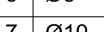
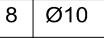
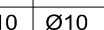
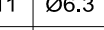
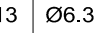
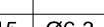
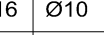
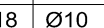
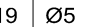

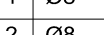
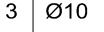
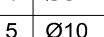
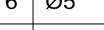
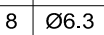
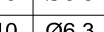
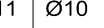
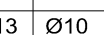
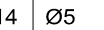

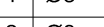
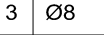
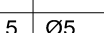
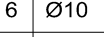
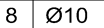
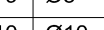
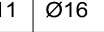
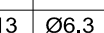
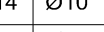
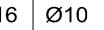
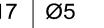
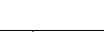
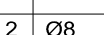
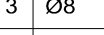
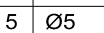
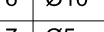
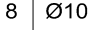
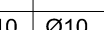
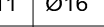
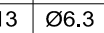
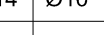
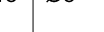
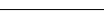
























Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (m)	Total (kg)	CA-50 (kg)	CA-60 (kg)		
V 1	1	Ø8	2		130	155	310	1,2		
	2	Ø8	2		240	240	1440	5,7		
	3	Ø8	2		275	275	550	2,2		
	4	Ø8	2		165	190	380	1,5		
	5	Ø10	2		170	195	390	2,4		
	6	Ø5	8		325	325	2600		4,1	
	7	Ø10	6		315	315	1890	11,6		
	8	Ø10	2		345	345	690	4,3		
	9	Ø5	2		280	260	520		0,8	
	10	Ø10	2		200	225	450	2,8		
	11	Ø6,3	4		617	642	2568	6,3		
	12	Ø6,3	6		614	614	3684	9,0		
	13	Ø6,3	2		440	440	880	2,2		
	14	Ø10	4		440	440	1760	10,8		
	15	Ø6,3	2		405	405	810	2,0		
	16	Ø10	4		405	405	1620	10,0		
	17	Ø6,3	1		410	410	410	1,0		
	18	Ø10	2		410	410	820	5,1		
	19	Ø5	170			128	21760		34,2	
							Total+10%:	85,9	43,0	
V 2	1	Ø8	4		130	155	620	2,4		
	2	Ø8	8		240	240	1920	7,6		
	3	Ø10	2		170	195	390	2,4		
	4	Ø5	8		325	325	2600		4,1	
	5	Ø10	8		315	315	2520	15,5		
	6	Ø5	2		390	350	700		1,1	
	7	Ø10	2		165	170	340	2,1		
	8	Ø6,3	4		617	642	2568	6,3		
	9	Ø6,3	6		614	614	3684	9,0		
	10	Ø6,3	2		440	440	880	2,2		
	11	Ø10	4		440	440	1760	10,8		
	12	Ø6,3	3		405	405	1215	3,0		
	13	Ø10	6		405	405	2430	15,0		
	14	Ø5	170			128	21760		34,2	
							Total+10%:	83,9	43,3	
	V 3	1	Ø8	4		235	260	1040	4,1	
		2	Ø8	4		325	325	1300	5,1	
		3	Ø8	2		290	290	580	2,3	
		4	Ø10	4		275	300	1200	7,4	
		5	Ø5	4		180	720			1,1
6		Ø10	2		405	810	5,0			
7		Ø5	2		210	420			0,7	
8		Ø10	2		490	400	8,9			
9		Ø5	2		245	490			0,8	
10		Ø10	2		370	740	4,6			
11		Ø16	4		635	660	2640	41,7		
12		Ø6,3	4		588	588	2352	5,8		
13		Ø6,3	1		470	470	470	1,2		
14		Ø10	2		470	940	5,8			
15		Ø6,3	1		435	435	435	1,1		
16		Ø10	2		435	870	5,4			
17		Ø5	130			128	16640		26,1	
							Total+10%:	103,8	31,6	
V 4		1	Ø8	4		235	260	1040	4,1	
		2	Ø8	4		325	325	1300	5,1	
	3	Ø8	2		290	290	580	2,3		
	4	Ø10	4		275	300	1200	7,4		
	5	Ø5	4		180	720			1,1	
	6	Ø10	2		405	810	5,0			
	7	Ø5	2		210	420			0,7	
	8	Ø10	2		490	400	8,9			
	9	Ø5	2		245	490			0,8	
	10	Ø10	2		370	740	4,6			
	11	Ø16	4		635	660	2640	41,7		
	12	Ø6,3	4		588	588	2352	5,8		
	13	Ø6,3	2		470	940	2,3			
	14	Ø10	4		470	1880	11,6			
	15	Ø5	130			128	16640		26,1	
							Total+10%:	104,3	31,6	
							Ø5:	0,0	149,5	
							Ø6,3:	62,8	0,0	
							Ø8:	48,1	0,0	
							Ø10:	175,3	0,0	
						Ø16:	91,7	0,0		
						Total:	377,9	149,5		

Resumo Aço Desenho de vigas	Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø6.3	232.5	63
	Ø8	110.6	48
	Ø10	258.5	175
	Ø16	52.8	92
CA-60	Ø5	864.8	149
Total			527

NÍVEL +3.00  
Desenho de vigas  
Concreto: C40, usina.rigor  
Aço das barras: CA-50 e CA-60  
Aço dos estribos: CA-50 e CA-60  
Escala vigas 1:50  
Escala seções 1:25  
Escala aberturas 1:25

SÒOÒPÖÖÓUÓÙÜXœ ( ÒÙ

- 1- COBRIMENTO DAS ARMADURAS :
- $\phi_{mín} = 0,025 \times f_{ctd} \times A_s$
- VIGAS E PILARES = 3,0 cm
- LAJES = 2,5 cm
- 2- CLASSE DE AGRESSIVIDADE AMBIENTAL - II - ( MODERADA )
- 3-  $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s \times \sqrt{f_{ctd}}$
- CONCRETO - CLASSE C40
- $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s$
- CA-60
- $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s \times \sqrt{f_{ctd}}$
- $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s \times \sqrt{f_{ctd}}$
- 4-  $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s \times \sqrt{f_{ctd}}$
- NOMINAIS DAS ARMADURAS.
- $\phi_{mín} = 0,0003 \times f_{ctd} \times A_s \times \sqrt{f_{ctd}}$


<b>Dó</b>	<b>DATA</b>	<b>00000QIU</b>	<b>DESENHO</b>	<b>VERIF.</b>
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EMPRESA



e-mail: [tera.ltda@oi.com.br](mailto:tera.ltda@oi.com.br)  
(71) 3240-9357



PREFEITURA MUNICIPAL DE SANTA LUZIA  
ADM. DELEGADO CHRISTIANO XAVIER

UÓŪ⌘PÖÖÜÖ° U

ESCOLA MUNICIPAL SANTA LUZIA  
RUA DESEMBARGADOR DÁRIO LINS S/N, NOSSA Sra. DAS GRAÇAS - SANTA LUZIA/MG

ÖÖPUT QÆ ¶UÄÜÄÖÜÖPU ESTRUTURAL

DETALHES DE VIGAS 02

ANTONIO DE MELO PRADO CREA : 23.141-D/MG

FOLHA

EST-18/19

DATA : MAR/2020  
ESCALA : INDICADA  
UÜÖÖT /ÖÖÄÖÜXQ UÄÖK

**FASE**  
**PROJETO EXECUTIVO**

## DESENHO

ARQUIVO

QUA-PE-EST-009-VIG-R00