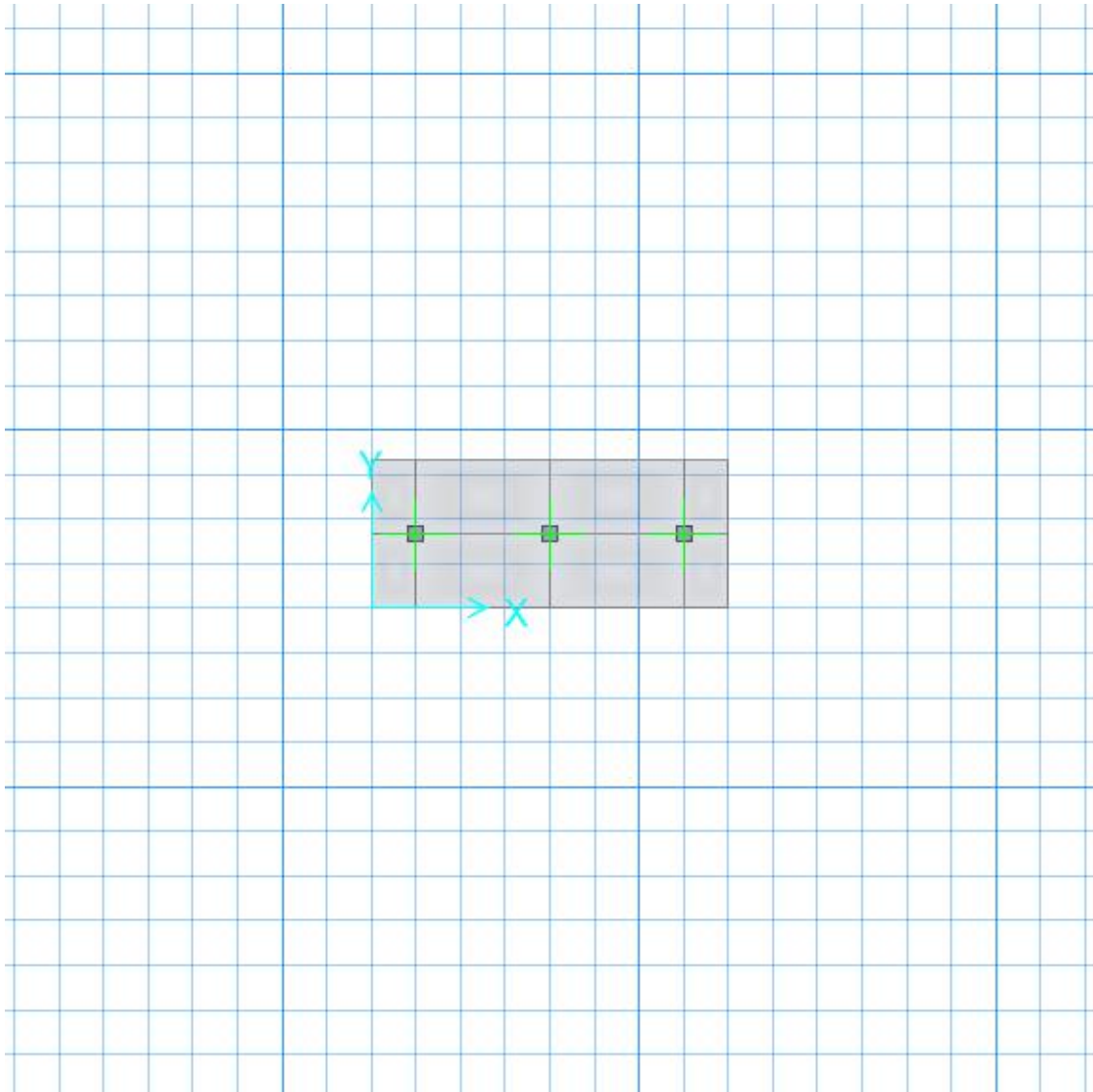


SAFE[®]



SAFE Analysis & Design Report

Model Name: cep by safe.fdb

1 January 2017

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Model Definition

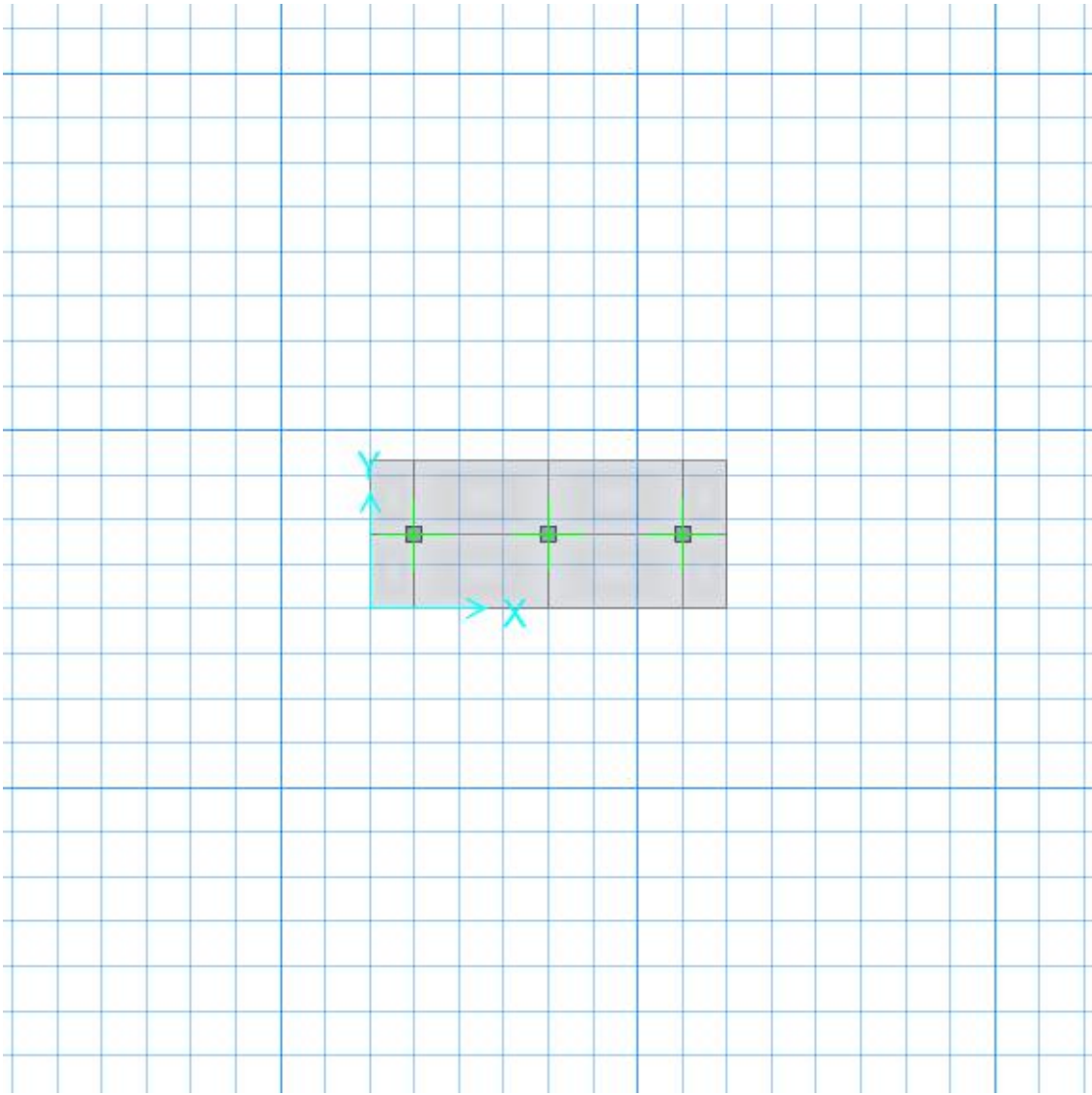


Figure 1: Finite element model

1. Model geometry

This section provides model geometry information, including items such as joint coordinates, joint restraints, and element connectivity.

1.1. Connectivity

Table 1: Concrete Slab Design Summary 02 - Span Definition Data

--	--	--	--	--	--	--	--

Strip	SpanID	SpanLength	StartDist	GlobalX1	GlobalY1	GlobalX2	GlobalY2
		ft	ft	ft	ft	ft	ft
CSA1	Cantilever Start	2.0000	0.0000	-2.0000	5.0000	0.0000	5.0000
CSA1	Span 1	3.0000	2.0000	0.0000	5.0000	3.0000	5.0000
CSA1	Span 2	9.0000	5.0000	3.0000	5.0000	12.0000	5.0000
CSA1	Span 3	9.0000	14.0000	12.0000	5.0000	21.0000	5.0000
CSA1	Span 4	3.0000	23.0000	21.0000	5.0000	24.0000	5.0000
CSA1	Cantilever End	2.0000	26.0000	24.0000	5.0000	26.0000	5.0000
CSB1	Cantilever Start	5.0000	0.0000	3.0000	10.0000	3.0000	5.0000
CSB1	Cantilever End	7.0000	5.0000	3.0000	5.0000	3.0000	-2.0000
CSB2	Cantilever Start	5.0000	0.0000	12.0000	10.0000	12.0000	5.0000
CSB2	Cantilever End	6.3333	5.0000	12.0000	5.0000	12.0000	-1.3333
CSB3	Cantilever Start	5.0000	0.0000	21.0000	10.0000	21.0000	5.0000
CSB3	Cantilever End	6.0833	5.0000	21.0000	5.0000	21.0000	-1.0833

2. Model properties

This section provides model properties, including items such as material properties, section properties, and support properties.

2.1. Material properties

Table 2: Material Properties 03 - Concrete

Material	E	U	A	UnitWt	Fc	LtWtConc	UserModRup
	kip/in2		1/F	lb/ft3	kip/in2		
4000Psi	3604.997	0.200000	5.5000E-06	1.5000E+02	4.000	No	No

concrete	3000.000	0.200000	5.5000E-06	1.5000E+02	4.000	No	No
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Table 3: Material Properties 04 - Rebar

Material	E	UnitWt	Fy	Fu
	kip/in2	lb/ft3	kip/in2	kip/in2
A615Gr60	29000.000	4.9000E+02	60.000	90.000

Table 4: Material Properties 05 - Tendon

Material	E	UnitWt	Fy	Fu
	kip/in2	lb/ft3	kip/in2	kip/in2
A416Gr270	28500.000	4.9000E+02	245.100	270.000

Table 5: Material Properties 06 - Other

Material	E	U	A	UnitWt
	kip/in2		1/F	lb/ft3
masonry	3600.000	0.200000	5.5000E-06	1.2000E+02

2.2. Section properties

Table 6: Slab Properties 02 - Solid Slabs

Slab	Type	MatProp	Thickness	Ortho
			in	
SLAB1	Slab	concrete	6.0000	No

Table 7: Beam Properties 02 - Rectangular Beam

Beam	MatProp	Depth	WidthTop	WidthBot
		in	in	in
BEAM 12x18	concrete	18.0000	12.0000	12.0000

Table 8: Beam Properties 06 - Design Data

Beam	MatRebarL	MatRebarS	FingWOpt	CoverTop	CoverBot	NoDesign
				in	in	
BEAM 12x18	A615Gr60	A615Gr60	Analysis Property	3.0000	3.0000	No

Table 9: Tendon Properties

TendonProp	MatProp	StrandArea
		in2
TENDON1	A416Gr270	0.15

Table 10: Column Properties 02 - Rectangular

Column	MatProp	SecDim2	SecDim3	AutoRigid	AutoDrop	IncludeCap
		in	in			
COL 12x12	concrete	12.0000	12.0000	No	No	No

2.3. Support properties

Table 11: Soil Properties

Soil	Subgrade	NonlinOpt
	lb/ft3	
SOIL1	1.7280E+05	Compression Only

Table 12: Spring Properties - Point

Spring	Ux	Uy	Uz	Rx	Ry	Rz	NonlinOpt
	kip/in	kip/in	kip/in	kip-in/rad	kip-in/rad	kip-in/rad	
PSPR1	0.0000	0.0000	0.0010	0.000	0.000	0.000	None (Linear)

Table 13: Spring Properties - Line

Spring	VertStiff	RotStiff	NonlinOpt
	kip/in/in	kip/rad	
LSPR1	0.00100	0.0010	None (Linear)

3. Model assignments

This section provides model assignments, including assignments to slabs, beams, and joints.

3.1. Slab assignments

Table 14: Slab Property Assignments

Area	SlabProp
3	SLAB1
4	SLAB1
5	SLAB1
6	SLAB1
7	SLAB1
8	SLAB1
9	SLAB1
11	SLAB1

3.2. Beam assignments

Table 15: Beam Property Assignments

--	--

Line	BeamProp
7	BEAM 12x18
9	BEAM 12x18
10	BEAM 12x18
11	BEAM 12x18

3.3. Column assignments

Table 16: Column Property Assignments

Line	ColProp
1	COL 12x12
2	COL 12x12
3	COL 12x12

3.4. Support assignments

Table 17: Point Restraint Assignments

Point	Ux	Uy	Uz	Rx	Ry	Rz
1	Yes	Yes	Yes	No	No	No
3	Yes	Yes	Yes	No	No	No
5	Yes	Yes	Yes	No	No	No

4. Model loading

This section provides model loading information, including load patterns, load cases, and load combinations.

4.1. Load patterns

Table 18: Load Patterns

LoadPat	Type	SelfWtMult
DEAD	DEAD	1.000000
LIVE	LIVE	0.000000

Table 19: Load Assignments - Surface Loads

--	--	--	--	--	--	--

Area	LoadPat	Dir	UnifLoad	A	B	C
			lb/ft2	lb/ft3	lb/ft3	lb/ft2
3	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
3	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
4	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
4	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
5	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
5	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
6	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
6	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
7	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
7	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
8	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
8	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
9	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
9	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00
11	DEAD	Gravity	60.00	0.0000E+00	0.0000E+00	0.00
11	LIVE	Gravity	30.00	0.0000E+00	0.0000E+00	0.00

Table 20: Load Assignments - Line Objects - Distributed Loads, Part 1 of 2

Line	LoadPat	Type	Dir	RelDistA	RelDistB	AbsDistA	AbsDistB
						ft	ft
7	DEAD	Force	Gravity	0.0000	1.0000	0.0000	3.0000
9	DEAD	Force	Gravity	0.0000	1.0000	0.0000	9.0000
10	DEAD	Force	Gravity	0.0000	1.0000	0.0000	9.0000
11	DEAD	Force	Gravity	0.0000	1.0000	0.0000	3.0000

Table 20: Load Assignments - Line Objects - Distributed Loads, Part 2 of 2

Line	LoadPat	FOverLA	FOverLB
		kip/ft	kip/ft
7	DEAD	2.210	2.210
9	DEAD	2.210	2.210
10	DEAD	2.210	2.210
11	DEAD	2.210	2.210

Table 21: Load Assignments - Line Objects - Point Loads

Line	LoadPat	Type	Dir	RelDist	AbsDist	Force
					ft	kip
7	DEAD	Force	Gravity	0.0000	0.0000	1.660
7	DEAD	Force	Gravity	1.0000	3.0000	1.350
11	DEAD	Force	Gravity	0.0000	0.0000	1.350
11	DEAD	Force	Gravity	1.0000	3.0000	1.660

4.2. Load cases

Table 22: Load Cases 02 - Static

LoadCase	InitialCond	AType
DEAD	Zero	Linear
LIVE	Zero	Linear

Table 23: Load Cases 06 - Loads Applied

LoadCase	LoadPat	SF
DEAD	DEAD	1.000000
LIVE	LIVE	1.000000

4.3. Load combinations

Table 24: Load Combinations

Combo	Load	SF	Type	DSStrength	DSServInit	DSServNorm	DSServLong
II+dl	DEAD	1.000000	Linear Add	Yes	No	No	No
II+dl	LIVE	1.000000					

Analysis Results

Point	OutputCase	Fx	Fy	Fz	Mx	My	Mz
		kip	kip	kip	kip-ft	kip-ft	kip-ft
1	DEAD	0.032	-2.328E-013	32.979	0.0000	0.0000	0.0000
3	DEAD	4.648E-014	-3.107E-013	36.302	0.0000	0.0000	0.0000
5	DEAD	-0.032	-3.417E-013	32.979	0.0000	0.0000	0.0000
1	LIVE	9.323E-003	-5.438E-014	2.162	0.0000	0.0000	0.0000
3	LIVE	1.054E-014	-7.179E-014	2.875	0.0000	0.0000	0.0000
5	LIVE	-9.323E-003	-7.970E-014	2.162	0.0000	0.0000	0.0000

5.2. Structure results

Table 26: Sum Of Reactions, Part 1 of 2

OutputCase	GlobalFX	GlobalFY	GlobalFZ	GlobalMX	GlobalMY	GlobalMZ
	kip	kip	kip	kip-ft	kip-ft	kip-ft
DEAD	1.425E-013	-8.853E-013	102.260	511.3000	-1227.1200	-1.232E-011
LIVE	3.315E-014	-2.059E-013	7.200	36.0000	-86.4000	-2.864E-012

Table 26: Sum Of Reactions, Part 2 of 2

OutputCase	GlobalX	GlobalY	GlobalZ
	ft	ft	ft
DEAD	0.0000	0.0000	0.0000
LIVE	0.0000	0.0000	0.0000

Table 27: Nodal Displacements - Summary, Part 1 of 2

Panel	Node	OutputCase	Ux	Uy	Uz	Rx	Ry	Rz
			in	in	in	Radians	Radians	Radians
1	29	DEAD	0.000000	0.000000	-0.045801	0.000000	0.000000	0.000000
2	30	DEAD	0.000000	0.000000	-0.038530	0.000000	0.000000	0.000000
3	30	DEAD	0.000000	0.000000	-0.038530	0.000000	0.000000	0.000000
4	~41	DEAD	0.000000	0.000000	-0.048900	0.000000	0.000000	0.000000
5	~39	DEAD	0.000000	0.000000	-0.041629	0.000000	0.000000	0.000000
6	~39	DEAD	0.000000	0.000000	-0.041629	0.000000	0.000000	0.000000
7	~19	DEAD	0.000000	0.000000	-0.048900	0.000000	0.000000	0.000000
8	~31	DEAD	0.000000	0.000000	-0.041629	0.000000	0.000000	0.000000
9	~31	DEAD	0.000000	0.000000	-0.041629	0.000000	0.000000	0.000000
10	28	DEAD	0.000000	0.000000	-0.045801	0.000000	0.000000	0.000000
11	24	DEAD	0.000000	0.000000	-0.038530	0.000000	0.000000	0.000000
12	24	DEAD	0.000000	0.000000	-0.038530	0.000000	0.000000	0.000000
1	27	LIVE	0.000000	0.000000	-0.008283	0.000000	0.000000	0.000000
2	21	LIVE	0.000000	0.000000	-0.006592	0.000000	0.000000	0.000000
3	21	LIVE	0.000000	0.000000	-0.006592	0.000000	0.000000	0.000000
4	~41	LIVE	0.000000	0.000000	-0.008770	0.000000	0.000000	0.000000
5	~39	LIVE	0.000000	0.000000	-0.007079	0.000000	0.000000	0.000000
6	~39	LIVE	0.000000	0.000000	-0.007079	0.000000	0.000000	0.000000
7	~19	LIVE	0.000000	0.000000	-0.008770	0.000000	0.000000	0.000000
8	~31	LIVE	0.000000	0.000000	-0.007079	0.000000	0.000000	0.000000
9	~31	LIVE	0.000000	0.000000	-0.007079	0.000000	0.000000	0.000000
10	26	LIVE	0.000000	0.000000	-0.008283	0.000000	0.000000	0.000000
11	23	LIVE	0.000000	0.000000	-0.006592	0.000000	0.000000	0.000000
12	23	LIVE	0.000000	0.000000	-0.006592	0.000000	0.000000	0.000000

Table 27: Nodal Displacements - Summary, Part 2 of 2

Panel	Node	OutputCase	GlobalX	GlobalY
			ft	ft
1	29	DEAD	0.0000	0.0000
2	30	DEAD	0.0000	10.0000
3	30	DEAD	0.0000	10.0000
4	~41	DEAD	9.0000	0.0000
5	~39	DEAD	9.0000	10.0000
6	~39	DEAD	9.0000	10.0000
7	~19	DEAD	15.0000	0.0000
8	~31	DEAD	15.0000	10.0000
9	~31	DEAD	15.0000	10.0000
10	28	DEAD	24.0000	0.0000
11	24	DEAD	24.0000	10.0000
12	24	DEAD	24.0000	10.0000
1	27	LIVE	3.0000	0.0000
2	21	LIVE	3.0000	10.0000
3	21	LIVE	3.0000	10.0000
4	~41	LIVE	9.0000	0.0000
5	~39	LIVE	9.0000	10.0000
6	~39	LIVE	9.0000	10.0000
7	~19	LIVE	15.0000	0.0000
8	~31	LIVE	15.0000	10.0000
9	~31	LIVE	15.0000	10.0000
10	26	LIVE	21.0000	0.0000
11	23	LIVE	21.0000	10.0000
12	23	LIVE	21.0000	10.0000

Design

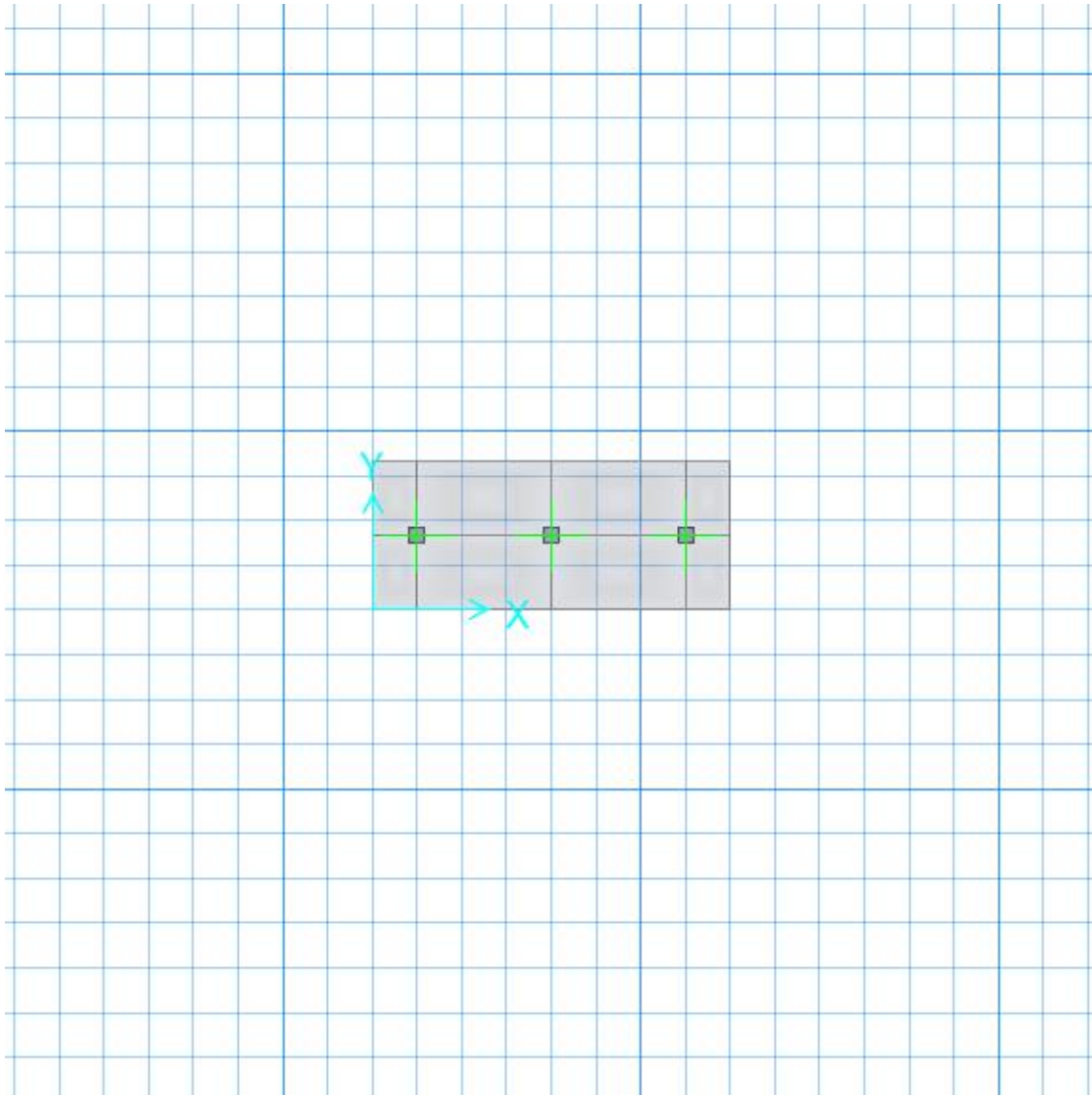


Figure 3: Finite element model

6. Design summary

This section provides design information for beams, strips, and punching checks.

6.1. Preferences

Table 28: Design Preferences 01 - Resistance Factors

PhiTen	PhiComp	PhiShear
0.900000	0.650000	0.750000

Table 29: Design Preferences 02 - Rebar Cover - Slabs

CoverTop	CoverBot	BarSize	InnerLayer	PTCGSTop	PTCGSBotExt	PTCGSBotInt	SlabType
in	in			in	in	in	
0.7500	0.7500	#6	B	1.0000	1.7500	1.0000	Two Way

Table 30: Design Preferences 03 - Rebar Cover - Beams

CoverTop	CoverBot	BarSizeF	BarSizeS	PTCGSTop	PTCGSBot
in	in			in	in
1.5000	1.5000	#9	#4	2.0000	2.0000

Table 31: Design Preferences 04 - Prestress Data

UserStress	InitConcRat	LLFraction
No	0.800000	0.500000

6.2. Overwrites

Table 32: Slab Design Overwrites 01 - Strip Based

Strip	Layer	DesignType	RLLF	IgnorePT	RebarMat
CSA1	A	Column	1.000000	No	A615Gr60
CSB1	B	Column	1.000000	No	A615Gr60
CSB2	B	Column	1.000000	No	A615Gr60
CSB3	B	Column	1.000000	No	A615Gr60

Table 33: Slab Design Overwrites 02 - Finite Element Based, Part 1 of 2

Area	RebarMat
3	A615Gr60
4	A615Gr60
5	A615Gr60
6	A615Gr60
7	A615Gr60
8	A615Gr60
9	A615Gr60
11	A615Gr60

Table 33: Slab Design Overwrites 02 - Finite Element Based, Part 2 of 2

Area	RLLF	Design	IgnorePT
3	1.000000	Yes	No
4	1.000000	Yes	No
5	1.000000	Yes	No
6	1.000000	Yes	No
7	1.000000	Yes	No
8	1.000000	Yes	No
9	1.000000	Yes	No
11	1.000000	Yes	No

Table 34: Beam Design Overwrites

Line	CoverType	RLLF	IgnorePT
7	Section	1.000000	No
9	Section	1.000000	No
10	Section	1.000000	No
11	Section	1.000000	No

Table 35: Punching Shear Design Overwrites 01 - General

Point	Check	LocType	EffDepth	ReinfType
2	Program Determined	Auto	Auto	None
4	Program Determined	Auto	Auto	None
6	Program Determined	Auto	Auto	None

6.3. Slab design

Table 36: Concrete Slab Design Summary 01 - Flexural And Shear Data, Part 1 of 3

Strip	SpanID	Location	FTopCombo	FTopMoment	FTopArea
				kip-ft	in2
CSA1	Cantilever Start	Start		0.0000	0.0000
CSA1	Cantilever Start	Middle		0.0000	0.0000
CSA1	Cantilever Start	End	II+dl	-1.1673	0.0533
CSA1	Span 1	Start	II+dl	-1.1673	0.0533
CSA1	Span 1	Middle		0.0000	0.0000
CSA1	Span 1	End	II+dl	-5.3323	0.2449
CSA1	Span 2	Start	II+dl	-5.3323	0.2449
CSA1	Span 2	Middle	II+dl	-0.0298	0.0000
CSA1	Span 2	End	II+dl	-5.6584	0.2600

CSA1	Span 3	Start	II+dl	-5.6584	0.2600
CSA1	Span 3	Middle	II+dl	-0.0316	0.0000
CSA1	Span 3	End	II+dl	-5.3323	0.2449
CSA1	Span 4	Start	II+dl	-5.3323	0.2449
CSA1	Span 4	Middle		0.0000	0.0000
CSA1	Span 4	End	II+dl	-1.1673	0.0533
CSA1	Cantilever End	Start	II+dl	-1.1673	0.0533
CSA1	Cantilever End	Middle		0.0000	0.0000
CSA1	Cantilever End	End		0.0000	0.0000
CSB1	Cantilever Start	Start		0.0000	0.0000
CSB1	Cantilever Start	Middle	II+dl	-3.2359	0.1755
CSB1	Cantilever Start	End	II+dl	-11.1617	0.6148
CSB1	Cantilever End	Start	II+dl	-11.1617	0.6148
CSB1	Cantilever End	Middle	II+dl	-3.2359	0.1755
CSB1	Cantilever End	End		0.0000	0.0000
CSB2	Cantilever Start	Start		0.0000	0.0000
CSB2	Cantilever Start	Middle	II+dl	-3.0138	0.1633
CSB2	Cantilever Start	End	II+dl	-11.3481	0.6253
CSB2	Cantilever End	Start	II+dl	-11.3481	0.6253
CSB2	Cantilever End	Middle	II+dl	-3.0138	0.1633
CSB2	Cantilever End	End	II+dl	-0.0529	0.0000
CSB3	Cantilever Start	Start		0.0000	0.0000
CSB3	Cantilever Start	Middle	II+dl	-3.2359	0.1755
CSB3	Cantilever Start	End	II+dl	-11.1617	0.6148
CSB3	Cantilever End	Start	II+dl	-11.1617	0.6148
CSB3	Cantilever End	Middle	II+dl	-3.2359	0.1755

CSB3	Cantilever End	End	II+dl	-0.1122	0.0000
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Table 36: Concrete Slab Design Summary 01 - Flexural And Shear Data, Part 2 of 3

Strip	SpanID	Location	FBotCombo	FBotMoment	FBotArea
				kip-ft	in2
CSA1	Cantilever Start	Start		0.0000	0.0000
CSA1	Cantilever Start	Middle		0.0000	0.0000
CSA1	Cantilever Start	End	II+dl	1.0619	0.0485
CSA1	Span 1	Start	II+dl	1.0619	0.0485
CSA1	Span 1	Middle		0.0000	0.0000
CSA1	Span 1	End	II+dl	0.0000	0.0000
CSA1	Span 2	Start	II+dl	0.0000	0.0000
CSA1	Span 2	Middle	II+dl	1.6105	0.0736
CSA1	Span 2	End	II+dl	0.0088	0.0000
CSA1	Span 3	Start	II+dl	0.0088	0.0000
CSA1	Span 3	Middle	II+dl	1.6105	0.0736
CSA1	Span 3	End	II+dl	0.0090	0.0000
CSA1	Span 4	Start	II+dl	0.0090	0.0000
CSA1	Span 4	Middle		0.0000	0.0000
CSA1	Span 4	End	II+dl	1.0619	0.0485
CSA1	Cantilever End	Start	II+dl	1.0619	0.0485
CSA1	Cantilever End	Middle		0.0000	0.0000
CSA1	Cantilever End	End		0.0000	0.0000
CSB1	Cantilever Start	Start	II+dl	0.3207	0.0173
CSB1	Cantilever Start	Middle	II+dl	0.0000	0.0000
CSB1	Cantilever Start	End	II+dl	0.0000	0.0000

CSB1	Cantilever End	Start	II+dl	0.0000	0.0000
CSB1	Cantilever End	Middle	II+dl	0.3207	0.0173
CSB1	Cantilever End	End		0.0000	0.0000
CSB2	Cantilever Start	Start	II+dl	0.3302	0.0178
CSB2	Cantilever Start	Middle	II+dl	0.0000	0.0000
CSB2	Cantilever Start	End	II+dl	0.0000	0.0000
CSB2	Cantilever End	Start	II+dl	0.0000	0.0000
CSB2	Cantilever End	Middle	II+dl	0.0000	0.0000
CSB2	Cantilever End	End	II+dl	0.3302	0.0178
CSB3	Cantilever Start	Start	II+dl	0.3207	0.0173
CSB3	Cantilever Start	Middle	II+dl	0.0000	0.0000
CSB3	Cantilever Start	End	II+dl	0.0000	0.0000
CSB3	Cantilever End	Start	II+dl	0.0000	0.0000
CSB3	Cantilever End	Middle	II+dl	0.0000	0.0000
CSB3	Cantilever End	End	II+dl	0.3207	0.0173

Table 36: Concrete Slab Design Summary 01 - Flexural And Shear Data, Part 3 of 3

Strip	SpanID	Location	VCombo	VForce	VArea	Status	Layer
				kip	in2/ft		
CSA1	Cantilever Start	Start		0.000	0.0000	OK	A
CSA1	Cantilever Start	Middle		0.000	0.0000	OK	A
CSA1	Cantilever Start	End		0.000	0.0000	OK	A
CSA1	Span 1	Start		0.000	0.0000	OK	A

CSA1	Span 1	Middle		0.000	0.0000	OK	A
CSA1	Span 1	End	II+dl	1.426	0.0000	OK	A
CSA1	Span 2	Start	II+dl	1.426	0.0000	OK	A
CSA1	Span 2	Middle	II+dl	2.166	0.0000	OK	A
CSA1	Span 2	End	II+dl	2.255	0.0000	OK	A
CSA1	Span 3	Start	II+dl	2.255	0.0000	OK	A
CSA1	Span 3	Middle	II+dl	2.255	0.0000	OK	A
CSA1	Span 3	End	II+dl	2.166	0.0000	OK	A
CSA1	Span 4	Start	II+dl	2.166	0.0000	OK	A
CSA1	Span 4	Middle		0.000	0.0000	OK	A
CSA1	Span 4	End	II+dl	1.426	0.0000	OK	A
CSA1	Cantilever End	Start	II+dl	1.426	0.0000	OK	A
CSA1	Cantilever End	Middle		0.000	0.0000	OK	A
CSA1	Cantilever End	End		0.000	0.0000	OK	A
CSB1	Cantilever Start	Start		0.000	0.0000	OK	B
CSB1	Cantilever Start	Middle	II+dl	1.098	0.0000	OK	B
CSB1	Cantilever Start	End	II+dl	3.284	0.0000	OK	B
CSB1	Cantilever End	Start	II+dl	3.284	0.0000	OK	B
CSB1	Cantilever End	Middle	II+dl	3.284	0.0000	OK	B
CSB1	Cantilever End	End		0.000	0.0000	OK	B
CSB2	Cantilever Start	Start		0.000	0.0000	OK	B
CSB2	Cantilever Start	Middle	II+dl	1.126	0.0000	OK	B
CSB2	Cantilever Start	End	II+dl	3.373	0.0000	OK	B
CSB2	Cantilever End	Start	II+dl	3.373	0.0000	OK	B
CSB2	Cantilever End	Middle	II+dl	3.373	0.0000	OK	B
CSB2	Cantilever End	End	II+dl	1.126	0.0000	OK	B
CSB3	Cantilever Start	Start		0.000	0.0000	OK	B
CSB3		Middle	II+dl	1.098	0.0000	OK	B

	Cantilever Start						
CSB3	Cantilever Start	End	II+dl	3.284	0.0000	OK	B
CSB3	Cantilever End	Start	II+dl	3.284	0.0000	OK	B
CSB3	Cantilever End	Middle	II+dl	3.284	0.0000	OK	B
CSB3	Cantilever End	End	II+dl	1.098	0.0000	OK	B

6.4. Beam design

Table 37: Concrete Beam Design Summary 01 - Flexural And Shear Data, Part 1 of 3

Line	SpanID	Location	FTopCombo	FTopMoment	FTopArea
				kip-ft	in2
7	Span 1	Start	II+dl	-0.4567	0.0000
7	Span 1	Middle		0.0000	0.0000
7	Span 1	End	II+dl	-17.0141	0.2553
9	Span 1	Start	II+dl	-16.1683	0.2422
9	Span 1	Middle		0.0000	0.0000
9	Span 1	End	II+dl	-18.4916	0.2776
10	Span 1	Start	II+dl	-18.4916	0.2776
10	Span 1	Middle		0.0000	0.0000
10	Span 1	End	II+dl	-16.1683	0.2422
11	Span 1	Start	II+dl	-17.0141	0.2553
11	Span 1	Middle		0.0000	0.0000
11	Span 1	End	II+dl	-0.4567	0.0000

Table 37: Concrete Beam Design Summary 01 - Flexural And Shear Data, Part 2 of 3

Line	SpanID	Location	FBotCombo	FBotMoment	FBotArea
				kip-ft	in2
7	Span 1	Start		0.0000	0.0000
7	Span 1	Middle		0.0000	0.0000
7	Span 1	End		0.0000	0.0000
9	Span 1	Start		0.0000	0.0000
9	Span 1	Middle	II+dl	11.1575	0.1665
9	Span 1	End		0.0000	0.0000
10	Span 1	Start		0.0000	0.0000
10	Span 1	Middle	II+dl	11.1575	0.1665
10	Span 1	End		0.0000	0.0000
11	Span 1	Start		0.0000	0.0000
11	Span 1	Middle		0.0000	0.0000
11	Span 1	End		0.0000	0.0000

Table 37: Concrete Beam Design Summary 01 - Flexural And Shear Data, Part 3 of 3

Line	SpanID	Location	VCombo	VForce	VArea
				kip	in2/ft
7	Span 1	Start	II+dl	5.182	0.0000
7	Span 1	Middle		0.000	0.0000
7	Span 1	End	II+dl	5.857	0.0000
9	Span 1	Start	II+dl	8.627	0.1200
9	Span 1	Middle	II+dl	8.448	0.0000
9	Span 1	End	II+dl	9.123	0.1200
10	Span 1	Start	II+dl	9.123	0.1200

10	Span 1	Middle	ll+dl	8.448	0.0000
10	Span 1	End	ll+dl	8.627	0.1200
11	Span 1	Start	ll+dl	5.857	0.0000
11	Span 1	Middle		0.000	0.0000
11	Span 1	End	ll+dl	5.182	0.0000

6.5. Punching check/design

Table 38: Concrete Slab Design 02 - Punching Shear Data, Part 1 of 3

Point	GlobalX	GlobalY	Location	Perimeter	Depth	Status	Ratio
	ft	ft		in	in		
2	3.0000	5.0000				Not Calculated	Not Calculated
4	12.0000	5.0000				Not Calculated	Not Calculated
6	21.0000	5.0000				Not Calculated	Not Calculated

Table 38: Concrete Slab Design 02 - Punching Shear Data, Part 2 of 3

Point	Combo	Vu	Gamma_v2	Gamma_v3	ShrStrMax	Mu2	ShrStrCap
		kip			kip/in2	kip-ft	kip/in2
2							
4							
6							

Table 38: Concrete Slab Design 02 - Punching Shear Data, Part 3 of 3

Point	Mu3	ReinfType	UnbalMu2	UnbalMu3	NumRails	StudPerRail
	kip-ft		kip-ft	kip-ft		
2	2	None	None	None		
4	4	None	None	None		
6	6	None	None	None		