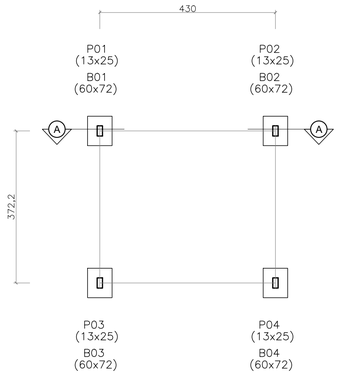
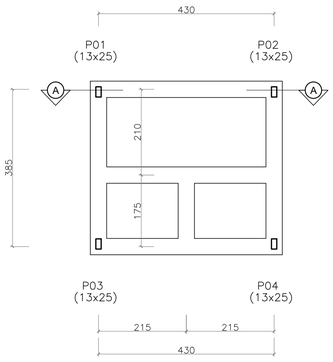


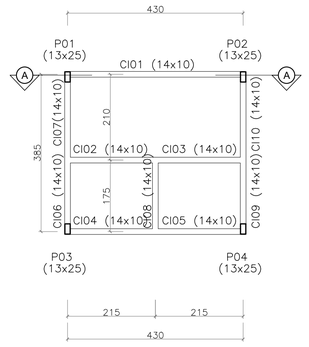
DISPOSIÇÃO DOS BLOCOS E PILARES NA PLANTA BAIXA
ESCALA_____1/75



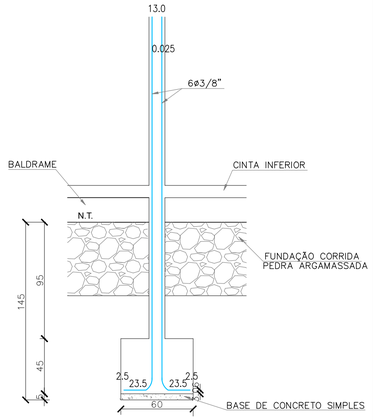
LOCAÇÃO DOS BLOCOS E PILARES
ESCALA_____1/75



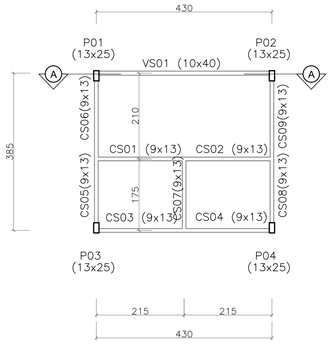
FUNDAÇÃO EM PEDRA ARGAMASSADA (40X60cm)
ESCALA_____1/75



LOCAÇÃO DOS PILARES E CINTAS INFERIORES
ESCALA_____1/75

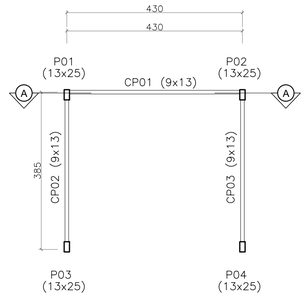


CORTE DO BLOCO E PILAR
ESCALA----------1/25

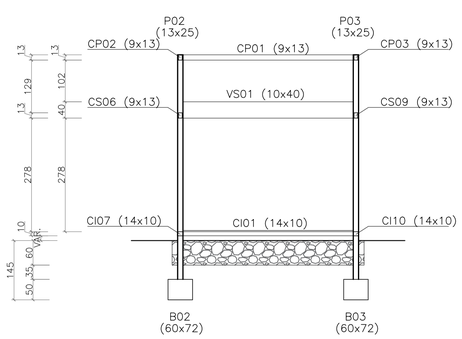


OBS: ACIMA DAS PORTAS SERÃO COLOCADAS VERGAS

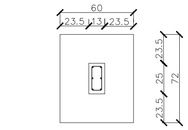
LOCAÇÃO DOS PILARES, VIGAS E CINTAS SUPERIORES
ESCALA_____1/75



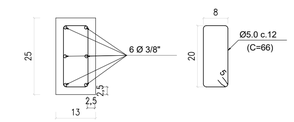
LOCAÇÃO DOS PILARES E CINTAS PLATIBANDA
ESCALA_____1/75



CORTE AA
ESCALA_____1/75



BLOCOS E PILARES (13x25)
ESCALA----------1/25



DETALHE FERRAGENS (13x25)
ESCALA----------1/10

QUADRO RESUMO DAS FERRAGENS						
PEÇAS	PESO (kg)					
	Ø 1/2"	Ø 3/8"	Ø 5/16"	Ø 1/4"	Ø 5.0	ARAME
PILARES	-	114.07	-	-	22.72	0.12
CINTAS INFERIORES	-	-	-	-	23.05	0.74
CINTAS SUPERIORES	-	-	-	-	18.06	0.60
CINTAS PLATIBANDA	-	-	-	-	11.74	0.40
VIGAS	18.92	-	3.67	-	3.36	0.21
TOTAL	18.92	114.07	3.67	-	78.93	2.07
TOTAL + 10%	21.00	126.00	5.00	-	87.00	3.00

TOTAL GERAL FERRAGENS (kg)	242.00

TOTAL PESO POR VOLUME (kg/m³)	151.63

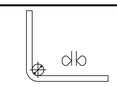
QUADRO RESUMO DO VOLUME DE CONCRETO ARMADO	
PEÇAS	VOLUME CA (m³)
PILARES	0.760
CINTAS INFERIORES	0.313
CINTAS SUPERIORES	0.211
CINTAS PLATIBANDA	0.140
VIGAS	0.172
TOTAL	1.596

ANCORAGEM POR BARRA TIPO "L"	
BARRA LONGITUDINAL	Lb (cm)
1/2"	12.50
3/8"	10.00
5/16"	10.00
1/4"	7.50
3/16"	5.00
BARRA TRANSVERSAL	Lb (cm)
5.0	5.00
4.2	5.00
TRASPASSE DAS BARRAS COMPRIMIDAS (cm)	
PILARES	50.00

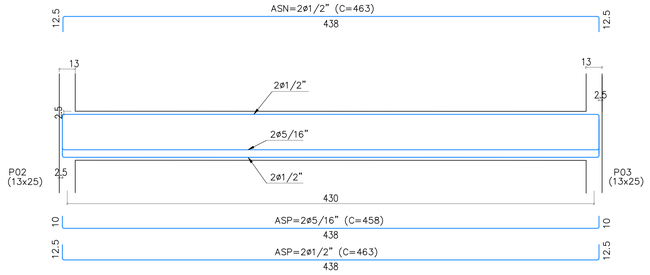
DIÂMETROS DOS AÇOS UTILIZADOS	
BARRAS LONGITUDINAIS	
POLEGADAS	MILIMETRO
1/2"	12.5
3/8"	10.0
5/16"	8.0
1/4"	6.3
3/16"	5.0
	4.2
BARRAS TRANSVERSAIS	
POLEGADAS	MILIMETRO
3/16"	5.0
	4.2
PESO POR METRO	
BARRAS	kg/m
1/2"	1.00
3/8"	0.63
5/16"	0.40
1/4"	0.25
3/16"	0.16
5.0	0.16
4.2	0.12
Arame recozido nº 18	0.01
TRASPASSE DAS BARRAS TRACIONADAS (cm)	
1/2"	100.00
3/8"	80.00
5/16"	70.00
1/4"	60.00
3/16"	35.00

CÁLCULO DAS FORMAS COMUNS

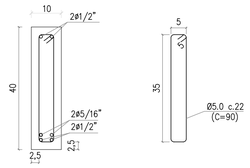
QUADRO RESUMO DAS FORMAS						
PEÇAS (REAPR 4X)	VOL. (V)	LARG. (L)	COMPR. (C)	ALTURA (H)	FORMA (F)	CÁLCULO
PILARES (13x25)	0.760	0.13	0.25	23.38	14.73	=H*(L+C*2)
CINTAS(14x10)	0.313	0.14	22.36	0.10	4.47	= C*(H*2)
CINTAS(9x13)	0.351	0.09	30.00	0.13	7.80	= C*(H*2)
VIGAS(10x40)	0.140	0.10	3.50	0.40	3.15	= C*(L+H*2)
TOTAL	1.564				30.15	
				MÉDIA	19.28	=TF/TV



Ø(mm)	4.2	5	6.3	8	10	12.5	16	20	22.2	25
db(cm)	2,5	2,5	3,5	4	5	6,5	8	16	18	20

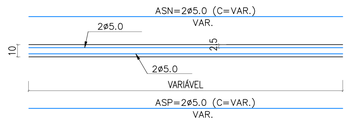


VS01 (10X40)
ESCALA----------1/25



DETALHE DAS FERRAGENS
VS01 (10X40)
ESCALA----------1/10

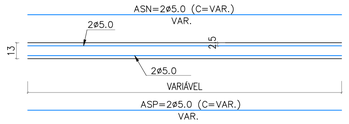
SETAGEM--PENAS		
COR	PENA	ESP.
1	7	0.2
2	7	0.4
3	7	0.3
4	7	0.5
5	7	0.8
6	7	0.6
7	7	0.1
8	7	1.0
9	7	0.1
10	10	0.2
20	7	0.2
30	30	0.2
40	7	0.3
50	7	0.4
60	7	0.3
90	7	0.3
100	7	0.3
130	7	0.5
150	7	0.2
170	7	0.3
200	7	0.2
210	210	0.2



CINTAS INFERIORES (14x10)
ESCALA----------1/25



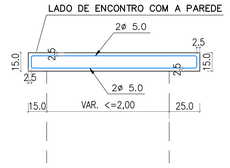
DETALHE DAS FERRAGENS
CINTAS INFERIORES (14x10)
ESCALA----------1/10



CINTAS SUPERIORES
E PLATIBANDA (9x13)
ESCALA----------1/25

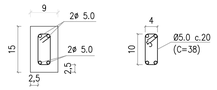


DETALHE DAS FERRAGENS
CINTAS SUPERIORES
E PLATIBANDA (9x13)
ESCALA----------1/10

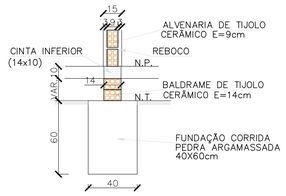


VERGA (9x15)– DETALHE CONSTRUTIVO
ESCALA----------1/25

QUADRO DE DIMENSIONAMENTO DE VERGAS	
SÍMBOLO	DESCRIÇÃO
P1	VERGA DE 1,30m TIPO 9x15 (VER DETALHE CONSTRUTIVO 1)



DETALHE DAS FERRAGENS
CONSTRUTIVO 1
ESCALA----------1/10



DETALHE DAS FUNDAÇÕES SOB PAREDES
ESCALA----------1/25

NOTAS:
Fck>=25,0 MPa (250Kg/cm²) pilares
Fck>=20,0 MPa (200Kg/cm²) demais peças
Aço CA-60 e CA-50 "A" ou "B"
Resistência do terreno: 0,10MPa (1,00kg/com²) a 1,00M (estimado)
Recobrimento da ferragem de 2,5 cm
Medidas em centimetros

PLANEJAMENTO E ASSESSORIA DE PROJETOS TÉCNICOS LTDA.

CLIENTE: PREFEITURA MUNICIPAL DE CRISTALÂNDIA DO PIAUI-PI

PROJETO: REFORMA E AMPLIAÇÃO DO ESTÁDIO MUNICIPAL, NO MUNICIPIO DE CRISTALÂNDIA DO PIAUI/PI.
LOCALIDADE: SEDE

INSTRUMENTO Nº: 989426/2025
MINISTERIO DOS ESPORTES/ P.M. DE CRISTALÂNDIA DO PIAUI/PI
PROPOSTA: 065005/2025

DESENHO: ESTRUTURAL BANHEIROS
ESCALA: INDICADA

PROJETISTA: Estéfane Oliveira Nunes
Engenheiro Civil
CREA Nº 31756
RN 1916831346
DADOS DE CAMPO: TOPOGRAFO
DESENHO/CAD: ANA VIANA
DATA: 2026
REV.: 00
FORMATO: A1
PRANCHA Nº: BH.02/02