





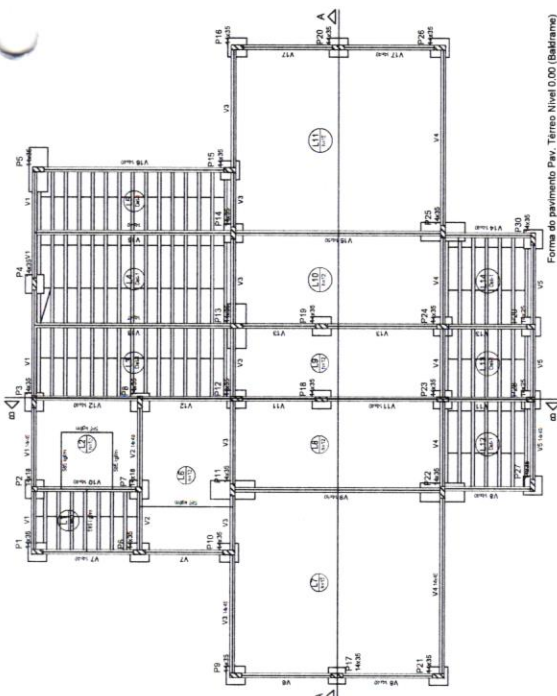




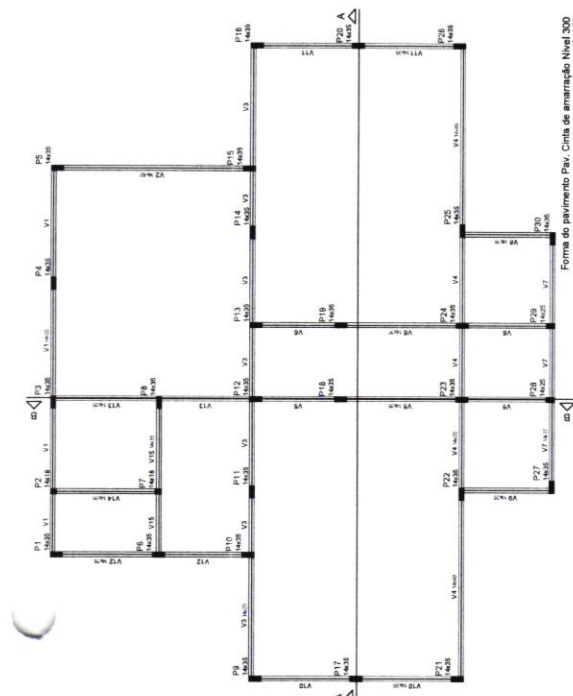
Item	Descrição	Quantidade	Valor Unitário (R\$)	Valor Total (R\$)
1	Alvenaria	100	100	10000
2	Forma	50	50	2500
3	Armadura	20	20	400
4	Mano de obra	1000	1000	100000
5	Transporte	100	100	10000
6	Outros	10	10	1000
7	Subtotal			130000
8	Impostos			13000
9	Total			143000

Item	Descrição	Quantidade	Valor Unitário (R\$)	Valor Total (R\$)
10	Alvenaria	100	100	10000
11	Forma	50	50	2500
12	Armadura	20	20	400
13	Mano de obra	1000	1000	100000
14	Transporte	100	100	10000
15	Outros	10	10	1000
16	Subtotal			130000
17	Impostos			13000
18	Total			143000

Item	Descrição	Quantidade	Valor Unitário (R\$)	Valor Total (R\$)
19	Alvenaria	100	100	10000
20	Forma	50	50	2500
21	Armadura	20	20	400
22	Mano de obra	1000	1000	100000
23	Transporte	100	100	10000
24	Outros	10	10	1000
25	Subtotal			130000
26	Impostos			13000
27	Total			143000



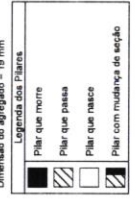
Forma do pavimento Pav. Térreo Nível 0.00 (Baldrame) escala 1/75



Forma do pavimento Pav. Cota de amarração Nível 300 escala 1/75

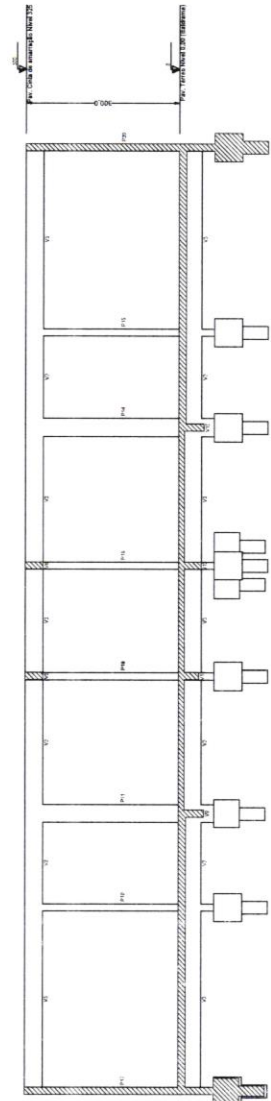
Características dos materiais

Íck	300
Ecs	28/316
Dimensão do agregado - Ø	10 mm

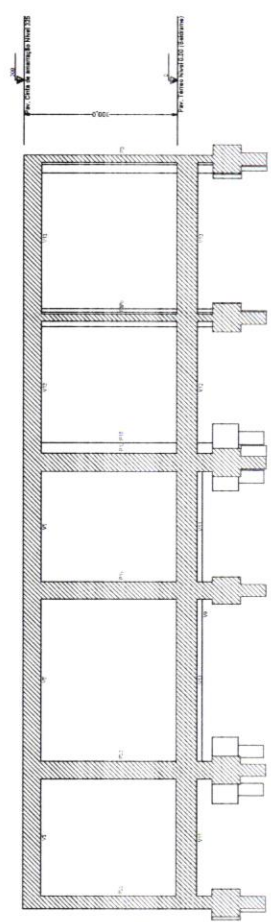
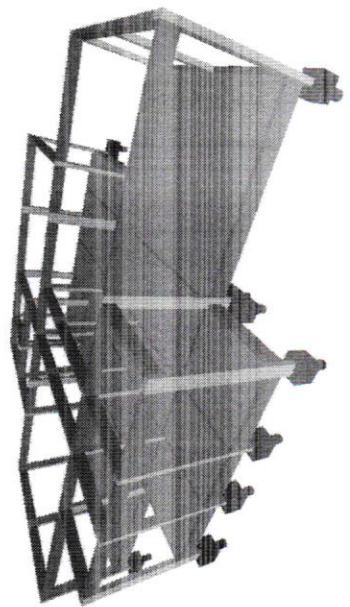


Nome	Seção (cm)	Elevação (cm)	Nível (cm)
V1	14x35	0	300
V2	14x40	0	300
V3	14x35	0	300
V4	14x40	0	300
V5	14x35	0	300
V6	14x35	0	300
V7	14x35	0	300
V8	14x35	0	300
V9	14x35	0	300
V10	14x35	0	300
V11	14x35	0	300
V12	14x35	0	300
V13	14x35	0	300
V14	14x35	0	300
V15	14x35	0	300

Nome	Seção (cm)	Elevação (cm)	Nível (cm)
P1	14 x 35	0	300
P2	14 x 35	0	300
P3	14 x 35	0	300
P4	14 x 35	0	300
P5	14 x 35	0	300
P6	14 x 35	0	300
P7	14 x 35	0	300
P8	14 x 35	0	300
P9	14 x 35	0	300
P10	14 x 35	0	300
P11	14 x 35	0	300
P12	14 x 35	0	300
P13	14 x 35	0	300
P14	14 x 35	0	300
P15	14 x 35	0	300
P16	14 x 35	0	300
P17	14 x 35	0	300
P18	14 x 35	0	300
P19	14 x 35	0	300
P20	14 x 35	0	300
P21	14 x 35	0	300
P22	14 x 35	0	300
P23	14 x 35	0	300
P24	14 x 35	0	300
P25	14 x 35	0	300
P26	14 x 35	0	300
P27	14 x 35	0	300
P28	14 x 35	0	300
P29	14 x 35	0	300
P30	14 x 35	0	300



Corte A-A escala 1/50



Corte B-B escala 1/50

PREFEITURA MUNICIPAL DE ABAETE TUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

ESCOLA COM 2 SALAS DE AULA

LOCAL: RUA ASSUCI

PROJETO: PROJETO ESTRUTURAL  
CONTEÚDO: PLANTA DE ALVENARIA, MARCAÇÃO DE PAVIMENTO E REFORÇO DE BARRAS

PROJETA: *Amélia Samuel*

PROJETO: 03/07

ESCALA: ARQUITETÔNICA



**Relação do aço**

ACO	N	DMAP	Q	DME	C TOTAL	DME	DME
1	5,0	34					233
2	5,0	11					233
3	5,0	5					233
4	5,0	5					233
5	5,0	5					233
6	5,0	5					233
7	5,0	5					233
8	5,0	5					233
9	5,0	5					233
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94	5,0	5					233
95	5,0	5					233
96	5,0	5					233
97	5,0	5					233
98	5,0	5					233
99	5,0	5					233
100	5,0	5					233

**Resumo do aço**

ACO	DMAP	C TOTAL	PERCO. %
1	5,0	34	10,3
2	5,0	11	3,3
3	5,0	5	1,5
4	5,0	5	1,5
5	5,0	5	1,5
6	5,0	5	1,5
7	5,0	5	1,5
8	5,0	5	1,5
9	5,0	5	1,5
10	5,0	5	1,5
11	5,0	5	1,5
12	5,0	5	1,5
13	5,0	5	1,5
14	5,0	5	1,5
15	5,0	5	1,5
16	5,0	5	1,5
17	5,0	5	1,5
18	5,0	5	1,5
19	5,0	5	1,5
20	5,0	5	1,5
21	5,0	5	1,5
22	5,0	5	1,5
23	5,0	5	1,5
24	5,0	5	1,5
25	5,0	5	1,5
26	5,0	5	1,5
27	5,0	5	1,5
28	5,0	5	1,5
29	5,0	5	1,5
30	5,0	5	1,5
31	5,0	5	1,5
32	5,0	5	1,5
33	5,0	5	1,5
34	5,0	5	1,5
35	5,0	5	1,5
36	5,0	5	1,5
37	5,0	5	1,5
38	5,0	5	1,5
39	5,0	5	1,5
40	5,0	5	1,5
41	5,0	5	1,5
42	5,0	5	1,5
43	5,0	5	1,5
44	5,0	5	1,5
45	5,0	5	1,5
46	5,0	5	1,5
47	5,0	5	1,5
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53	5,0	5	1,5
54	5,0	5	1,5
55	5,0	5	1,5
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57	5,0	5	1,5
58	5,0	5	1,5
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62	5,0	5	1,5
63	5,0	5	1,5
64	5,0	5	1,5
65	5,0	5	1,5
66	5,0	5	1,5
67	5,0	5	1,5
68	5,0	5	1,5
69	5,0	5	1,5
70	5,0	5	1,5
71	5,0	5	1,5
72	5,0	5	1,5
73	5,0	5	1,5
74	5,0	5	1,5
75	5,0	5	1,5
76	5,0	5	1,5
77	5,0	5	1,5
78	5,0	5	1,5
79	5,0	5	1,5
80	5,0	5	1,5
81	5,0	5	1,5
82	5,0	5	1,5
83	5,0	5	1,5
84	5,0	5	1,5
85	5,0	5	1,5
86	5,0	5	1,5
87	5,0	5	1,5
88	5,0	5	1,5
89	5,0	5	1,5
90	5,0	5	1,5
91	5,0	5	1,5
92	5,0	5	1,5
93	5,0	5	1,5
94	5,0	5	1,5
95	5,0	5	1,5
96	5,0	5	1,5
97	5,0	5	1,5
98	5,0	5	1,5
99	5,0	5	1,5
100	5,0	5	1,5

Vol. de concreto (M3) = 15,53 m<sup>3</sup>  
 Vol. de concreto (M3) (C-20) = 1,28 m<sup>3</sup>  
 Área de forma (M<sup>2</sup>) = 47,85 m<sup>2</sup>



**PREFEITURA MUNICIPAL DE ABAEETUBA**  
**SECRETARIA MUNICIPAL DE EDUCAÇÃO**

**ESCOLA COM 2 SALAS DE AULA**

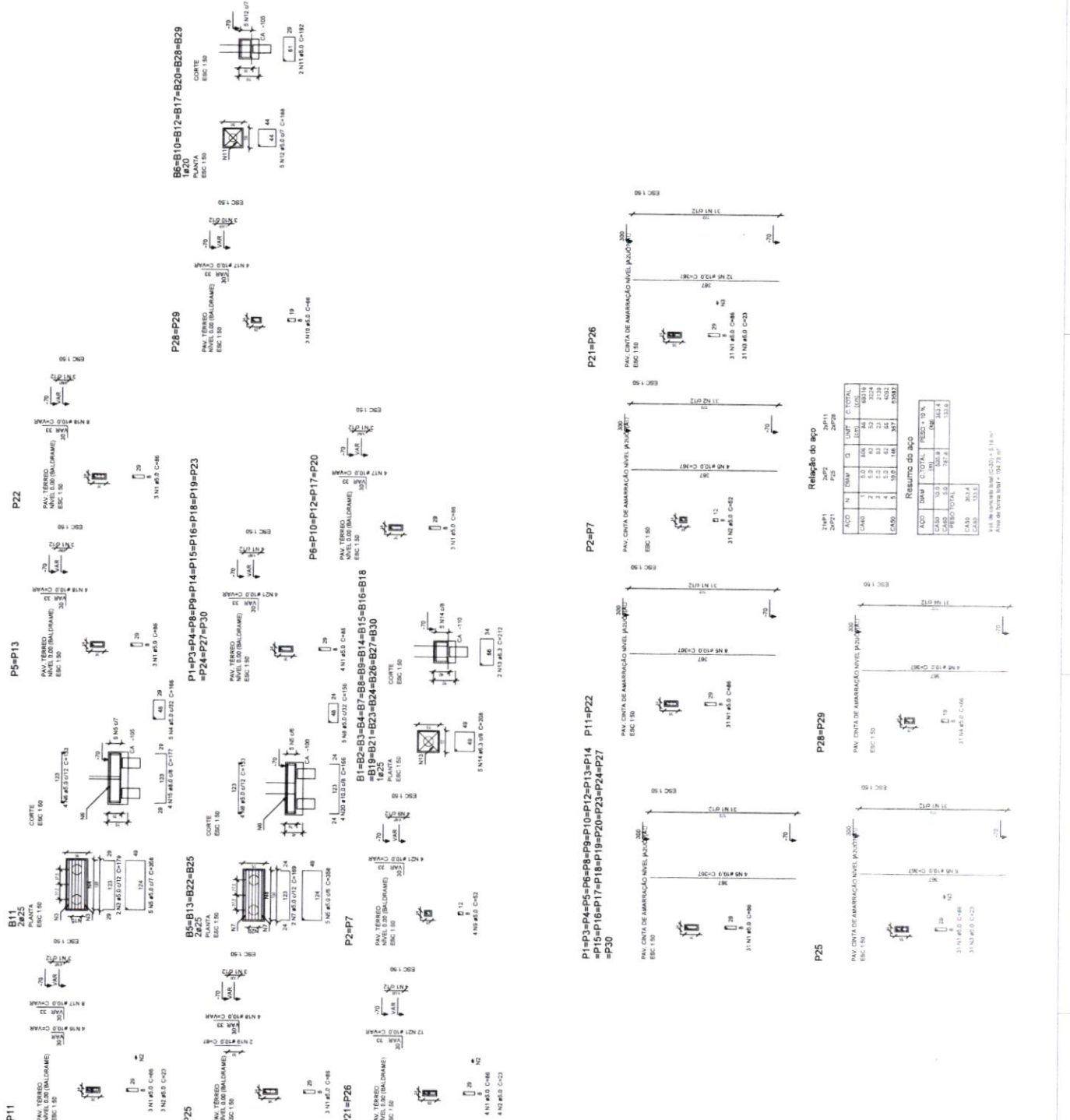
**EMP. CONSTRUÇÃO DE ESCOLA COM 2 SALAS DE AULA - EMP. SAO CAMILO DE LELLIS LOCAL (R. ASSACU)**

PROJETO TÉCNICO



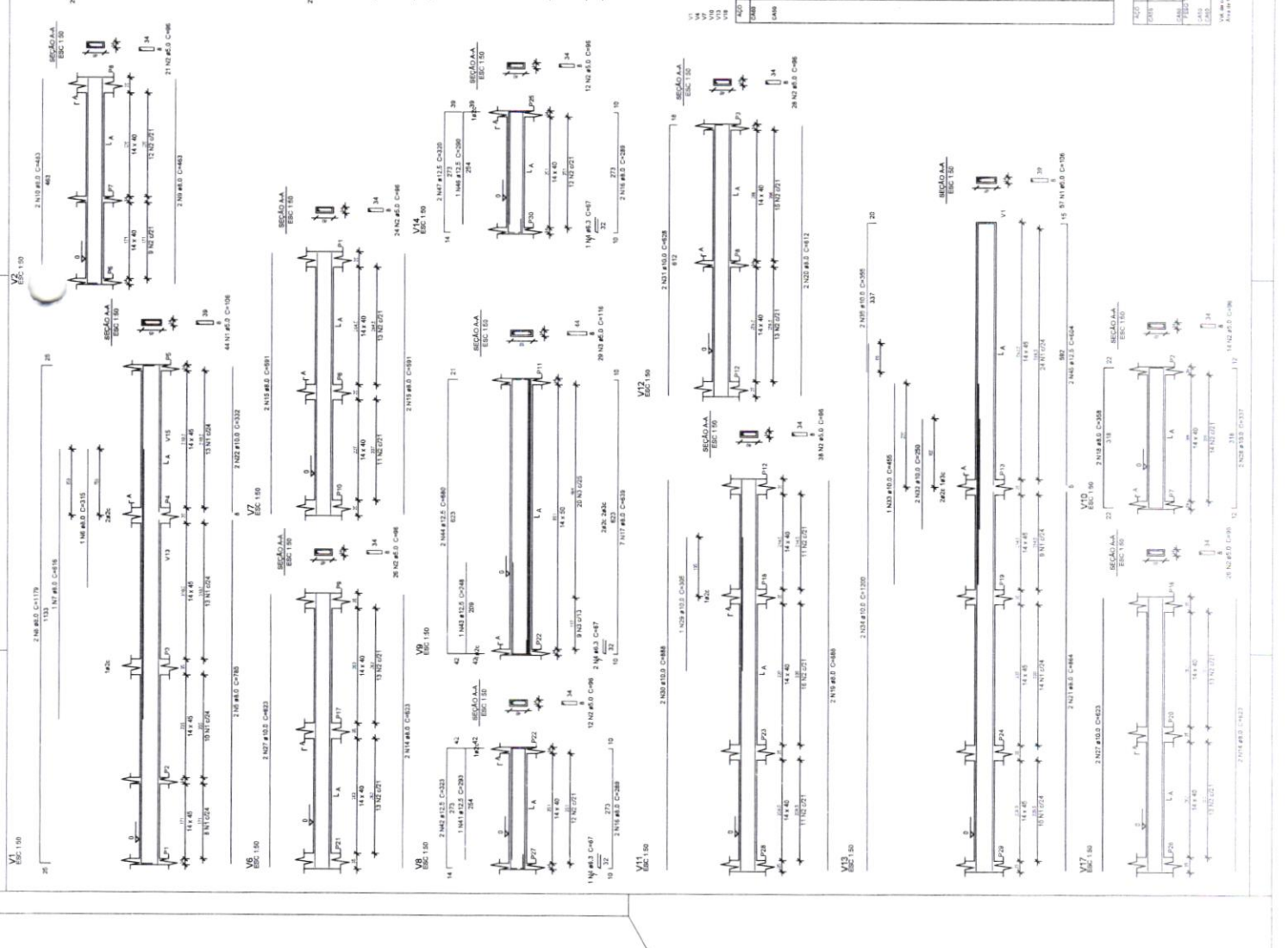
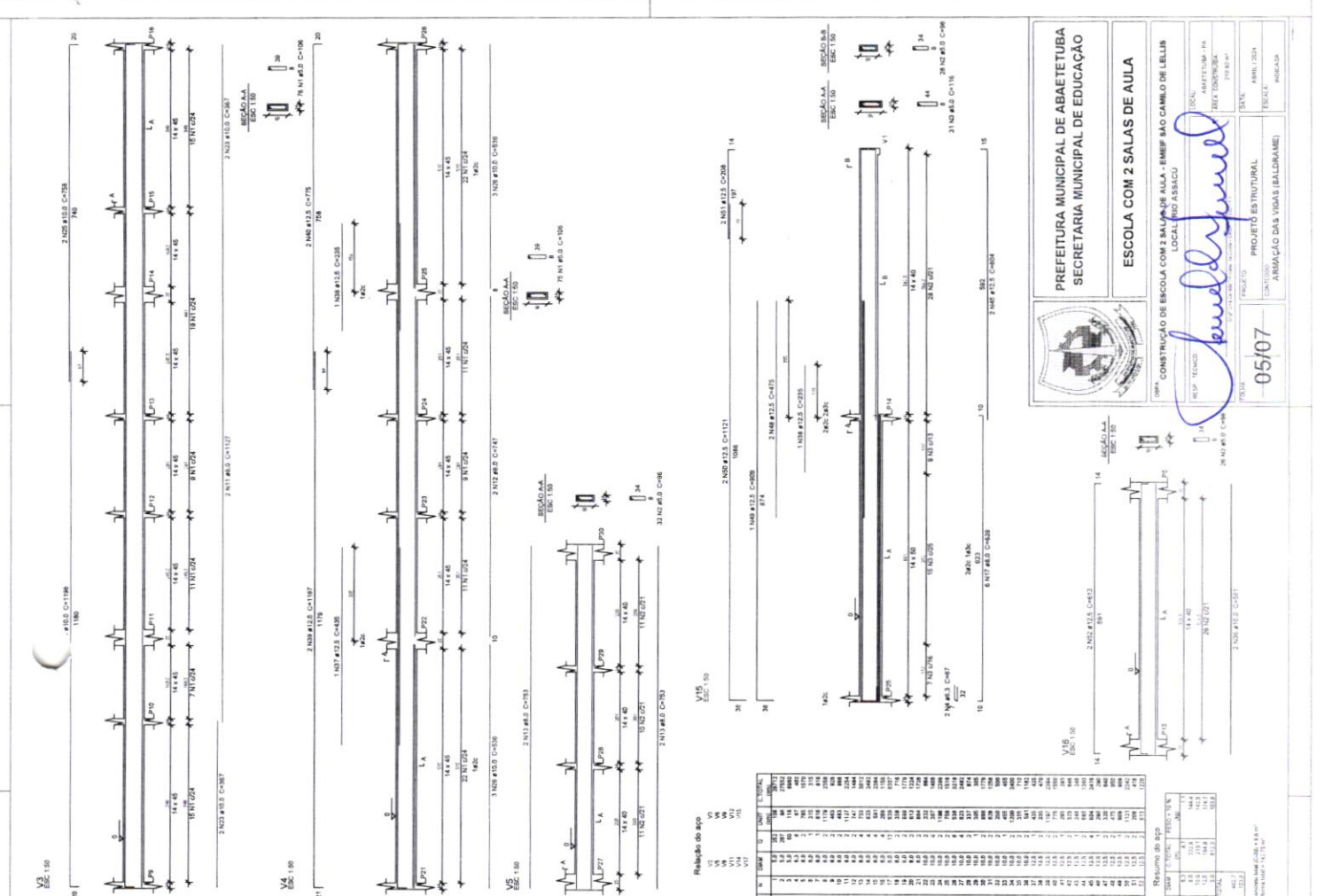
PROJETO ESTRUTURAL

04/07



**Relação do aço**

ACO	N	DMAP	Q	DME	C TOTAL	DME	DME
1	5,0	34					233
2	5,0	11					233
3	5,0	5					233
4	5,0	5					233
5	5,0	5					233
6	5,0	5					233
7	5,0	5					233
8	5,0	5					233
9	5,0	5					233
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14	5,0	5					233
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16	5,0	5					233
17	5,0	5					233
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21	5,0	5					233
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25	5,0	5					233
26	5,0	5					233
27	5,0	5					233
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37	5,0	5					233
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46	5,0	5					233
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51	5,0	5					233
52	5,0	5					233
53	5,0	5					233
54	5,0	5					233
55	5,0	5					233
56	5,0	5					233
57	5,						



Relação do aço

LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

Resumo do aço

LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LAPO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

PREFEITURA MUNICIPAL DE ABAETUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

ESCOLA COM 2 SALAS DE AULA

OPR. CONSTRUÇÃO DE ESCOLA COM 2 SALAS DE AULA - EMP. SÃO CAMILO DE LELLIS LOCAL: RIO ASSUCU

PROJ. ARQUITETURA: ARQUITETURA PA  
PROJ. ESTRUTURAL: ENG. TORRES  
PROJ. ELÉTRICO: ENG. TORRES

PROJETO ESTRUTURAL  
ARMADAÇÃO DAS VIGAS (BALDRAME)

05/07



**PREFEITURA MUNICIPAL DE ABAETETUBA**  
SECRETARIA MUNICIPAL DE EDUCAÇÃO



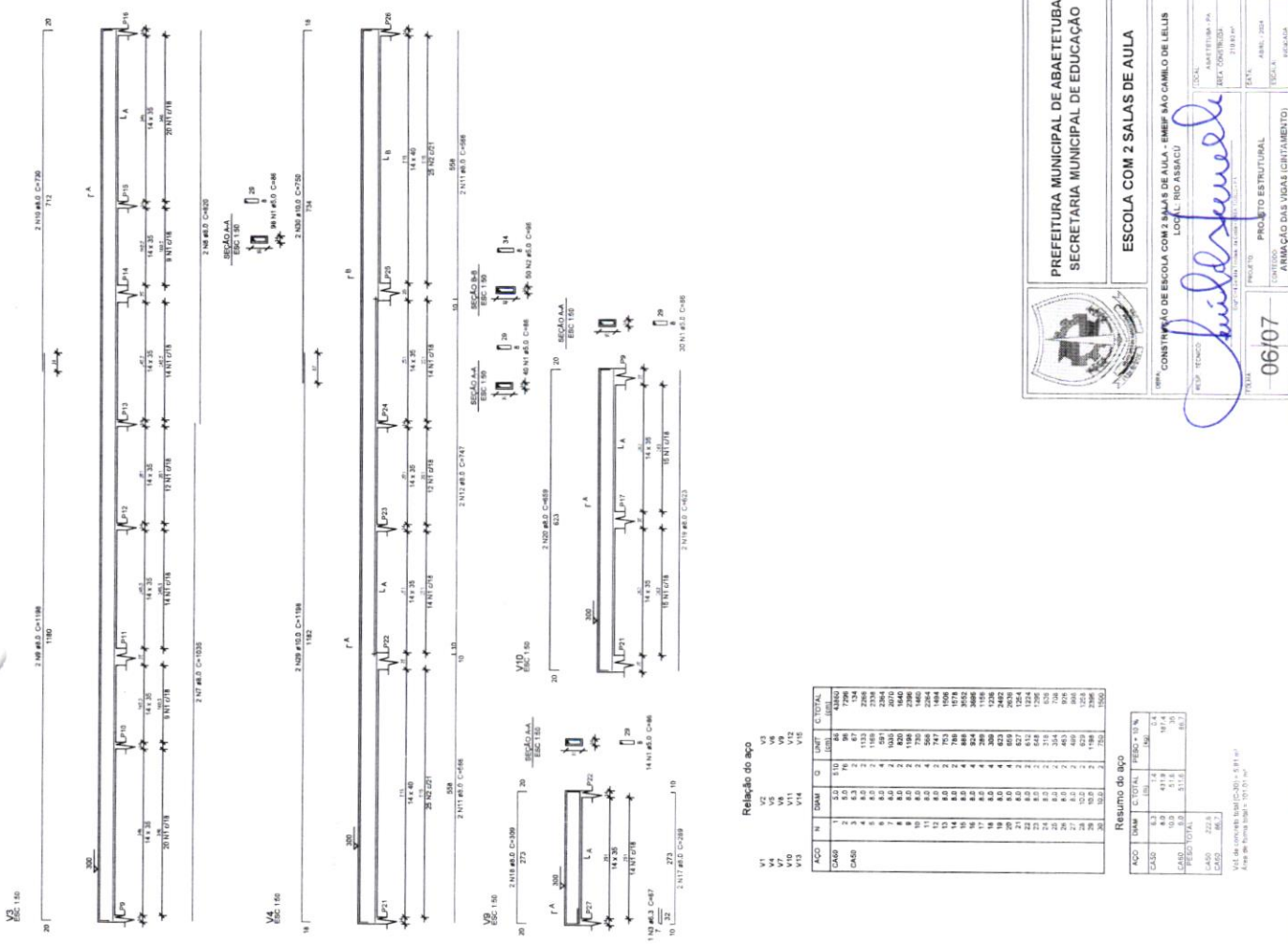
**ESCOLA COM 2 SALAS DE AULA**

OBJETIVO: CONSTRUÇÃO DE ESCOLA COM 2 SALAS DE AULA - EMPÉRIO SÃO CAMILO DE LELIS  
LOCAL: RIO ASSACU

PROJETO: ANIMAÇÃO DAS VIGAS (CONTINUAÇÃO)

06/07

PROJETO: ANIMAÇÃO DAS VIGAS (CONTINUAÇÃO)



**Relação do aço**

- V1
- V2
- V3
- V4
- V5
- V6
- V7
- V8
- V9
- V10
- V11
- V12
- V13
- V14
- V15

CAPO	N	DIAM	Q	UNIF	C. TOTAL	KG
CAPO	1	3,0	5,0	48	4800	720
CAPO	2	3,0	5,0	48	7200	1080
CAPO	3	4,0	2	1320	2640	352
CAPO	4	4,0	2	1320	2640	352
CAPO	5	4,0	2	1320	2640	352
CAPO	6	4,0	2	1320	2640	352
CAPO	7	4,0	2	1320	2640	352
CAPO	8	4,0	2	1320	2640	352
CAPO	9	4,0	2	1320	2640	352
CAPO	10	4,0	2	1320	2640	352
CAPO	11	4,0	2	1320	2640	352
CAPO	12	4,0	2	1320	2640	352
CAPO	13	4,0	2	1320	2640	352
CAPO	14	4,0	2	1320	2640	352
CAPO	15	4,0	2	1320	2640	352
CAPO	16	4,0	2	1320	2640	352
CAPO	17	4,0	2	1320	2640	352
CAPO	18	4,0	2	1320	2640	352
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CAPO	30	4,0	2	1320	2640	352
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CAPO	32	4,0	2	1320	2640	352
CAPO	33	4,0	2	1320	2640	352
CAPO	34	4,0	2	1320	2640	352
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CAPO	43	4,0	2	1320	2640	352
CAPO	44	4,0	2	1320	2640	352
CAPO	45	4,0	2	1320	2640	352
CAPO	46	4,0	2	1320	2640	352
CAPO	47	4,0	2	1320	2640	352
CAPO	48	4,0	2	1320	2640	352
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CAPO	63	4,0	2	1320	2640	352
CAPO	64	4,0	2	1320	2640	352
CAPO	65	4,0	2	1320	2640	352
CAPO	66	4,0	2	1320	2640	352
CAPO	67	4,0	2	1320	2640	352
CAPO	68	4,0	2	1320	2640	352
CAPO	69	4,0	2	1320	2640	352
CAPO	70	4,0	2	1320	2640	352
CAPO	71	4,0	2	1320	2640	352
CAPO	72	4,0	2	1320	2640	352
CAPO	73	4,0	2	1320	2640	352
CAPO	74	4,0	2	1320	2640	352
CAPO	75	4,0	2	1320	2640	352
CAPO	76	4,0	2	1320	2640	352
CAPO	77	4,0	2	1320	2640	352
CAPO	78	4,0	2	1320	2640	352
CAPO	79	4,0	2	1320	2640	352
CAPO	80	4,0	2	1320	2640	352
CAPO	81	4,0	2	1320	2640	352
CAPO	82	4,0	2	1320	2640	352
CAPO	83	4,0	2	1320	2640	352
CAPO	84	4,0	2	1320	2640	352
CAPO	85	4,0	2	1320	2640	352
CAPO	86	4,0	2	1320	2640	352
CAPO	87	4,0	2	1320	2640	352
CAPO	88	4,0	2	1320	2640	352
CAPO	89	4,0	2	1320	2640	352
CAPO	90	4,0	2	1320	2640	352
CAPO	91	4,0	2	1320	2640	352
CAPO	92	4,0	2	1320	2640	352
CAPO	93	4,0	2	1320	2640	352
CAPO	94	4,0	2	1320	2640	352
CAPO	95	4,0	2	1320	2640	352
CAPO	96	4,0	2	1320	2640	352
CAPO	97	4,0	2	1320	2640	352
CAPO	98	4,0	2	1320	2640	352
CAPO	99	4,0	2	1320	2640	352
CAPO	100	4,0	2	1320	2640	352

**Resumo do aço**

CAPO	DIAM	C. TOTAL	PESO * 10 <sup>-3</sup>
CAPO	3,0	100	1,5
CAPO	4,0	4118	547,4
CAPO	5,0	111	14,6
CAPO	6,0	311	40,9
CAPO	7,0	222,8	29,1
CAPO	8,0	46,2	6,0
CAPO	9,0	2	0,3
CAPO	10,0	2	0,3
CAPO	11,0	2	0,3
CAPO	12,0	2	0,3
CAPO	13,0	2	0,3
CAPO	14,0	2	0,3
CAPO	15,0	2	0,3
CAPO	16,0	2	0,3
CAPO	17,0	2	0,3
CAPO	18,0	2	0,3
CAPO	19,0	2	0,3
CAPO	20,0	2	0,3
CAPO	21,0	2	0,3
CAPO	22,0	2	0,3
CAPO	23,0	2	0,3
CAPO	24,0	2	0,3
CAPO	25,0	2	0,3
CAPO	26,0	2	0,3
CAPO	27,0	2	0,3
CAPO	28,0	2	0,3
CAPO	29,0	2	0,3
CAPO	30,0	2	0,3
CAPO	31,0	2	0,3
CAPO	32,0	2	0,3
CAPO	33,0	2	0,3
CAPO	34,0	2	0,3
CAPO	35,0	2	0,3
CAPO	36,0	2	0,3
CAPO	37,0	2	0,3
CAPO	38,0	2	0,3
CAPO	39,0	2	0,3
CAPO	40,0	2	0,3
CAPO	41,0	2	0,3
CAPO	42,0	2	0,3
CAPO	43,0	2	0,3
CAPO	44,0	2	0,3
CAPO	45,0	2	0,3
CAPO	46,0	2	0,3
CAPO	47,0	2	0,3
CAPO	48,0	2	0,3
CAPO	49,0	2	0,3
CAPO	50,0	2	0,3
CAPO	51,0	2	0,3
CAPO	52,0	2	0,3
CAPO	53,0	2	0,3
CAPO	54,0	2	0,3
CAPO	55,0	2	0,3
CAPO	56,0	2	0,3
CAPO	57,0	2	0,3
CAPO	58,0	2	0,3
CAPO	59,0	2	0,3
CAPO	60,0	2	0,3
CAPO	61,0	2	0,3
CAPO	62,0	2	0,3
CAPO	63,0	2	0,3
CAPO	64,0	2	0,3
CAPO	65,0	2	0,3
CAPO	66,0	2	0,3
CAPO	67,0	2	0,3
CAPO	68,0	2	0,3
CAPO	69,0	2	0,3
CAPO	70,0	2	0,3
CAPO	71,0	2	0,3
CAPO	72,0	2	0,3
CAPO	73,0	2	0,3
CAPO	74,0	2	0,3
CAPO	75,0	2	0,3
CAPO	76,0	2	0,3
CAPO	77,0	2	0,3
CAPO	78,0	2	0,3
CAPO	79,0	2	0,3
CAPO	80,0	2	0,3
CAPO	81,0	2	0,3
CAPO	82,0	2	0,3
CAPO	83,0	2	0,3
CAPO	84,0	2	0,3
CAPO	85,0	2	0,3
CAPO	86,0	2	0,3
CAPO	87,0	2	0,3
CAPO	88,0	2	0,3
CAPO	89,0	2	0,3
CAPO	90,0	2	0,3
CAPO	91,0	2	0,3
CAPO	92,0	2	0,3
CAPO	93,0	2	0,3
CAPO	94,0	2	0,3
CAPO	95,0	2	0,3
CAPO	96,0	2	0,3
CAPO	97,0	2	0,3
CAPO	98,0	2	0,3
CAPO	99,0	2	0,3
CAPO	100,0	2	0,3

V15 do concreto total (C-30) = 5,81 m<sup>3</sup>  
 Área de forma total = 107,1 m<sup>2</sup>

Relação do apo

Positivos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
	2	5.0	12	286	3432
	3	5.0	34	815	20910
	4	5.0	34	815	20910
	5	5.0	6	360	2180
	6	5.0	14	355	4970
	7	5.0	14	355	4970
	8	5.0	14	355	4970
	9	5.0	6	265	1590
	10	5.0	6	249	1484
CA50	11	5.0	31	215	3965
	12	5.0	31	215	3965
	13	5.0	3	259	766
	14	5.0	3	146	438
	15	5.0	3	116	348
	16	5.0	3	116	348
	17	5.0	8	185	1110
	18	5.0	3	222	696
	19	5.0	3	251	753
	20	5.0	3	251	753
CA50	21	5.0	302	278	8397
	22	5.0	52	318	16536
	23	5.0	89	281	25009
	24	5.0	52	303	24978
	25	5.0	85	263	22678
	26	5.0	359	823	223627
	27	5.0	121	223	26983
	28	8.0	13	143	1859
	29	8.0	13	143	1859
	30	12.5	82	282	17484

Resumo do apo

ACO	DIAM	C.TOTAL	PEQO + 10 %	Q
CA50	8.0	68	8.1	67
CA50	12.5	174.9	185.3	174
CA50	5.0	8191.2	10487.7	8191
CA50	240.5			240
CA50	10487.7			10487

Vol de concreto total (CO50 = 20 m³)  
Área de forma total = 132.82 m²

Relação do apo

Negativos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
	2	5.0	12	286	3432
	3	5.0	34	815	20910
	4	5.0	34	815	20910
	5	5.0	6	360	2180
	6	5.0	14	355	4970
	7	5.0	14	355	4970
	8	5.0	14	355	4970
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	16	5.0	3	116	348
	17	5.0	8	185	1110
	18	5.0	3	222	696
	19	5.0	3	251	753
	20	5.0	3	251	753
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	22	5.0	52	318	16536
	23	5.0	89	281	25009
	24	5.0	52	303	24978
	25	5.0	85	263	22678
	26	5.0	359	823	223627
	27	5.0	121	223	26983
	28	8.0	13	143	1859
	29	8.0	13	143	1859
	30	12.5	82	282	17484

Resumo do apo

ACO	DIAM	C.TOTAL	PEQO + 10 %	Q
CA50	8.0	68	8.1	67
CA50	12.5	174.9	185.3	174
CA50	5.0	8191.2	10487.7	8191
CA50	240.5			240
CA50	10487.7			10487

Vol de concreto total (CO50 = 20 m³)  
Área de forma total = 132.82 m²

Relação do apo

Positivos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
	2	5.0	12	286	3432
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	4	5.0	34	815	20910
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Resumo do apo

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CA50	8.0	68	8.1	67
CA50	12.5	174.9	185.3	174
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CA50	240.5			240
CA50	10487.7			10487

Vol de concreto total (CO50 = 20 m³)  
Área de forma total = 132.82 m²

Relação do apo

Negativos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
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	27	5.0	121	223	26983
	28	8.0	13	143	1859
	29	8.0	13	143	1859
	30	12.5	82	282	17484

Resumo do apo

ACO	DIAM	C.TOTAL	PEQO + 10 %	Q
CA50	8.0	68	8.1	67
CA50	12.5	174.9	185.3	174
CA50	5.0	8191.2	10487.7	8191
CA50	240.5			240
CA50	10487.7			10487

Vol de concreto total (CO50 = 20 m³)  
Área de forma total = 132.82 m²

Relação do apo

Positivos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
	2	5.0	12	286	3432
	3	5.0	34	815	20910
	4	5.0	34	815	20910
	5	5.0	6	360	2180
	6	5.0	14	355	4970
	7	5.0	14	355	4970
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	9	5.0	6	265	1590
	10	5.0	6	249	1484
CA50	11	5.0	31	215	3965
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	13	5.0	3	259	766
	14	5.0	3	146	438
	15	5.0	3	116	348
	16	5.0	3	116	348
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	22	5.0	52	318	16536
	23	5.0	89	281	25009
	24	5.0	52	303	24978
	25	5.0	85	263	22678
	26	5.0	359	823	223627
	27	5.0	121	223	26983
	28	8.0	13	143	1859
	29	8.0	13	143	1859
	30	12.5	82	282	17484

Resumo do apo

ACO	DIAM	C.TOTAL	PEQO + 10 %	Q
CA50	8.0	68	8.1	67
CA50	12.5	174.9	185.3	174
CA50	5.0	8191.2	10487.7	8191
CA50	240.5			240
CA50	10487.7			10487

Vol de concreto total (CO50 = 20 m³)  
Área de forma total = 132.82 m²

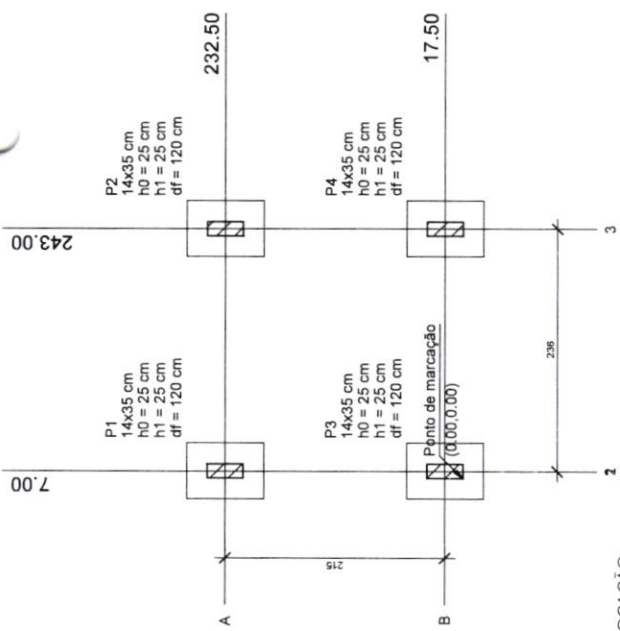
Relação do apo

Negativos

ACO	N	DIAM	Q	UNIT	C.TOTAL
CA50	1	5.0	368	67	24656
	2	5.0	12	286	3432
	3	5.0	34	815	20910
	4	5.0	34	815	20910
	5	5.0	6	360	2180
	6	5.0	14	355	4970
	7	5.0	14	355	4970
	8	5.0	14	355	4970
	9	5.0	6	265	1590
	10	5.0	6	249	1484
CA50	11	5.0	31	215	3965
	12	5.0	31	215	3965
	13	5.0	3	259	766
	14	5.0	3	146	438
	15	5.0	3	116	348
	16	5.0	3	116	348
	17	5.0	8	185	1110
	18	5.0	3	222	696
	19	5.0	3	251	753
	20	5.0	3	251	753
CA50	21	5.0	302	2	





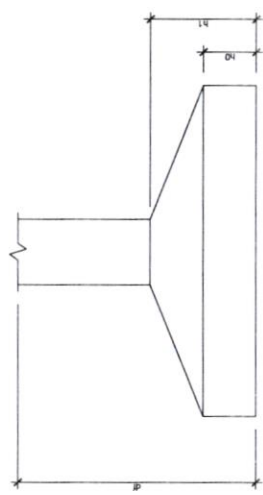


PLANTA DE LOCAÇÃO  
Escala 1:50

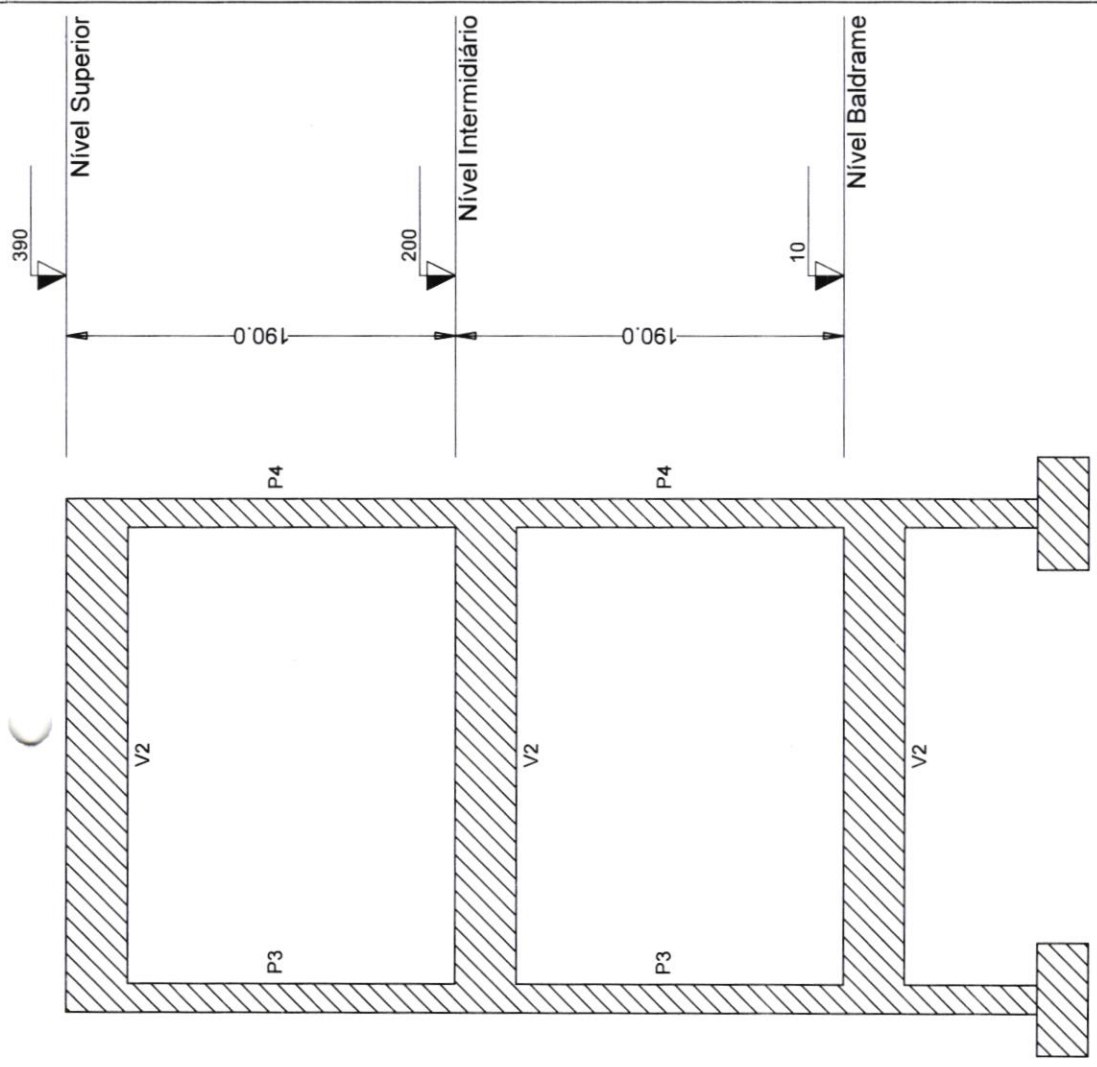
Nome	Seção	X (cm)	Y (cm)	Carga Máx. (tf)	Carga Mín. (tf)	Fundação			df (cm)	
						Lado A (cm)	Lado B (cm)	Lado H (cm)		
P1	14x35	7,00	232,50	6,2	3,3	55	75	25	25	120
P2	14x35	243,00	232,50	6,2	3,3	75	55	25	25	120
P3	14x35	7,00	17,50	7,0	3,3	75	75	25	25	120
P4	14x35	243,00	17,50	7,0	3,3	55	75	25	25	120

Localização no eixo X	
Coordenada (cm)	Nome
243,00	P1, P2, P3, P4

Localização no eixo Y	
Coordenada (cm)	Nome
232,50	P1, P2
17,50	P3, P4



CORTE A-A'  
Escala 1:25



PREFEITURA MUNICIPAL DE ABAETETUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

01-06

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PROJETO ESTRUTURAL

LOCALIZAÇÃO: ABAETETUBA/PA

DATA: 14/05/2014

CASTELO PARA RESERVATÓRIO DE 2000 L

PROJETO DE ARQUITETURA

PROJETO DE FUNDAMENTAÇÃO

PROJETO DE ELABORAÇÃO DE PLANILHAS

PROJETO DE EXECUÇÃO

PROJETO DE CORTES

01-06



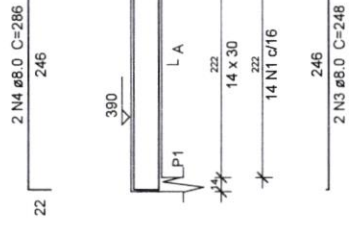




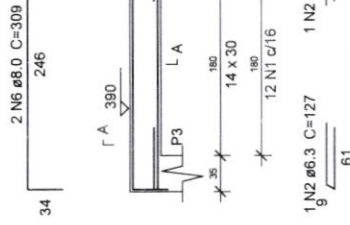




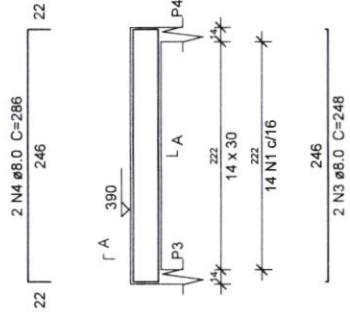
V1  
ESC 1:100



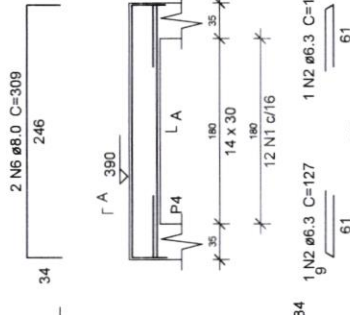
V3  
ESC 1:100



V2  
ESC 1:100



V4  
ESC 1:100

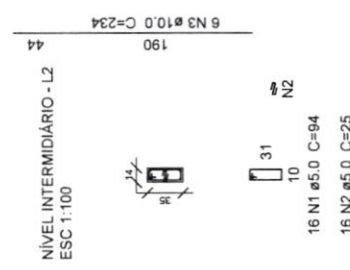


Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	5.1	1.4
CA60	8.0	44.2	19.2
PESO TOTAL			7.4
CA50	20.6		
CA60	7.4		

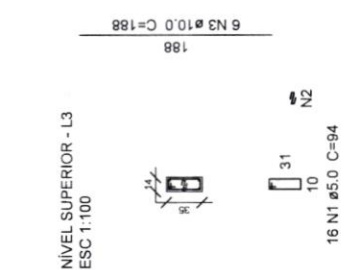
Vol. de concreto total (C=20) = 0.42 m³  
Área de forma total = 7.4 m²

P1=P2=P3=P4



ARMAÇÃO PILARES INTERMEDIÁRIOS  
Escala 1:50

P1=P2=P3=P4



ARMAÇÃO PILARES SUPERIOR  
Escala 1:50

Relação do aço

4xP1

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	64	94	6016
CA50	3	10.0	24	234	5616

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	56.2	38.1
CA60	5.0	76.2	12.9
PESO TOTAL			
CA50	38.1		
CA60	12.9		

Vol. de concreto total (C=20) = 0.37 m³  
Área de forma total = 7.45 m²

Relação do aço

4xP1

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5.0	64	94	6016
CA50	3	10.0	24	188	4512

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	10.0	45.2	30.6
CA60	5.0	76.2	12.9
PESO TOTAL			
CA50	30.6		
CA60	12.9		

Vol. de concreto total (C=20) = 0.37 m³  
Área de forma total = 7.45 m²



PREFEITURA MUNICIPAL DE ABAETETUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

CASTELO PARA RESERVATÓRIO DE 2000 L

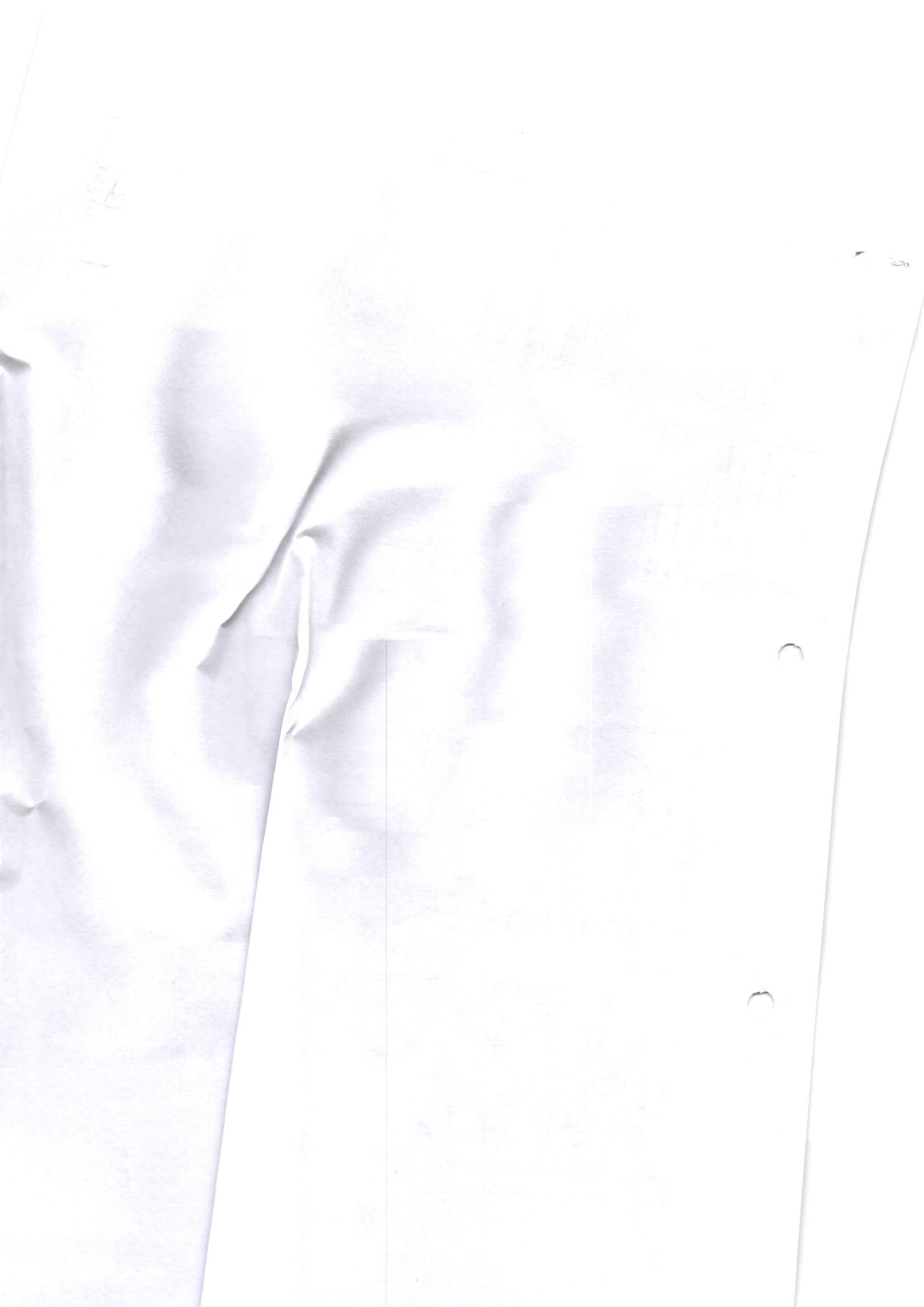
Projeto de Engenharia  
Abraão de Souza  
Abraão de Souza  
Arquiteto  
Projeto de Engenharia  
Abraão de Souza  
Arquiteto

05-06











**Quadro de Cargas (AL1)**

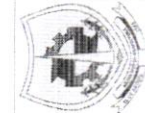
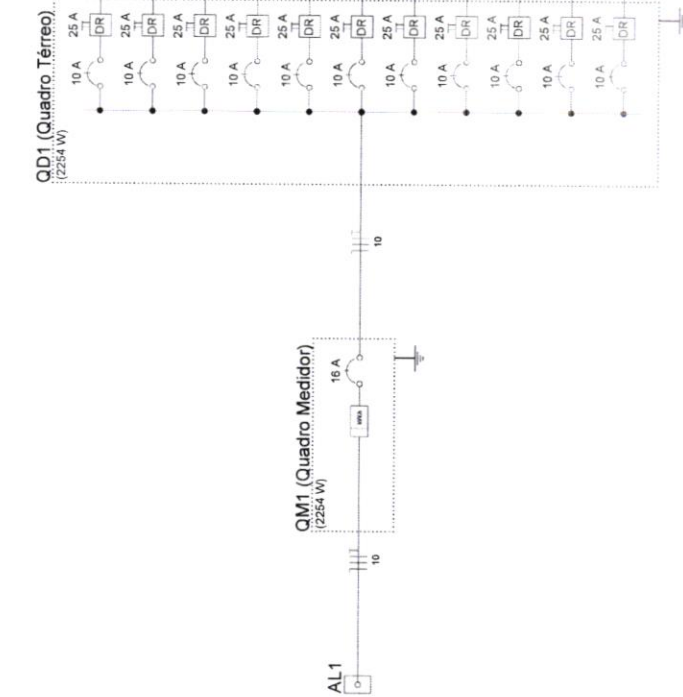
Circuito	Descrição	Esquema	Método de inst.	V (V)	Pot. Inst. (VA)	Pot. Tot. (W)	Fases	Pot. - R (W)	Pot. - S (W)	Pot. - T (W)	FCT	FCA	In' (A)	Seção (mm2)	Ic (A)	Disj (A)	dV parc (%)	dV total (%)	Status	
QM1	Quadro Medidor	2F+N+T	B1	220 / 127 V	2875	2254	R+S	2254	0	0	1,00	1,00	14,9	10	50,0	40,0	0,85	0,85	Ok	
TOTAL					2875	2254	R+S	2254	0	0									0,85	Ok

**Quadro de Cargas (QM1)**

Circuito	Descrição	Esquema	Método de inst.	V (V)	Pot. total (VA)	Pot. total (W)	Fases	Pot. - R (W)	Pot. - S (W)	Pot. - T (W)	FCT	FCA	In' (A)	Seção (mm2)	Ic (A)	Disj (A)	dV parc (%)	dV total (%)	Status	
QD1	Quadro Têrreo	2F+N+T	B1	220 / 127 V	2875	2254	R+S	2254	0	0	1,00	1,00	14,9	10	50,0	40,0	0,85	0,85	Ok	
TOTAL					2875	2254	R+S	2254	0	0										Ok

**Quadro de Cargas (QD1)**

Circuito	Descrição	Esquema	Método de inst.	V (V)	Pot. total (VA)	Pot. total (W)	Fases	Pot. - R (W)	Pot. - S (W)	Pot. - T (W)	FCT	FCA	In' (A)	Seção (mm2)	Ic (A)	Disj (A)	dV parc (%)	dV total (%)	Status
1	Iluminação Diretoria, Secret. e Frente	F+N	B1	127 V	24	117	R	98	0	0	1,00	1,00	0,9	2,5	31,0	10,0	0,27	3,32	Ok
2	Iluminação Sala de Aula 01	F+N	B1	127 V	1	33	R	24	0	0	1,00	1,00	0,5	2,5	31,0	10,0	0,18	3,23	Ok
3	Iluminação Corredor	F+N	B1	127 V	2	67	R	48	0	0	1,00	1,00	0,5	2,5	31,0	10,0	0,05	3,11	Ok
4	Iluminação Sala de Aula 02	F+N	B1	127 V	1	33	R	24	0	0	1,00	1,00	0,3	2,5	31,0	10,0	0,20	3,25	Ok
5	Iluminação Cozinha, Depós. e Banheiros	F+N	B1	127 V	5	167	R	120	0	0	1,00	1,00	1,3	2,5	31,0	10,0	0,12	3,17	Ok
6	Iluminação Recreio	F+N	B1	127 V	1	33	R	24	0	0	1,00	1,00	0,8	2,5	31,0	10,0	0,15	3,20	Ok
7	Tomadas Diretoria e Secretaria	F+N+T	B1	127 V	4	500	R	400	0	0	1,00	1,00	3,9	2,5	31,0	10,0	1,15	4,20	Ok
8	Tomadas Sala de Aula 01	F+N+T	B1	127 V	4	500	R	400	0	0	1,00	1,00	3,9	2,5	31,0	10,0	0,97	4,02	Ok
9	Tomadas de Sala aula 02	F+N+T	B1	127 V	2	250	R	200	0	0	1,00	1,00	2,0	2,5	31,0	10,0	1,23	4,28	Ok
10	Tomadas Cozinha	F+N+T	B1	127 V	3	375	R	300	0	0	1,00	1,00	2,0	2,5	31,0	10,0	0,25	3,30	Ok
11	Tomadas Recreio	F+N+T	B1	127 V	2	2875	R+S	2254	0	0	1,00	0,80	3,7	2,5	31,0	10,0	0,84	3,99	Ok
TOTAL					21	2875	R+S	2254	0	0									



PREFEITURA MUNICIPAL DE ABAAETETUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

ESCOLA COM 2 SALAS DE AULAS

COMPANHIA DE SERVIÇOS DE ABAAETETUBA S.A. (CASA) - RUA SÃO CARLOS DE VILHENA, 100 - ABAAETETUBA - PA

PROJETO ELÉTRICO

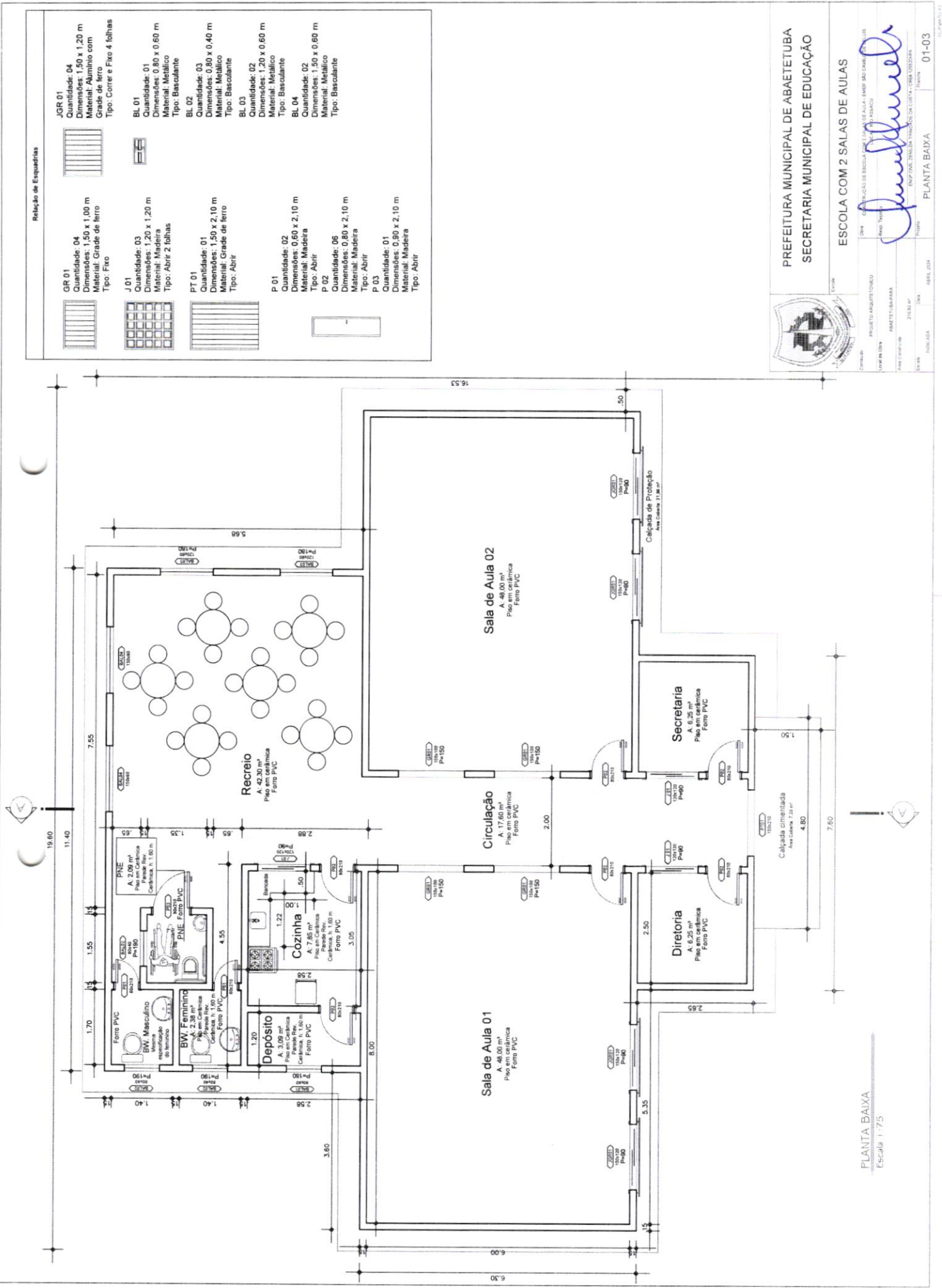
ABAAETETUBA - PA

21/02/2014

ABRIL/2014

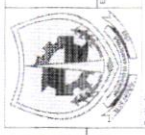
02-02





**Relação de Esquadrias**

	<b>GR 01</b> Quantidade: 04 Dimensões: 1,50 x 1,00 m Material: Grade de ferro Tipo: Fixo		<b>JGR 01</b> Quantidade: 04 Dimensões: 1,50 x 1,20 m Material: Alumínio com Grade de ferro Tipo: Correr e Fixo 4 folhas
	<b>J 01</b> Quantidade: 03 Dimensões: 1,20 x 1,20 m Material: Madeira Tipo: Abir 2 folhas		<b>BL 01</b> Quantidade: 01 Dimensões: 0,80 x 0,60 m Material: Metálico Tipo: Basculante
	<b>PT 01</b> Quantidade: 01 Dimensões: 1,50 x 2,10 m Material: Grade de ferro Tipo: Abir		<b>BL 02</b> Quantidade: 03 Dimensões: 0,80 x 0,40 m Material: Metálico Tipo: Basculante
	<b>P 02</b> Quantidade: 06 Dimensões: 0,80 x 2,10 m Material: Madeira Tipo: Abir		<b>BL 03</b> Quantidade: 02 Dimensões: 1,20 x 0,60 m Material: Metálico Tipo: Basculante
	<b>P 01</b> Quantidade: 02 Dimensões: 0,60 x 2,10 m Material: Madeira Tipo: Abir		<b>BL 04</b> Quantidade: 02 Dimensões: 1,30 x 0,60 m Material: Metálico Tipo: Basculante
	<b>P 03</b> Quantidade: 01 Dimensões: 0,90 x 2,10 m Material: Madeira Tipo: Abir		

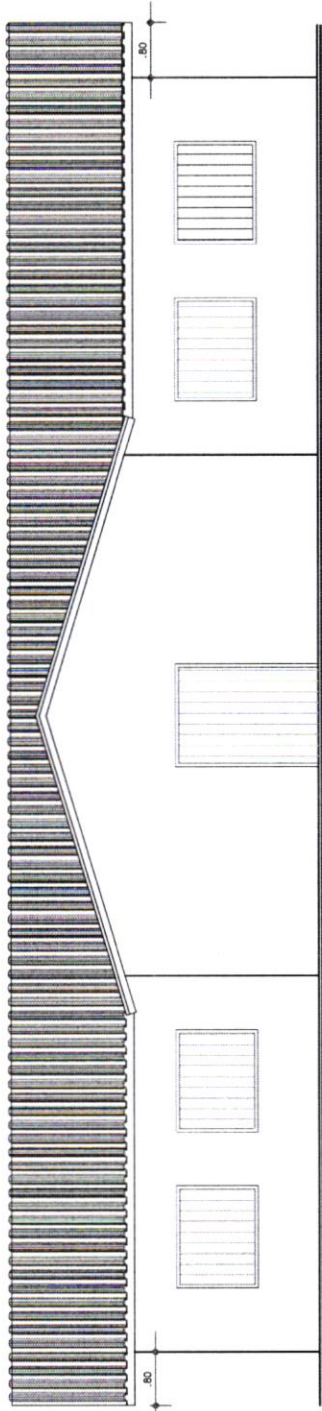


**PREFEITURA MUNICIPAL DE ABAEETUBA**  
**SECRETARIA MUNICIPAL DE EDUCAÇÃO**

ESCOLA COM 2 SALAS DE AULAS

Contribuinte: PROJETO ARQUITETÔNICO  
 Local de Obra: ABAEETUBA/PARA  
 Área: 1000,00 m<sup>2</sup>  
 Data: 21/03/2018  
 Projeto: 01-03  
 Assinatura: [Assinatura]  
 Nome: ENZO FREDERICO ZANINELLI TORRES DE LIMA  
 Cargo: ARQUITETO

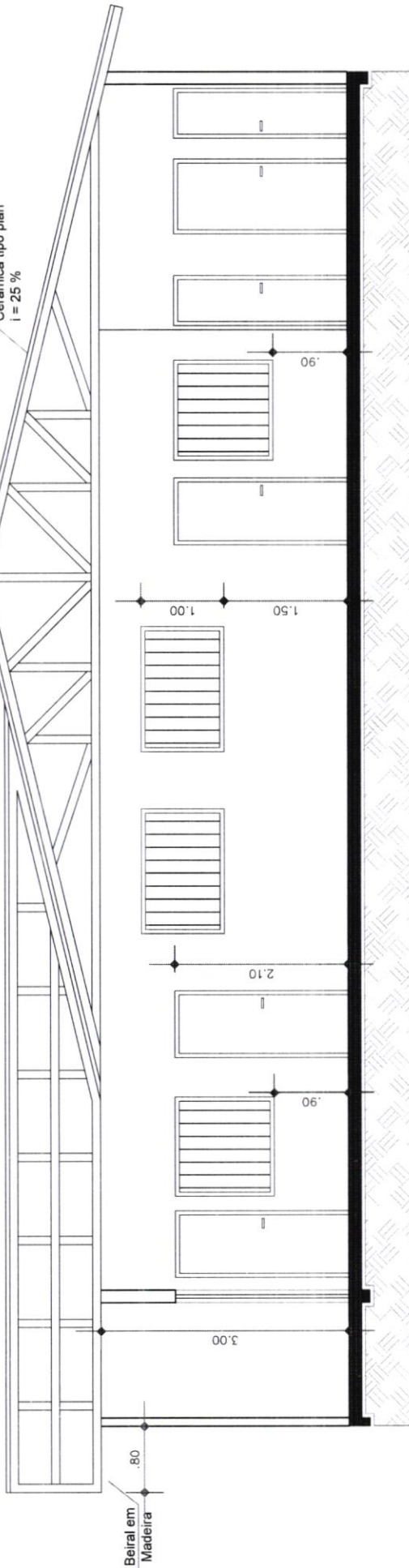
PLANTA BAIXA  
Escala 1:75



FACHADA  
Escala 1:75

Estrutura do Telhado  
somente ilustrativa

Cobertura Telha  
Cerâmica tipo plan  
I = 25 %



CORTE A-A  
Escala 1:50



PREFEITURA MUNICIPAL DE ABAETETUBA  
SECRETARIA MUNICIPAL DE EDUCAÇÃO

ESCOLA COM 2 SALAS DE AULAS

Projeto de Engenharia de Arquitetura e Urbanismo  
Projeto Arquitetônico  
Linha de Onda  
Abaetetuba/PA  
Arquiteta  
27/03/2014  
Projeto  
ABRIL/2014  
FACHADA E CORTE  
02-03

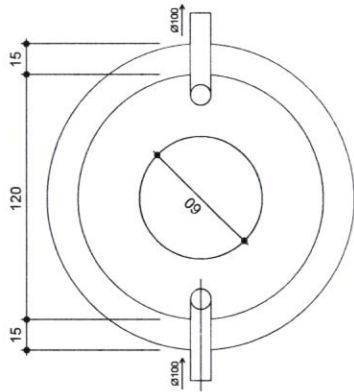




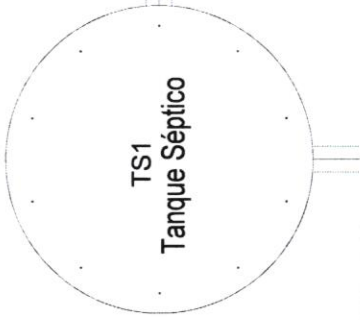




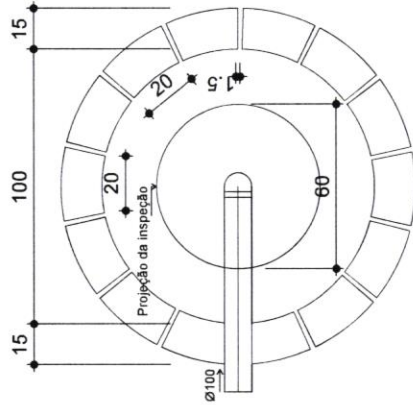




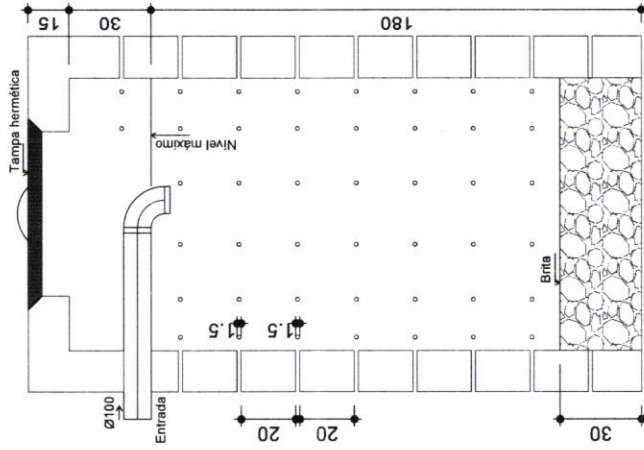
TANQUE S PTICO - PLANTA BAIXA  
Escala 1:100



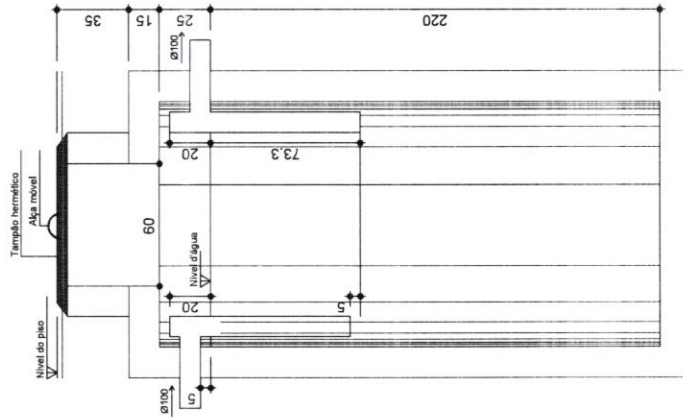
DETALHE 02  
Escala 1:20



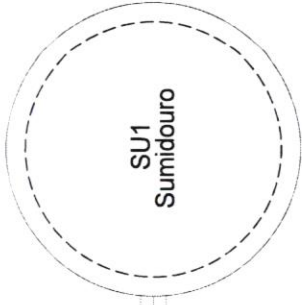
SUMIDOURO - PLANTA BAIXA  
Escala 1:75



SUMIDOURO - CORTE  
Escala 1:75



TANQUE S PTICO - CORTE  
Escala 1:100



PREFEITURA MUNICIPAL DE ABAETETUBA  
SECRETARIA MUNICIPAL DE EDUCA O

ESCOLA COM 2 SALAS DE AULAS

EMPRESA	CONSTRUTORA DE ENGENHARIA CIVIL E SANEAMENTO DO PARAGUAY S.A. (COPASA)
PROJETO ARQUITETONICO	PROJ. CIVIL
LOCAL DO OBRAS	ABAETETUBA/PARA
AREA CONSTRUIDA	218,82 m <sup>2</sup>
DATA	20/08/2014
INDICADOR	DETA
MARCO DEB	FOSSA E SUMIDOURO
NUMERO	03-03
PROJETA	DET 02
ASSINATURA	<i>[Handwritten Signature]</i>
EMPRESA	ENGENHARIA T�CNICA INGENHARIA CIVIL - ABRA FERREIRA