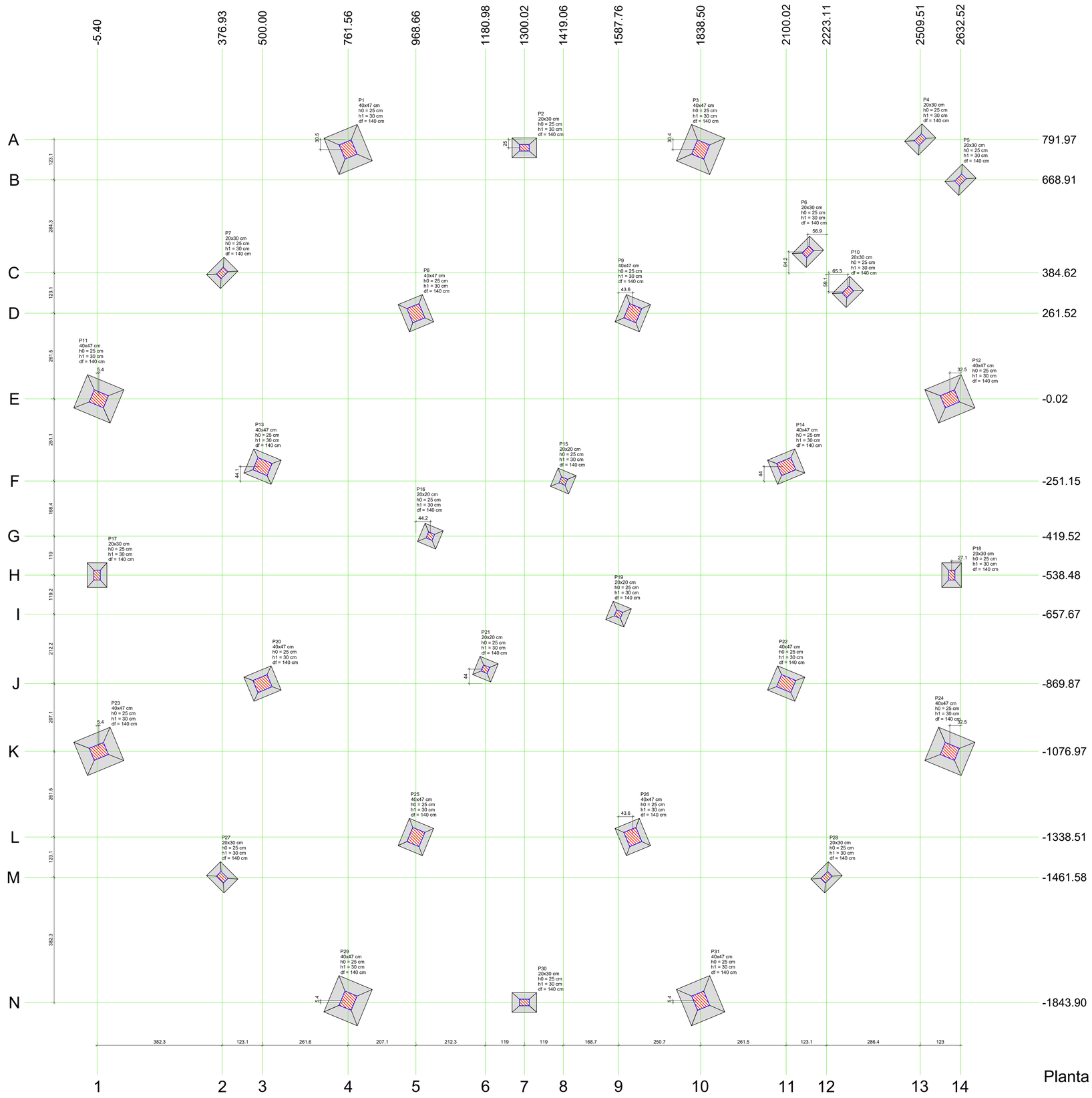


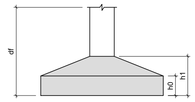
Planta de locação

Pilar												Fundação				
Nome	Seção (cm)	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Mín. (tf)	Mx Máximo (kgf.m)		My Máximo (kgf.m)		Fx Máximo (tf)		Fy Máximo (tf)		Lado B (cm)	Lado H (cm)	h0 / ha (cm)	h1 / hb (cm)	df (cm)
						Positivo	Negativo	Positivo	Negativo	Positivo	Negativo	Positivo	Negativo					
P1	40x47	761.56	761.52	1.3	0.9	0	0	0	0	0	0.1	0.0	1.6	0.0	110	120	25	30	140
P2	20x30	1300.02	766.94	4.8	4.5	0	0	0	0	0	0.4	0.0	0.1	0.0	60	75	25	30	140
P3	40x47	1838.50	761.54	2.5	1.8	0	0	0	0	0	1.1	0.0	1.4	0.0	110	120	25	30	140
P4	20x30	2509.51	791.97	2.2	1.9	0	0	0	0	0	0.5	0.0	0.6	0.0	60	75	25	30	140
P5	20x30	2632.52	668.91	2.2	1.9	0	0	0	0	0	0.6	0.0	0.5	0.0	60	75	25	30	140
P6	20x30	2166.18	448.81	4.0	3.8	0	0	0	0	0	0.0	-0.3	0.0	-0.9	60	75	25	30	140
P7	20x30	376.93	384.62	4.7	4.5	0	0	0	0	0	0.2	0.0	0.2	0.0	60	75	25	30	140
P8	40x47	968.66	261.52	1.0	0.3	0	0	0	0	0	0.0	0.0	0.9	0.0	80	90	25	30	140
P9	40x47	1631.40	261.54	3.0	2.4	0	0	0	0	0	0.6	0.0	0.8	0.0	80	90	25	30	140
P10	20x30	2288.39	326.52	4.0	3.8	0	0	0	0	0	0.0	-0.6	0.0	-0.4	60	75	25	30	140
P11	40x47	0.00	0.00	2.5	1.8	0	0	0	0	0	0.0	-1.5	0.8	0.0	110	120	25	30	140
P12	40x47	2600.02	-0.02	1.5	0.9	0	0	0	0	0	0.8	0.0	0.7	0.0	110	120	25	30	140
P13	40x47	500.00	-207.10	2.9	2.2	0	0	0	0	0	0.0	-0.6	0.8	0.0	80	90	25	30	140
P14	40x47	2100.02	-207.12	1.1	0.4	0	0	0	0	0	0.8	0.0	0.5	0.0	80	90	25	30	140
P15	20x20	1419.06	-251.15	2.5	2.4	0	0	0	0	0	0.1	0.0	0.2	0.0	60	60	25	30	140
P16	20x20	1012.82	-419.52	2.5	2.4	0	0	0	0	0	0.0	-0.2	0.1	0.0	60	60	25	30	140
P17	20x30	-5.40	-538.48	4.7	4.5	0	0	0	0	0	0.1	0.0	0.2	0.0	60	75	25	30	140
P18	20x30	2605.44	-538.48	4.7	4.5	0	0	0	0	0	0.1	0.0	0.3	0.0	60	75	25	30	140
P19	20x20	1587.76	-657.67	2.5	2.4	0	0	0	0	0	0.2	0.0	0.0	0.0	60	60	25	30	140
P20	40x47	500.02	-869.87	0.8	0.1	0	0	0	0	0	0.0	-0.8	0.0	-0.1	80	90	25	30	140
P21	20x20	1180.98	-825.85	2.6	2.4	0	0	0	0	0	0.0	0.0	0.0	-0.2	60	60	25	30	140
P22	40x47	2100.04	-869.86	3.1	2.4	0	0	0	0	0	0.9	0.0	0.2	0.0	80	90	25	30	140
P23	40x47	0.02	-1076.97	1.5	0.9	0	0	0	0	0	0.0	-1.0	0.0	-0.3	110	120	25	30	140
P24	40x47	2600.02	-1076.97	2.6	1.9	0	0	0	0	0	1.7	0.0	0.0	-0.4	110	120	25	30	140
P25	40x47	968.65	-1338.51	3.1	2.5	0	0	0	0	0	0.0	0.0	0.0	-0.5	80	90	25	30	140
P26	40x47	1631.39	-1338.51	0.9	0.2	0	0	0	0	0	0.6	0.0	0.0	-0.7	80	90	25	30	140
P27	20x30	376.93	-1461.58	4.7	4.5	0	0	0	0	0	0.2	0.0	0.0	-0.1	60	75	25	30	140
P28	20x30	2223.11	-1461.57	4.7	4.5	0	0	0	0	0	0.3	0.0	0.3	0.0	60	75	25	30	140
P29	40x47	761.55	-1838.46	2.5	1.8	0	0	0	0	0	0.0	-0.4	0.0	-1.3	110	120	25	30	140
P30	20x30	1300.02	-1843.90	4.7	4.5	0	0	0	0	0	0.2	0.0	0.1	0.0	60	75	25	30	140
P31	40x47	1838.51	-1838.48	1.6	0.9	0	0	0	0	0	0.7	0.0	0.0	-0.7	110	120	25	30	140

Os esforços indicados nesta tabela são os valores máximos obtidos pela envoltória de todas as combinações definidas para as fundações. Para análises complementares, deve-se consultar o relatório de esforços na fundação, que apresenta os valores calculados para cada combinação.

Locação no eixo X	
Coordenadas (cm)	Nome
-5.40	P17
0.00	P11
0.02	P23
376.93	P7, P27
500.00	P13
500.02	P20
761.56	P1
761.55	P29
968.66	P8
968.65	P25
1012.82	P16
1180.98	P21
1300.02	P2, P30
1419.06	P15
1587.76	P19
1631.40	P9
1631.39	P26
1838.50	P3
1838.51	P31
2100.02	P14
2100.04	P22
2166.18	P6
2223.11	P28
2288.39	P10
2509.51	P4
2600.02	P12, P24
2605.44	P18
2632.52	P5

Locação no eixo Y	
Coordenadas (cm)	Nome
791.97	P4
766.94	P2
761.54	P3
761.52	P1
668.91	P5
448.81	P6
384.62	P7
326.52	P10
261.54	P9
261.52	P8
0.00	P11
-0.02	P12
-207.10	P13
-207.12	P14
-251.15	P15
-419.52	P16
-538.48	P17, P18
-657.67	P19
-825.85	P21
-869.87	P20
-869.86	P22
-1076.97	P23, P24
-1338.51	P25, P26
-1461.58	P27
-1461.57	P28
-1838.46	P29
-1838.48	P31
-1843.90	P30



OBRA
CENTRO DE EVENTOS

LOCAL
ESTRADA PARA SÃO JOSÉ

PROPRIETÁRIO
Prefeitura Municipal de Cotiporã CNPJ: 90.898.487/0001-64

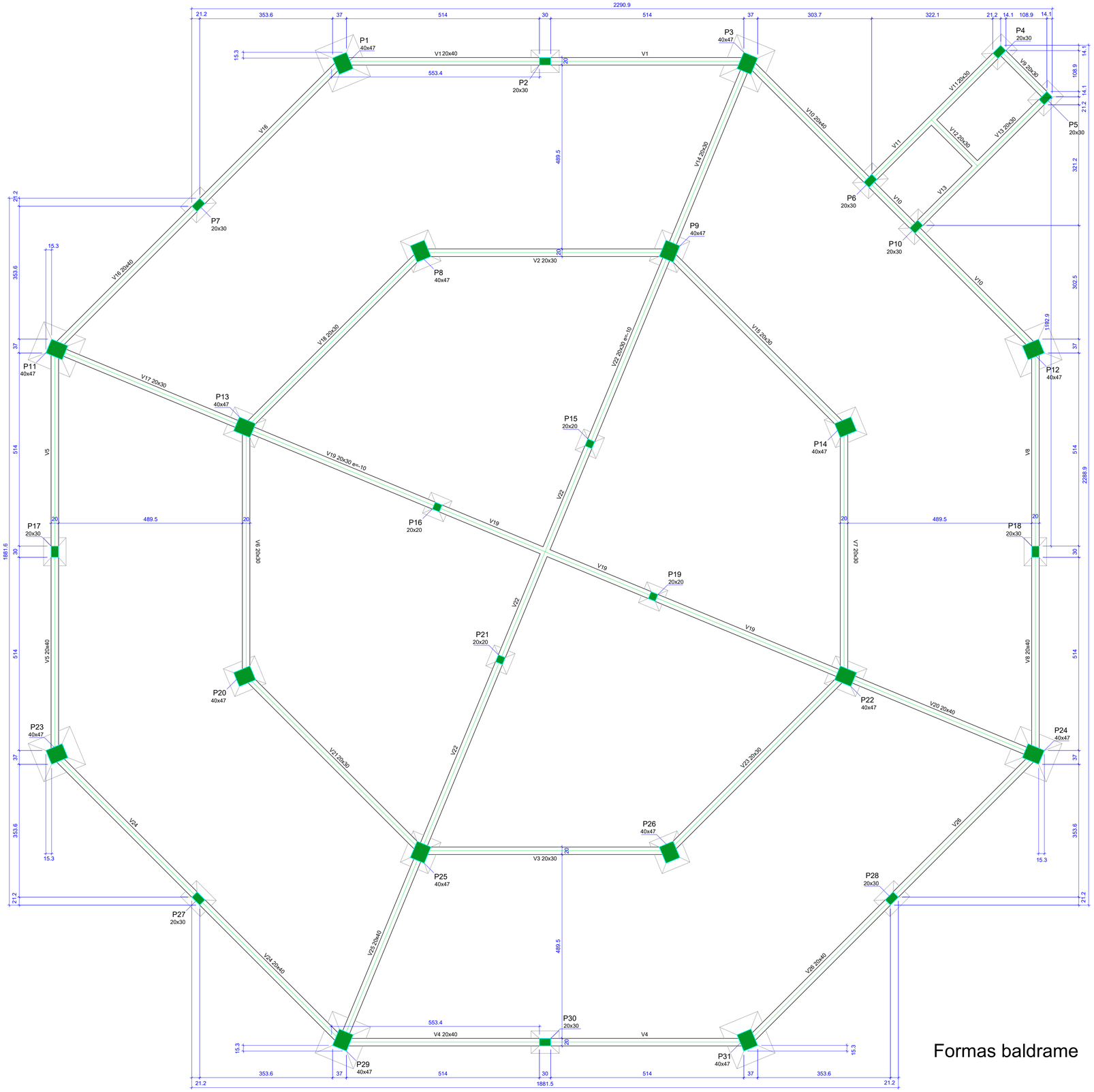
RESPONSÁVEL TÉCNICA
Engenheira Civil Camila Schmitt Caccia - CREA RS190280

DATA
AGOSTO/2023

ESCALA
1:50

ASSUNTO
LOCAÇÃO DAS FUNDAÇÕES

PRANCHA
EST-01



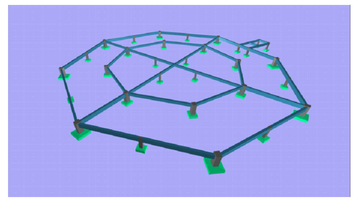
Formas baldrame

Vigas			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	20x40	0	0
V2	20x30	0	0
V3	20x30	0	0
V4	20x40	0	0
V5	20x40	0	0
V6	20x30	0	0
V7	20x30	0	0
V8	20x40	0	0
V9	20x30	0	0
V10	20x40	0	0
V11	20x30	0	0
V12	20x30	0	0
V13	20x30	0	0
V14	20x30	0	0
V15	20x30	0	0
V16	20x40	0	0
V17	20x30	0	0
V18	20x30	0	0
V19	20x30	-10	-10
V20	20x40	0	0
V21	20x30	0	0
V22	20x30	-10	-10
V23	20x30	0	0
V24	20x40	0	0
V25	20x40	0	0
V26	20x40	0	0

Pilares			
Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	40x47	7	7
P2	20x30	0	0
P3	40x47	7	7
P4	20x30	0	0
P5	20x30	0	0
P6	20x30	0	0
P7	20x30	0	0
P8	40x47	7	7
P9	40x47	7	7
P10	20x30	0	0
P11	40x47	7	7
P12	40x47	7	7
P13	40x47	7	7
P14	40x47	7	7
P15	20x20	-10	-10
P16	20x20	-10	-10
P17	20x30	0	0
P18	20x30	0	0
P19	20x20	-10	-10
P20	40x47	7	7
P21	20x20	-10	-10
P22	40x47	7	7
P23	40x47	7	7
P24	40x47	7	7
P25	40x47	7	7
P26	40x47	7	7
P27	20x30	0	0
P28	20x30	0	0
P29	40x47	7	7
P30	20x30	0	0
P31	40x47	7	7

Características dos materiais	
fck (kgf/cm²)	Ecs (kgf/cm²)
250	289800

Dimensão máxima do agregado = 19 mm



3D FUNDAÇÕES

CARGAS DOS PILARES

Elem	Sapata	Reações na base dos pilares					
		Rz tf	Rx tf	Ry tf	Mx tfm	My tfm	Mz tfm
PL1	P1 - P3 - P11 - P12	-3.20	-0.20	-0.20	0.00	0.00	0.00
	P23 - P24 - P29 - P31	2.80	0.20	0.20	0.00	0.00	0.00
PL2	P8 - P9 - P13 - P14	-1.80	-0.20	-0.20	0.00	0.00	0.00
	P20 - P22 - P25 - P26	1.60	0.20	0.20	0.00	0.00	0.00

- AS FUNDAÇÕES FORAM PROJETADAS PARA SUPORTAR CADA UMA DAS COMBINAÇÕES MÁXIMAS E MÍNIMAS APRESENTADAS ACIMA, ONDE FORAM CONSIDERADAS AS CARGAS ATUANTES NOS PILARES, INCLUSIVE CARGAS DE VENTO. ESTAS COMBINAÇÕES FORAM AVALIADAS ISOLADAMENTE.

NOTAS E DETALHES DE LOCAÇÃO E CARGAS

CONVENÇÃO DE MOMENTOS E FORÇAS:

- FZ : FORCA VERTICAL (tf)
- FX e FY : FORCAS HORIZONTAIS (tf)
- MX e MY : MOMENTOS (tfm)
- ESFORÇOS COM VALORES CARACTERÍSTICOS
- A CONVENÇÃO APRESENTADA AO LADO INDICA A ORIENTAÇÃO POSITIVA DOS ESFORÇOS

OBRA
CENTRO DE EVENTOS

LOCAL
ESTRADA PARA SÃO JOSÉ

PROPRIETÁRIO
Prefeitura Municipal de Cotiporã CNPJ: 90.898.487/0001-64

RESPONSÁVEL TÉCNICA
Engenheira Civil Camila Schmitt Caccia - CREA RS190280

DATA
AGOSTO/2023

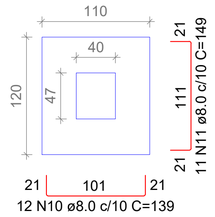
ESCALA
1:50

ASSUNTO
FORMAS BALDRAME

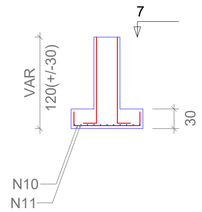
PRANCHA
EST-02

S1=S3=S11=S12=S23 =S24=S29=S31

PLANTA
ESC 1:50



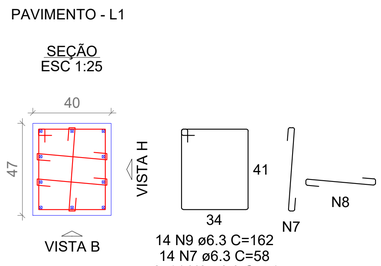
CORTE
ESC 1:75



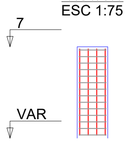
P1=P12=P23=P31

PAVIMENTO - L1

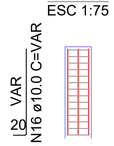
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75



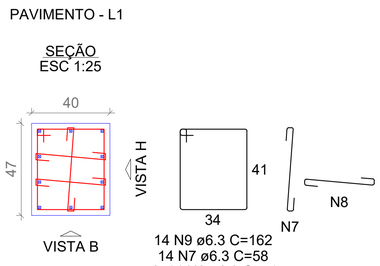
VISTA B
ESC 1:75



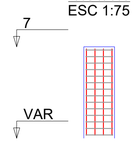
P3=P11=P24=P29

PAVIMENTO - L1

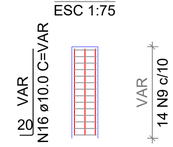
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75

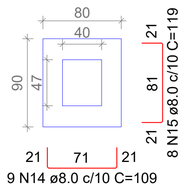


VISTA B
ESC 1:75

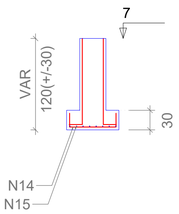


S8=S9=S13=S14=S20 =S22=S25=S26

PLANTA
ESC 1:50



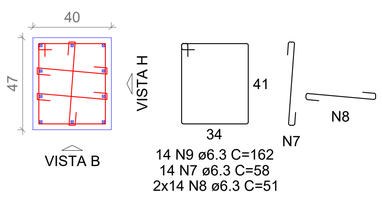
CORTE
ESC 1:75



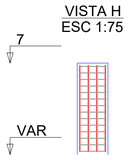
P9=P13=P22

PAVIMENTO - L1

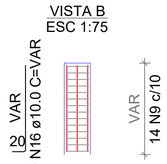
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75



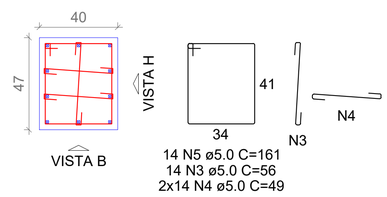
VISTA B
ESC 1:75



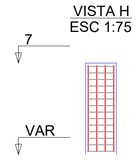
P8=P14=P20=P25=P26

PAVIMENTO - L1

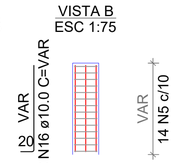
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75



VISTA B
ESC 1:75

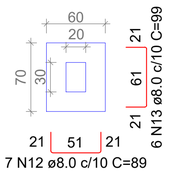


RELAÇÃO DO AÇO

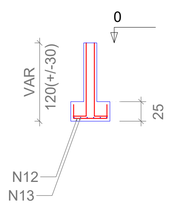
4xP1	9xP2	4xP3
2xP7	5xP8	3xP9
4xP15	8xS1	11xS10
8xS13	4xS15	

S2=S4=S5=S6=S7=S10 =S17=S18=S27=S28=S30

PLANTA
ESC 1:50



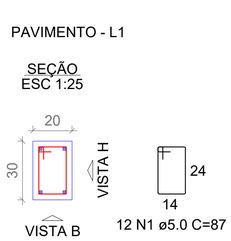
CORTE
ESC 1:75



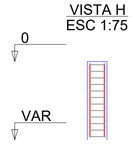
P2=P4=P5=P6=P10=P17 =P27=P28=P30

PAVIMENTO - L1

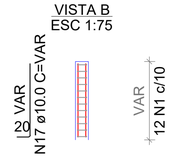
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75



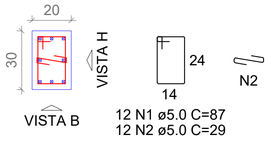
VISTA B
ESC 1:75



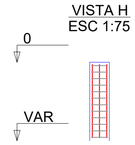
P7=P18

PAVIMENTO - L1

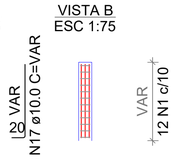
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75

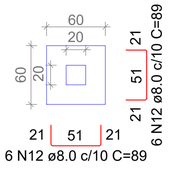


VISTA B
ESC 1:75

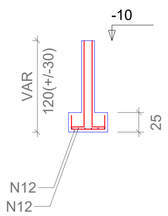


S15=S16=S19=S21

PLANTA
ESC 1:50



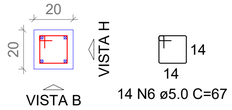
CORTE
ESC 1:75



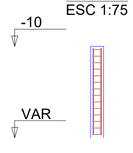
P15=P16=P19=P21

PAVIMENTO - L1

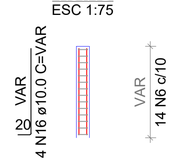
SEÇÃO
ESC 1:25



VISTA H
ESC 1:75



VISTA B
ESC 1:75



AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	132	87	11484
	2	5.0	24	29	696
	3	5.0	60	56	3360
	4	5.0	120	49	5880
	5	5.0	60	161	9660
	6	5.0	48	67	3216
CA50	7	6.3	132	58	7656
	8	6.3	264	51	13464
	9	6.3	132	162	21384
	10	8.0	96	139	13344
	11	8.0	88	149	13112
	12	8.0	125	89	11125
	13	8.0	66	99	6534
	14	8.0	72	109	7848
	15	8.0	64	119	7616
	16	10.0	228	VAR	VAR

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT (Barras)	PESO (kg)
CA50	6.3	425	36	104.1
	8.0	595.8	50	235.3
	10.0	296.4	26	182.7
CA60	5.0	343	-	52.8

PESO TOTAL (kg)	
CA50	522.1
CA60	52.8

Solo com capacidade de suporte > 1.50 kgf/cm²
Solo compactado sobre a sapata
peso específico > 1600.00 kgf/m³

Volume de concreto sapatas (C-25) = 6.58 m³
Área de forma sapatas = 26.46 m²

Volume de concreto pilares (C-25) = 3.45 m³
Área de forma pilares = 37.84 m²

OBRA
CENTRO DE EVENTOS

LOCAL
ESTRADA PARA SÃO JOSÉ

PROPRIETÁRIO
Prefeitura Municipal de Cotiporã CNPJ: 90.898.487/0001-64

RESPONSÁVEL TÉCNICA
Engenheira Civil Camila Schmitt Caccia - CREA RS190280

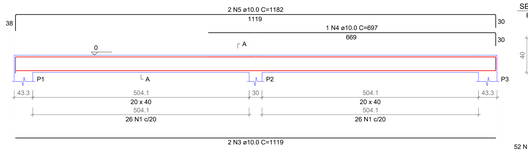
DATA
AGOSTO/2023

ESCALA
indicada

ASSUNTO
SAPATAS

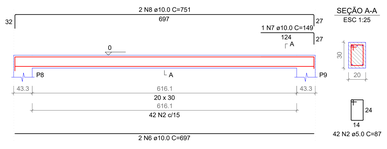
PRANCHA
EST-03

V1
ESC 1:50



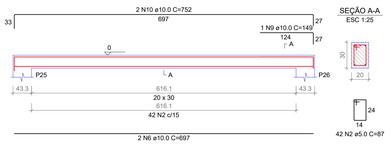
SEÇÃO A-A
ESC 1:25

V2
ESC 1:50



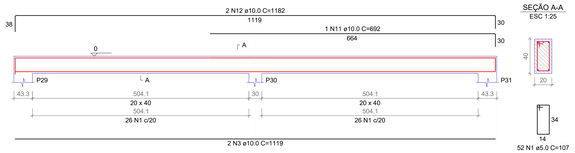
SEÇÃO A-A
ESC 1:25

V3
ESC 1:50



SEÇÃO A-A
ESC 1:25

V4
ESC 1:50



SEÇÃO A-A
ESC 1:25

RELAÇÃO DO AÇO

V1	V2	V3
V4	V5	V6
V7	V8	V9
V10	V11	V12
V13	V14	V15
V16	V17	V18
V19	V20	V21
V22	V23	V24
V25	V26	

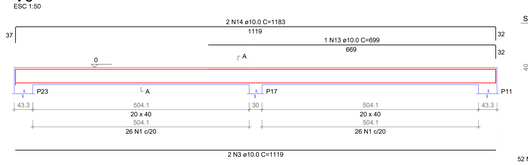
AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	466	107	49862
	2	5.0	710	87	61770
CA50	3	10.0	14	1119	15666
	4	10.0	1	697	697
	5	10.0	2	1182	2364
	6	10.0	16	697	11152
	7	10.0	1	149	149
	8	10.0	2	751	1502
	9	10.0	2	149	298
	10	10.0	2	752	1504
	11	10.0	1	692	692
	12	10.0	2	1182	2364
	13	10.0	2	699	1398
	14	10.0	2	1183	2366
	15	10.0	2	147	294
	16	10.0	2	750	1500
	17	10.0	2	751	1502
	18	10.0	2	1184	2368
	19	10.0	2	188	376
	20	10.0	2	227	454
	21	10.0	2	1119	2238
	22	10.0	2	1184	2368
	23	10.0	4	509	2036
	24	10.0	2	563	1126
	25	10.0	2	187	374
	26	10.0	2	226	452
	27	10.0	2	563	1126
	28	10.0	8	582	4656
	29	10.0	2	630	1260
	30	10.0	2	763	1526
	31	10.0	1	699	699
	32	10.0	2	1183	2366
	33	10.0	2	626	1252
	34	10.0	2	147	294
	35	10.0	2	750	1500
	36	10.0	2	1198	2396
	37	10.0	2	575	1150
	38	10.0	2	1198	2396
	39	10.0	2	701	1402
	40	10.0	4	635	2540
	41	10.0	2	763	1526
	42	10.0	2	1197	2394
	43	10.0	2	575	1150
	44	10.0	2	1198	2396
	45	10.0	2	702	1404
	46	10.0	2	750	1500
	47	10.0	3	1170	3510
	48	10.0	1	170	170
	49	10.0	2	1183	2366

RESUMO DO AÇO

AÇO	DIAM (mm)	C.TOTAL (m)	QUANT (Barras)	PESO (kg)
CA50	10.0	966	81	599.8
CA60	5.0	1116.3	-	172.1
PESO TOTAL (kg)				
CA50	599.8			
CA60	172.1			

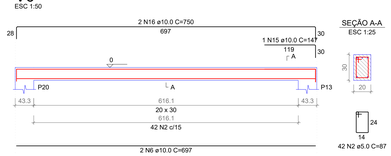
Volume de concreto (C-25) = 13.63 m³
Área de forma = 135.51 m²

V5
ESC 1:50



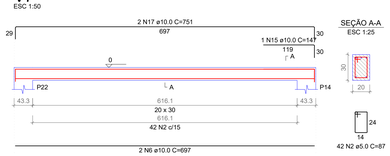
SEÇÃO A-A
ESC 1:25

V6
ESC 1:50



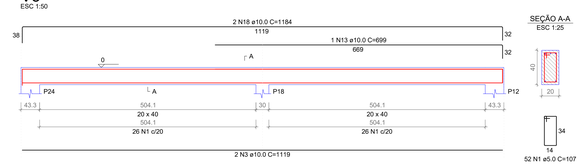
SEÇÃO A-A
ESC 1:25

V7
ESC 1:50



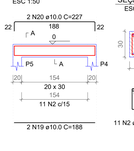
SEÇÃO A-A
ESC 1:25

V8
ESC 1:50

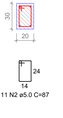


SEÇÃO A-A
ESC 1:25

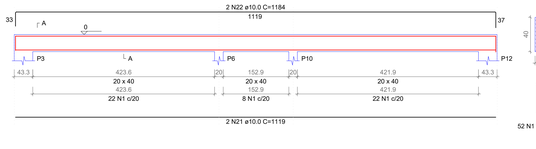
V9
ESC 1:50



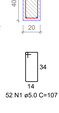
SEÇÃO A-A
ESC 1:25



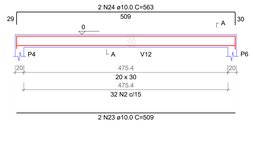
V10
ESC 1:50



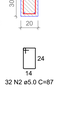
SEÇÃO A-A
ESC 1:25



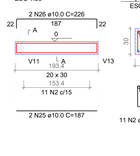
V11
ESC 1:50



SEÇÃO A-A
ESC 1:25

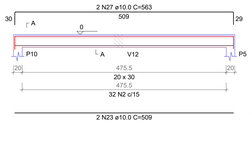


V12
ESC 1:50



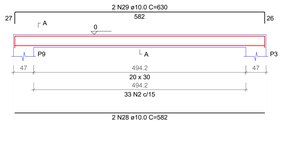
SEÇÃO A-A
ESC 1:25

V13
ESC 1:50



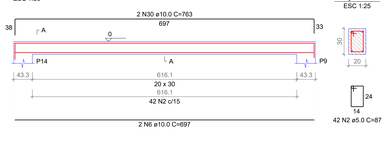
SEÇÃO A-A
ESC 1:25

V14
ESC 1:50



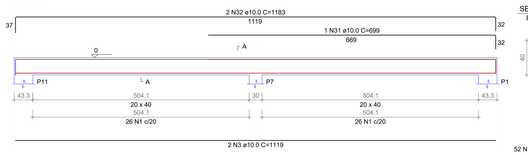
SEÇÃO A-A
ESC 1:25

V15
ESC 1:50



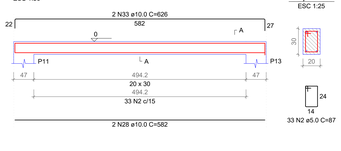
SEÇÃO A-A
ESC 1:25

V16
ESC 1:50



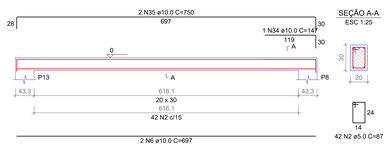
SEÇÃO A-A
ESC 1:25

V17
ESC 1:50



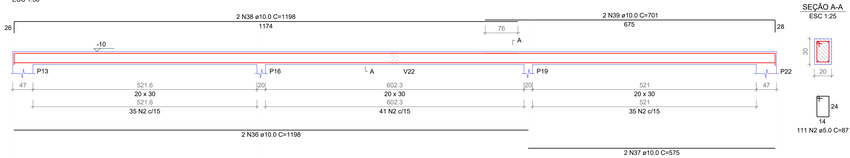
SEÇÃO A-A
ESC 1:25

V18
ESC 1:50



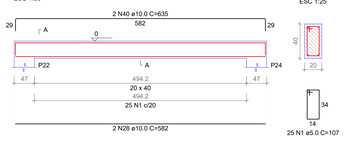
SEÇÃO A-A
ESC 1:25

V19
ESC 1:50



SEÇÃO A-A
ESC 1:25

V20
ESC 1:50



SEÇÃO A-A
ESC 1:25

V21
ESC 1:50

SEÇÃO A-A
ESC 1:25

V22
ESC 1:50

SEÇÃO A-A
ESC 1:25

V23
ESC 1:50

SEÇÃO A-A
ESC 1:25

V24
ESC 1:50

SEÇÃO A-A
ESC 1:25

V25
ESC 1:50

SEÇÃO A-A
ESC 1:25

V26
ESC 1:50

SEÇÃO A-A
ESC 1:25

OBRA
CENTRO DE EVENTOS

LOCAL
ESTRADA PARA SÃO JOSÉ

PROPRIETÁRIO
Prefeitura Municipal de Cotiporã CNPJ: 90.898.487/0001-64

RESPONSÁVEL TÉCNICA
Engenheira Civil Camila Schmitt Caccia - CREA RS190280

DATA
AGOSTO/2023

ESCALA
indicada

ASSUNTO
VIGAS BALDRAME

PRANCHA
EST-04