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Licenciatura: Arquitectura

Cuatrimestre: 5

Materia: Análisis de Estructuras

Profesor: García López Pedro Alberto

Actividad: Líneas de influencia

Fecha: 10/03/202

Modeling Building Planner Piping Bridge Deck Postprocessing Foundation Design Steel Design RAM Connection Concrete Design Advanced Slab Design Earthquake

trabe 3 - Whole Structure

trabe 3 - Beams

Beam	Node A	Node B	Property Refn.	Mate
1	1	2	1	CONCRI
2				

Properties - Whole Structure

Section Beta Angle

Ref	Section	Material
1	Rect 0.35x0.15	CONCRETE

Highlight Assigned Geometry

Edit... Delete...

Values... Section Database Define...

Materials... Thickness... User Table...

Assignment Method

Assign To Selected Beams  Use Cursor To Assign

Assign To Edit List  Assign To View

Assign Close Help

Load 1

STAAD Analysis and Design

Input File: trabe 3.std

```

++ Processing Joint Coordinates.                21:51:53
++ Processing Member Information.
++ Reading Member Properties ...                21:51:53
++ Finished Reading Member Properties ...      110 ms
++ Processing Support Condition.                21:51:53
++ Read/Check Data in Load Cases ...          21:51:53
++ Using In-Core Advanced Math Solver
++ Processing and setting up Load Vector.      21:51:54
++ Processing Element Stiffness Matrix.         21:51:54
++ Calculating Member Forces.                  21:51:54
++ Analysis Successfully Completed ++
++ Performing Concrete Design                  21:51:54
++ Calculating Section Forces1.                21:51:54
++ Calculating Section Forces2.                21:51:54
++ Calculating Section Forces3.                21:51:54
++ Start Concrete Design ...                   21:51:54
++ Creating Displacement File (DSP)...          21:51:54
++ Creating Reaction File (REA)...             21:51:54
++ Calculating Section Forces1-110.           21:51:54
++ Calculating Section Forces2.                21:51:54
++ Calculating Section Forces3                21:51:54
++ Creating Section Force File (BMD)...         21:51:54
++ Creating Section Displace File (SCN)...     21:51:54
++ Creating Design information File (DGN)...    21:51:54
++ Done.                                       21:51:54

```

0 Error(s), 1 Warning(s), 1 Note(s)

++ End STAAD.Pro Run Elapsed Time = 1 Secs

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View Output File

Go to Post Processing Mode

Stay in Modeling Mode

Done



WARNING

\*\*\*WARNING - INSTABILITY AT JOINT

Cracked Moment of Inertia I<sub>z</sub> at above location = 0.19337E+09 mm<sup>4</sup>

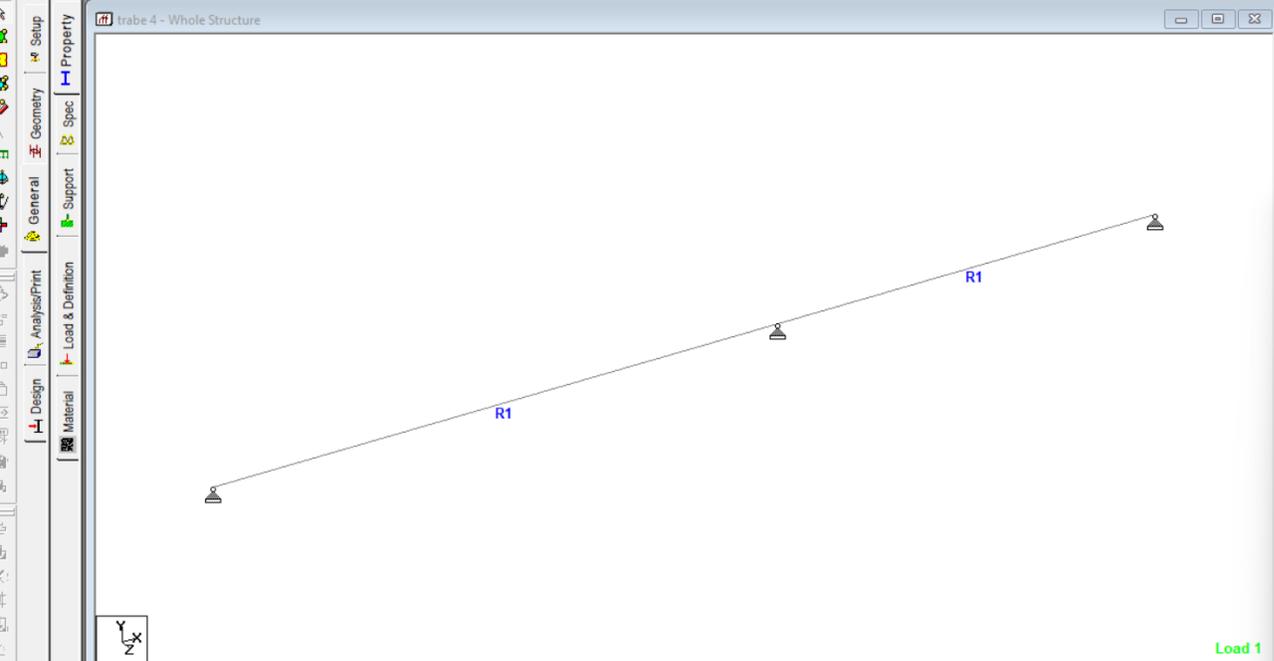
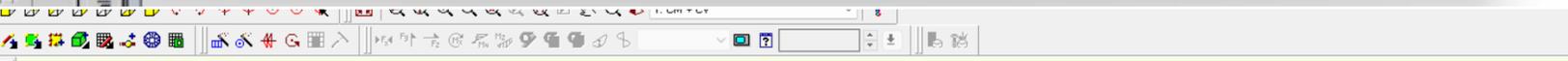
REQUIRED REINF. STEEL SUMMARY :

SECTION ( MM )	REINF STEEL (+VE/-VE) (SQ. MM )	MOMENTS (+VE/-VE) (KNS-MET )	LOAD (+VE/-VE)
0.00	0.00/ 0.00	0./ 0.00	0/ 2
287.50	105.62/ 0.00	11./ 0.00	2/ 0
575.00	198.80/ 0.00	20./ 0.00	2/ 0
862.50	276.49/ 0.00	27./ 0.00	2/ 0
1150.00	335.37/ 0.00	32./ 0.00	2/ 0
1437.50	372.29/ 0.00	35./ 0.00	2/ 0
1725.00	384.88/ 0.00	36./ 0.00	2/ 0
2012.50	372.29/ 0.00	35./ 0.00	2/ 0
2300.00	335.37/ 0.00	32./ 0.00	2/ 0
2587.50	276.49/ 0.00	27./ 0.00	2/ 0
2875.00	198.80/ 0.00	20./ 0.00	2/ 0
3162.50	105.62/ 0.00	11./ 0.00	2/ 0
3450.00	0.00/ 0.00	0./ 0.00	0/ 2

BEAM NO. 1 DESIGN RESULTS - SHEAR

NOTES

RESULTS



trabe 4 - Beams

Beam	Node A	Node B	Property Refn.	Mat
1	1	2	1	CONC
2	3	2	1	CONC
3				

Properties - Whole Structure

Section Beta Angle

Ref	Section	Material
1	Rect 0.40x0.15	CONCRETE

Highlight Assigned Geometry

Edit... Delete...

Values... Section Database Define...

Materials... Thickness... User Table...

Assignment Method

Assign To Selected Beams  Use Cursor To Assign

Assign To Edit List  Assign To View

Assign Close Help

STAAD Analysis and Design

```
Input File: trabe 4.std

++ Processing Joint Coordinates.                21:57: 4
++ Processing Member Information.
++ Reading Member Properties ...                21:57: 4
++ Finished Reading Member Properties ...      10 ms
++ Processing Support Condition.               21:57: 4
++ Read/Check Data in Load Cases ...          21:57: 4
++ Using In-Core Advanced Math Solver
++ Processing and setting up Load Vector.      21:57: 4
++ Processing Element Stiffness Matrix.        21:57: 4
++ Calculating Member Forces.                  21:57: 4
++ Analysis Successfully Completed ++
++ Performing Concrete Design                  21:57: 4
++ Calculating Section Forces1.                21:57: 4
++ Calculating Section Forces2.                21:57: 4
++ Calculating Section Forces3.                21:57: 4
++ Start Concrete Design ...                  21:57: 4
++ Creating Displacement File (DSP) ...         21:57: 4
++ Creating Reaction File (REA) ...            21:57: 4
++ Calculating Section Forces1-110.           21:57: 5
++ Calculating Section Forces2.                21:57: 5
++ Calculating Section Forces3.                21:57: 5
++ Creating Section Force File (BMD) ...        21:57: 5
++ Creating Section Displace File (SCN) ...     21:57: 5
++ Creating Design information File (DGN) ...    21:57: 5
++ Done.                                       21:57: 5

0 Error(s), 1 Warning(s), 1 Note(s)

++ End STAAD.Pro Run Elapsed Time =      1 Secs
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- View Output File
- Go to Post Processing Mode
- Stay in Modeling Mode

Done





WARNING

\*\*\*WARNING - INSTABILITY AT JOINT

COMP MAX/MIN/ACTUAL BAR SPACING= 0.00/ 0.00/ 0.00 (mm)  
 BASIC/REQD. DEVELOPMENT LENGTH = 320.06/ 432.18 (mm)

Cracked Moment of Inertia Iz at above location =0.32641E+09 mm<sup>4</sup>

REQUIRED REINF. STEEL SUMMARY :

SECTION ( MM )	REINF STEEL (+VE/-VE) (SQ. MM )	MOMENTS (+VE/-VE) (KNS-MET )	LOAD (+VE/-VE)
0.00	0.00/ 0.00	0./ 0.00	0/ 2
350.00	139.11/ 0.00	16./ 0.00	2/ 0
700.00	255.31/ 0.00	28./ 0.00	2/ 0
1050.00	342.14/ 0.00	37./ 0.00	2/ 0
1400.00	393.20/ 0.00	42./ 0.00	2/ 0
1750.00	403.84/ 0.00	43./ 0.00	2/ 0
2100.00	372.99/ 0.00	40./ 0.00	2/ 0
2450.00	303.65/ 0.00	33./ 0.00	2/ 0
2800.00	201.58/ 0.00	23./ 0.00	2/ 0
3150.00	115.49/ 0.00	9./ 0.00	2/ 0
3500.00	0.00/ 115.49	0./ 9.28	0/ 2

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STAAD SPACE	REINF STEEL (+VE/-VE) (SQ. MM )	MOMENTS (+VE/-VE) (KNS-MET )	LOAD (+VE/-VE)	NUM
3850.00	0.00/ 281.18	0./ 31.03	0/ 2	4
4200.00	0.00/ 569.25	0./ 56.57	0/ 2	

NOTES

RESULTS



**WARNING**

\*\*\*WARNING - INSTABILITY AT JOINT

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**NOTES**

RESULTS

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STAAD SPACE -- PAGE NO. 5

REQUIRED REINF. STEEL SUMMARY :

SECTION ( MM )	REINF STEEL (+VE/-VE) (SQ. MM )	MOMENTS (+VE/-VE) (KNS-MET )	LOAD (+VE/-VE)
0.00	0.00/ 0.00	0./ 0.00	0/ 2
233.33	115.49/ 0.00	8./ 0.00	2/ 0
466.67	115.49/ 0.00	13./ 0.00	2/ 0
700.00	140.45/ 0.00	16./ 0.00	2/ 0
933.33	148.77/ 0.00	17./ 0.00	2/ 0
1166.67	136.64/ 0.00	16./ 0.00	2/ 0
1400.00	115.49/ 0.00	12./ 0.00	2/ 0
1633.33	115.49/ 0.00	6./ 0.00	2/ 0
1866.67	0.00/ 115.49	0./ 1.69	0/ 2
2100.00	0.00/ 115.49	0./ 12.03	0/ 2
2333.33	0.00/ 218.36	0./ 24.62	0/ 2
2566.67	0.00/ 368.80	0./ 39.47	0/ 2
2800.00	0.00/ 569.25	0./ 56.57	0/ 2

BEAM NO. 2 DESIGN RESULTS - SHEAR

