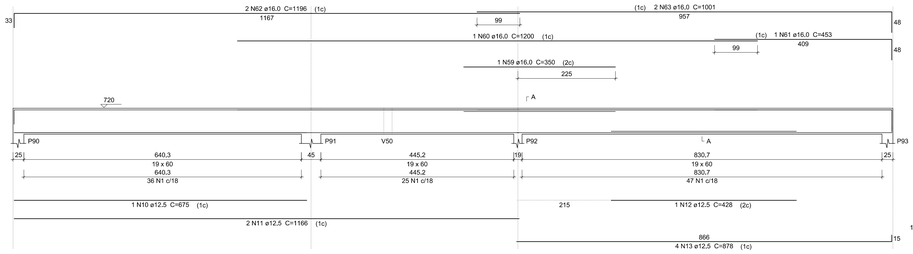
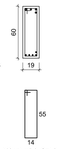
V22
ESC 1:50

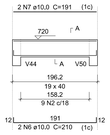


SEÇÃO A-A
ESC 1:25

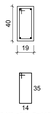


108 N1 ø5,0 C=150

V23
ESC 1:50

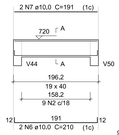


SEÇÃO A-A
ESC 1:25

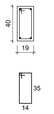


9 N2 ø5,0 C=110

V24
ESC 1:50

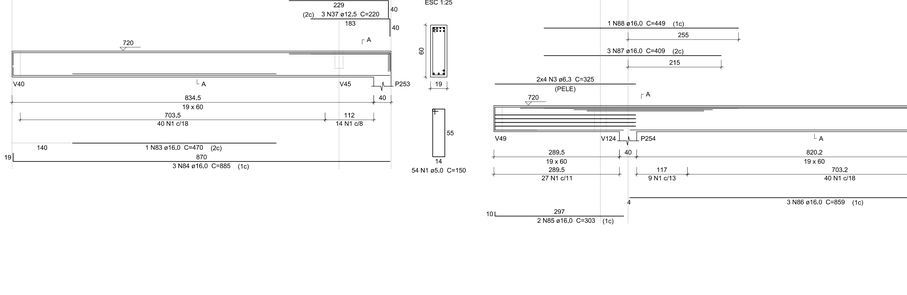


SEÇÃO A-A
ESC 1:25



9 N2 ø5,0 C=110

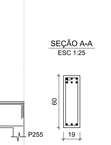
V25
ESC 1:50



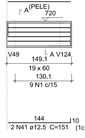
SEÇÃO A-A
ESC 1:25

119 N1 ø5,0 C=150

V26
ESC 1:50

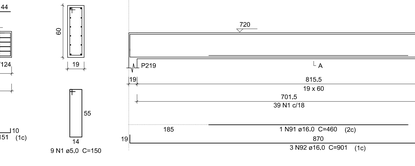


SEÇÃO A-A
ESC 1:25



9 N2 ø5,0 C=110

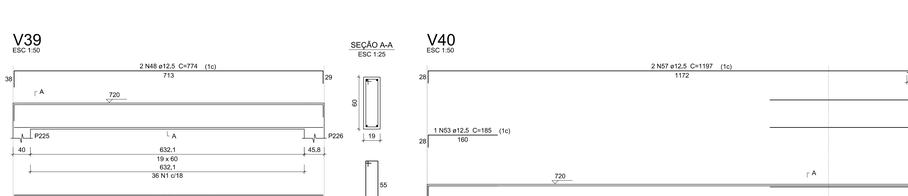
V27
ESC 1:50



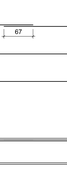
SEÇÃO A-A
ESC 1:25

47 N1 ø5,0 C=150

V28
ESC 1:50

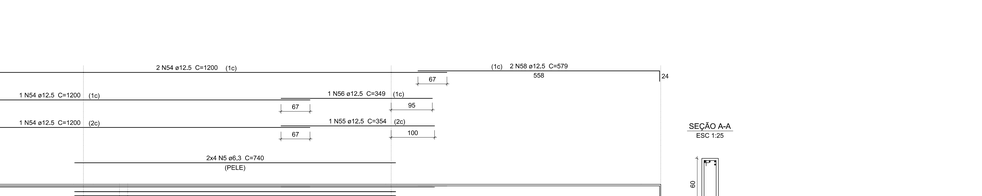


SEÇÃO A-A
ESC 1:25



109 N1 ø5,0 C=150

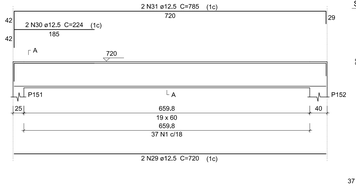
V29
ESC 1:50



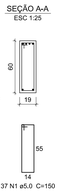
SEÇÃO A-A
ESC 1:25

109 N1 ø5,0 C=150

V30
ESC 1:50

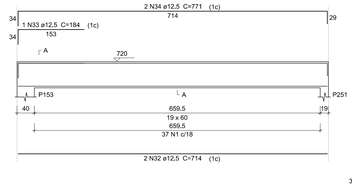


SEÇÃO A-A
ESC 1:25

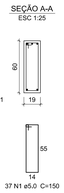


37 N1 ø5,0 C=150

V31
ESC 1:50

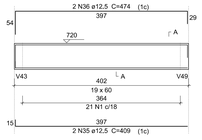


SEÇÃO A-A
ESC 1:25

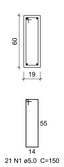


37 N1 ø5,0 C=150

V32
ESC 1:50

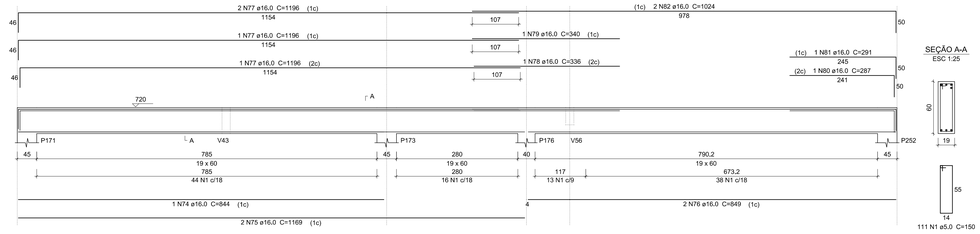


SEÇÃO A-A
ESC 1:25



21 N1 ø5,0 C=150

V33
ESC 1:50



SEÇÃO A-A
ESC 1:25

111 N1 ø5,0 C=150

V34
ESC 1:50

SEÇÃO A-A
ESC 1:25

54 N1 ø5,0 C=150

V35
ESC 1:50

SEÇÃO A-A
ESC 1:25

76 N1 ø5,0 C=150

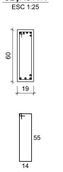
V36
ESC 1:50

SEÇÃO A-A
ESC 1:25

9 N1 ø5,0 C=150

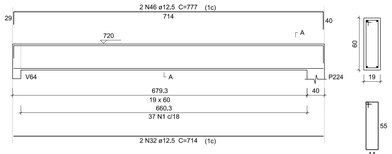
V37
ESC 1:50

SEÇÃO A-A
ESC 1:25



58 N1 ø5,0 C=150

V38
ESC 1:50



SEÇÃO A-A
ESC 1:25

37 N1 ø5,0 C=150

Relação do aço

V22	V23	V24			
V25	V26	V27			
V28	V29	V30			
V31	V32	V33			
V34	V35	V36			
V37	V38	V39			
V40					

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA60	1	5,0	1144	150	171600
	2	5,0	27	110	2970
CA50	3	6,3	8	325	2600
	4	6,3	8	144	1152
	5	6,3	8	740	5920
	6	10,0	4	210	840
	7	10,0	4	191	764
	8	10,0	2	201	402
	9	10,0	2	244	488
	10	12,5	1	675	675
	11	12,5	2	1166	2332
	12	12,5	1	428	428
	13	12,5	4	878	3512
	14	12,5	1	380	380
	15	12,5	4	1165	4660
	16	12,5	4	840	3360
	17	12,5	1	430	430
	18	12,5	2	869	1738
	19	12,5	2	921	1842
	20	12,5	4	845	3380
	21	12,5	2	778	1556
	22	12,5	3	295	885
	23	12,5	1	165	165
	24	12,5	2	1197	2394
	25	12,5	2	960	1920
	26	12,5	2	368	736
	27	12,5	2	683	1366
	28	12,5	2	1177	2354
	29	12,5	2	720	1440
	30	12,5	2	224	448
	31	12,5	2	785	1570
	32	12,5	4	714	2856
	33	12,5	1	184	184
	34	12,5	2	771	1542
	35	12,5	2	409	818
	36	12,5	2	474	948
	37	12,5	3	220	660
	38	12,5	1	266	266
	39	12,5	2	270	540
	40	12,5	2	933	1866
	41	12,5	2	151	302
	42	12,5	2	222	444
	43	12,5	1	208	208
	44	12,5	1	212	212
	45	12,5	3	939	2817
	46	12,5	2	777	1554
	47	12,5	2	713	1426
	48	12,5	2	774	1548
	49	12,5	2	914	1828
	50	12,5	2	522	1044
	51	12,5	2	695	1390
	52	12,5	2	620	1240
	53	12,5	1	185	185
	54	12,5	4	1200	4800
	55	12,5	1	354	354
	56	12,5	1	349	349
	57	12,5	2	1197	2394
	58	12,5	2	579	1158
	59	16,0	1	350	350
	60	16,0	1	1200	1200
	61	16,0	1	453	453
	62	16,0	2	1196	2392
	63	16,0	2	1001	2002
	64	16,0	2	320	640
	65	16,0	1	860	860
	66	16,0	1	209	209
	67	16,0	2	1196	2392
	68	16,0	2	996	1992
	69	16,0	2	370	740
	70	16,0	1	174	174
	71	16,0	1	259	259
	72	16,0	2	1196	2392
	73	16,0	2	976	1952
	74	16,0	1	844	844
	75	16,0	2	1169	2338
	76	16,0	2	849	1698
	77	16,0	4	1196	4784
	78	16,0	1	336	336
	79	16,0	1	340	340
	80	16,0	1	287	287
	81	16,0	1	291	291
	82	16,0	2	1024	2048
	83	16,0	1	470	470
	84	16,0	3	885	2655
	85	16,0	2	303	606
	86	16,0	3	859	2577
	87	16,0	3	409	1227
	88	16,0	1	449	449
	89	16,0	2	1100	2200
	90	16,0	2	216	432
	91	16,0	1	460	460
	92	16,0	3	901	2703

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6,3	96,8	26
	10,0	25	16,9
	12,5	705,1	747,1
	16,0	447,6	777
CA60	5,0	1745,7	296
PESO TOTAL			
CA50	1567		
CA60	296		

Vol. de concreto total (C-30) = 23,45 m³
Área de forma total = 286,34 m²

V39
ESC 1:50

SEÇÃO A-A
ESC 1:25

36 N1 ø5,0 C=150

Vigas da cobertura
escala 1:50

V40
ESC 1:50

SEÇÃO A-A
ESC 1:25

176 N1 ø5,0 C=150

HB ENGENHARIA
PROJETOS E EXECUÇÕES DE OBRAS

ALEX SANDRO BOLIGON
ENGENHEIRO CIVIL
CREA/SC 067421-4

ALLAN FELIPE MELCHIORETTO
ENGENHEIRO CIVIL
CREA/SC 147174

RUA NORBERTO SILVEIRA JUNIOR, nº 191, SL 05
CENTRO - GUARAMIRIM - SC
47 3376-2217 / 99126-2646 / 98401-4518

ESCOLA MUNICIPAL IRMÃ FILOMENA

PROJETO ESTRUTURAL

DESCRIÇÃO: VIGAS DA COBERTURA.
ESCALA: INDICADA
PROPRIETÁRIO(A): MUNICÍPIO DE TREZE TÍLIAS.
DESENHO: RAFAEL
LOCAL: RUA DR. IVO D'AQUINO Nº 220, BAIRRO CENTRO, TREZE TÍLIAS/SC.
DATA: ABRIL 2018

RESP. TÉCNICO
ALEX SANDRO BOLIGON
ENGENHEIRO CIVIL
CREA/SC 067421-4

CONTRATANTE
MUNICÍPIO DE TREZE TÍLIAS
CNPJ: 82.777.251/0001-41
MAURO DRESCH
CPF: 460.440.609-00
CARGO: PREFEITO

FOLHA Nº 12 / 14