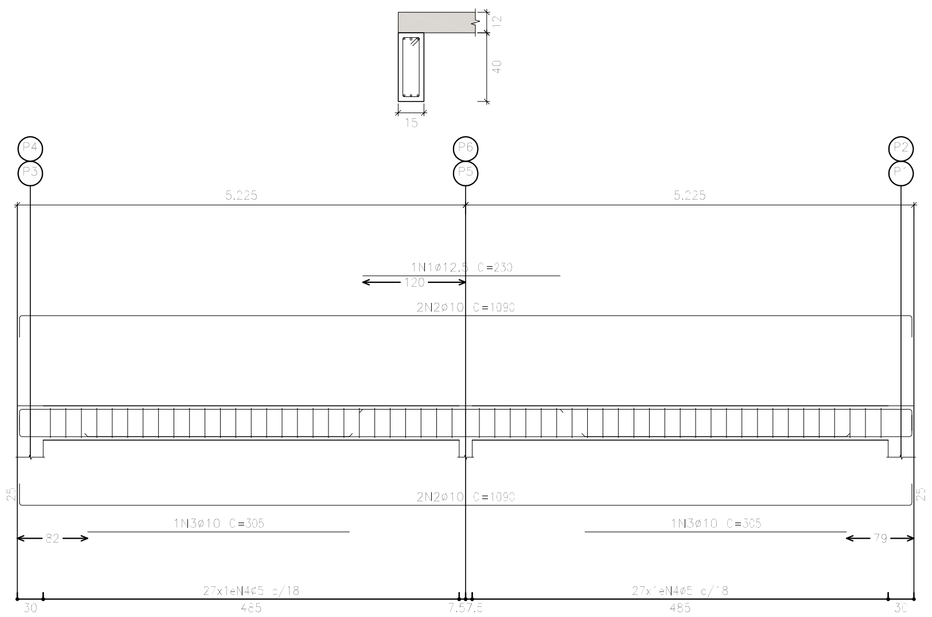
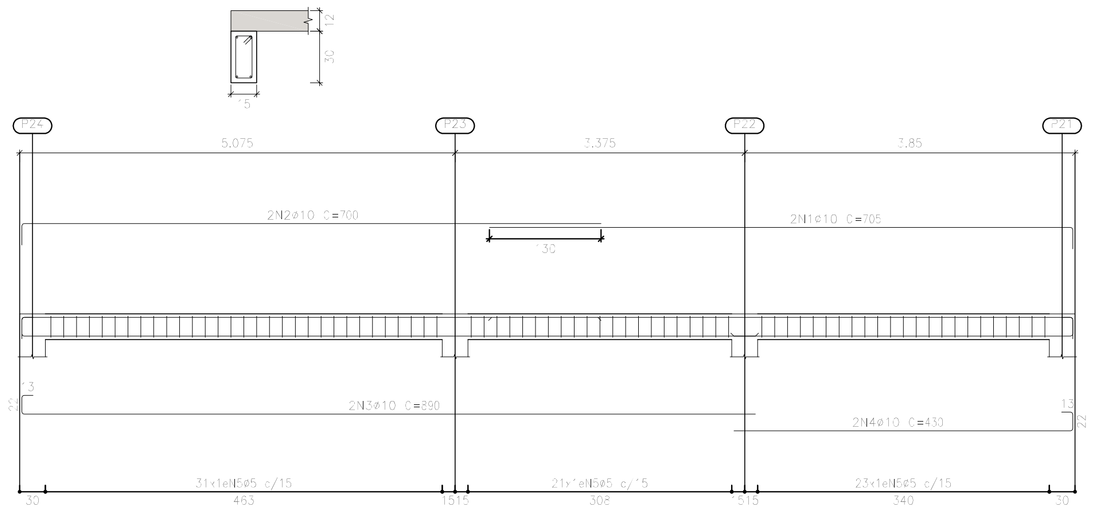
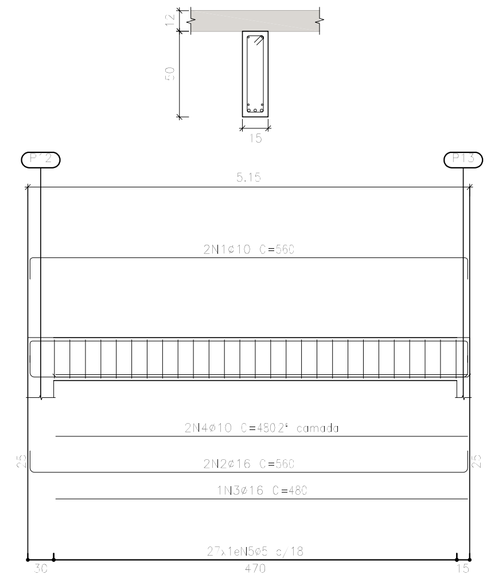
V 17
V 18



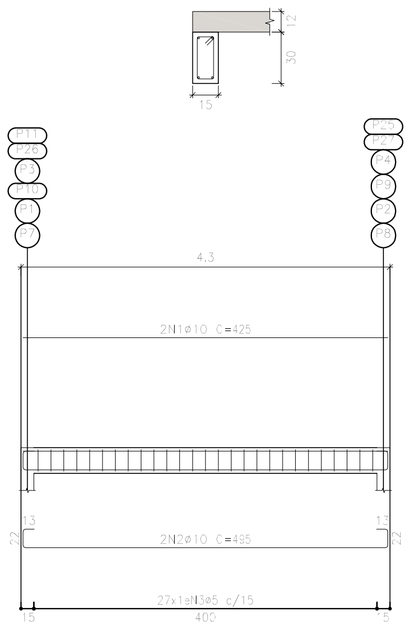
V 19



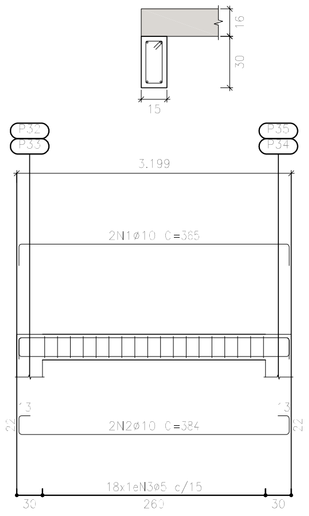
V 20



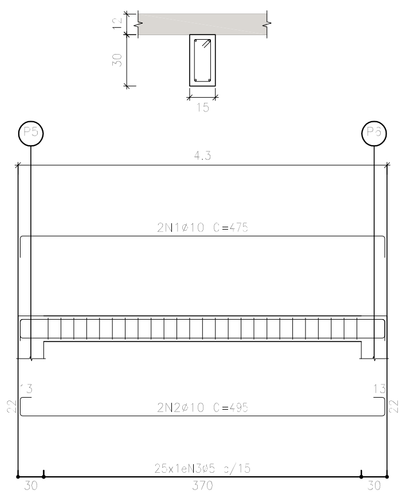
V 1
V 2
V 3
V 8
V 10
V 12



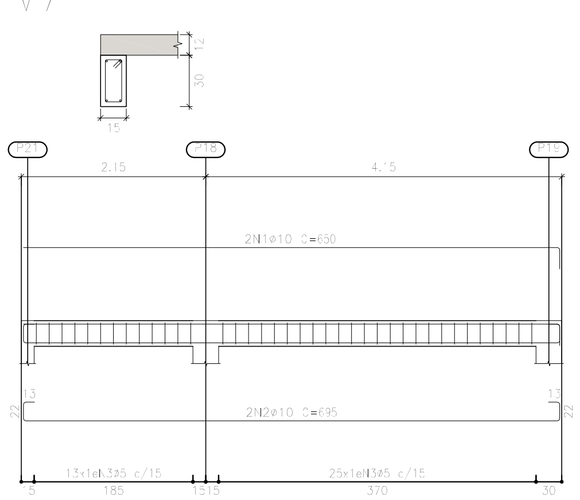
V 4
V 5



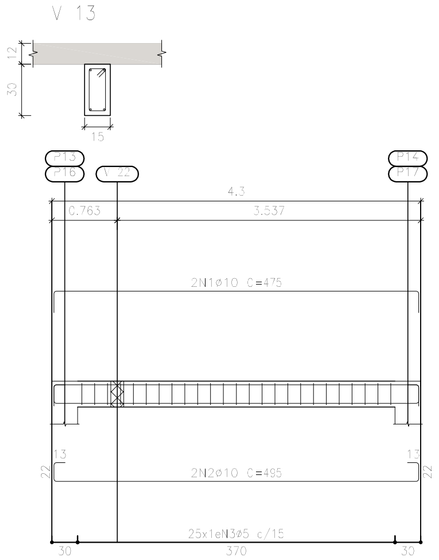
V 6



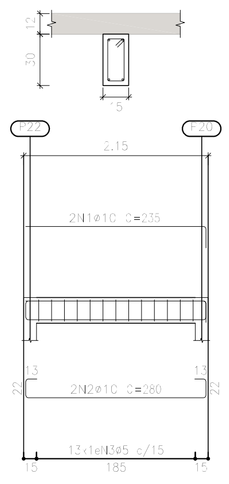
V 7



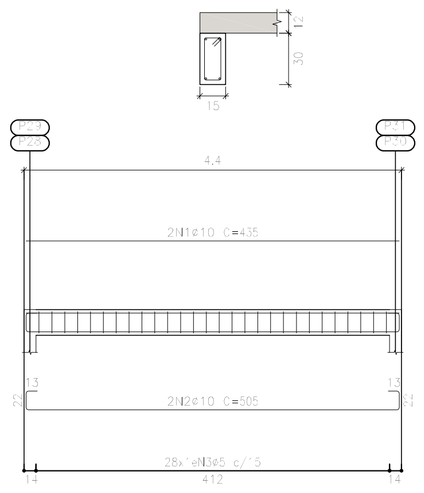
V 11
V 13



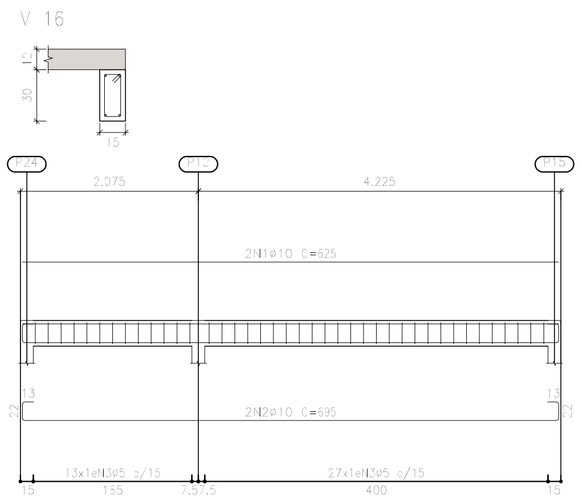
V 9



V 14
V 15



V 16



Elemento	Pos.	Diam.	Q.	Esquema (cm)	Comp. (cm)	Total (cm)	CA-50 (kg)	CA-60 (kg)
V 1=V 2=V 3 V 8=V 10=V 12	1	ø10	2	425	425	850	5.2	
	2	ø10	2	495	495	990	6.1	
	3	ø5	27	78	78	2106		3.3
					Total+10%:		12.4	3.6
					(x6):		74.4	21.6
V 4=V 5	1	ø10	2	365	365	730	4.5	
	2	ø10	2	384	384	768	4.7	
	3	ø5	18	78	78	1404		2.2
					Total+10%:		10.1	2.4
					(x2):		20.2	4.8
V 6	1	ø10	2	475	475	950	5.9	
	2	ø10	2	495	495	990	6.1	
	3	ø5	25	78	78	1950		3.1
					Total+10%:		13.2	3.4
V 7	1	ø10	2	650	650	1300	8.0	
	2	ø10	2	695	695	1390	8.6	
	3	ø5	38	78	78	2964		4.7
					Total+10%:		18.3	5.2
V 9	1	ø10	2	235	235	470	2.9	
	2	ø10	2	280	280	560	3.5	
	3	ø5	13	78	78	1014		1.6
					Total+10%:		7.0	1.8
V 11=V 13	1	ø10	2	475	475	950	5.9	
	2	ø10	2	495	495	990	6.1	
	3	ø5	25	78	78	1950		3.1
					Total+10%:		13.2	3.4
					(x2):		26.4	6.8
V 14=V 15	1	ø10	2	435	435	870	5.4	
	2	ø10	2	505	505	1010	6.2	
	3	ø5	28	78	78	2184		3.4
					Total+10%:		12.8	3.7
					(x2):		25.6	7.4
V 16	1	ø10	2	625	625	1250	7.7	
	2	ø10	2	695	695	1390	8.6	
	3	ø5	40	78	78	3120		4.9
					Total+10%:		17.9	5.4
V 17=V 18	1	ø12.5	1	230	230	230	2.2	
	2	ø10	4	1090	1090	4360	26.9	
	3	ø10	2	305	305	610	3.8	
	4	ø5	54	98	98	5292		8.3
					Total+10%:		36.2	9.1
					(x2):		72.4	18.2
V 19	1	ø10	2	705	705	1410	8.7	
	2	ø10	2	700	700	1400	8.6	
	3	ø10	2	890	890	1780	11.0	
	4	ø10	2	430	430	860	5.3	
	5	ø5	75	78	78	5850		9.2
					Total+10%:		37.0	10.1
V 20	1	ø10	2	560	560	1120	6.9	
	2	ø16	2	560	560	1120	17.7	
	3	ø16	1	480	480	480	7.6	
	4	ø10	2	480	480	960	5.9	
	5	ø5	27	118	118	3186		5.0
					Total+10%:		41.9	5.5
					ø5:		0.0	90.2
					ø10:		321.7	0.0
					ø12.5:		4.8	0.0
					ø16:		27.8	0.0
					Total:		354.3	90.2

Cobertura
Desenho de vigas
Concreto: C20, em geral
Aço das barras: CA-50 e CA-60
Aço dos estribos: CA-50 e CA-60
Escala vigas 1:50
Escala seções 1:25
Escala aberturas 1:25

REVISÃO	DATA	DESCRIÇÃO	RESP.

Assinado de forma digital por EDUARDO JOSE BARBOZA DE OLIVEIRA PRATA:30924256850
Dados: 2021.12.09 23:15:08 -03'00'

EXATA
ENGENHARIA E COMÉRCIO LTDA.
R: Riachuelo, 240 - Centro
Campinas / SP - CEP:13015-320
Fone / Fax: (19) 3236 - 1034
Site: www.exatacampinas.com.br
e-mail: contato@exatacampinas.com.br

CONTRATANTE: PREFEITURA MUNICIPAL DE HORTOLÂNDIA

LOCAL: CENTRO DE CONVIVÊNCIA DA MELHOR IDADE
RUA EUCLIDES PIRES DE ASSIS, Nº 200
REMANSO CAMPINEIRO

OBRA: MUNICIPAL

TÍTULO: PROJETO ESTRUTURAL

Nº OBRA: -

DET. VIGAS DE COBERTURA

Nº ART: 28027230211821242

AUTOR DO PROJETO: EDUARDO PRATA

DATA: 11/2021

DESENHO: EXATA ENGENHARIA

ESCALA: INDICADA

FOLHA: E 06/08

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