

E T A B S / C O N K E R

Concrete Frame Design Processor for ETABS

Version 6.20

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10 Aug 2022 10:38:04

ETABS\_FILE:3F110.PST/CONKER\_FILE:C10.CNK

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

DESIGN CODE TYPE-----	2 (ACI 318-89)
NUMBER OF FRAMES TO BE DESIGNED/CHECKED----	1
NUMBER OF LOAD COMBINATIONS-----	34
ETABS DEAD LOAD CONDITION NUMBER-----	1
ETABS LIVE LOAD CONDITION NUMBER-----	2
NUMBER OF REDEFINED MATERIAL PROPERTIES----	0
NUMBER OF COLUMN DESIGN PROPERTY SETS-----	0
NUMBER OF BEAM DESIGN PROPERTY SETS-----	0
NUMBER OF CURVES PER INTERACTION VOLUME----	11
NUMBER OF POINTS PER INTERACTION CURVE-----	21
CODE FOR PRINTING INTERACTION CURVES-----	0
CODE FOR UNITY PHI FACTOR OVER RIDE-----	0
TYPE OF UNITS (ENGLISH, MKS OR SI)-----	M
EXECUTION MODE-----	0
FLAG FOR MAP OF BEAM FLEXURAL STEEL-----	1
FLAG FOR MAP OF BEAM SHEAR STEEL-----	1
FLAG FOR MAP OF COLUMN DESIGN/CHECK-----	1
FLAG FOR MAP OF COLUMN SHEAR STEEL-----	1
FLAG FOR MAP OF JOINT SHEAR STRESS RATIOS--	1
FLAG FOR MAP OF B/C MOMENT CAPACITY RATIOS-	1

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MOMENT RESISTING CONCRETE FRAME

UNITS : KG-M-S

## DESIGN LOADING COMBINATION DATA

LOAD TYPE		I	II	III	A	B	C	D1	D2
1	0	1.200	1.600	0.000	0.000	0.000	0.000	0.000	0.000
2	0	1.200	1.000	0.300	1.000	0.000	0.000	0.000	0.000
3	0	1.200	1.000	0.300	0.000	1.000	0.000	0.000	0.000
4	0	1.200	1.000	0.300	-1.000	0.000	0.000	0.000	0.000
5	0	1.200	1.000	0.300	0.000	-1.000	0.000	0.000	0.000
6	0	1.200	1.000	1.000	0.300	0.000	0.000	0.000	0.000
7	0	1.200	1.000	1.000	0.000	0.300	0.000	0.000	0.000
8	0	1.200	1.000	1.000	-0.300	0.000	0.000	0.000	0.000
9	0	1.200	1.000	1.000	0.000	-0.300	0.000	0.000	0.000
10	0	1.200	1.000	-0.300	1.000	0.000	0.000	0.000	0.000
11	0	1.200	1.000	-0.300	0.000	1.000	0.000	0.000	0.000
12	0	1.200	1.000	-0.300	-1.000	0.000	0.000	0.000	0.000
13	0	1.200	1.000	-0.300	0.000	-1.000	0.000	0.000	0.000
14	0	1.200	1.000	-1.000	0.300	0.000	0.000	0.000	0.000
15	0	1.200	1.000	-1.000	0.000	0.300	0.000	0.000	0.000
16	0	1.200	1.000	-1.000	-0.300	0.000	0.000	0.000	0.000
17	0	1.200	1.000	-1.000	0.000	-0.300	0.000	0.000	0.000
18	0	0.900	0.000	0.300	1.000	0.000	0.000	0.000	0.000
19	0	0.900	0.000	0.300	0.000	1.000	0.000	0.000	0.000
20	0	0.900	0.000	1.000	0.300	0.000	0.000	0.000	0.000
21	0	0.900	0.000	1.000	0.000	0.300	0.000	0.000	0.000
22	0	0.900	0.000	0.300	-1.000	0.000	0.000	0.000	0.000
23	0	0.900	0.000	0.300	0.000	-1.000	0.000	0.000	0.000
24	0	0.900	0.000	1.000	-0.300	0.000	0.000	0.000	0.000
25	0	0.900	0.000	1.000	0.000	-0.300	0.000	0.000	0.000
26	0	0.900	0.000	-0.300	1.000	0.000	0.000	0.000	0.000
27	0	0.900	0.000	-0.300	0.000	1.000	0.000	0.000	0.000
28	0	0.900	0.000	-1.000	0.300	0.000	0.000	0.000	0.000
29	0	0.900	0.000	-1.000	0.000	0.300	0.000	0.000	0.000



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FILE : DESCON FOR 3F BUILDING

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MOMENT RESISTING CONCRETE FRAME

UNITS : KG-M-S

## MATERIAL PROPERTIES

ID	TYPE	ELASTIC MODULUS {Kg/sqm}	POISSONS RATIO	UNIT WEIGHT {Kg/cum}	UNIT MASS	COEFF OF EXPANSION
1	C	0.2600E+10	0.2000	0.2400E+04	0.2446E+03	0.1000E-04
2	C	0.2600E+10	0.2000	0.2400E+04	0.2446E+03	0.1000E-04
3	M	0.2100E+10	0.1670	0.2400E+04	0.2446E+03	0.1000E-04

## MATERIAL PROPERTIES FOR DESIGN

ID	TYPE	YIELD FY {Kg/sqm}	STRENGTH FC(FM) {Kg/sqm}	YIELD FYS {Kg/sqm}	STRENGTH FCS(FMS) {Kg/sqm}	ALLOWABLES FBMAJ {Kg/sqm}	FBMIN {Kg/sqm}
1	C	0.420E+08	0.280E+07	0.280E+08	0.280E+07		
2	C	0.280E+08	0.280E+07	0.280E+08	0.280E+07		
3	M	0.000E+00	0.500E+06	0.000E+00	0.500E+06		

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## SECTION PROPERTIES FOR COLUMNS

SECT ID	SECTION TYPE	MAT ID	MAJOR DIM {m}	MINOR DIM {m}	CONCRETE COVER {m}	AREA OF BARS 1 {sqm}	AREA OF BARS 2 {sqm}
1	RR	1	0.6000	0.4000	0.04000	0.00000	0.00000

FILE : DESCON FOR 3F BUILDING

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## SECTION PROPERTIES FOR BEAMS

SECT ID	SECT TYPE	MAT ID	DEPTH BELOW {m}	DEPTH ABOVE {m}	BEAM WIDTH {m}	SLAB THICK {m}	SLAB WIDTH {m}	TOP COVER {m}	BOTTOM COVER {m}
1	RCB	1	0.6000	0.0000	0.3500	0.0000	0.0000	0.06000	0.06000

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FILE : DESCON FOR 3F BUILDING

FILE : SHEDC

MOMENT RESISTING CONCRETE FRAME

UNITS : KG-M-S

## SECTION PROPERTIES FOR BEAMS

SECT	TOP STEEL	BOT STEEL	TOP STEEL	BOT STEEL
ID	END-I	END-I	END-J	END-J
	{ sqm}	{ sqm}	{ sqm}	{ sqm}
1	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00



FILE : DESCON FOR 3F BUILDING  
MOMENT RESISTING CONCRETE FRAME

FILE : SHEDC  
UNITS : KG-M-S

FRAME NUMBER----- 1  
FRAMING TYPE----- 1 (SEISMIC)  
COLUMN PROPERTY REASSIGNMENT FLAG----- 0  
BEAM PROPERTY REASSIGNMENT FLAG----- 0  
YIELD OVERSTRENGTH FACTOR----- 1.25

FRAME ID NUMBER----- 1  
NUMBER OF STORY LEVELS----- 4  
NUMBER OF COLUMN LINES----- 8  
NUMBER OF BAYS----- 10  
NUMBER OF BRACING ELEMENTS----- 0  
NUMBER OF PANEL ELEMENTS----- 0  
NUMBER OF COLUMN LATERAL LOAD PATTERNS----- 0  
NUMBER OF BEAM SPAN LOAD PATTERNS----- 0  
MAXIMUM NUMBER OF LOADS PER BEAM SPAN----- 4

ETABS\_FILE:3F110.PST/CONKER\_FILE:C10.CNK

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... RF

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
1	0.35 X 0.60	END I	12 < 4>	8 <26>	11 < 9>	6.33 6.33 8.88
		1/4-PT	4 <30>	6 < 2>	10 < 9>	6.33 6.33 7.57
		MIDDLE	3 < 0>	4 < 6>	7 < 9>	6.33 6.33 5.38
		3/4-PT	3 <26>	5 < 4>	10 < 9>	6.33 6.33 7.79
		END J	12 < 2>	7 <30>	12 < 9>	6.33 6.33 9.11
2	0.35 X 0.60	END I	6 < 4>	3 < 0>	21 < 9>	6.33 6.33 16.57
		1/4-PT	4 < 4>	1 <26>	21 < 6>	6.33 6.33 16.25
		MIDDLE	2 < 9>	1 < 0>	20 <33>	6.33 6.33 15.82
		3/4-PT	4 < 2>	1 <30>	21 < 6>	6.33 6.33 16.25
		END J	6 < 2>	3 < 0>	21 < 9>	6.33 6.33 16.57
3	0.35 X 0.60	END I	12 < 4>	7 <26>	12 < 9>	6.33 6.33 9.11
		1/4-PT	3 <30>	5 < 2>	10 < 9>	6.33 6.33 7.79
		MIDDLE	3 < 0>	4 < 8>	7 < 9>	6.33 6.33 5.38
		3/4-PT	4 <26>	6 < 4>	10 < 9>	6.33 6.33 7.57
		END J	12 < 2>	8 <30>	11 < 9>	6.33 6.33 8.88
4	0.35 X 0.60	END I	12 < 4>	7 <26>	11 < 9>	6.33 6.33 8.88
		1/4-PT	4 <30>	6 < 2>	10 < 9>	6.33 6.33 7.57
		MIDDLE	3 < 0>	4 < 6>	7 < 9>	6.33 6.33 5.38
		3/4-PT	3 <26>	5 < 4>	10 < 9>	6.33 6.33 7.79
		END J	12 < 2>	6 <30>	12 < 9>	6.33 6.33 9.11
5	0.35 X 0.60					

	END I	6 < 4>	3 < 0>	21 < 9>	6.33	6.33	16.57
	1/4-PT	4 < 4>	1 <26>	21 < 6>	6.33	6.33	16.25
	MIDDLE	2 < 9>	1 < 0>	20 <33>	6.33	6.33	15.82
	3/4-PT	4 < 2>	1 <30>	21 < 6>	6.33	6.33	16.25
	END J	6 < 2>	3 < 0>	21 < 9>	6.33	6.33	16.57
6	0.35 X	0.60					
	END I	12 < 4>	6 <26>	12 < 9>	6.33	6.33	9.11
	1/4-PT	3 <30>	5 < 2>	10 < 9>	6.33	6.33	7.79
	MIDDLE	3 < 0>	4 < 8>	7 < 9>	6.33	6.33	5.38
	3/4-PT	4 <26>	6 < 4>	10 < 9>	6.33	6.33	7.57
	END J	12 < 2>	7 <30>	11 < 9>	6.33	6.33	8.88
7	0.35 X	0.60					
	END I	17 < 5>	8 < 0>	13 < 9>	8.45	6.33	10.13
	1/4-PT	5 <31>	7 < 3>	11 < 9>	6.33	6.33	8.37
	MIDDLE	4 < 0>	5 < 9>	7 < 2>	6.33	6.33	5.20
	3/4-PT	5 <27>	7 < 5>	11 < 9>	6.33	6.33	8.37
	END J	17 < 3>	8 < 0>	13 < 9>	8.45	6.33	10.13

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 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... RF

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
8	0.35 X 0.60	END I	20 < 5>	10 < 0>	15 <13>	10.11 6.33 11.42
		1/4-PT	5 < 0>	8 < 3>	13 < 6>	6.33 6.33 9.97
		MIDDLE	5 < 0>	7 < 9>	7 <33>	6.33 6.33 5.74
		3/4-PT	5 < 0>	8 < 5>	13 < 6>	6.33 6.33 9.97
		END J	20 < 3>	10 < 0>	15 <13>	10.11 6.33 11.42
9	0.35 X 0.60	END I	20 < 5>	10 < 0>	15 <13>	10.43 6.33 11.52
		1/4-PT	5 <31>	9 < 3>	13 < 6>	6.33 6.33 10.07
		MIDDLE	5 < 0>	7 < 9>	8 < 2>	6.33 6.33 5.84
		3/4-PT	5 <27>	9 < 5>	13 < 6>	6.33 6.33 10.07
		END J	20 < 3>	10 < 0>	15 <13>	10.43 6.33 11.52
10	0.35 X 0.60	END I	19 < 5>	11 <27>	14 < 6>	9.90 6.33 10.60
		1/4-PT	6 <31>	9 < 3>	11 < 6>	6.33 6.33 8.84
		MIDDLE	5 < 0>	5 < 9>	7 <33>	6.33 6.33 5.67
		3/4-PT	6 <27>	9 < 5>	11 < 6>	6.33 6.33 8.84
		END J	19 < 3>	11 <31>	14 < 6>	9.90 6.33 10.60

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 3F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
1	0.35 X 0.60	END I	21 < 4>	12 <26>	16 < 6>	10.99 6.33 12.61
		1/4-PT	7 <30>	9 < 2>	14 < 6>	6.33 6.33 10.80
		MIDDLE	5 < 0>	5 < 2>	9 < 6>	6.33 6.33 7.13
		3/4-PT	5 <26>	8 < 4>	14 < 9>	6.33 6.33 10.70
		END J	19 < 2>	10 <30>	16 < 9>	9.88 6.33 12.52
2	0.35 X 0.60	END I	16 < 4>	13 <26>	25 < 6>	8.21 6.44 19.19
		1/4-PT	9 < 4>	6 <26>	24 < 9>	6.33 6.33 18.79
		MIDDLE	4 < 0>	3 < 0>	23 < 2>	6.33 6.33 18.19
		3/4-PT	9 < 2>	6 <30>	24 < 9>	6.33 6.33 18.79
		END J	16 < 2>	13 <30>	25 < 6>	8.21 6.44 19.19
3	0.35 X 0.60	END I	19 < 4>	10 <26>	16 < 9>	9.88 6.33 12.52
		1/4-PT	5 <30>	8 < 2>	14 < 9>	6.33 6.33 10.70
		MIDDLE	5 < 0>	5 < 4>	9 < 6>	6.33 6.33 7.13
		3/4-PT	7 <26>	9 < 4>	14 < 6>	6.33 6.33 10.80
		END J	21 < 2>	12 <30>	16 < 6>	10.99 6.33 12.61
4	0.35 X 0.60	END I	20 < 4>	10 <26>	16 < 6>	10.41 6.33 12.39
		1/4-PT	7 <30>	9 < 2>	14 < 6>	6.33 6.33 10.57
		MIDDLE	5 < 0>	5 < 2>	9 < 6>	6.33 6.33 6.91
		3/4-PT	5 < 0>	7 < 4>	13 < 9>	6.33 6.33 10.48
		END J	18 < 2>	9 < 0>	16 < 9>	9.37 6.33 12.30
5	0.35 X 0.60					

END I	15 < 4>	12 <26>	24 < 9>	7.68	6.33	18.43
1/4-PT	8 < 4>	6 <26>	23 < 6>	6.33	6.33	18.04
MIDDLE	4 < 0>	3 < 0>	22 < 2>	6.33	6.33	17.43
3/4-PT	8 < 2>	6 <30>	23 < 6>	6.33	6.33	18.04
END J	15 < 2>	12 <30>	24 < 9>	7.68	6.33	18.43

6 0.35 X 0.60

END I	18 < 4>	9 < 0>	16 < 9>	9.37	6.33	12.30
1/4-PT	5 < 0>	7 < 2>	13 < 9>	6.33	6.33	10.48
MIDDLE	5 < 0>	5 < 4>	9 < 6>	6.33	6.33	6.91
3/4-PT	7 <26>	9 < 4>	14 < 6>	6.33	6.33	10.57
END J	20 < 2>	10 <30>	16 < 6>	10.41	6.33	12.39

7 0.35 X 0.60

END I	28 < 5>	14 < 0>	19 < 9>	14.97	7.20	14.94
1/4-PT	8 <31>	11 < 3>	16 < 9>	6.33	6.33	12.45
MIDDLE	7 < 0>	7 < 9>	10 < 2>	6.33	6.33	7.56
3/4-PT	8 <27>	11 < 5>	16 < 9>	6.33	6.33	12.45
END J	28 < 3>	14 < 0>	19 < 9>	14.97	7.20	14.94

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FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 3F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
8	0.35 X 0.60	END I	34 < 5>	17 < 0>	23 <17>	18.30 8.73 17.88
		1/4-PT	9 <31>	13 < 3>	20 < 9>	6.33 6.35 15.73
		MIDDLE	9 < 0>	9 < 9>	12 <33>	6.33 6.33 9.06
		3/4-PT	9 <27>	13 < 5>	20 < 9>	6.33 6.35 15.73
		END J	34 < 3>	17 < 0>	23 <17>	18.30 8.73 17.88
9	0.35 X 0.60	END I	35 < 5>	18 < 0>	23 <17>	18.83 8.96 18.12
		1/4-PT	9 <31>	13 < 3>	21 < 9>	6.33 6.59 15.96
		MIDDLE	9 < 0>	9 < 9>	12 <33>	6.33 6.33 9.29
		3/4-PT	9 <27>	13 < 5>	21 < 9>	6.33 6.59 15.96
		END J	35 < 3>	18 < 0>	23 <17>	18.83 8.96 18.12
10	0.35 X 0.60	END I	33 < 5>	17 <27>	21 < 6>	17.54 8.66 16.20
		1/4-PT	10 <31>	13 < 3>	18 < 9>	6.33 6.66 13.70
		MIDDLE	8 < 0>	7 < 9>	11 < 2>	6.33 6.33 8.81
		3/4-PT	10 <27>	13 < 5>	18 < 9>	6.33 6.66 13.70
		END J	33 < 3>	17 <31>	21 < 6>	17.54 8.66 16.20

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 2F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
1	0.35 X 0.60	END I	24 < 4>	15 <26>	17 < 9>	12.54 7.60 13.10
		1/4-PT	9 <30>	12 < 2>	14 < 9>	6.33 6.33 11.28
		MIDDLE	6 < 0>	6 < 2>	10 < 9>	6.33 6.33 7.71
		3/4-PT	6 <26>	8 < 4>	15 < 6>	6.33 6.33 11.37
		END J	21 < 2>	12 <30>	17 < 6>	11.08 6.33 13.19
2	0.35 X 0.60	END I	22 < 4>	18 <26>	33 < 9>	11.23 9.19 25.91
		1/4-PT	12 < 4>	9 <26>	33 < 6>	6.33 6.33 25.51
		MIDDLE	5 < 0>	4 < 0>	32 < 2>	6.33 6.33 24.90
		3/4-PT	12 < 2>	9 <30>	33 < 6>	6.33 6.33 25.51
		END J	22 < 2>	18 <30>	33 < 9>	11.23 9.19 25.91
3	0.35 X 0.60	END I	21 < 4>	12 <26>	17 < 6>	11.08 6.33 13.19
		1/4-PT	6 <30>	8 < 2>	15 < 6>	6.33 6.33 11.37
		MIDDLE	6 < 0>	6 < 4>	10 < 9>	6.33 6.33 7.71
		3/4-PT	9 <26>	12 < 4>	14 < 9>	6.33 6.33 11.28
		END J	24 < 2>	15 <30>	17 < 9>	12.54 7.60 13.10
4	0.35 X 0.60	END I	23 < 4>	14 <26>	17 < 9>	11.86 6.95 12.84
		1/4-PT	8 <30>	11 < 2>	14 < 6>	6.33 6.33 11.03
		MIDDLE	6 < 0>	6 < 2>	10 < 6>	6.33 6.33 7.45
		3/4-PT	6 < 0>	8 < 4>	14 < 9>	6.33 6.33 11.12
		END J	20 < 2>	11 <30>	17 < 6>	10.51 6.33 12.93
5	0.35 X 0.60					



END I	20 < 4>	17 <26>	31 < 6>	10.51	8.48	24.27
1/4-PT	11 < 4>	8 <26>	31 < 9>	6.33	6.33	23.87
MIDDLE	5 < 0>	4 < 0>	30 < 2>	6.33	6.33	23.27
3/4-PT	11 < 2>	8 <30>	31 < 9>	6.33	6.33	23.87
END J	20 < 2>	17 <30>	31 < 6>	10.51	8.48	24.27

6 0.35 X 0.60

END I	20 < 4>	11 <26>	17 < 6>	10.51	6.33	12.93
1/4-PT	6 < 0>	8 < 2>	14 < 9>	6.33	6.33	11.12
MIDDLE	6 < 0>	6 < 4>	10 < 6>	6.33	6.33	7.45
3/4-PT	8 <26>	11 < 4>	14 < 6>	6.33	6.33	11.03
END J	23 < 2>	14 <30>	17 < 9>	11.86	6.95	12.84

7 0.35 X 0.60

END I	32 < 5>	17 <27>	21 < 9>	17.26	8.58	16.09
1/4-PT	10 <31>	13 < 3>	17 < 6>	6.33	6.70	13.59
MIDDLE	8 < 0>	7 < 9>	11 <33>	6.33	6.33	8.70
3/4-PT	10 <27>	13 < 5>	17 < 6>	6.33	6.70	13.59
END J	32 < 3>	17 <31>	21 < 9>	17.26	8.58	16.09

ETABS\_FILE:3F110.PST/CONKER\_FILE:C10.CNK

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 2F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
8	0.35 X 0.60	END I	39 < 5>	19 < 0>	26 < 5>	20.93 9.90 20.20
		1/4-PT	11 <31>	15 < 3>	22 < 6>	6.33 7.72 16.86
		MIDDLE	10 < 0>	10 < 9>	13 < 2>	6.33 6.33 10.19
		3/4-PT	11 <27>	15 < 5>	22 < 6>	6.33 7.72 16.86
		END J	39 < 3>	19 < 0>	26 < 5>	20.93 9.90 20.20
9	0.35 X 0.60	END I	40 < 5>	20 < 0>	26 < 5>	21.56 10.18 20.46
		1/4-PT	11 <31>	16 < 3>	22 < 9>	6.33 7.99 17.13
		MIDDLE	10 < 0>	10 < 9>	13 < 2>	6.33 6.33 10.45
		3/4-PT	11 <27>	16 < 5>	22 < 9>	6.33 7.99 17.13
		END J	40 < 3>	20 < 0>	26 < 5>	21.56 10.18 20.46
10	0.35 X 0.60	END I	38 < 5>	22 <27>	23 < 6>	20.55 11.56 18.00
		1/4-PT	13 <31>	16 < 3>	20 < 9>	6.56 8.15 15.50
		MIDDLE	9 < 0>	7 < 9>	14 < 2>	6.33 6.33 10.61
		3/4-PT	13 <27>	16 < 5>	20 < 9>	6.56 8.15 15.50
		END J	38 < 3>	22 <31>	23 < 6>	20.55 11.56 18.00

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 1F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//-- SHEAR {T}	REQUIRED M{top} {sqcm}	REBAR--/ M{bot} {sqcm}	V {/m} {sqcm}
1	0.35 X 0.60	END I	17 < 4>	11 <26>	12 < 9>	8.72	6.33	8.96
		1/4-PT	7 <22>	8 <10>	10 < 9>	6.33	6.33	7.93
		MIDDLE	4 < 0>	3 < 0>	8 < 9>	6.33	6.33	6.25
		3/4-PT	6 <26>	7 < 4>	10 <14>	6.33	6.33	7.88
		END J	16 <10>	10 <22>	11 <17>	8.03	6.33	8.91
2	0.35 X 0.60	END I	25 <12>	24 <18>	40 < 2>	13.07	12.54	31.37
		1/4-PT	13 <12>	12 <18>	40 <17>	6.33	6.33	31.10
		MIDDLE	6 < 0>	6 < 0>	40 < 2>	6.33	6.33	30.75
		3/4-PT	13 <10>	12 <22>	40 <17>	6.33	6.33	31.10
		END J	25 <10>	24 <22>	40 < 2>	13.07	12.54	31.37
3	0.35 X 0.60	END I	16 <12>	10 <18>	11 <17>	8.03	6.33	8.91
		1/4-PT	6 <30>	7 < 2>	10 <14>	6.33	6.33	7.88
		MIDDLE	4 < 0>	3 < 0>	8 < 9>	6.33	6.33	6.25
		3/4-PT	7 <18>	8 <12>	10 < 9>	6.33	6.33	7.93
		END J	17 < 2>	11 <30>	12 < 9>	8.72	6.33	8.96
4	0.35 X 0.60	END I	16 < 4>	10 <26>	11 < 9>	8.08	6.33	8.71
		1/4-PT	6 <22>	7 <10>	10 < 9>	6.33	6.33	7.68
		MIDDLE	4 < 0>	3 < 0>	8 < 6>	6.33	6.33	5.99
		3/4-PT	5 <26>	6 < 4>	10 <14>	6.33	6.33	7.63
		END J	15 <10>	9 <22>	11 <14>	7.44	6.33	8.66
5	0.35 X 0.60							

END I	23 <12>	22 <18>	37 < 2>	11.85	11.33	28.66
1/4-PT	11 <12>	11 <18>	36 < 2>	6.33	6.33	28.39
MIDDLE	6 < 0>	5 < 0>	36 <33>	6.33	6.33	28.05
3/4-PT	11 <10>	11 <22>	36 < 2>	6.33	6.33	28.39
END J	23 <10>	22 <22>	37 < 2>	11.85	11.33	28.66

6 0.35 X 0.60

END I	15 <12>	9 <18>	11 <14>	7.44	6.33	8.66
1/4-PT	5 <30>	6 < 2>	10 <14>	6.33	6.33	7.63
MIDDLE	4 < 0>	3 < 0>	8 < 6>	6.33	6.33	5.99
3/4-PT	6 <18>	7 <12>	10 < 9>	6.33	6.33	7.68
END J	16 < 2>	10 <30>	11 < 9>	8.08	6.33	8.71

7 0.35 X 0.60

END I	28 < 5>	19 <27>	15 < 2>	14.70	9.87	11.89
1/4-PT	11 <23>	12 <11>	14 <17>	6.33	6.33	10.55
MIDDLE	7 < 0>	5 < 0>	11 <33>	6.33	6.33	8.36
3/4-PT	11 <19>	12 <13>	14 <17>	6.33	6.33	10.55
END J	28 < 3>	19 <31>	15 < 2>	14.70	9.87	11.89

ETABS\_FILE:3F110.PST/CONKER\_FILE:C10.CNK

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF BEAM ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 1F

BAY ID	BEAM SIZE WIDTH X DEPTH {m} {m}	STRESS POINT	/-FACTORED -MOMENT {T-m}	LOADS & +MOMENT {T-m}	COMBOS-//--REQUIRED SHEAR M{top} M{bot} V {/m} {T} {sqcm} {sqcm} {sqcm}	REBAR--/ M{top} M{bot} V {/m} {sqcm} {sqcm} {sqcm}
8	0.35 X 0.60	END I	31 < 5>	20 <27>	18 < 2>	16.73 10.28 13.79
		1/4-PT	12 <23>	13 <11>	15 <17>	6.33 6.75 11.93
		MIDDLE	8 < 0>	5 < 0>	12 < 2>	6.33 6.33 9.10
		3/4-PT	12 <19>	13 <13>	15 <17>	6.33 6.75 11.93
		END J	31 < 3>	20 <31>	18 < 2>	16.73 10.28 13.79
9	0.35 X 0.60	END I	32 < 5>	21 <27>	18 <17>	17.21 10.74 14.08
		1/4-PT	12 <23>	14 <11>	16 < 2>	6.33 6.96 12.21
		MIDDLE	8 < 0>	5 < 0>	12 <33>	6.33 6.33 9.39
		3/4-PT	12 <19>	14 <13>	16 < 2>	6.33 6.96 12.21
		END J	32 < 3>	21 <31>	18 <17>	17.21 10.74 14.08
10	0.35 X 0.60	END I	33 < 5>	24 <27>	17 < 2>	17.43 12.45 13.53
		1/4-PT	13 <23>	15 <11>	16 < 2>	6.75 7.36 12.19
		MIDDLE	8 < 0>	6 < 0>	13 <33>	6.33 6.33 10.00
		3/4-PT	13 <19>	15 <13>	16 < 2>	6.75 7.36 12.19
		END J	33 < 3>	24 <31>	17 < 2>	17.43 12.45 13.53

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF COLUMN ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... RF

COL ID	COLUMN MAJOR {m}	SIZE X MINOR {m}	STR PT	/-----MOMENT PU {T}	INTERACTION-----/ MMAJ {T-m}	MMIN {T-m}	COMBO REBAR {sqcm}	/-----SHEAR DIRN	VU {T}	DESIGN-----/ COMBO A {/m}	{/m}
1	0.60	X 0.40	RR	TOP	10	5	2 <34> 24.00	MAJOR	11	< 0>	8.42
				BOT	10	4	2 <34> 24.00	MINOR	8	< 0>	9.90
2	0.60	X 0.40	RR	TOP	4	0	30 < 0> 49.38	MAJOR	13	< 0>	10.03
				BOT	4	0	21 < 0> 34.81	MINOR	14	< 0>	17.41
3	0.60	X 0.40	RR	TOP	4	0	30 < 0> 49.40	MAJOR	13	< 0>	10.30
				BOT	4	0	21 < 0> 34.84	MINOR	14	< 0>	17.41
4	0.60	X 0.40	RR	TOP	10	5	2 <34> 24.00	MAJOR	12	< 0>	9.75
				BOT	10	4	2 <34> 24.00	MINOR	8	< 0>	9.90
5	0.60	X 0.40	RR	TOP	10	5	2 <34> 24.00	MAJOR	11	< 0>	8.42
				BOT	10	4	2 <34> 24.00	MINOR	8	< 0>	9.66
6	0.60	X 0.40	RR	TOP	4	0	30 < 0> 49.38	MAJOR	13	< 0>	10.03
				BOT	4	0	21 < 0> 33.42	MINOR	14	< 0>	17.15
7	0.60	X 0.40						MAJOR	13	< 0>	10.30

RR						MINOR	14	< 0>	17.15
	TOP	4	0	30	< 0>	49.40			
	BOT	4	0	21	< 0>	33.45			
8	0.60 X 0.40					MAJOR	12	< 0>	9.75
RR						MINOR	8	< 0>	9.66
	TOP	10	5	2	<34>	24.00			
	BOT	10	4	2	<34>	24.00			

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

## DESIGN OF COLUMN ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 3F

COL ID	COLUMN MAJOR {m}	COLUMN X MINOR {m}	STR PT	/-----MOMENT INTERACTION-----/ PU {T}	MMAJ {T-m}	MMIN {T-m}	COMBO REBAR {sqcm}	/-----SHEAR DESIGN-----/ DIRN	VU {T}	COMBO A {/m}	{sqcm}
1	0.60	X 0.40	RR					MAJOR	12	< 0>	9.48
								MINOR	9	< 0>	11.06
			TOP	29	5	3	<34> 24.00				
			BOT	29	5	3	<34> 24.00				
2	0.60	X 0.40	RR					MAJOR	15	< 0>	11.27
								MINOR	14	< 0>	17.50
			TOP	11	4	16	<26> 24.13				
			BOT	11	0	22	< 0> 34.81				
3	0.60	X 0.40	RR					MAJOR	15	< 0>	11.56
								MINOR	14	< 0>	17.50
			TOP	11	4	16	<30> 24.13				
			BOT	11	0	22	< 0> 34.81				
4	0.60	X 0.40	RR					MAJOR	14	< 0>	10.99
								MINOR	9	< 0>	11.06
			TOP	29	5	3	<34> 24.00				
			BOT	29	5	3	<34> 24.00				
5	0.60	X 0.40	RR					MAJOR	12	< 0>	9.48
								MINOR	9	< 0>	10.51
			TOP	29	5	3	<34> 24.00				
			BOT	29	5	3	<34> 24.00				
6	0.60	X 0.40	RR					MAJOR	15	< 0>	11.27
								MINOR	14	< 0>	16.64
			TOP	37	7	2	<34> 24.00				
			BOT	11	0	21	< 0> 32.45				
7	0.60	X 0.40						MAJOR	15	< 0>	11.56



RR							MINOR	14	< 0>	16.64
		TOP	37	7	2	<34>	24.00			
		BOT	11	0	21	< 0>	32.39			
8	0.60	X								
RR							MAJOR	14	< 0>	10.99
							MINOR	9	< 0>	10.51
		TOP	29	5	3	<34>	24.00			
		BOT	29	5	3	<34>	24.00			

FILE : DESCON FOR 3F BUILDING

FILE : SHEDC

MOMENT RESISTING CONCRETE FRAME

UNITS : KG-M-S

## DESIGN OF COLUMN ELEMENTS (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME

LEVEL ID .... 2F

COL ID	COLUMN MAJOR {m}	SIZE X MINOR {m}	STR PT	/-----MOMENT PU {T}	INTERACTION MMAJ {T-m}	MIN MIN {T-m}	COMBO REBAR {sqcm}	/-----SHEAR DIRN	VU {T}	DESIGN COMBO A {/m}	-----/ {sqcm}
1	0.60	X 0.40	RR	TOP	47	4	2 <34> 24.00	MAJOR	13	< 0>	10.43
				BOT	47	3	1 <34> 24.00	MINOR	9	< 0>	11.09
2	0.60	X 0.40	RR	TOP	9	0	24 < 0> 37.97	MAJOR	16	< 0>	12.04
				BOT	9	0	27 < 0> 43.46	MINOR	18	< 0>	21.56
3	0.60	X 0.40	RR	TOP	9	0	24 < 0> 37.97	MAJOR	16	< 0>	12.35
				BOT	9	0	27 < 0> 43.46	MINOR	18	< 0>	21.56
4	0.60	X 0.40	RR	TOP	47	4	2 <34> 24.00	MAJOR	16	< 0>	12.15
				BOT	47	3	1 <34> 24.00	MINOR	9	< 0>	11.09
5	0.60	X 0.40	RR	TOP	47	4	2 <34> 24.00	MAJOR	13	< 0>	10.43
				BOT	47	3	1 <34> 24.00	MINOR	8	< 0>	10.44
6	0.60	X 0.40	RR	TOP	11	0	22 < 0> 34.91	MAJOR	16	< 0>	12.04
				BOT	11	0	25 < 0> 38.88	MINOR	17	< 0>	20.03
7	0.60	X 0.40						MAJOR	16	< 0>	12.35

	RR						MINOR	17	< 0>	20.03
		TOP	11	0	22	< 0>	34.91			
		BOT	11	0	25	< 0>	38.88			
8	0.60 X	0.40					MAJOR	16	< 0>	12.15
	RR						MINOR	8	< 0>	10.44
		TOP	47	4	2	<34>	24.00			
		BOT	47	3	1	<34>	24.00			

FILE : DESCON FOR 3F BUILDING      FILE : SHEDC  
 MOMENT RESISTING CONCRETE FRAME    UNITS : KG-M-S

DESIGN OF COLUMN ELEMENTS    (ACI 318-89)

FRAME ID .... /REINFORCEMENT CONCRETE FRAME  
 LEVEL ID .... 1F

COL ID	COLUMN MAJOR {m}	SIZE X MINOR {m}	STR PT	/-----MOMENT PU {T}	INTERACTION MMAJ {T-m}	MINN {T-m}	COMBO REBAR {sqcm}	/-----SHEAR DIRN	VU {T}	DESIGN COMBO A {/m}	-----/ {sqcm}
1	0.60	X 0.40	RR					MAJOR	13	< 0>	10.21
								MINOR	8	< 0>	9.78
				TOP	58	2	1	<34>	24.00		
			BOT	58	1	1	<34>	24.00			
2	0.60	X 0.40	RR					MAJOR	15	< 0>	11.47
								MINOR	23	<10>	27.15
				TOP	-4	0	20	< 0>	34.52		
			BOT	74	2	2	<34>	24.00			
3	0.60	X 0.40	RR					MAJOR	15	< 0>	11.76
								MINOR	23	<12>	27.15
				TOP	-4	0	20	< 0>	34.52		
			BOT	74	2	2	<34>	24.00			
4	0.60	X 0.40	RR					MAJOR	15	< 0>	11.89
								MINOR	8	< 0>	9.78
				TOP	58	2	1	<34>	24.00		
			BOT	58	1	1	<34>	24.00			
5	0.60	X 0.40	RR					MAJOR	13	< 0>	10.21
								MINOR	7	< 0>	9.09
				TOP	58	2	1	<34>	24.00		
			BOT	58	1	1	<34>	24.00			
6	0.60	X 0.40	RR					MAJOR	15	< 0>	11.47
								MINOR	20	<10>	24.36
				TOP	-1	0	18	< 0>	30.67		
			BOT	74	2	2	<34>	24.00			
7	0.60	X 0.40						MAJOR	15	< 0>	11.76

	RR						MINOR	20	<12>	24.36
		TOP	-1	0	18	< 0>				30.67
		BOT	74	2	2	<34>				24.00
8	0.60 X	0.40					MAJOR	15	< 0>	11.89
	RR						MINOR	7	< 0>	9.09
		TOP	58	2	1	<34>				24.00
		BOT	58	1	1	<34>				24.00