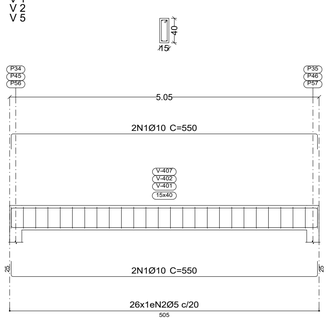
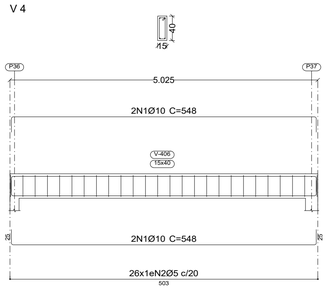
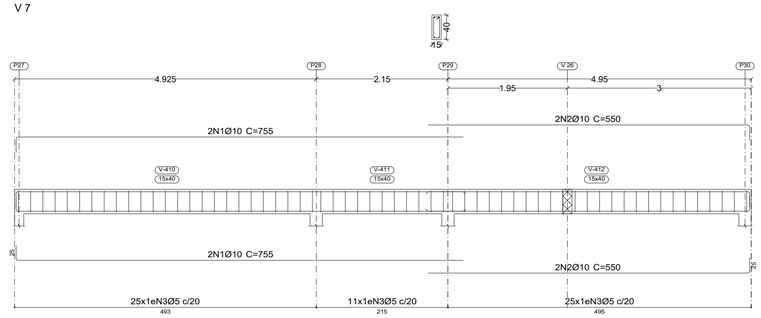
V 1
V 2
V 5



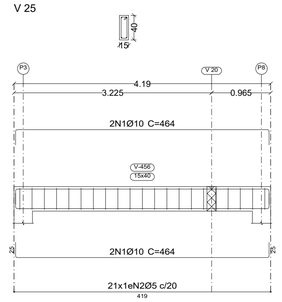
V 4



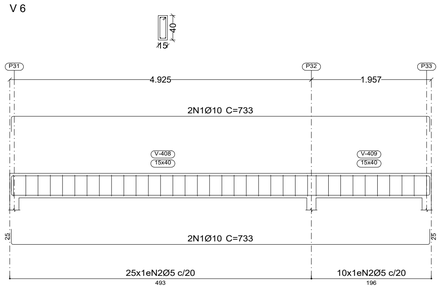
V 7



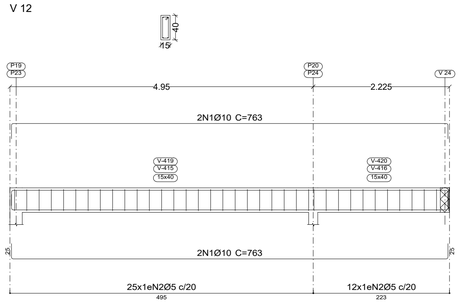
V 25



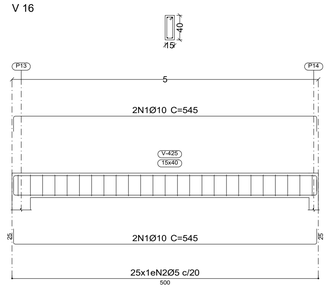
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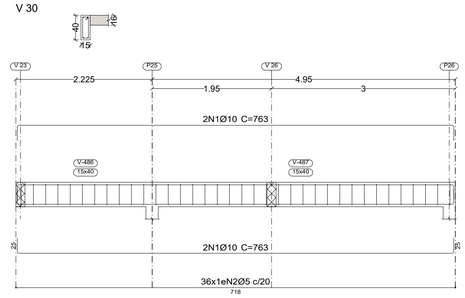
V 10
V 12



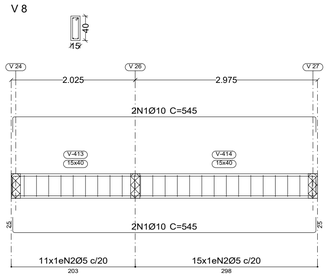
V 16



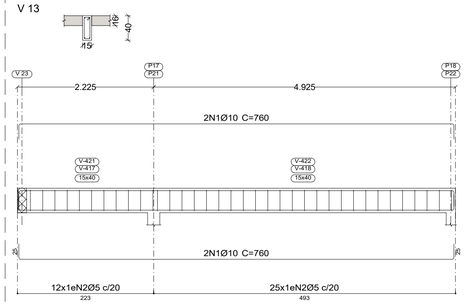
V 30



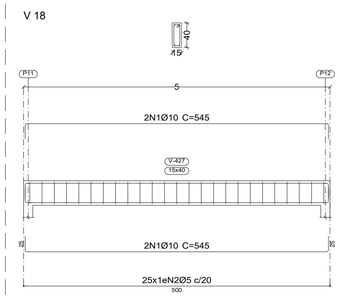
V 8



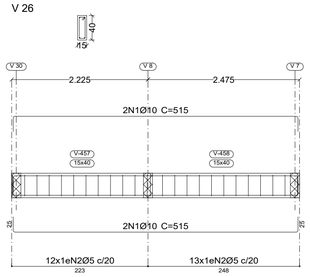
V 11
V 13



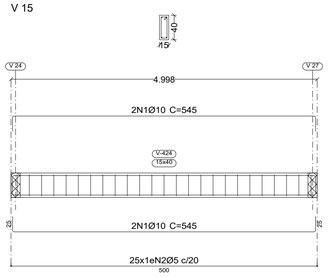
V 18



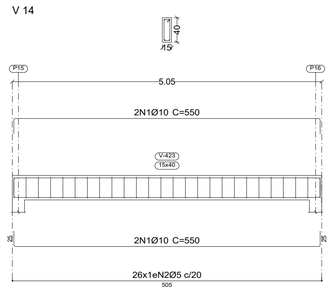
V 26



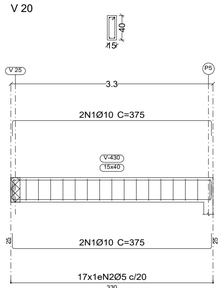
V 15



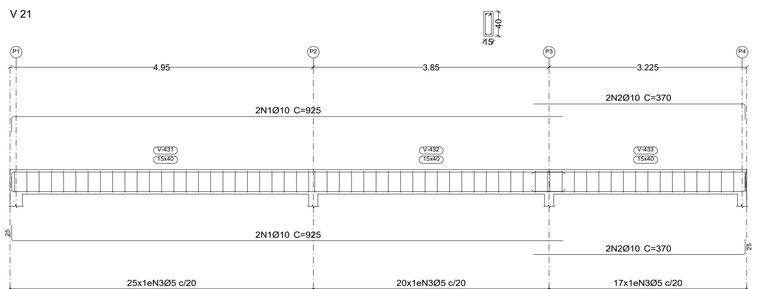
V 14



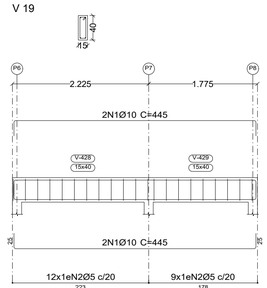
V 20



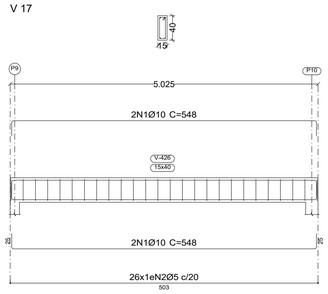
V 21



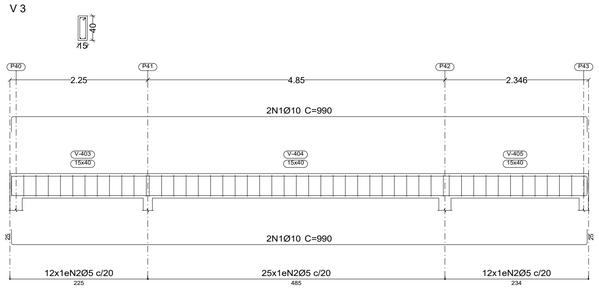
V 19



V 17



V 3



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1=V 2=V 5	1	Ø10	4	500	550	2200	13.6	
	2	Ø5	26	35 5 10	98	2548		4.0
						Total+10%:	15.0	4.4
						(x3):	45.0	13.2
V 3	1	Ø10	4	940	990	3960	24.4	
	2	Ø5	49	35 5 10	98	4802		7.5
						Total+10%:	26.8	8.3
V 4	1	Ø10	4	498	548	2192	13.5	
	2	Ø5	26	35 5 10	98	2548		4.0
						Total+10%:	14.9	4.4
V 6	1	Ø10	4	683	733	2932	18.1	
	2	Ø5	35	35 5 10	98	3430		5.4
						Total+10%:	19.9	5.9
V 7	1	Ø10	4	730	755	3020	18.6	
	2	Ø10	4	525	550	2200	13.6	
	3	Ø5	61	35 5 10	98	5978		9.4
						Total+10%:	35.4	10.3
V 8	1	Ø10	4	495	545	2180	13.4	
	2	Ø5	26	35 5 10	98	2548		4.0
						Total+10%:	14.7	4.4
V 10=V 12	1	Ø10	4	713	763	3052	18.8	
	2	Ø5	37	35 5 10	98	3626		5.7
						Total+10%:	20.7	6.3
						(x2):	41.4	12.6
V 11=V 13	1	Ø10	4	710	760	3040	18.7	
	2	Ø5	37	35 5 10	98	3626		5.7
						Total+10%:	20.6	6.3
						(x2):	41.2	12.6
V 14	1	Ø10	4	500	550	2200	13.6	
	2	Ø5	26	35 5 10	98	2548		4.0
						Total+10%:	15.0	4.4
V 15	1	Ø10	4	495	545	2180	13.4	
	2	Ø5	25	35 5 10	98	2450		3.8
						Total+10%:	14.7	4.2
V 16	1	Ø10	4	495	545	2180	13.4	
	2	Ø5	25	35 5 10	98	2450		3.8
						Total+10%:	14.7	4.2
V 17	1	Ø10	4	498	548	2192	13.5	
	2	Ø5	26	35 5 10	98	2548		4.0
						Total+10%:	14.9	4.4
V 18	1	Ø10	4	495	545	2180	13.4	
	2	Ø5	25	35 5 10	98	2450		3.8
						Total+10%:	14.7	4.2
V 19	1	Ø10	4	395	445	1780	11.0	
	2	Ø5	21	35 5 10	98	2058		3.2
						Total+10%:	12.1	3.5
V 20	1	Ø10	4	325	375	1500	9.2	
	2	Ø5	17	35 5 10	98	1666		2.6
						Total+10%:	10.1	2.9
V 21	1	Ø10	4	900	925	3700	22.8	
	2	Ø10	4	345	370	1480	9.1	
	3	Ø5	62	35 5 10	98	6076		9.5
						Total+10%:	35.1	10.5
V 25	1	Ø10	4	414	464	1856	11.4	
	2	Ø5	21	35 5 10	98	2058		3.2
						Total+10%:	12.5	3.5
V 30	1	Ø10	4	713	763	3052	18.8	
	2	Ø5	36	35 5 10	98	3528		5.5
						Total+10%:	20.7	6.1
V 26	1	Ø10	4	465	515	2060	12.7	
	2	Ø5	25	35 5 10	98	2450		3.8
						Total+10%:	14.0	4.2
						Ø5:	0.0	123.8
						Ø10:	417.8	0.0
						Total:	417.8	123.8

Resumo Aço Desenho de vigas		Comp. total (m)	Peso+10% (kg)	Total
CA-50	Ø10	1154.7	783	
	Ø12.5	188.3	200	983
CA-60	Ø5	1545.5	267	267
Total				1250

COBERTURA
Desenho de vigas
Concreto: C25, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:50
Escala aberturas 1:50

DATA	DESCRIÇÃO
03.26	EMISSÃO INICIAL

A B C D
REVISÃO

ESTE DESENHO É DE PROPRIEDADE INTELECTUAL DE CÉSAR COMÉRCIO E SERVIÇOS LTDA, SENDO PROIBIDO SEU USO NÃO PODERÁ SER UTILIZADO OU REPRODUZIDO SEM SUA AUTORIZAÇÃO.

CÉSAR COMÉRCIO E SERVIÇOS LTDA
CNPJ: 10.713.406/0001-75
CREA 103388DDMG
RUA ANTÔNIO MAURÍCIO FERREIRA, Nº 57 - CAXAMBU/MG
csaengenhariacax@gmail.com

CONTRATANTE:
CONSÓRCIO PÚBLICO INTERMUNICIPAL MULTIFINALITÁRIO DA AMAG - CIMAG
CNPJ: 21.406.451/0001-01
CONTRATO DE PRESTAÇÃO DE SERVIÇOS Nº 115/2026

PROPRIETÁRIO/OBRA:
PREFEITURA MUNICIPAL DE SÃO THOMÉ DAS LETRAS
CNPJ: 18.008.920/0000-11
PROJETO PARA CENTRO MUNICIPAL DE EDUCAÇÃO INFANTIL - CEMEI
RUA HELENA JEFERSON DE SOUZA, S/Nº, CENTRO - SÃO THOMÉ DAS LETRAS

DESENHO:
EDSON DA SILVA ARANTES
CREA/MG: 60.220/D

ASSINATURA:
Documento assinado digitalmente
gov.br **EDSON DA SILVA ARANTES**
Data: 27/05/2026 11:16:56-0300
Verifique em https://validar.iti.gov.br

RT.PROJETO:
EDSON DA SILVA ARANTES
CREA/MG: 60.220/D

DATA:
03/2026

DESCRIÇÃO:
PROJETO ESTRUTURAL
DETALHAMENTO DE VIGAS E LAJES - NÍVEL COBERTURA - PARTE 02

ESCALA:
Como indicado

DES. Nº:
1200.460-CIV-133

REVISÃO
A

A1