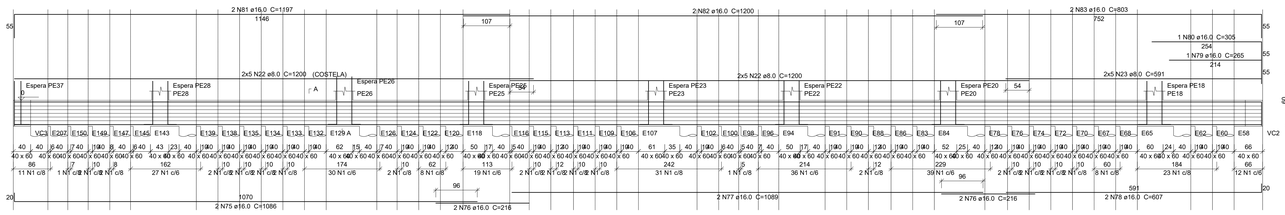
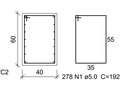
VC5 (40 x 60)
ESC 1:50

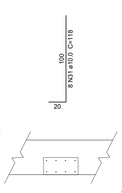


SEÇÃO A-A
ESC 1:25

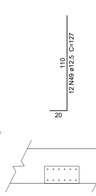


ESPERA PE37
ESC 1:25

ESPERA PE28
ESC 1:25

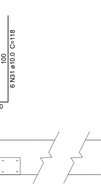


ESPERA PE26
ESC 1:25



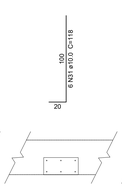
ESPERA PE25
ESC 1:25

ESPERA PE23
ESC 1:25

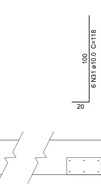


ESPERA PE22
ESC 1:25

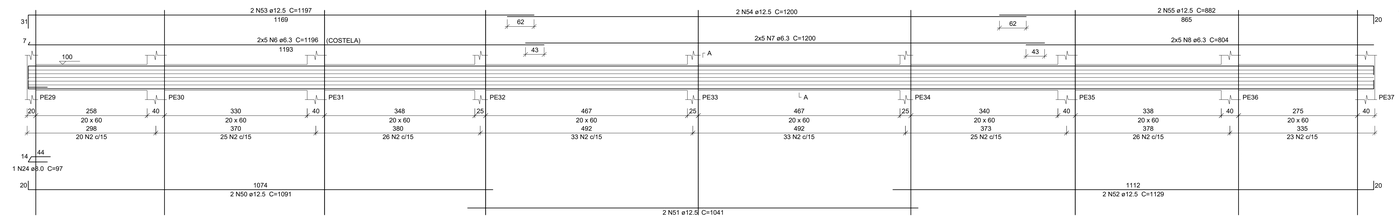
ESPERA PE20
ESC 1:25



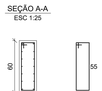
ESPERA PE18
ESC 1:25



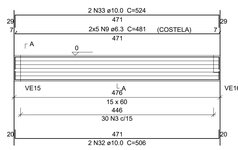
VE5 (20 x 60)
ESC 1:50



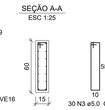
SEÇÃO A-A
ESC 1:25



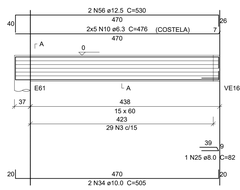
VE12 (15 x 60)
ESC 1:50



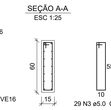
SEÇÃO A-A
ESC 1:25



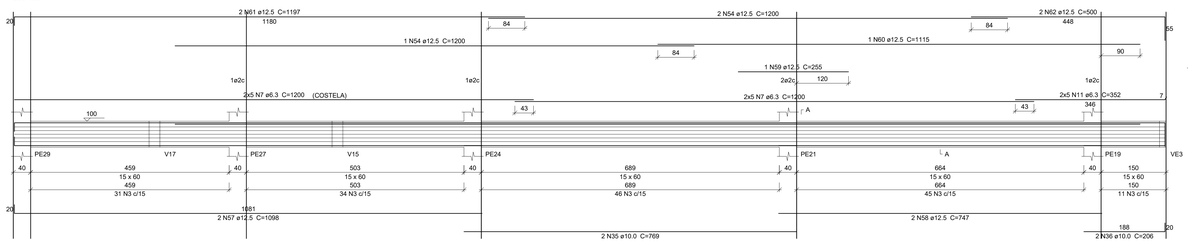
VE14 (15 x 60)
ESC 1:50



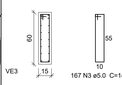
SEÇÃO A-A
ESC 1:25



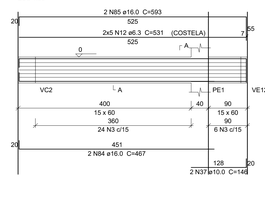
VE6 (15 x 60)
ESC 1:50



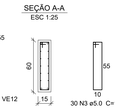
SEÇÃO A-A
ESC 1:25



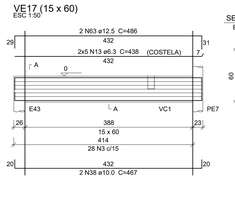
VE15 (15 x 60)
ESC 1:50



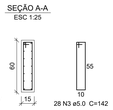
SEÇÃO A-A
ESC 1:25



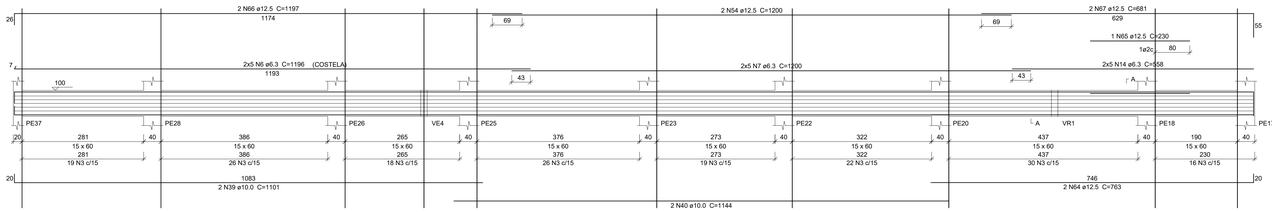
VE17 (15 x 60)
ESC 1:50



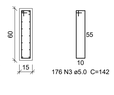
SEÇÃO A-A
ESC 1:25



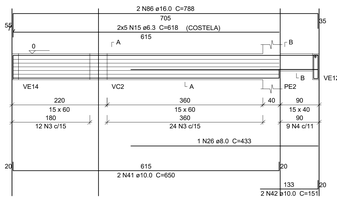
VE10 (15 x 60)
ESC 1:50



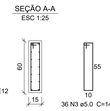
SEÇÃO A-A
ESC 1:25



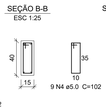
VE16 (var)
ESC 1:50



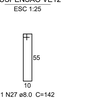
SEÇÃO A-A
ESC 1:25



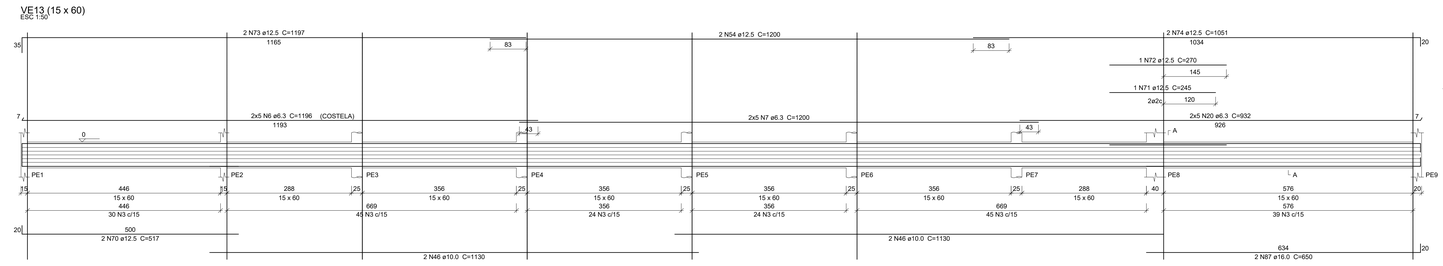
SEÇÃO B-B
ESC 1:25



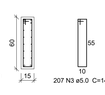
SUSPENSÃO VE12
ESC 1:25



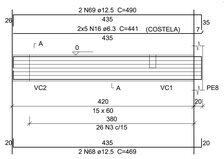
VE13 (15 x 60)
ESC 1:50



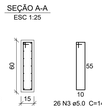
SEÇÃO A-A
ESC 1:25



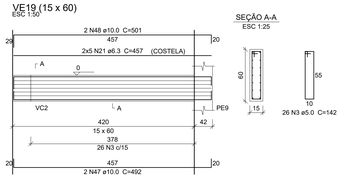
VE18 (15 x 60)
ESC 1:50



SEÇÃO A-A
ESC 1:25

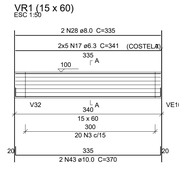


VE19 (15 x 60)
ESC 1:50

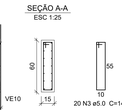


SEÇÃO A-A
ESC 1:25

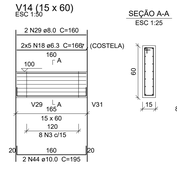
VR1 (15 x 60)
ESC 1:50



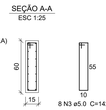
SEÇÃO A-A
ESC 1:25



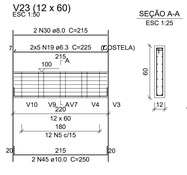
VE14 (15 x 60)
ESC 1:50



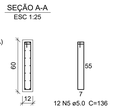
SEÇÃO A-A
ESC 1:25



VE23 (12 x 60)
ESC 1:50



SEÇÃO A-A
ESC 1:25



Relação do aço

V14	V23	VC5
VE5	VD6	VE10
VE12	VE13	VE14
VE15	VE16	VE17
VE18	VE19	VR1

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	278	192	53376
	2	5.0	211	152	32072
	3	5.0	783	142	111186
	4	5.0	9	102	918
	5	5.0	12	136	1632
CA50	6	6.3	30	1196	35880
	7	6.3	50	1200	60000
	8	6.3	10	804	8040
	9	6.3	10	481	4810
	10	6.3	10	476	4760
	11	6.3	10	352	3520
	12	6.3	10	531	5310
	13	6.3	10	438	4380
	14	6.3	10	558	5580
	15	6.3	10	618	6180
	16	6.3	10	441	4410
	17	6.3	10	341	3410
	18	6.3	10	166	1660
	19	6.3	10	225	2250
	20	6.3	10	932	9320
	21	6.3	10	457	4570
	22	8.0	20	1200	24000
	23	8.0	10	591	5910
	24	8.0	1	97	97
	25	8.0	1	82	82
	26	8.0	1	433	433
	27	8.0	1	142	142
	28	8.0	2	335	670
	29	8.0	2	160	320
	30	8.0	2	215	430
	31	10.0	44	118	5192
	32	10.0	2	506	1012
	33	10.0	2	524	1048
	34	10.0	2	505	1010
	35	10.0	2	769	1538
	36	10.0	2	206	412
	37	10.0	2	146	292
	38	10.0	2	467	934
	39	10.0	2	1101	2202
	40	10.0	2	1144	2288
	41	10.0	2	650	1300
	42	10.0	2	151	302
	43	10.0	2	370	740
	44	10.0	2	195	390
	45	10.0	2	250	500
	46	10.0	4	1130	4520
	47	10.0	2	492	984
	48	10.0	2	501	1002
	49	12.5	12	127	1524
	50	12.5	2	1091	2182
	51	12.5	2	1041	2082
	52	12.5	2	1129	2258
	53	12.5	2	1197	2394
	54	12.5	9	1200	10800
	55	12.5	2	882	1764
	56	12.5	2	530	1060
	57	12.5	2	1098	2196
	58	12.5	2	747	1494
	59	12.5	1	255	255
	60	12.5	1	1115	1115
	61	12.5	2	1197	2394
	62	12.5	2	500	1000
	63	12.5	2	486	972
	64	12.5	2	763	1526
	65	12.5	1	230	230
	66	12.5	2	1197	2394
	67	12.5	2	681	1362
	68	12.5	2	469	938
	69	12.5	2	490	980
	70	12.5	2	517	1034
	71	12.5	1	245	245
	72	12.5	1	270	270
	73	12.5	2	1197	2394
	74	12.5	2	1051	2102
	75	16.0	2	1086	2172
	76	16.0	4	216	864
	77	16.0	2	1089	2178
	78	16.0	2	607	1214
	79	16.0	1	265	265
	80	16.0	1	305	305
	81	16.0	2	1197	2394
	82	16.0	2	1200	2400
	83	16.0	2	803	1606
	84	16.0	2	467	934
	85	16.0	2	593	1186
	86	16.0	2	788	1576
	87	16.0	2	650	1300

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	1640.8	441.7
	8.0	320.9	139.3
	10.0	256.7	174.1
	12.5	469.7	497.7
	16.0	184	319.4
CA60	5.0	1991.9	337.7
PESO TOTAL (kg)			
CA50	1572		
CA60	337.7		

Volume de concreto (C-30) = 22.32 m³
Área de forma = 265.2 m²

ITEM	REVISÃO (CONTEÚDO)	RESPONS.	DATA

PROPRIETÁRIO: SERVIÇO SOCIAL DO COMÉRCIO - SESC

AUTOR DO PROJETO: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D

DESENV. DO PROJETO: ENGº CIVIL ALMIR MAGALHÃES JR. - CREA/PA 151086898-4D

PREFEITURA

BOMBEIROS

DEMAIS ÓRGÃOS

PROPRIETÁRIO:
SERVIÇO SOCIAL DO COMÉRCIO - SESC

ABL-GBK engenharia, arquitetura & paisagismo ltda.
FONE:(91)3244-5726/e-mail: abl@ufpa.com.br

PROJETO: CONSTRUÇÃO ED. 06 PAVIMENTOS DA UNIDADE DOCA
DISCIPLINA: ESTRUTURA
FASE: PROJETO EXECUTIVO

CONTEÚDO: ARMAÇÃO DAS VIGAS DO TÉRREO - PARTE 3
DISCIPLINA | PRANCHA | TOTAL: EST 29/64
ENDEREÇO: RUA SENADOR MANOEL BARATA Nº 1873 - REDUTO - BELEM/PA
AUTORES: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D; ENGº CIVIL ALMIR MAGALHÃES JR. - CREA/PA 151086898-4D
RESPONSÁVEL TÉCNICO: ENGº CIVIL E ARQ ALEXANDRE DE MORAES FERREIRA - CREA/PA 4393D
VISTO:
ESCALA: INDICADA | DATA: JUNHO-2018 | REVISÃO: 000 | DESENV. GRÁFICO: ENGº CIVIL ALMIR MAGALHÃES JR.

FORMATO ISO A0 - 1189 x 841 mm