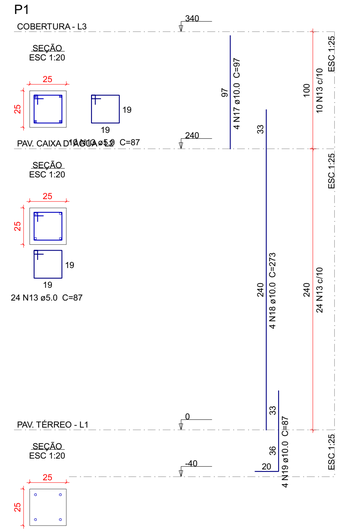
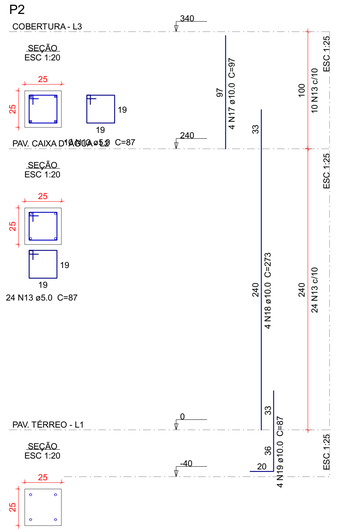
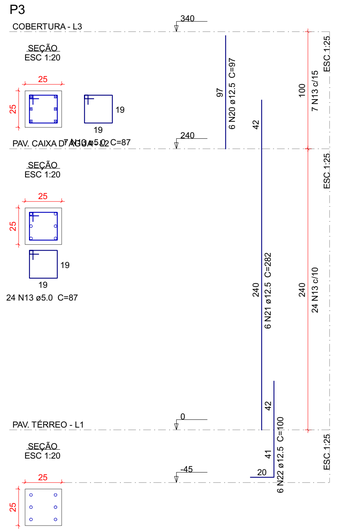
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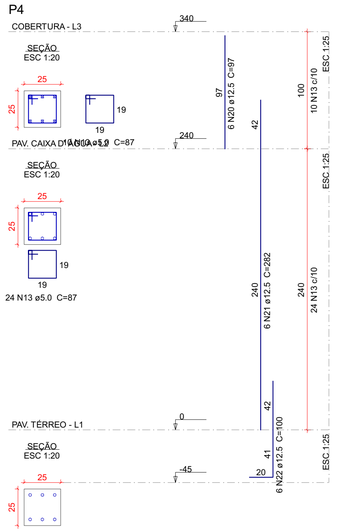
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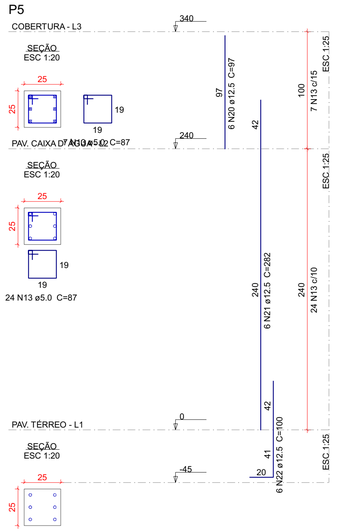
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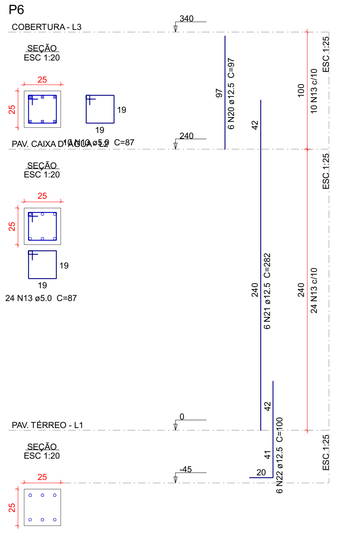
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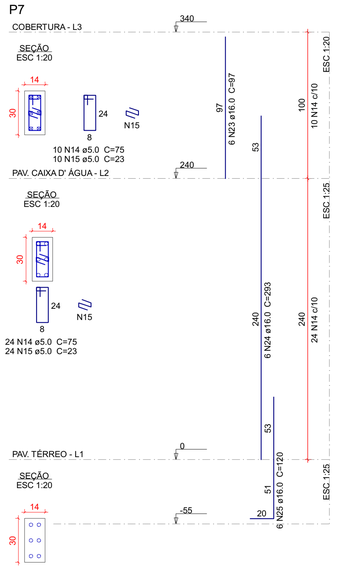
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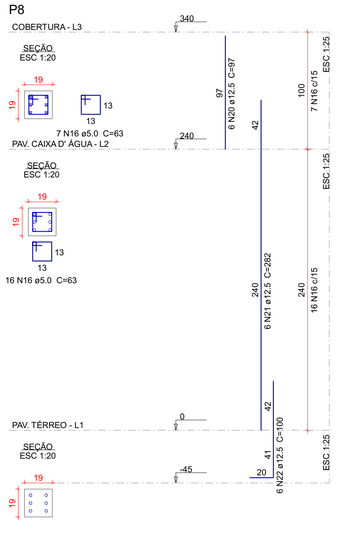
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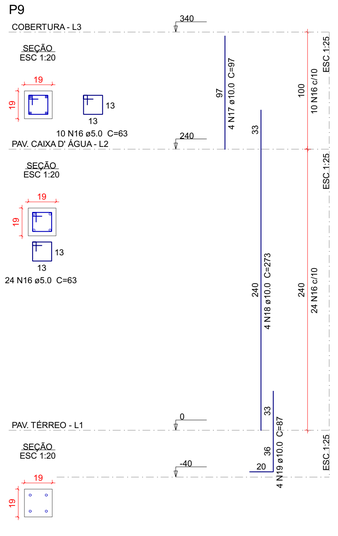
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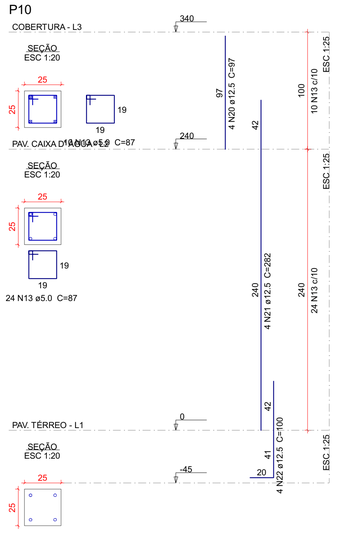
P8



P9



P10



Relação do aço

P1 P2 P3
P4 P5 P6
P7 P8 P9
P10

AÇO	N	DIAM (mm)	QUANT	C.UNIT (cm)	C.TOTAL (cm)
CA60	**13**	**5.0**	**232**	**87**	**20184**
	14	**5.0**	**34**	**75**	**2550**
	15	**5.0**	**34**	**23**	**782**
	16	**5.0**	**57**	**63**	**3591**
CA50	**17**	**10.0**	**12**	**97**	**1164**
	18	**10.0**	**12**	**273**	**3276**
	19	**10.0**	**12**	**87**	**1044**
	20	**12.5**	**34**	**97**	**3298**
	21	**12.5**	**34**	**282**	**9588**
	22	**12.5**	**34**	**100**	**3400**
	23	**16.0**	**6**	**97**	**582**
	24	**16.0**	**6**	**293**	**1758**
	25	**16.0**	**6**	**120**	**720**

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)
CA50	10.0	54.9	33.8
	12.5	162.9	156.9
	16.0	30.6	48.3
CA60	5.0	271.1	41.8

PESO TOTAL (kg)	
CA50	239
CA60	41.8

Volume de concreto (C-30) = 1.88 m³
Área de forma = 31.96 m²

PROJETO ESTRUTURAL

EM CASO DE DÚVIDAS CONSULTAR A DIVISÃO DE PROJETOS F. (41) 3888-4850

OBRA:
Laboratório de Pesquisas - Campus Umuarama

AUTOR(ES) DO PROJETO:
Eng. Civil Tiago Radaskievicz
PR 132.448/D

PROPRIETÁRIO:
INSTITUTO FEDERAL DO PARANÁ - CNPJ: 10.652.179/0001-15

RESPONSÁVEL EXECUÇÃO:
A LICITAR

REFERÊNCIA:
Pilares

DATA: 14/10/2026
ESCALA: INDICADA
DESENHO: Rada
ARQUIVO:
PRANCHA: 7 8
PLOTAGEM: 14/10/2026

DIRETORIA DE INFRAESTRUTURA - DI