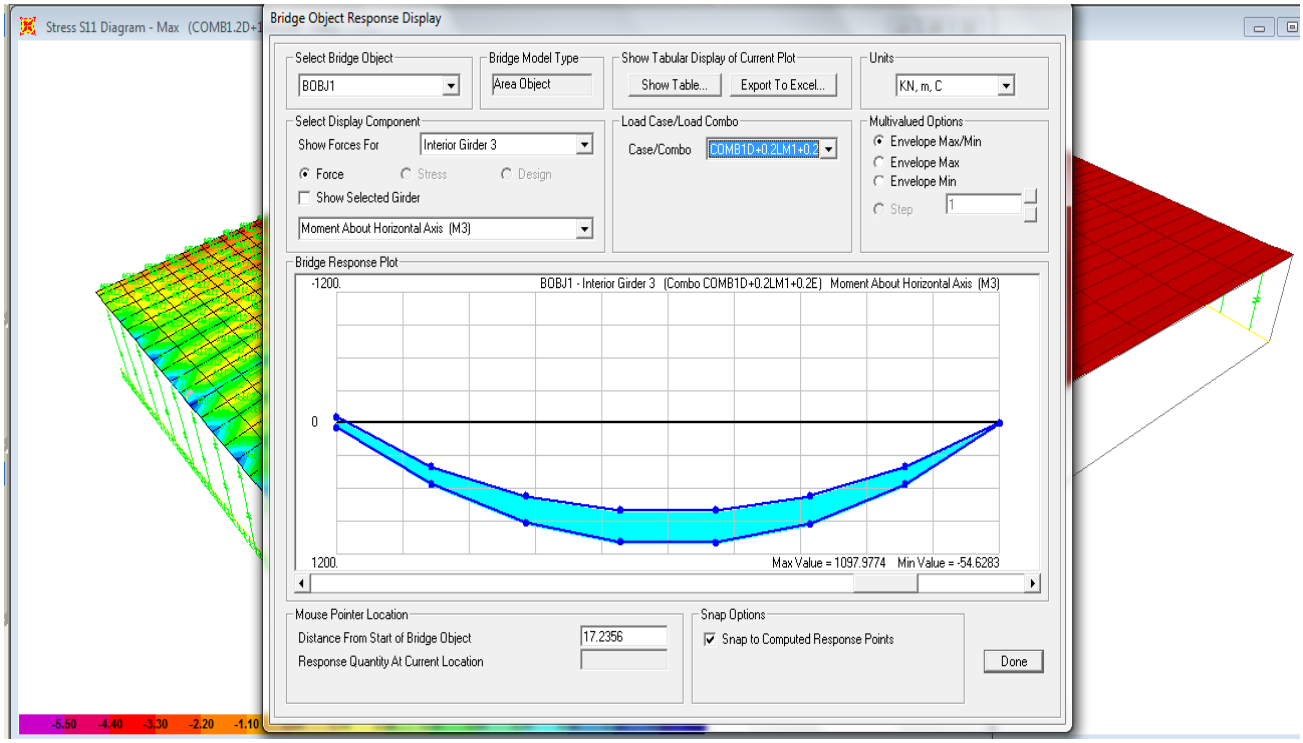
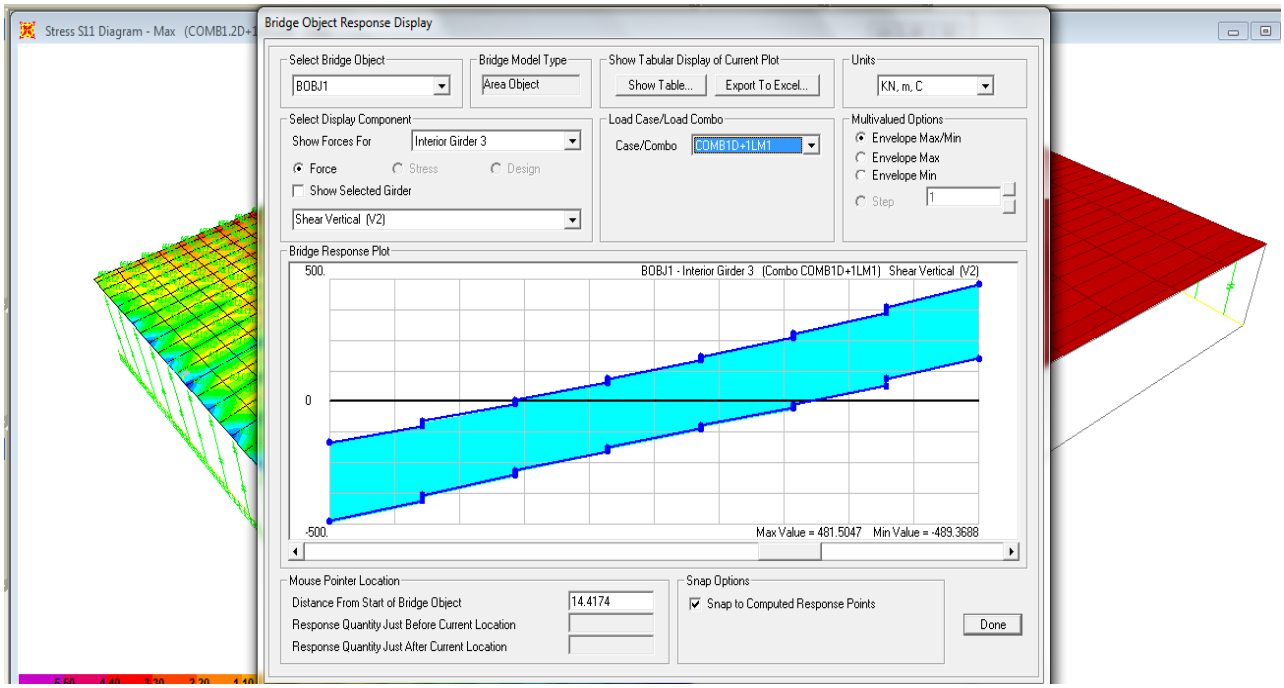


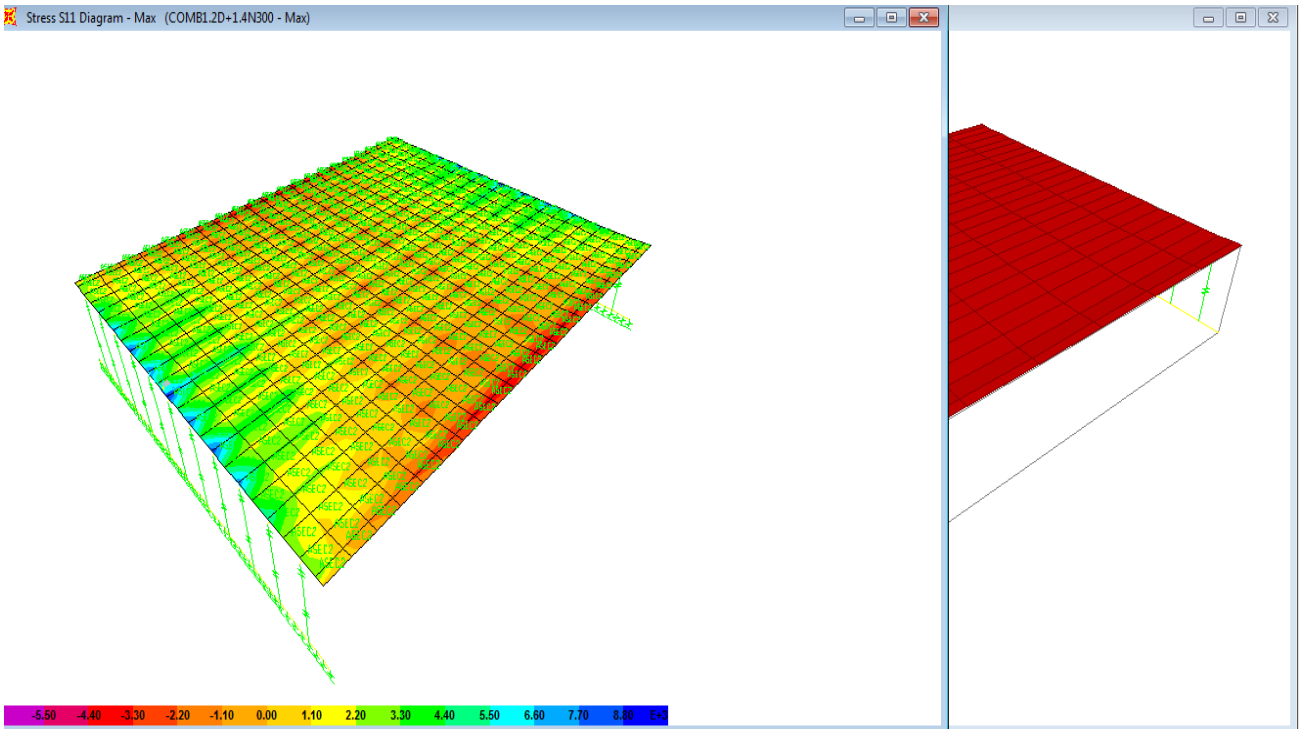
Fig. 4 (Pamja 3D e modelit llogarites)

1.6 Rezultate ne forme grafike






Stress S11 Diagram - Max (COMB1.2D+1
Bridge Object Response Display
Select Bridge Object
BOBJ1
Bridge Model Type
Area Object
Show Tabular Display of Current Plot
Show Table...
Export To Excel...
Units
KN, m, C
Select Display Component
Show Forces For
Interior Girder 3
Force
Stress
Design
Show Selected Girder
Shear Vertical (V2)
Load Case/Load Combo
Case/Combo
COMB1D+1LM1
Multivalued Options
Envelope Max/Min
Envelope Max
Envelope Min
Step
1
Bridge Response Plot
500.
BOBJ1 - Interior Girder 3 (Combo COMB1D+1LM1) Shear Vertical (V2)
0
-500.
Max Value = 481.5047 Min Value = -489.3688
Mouse Pointer Location
Distance From Start of Bridge Object
14.4174
Response Quantity Just Before Current Location
Response Quantity Just After Current Location
Snap Options
Snap to Computed Response Points
Done


Stress S11 Diagram - Max (COMB1.2D+1.4N300 - Max)
-5.50
-4.40
-3.30
-2.20
-1.10
0.00
1.10
2.20
3.30
4.40
5.50
6.60
7.70
8.80
E+3

1.7 Rezultate ne forme tabelare.

Table: Active Degrees of Freedom

Table: Active Degrees of Freedom

UX	UY	UZ	RX	RY	RZ
Yes	Yes	Yes	Yes	Yes	Yes

Table: Area Section Properties

Table: Area Section Properties, Part 1 of 4

Section	Material	MatAngle	AreaType	Type	DrillDOF	Thickness	BendThick	Arc
		Degrees				m	m	Degrees
SOLETA	C30/37	0.000	Shell	Shell-Thin	Yes	0.200000	0.200000	
ASEC2	C30/37	0.000	Shell	Shell-Thin	Yes	14.000000	14.000000	

Table: Area Section Properties, Part 1 of 4

Section	Material	MatAngle	AreaType	Type	DrillDOF	Thickness	BendThick	Arc
		Degrees				m	m	Degrees
ASEC2	C30/37	0.000	Shell	Shell-Thin	Yes	14.000000	14.000000	
them_pile	C30/37	0.000	Shell	Shell-Thin	Yes	1.200000	1.200000	
THEM_SHPA	C30/37	0.000	Shell	Shell-Thin	Yes	1.200000	1.200000	

Table: Bridge Abutment Definitions

Table: Bridge Abutment Definitions

Abutment	GirderSup	SubType	FSProp
BABT1	Bottom	Spring	Fixed

Table: Bridge Bent Definitions 1 - General

Table: Bridge Bent Definitions 1 - General

Bent	BeamLength	BeamSect	Type	GirderSup1	BearDist1	GirderSup2	BearDist2	NumCols
	m				m		m	
SHPATULLA	17.80	T100X100	Single	Bottom				2

Table: Bridge Layout Line 1 – General

Table: Bridge Layout Line 1 - General

LayoutLine	CoordSys	X	Y	Z	GlobalX	GlobalY	GlobalZ
		m	m	m	m	m	m
BLL1	GLOBAL	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Table: Bridge Layout Line 2 - Horizontal Layout Data, Part 1 of 2

LayoutLine	SegType	Station	Radius	Bearing	CoordSys	X
		m	m			m
BLL1	Initial Station and Bearing	0.00000		N900000E	GLOBAL	0.00000
BLL1	Straight at Previous Bearing to End	30.00000			GLOBAL	18.40

Table: Bridge Object Definitions 01 - General

Table: Bridge Object Definitions 01 - General

BridgeObj	LayoutLine	NumSpans	NumBents	NumHinges	NumTendons	SuperElev
BOBJ1	BLL1	2	1	0	0	No

Table: Bridge Object Definitions 03 - Spans 1 - General

Table: Bridge Object Definitions 03 - Spans 1 - General

BridgeObj	SpanName	BridgeSect	Variation
BOBJ1	span 1	BSEC1	No

Table: Bridge Object Definitions 06 - Abutments, Part 1 of 2

Table: Bridge Object Definitions 06 - Abutments, Part 1 of 2

BridgeObj	Location	BearingDir	DiaphProp	SubType	AbutProp	SubElev	HorizOff	BearProp
						m	m	
BOBJ1	Start	Default	None	Abutment	BABT1	-1.20000	0.00000	BBRG1
BOBJ1	End	Default	None	Abutment	BABT1	-1.20000	0.00000	BBRG2

Table: Bridge Object Definitions 06 - Abutments, Part 2 of 2

Table: Bridge Object Definitions 06 - Abutments, Part 2 of 2

BridgeObj	Location	BearResProp	BearElev	BearAngle
			m	Degrees
BOBJ1	Start	None	-1.20000	0.000
BOBJ1	End	None	-1.20000	0.000

Table: Bridge Object Definitions 07 - Bents, Part 1 of 3

Table: Bridge Object Definitions 07 - Bents, Part 1 of 3

BridgeObj	SpanName	BentProp	Continuous	BearingDir	BentElev	HorizOff	DiaphBefore	DiaphAfter
					m	m		
BOBJ1	span 1	BENT1	No	Default	-1.20000	0.00000	None	None

Table: Bridge Object Definitions 07 - Bents, Part 2 of 3

Table: Bridge Object Definitions 07 - Bents, Part 2 of 3

BridgeObj	SpanName	ResPropSS	ResElevSS	MeshAtBent	BearProp1	BrResProp1	BearElev1	BearAngle1
			m				m	Degrees
BOBJ1	span 1	None	-0.60960	Yes	BBRG1	None	-1.20000	0.000

Table: Bridge Object Definitions 07 - Bents, Part 3 of 3

Table: Bridge Object Definitions 07 - Bents, Part 3 of 3

BridgeObj	SpanName	BearProp2	BrResProp2	BearElev2	BearAngle2
				m	Degrees
BOBJ1	span 1	BBRG1	None	-1.82880	0.000

Table: Case - Modal 1 - General

Table: Case - Modal 1 - General

Case	ModeType	MaxNumModes	MinNumModes	EigenShift	EigenCutoff	EigenTol	AutoShift
				Cyc/sec	Cyc/sec		
MODAL	Eigen	12	1	0.0000E+00	0.0000E+00	1.0000E-09	Yes

Table: Case - Response Spectrum 1 - General, Part 1 of 2

Table: Case - Response Spectrum 1 - General, Part 1 of 2

Case	ModalCombo	GMCf1	GMCf2	PerRigid	DirCombo	DampingType	ConstDamp
		Cyc/sec	Cyc/sec				
SIZMIC	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0500

Table: Case - Response Spectrum 1 - General, Part 2 of 2

Table: Case - Response Spectrum 1 - General, Part 2 of 2

Case	EccenRatio	NumOverride
SIZMIC	0.000000	0

Table: Combination Definitions, Part 1 of 3

Table: Combination Definitions, Part 1 of 3

ComboName	ComboType	AutoDesign	CaseType	CaseName	ScaleFactor	SteelDesign
COMB1	Linear Add	No	Linear Static	DEAD	1.350000	No
COMB1			Linear Static	SHTRESAT	1.350000	
COMB1			Linear Static	MBUSHJA H	1.350000	
COMB1			Linear Static	MBUSHJA V	1.350000	
COMB1			Moving Load	EC	1.500000	
COMB1			Linear Static	LIVE	1.500000	
COMB2	Linear Add	No	Linear Static	DEAD	1.350000	No
COMB2			Linear Static	SHTRESAT	1.350000	
COMB2			Linear Static	MBUSHJA H	1.350000	
COMB2			Linear Static	MBUSHJA V	1.350000	
COMB2			Moving Load	IT	1.500000	
COMB2			Linear Static	LIVE	1.500000	
COMB3	Linear Add	No	Linear Static	DEAD	1.350000	No
COMB3			Linear Static	SHTRESAT	1.350000	
COMB3			Linear Static	MBUSHJA H	1.350000	
COMB3			Linear Static	MBUSHJA V	1.350000	
COMB3			Moving Load	N-18	1.500000	
COMB3			Linear Static	LIVE	1.500000	
COMB4	Linear Add	No	Linear Static	DEAD	1.350000	No
COMB4			Linear Static	SHTRESAT	1.350000	
COMB4			Linear Static	MBUSHJA H	1.350000	
COMB4			Linear Static	MBUSHJA V	1.350000	
COMB4			Moving Load	N-13	1.500000	
COMB4			Linear Static	LIVE	1.500000	
COMB5	Linear Add	No	Linear Static	DEAD	1.000000	No

Table: Combination Definitions, Part 1 of 3

ComboName	ComboType	AutoDesign	CaseType	CaseName	ScaleFactor	SteelDesign
COMB5			Linear Static	SHTRESAT	1.000000	
COMB5			Linear Static	MBUSHJA H	1.000000	
COMB5			Linear Static	MBUSHJA V	1.000000	
COMB5			Linear Static	LIVE	0.200000	
COMB5			Moving Load	IT	0.200000	
COMB5			Response Spectrum	SIZMIC	1.000000	
COMB6	Linear Add	No	Linear Static	DEAD	1.000000	No
COMB6			Moving Load	EC	1.000000	
COMB6			Linear Static	MBUSHJA H	1.000000	
COMB6			Linear Static	MBUSHJA V	1.000000	
COMB6			Linear Static	LIVE	1.000000	
COMB6			Linear Static	SHTRESAT	1.000000	
COMB7	Linear Add	No	Linear Static	DEAD	1.000000	No
COMB7			Moving Load	IT	1.000000	
COMB7			Linear Static	MBUSHJA H	1.000000	
COMB7			Linear Static	MBUSHJA V	1.000000	
COMB7			Linear Static	SHTRESAT	1.000000	
COMB7			Linear Static	LIVE	1.000000	
COMB8	Linear Add	No	Linear Static	DEAD	1.200000	No
COMB8			Linear Static	MBUSHJA H	1.200000	
COMB8			Linear Static	MBUSHJA V	1.200000	
COMB8			Moving Load	N-18	1.400000	
COMB8			Linear Static	SHTRESAT	1.200000	
COMB8			Linear Static	LIVE	1.400000	

Table: Combination Definitions, Part 2 of 3

Table: Combination Definitions, Part 2 of 3

ComboName	CaseName	ConcDesign	AlumDesign	ColdDesign	GUID
COMB1	DEAD	Yes	No	No	
COMB1	SHTRESAT				
COMB1	MBUSHJA H				
COMB1	MBUSHJA V				
COMB1	EC				
COMB1	LIVE				
COMB2	DEAD	Yes	No	No	
COMB2	SHTRESAT				
COMB2	MBUSHJA H				
COMB2	MBUSHJA V				
COMB2	IT				
COMB2	LIVE				
COMB3	DEAD	Yes	No	No	
COMB3	SHTRESAT				
COMB3	MBUSHJA H				
COMB3	MBUSHJA V				
COMB3	N-18				
COMB3	LIVE				
COMB4	DEAD	Yes	No	No	
COMB4	SHTRESAT				
COMB4	MBUSHJA H				
COMB4	MBUSHJA V				
COMB4	N-13				
COMB4	LIVE				

Table: Combination Definitions, Part 2 of 3

ComboName	CaseName	ConcDesign	AlumDesign	ColdDesign	GUID
COMB5	DEAD	Yes	No	No	
COMB5	SHTRESAT				
COMB5	MBUSHJA H				
COMB5	MBUSHJA V				
COMB5	LIVE				
COMB5	IT				
COMB5	SIZMIC				
COMB6	DEAD	Yes	No	No	
COMB6	EC				
COMB6	MBUSHJA H				
COMB6	MBUSHJA V				
COMB6	LIVE				
COMB6	SHTRESAT				
COMB7	DEAD	Yes	No	No	
COMB7	IT				
COMB7	MBUSHJA H				
COMB7	MBUSHJA V				
COMB7	SHTRESAT				
COMB7	LIVE				
COMB8	DEAD	Yes	No	No	
COMB8	MBUSHJA H				
COMB8	MBUSHJA V				
COMB8	N-18				
COMB8	SHTRESAT				
COMB8	LIVE				

Table: Combination Definitions, Part 3 of 3

Table: Combination Definitions, Part 3 of 3

ComboName	CaseName	Notes
COMB1	DEAD	
COMB1	SHTRESAT	
COMB1	MBUSHJA H	
COMB1	MBUSHJA V	
COMB1	EC	
COMB1	LIVE	
COMB2	DEAD	
COMB2	SHTRESAT	
COMB2	MBUSHJA H	
COMB2	MBUSHJA V	
COMB2	IT	
COMB2	LIVE	
COMB3	DEAD	
COMB3	SHTRESAT	
COMB3	MBUSHJA H	
COMB3	MBUSHJA V	
COMB3	N-18	
COMB3	LIVE	
COMB4	DEAD	
COMB4	SHTRESAT	
COMB4	MBUSHJA H	
COMB4	MBUSHJA V	
COMB4	N-13	

Table: Combination Definitions, Part 3 of 3

ComboName	CaseName	Notes
COMB4	LIVE	
COMB5	DEAD	
COMB5	SHTRESAT	
COMB5	MBUSHJA H	
COMB5	MBUSHJA V	
COMB5	LIVE	
COMB5	IT	
COMB5	SIZMIC	
COMB6	DEAD	
COMB6	EC	
COMB6	MBUSHJA H	
COMB6	MBUSHJA V	
COMB6	LIVE	
COMB6	SHTRESAT	
COMB7	DEAD	
COMB7	IT	
COMB7	MBUSHJA H	
COMB7	MBUSHJA V	
COMB7	SHTRESAT	
COMB7	LIVE	
COMB8	DEAD	
COMB8	MBUSHJA H	
COMB8	MBUSHJA V	
COMB8	N-18	
COMB8	SHTRESAT	
COMB8	LIVE	

Table: Lane Definition Data, Part 1 of 2

Table: Lane Centerline Points

Lane	Point	CoordSys	X	Y	Z	GlobalX	GlobalY	GlobalZ
			m	m	m	m	m	m
Lane1	1	GLOBAL	1.225E-16	-2.00000	0.00000	1.225E-16	-2.00000	0.00000
Lane1	2	GLOBAL	30.00000	-2.00000	0.00000	30.00000	-2.00000	0.00000
Lane2	1	GLOBAL	1.225E-16	2.00000	0.00000	1.225E-16	2.00000	0.00000
Lane2	2	GLOBAL	30.00000	2.00000	0.00000	30.00000	2.00000	0.00000

Table: Lane Definition Data, Part 1 of 2

Lane	LaneFrom	LayoutLine	Station	Width	Offset	LoadGroup	DiscAlong	DiscAcross
			m	m	m		m	m
Lane1	Layout Line	BLL1	0.00000	4.00000	2.00000	Default	3.04800	3.04800
Lane1	Layout Line	BLL1	30.00000	4.00000	2.00000	Default		
Lane2	Layout Line	BLL1	0.00000	4.00000	-2.00000	Default	3.04800	3.04800
Lane2	Layout Line	BLL1	30.00000	4.00000	-2.00000	Default		

Table: Load Case Definitions, Part 1 of 2

Table: Load Case Definitions, Part 1 of 2

Case	Type	InitialCond	ModalCase	BaseCase	DesTypeOpt	DesignType	AutoType
DEAD	LinStatic	Zero			Prog Det	DEAD	None
MODAL	LinModal	Zero			Prog Det	OTHER	None
N-18	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
N-13	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
IT	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
LIVE	LinStatic	Zero			Prog Det	LIVE	None
EC	LinMoving	Zero			Prog Det	BRIDGE LIVE	None
SHTRESAT	LinStatic	Zero			Prog Det	SUPER DEAD	None
SIZMIC	LinRespSpec		MODAL		Prog Det	QUAKE	None
MBUSHJA H	LinStatic	Zero			Prog Det	SUPER DEAD	None
MBUSHJA V	LinStatic	Zero			Prog Det	SUPER DEAD	None

Table: Load Case Definitions, Part 2 of 2

Table: Load Case Definitions, Part 2 of 2

Case	RunCase	CaseStatus	GUID	Notes
DEAD	Yes	Finished		
MODAL	Yes	Finished		
N-18	Yes	Finished		
N-13	Yes	Finished		
IT	Yes	Finished		
LIVE	Yes	Finished		
EC	Yes	Finished		
SHTRESAT	Yes	Finished		
SIZMIC	Yes	Finished		
MBUSHJA H	Yes	Finished		
MBUSHJA V	Yes	Finished		

Table: Load Pattern Definitions

Table: Load Pattern Definitions

LoadPat	DesignType	SelfWtMult	AutoLoad	GUID	Notes
DEAD	DEAD	1.000000			
LIVE	LIVE	0.000000			
SHTRESAT	SUPER DEAD	0.000000			
MBUSHJA H	SUPER DEAD	0.000000			
MBUSHJA V	SUPER DEAD	0.000000			

Table: Material Properties 03b - Concrete Data, Part 2 of 2

Table: Material Properties 03b - Concrete Data, Part 2 of 2

Material	DAngle
	Degrees
4000Psi	0.000
C25/30	0.000

Table: Modal Load Participation Ratios

Table: Modal Load Participation Ratios

OutputCase	ItemType	Item	Static	Dynamic
			Percent	Percent
ACASE1	Acceleration	UX	57.1547	6.5853
ACASE1	Acceleration	UY	99.9945	70.5251
ACASE1	Acceleration	UZ	99.7871	55.4761

Table: Modal Participating Mass Ratios, Part 1 of 3

Table: Modal Participating Mass Ratios, Part 1 of 3

OutputCase	StepType	StepNum	Period	UX	UY	UZ	SumUX	SumUY
			Sec					
ACASE1	Mode	1.000000	0.343765	2.594E-16	0.16664	5.382E-14	2.594E-16	0.16664
ACASE1	Mode	2.000000	0.326217	0.01166	6.087E-15	0.55425	0.01166	0.16664
ACASE1	Mode	3.000000	0.218127	2.641E-14	0.50092	5.352E-15	0.01166	0.66756
ACASE1	Mode	4.000000	0.206913	4.583E-08	1.805E-10	2.851E-06	0.01166	0.66756
ACASE1	Mode	5.000000	0.155274	1.208E-12	0.00015	2.172E-14	0.01166	0.66771
ACASE1	Mode	6.000000	0.112837	2.282E-05	5.815E-12	6.565E-06	0.01168	0.66771
ACASE1	Mode	7.000000	0.092103	8.572E-13	0.01988	9.240E-15	0.01168	0.68759
ACASE1	Mode	8.000000	0.090502	0.05371	2.012E-13	0.00050	0.06539	0.68759
ACASE1	Mode	9.000000	0.081121	4.386E-12	1.818E-06	2.126E-14	0.06539	0.68759
ACASE1	Mode	10.000000	0.079286	0.00046	1.451E-12	3.628E-06	0.06585	0.68759
ACASE1	Mode	11.000000	0.071230	2.969E-12	0.01092	2.630E-14	0.06585	0.69851
ACASE1	Mode	12.000000	0.070148	2.240E-12	0.00674	6.366E-15	0.06585	0.70525

Table: Modal Participating Mass Ratios, Part 2 of 3

Table: Modal Participating Mass Ratios, Part 2 of 3

OutputCase	StepType	StepNum	SumUZ	RX	RY	RZ	SumRX	SumRY
ACASE1	Mode	1.000000	5.382E-14	0.35273	3.460E-14	0.17676	0.35273	3.460E-14
ACASE1	Mode	2.000000	0.55425	4.304E-14	0.35004	6.019E-15	0.35273	0.35004
ACASE1	Mode	3.000000	0.55425	0.10607	4.299E-15	0.35034	0.45880	0.35004
ACASE1	Mode	4.000000	0.55426	2.775E-11	2.546E-06	1.175E-10	0.45880	0.35004

Table: Modal Participating Mass Ratios, Part 2 of 3

OutputCase	StepType	StepNum	SumUZ	RX	RY	RZ	SumRX	SumRY
ACASE1	Mode	5.000000	0.55426	0.00019	2.723E-14	3.365E-05	0.45899	0.35004
ACASE1	Mode	6.000000	0.55426	1.541E-14	1.279E-06	9.253E-14	0.45899	0.35004
ACASE1	Mode	7.000000	0.55426	0.00105	1.087E-12	0.01534	0.46004	0.35004
ACASE1	Mode	8.000000	0.55476	8.119E-15	0.09064	1.111E-13	0.46004	0.44069
ACASE1	Mode	9.000000	0.55476	4.887E-07	9.201E-13	0.00011	0.46004	0.44069
ACASE1	Mode	10.000000	0.55476	1.792E-14	0.00040	1.699E-12	0.46004	0.44108
ACASE1	Mode	11.000000	0.55476	0.00091	5.879E-14	0.03998	0.46096	0.44108
ACASE1	Mode	12.000000	0.55476	0.00070	1.251E-13	0.03011	0.46165	0.44108

Table: Modal Participating Mass Ratios, Part 3 of 3

Table: Modal Participating Mass Ratios, Part 3 of 3

OutputCase	StepType	StepNum	SumRZ
ACASE1	Mode	1.000000	0.17676
ACASE1	Mode	2.000000	0.17676
ACASE1	Mode	3.000000	0.52710
ACASE1	Mode	4.000000	0.52710
ACASE1	Mode	5.000000	0.52713
ACASE1	Mode	6.000000	0.52713
ACASE1	Mode	7.000000	0.54248
ACASE1	Mode	8.000000	0.54248
ACASE1	Mode	9.000000	0.54258
ACASE1	Mode	10.000000	0.54258
ACASE1	Mode	11.000000	0.58256
ACASE1	Mode	12.000000	0.61267

Table: Modal Participation Factors, Part 1 of 2

Table: Modal Participation Factors, Part 1 of 2

OutputCase	StepType	StepNum	Period	UX	UY	UZ	RX	RY
			Sec	KN-s2	KN-s2	KN-s2	KN-m-s2	KN-m-s2
ACASE1	Mode	1.000000	0.343765	5.762E-07	-14.602832	8.299E-06	-101.361044	-0.000079
ACASE1	Mode	2.000000	0.326217	-3.862592	2.791E-06	26.631760	0.000035	-252.012672
ACASE1	Mode	3.000000	0.218127	5.814E-06	-25.318029	-2.617E-06	55.583429	0.000028
ACASE1	Mode	4.000000	0.206913	0.007658	0.000481	-0.060403	-0.000899	0.679706
ACASE1	Mode	5.000000	0.155274	0.000039	-0.438612	5.273E-06	2.324402	-0.000070
ACASE1	Mode	6.000000	0.112837	-0.170883	-0.000086	0.091659	-0.000021	0.481631
ACASE1	Mode	7.000000	0.092103	-0.000033	5.043562	-3.439E-06	5.538343	0.000444
ACASE1	Mode	8.000000	0.090502	8.290228	0.000016	0.796261	0.000015	-128.241242
ACASE1	Mode	9.000000	0.081121	0.000075	0.048227	5.216E-06	-0.119310	0.000409
ACASE1	Mode	10.000000	0.079286	0.769161	0.000043	0.068138	0.000023	-8.503745
ACASE1	Mode	11.000000	0.071230	0.000062	3.738773	5.801E-06	5.159315	0.000103
ACASE1	Mode	12.000000	0.070148	-0.000054	2.935962	-2.854E-06	4.508151	-0.000151

Table: Modal Participation Factors, Part 2 of 2

Table: Modal Participation Factors, Part 2 of 2

OutputCase	StepType	StepNum	RZ	ModalMass	ModalStiff
			KN-m-s2	KN-m-s2	KN-m
ACASE1	Mode	1.000000	-188.809179	1.0000	334.06832
ACASE1	Mode	2.000000	0.000035	1.0000	370.97772
ACASE1	Mode	3.000000	-265.815922	1.0000	829.73726
ACASE1	Mode	4.000000	0.004868	1.0000	922.10915
ACASE1	Mode	5.000000	-2.604924	1.0000	1637.42977
ACASE1	Mode	6.000000	0.000137	1.0000	3100.69950
ACASE1	Mode	7.000000	-55.626259	1.0000	4653.88279
ACASE1	Mode	8.000000	-0.000150	1.0000	4819.97285
ACASE1	Mode	9.000000	4.674820	1.0000	5999.23662
ACASE1	Mode	10.000000	-0.000585	1.0000	6280.04765
ACASE1	Mode	11.000000	-89.790855	1.0000	7780.96489
ACASE1	Mode	12.000000	-77.922755	1.0000	8022.84451

Table: Modal Periods And Frequencies

Table: Modal Periods And Frequencies

OutputCase	StepType	StepNum	Period	Frequency	CircFreq	Eigenvalue
			Sec	Cyc/sec	rad/sec	rad2/sec2
ACASE1	Mode	1.000000	0.343765	2.9090E+00	1.8278E+01	3.3407E+02
ACASE1	Mode	2.000000	0.326217	3.0654E+00	1.9261E+01	3.7098E+02
ACASE1	Mode	3.000000	0.218127	4.5845E+00	2.8805E+01	8.2974E+02
ACASE1	Mode	4.000000	0.206913	4.8329E+00	3.0366E+01	9.2211E+02
ACASE1	Mode	5.000000	0.155274	6.4402E+00	4.0465E+01	1.6374E+03
ACASE1	Mode	6.000000	0.112837	8.8624E+00	5.5684E+01	3.1007E+03
ACASE1	Mode	7.000000	0.092103	1.0857E+01	6.8219E+01	4.6539E+03
ACASE1	Mode	8.000000	0.090502	1.1049E+01	6.9426E+01	4.8200E+03
ACASE1	Mode	9.000000	0.081121	1.2327E+01	7.7455E+01	5.9992E+03
ACASE1	Mode	10.000000	0.079286	1.2613E+01	7.9247E+01	6.2800E+03
ACASE1	Mode	11.000000	0.071230	1.4039E+01	8.8210E+01	7.7810E+03
ACASE1	Mode	12.000000	0.070148	1.4256E+01	8.9570E+01	8.0228E+03

Referenca:

1. Kushtet teknike te projektitmit Shqiptare KTP 22, 23-78, KTP-N2-89.
2. Euocode 1: Action on structures – Part 2:Traffic loads on bridges, Eurocode 2, 7 dhe 8.
3. Eurocode 7: Geotecnical Design
4. Foundation Analysis and Design, Fifth Edition, Joseph E. Bowles, P.E. S.E

Viti : 2021

“ERALD-G” shpk

Ing. Gezim ISLAMI