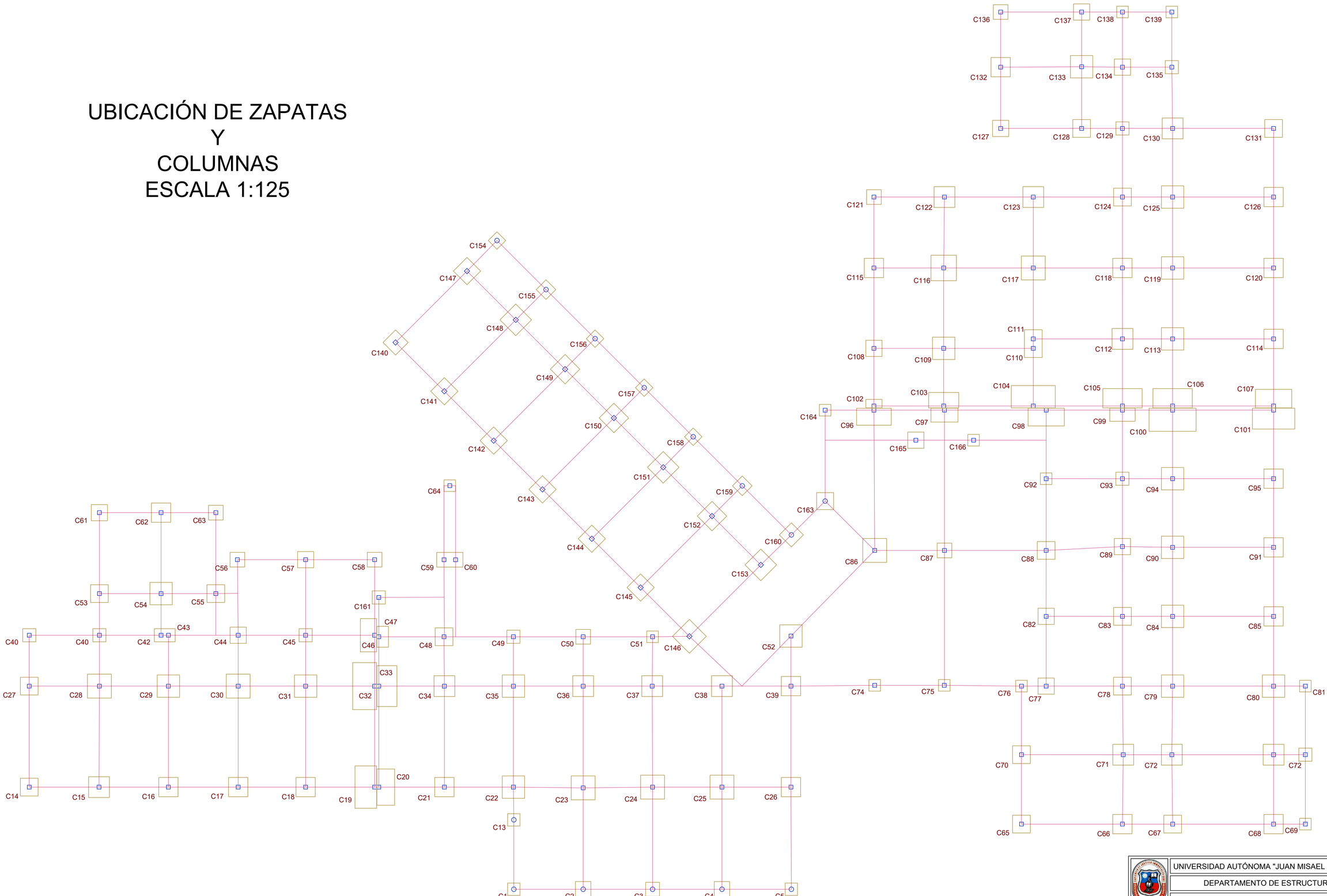
UBICACIÓN DE ZAPATAS
Y
COLUMNAS
ESCALA 1:125



UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
UBICACIÓN DE ZAPATAS Y COLUMNAS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

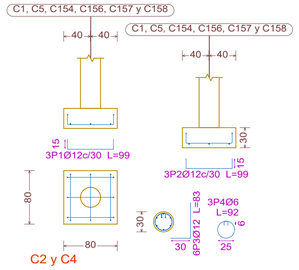
01/31

DETALLE DE ARMADURA DE ZAPATAS
ESCALA 1:50

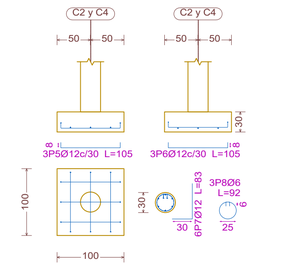
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C1=C5=C154=C156=C157 C158	1	Ø12	3	99	297	2.6
	2	Ø12	3	99	297	2.6
	3	Ø12	6	83	498	4.4
	4	Ø6	3	92	276	0.6
				Total+10%:		11.2
				(x6):		67.2
C2=C4	5	Ø12	3	105	315	2.8
	6	Ø12	3	105	315	2.8
	7	Ø12	6	83	498	4.4
	8	Ø6	3	92	276	0.6
				Total+10%:		11.7
				(x2):		23.4
C3=C155=C159	9	Ø12	3	98	294	2.6
	10	Ø12	3	98	294	2.6
	11	Ø12	6	83	498	4.4
	12	Ø6	3	92	276	0.6
				Total+10%:		11.2
				(x3):		33.6
				Ø6:		6.8
				Ø12:		117.4
				Total:		124.2
C35=C125	1	Ø12	7	135	945	8.4
	2	Ø12	7	135	945	8.4
	3	Ø16	4	99	396	6.3
	4	Ø6	3	94	282	0.6
				Total+10%:		26.1
				(x2):		52.2
C36=C71	5	Ø12	5	140	700	6.2
	6	Ø12	5	140	700	6.2
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%:		17.5
				(x2):		35.0
C37=C122=C152=C167	9	Ø12	5	140	700	6.2
	10	Ø12	5	140	700	6.2
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
				Total+10%:		17.5
				(x4):		70.0
				Ø6:		5.6
				Ø12:		137.8
				Ø16:		13.8
				Total:		157.2
C85	1	Ø12	4	130	520	4.6
	2	Ø12	4	130	520	4.6
	3	Ø12	2	83	166	1.5
	4	Ø16	4	99	396	6.3
	5	Ø6	3	94	282	0.6
				Total+10%:		19.4
C86	6	Ø12	7	145	1015	9.0
	7	Ø12	7	145	1015	9.0
	8	Ø16	4	104	416	6.6
	9	Ø6	3	94	282	0.6
				Total+10%:		27.7
C90	10	Ø12	7	135	945	8.4
	11	Ø12	7	135	945	8.4
	12	Ø12	6	83	498	4.4
	13	Ø6	3	94	282	0.6
				Total+10%:		24.0
				Ø6:		2.0
				Ø12:		54.9
				Ø16:		14.2
				Total:		71.1
C13	1	Ø12	3	99	297	2.6
	2	Ø12	3	99	297	2.6
	3	Ø12	6	83	498	4.4
	4	Ø6	3	92	276	0.6
				Total+10%:		11.2
C14=C27=C48=C53=C55=C67 C78=C83=C88=C124=C128	5	Ø12	4	120	480	4.3
	6	Ø12	4	120	480	4.3
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%:		13.3
				(x11):		146.3
C22=C52	9	Ø12	7	135	945	8.4
	10	Ø12	7	135	945	8.4
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
				Total+10%:		22.3
				(x2):		44.6
				Ø6:		8.4
				Ø12:		193.7
				Total:		202.1
C38	1	Ø12	5	140	700	6.2
	2	Ø12	5	140	700	6.2
	3	Ø16	4	99	396	6.3
	4	Ø6	3	94	282	0.6
				Total+10%:		21.2
C39=C147	5	Ø12	4	130	520	4.6
	6	Ø12	4	130	520	4.6
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%:		14.0
				(x2):		28.0
C46	9	Ø12	10	124	1240	11.0
	10	Ø12	5	205	1025	9.1
	11	Ø12	10	124	1240	11.0
	12	Ø12	5	205	1025	9.1
	13	Ø12	4	103	412	3.7
	14	Ø6	3	94	282	0.6
				Total+10%:		49.0
				Ø6:		2.7
				Ø12:		88.5
				Ø16:		7.0
				Total:		98.2
C91=C114=C120	1	Ø12	5	130	650	5.8
	2	Ø12	5	130	650	5.8
	3	Ø12	2	83	166	1.5
	4	Ø16	4	99	396	6.3
	5	Ø6	3	94	282	0.6
				Total+10%:		22.0
				(x3):		66.0
C95=C126	6	Ø12	4	130	520	4.6
	7	Ø12	4	130	520	4.6
	8	Ø12	2	83	166	1.5
	9	Ø16	4	99	396	6.3
	10	Ø6	3	94	282	0.6
				Total+10%:		19.4
				(x2):		38.8
C96	11	Ø12	5	215	1075	9.5
	12	Ø12	10	129	1290	11.5
	13	Ø12	5	215	1075	9.5
	14	Ø12	10	129	1290	11.5
	15	Ø16	4	119	476	7.5
	16	Ø6	3	94	282	0.6
				Total+10%:		55.1
				Ø6:		4.1
				Ø12:		113.0
				Ø16:		42.8
				Total:		159.9
C19	1	Ø12	16	159	2544	22.6
	2	Ø12	8	265	2120	18.8
	3	Ø12	16	159	2544	22.6
	4	Ø12	8	265	2120	18.8
	5	Ø12	6	118	708	6.3
	6	Ø6	3	94	282	0.6
				Total+10%:		98.7
C20	7	Ø12	12	134	1608	14.3
	8	Ø12	6	225	1350	12.0
	9	Ø12	12	134	1608	14.3
	10	Ø12	6	225	1350	12.0
	11	Ø12	4	108	432	3.8
	12	Ø6	3	94	282	0.6
				Total+10%:		62.7
				Ø6:		1.4
				Ø12:		160.0
				Total:		161.4

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C15	1	Ø12	5	140	700	6.2
	2	Ø12	5	140	700	6.2
	3	Ø12	2	83	166	1.5
	4	Ø16	4	99	396	6.3
	5	Ø6	3	94	282	0.6
				Total+10%:		22.9
C16=C18=C21=C145	6	Ø12	4	130	520	4.6
	7	Ø12	4	130	520	4.6
	8	Ø16	4	99	396	6.3
	9	Ø6	3	94	282	0.6
				Total+10%:		17.7
				(x4):		70.8
C17	10	Ø12	5	130	650	5.8
	11	Ø12	5	130	650	5.8
	12	Ø16	4	99	396	6.3
	13	Ø6	3	94	282	0.6
				Total+10%:		20.4
				Ø6:		3.8
				Ø12:		68.5
				Ø16:		41.8
				Total:		114.1

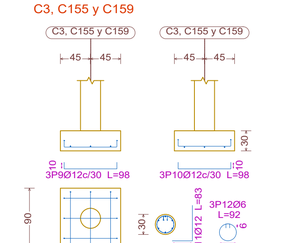
C1, C5, C154, C156, C157 y C158



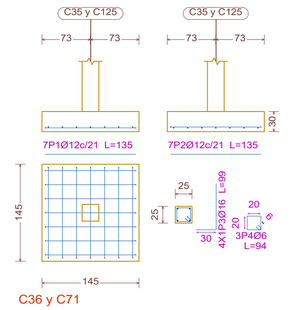
C2 y C4



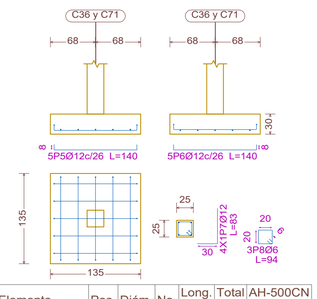
C3, C155 y C159



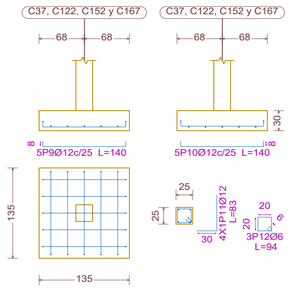
C35 y C125



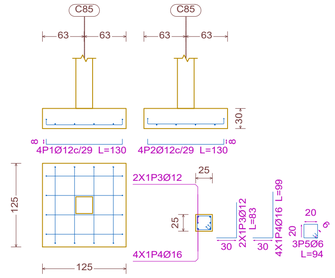
C36 y C71



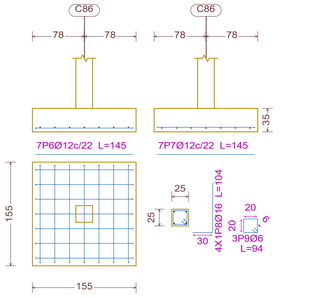
C37, C122, C152 y C167



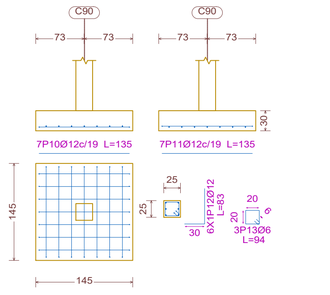
C85



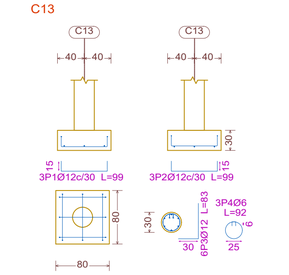
C86



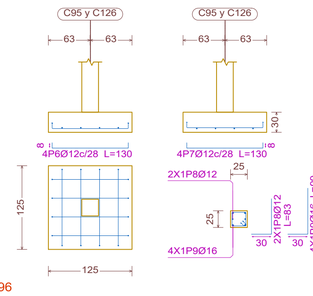
C90



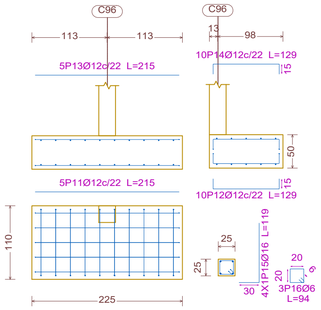
C13



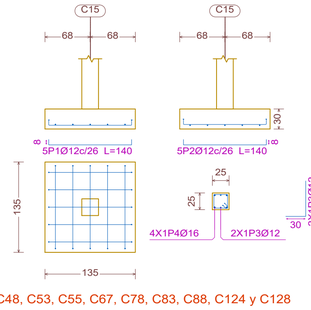
C95 y C126



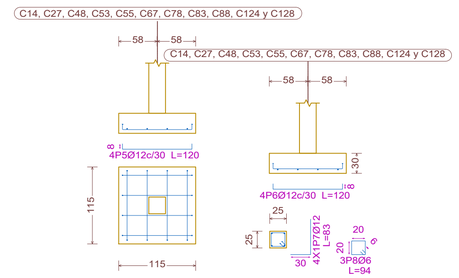
C96



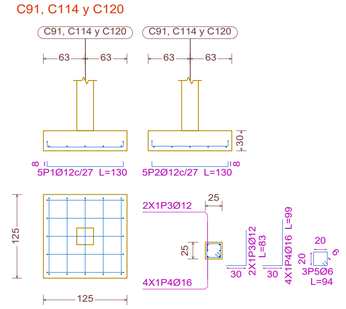
C15



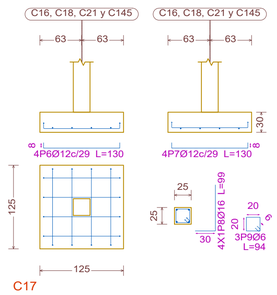
C14, C27, C48, C53, C55, C67, C78, C83, C88, C124 y C128



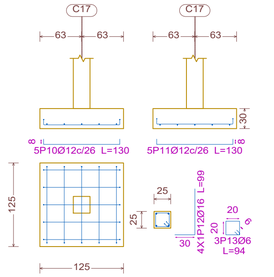
C91, C114 y C120



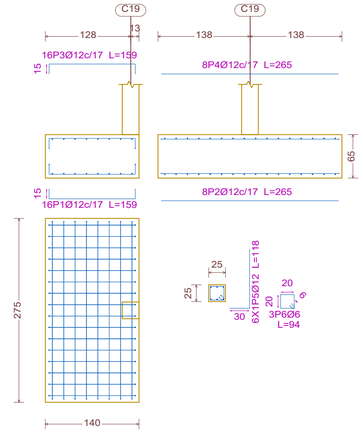
C16, C18, C21 y C145



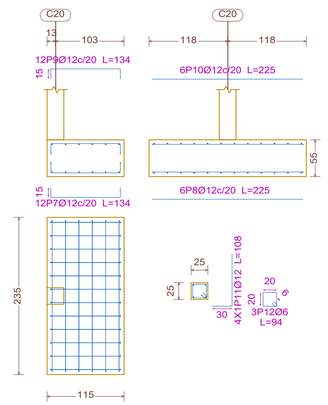
C17



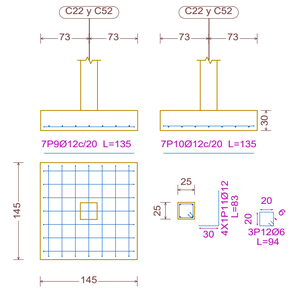
C19



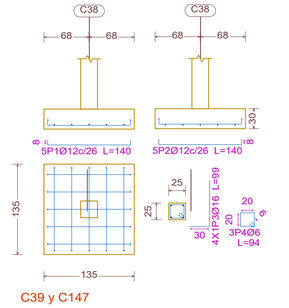
C20



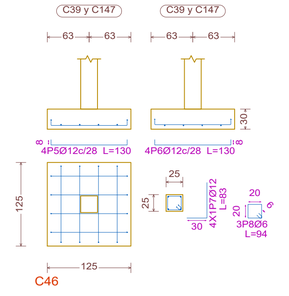
C22 y C52



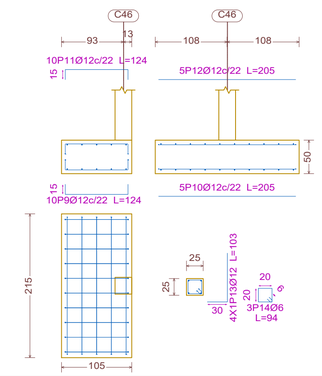
C38



C39 y C147



C46



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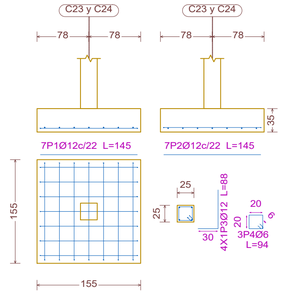
ZAPATAS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

02/31

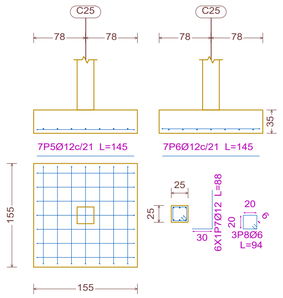
DETALLE DE ARMADURA DE ZAPATAS ESCALA 1:50

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C23=C24	1	Ø12	7	145	1015	9.0
	2	Ø12	7	145	1015	9.0
	3	Ø12	4	88	352	3.1
	4	Ø6	3	94	282	0.6
				Total+10%: (x2):		23.9 47.8
C25	5	Ø12	7	145	1015	9.0
	6	Ø12	7	145	1015	9.0
	7	Ø12	6	88	528	4.7
	8	Ø6	3	94	282	0.6
				Total+10%:		25.6
C26	9	Ø12	5	130	650	5.8
	10	Ø12	5	130	650	5.8
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
				Total+10%:		16.6
C28	13	Ø12	7	145	1015	9.0
	14	Ø12	7	145	1015	9.0
	15	Ø12	2	88	176	1.6
	16	Ø16	4	104	416	6.6
	17	Ø6	3	94	282	0.6
				Total+10%:		29.5
				Ø6: Ø12: Ø16: Total:		3.3 109.0 7.2 119.5
C29	1	Ø12	6	135	810	7.2
	2	Ø12	6	135	810	7.2
	3	Ø12	6	83	498	4.4
	4	Ø6	3	94	282	0.6
				Total+10%:		21.3
C30	5	Ø12	7	145	1015	9.0
	6	Ø12	7	145	1015	9.0
	7	Ø16	4	104	416	6.6
	8	Ø6	3	94	282	0.6
				Total+10%:		27.7
C31	9	Ø12	7	135	945	8.4
	10	Ø12	7	135	945	8.4
	11	Ø12	6	83	498	4.4
	12	Ø6	3	94	282	0.6
				Total+10%:		24.0
C34	13	Ø12	6	140	840	7.5
	14	Ø12	6	140	840	7.5
	15	Ø16	4	99	396	6.3
	16	Ø6	3	94	282	0.6
				Total+10%:		24.1
				Ø6: Ø12: Ø16: Total:		2.6 80.3 14.2 97.1
C32	1	Ø12	19	174	3306	29.4
	2	Ø12	9	295	2655	23.6
	3	Ø12	19	174	3306	29.4
	4	Ø12	9	295	2655	23.6
	5	Ø12	6	123	738	6.6
	6	Ø6	3	94	282	0.6
				Total+10%:		124.5
C33	7	Ø12	14	149	2086	18.5
	8	Ø12	7	255	1785	15.8
	9	Ø12	14	149	2086	18.5
	10	Ø12	7	255	1785	15.8
	11	Ø12	4	113	452	4.0
	12	Ø6	3	94	282	0.6
				Total+10%:		80.5
				Ø6: Ø12: Total:		1.2 203.8 205.0
C40=C41=C45=C49=C73=C93 C129=C135=C161	1	Ø12	3	95	285	2.5
	2	Ø12	3	95	285	2.5
	3	Ø12	4	83	332	2.9
	4	Ø6	3	94	282	0.6
				Total+10%: (x9):		9.4 84.6
C44=C57=C61=C77=C82=C89 C108=C127=C134=C137=C165	5	Ø12	4	110	440	3.9
	6	Ø12	4	110	440	3.9
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%: (x11):		12.4 136.4
				Ø6: Ø12: Total:		12.9 208.1 221.0
C47	1	Ø12	5	94	470	4.2
	2	Ø12	3	125	375	3.3
	3	Ø12	4	83	332	2.9
	4	Ø6	3	94	282	0.6
				Total+10%:		12.1
C50=C56=C58=C87=C121 C136	5	Ø12	3	100	300	2.7
	6	Ø12	3	100	300	2.7
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%: (x6):		9.8 58.8
C62=C141	9	Ø12	4	130	520	4.6
	10	Ø12	4	130	520	4.6
	11	Ø16	4	99	396	6.3
	12	Ø6	3	94	282	0.6
				Total+10%: (x2):		17.7 35.4
C63	13	Ø12	3	100	300	2.7
	14	Ø12	3	100	300	2.7
	15	Ø12	6	83	498	4.4
	16	Ø6	3	94	282	0.6
				Total+10%:		11.4
				Ø6: Ø12: Ø16: Total:		6.7 97.0 14.0 117.7
C65	1	Ø12	4	120	480	4.3
	2	Ø12	4	120	480	4.3
	3	Ø16	4	99	396	6.3
	4	Ø6	3	94	282	0.6
				Total+10%:		17.1
C66	5	Ø12	4	130	520	4.6
	6	Ø12	4	130	520	4.6
	7	Ø12	6	83	498	4.4
	8	Ø6	3	94	282	0.6
				Total+10%:		15.6
C68=C115	9	Ø12	4	130	520	4.6
	10	Ø12	4	130	520	4.6
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
				Total+10%: (x2):		14.0 28.0
C70=C140	13	Ø12	4	120	480	4.3
	14	Ø12	4	120	480	4.3
	15	Ø12	6	83	498	4.4
	16	Ø6	3	94	282	0.6
				Total+10%: (x2):		15.0 30.0
				Ø6: Ø12: Ø16: Total:		4.1 79.7 6.9 90.7
C51=C64=C69=C74=C75=C76 C81=C92=C138=C139=C164 C166	1	Ø12	3	94	282	2.5
	2	Ø12	3	94	282	2.5
	3	Ø12	4	83	332	2.9
	4	Ø6	3	94	282	0.6
				Total+10%: (x12):		9.4 112.8
C54=C133=C148	5	Ø12	6	135	810	7.2
	6	Ø12	6	135	810	7.2
	7	Ø12	4	83	332	2.9
	8	Ø6	3	94	282	0.6
				Total+10%: (x3):		19.7 59.1
				Ø6: Ø12: Total:		10.5 161.4 171.9

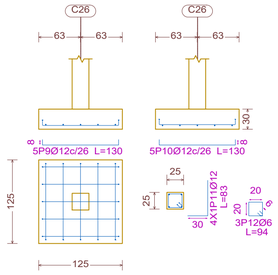
C23 y C24



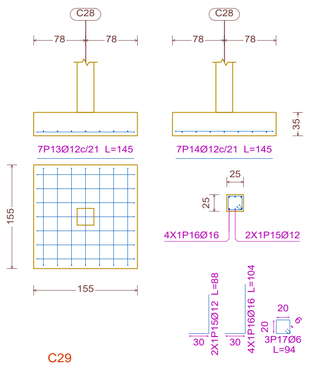
C25



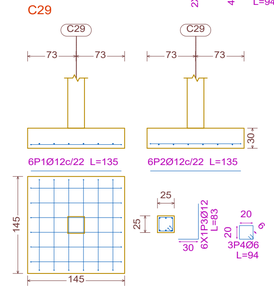
C26



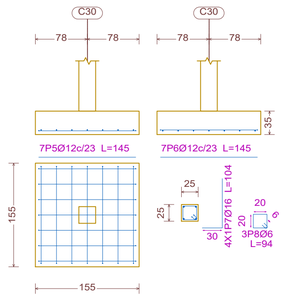
C28



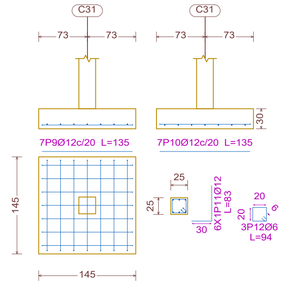
C29



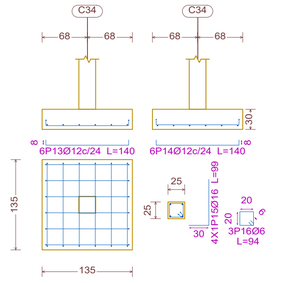
C30



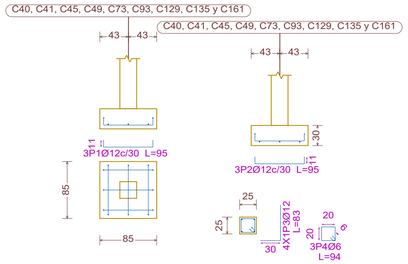
C31



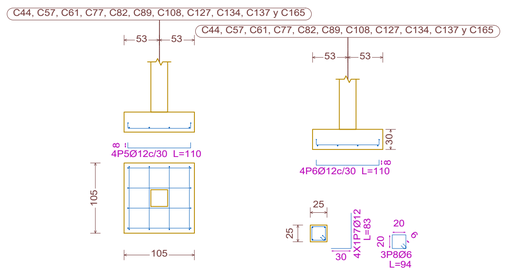
C34



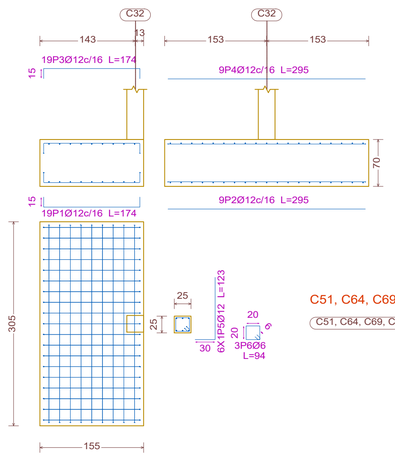
C40, C41, C45, C49, C73, C93, C129, C135 y C161



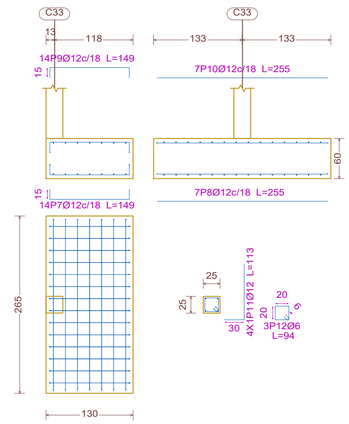
C44, C57, C61, C77, C82, C89, C108, C127, C134, C137 y C165



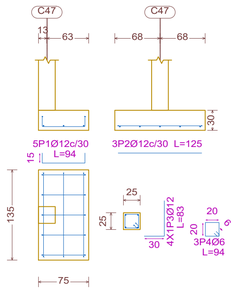
C32



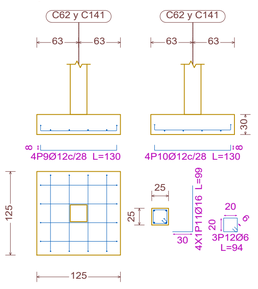
C33



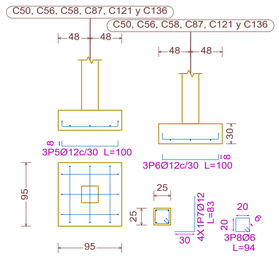
C47



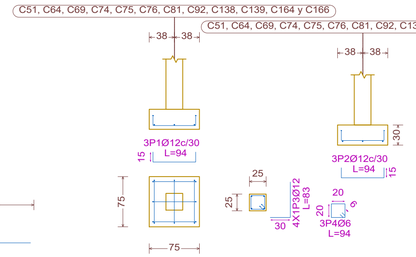
C62 y C141



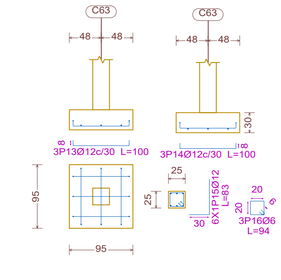
C50, C56, C58, C87, C121 y C136



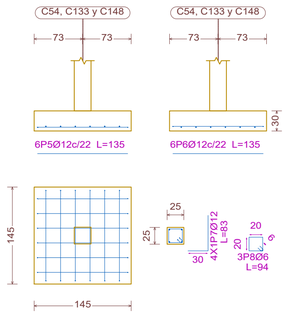
C51, C64, C69, C74, C75, C76, C81, C92, C138, C139, C164 y C166



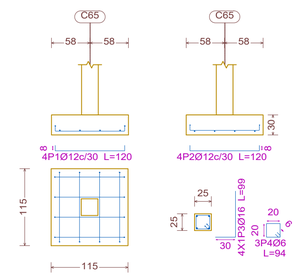
C63



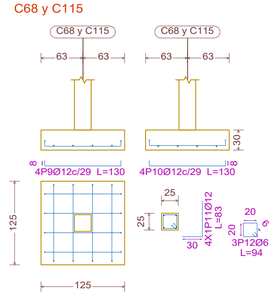
C54, C133 y C148



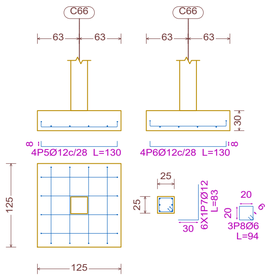
C65



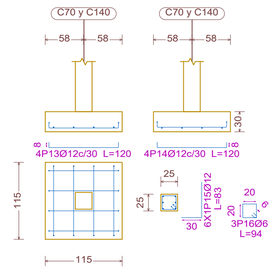
C68 y C115



C66



C70 y C140



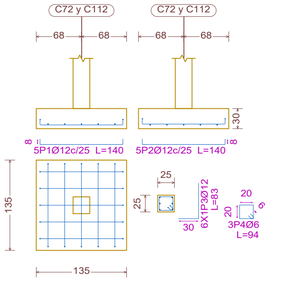
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
ZAPATAS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022
03/31	

DETALLE DE ARMADURA DE ZAPATAS
ESCALA 1:50

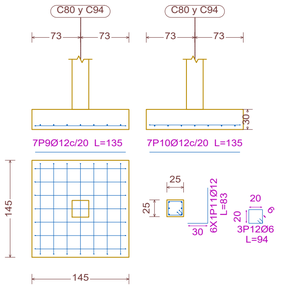
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C72=C112	1	Ø12	5	140	700	6.2
	2	Ø12	5	140	700	6.2
	3	Ø12	6	83	498	4.4
	4	Ø6	3	94	282	0.6
				Total+10%:		19.1
				(x2):		38.2
C79	5	Ø12	7	135	945	8.4
	6	Ø12	7	135	945	8.4
	7	Ø12	6	83	498	4.4
	8	Ø6	3	94	282	0.6
				Total+10%:		24.0
C80=C94	9	Ø12	7	135	945	8.4
	10	Ø12	7	135	945	8.4
	11	Ø12	6	83	498	4.4
	12	Ø6	3	94	282	0.6
				Total+10%:		24.0
				(x2):		48.0
C84	13	Ø12	6	135	810	7.2
	14	Ø12	6	135	810	7.2
	15	Ø12	6	83	498	4.4
	16	Ø6	3	94	282	0.6
				Total+10%:		21.3
				Ø6:		3.9
				Ø12:		127.6
				Total:		131.5
C97	1	Ø12	3	165	495	4.4
	2	Ø12	6	109	654	5.8
	3	Ø12	3	165	495	4.4
	4	Ø12	6	109	654	5.8
	5	Ø12	4	93	372	3.3
	6	Ø6	3	94	282	0.6
				Total+10%:		26.7
C98	7	Ø12	6	225	1350	12.0
	8	Ø12	12	134	1608	14.3
	9	Ø12	6	225	1350	12.0
	10	Ø12	12	134	1608	14.3
	11	Ø12	4	108	432	3.8
	12	Ø6	3	94	282	0.6
				Total+10%:		62.7
C99	13	Ø12	3	155	465	4.1
	14	Ø12	6	104	624	5.5
	15	Ø12	3	155	465	4.1
	16	Ø12	6	104	624	5.5
	17	Ø12	4	88	352	3.1
	18	Ø6	3	94	282	0.6
				Total+10%:		25.2
C123=C150	19	Ø12	6	140	840	7.5
	20	Ø12	6	140	840	7.5
	21	Ø12	4	83	332	2.9
	22	Ø6	3	94	282	0.6
				Total+10%:		20.4
				(x2):		40.8
				Ø6:		3.4
				Ø12:		152.0
				Total:		155.4
C100	1	Ø12	9	295	2655	23.6
	2	Ø12	19	169	3211	28.5
	3	Ø12	9	295	2655	23.6
	4	Ø12	19	169	3211	28.5
	5	Ø12	6	123	738	6.6
	6	Ø6	3	94	282	0.6
				Total+10%:		122.5
C101	7	Ø12	8	265	2120	18.8
	8	Ø12	16	154	2464	21.9
	9	Ø12	8	265	2120	18.8
	10	Ø12	16	154	2464	21.9
	11	Ø16	4	134	536	8.5
	12	Ø6	3	94	282	0.6
				Total+10%:		99.6
C102	13	Ø12	2	110	220	2.0
	14	Ø12	4	74	296	2.6
	15	Ø12	4	83	332	2.9
	16	Ø6	3	94	282	0.6
				Total+10%:		8.9
				Ø6:		1.9
				Ø12:		219.7
				Ø16:		9.4
				Total:		231.0
C103	1	Ø12	4	185	740	6.6
	2	Ø12	8	119	952	8.5
	3	Ø12	4	185	740	6.6
	4	Ø12	8	119	952	8.5
	5	Ø12	4	98	392	3.5
	6	Ø6	3	94	282	0.6
				Total+10%:		37.7
C104	7	Ø12	8	275	2200	19.5
	8	Ø12	16	164	2624	23.3
	9	Ø12	8	275	2200	19.5
	10	Ø12	16	164	2624	23.3
	11	Ø12	4	118	472	4.2
	12	Ø6	3	94	282	0.6
				Total+10%:		99.4
C113	13	Ø12	6	135	810	7.2
	14	Ø12	6	135	810	7.2
	15	Ø16	4	99	396	6.3
	16	Ø6	3	94	282	0.6
				Total+10%:		23.4
				Ø6:		1.8
				Ø12:		151.7
				Ø16:		7.0
				Total:		160.5
C105	1	Ø12	7	245	1715	15.2
	2	Ø12	14	144	2016	17.9
	3	Ø12	7	245	1715	15.2
	4	Ø12	14	144	2016	17.9
	5	Ø12	4	113	452	4.0
	6	Ø6	3	94	282	0.6
				Total+10%:		77.9
C106	7	Ø12	7	245	1715	15.2
	8	Ø12	14	144	2016	17.9
	9	Ø12	7	245	1715	15.2
	10	Ø12	14	144	2016	17.9
	11	Ø12	6	113	678	6.0
	12	Ø6	3	94	282	0.6
				Total+10%:		80.1
				Ø6:		1.4
				Ø12:		156.6
				Total:		158.0
C107	1	Ø12	6	225	1350	12.0
	2	Ø12	12	139	1668	14.8
	3	Ø12	6	225	1350	12.0
	4	Ø12	12	139	1668	14.8
	5	Ø12	6	108	648	5.8
	6	Ø6	3	94	282	0.6
				Total+10%:		66.0
C109	7	Ø12	7	135	945	8.4
	8	Ø12	7	135	945	8.4
	9	Ø12	2	83	166	1.5
	10	Ø16	4	99	396	6.3
	11	Ø6	3	94	282	0.6
				Total+10%:		27.7
				Ø6:		1.3
				Ø12:		85.4
				Ø16:		7.0
				Total:		93.7
C116	1	Ø12	8	155	1240	11.0
	2	Ø12	8	155	1240	11.0
	3	Ø16	4	104	416	6.6
	4	Ø6	3	94	282	0.6
				Total+10%:		32.1
C117	5	Ø12	7	145	1015	9.0
	6	Ø12	7	145	1015	9.0
	7	Ø12	4	88	352	3.1
	8	Ø6	3	94	282	0.6
				Total+10%:		23.9

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C118	9	Ø12	4	130	520	4.6
	10	Ø12	4	130	520	4.6
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
				Total+10%:		14.0
C119	13	Ø12	7	135	945	8.4
	14	Ø12	7	135	945	8.4
	15	Ø16	4	99	396	6.3
	16	Ø6	3	94	282	0.6
				Total+10%:		26.1
				Ø6:		2.7
				Ø12:		79.2
				Ø16:		14.2
				Total:		96.1

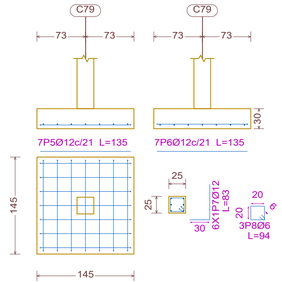
C72 y C112



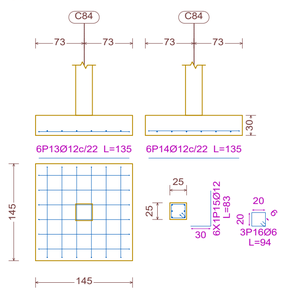
C80 y C94



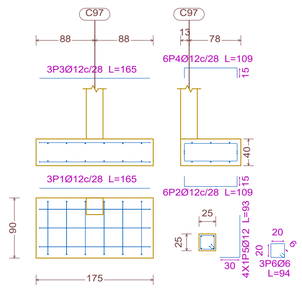
C79



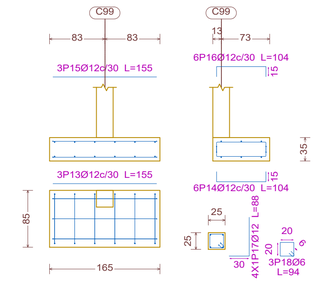
C84



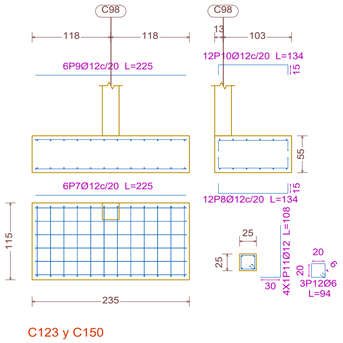
C97



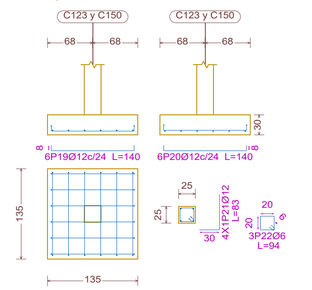
C99



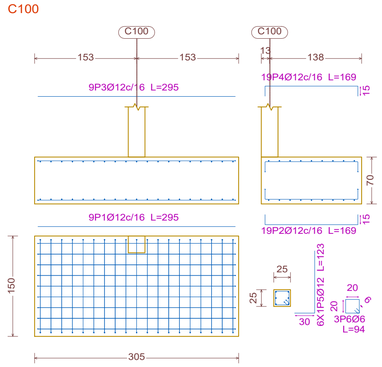
C98



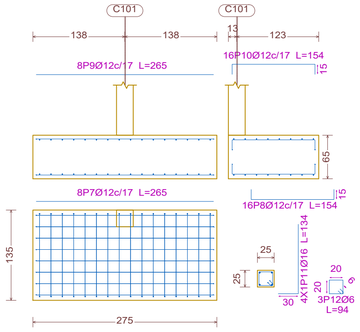
C123 y C150



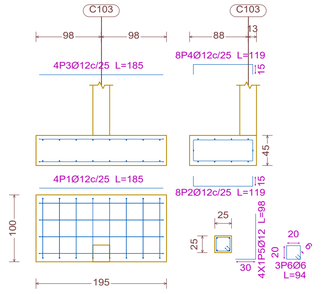
C100



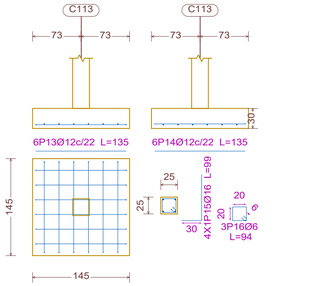
C101



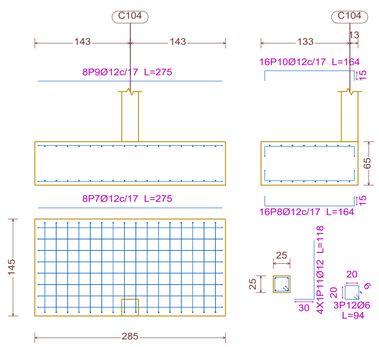
C103



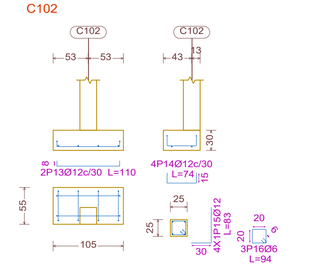
C113



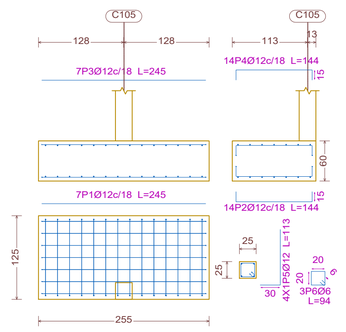
C104



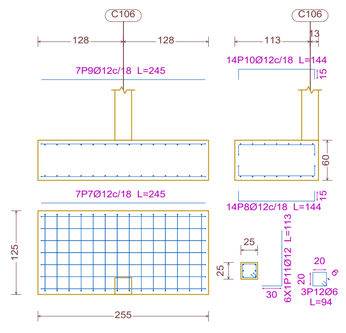
C102



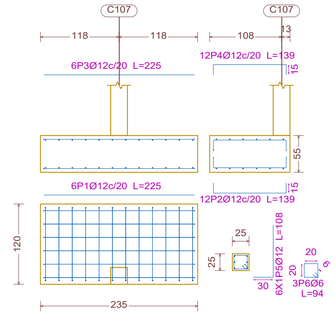
C105



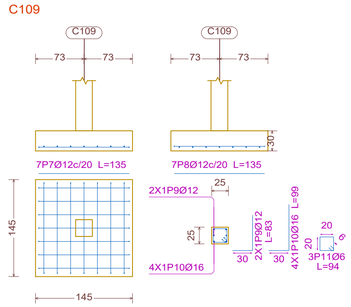
C106



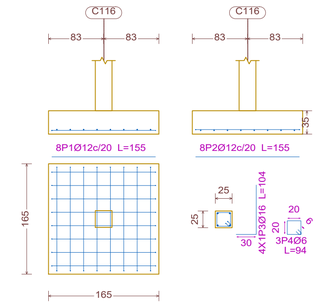
C107



C109



C116



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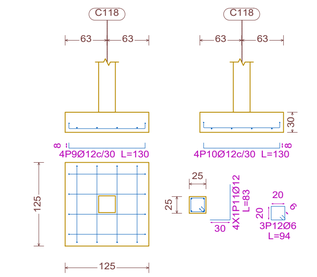

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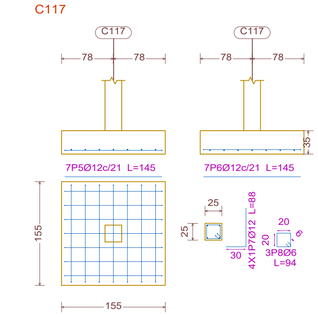
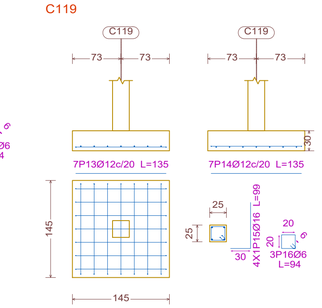


C119



UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
ZAPATAS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Junio 2022
	04/31

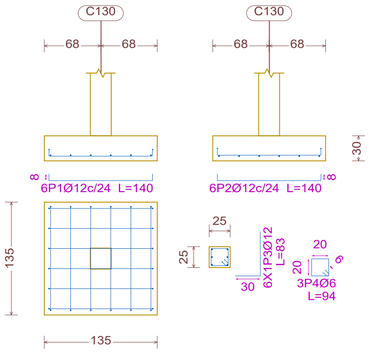
DETALLE DE ARMADURA DE ZAPATAS ESCALA 1:45

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
C130	1	Ø12	6	140	840	7.5
	2	Ø12	6	140	840	7.5
	3	Ø12	6	83	498	4.4
	4	Ø6	3	94	282	0.6
					Total+10%:	22.0
C131	5	Ø12	4	120	480	4.3
	6	Ø12	4	120	480	4.3
	7	Ø12	2	83	166	1.5
	8	Ø16	4	99	396	6.3
	9	Ø6	3	94	282	0.6
					Total+10%:	18.7
C132=C143	10	Ø12	4	130	520	4.6
	11	Ø12	4	130	520	4.6
	12	Ø12	6	83	498	4.4
	13	Ø6	3	94	282	0.6
					Total+10%:	15.6
					(x2):	31.2
C142	14	Ø12	5	130	650	5.8
	15	Ø12	5	130	650	5.8
	16	Ø16	4	99	396	6.3
	17	Ø6	3	94	282	0.6
					Total+10%:	20.4
					Ø6:	3.3
					Ø12:	75.2
					Ø16:	13.8
					Total:	92.3
C144	1	Ø12	5	130	650	5.8
	2	Ø12	5	130	650	5.8
	3	Ø12	6	83	498	4.4
	4	Ø6	3	94	282	0.6
					Total+10%:	18.3
C146	5	Ø12	8	145	1160	10.3
	6	Ø12	8	145	1160	10.3
	7	Ø20	4	129	516	12.7
	8	Ø6	3	94	282	0.6
					Total+10%:	37.3
C149	9	Ø12	6	140	840	7.5
	10	Ø12	6	140	840	7.5
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
					Total+10%:	20.4
C151	13	Ø12	7	135	945	8.4
	14	Ø12	7	135	945	8.4
	15	Ø12	4	83	332	2.9
	16	Ø6	3	94	282	0.6
					Total+10%:	22.3
					Ø6:	2.7
					Ø12:	81.7
					Ø20:	13.9
					Total:	98.3
C153	1	Ø12	7	135	945	8.4
	2	Ø12	7	135	945	8.4
	3	Ø12	4	83	332	2.9
	4	Ø6	3	94	282	0.6
					Total+10%:	22.3
C160=C163	5	Ø12	4	115	460	4.1
	6	Ø12	4	115	460	4.1
	7	Ø12	6	83	498	4.4
	8	Ø6	3	92	276	0.6
					Total+10%:	14.5
					(x2):	29.0
(C42-C43)	9	Ø12	3	154	462	4.1
	10	Ø12	5	95	475	4.2
	11	Ø12	4	83	332	2.9
	12	Ø6	3	94	282	0.6
	13	Ø12	4	83	332	2.9
	14	Ø6	3	94	282	0.6
					Total+10%:	16.8
(C59-C60)	15	Ø12	3	189	567	5.0
	16	Ø12	6	100	600	5.3
	17	Ø12	4	83	332	2.9
	18	Ø6	3	94	282	0.6
	19	Ø12	4	83	332	2.9
	20	Ø6	3	94	282	0.6
					Total+10%:	19.0
					Ø6:	4.4
					Ø12:	82.7
					Total:	87.1

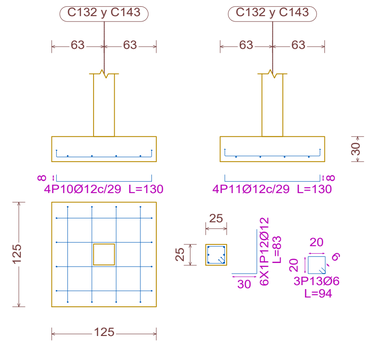
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
(C110-C111)	1	Ø12	5	199	995	8.8
	2	Ø12	6	120	720	6.4
	3	Ø12	6	83	498	4.4
	4	Ø6	3	94	282	0.6
	5	Ø16	4	99	396	6.3
	6	Ø6	3	94	282	0.6
					Total+10%:	29.8
					Ø6:	1.3
					Ø12:	21.6
					Ø16:	6.9
					Total:	29.8

Resumen Acero Cimentación Despiece cimentación		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	447.5	109	
	Ø12	3183.4	3109	
	Ø16	125.8	218	
	Ø20	5.2	14	3450

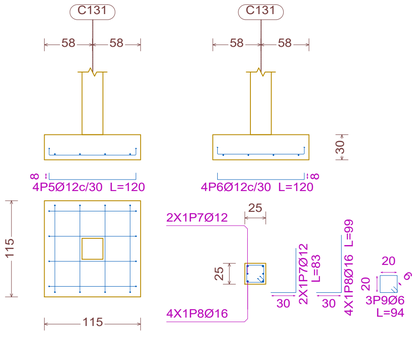
C130



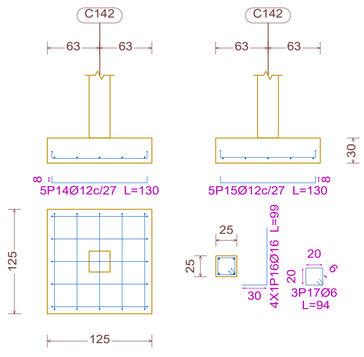
C132 y C143



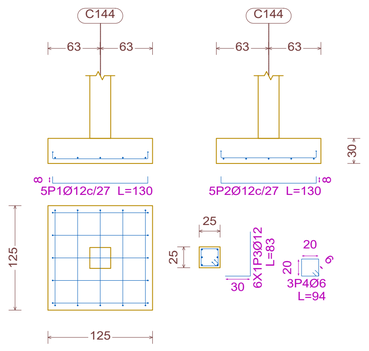
C131



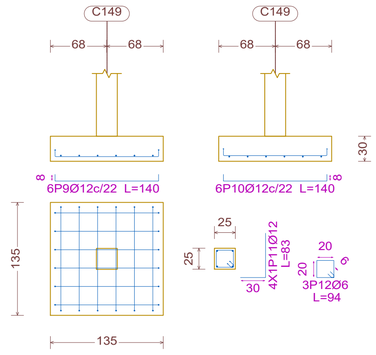
C142



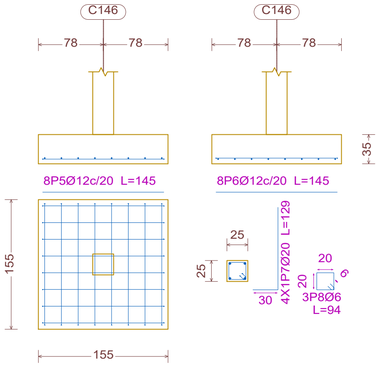
C144



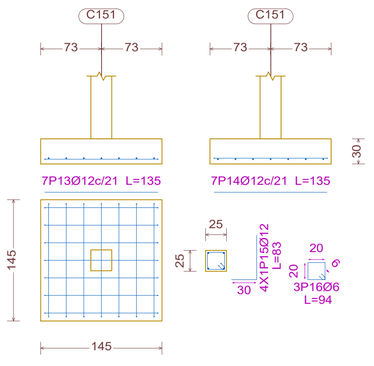
C149



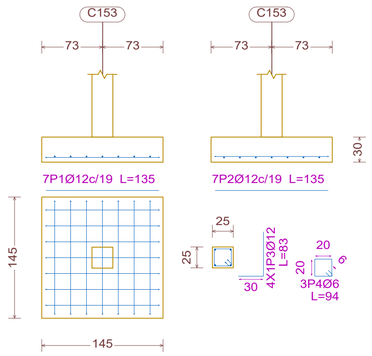
C146



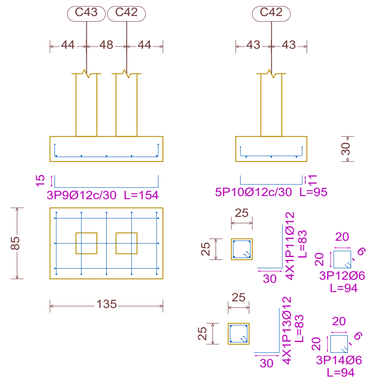
C151



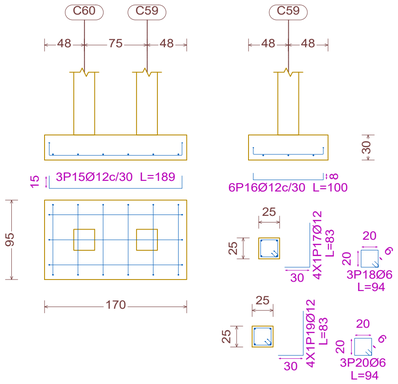
C153



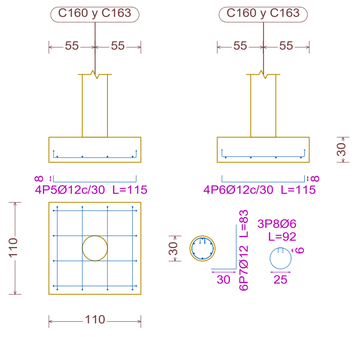
(C42-C43)



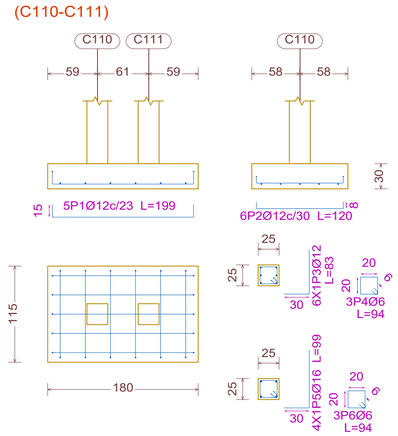
(C59-C60)



C160 y C163



(C110-C111)



UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
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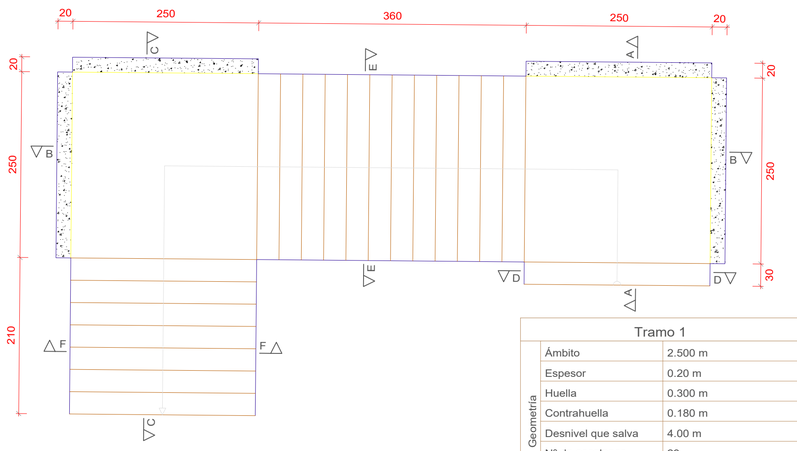
ZAPATAS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

05/31

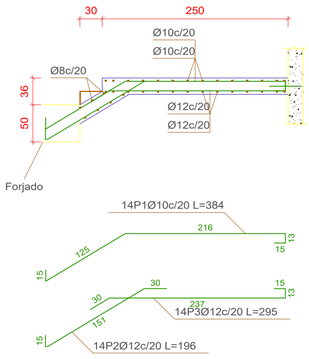
ESCALERA
ESCALA 1:45



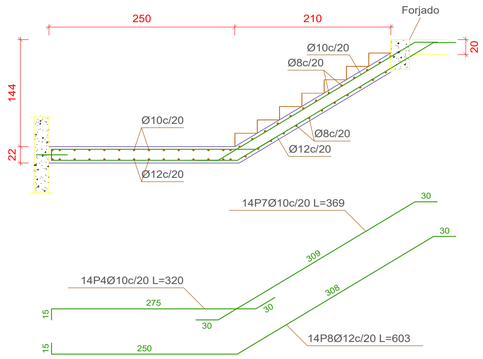
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Escalera1 -Tramo 1	1	Ø10	14	384	5376	33.1
	2	Ø12	14	196	2744	24.4
	3	Ø12	28	295	8260	73.3
	4	Ø10	28	320	8960	55.2
	5	Ø10	14	756	10584	65.3
	6	Ø12	14	777	10878	96.6
	7	Ø10	14	369	5166	31.9
	8	Ø12	14	603	8442	75.0
	9	Ø8	77	273	21021	83.0
					Total+10%	591.6
					Ø8:	91.3
					Ø10:	204.1
					Ø12:	296.2
					Total:	591.6

Tramo 1		
Geometría	Ámbito	2.500 m
	Espesor	0.20 m
	Huella	0.300 m
	Contrahuella	0.180 m
	Desnivel que salva	4.00 m
	Nº de escalones	23
	Planta final	PRIMERA PLANTA
	Planta inicial	CIMIENTOS
Cargas	Peso propio	5.40 kN/m2
	Peldañeado (Realizado con ladrillo)	1.21 kN/m2
	Solado	1.00 kN/m2
	Barandillas	0.30 kN/m
	Sobrecarga de uso	3.00 kN/m2
Materiales	Hormigón	H-21 , Control Normal
	Acero	AH-500 , Control Normal
	Rec. geométrico	3.0 cm

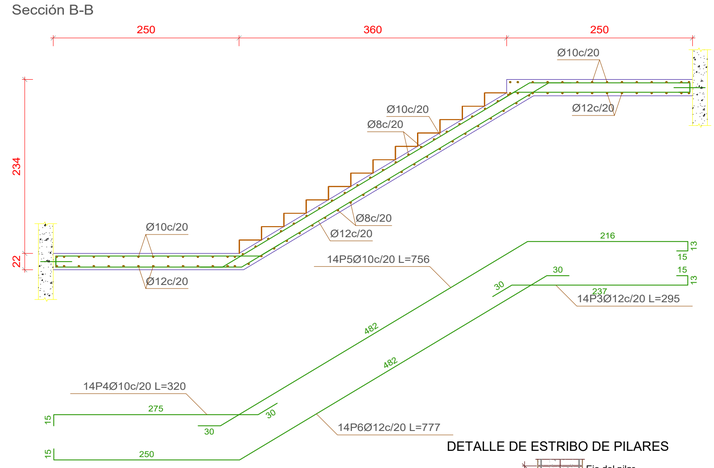
Sección A-A



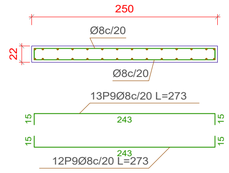
Sección C-C



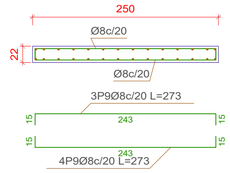
Sección B-B



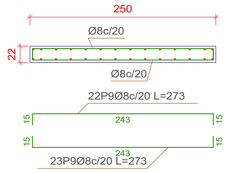
Sección F-F



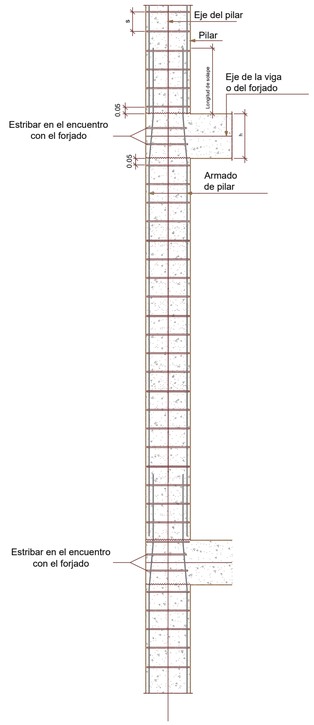
Sección D-D



Sección E-E



DETALLE DE ESTRIBO DE PILARES



Resumen Acero Escalera 1		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø8	210.2	91	
	Ø10	300.9	204	
	Ø12	303.2	296	591

DISTRIBUCIÓN DE ARMADURA EN ESCALERA

CUADRO DE PILARES
ESCALA 1:40

C14=C20=C22=C23=C24=C26=C27=C33 C36=C37=C39=C40=C41=C42=C43=C44 C45=C46=C47=C48=C49=C50=C51=C52 C53=C54=C55=C56=C57=C58=C59=C60 C61=C64=C67=C68=C69=C71=C73=C76 C77=C78=C81=C82=C83=C87=C88=C89 C92=C93=C97=C98=C99=C102=C103 C104=C105=C108=C115=C117=C118 C121=C122=C123=C124=C127=C128 C129=C133=C134=C135=C136=C137 C138=C139=C161=C167	C1=C2 C3=C4 C5=C13	C15	C16=C17 C18=C21 C62=C96	C19=C25 C29=C31 C32=C63	C28	C30=C34 C35=C38 C86 C113 C116 C119 C125	C65 C101 C111	C66=C72=C79 C80=C84=C90 C94=C100 C106=C107 C112=C130	C70 C110 C132	C74 C75 C164 C165 C166	C85=C120 C126 C131	C91=C95 C114	C109	C140 C143 C144	C141 C142 C145	C146	C147=C148 C149=C150 C151=C152 C153	C154=C155 C156=C157 C158=C159 C160	C163
4Ø12 26Ø6c/15 L=99		4Ø16 20Ø6c/20 L=100	6Ø12 26Ø6c/15 L=99	4Ø12 26Ø6c/15 L=99	4Ø12 26Ø6c/15 L=99	4Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99	4Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99		6Ø12 26Ø6c/15 L=99	4Ø16 20Ø6c/20 L=100	4Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=99	4Ø12 26Ø6c/15 L=99	6Ø12 26Ø6c/15 L=97
4Ø12 28Ø6c/15 L=99	6Ø12 28Ø6c/15 L=97	4Ø16 2Ø12 28Ø6c/15 L=100	4Ø16 21Ø6c/20 L=100	6Ø12 28Ø6c/15 L=99	4Ø16 2Ø12 28Ø6c/15 L=100	4Ø16 21Ø6c/20 L=100	4Ø16 21Ø6c/20 L=100	6Ø12 28Ø6c/15 L=99	6Ø12 28Ø6c/15 L=99	4Ø12 28Ø6c/15 L=99	4Ø16 2Ø12 28Ø6c/15 L=100	4Ø16 2Ø12 28Ø6c/15 L=100	4Ø16 2Ø12 28Ø6c/15 L=100	6Ø12 28Ø6c/15 L=99	4Ø16 21Ø6c/20 L=100	4Ø20 21Ø6c/20 L=102	4Ø12 28Ø6c/15 L=99	6Ø12 28Ø6c/15 L=97	6Ø12 28Ø6c/15 L=97
4Ø12 4Ø12 L=83 14Ø6c/15 L=99	6Ø12 6Ø12 L=83 14Ø6c/15 L=97	4Ø16 2Ø12 4Ø16 L=99 2Ø12 L=83 14Ø6c/15 L=100	4Ø16 4Ø16 L=99 11Ø6c/20 L=100	6Ø12 6Ø12 L=118 14Ø6c/15 L=99	4Ø16 2Ø12 4Ø16 L=104 2Ø12 L=88 14Ø6c/15 L=100	4Ø16 4Ø16 L=104 11Ø6c/20 L=100	4Ø16 4Ø16 L=99 11Ø6c/20 L=100	6Ø12 6Ø12 L=83 14Ø6c/15 L=99	6Ø12 6Ø12 L=83 14Ø6c/15 L=99	4Ø12 4Ø12 L=83 14Ø6c/15 L=99	4Ø16 2Ø12 4Ø16 L=99 2Ø12 L=83 14Ø6c/15 L=100	4Ø16 2Ø12 4Ø16 L=99 2Ø12 L=83 14Ø6c/15 L=100	4Ø16 2Ø12 4Ø16 L=99 2Ø12 L=83 14Ø6c/15 L=100	6Ø12 6Ø12 L=83 14Ø6c/15 L=99	4Ø16 4Ø16 L=99 11Ø6c/20 L=100	4Ø20 4Ø20 L=129 11Ø6c/20 L=102	4Ø12 4Ø12 L=83 14Ø6c/15 L=99	6Ø12 6Ø12 L=83 14Ø6c/15 L=97	6Ø12 6Ø12 L=83 14Ø6c/15 L=97

AZOTEA
PRIMERA PLANTA
CIMIENTOS
Cimentación

Resumen Acero Forjados 1 a 3 Pilares		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	9999.4	2441	
	Ø12	6662.6	6507	
	Ø16	1042.0	1809	
	Ø20	34.8	94	10851

Hormigón: H-21, Control Normal
Acero: AH-500, Control Normal

UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"
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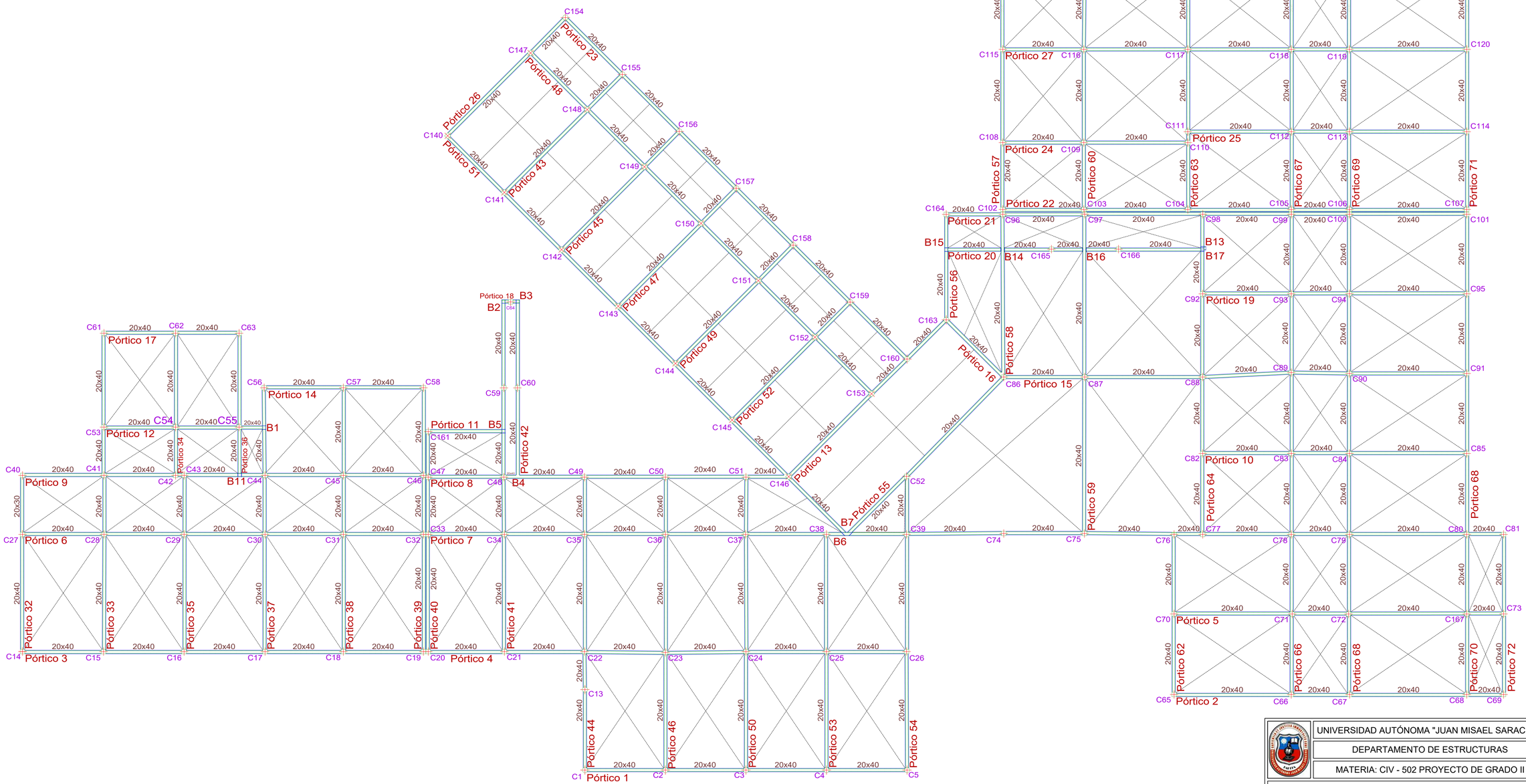
ESCALERA Y COLUMNAS

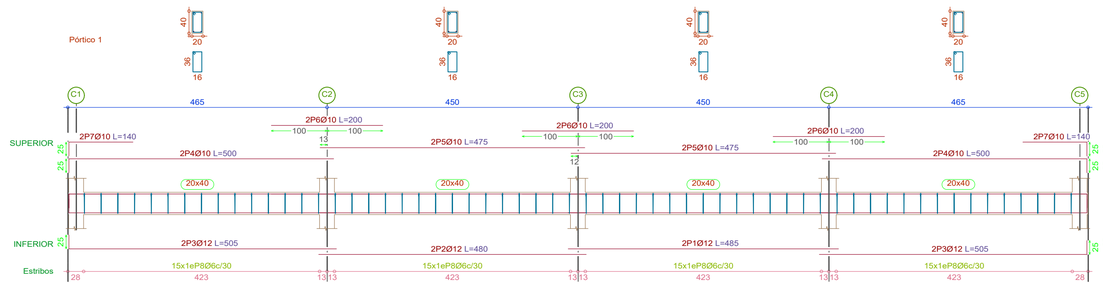
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	06/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

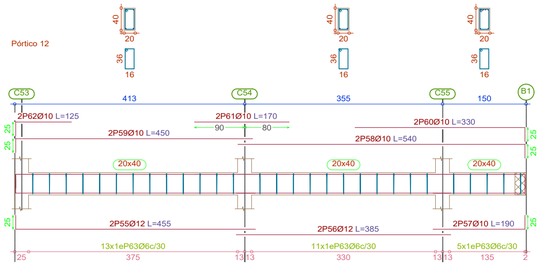
UBICACIÓN DE VIGAS
CIMIENTOS
ESCALA 1:125



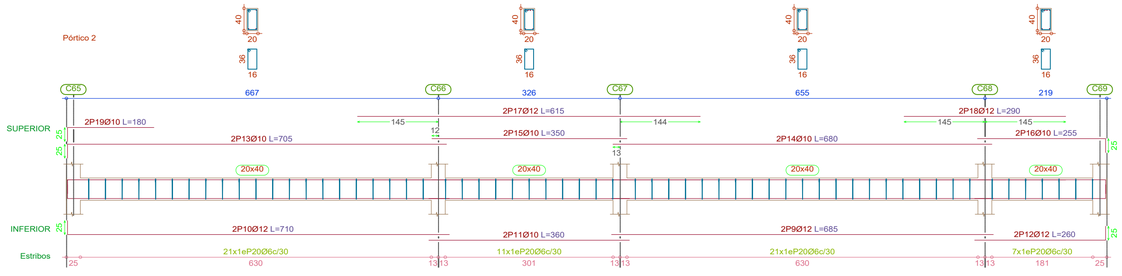
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
UBICACIÓN DE VIGAS CIMIENTOS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

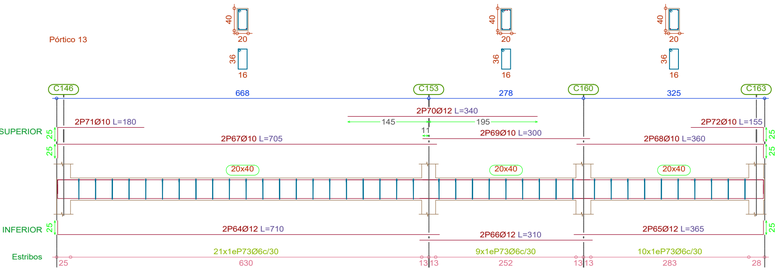
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 1	1	Ø12	2	485	970	8.6
	2	Ø12	2	480	960	8.5
	3	Ø12	4	505	2020	17.9
	4	Ø10	4	500	2000	12.3
	5	Ø10	4	475	1900	11.7
	6	Ø10	6	200	1200	7.4
	7	Ø10	4	140	560	3.5
	8	Ø6	60	116	6960	15.4
				Total+10%:		93.8
Pórtico 2	9	Ø12	2	685	1370	12.2
	10	Ø12	2	710	1420	12.6
	11	Ø10	2	360	720	4.4
	12	Ø12	2	260	520	4.6
	13	Ø10	2	705	1410	8.7
	14	Ø10	2	680	1360	8.4
	15	Ø10	2	350	700	4.3
	16	Ø10	2	255	510	3.1
	17	Ø12	2	615	1230	10.9
	18	Ø12	2	290	580	5.1
	19	Ø10	2	180	360	2.2
	20	Ø6	60	116	6960	15.4
				Total+10%:		101.1
Pórtico 3	21	Ø12	2	485	970	8.6
	22	Ø12	2	480	960	8.5
	23	Ø12	2	505	1010	9.0
	24	Ø12	2	500	1000	8.9
	25	Ø12	2	470	940	8.3
	26	Ø10	2	500	1000	6.2
	27	Ø10	4	475	1900	11.7
	28	Ø10	2	495	990	6.1
	29	Ø10	2	460	920	5.7
	30	Ø10	8	200	1600	9.9
	31	Ø10	2	140	280	1.7
	32	Ø10	2	135	270	1.7
	33	Ø6	74	116	8584	19.0
				Total+10%:		115.8
				Ø6:		54.7
				Ø10:		120.0
				Ø12:		136.0
				Total:		310.7
Pórtico 4	1	Ø12	6	485	2910	25.8
	2	Ø12	2	480	960	8.5
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	480	960	8.5
	5	Ø10	6	475	2850	17.6
	6	Ø10	2	470	940	5.8
	7	Ø10	2	495	990	6.1
	8	Ø10	2	475	950	5.9
	9	Ø10	2	205	410	2.5
	10	Ø10	6	200	1200	7.4
	11	Ø10	2	195	390	2.4
	12	Ø10	2	135	270	1.7
	13	Ø10	2	130	260	1.6
	14	Ø6	89	116	10324	22.9
				Total+10%:		138.2
Pórtico 5	15	Ø12	2	690	1380	12.3
	16	Ø12	2	715	1430	12.7
	17	Ø12	2	345	690	6.1
	18	Ø12	2	260	520	4.6
	19	Ø12	2	710	1420	8.8
	20	Ø10	2	685	1370	8.4
	21	Ø10	2	340	680	4.2
	22	Ø10	2	255	510	3.1
	23	Ø10	4	220	880	5.4
	24	Ø10	2	200	400	2.5
	25	Ø10	2	185	370	2.3
	26	Ø10	2	100	200	1.2
	27	Ø6	61	116	7076	15.7
				Total+10%:		96.0
Pórtico 6	28	Ø12	2	485	970	8.6
	29	Ø12	2	510	1020	9.1
	30	Ø12	2	480	960	8.5
	31	Ø12	2	500	1000	8.9
	32	Ø12	2	470	940	8.3
	33	Ø10	2	505	1010	6.2
	34	Ø10	2	475	950	5.9
	35	Ø10	2	470	940	5.8
	36	Ø10	2	495	990	6.1
	37	Ø10	2	460	920	5.7
	38	Ø10	2	205	410	2.5
	39	Ø10	6	200	1200	7.4
	40	Ø10	2	140	280	1.7
	41	Ø10	2	135	270	1.7
	42	Ø6	74	116	8584	19.0
				Total+10%:		115.9
Pórtico 8	43	Ø12	2	485	970	8.6
	44	Ø12	4	480	1920	17.0
	45	Ø12	2	475	950	8.4
	46	Ø10	2	295	590	3.6
	47	Ø10	6	475	2850	17.6
	48	Ø10	2	470	940	5.8
	49	Ø10	2	290	580	3.6
	50	Ø10	2	380	760	4.7
	51	Ø10	2	255	510	3.1
	52	Ø10	4	200	800	4.9
	53	Ø10	2	130	260	1.6
	54	Ø6	67	116	7772	17.2
				Total+10%:		105.7
Pórtico 12	55	Ø12	2	455	910	8.1
	56	Ø12	2	385	770	6.8
	57	Ø12	2	190	380	2.3
	58	Ø10	2	540	1080	6.7
	59	Ø10	2	450	900	5.5
	60	Ø10	2	330	660	4.1
	61	Ø10	2	170	340	2.1
	62	Ø10	2	125	250	1.5
	63	Ø6	29	116	3364	7.5
				Total+10%:		49.1
Pórtico 13	64	Ø12	2	710	1420	12.6
	65	Ø12	2	365	730	6.5
	66	Ø12	2	310	620	5.5
	67	Ø10	2	705	1410	8.7
	68	Ø10	2	360	720	4.4
	69	Ø10	2	300	600	3.7
	70	Ø12	2	340	680	6.0
	71	Ø10	2	180	360	2.2
	72	Ø10	2	155	310	1.9
	73	Ø6	40	116	4640	10.3
				Total+10%:		68.0
Pórtico 14	74	Ø12	2	500	1000	8.9
	75	Ø12	2	495	990	8.8
	76	Ø10	2	495	990	6.1
	77	Ø10	2	490	980	6.0
	78	Ø10	2	200	400	2.5
	79	Ø10	4	135	540	3.3
	80	Ø6	29	116	3364	7.5
				Total+10%:		47.4
Pórtico 40	81	Ø12	2	710	1420	12.6
	82	Ø12	2	350	700	6.2
	83	Ø12	2	310	620	5.5
	84	Ø10	2	705	1410	8.7
	85	Ø10	2	345	690	4.3
	86	Ø10	2	305	610	3.8
	87	Ø10	2	220	440	2.7
	88	Ø10	2	180	360	2.2
	89	Ø10	2	140	280	1.7
	90	Ø10	2	135	270	1.7
	91	Ø6	39	116	4524	10.0
				Total+10%:		65.3
Pórtico 47	92	Ø12	2	710	1420	12.6
	93	Ø12	2	335	670	5.9
	94	Ø10	2	705	1410	8.7
	95	Ø10	2	330	660	4.1
	96	Ø10	2	210	420	2.6
	97	Ø10	2	180	360	2.2
	98	Ø10	2	110	220	1.4
	99	Ø6	30	116	3480	7.7
				Total+10%:		49.7

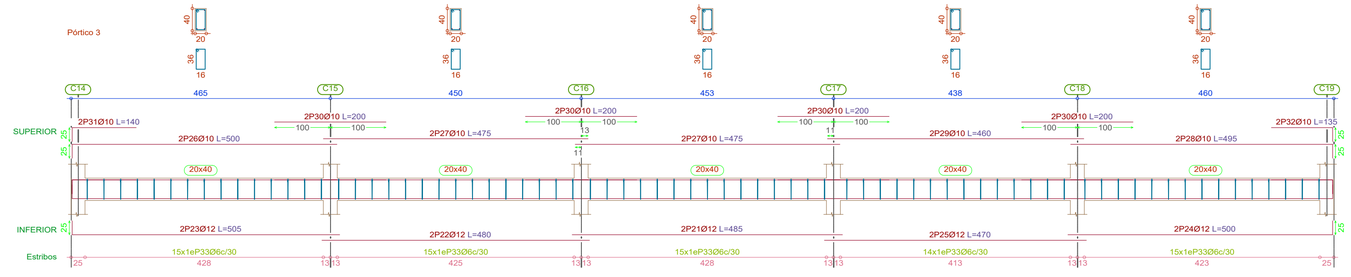


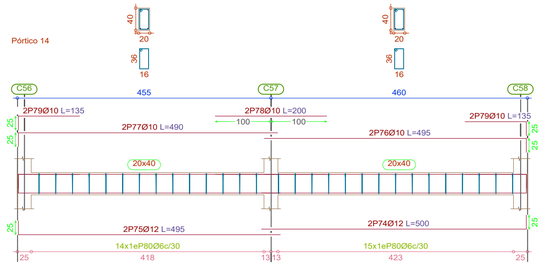


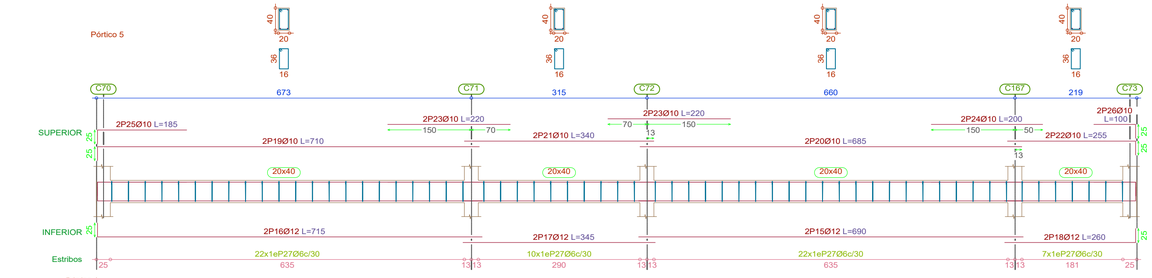
DESPIECE DE VIGAS CIMIENTOS ESCALA 1:60

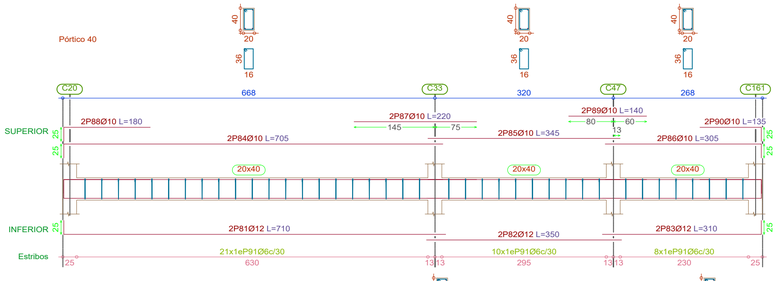


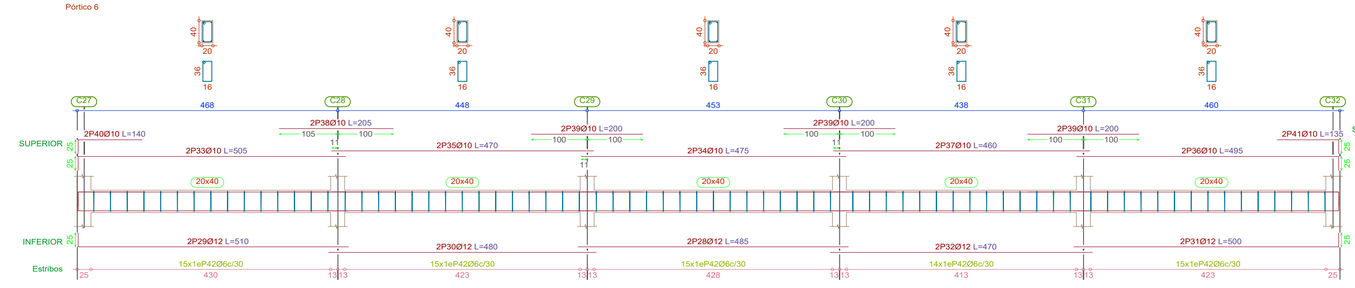


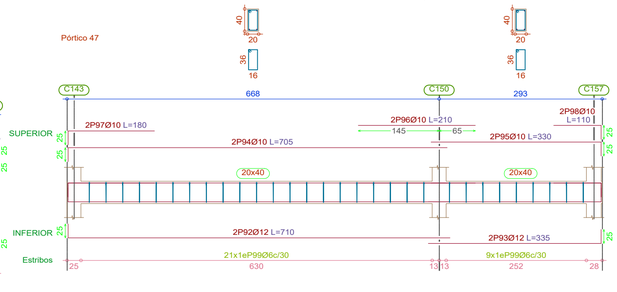


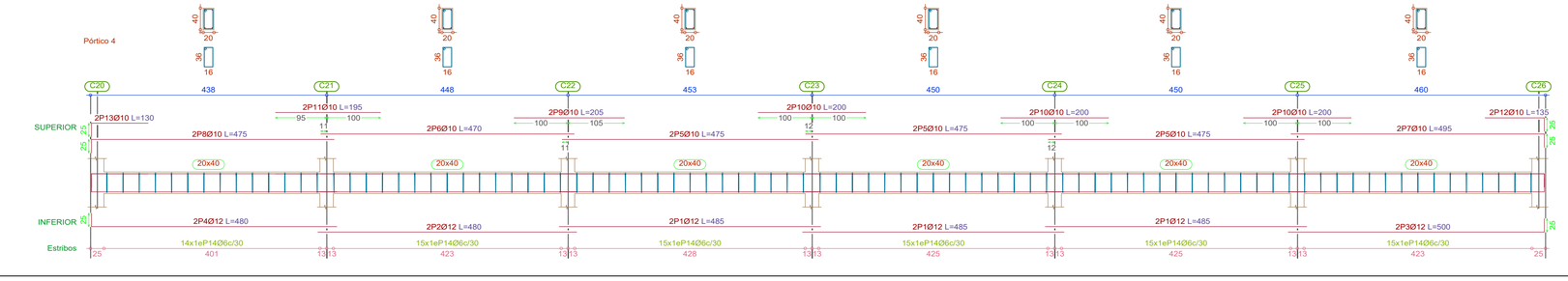










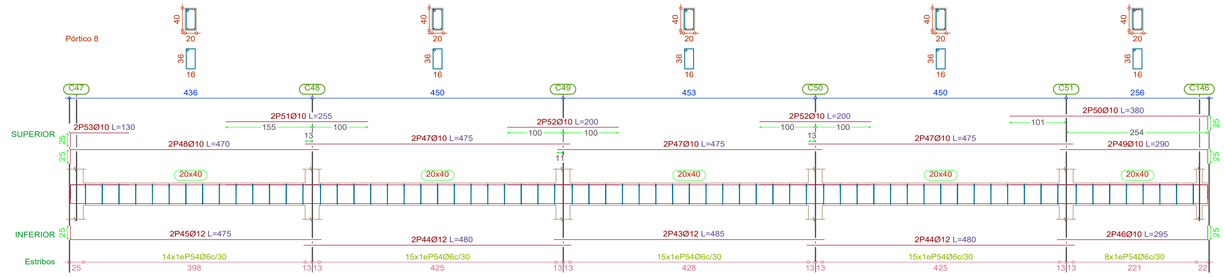


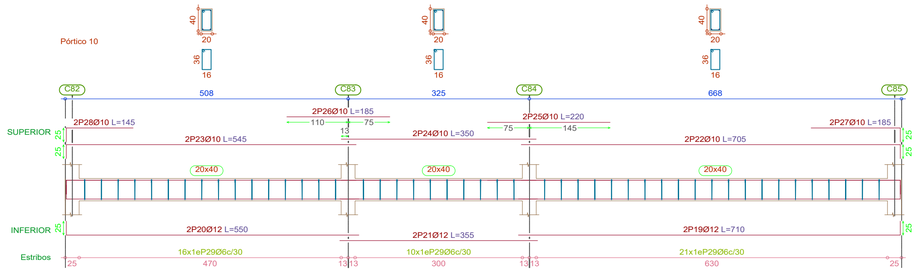
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS CIMIENTOS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

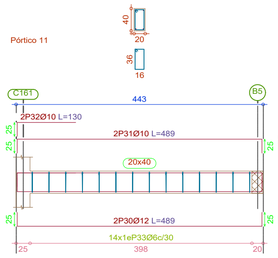
08/31

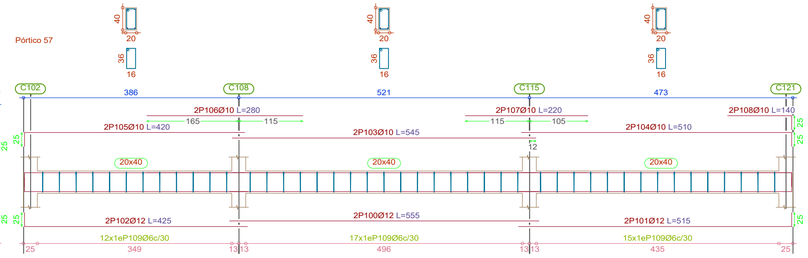
DESPIECE DE VIGAS CIMIENTOS ESCALA 1:60

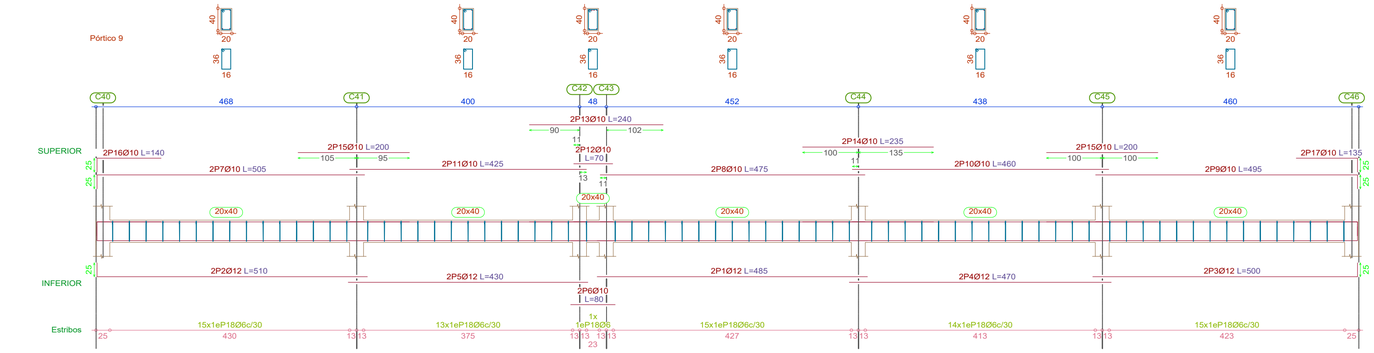
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 57	100	Ø12	2	555	1110	9.9
	101	Ø12	2	515	1030	9.1
	102	Ø12	2	425	850	7.5
	103	Ø10	2	545	1090	6.7
	104	Ø10	2	510	1020	6.3
	105	Ø10	2	420	840	5.2
	106	Ø10	2	280	560	3.5
	107	Ø10	2	220	440	2.7
	108	Ø10	2	140	280	1.7
	109	Ø6	44	116	5104	11.3
					Total+10%:	70.3
					Ø6:	141.8
					Ø10:	336.6
					Ø12:	327.2
					Total:	805.6
Pórtico 9	1	Ø12	2	485	970	8.6
	2	Ø12	2	510	1020	9.1
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	470	940	8.3
	5	Ø12	2	430	860	7.6
	6	Ø10	2	80	160	1.0
	7	Ø10	2	505	1010	6.2
	8	Ø10	2	475	950	5.9
	9	Ø10	2	495	990	6.1
	10	Ø10	2	460	920	5.7
	11	Ø10	2	425	850	5.2
	12	Ø10	2	70	140	0.9
	13	Ø10	2	240	480	3.0
	14	Ø10	2	235	470	2.9
	15	Ø10	4	200	800	4.9
	16	Ø10	2	140	280	1.7
	17	Ø10	2	135	270	1.7
	18	Ø6	73	116	8468	18.8
					Total+10%:	117.2
Pórtico 10	19	Ø12	2	710	1420	12.6
	20	Ø12	2	550	1100	9.8
	21	Ø12	2	355	710	6.3
	22	Ø10	2	705	1410	8.7
	23	Ø10	2	545	1090	6.7
	24	Ø10	2	350	700	4.3
	25	Ø10	2	220	440	2.7
	26	Ø10	2	185	370	2.3
	27	Ø10	2	185	370	2.3
	28	Ø10	2	145	290	1.8
	29	Ø6	47	116	5452	12.1
					Total+10%:	76.6
Pórtico 11	30	Ø12	2	489	978	8.7
	31	Ø10	2	489	978	6.0
	32	Ø10	2	130	260	1.6
	33	Ø6	14	116	1624	3.6
					Total+10%:	21.9
Pórtico 58	34	Ø12	2	980	1960	17.4
	35	Ø10	2	980	1960	12.1
	36	Ø10	4	240	960	5.9
	37	Ø6	30	116	3480	7.7
					Total+10%:	47.4
					Ø6:	46.5
					Ø10:	109.5
					Ø12:	107.1
					Total:	263.1
Pórtico 7	1	Ø12	2	685	1370	12.2
	2	Ø12	2	575	1150	10.2
	3	Ø12	2	535	1070	9.5
	4	Ø12	2	525	1050	9.3
	5	Ø12	6	485	2910	25.8
	6	Ø12	6	480	2880	25.6
	7	Ø12	2	480	960	8.5
	8	Ø10	2	360	720	4.4
	9	Ø10	2	260	520	3.2
	10	Ø10	2	190	380	2.3
	11	Ø10	2	680	1360	8.4
	12	Ø10	2	565	1130	7.0
	13	Ø10	2	525	1050	6.5
	14	Ø10	2	520	1040	6.4
	15	Ø10	6	475	2850	17.6
	16	Ø10	6	470	2820	17.4
	17	Ø10	2	475	950	5.9
	18	Ø10	2	350	700	4.3
	19	Ø12	2	265	530	4.7
	20	Ø10	2	185	370	2.3
	21	Ø10	2	580	1160	7.2
	22	Ø10	2	385	770	4.7
	23	Ø10	4	225	900	5.5
	24	Ø10	2	215	430	2.7
	25	Ø10	8	200	1600	9.9
	26	Ø10	4	195	780	4.8
	27	Ø10	2	130	260	1.6
	28	Ø6	197	116	22852	50.7
					Total+10%:	306.5
					Ø6:	55.8
					Ø10:	134.3
					Ø12:	116.4
					Total:	306.5

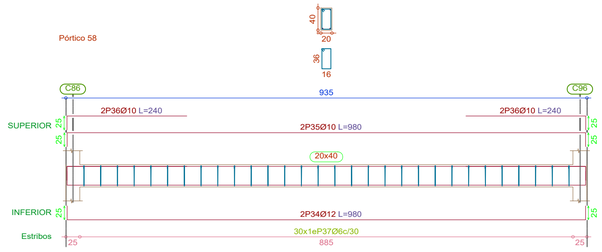


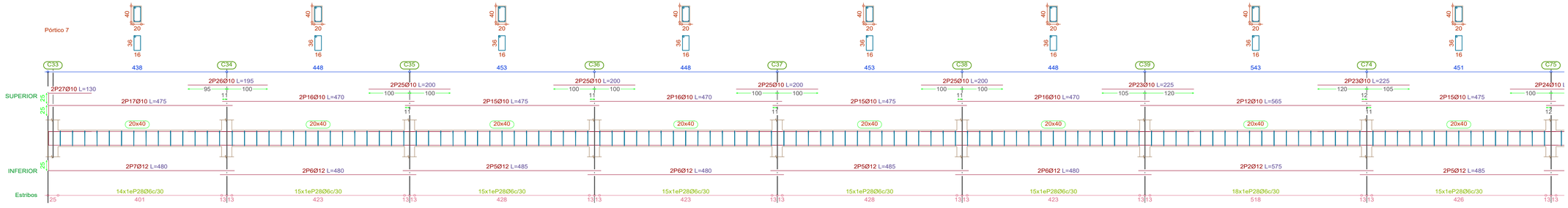


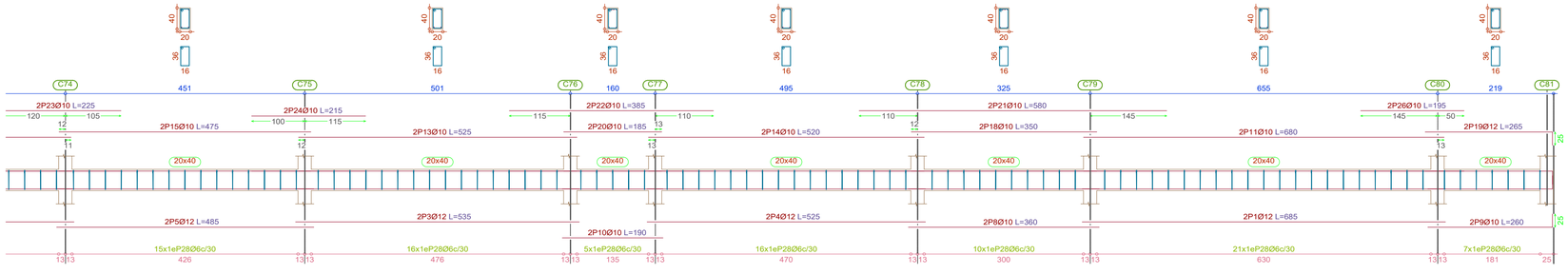










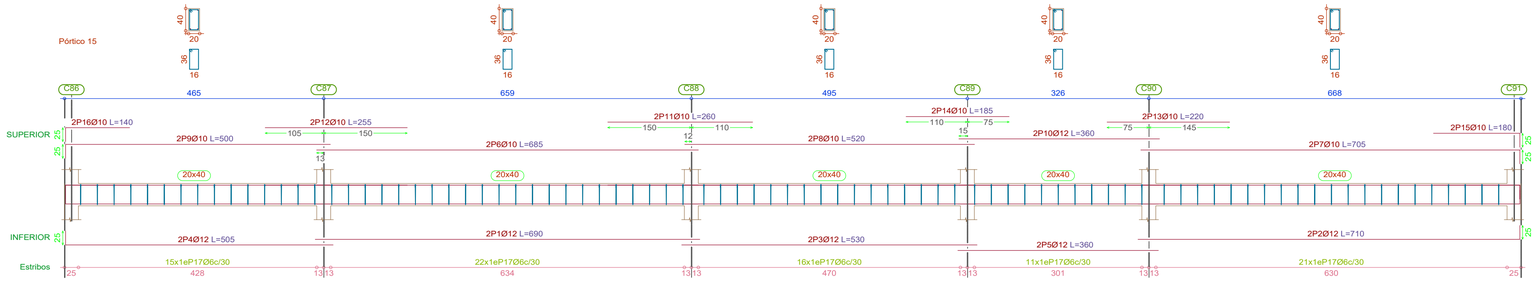


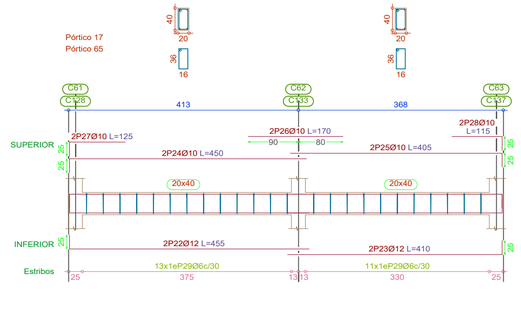
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS CIMIENTOS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

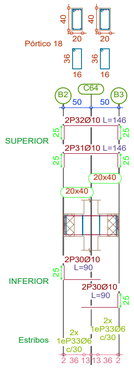
09/31

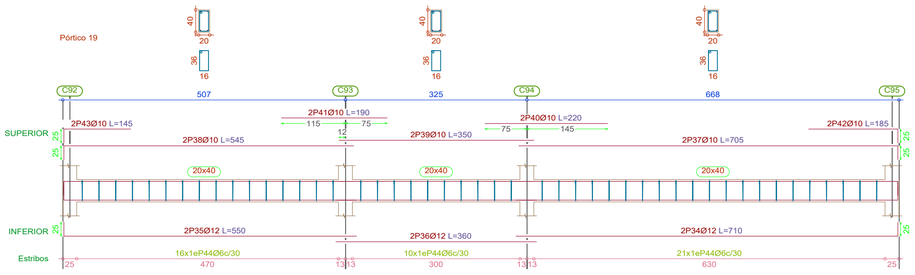
DESPIECE DE VIGAS CIMIENTOS ESCALA 1:60

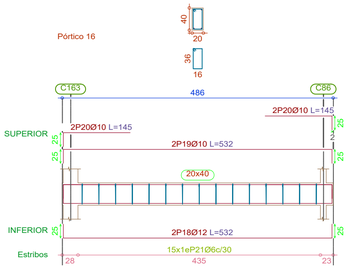
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 15	1	Ø12	2	690	1380	12.3
	2	Ø12	2	710	1420	12.6
	3	Ø12	2	530	1060	9.4
	4	Ø12	2	505	1010	9.0
	5	Ø12	2	360	720	6.4
	6	Ø10	2	685	1370	8.4
	7	Ø10	2	705	1410	8.7
	8	Ø10	2	520	1040	6.4
	9	Ø10	2	500	1000	6.2
	10	Ø12	2	360	720	6.4
	11	Ø10	2	260	520	3.2
	12	Ø10	2	255	510	3.1
	13	Ø10	2	220	440	2.7
	14	Ø10	2	185	370	2.3
	15	Ø10	2	180	360	2.2
	16	Ø10	2	140	280	1.7
	17	Ø6	85	116	9860	21.9
					Total+10%:	135.2
Pórtico 16	18	Ø12	2	532	1064	9.4
	19	Ø10	2	532	1064	6.6
	20	Ø10	4	145	580	3.6
	21	Ø6	15	116	1740	3.9
					Total+10%:	25.9
Pórtico 17=Pórtico 65	22	Ø12	2	455	910	8.1
	23	Ø12	2	410	820	7.3
	24	Ø10	2	450	900	5.5
	25	Ø10	2	405	810	5.0
	26	Ø10	2	170	340	2.1
	27	Ø10	2	125	250	1.5
	28	Ø10	2	115	230	1.4
	29	Ø6	24	116	2784	6.2
					Total+10%: (x2):	40.8 81.6
Pórtico 18	30	Ø10	4	90	360	2.2
	31	Ø10	2	146	292	1.8
	32	Ø10	2	146	292	1.8
	33	Ø6	4	116	464	1.0
					Total+10%:	7.5
Pórtico 19	34	Ø12	2	710	1420	12.6
	35	Ø12	2	550	1100	9.8
	36	Ø12	2	360	720	6.4
	37	Ø10	2	705	1410	8.7
	38	Ø10	2	545	1090	6.7
	39	Ø10	2	350	700	4.3
	40	Ø10	2	220	440	2.7
	41	Ø10	2	190	380	2.3
	42	Ø10	2	185	370	2.3
	43	Ø10	2	145	290	1.8
	44	Ø6	47	116	5452	12.1
					Total+10%:	76.7
Pórtico 20	45	Ø12	2	640	1280	11.4
	46	Ø12	2	520	1040	9.2
	47	Ø12	2	405	810	7.2
	48	Ø10	2	635	1270	7.8
	49	Ø10	2	515	1030	6.4
	50	Ø10	2	400	800	4.9
	51	Ø10	2	255	510	3.1
	52	Ø10	2	205	410	2.5
	53	Ø10	2	140	280	1.7
	54	Ø6	46	116	5336	11.8
					Total+10%:	72.6
Pórtico 21	55	Ø12	2	690	1380	12.3
	56	Ø12	2	710	1420	12.6
	57	Ø12	2	525	1050	9.3
	58	Ø12	2	490	980	8.7
	59	Ø10	2	355	710	4.4
	60	Ø12	2	370	740	6.6
	61	Ø10	2	685	1370	8.4
	62	Ø10	2	705	1410	8.7
	63	Ø10	2	520	1040	6.4
	64	Ø10	2	480	960	5.9
	65	Ø10	2	350	700	4.3
	66	Ø10	2	365	730	4.5
	67	Ø10	2	580	1160	7.2
	68	Ø10	2	260	520	3.2
	69	Ø10	2	255	510	3.1
	70	Ø10	2	205	410	2.5
	71	Ø10	2	180	360	2.2
	72	Ø6	94	116	10904	24.2
					Total+10%:	148.0
Pórtico 38	73	Ø12	2	710	1420	12.6
	74	Ø12	2	545	1090	9.7
	75	Ø12	2	360	720	6.4
	76	Ø10	2	705	1410	8.7
	77	Ø10	2	540	1080	6.7
	78	Ø10	2	355	710	4.4
	79	Ø10	2	220	440	2.7
	80	Ø10	2	210	420	2.6
	81	Ø10	2	180	360	2.2
	82	Ø10	2	145	290	1.8
	83	Ø6	48	116	5568	12.4
					Total+10%:	77.2
					Ø6:	109.7
					Ø10:	280.8
					Ø12:	254.2
					Total:	624.7

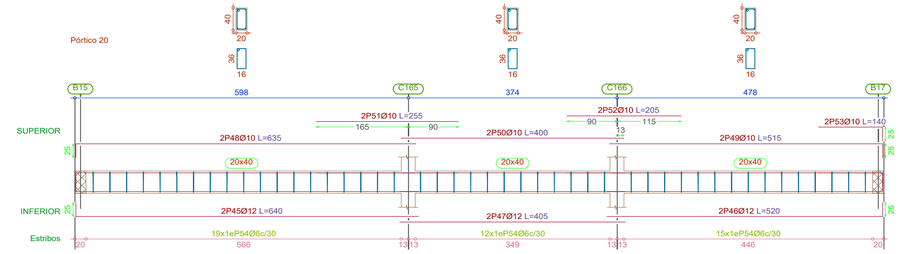


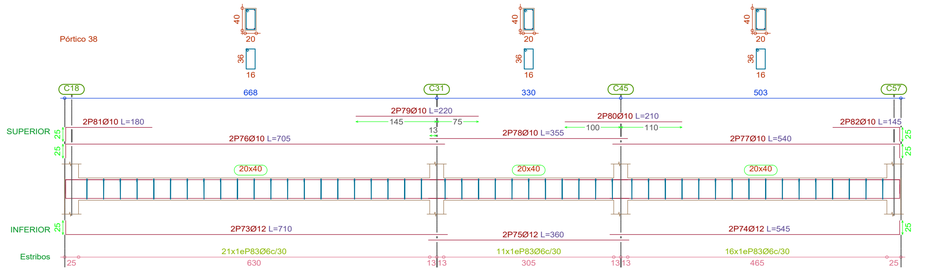


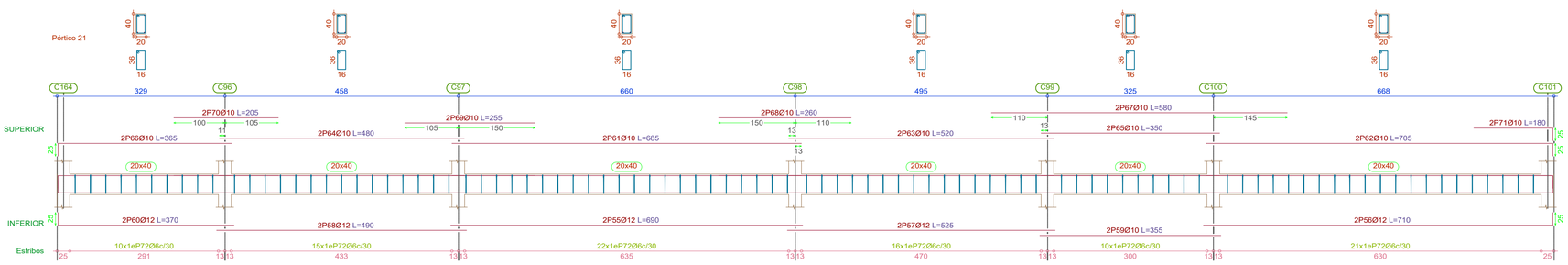


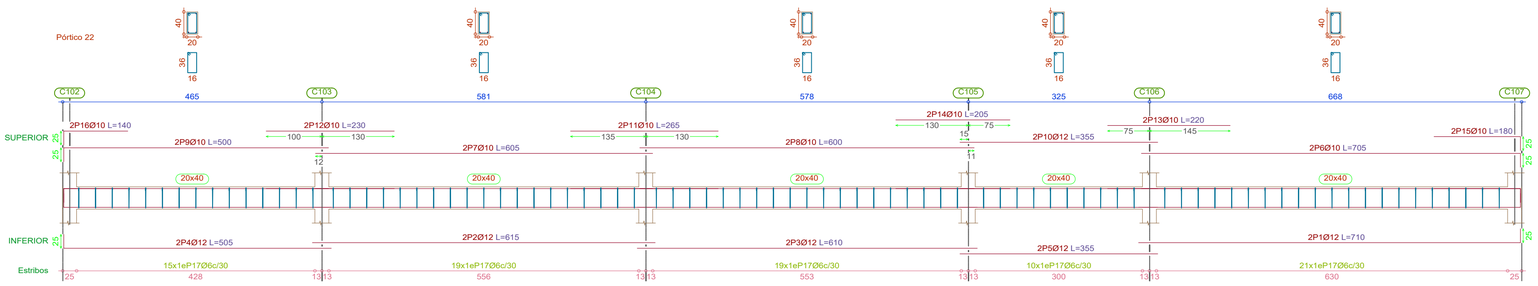






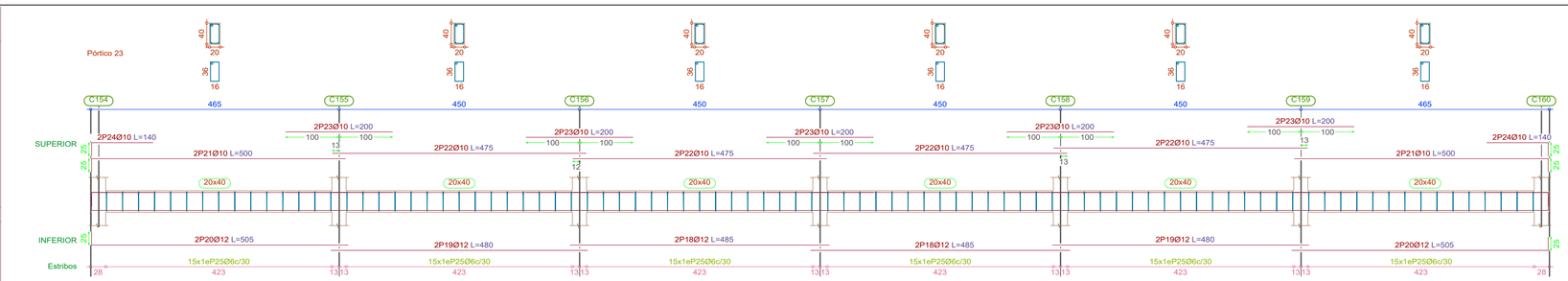


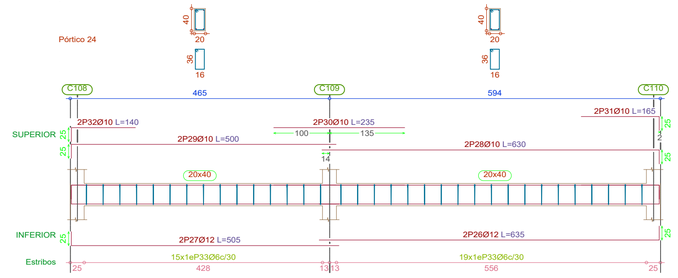


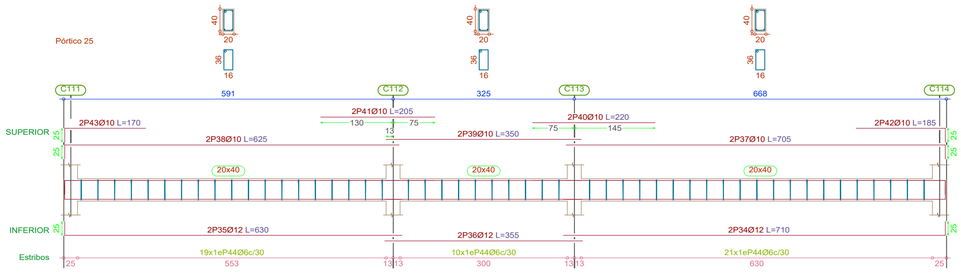


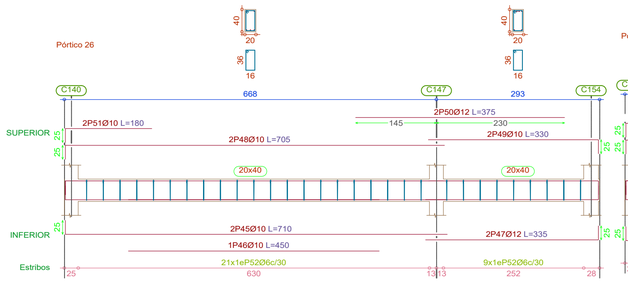
	UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"
	DEPARTAMENTO DE ESTRUCTURAS
	MATERIA: CIV - 502 PROYECTO DE GRADO II
	VIGAS CIMIENTOS
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

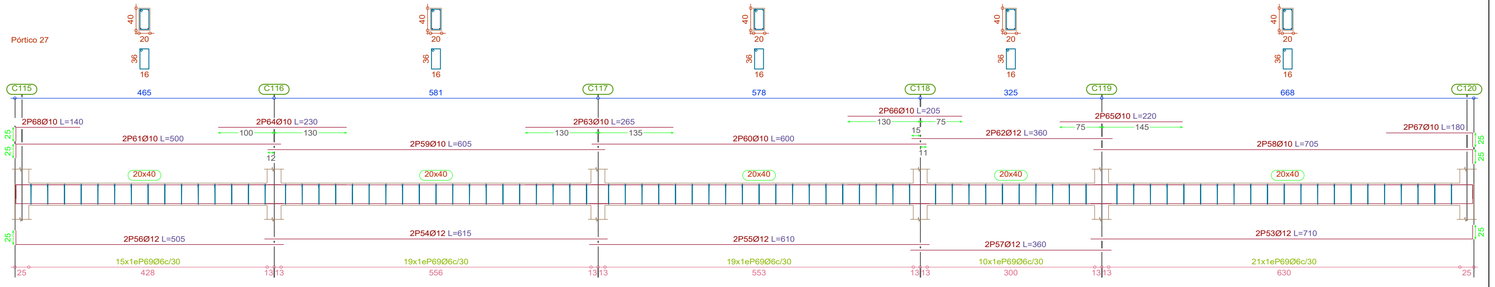
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 22	1	Ø12	2	710	1420	12.6
	2	Ø12	2	615	1230	10.9
	3	Ø12	2	610	1220	10.8
	4	Ø12	2	505	1010	9.0
	5	Ø12	2	355	710	6.3
	6	Ø10	2	705	1410	8.7
	7	Ø10	2	605	1210	7.5
	8	Ø10	2	600	1200	7.4
	9	Ø10	2	500	1000	6.2
	10	Ø12	2	355	710	6.3
	11	Ø10	2	265	530	3.3
	12	Ø10	2	230	460	2.8
	13	Ø10	2	220	440	2.7
	14	Ø10	2	205	410	2.5
	15	Ø10	2	180	360	2.2
	16	Ø10	2	140	280	1.7
	17	Ø6	84	116	9744	21.6
				Total+10%:		134.8
Pórtico 23	18	Ø12	4	485	1940	17.2
	19	Ø12	4	480	1920	17.0
	20	Ø12	4	505	2020	17.9
	21	Ø10	4	500	2000	12.3
	22	Ø10	8	475	3800	23.4
	23	Ø10	10	200	2000	12.3
	24	Ø10	4	140	560	3.5
	25	Ø6	90	116	10440	23.2
				Total+10%:		139.5
Pórtico 24	26	Ø12	2	635	1270	11.3
	27	Ø12	2	505	1010	9.0
	28	Ø10	2	630	1260	7.8
	29	Ø10	2	500	1000	6.2
	30	Ø10	2	235	470	2.9
	31	Ø10	2	165	330	2.0
	32	Ø10	2	140	280	1.7
	33	Ø6	34	116	3944	8.8
				Total+10%:		54.7
Pórtico 25	34	Ø12	2	710	1420	12.6
	35	Ø12	2	630	1260	11.2
	36	Ø12	2	355	710	6.3
	37	Ø10	2	705	1410	8.7
	38	Ø10	2	625	1250	7.7
	39	Ø10	2	350	700	4.3
	40	Ø10	2	220	440	2.7
	41	Ø10	2	205	410	2.5
	42	Ø10	2	185	370	2.3
	43	Ø10	2	170	340	2.1
	44	Ø6	50	116	5800	12.9
				Total+10%:		80.6
Pórtico 26	45	Ø10	2	710	1420	8.8
	46	Ø10	1	450	450	2.8
	47	Ø10	2	335	670	5.9
	48	Ø10	2	705	1410	8.7
	49	Ø10	2	330	660	4.1
	50	Ø12	2	375	750	6.7
	51	Ø10	2	180	360	2.2
	52	Ø6	30	116	3480	7.7
				Total+10%:		51.6
Pórtico 27	53	Ø12	2	710	1420	12.6
	54	Ø12	2	615	1230	10.9
	55	Ø12	2	610	1220	10.8
	56	Ø12	2	505	1010	9.0
	57	Ø12	2	360	720	6.4
	58	Ø10	2	705	1410	8.7
	59	Ø10	2	605	1210	7.5
	60	Ø10	2	600	1200	7.4
	61	Ø10	2	500	1000	6.2
	62	Ø12	2	360	720	6.4
	63	Ø10	2	265	530	3.3
	64	Ø10	2	230	460	2.8
	65	Ø10	2	220	440	2.7
	66	Ø10	2	205	410	2.5
	67	Ø10	2	180	360	2.2
	68	Ø10	2	140	280	1.7
	69	Ø6	84	116	9744	21.6
				Total+10%:		135.0
Pórtico 28	70	Ø12	2	710	1420	12.6
	71	Ø12	4	610	2440	21.7
	72	Ø12	2	510	1020	9.1
	73	Ø12	2	355	710	6.3
	74	Ø10	2	705	1410	8.7
	75	Ø10	4	600	2400	14.8
	76	Ø10	2	505	1010	6.2
	77	Ø12	2	365	730	6.5
	78	Ø12	2	260	520	4.6
	79	Ø10	2	235	470	2.9
	80	Ø10	2	220	440	2.7
	81	Ø10	2	205	410	2.5
	82	Ø10	2	185	370	2.3
	83	Ø10	2	140	280	1.7
	84	Ø6	84	116	9744	21.6
				Total+10%:		136.6
Pórtico 45	85	Ø12	2	710	1420	12.6
	86	Ø10	2	335	670	4.1
	87	Ø10	2	705	1410	8.7
	88	Ø10	2	330	660	4.1
	89	Ø10	2	460	920	5.7
	90	Ø10	2	180	360	2.2
	91	Ø6	30	116	3480	7.7
				Total+10%:		49.6
				Ø6:		137.7
				Ø10:		314.2
				Ø12:		330.5
				Total:		782.4
Pórtico 29	1	Ø12	2	710	1420	12.6
	2	Ø12	2	580	1160	10.3
	3	Ø12	2	355	710	6.3
	4	Ø12	2	295	590	5.2
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	575	1150	7.1
	7	Ø10	2	350	700	4.3
	8	Ø10	2	290	580	3.6
	9	Ø12	2	355	710	6.3
	10	Ø10	2	220	440	2.7
	11	Ø10	2	180	360	2.2
	12	Ø10	2	135	270	1.7
	13	Ø10	2	155	310	1.9
	14	Ø6	56	116	6496	14.4
				Total+10%:		96.0
Pórtico 30	15	Ø12	2	580	1160	10.3
	16	Ø12	2	375	750	6.7
	17	Ø12	2	295	590	5.2
	18	Ø10	2	575	1150	7.1
	19	Ø10	2	370	740	4.6
	20	Ø10	2	290	580	3.6
	21	Ø10	2	185	370	2.3
	22	Ø10	2	135	270	1.7
	23	Ø10	2	155	310	1.9
	24	Ø10	2	110	220	1.4
	25	Ø6	35	116	4060	9.0
				Total+10%:		59.2
Pórtico 31	26	Ø12	2	580	1160	10.3
	27	Ø12	2	375	750	6.7
	28	Ø12	2	295	590	5.2
	29	Ø10	2	575	1150	7.1
	30	Ø10	2	370	740	4.6
	31	Ø10	2	290	580	3.6
	32	Ø10	2	205	410	2.5
	33	Ø10	2	135	270	1.7
	34	Ø10	2	155	310	1.9
	35	Ø10	2	110	220	1.4
	36	Ø6	35	116	4060	9.0
				Total+10%:		59.4
Pórtico 32	37	Ø12	2	705	1410	12.5
	38	Ø10	1	395	395	2.4
	39	Ø12	2	380	760	6.7
	40	Ø10	2	700	1400	8.6
	41	Ø10	2	375	750	4.6
	42	Ø16	2	225	450	7.1
	43	Ø10	2	180	360	2.2
	44	Ø10	2	110	220	1.4
	45	Ø6	43	96	4128	9.2
				Total+10%:		60.2
				Ø6:		45.7
				Ø10:		106.5
				Ø12:		114.7
				Ø16:		7.9
				Total:		274.8

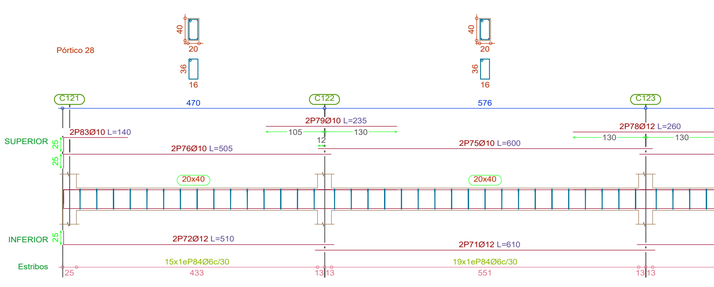


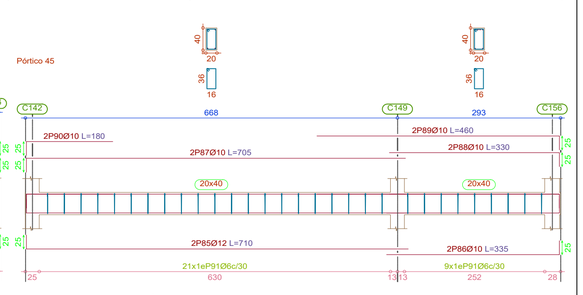


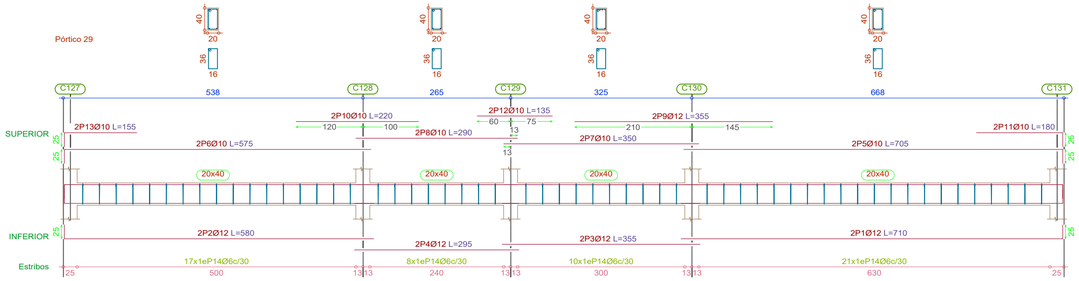


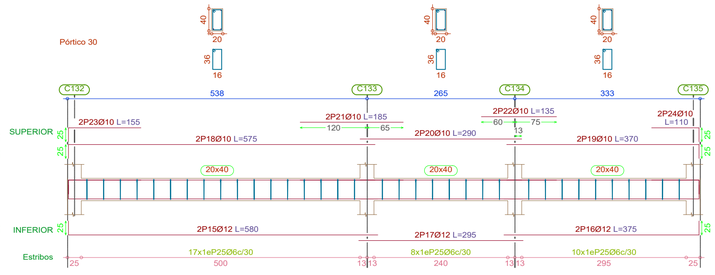


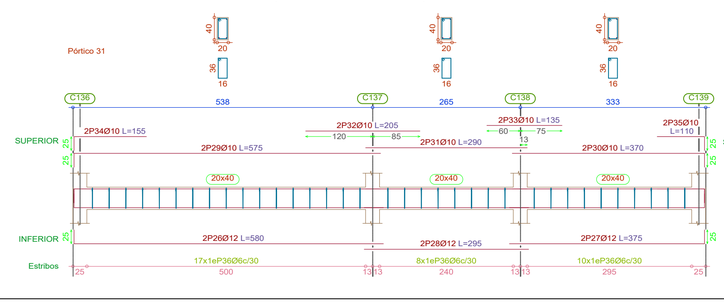


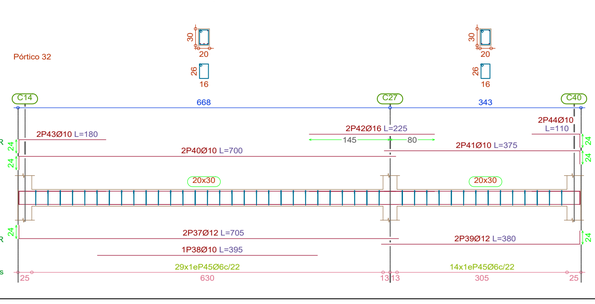










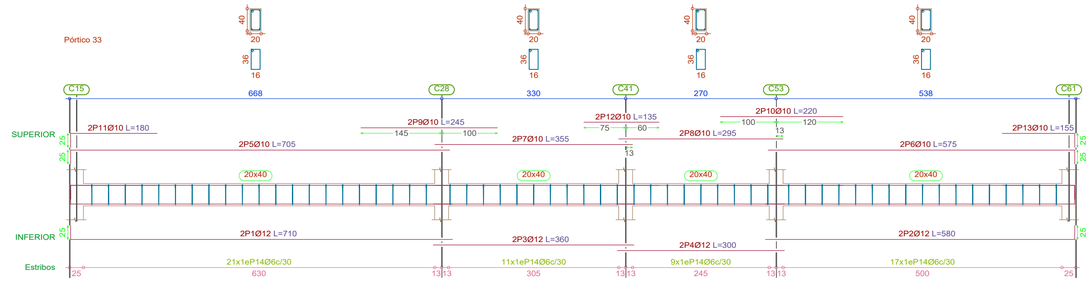


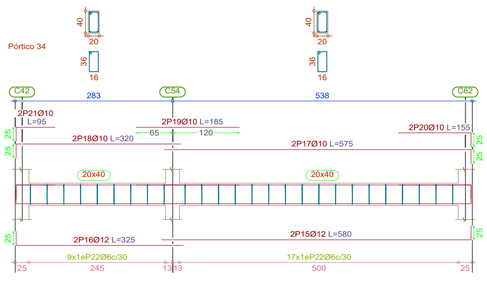
DESPIECE DE VIGAS CIMIENTOS ESCALA 1:60

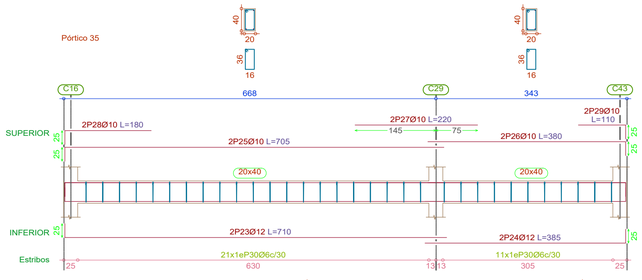
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS CIMIENTOS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

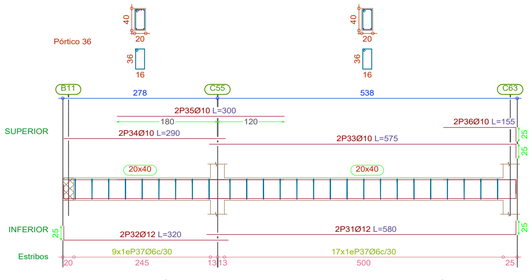
DESPIECE DE VIGAS CIMINTOS ESCALA 1:60

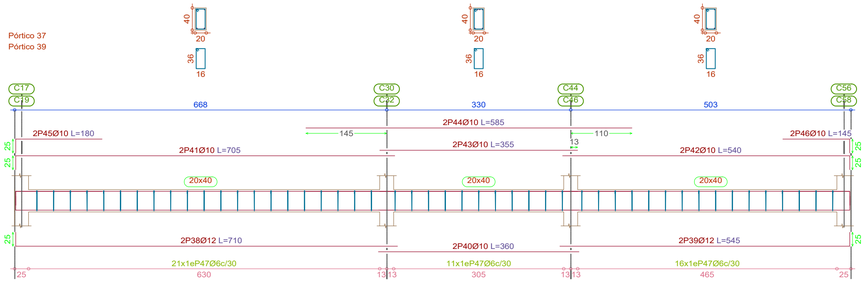
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 33	1	Ø12	2	710	1420	12.6
	2	Ø12	2	580	1160	10.3
	3	Ø12	2	360	720	6.4
	4	Ø12	2	300	600	5.3
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	575	1150	7.1
	7	Ø10	2	355	710	4.4
	8	Ø10	2	295	590	3.6
	9	Ø10	2	245	490	3.0
	10	Ø10	2	220	440	2.7
	11	Ø10	2	180	360	2.2
	12	Ø10	2	135	270	1.7
	13	Ø10	2	155	310	1.9
	14	Ø6	58	116	6728	14.9
					Total+10%:	93.3
Pórtico 34	15	Ø12	2	580	1160	10.3
	16	Ø12	2	325	650	5.8
	17	Ø10	2	575	1150	7.1
	18	Ø10	2	320	640	3.9
	19	Ø10	2	185	370	2.3
	20	Ø10	2	155	310	1.9
	21	Ø10	2	95	190	1.2
	22	Ø6	26	116	3016	6.7
					Total+10%:	43.1
Pórtico 35	23	Ø12	2	710	1420	12.6
	24	Ø12	2	385	770	6.8
	25	Ø10	2	705	1410	8.7
	26	Ø10	2	380	760	4.7
	27	Ø10	2	220	440	2.7
	28	Ø10	2	180	360	2.2
	29	Ø10	2	110	220	1.4
	30	Ø6	32	116	3712	8.2
					Total+10%:	52.0
Pórtico 36	31	Ø12	2	580	1160	10.3
	32	Ø12	2	320	640	5.7
	33	Ø10	2	575	1150	7.1
	34	Ø10	2	290	580	3.6
	35	Ø10	2	300	600	3.7
	36	Ø10	2	155	310	1.9
	37	Ø6	26	116	3016	6.7
					Total+10%:	42.9
Pórtico 37=Pórtico 39	38	Ø12	2	710	1420	12.6
	39	Ø12	2	545	1090	9.7
	40	Ø10	2	360	720	4.4
	41	Ø10	2	705	1410	8.7
	42	Ø10	2	540	1080	6.7
	43	Ø10	2	355	710	4.4
	44	Ø10	2	585	1170	7.2
	45	Ø10	2	180	360	2.2
	46	Ø10	2	145	290	1.8
	47	Ø6	48	116	5568	12.4
					Total+10%:	77.1
					(x2):	154.2
					Ø6:	67.3
					Ø10:	174.5
					Ø12:	143.7
					Total:	385.5
Pórtico 41	1	Ø12	2	710	1420	12.6
	2	Ø12	2	530	1060	9.4
	3	Ø12	2	535	1070	9.5
	4	Ø12	2	350	700	6.2
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	525	1050	6.5
	7	Ø10	2	530	1060	6.5
	8	Ø10	2	345	690	4.3
	9	Ø10	2	250	500	3.1
	10	Ø10	2	225	450	2.8
	11	Ø10	2	220	440	2.7
	12	Ø10	2	180	360	2.2
	13	Ø10	2	140	280	1.7
	14	Ø6	63	116	7308	16.2
					Total+10%:	101.6
Pórtico 42	15	Ø12	2	550	1100	9.8
	16	Ø12	2	535	1070	9.5
	17	Ø10	2	545	1090	6.7
	18	Ø10	2	530	1060	6.5
	19	Ø10	2	230	460	2.8
	20	Ø10	2	140	280	1.7
	21	Ø6	32	116	3712	8.2
					Total+10%:	49.7
Pórtico 43	22	Ø12	2	710	1420	12.6
	23	Ø12	2	335	670	5.9
	24	Ø10	2	705	1410	8.7
	25	Ø10	2	330	660	4.1
	26	Ø10	2	210	420	2.6
	27	Ø10	2	180	360	2.2
	28	Ø10	2	125	250	1.5
	29	Ø6	30	116	3480	7.7
					Total+10%:	49.8
Pórtico 44	30	Ø12	2	690	1380	12.3
	31	Ø12	2	505	1010	9.0
	32	Ø10	2	375	750	4.6
	33	Ø10	2	245	490	3.0
	34	Ø10	2	680	1360	8.4
	35	Ø10	2	500	1000	6.2
	36	Ø12	2	375	750	6.7
	37	Ø10	2	235	470	2.9
	38	Ø10	2	460	920	5.7
	39	Ø10	2	220	440	2.7
	40	Ø10	2	140	280	1.7
	41	Ø6	53	116	6148	13.6
					Total+10%:	84.5
					Ø6:	50.2
					Ø10:	121.5
					Ø12:	113.9
					Total:	285.6
Pórtico 46	1	Ø12	2	690	1380	12.3
	2	Ø12	2	715	1430	12.7
	3	Ø12	2	375	750	6.7
	4	Ø10	2	710	1420	8.8
	5	Ø10	2	685	1370	8.4
	6	Ø10	2	370	740	4.6
	7	Ø10	2	295	590	3.6
	8	Ø10	2	225	450	2.8
	9	Ø10	2	185	370	2.3
	10	Ø10	2	115	230	1.4
	11	Ø6	54	116	6264	13.9
					Total+10%:	85.3
					Ø6:	15.3
					Ø10:	35.1
					Ø12:	34.9
					Total:	85.3
Pórtico 48	1	Ø12	4	485	1940	17.2
	2	Ø12	4	480	1920	17.0
	3	Ø12	4	500	2000	17.8
	4	Ø10	4	475	1900	11.7
	5	Ø10	4	495	1980	12.2
	6	Ø10	4	470	1880	11.6
	7	Ø10	10	200	2000	12.3
	8	Ø10	4	135	540	3.3
	9	Ø6	90	116	10440	23.2
					Total+10%:	138.9
Pórtico 49	10	Ø12	2	710	1420	12.6
	11	Ø12	2	335	670	5.9
	12	Ø10	2	705	1410	8.7
	13	Ø10	2	330	660	4.1
	14	Ø10	2	375	750	4.6
	15	Ø10	2	180	360	2.2
	16	Ø6	30	116	3480	7.7
					Total+10%:	50.4

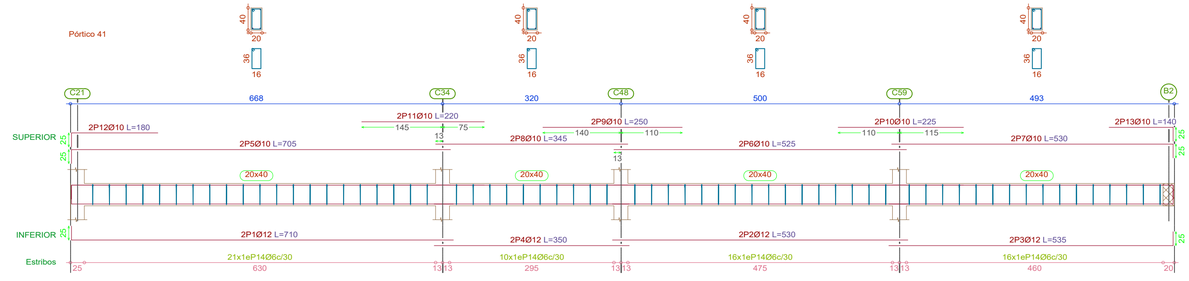


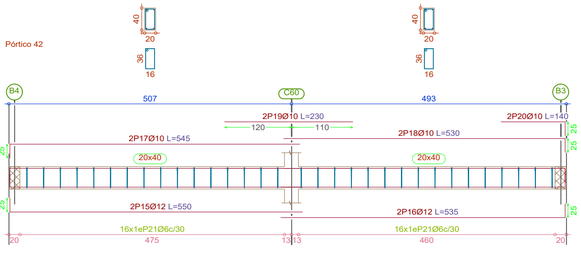


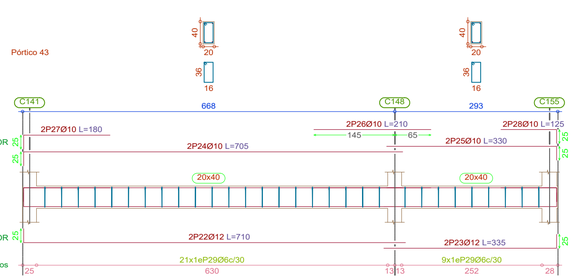


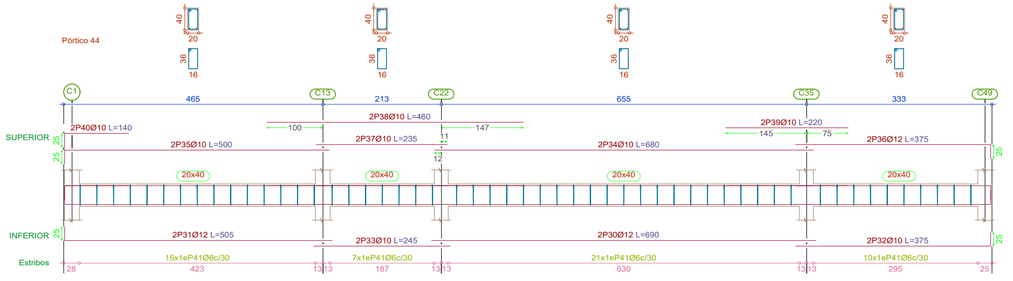


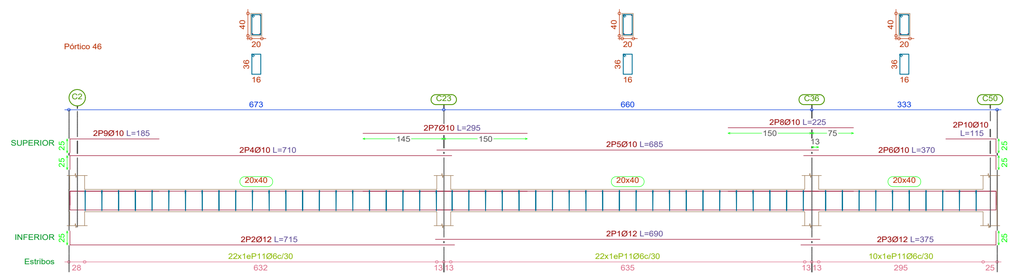


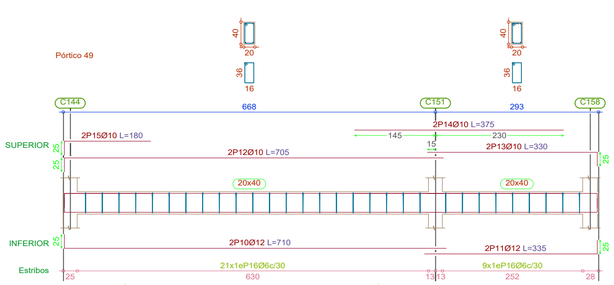


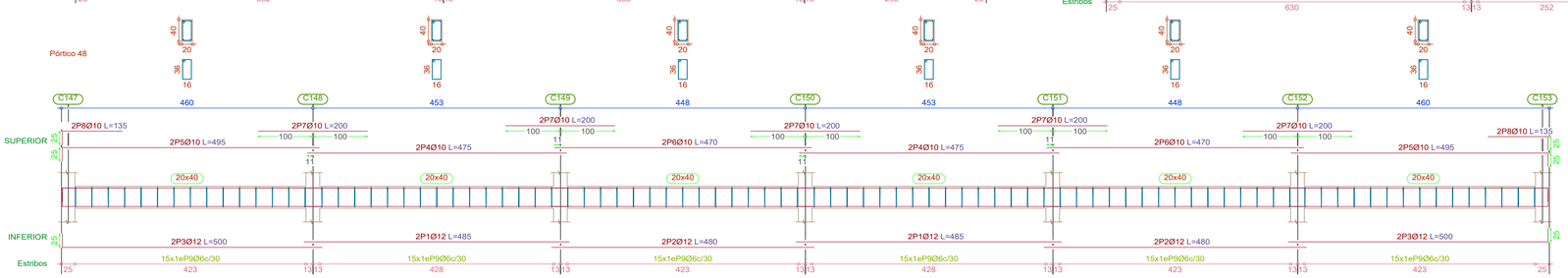












UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

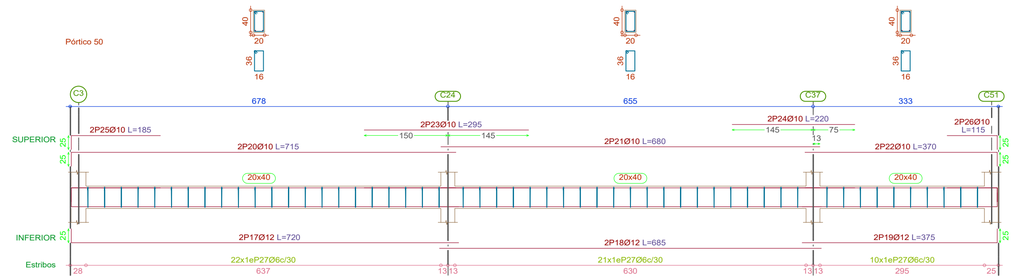
DEPARTAMENTO DE ESTRUCTURAS

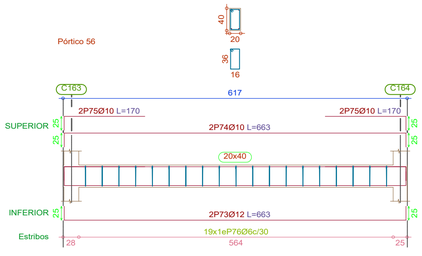
MATERIA: CIV - 502 PROYECTO DE GRADO II

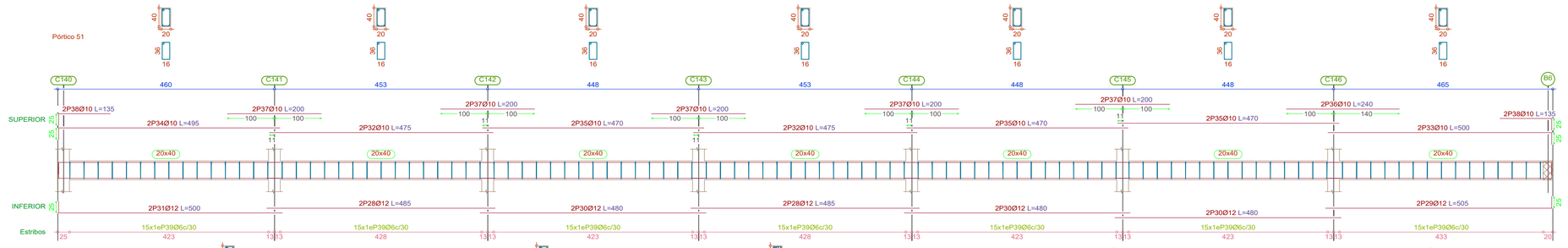
VIGAS CIMIENTOS

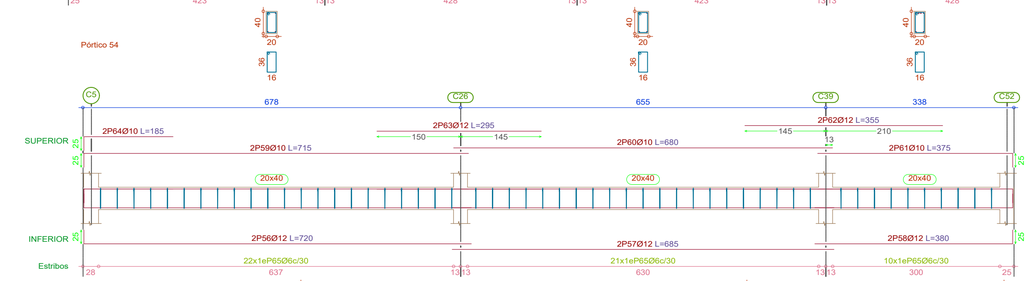
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	12/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

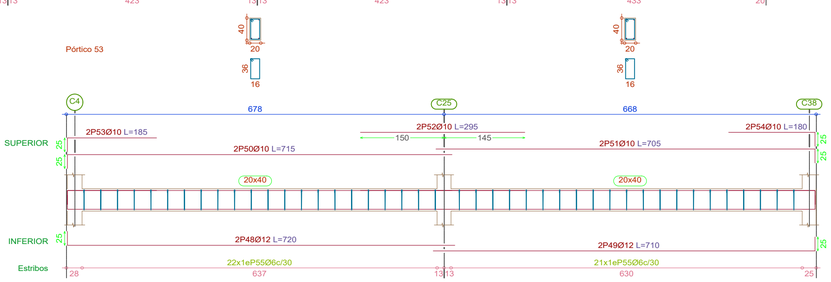
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 50	17	Ø12	2	720	1440	12.8
	18	Ø12	2	685	1370	12.2
	19	Ø12	2	375	750	6.7
	20	Ø10	2	715	1430	8.8
	21	Ø10	2	680	1360	8.4
	22	Ø10	2	370	740	4.6
	23	Ø10	2	295	590	3.6
	24	Ø10	2	220	440	2.7
	25	Ø10	2	185	370	2.3
	26	Ø10	2	115	230	1.4
	27	Ø6	53	116	6148	13.6
					Total+10%:	84.8
Pórtico 51	28	Ø12	4	485	1940	17.2
	29	Ø12	2	505	1010	9.0
	30	Ø12	6	480	2880	25.6
	31	Ø12	2	500	1000	8.9
	32	Ø10	4	475	1900	11.7
	33	Ø10	2	500	1000	6.2
	34	Ø10	2	495	990	6.1
	35	Ø10	6	470	2820	17.4
	36	Ø10	2	240	480	3.0
	37	Ø10	10	200	2000	12.3
	38	Ø10	4	135	540	3.3
	39	Ø6	105	116	12180	27.0
					Total+10%:	162.5
Pórtico 52	40	Ø12	2	710	1420	12.6
	41	Ø12	2	335	670	5.9
	42	Ø10	2	705	1410	8.7
	43	Ø10	2	330	660	4.1
	44	Ø10	2	210	420	2.6
	45	Ø10	2	180	360	2.2
	46	Ø10	2	100	200	1.2
	47	Ø6	30	116	3480	7.7
					Total+10%:	49.5
Pórtico 53	48	Ø12	2	720	1440	12.8
	49	Ø12	2	710	1420	12.6
	50	Ø12	2	715	1430	8.8
	51	Ø10	2	705	1410	8.7
	52	Ø10	2	295	590	3.6
	53	Ø10	2	185	370	2.3
	54	Ø10	2	180	360	2.2
	55	Ø6	43	116	4988	11.1
					Total+10%:	68.3
Pórtico 54	56	Ø12	2	720	1440	12.8
	57	Ø12	2	685	1370	12.2
	58	Ø12	2	380	760	6.7
	59	Ø10	2	715	1430	8.8
	60	Ø10	2	680	1360	8.4
	61	Ø10	2	375	750	4.6
	62	Ø12	2	355	710	6.3
	63	Ø12	2	295	590	5.2
	64	Ø10	2	185	370	2.3
	65	Ø6	53	116	6148	13.6
					Total+10%:	89.0
Pórtico 55	66	Ø12	2	835	1670	14.8
	67	Ø12	2	515	1030	9.1
	68	Ø10	2	825	1650	10.2
	69	Ø10	2	500	1000	6.2
	70	Ø10	2	280	560	3.5
	71	Ø10	2	215	430	2.7
	72	Ø6	41	116	4756	10.6
					Total+10%:	62.8
Pórtico 56	73	Ø12	2	663	1326	11.8
	74	Ø10	2	663	1326	8.2
	75	Ø10	4	170	680	4.2
	76	Ø6	19	116	2204	4.9
					Total+10%:	32.0
					Ø6:	131.3
					Ø10:	292.5
					Ø12:	314.4
					Total:	738.2
Pórtico 59	1	Ø12	2	930	1860	16.5
	2	Ø12	2	745	1490	13.2
	3	Ø10	2	250	500	3.1
	4	Ø10	2	925	1850	11.4
	5	Ø10	2	735	1470	9.1
	6	Ø10	2	245	490	3.0
	7	Ø10	2	390	780	4.8
	8	Ø10	2	355	710	4.4
	9	Ø10	2	230	460	2.8
	10	Ø6	58	116	6728	14.9
					Total+10%:	91.5
Pórtico 60	11	Ø12	2	555	1110	9.9
	12	Ø12	2	515	1030	9.1
	13	Ø12	2	425	850	7.5
	14	Ø10	2	545	1090	6.7
	15	Ø10	2	510	1020	6.3
	16	Ø10	2	420	840	5.2
	17	Ø10	2	230	460	2.8
	18	Ø10	2	220	440	2.7
	19	Ø10	2	140	280	1.7
	20	Ø10	2	120	240	1.5
	21	Ø6	44	116	5104	11.3
					Total+10%:	71.2
Pórtico 61	22	Ø12	2	450	900	8.0
	23	Ø12	2	410	820	7.3
	24	Ø10	2	445	890	5.5
	25	Ø10	2	405	810	5.0
	26	Ø10	2	170	340	2.1
	27	Ø10	2	125	250	1.5
	28	Ø10	2	115	230	1.4
	29	Ø6	25	116	2900	6.4
					Total+10%:	40.9
Pórtico 62	30	Ø12	2	505	1010	9.0
	31	Ø12	2	500	1000	8.9
	32	Ø10	2	500	1000	6.2
	33	Ø10	2	495	990	6.1
	34	Ø10	2	200	400	2.5
	35	Ø10	4	135	540	3.3
	36	Ø6	29	116	3364	7.5
					Total+10%:	47.9
					Ø6:	44.2
					Ø10:	108.9
					Ø12:	98.4
					Total:	251.5
Pórtico 63	1	Ø12	2	495	990	8.8
	2	Ø12	2	515	1030	9.1
	3	Ø12	2	425	850	7.5
	4	Ø10	2	95	190	1.2
	5	Ø10	2	485	970	6.0
	6	Ø10	2	510	1020	6.3
	7	Ø10	2	420	840	5.2
	8	Ø10	2	85	170	1.0
	9	Ø10	2	250	500	3.1
	10	Ø10	2	210	420	2.6
	11	Ø10	2	140	280	1.7
	12	Ø10	2	120	240	1.5
	13	Ø6	44	116	5104	11.3
					Total+10%:	71.8
					Ø6:	12.4
					Ø10:	31.5
					Ø12:	27.9
					Total:	71.8

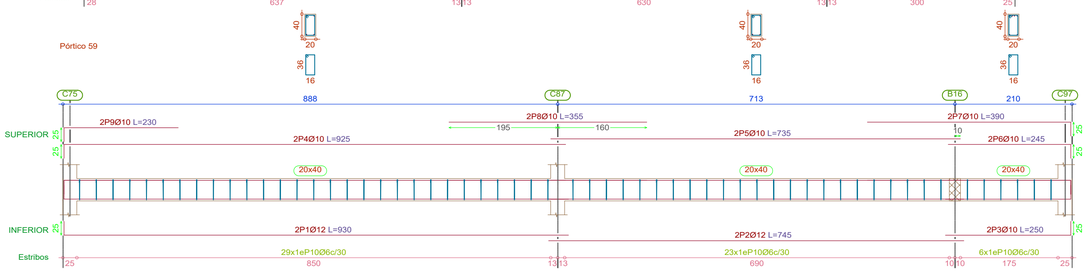


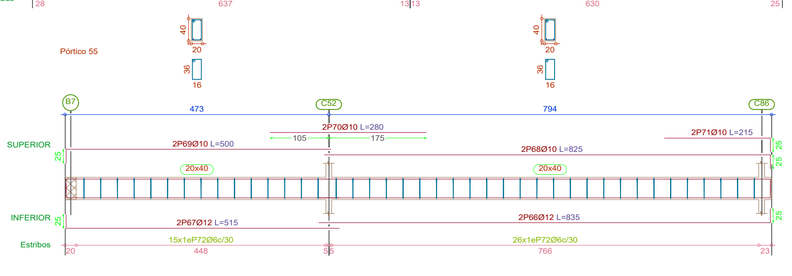


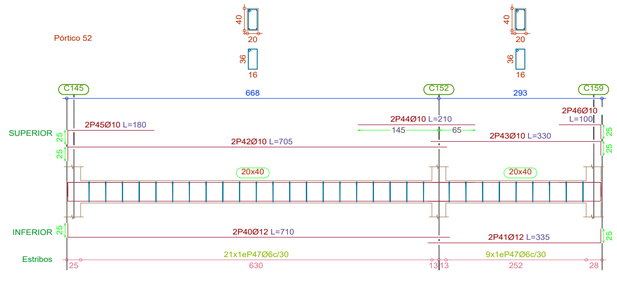


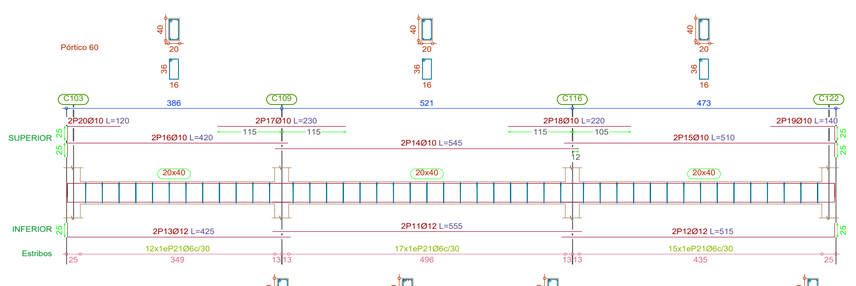


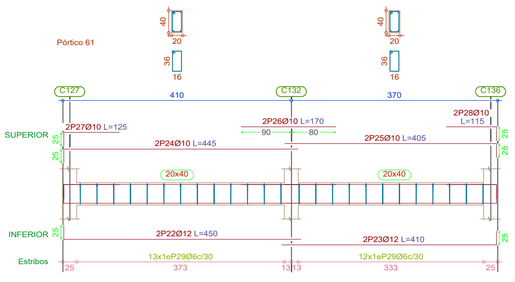


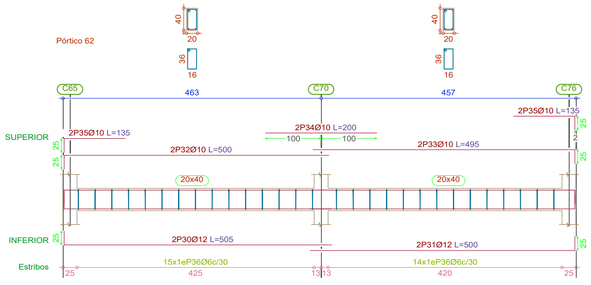


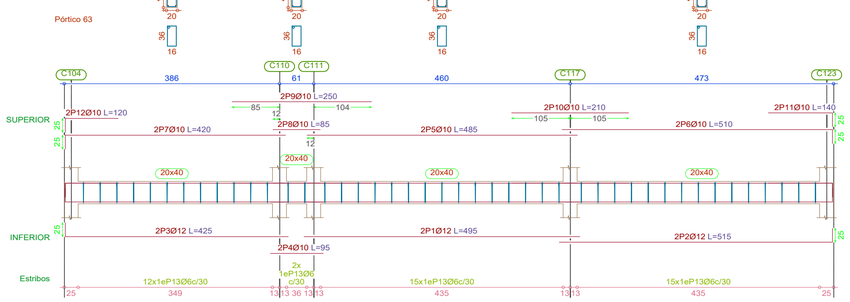












DESPIECE DE VIGAS CIMIENTOS ESCALA 1:60

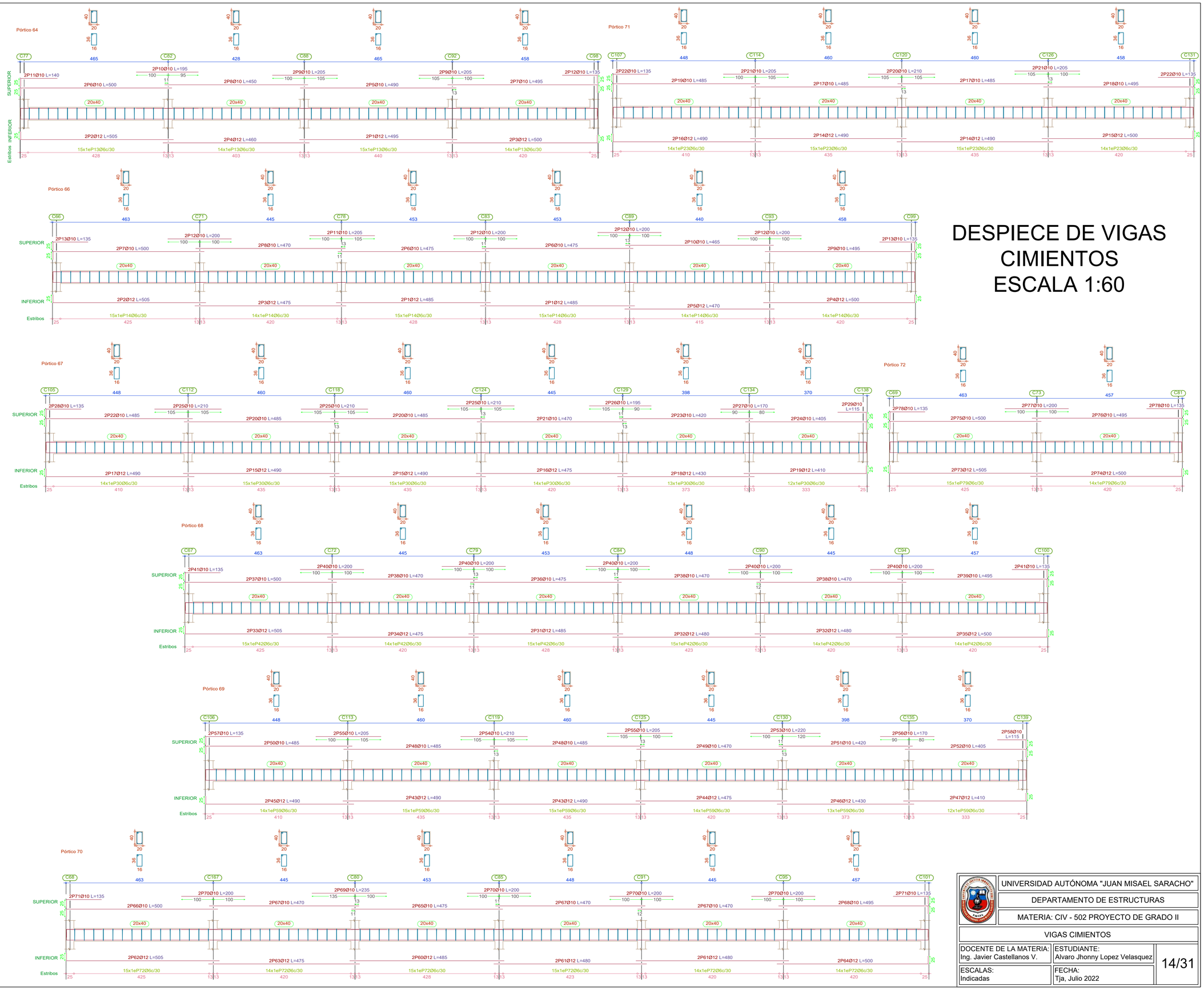
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS CIMIENTOS	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 64	1	Ø12	2	495	990	8.8
	2	Ø12	2	505	1010	9.0
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	460	920	8.2
	5	Ø10	2	490	980	6.0
	6	Ø10	2	500	1000	6.2
	7	Ø10	2	495	990	6.1
	8	Ø10	2	450	900	5.5
	9	Ø10	4	205	820	5.1
	10	Ø10	2	195	390	2.4
	11	Ø10	2	140	280	1.7
	12	Ø10	2	135	270	1.7
	13	Ø6	58	116	6728	14.9
					Total+10%:	93.0
Pórtico 71	14	Ø12	4	490	1960	17.4
	15	Ø12	2	500	1000	8.9
	16	Ø12	2	490	980	8.7
	17	Ø10	4	485	1940	12.0
	18	Ø10	2	495	990	6.1
	19	Ø10	2	485	970	6.0
	20	Ø10	2	210	420	2.6
	21	Ø10	4	205	820	5.1
	22	Ø10	4	135	540	3.3
	23	Ø6	58	116	6728	14.9
					Total+10%:	93.5
					Ø6:	32.8
					Ø10:	76.8
					Ø12:	76.9
					Total:	186.5

Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 66	1	Ø12	4	485	1940	17.2
	2	Ø12	2	505	1010	9.0
	3	Ø12	2	475	950	8.4
	4	Ø12	2	500	1000	8.9
	5	Ø12	2	470	940	8.3
	6	Ø10	4	475	1900	11.7
	7	Ø10	2	500	1000	6.2
	8	Ø10	2	470	940	5.8
	9	Ø10	2	495	990	6.1
	10	Ø10	2	465	930	5.7
	11	Ø10	2	205	410	2.5
	12	Ø10	8	200	1600	9.9
	13	Ø10	4	135	540	3.3
	14	Ø6	87	116	10092	22.4
					Total+10%:	137.9
Pórtico 67	15	Ø12	4	490	1960	17.4
	16	Ø12	2	475	950	8.4
	17	Ø12	2	490	980	8.7
	18	Ø12	2	430	860	7.6
	19	Ø12	2	410	820	7.3
	20	Ø10	4	485	1940	12.0
	21	Ø10	2	470	940	5.8
	22	Ø10	2	485	970	6.0
	23	Ø10	2	420	840	5.2
	24	Ø10	2	405	810	5.0
	25	Ø10	6	210	1260	7.8
	26	Ø10	2	195	390	2.4
	27	Ø10	2	170	340	2.1
	28	Ø10	2	135	270	1.7
	29	Ø10	2	115	230	1.4
	30	Ø6	83	116	9628	21.4
					Total+10%:	132.2
Pórtico 68	31	Ø12	2	485	970	8.6
	32	Ø12	4	480	1920	17.0
	33	Ø12	2	505	1010	9.0
	34	Ø12	2	475	950	8.4
	35	Ø12	2	500	1000	8.9
	36	Ø10	2	475	950	5.9
	37	Ø10	2	500	1000	6.2
	38	Ø10	6	470	2820	17.4
	39	Ø10	2	495	990	6.1
	40	Ø10	10	200	2000	12.3
	41	Ø10	4	135	540	3.3
	42	Ø6	87	116	10092	22.4
					Total+10%:	138.1
Pórtico 69	43	Ø12	4	490	1960	17.4
	44	Ø12	2	475	950	8.4
	45	Ø12	2	490	980	8.7
	46	Ø12	2	430	860	7.6
	47	Ø12	2	410	820	7.3
	48	Ø10	4	485	1940	12.0
	49	Ø10	2	470	940	5.8
	50	Ø10	2	485	970	6.0
	51	Ø10	2	420	840	5.2
	52	Ø10	2	405	810	5.0
	53	Ø10	2	220	440	2.7
	54	Ø10	2	210	420	2.6
	55	Ø10	4	205	820	5.1
	56	Ø10	2	170	340	2.1
	57	Ø10	2	135	270	1.7
	58	Ø10	2	115	230	1.4
	59	Ø6	83	116	9628	21.4
					Total+10%:	132.4
Pórtico 70	60	Ø12	2	485	970	8.6
	61	Ø12	4	480	1920	17.0
	62	Ø12	2	505	1010	9.0
	63	Ø12	2	475	950	8.4
	64	Ø12	2	500	1000	8.9
	65	Ø10	2	475	950	5.9
	66	Ø10	2	500	1000	6.2
	67	Ø10	6	470	2820	17.4
	68	Ø10	2	495	990	6.1
	69	Ø10	2	235	470	2.9
	70	Ø10	8	200	1600	9.9
	71	Ø10	4	135	540	3.3
	72	Ø6	87	116	10092	22.4
					Total+10%:	138.6
Pórtico 72	73	Ø12	2	505	1010	9.0
	74	Ø12	2	500	1000	8.9
	75	Ø10	2	500	1000	6.2
	76	Ø10	2	495	990	6.1
	77	Ø10	2	200	400	2.5
	78	Ø10	4	135	540	3.3
	79	Ø6	29	116	3364	7.5
					Total+10%:	47.9
					Ø6:	129.2
					Ø10:	298.4
					Ø12::	299.5
					Total:	727.1

Resumen Acero CIMIENTOS Vigas		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	4405.2	1075	
	Ø10	3716.5	2520	
	Ø12	2555.7	2496	
	Ø16	4.5	8	6099

CIMIENTOS
Despiece de vigas
Hormigón: H-21 , Control Normal
Acero: AH-500 , Control Normal



UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

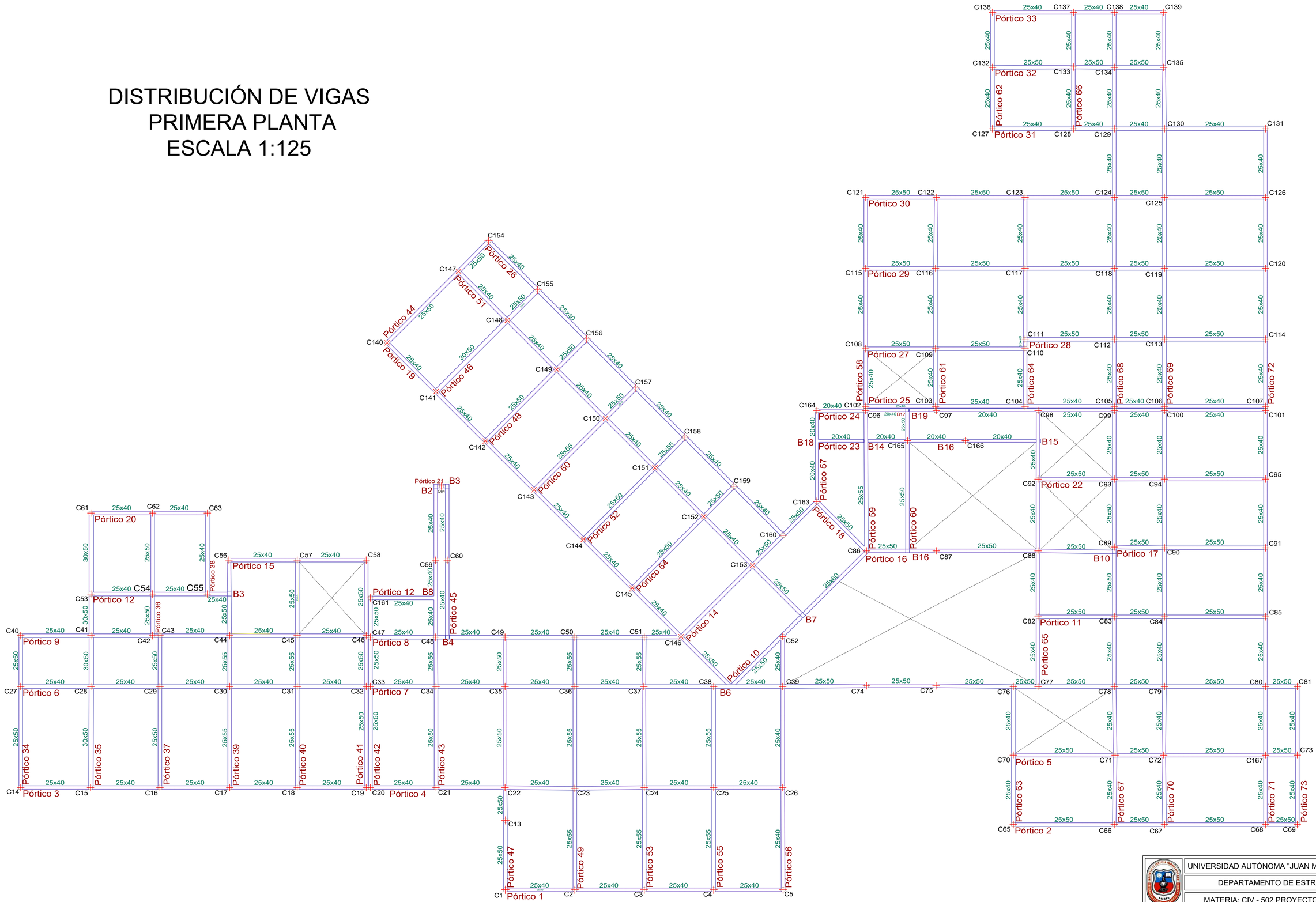
DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV - 502 PROYECTO DE GRADO II

VIGAS CIMIENTOS

DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	14/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

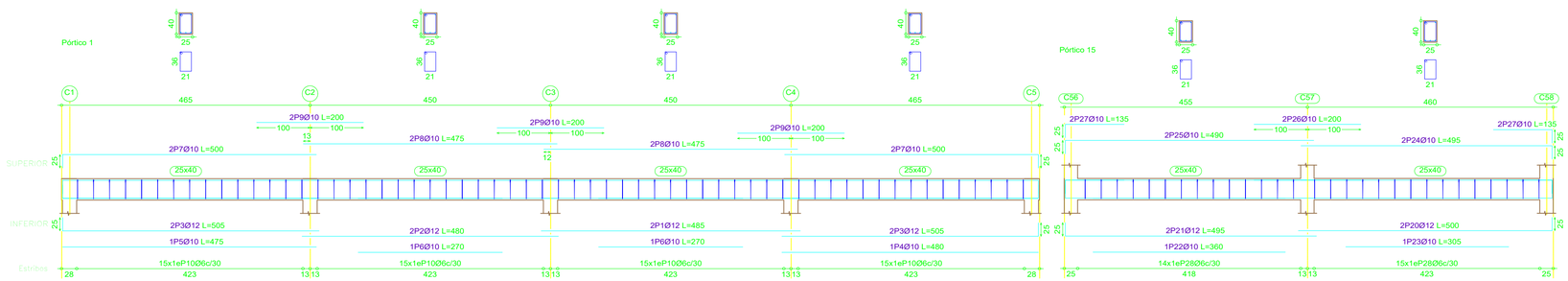
DISTRIBUCIÓN DE VIGAS
PRIMERA PLANTA
ESCALA 1:125



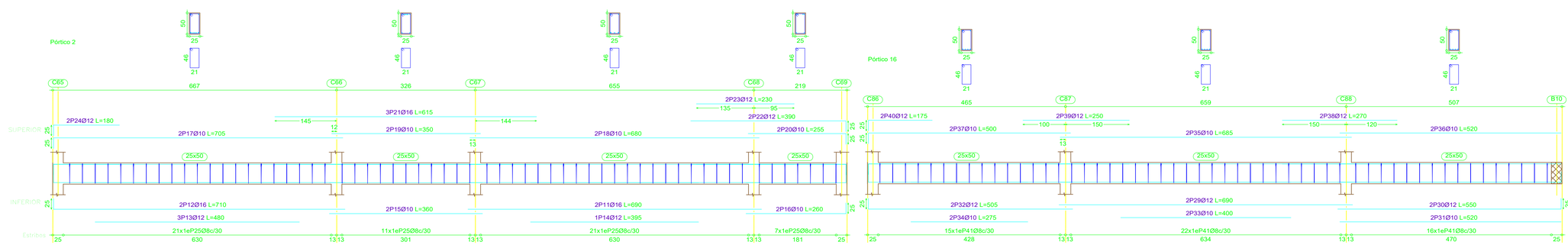
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
DISTRIBUCIÓN DE VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

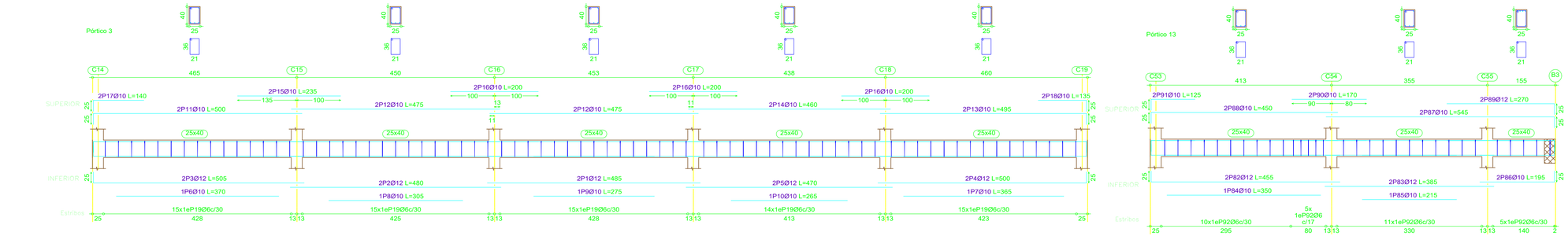
DESPIECE DE VIGAS PRIMERA PLANTA ESCALA 1:60

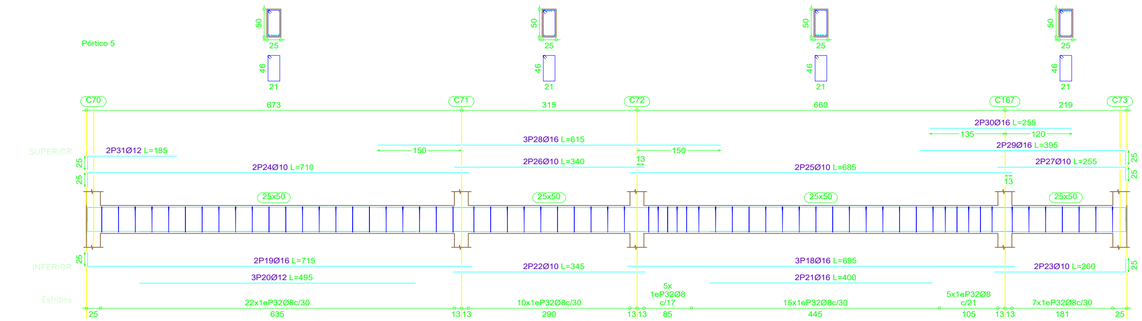
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 1	1	Ø12	2	485	970	8.6
	2	Ø12	2	480	960	8.5
	3	Ø12	4	505	2020	17.9
	4	Ø10	1	480	480	3.0
	5	Ø10	1	475	475	2.9
	6	Ø10	2	270	540	3.3
	7	Ø10	4	500	2000	12.3
	8	Ø10	4	475	1900	11.7
	9	Ø10	6	200	1200	7.4
	10	Ø6	60	126	7560	16.8
					Total+10%:	101.6
Pórtico 2	11	Ø16	2	690	1380	21.8
	12	Ø16	2	710	1420	22.4
	13	Ø12	3	480	1440	12.8
	14	Ø12	1	395	395	3.5
	15	Ø10	2	360	720	4.4
	16	Ø10	2	260	520	3.2
	17	Ø10	2	705	1410	8.7
	18	Ø10	2	680	1360	8.4
	19	Ø10	2	350	700	4.3
	20	Ø10	2	255	510	3.1
	21	Ø16	3	615	1845	29.1
	22	Ø12	2	390	780	6.9
	23	Ø12	2	230	460	4.1
	24	Ø12	2	180	360	3.2
	25	Ø8	60	150	9000	35.5
					Total+10%:	188.5
					Ø6:	18.4
					Ø8:	39.0
					Ø10:	80.0
					Ø12:	72.1
					Ø16:	80.6
					Total:	290.1
Pórtico 3	1	Ø12	2	485	970	8.6
	2	Ø12	2	480	960	8.5
	3	Ø12	2	505	1010	9.0
	4	Ø12	2	500	1000	8.9
	5	Ø12	2	470	940	8.3
	6	Ø10	1	370	370	2.3
	7	Ø10	1	365	365	2.3
	8	Ø10	1	305	305	1.9
	9	Ø10	1	275	275	1.7
	10	Ø10	1	265	265	1.6
	11	Ø10	2	500	1000	6.2
	12	Ø10	4	475	1900	11.7
	13	Ø10	2	495	990	6.1
	14	Ø10	2	460	920	5.7
	15	Ø10	2	235	470	2.9
	16	Ø10	6	200	1200	7.4
	17	Ø10	2	140	280	1.7
	18	Ø10	2	135	270	1.7
	19	Ø6	74	126	9324	20.7
					Total+10%:	128.9
Pórtico 15	20	Ø12	2	500	1000	8.9
	21	Ø12	2	495	990	8.8
	22	Ø10	1	360	360	2.2
	23	Ø10	1	305	305	1.9
	24	Ø10	2	495	990	6.1
	25	Ø10	2	490	980	6.0
	26	Ø10	2	200	400	2.5
	27	Ø10	4	135	540	3.3
	28	Ø6	29	126	3654	8.1
					Total+10%:	52.6
Pórtico 16	29	Ø12	2	690	1380	12.3
	30	Ø12	2	550	1100	9.8
	31	Ø10	2	520	1040	6.4
	32	Ø12	2	505	1010	9.0
	33	Ø10	2	400	800	4.9
	34	Ø10	2	275	550	3.4
	35	Ø10	2	685	1370	8.4
	36	Ø10	2	520	1040	6.4
	37	Ø10	2	500	1000	6.2
	38	Ø12	2	270	540	4.8
	39	Ø12	2	250	500	4.4
	40	Ø12	2	175	350	3.1
	41	Ø8	53	150	7950	31.4
					Total+10%:	121.6
					Ø6:	31.6
					Ø8:	34.6
					Ø10:	122.1
					Ø12:	114.8
					Total:	303.1
Pórtico 4	1	Ø12	2	485	970	8.6
	2	Ø12	6	480	2880	25.6
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	480	960	8.5
	5	Ø10	1	365	365	2.3
	6	Ø10	1	345	345	2.1
	7	Ø10	1	275	275	1.7
	8	Ø10	3	270	810	5.0
	9	Ø10	6	475	2850	17.6
	10	Ø10	2	470	940	5.8
	11	Ø10	2	495	990	6.1
	12	Ø10	2	475	950	5.9
	13	Ø10	8	200	1600	9.9
	14	Ø10	2	195	390	2.4
	15	Ø10	2	135	270	1.7
	16	Ø10	2	130	260	1.6
	17	Ø6	89	126	11214	24.9
					Total+10%:	152.5
Pórtico 5	18	Ø16	3	695	2085	32.9
	19	Ø16	2	715	1430	22.6
	20	Ø12	3	495	1485	13.2
	21	Ø16	2	400	800	12.6
	22	Ø10	2	345	690	4.3
	23	Ø10	2	260	520	3.2
	24	Ø10	2	710	1420	8.8
	25	Ø10	2	685	1370	8.4
	26	Ø10	2	340	680	4.2
	27	Ø10	2	255	510	3.1
	28	Ø16	3	615	1845	29.1
	29	Ø16	2	395	790	12.5
	30	Ø16	2	255	510	8.0
	31	Ø12	2	185	370	3.3
	32	Ø8	64	150	9600	37.9
					Total+10%:	224.5
Pórtico 10	68	Ø16	2	840	1680	26.5
	69	Ø16	1	555	555	8.8
	70	Ø12	2	525	1050	9.3
	71	Ø10	2	490	980	6.0
	72	Ø10	2	820	1640	10.1
	73	Ø10	2	515	1030	6.4
	74	Ø16	2	345	690	10.9
	75	Ø16	2	260	520	8.2
	76	Ø16	2	230	460	7.3
	77	Ø16	2	195	390	6.2
	78	Ø12	2	140	280	2.5
	79	Ø10	2	804	1608	9.9
	80	Ø8	27	150	4050	16.0
	81	Ø8	33	170	5610	22.1
					Total+10%:	165.2
Pórtico 13	82	Ø12	2	455	910	8.1
	83	Ø12	2	385	770	6.8
	84	Ø10	1	350	350	2.2
	85	Ø10	1	215	215	1.3
	86	Ø10	2	195	390	2.4
	87	Ø10	2	545	1090	6.7
	88	Ø10	2	450	900	5.5
	89	Ø12	2	270	540	4.8
	90	Ø10	2	170	340	2.1
	91	Ø10	2	125	250	1.5
	92	Ø6	31	126	3906	8.7
					Total+10%:	55.1

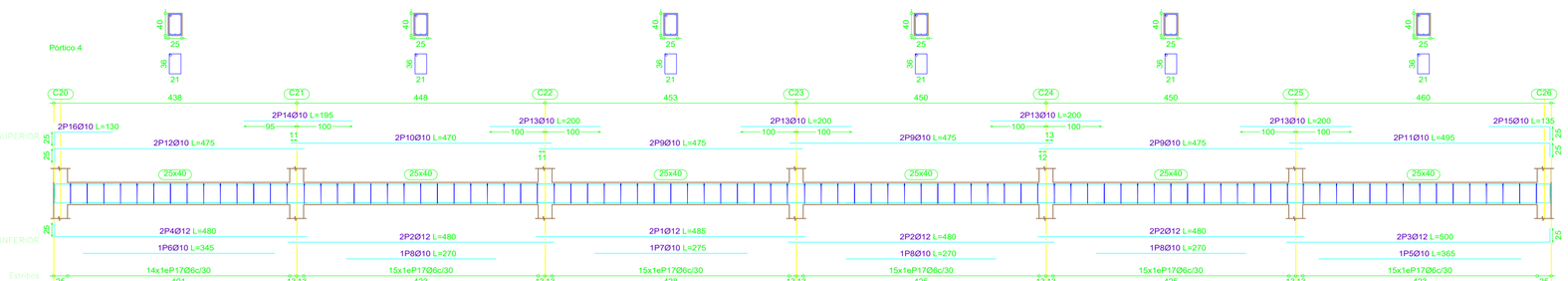


DESPIECE DE VIGAS PRIMERA PLANTA ESCALA 1:60







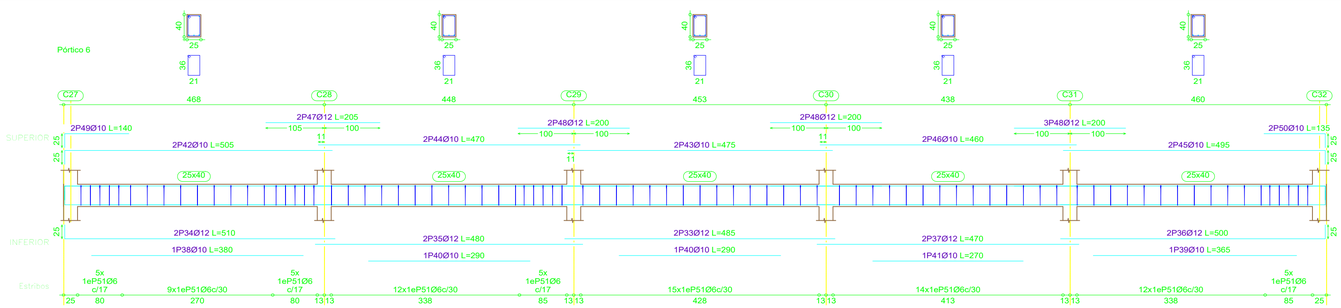


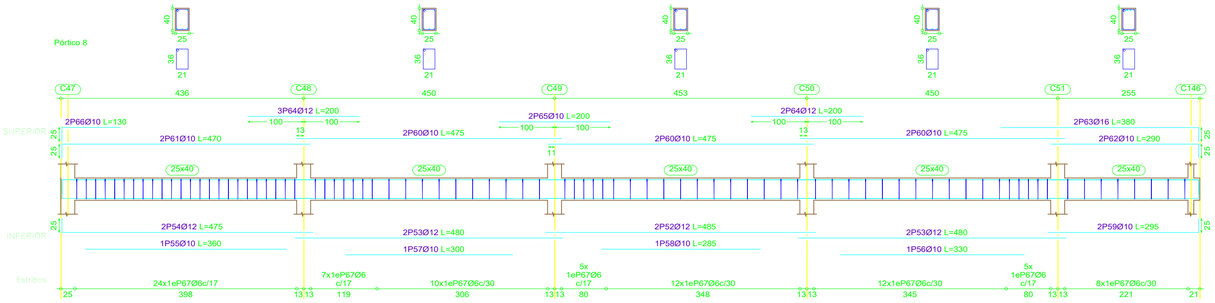
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

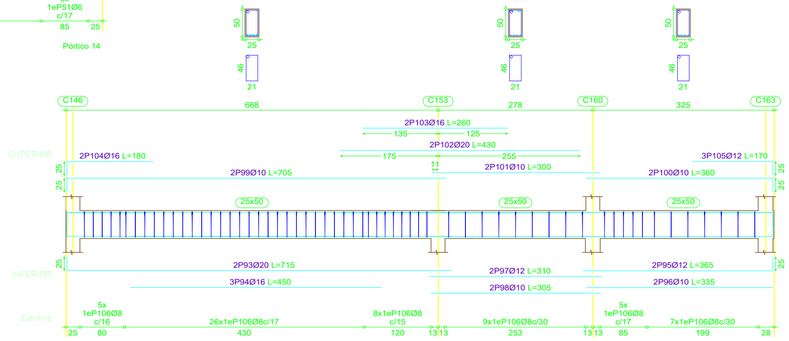
16/31

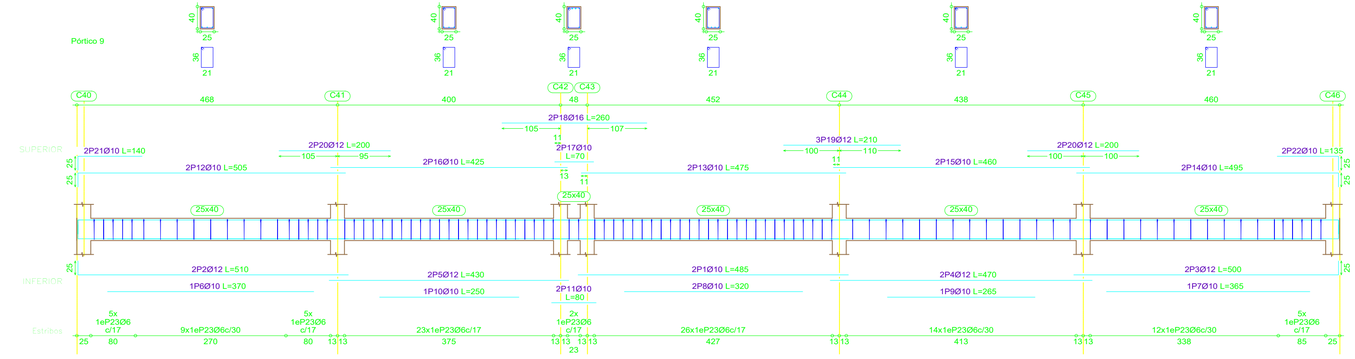
DESPIECE DE VIGAS
PRIMERA PLANTA
ESCALA 1:60

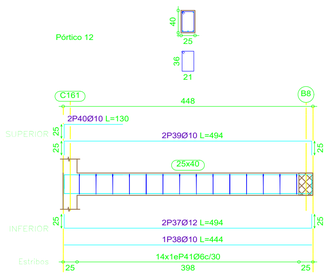
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 6	33	Ø12	2	485	970	8.6
	34	Ø12	2	510	1020	9.1
	35	Ø12	2	480	960	8.5
	36	Ø12	2	500	1000	8.9
	37	Ø12	2	470	940	8.3
	38	Ø10	1	380	380	2.3
	39	Ø10	1	365	365	2.3
	40	Ø10	2	290	580	3.6
	41	Ø10	1	270	270	1.7
	42	Ø10	2	505	1010	6.2
	43	Ø10	2	475	950	5.9
	44	Ø10	2	470	940	5.8
	45	Ø10	2	495	990	6.1
	46	Ø10	2	460	920	5.7
	47	Ø12	2	205	410	3.6
	48	Ø12	7	200	1400	12.4
	49	Ø10	2	140	280	1.7
	50	Ø10	2	135	270	1.7
	51	Ø6	82	126	10332	22.9
					Total+10%:	137.8
Pórtico 8	52	Ø12	2	485	970	8.6
	53	Ø12	4	480	1920	17.0
	54	Ø12	2	475	950	8.4
	55	Ø10	1	360	360	2.2
	56	Ø10	1	330	330	2.0
	57	Ø10	1	300	300	1.8
	58	Ø10	1	285	285	1.8
	59	Ø10	2	295	590	3.6
	60	Ø10	6	475	2850	17.6
	61	Ø10	2	470	940	5.8
	62	Ø10	2	290	580	3.6
	63	Ø16	2	380	760	12.0
	64	Ø12	5	200	1000	8.9
	65	Ø10	2	200	400	2.5
	66	Ø10	2	130	260	1.6
	67	Ø6	83	126	10458	23.2
					Total+10%:	132.7
Pórtico 14	93	Ø20	2	715	1430	35.3
	94	Ø16	3	450	1350	21.3
	95	Ø12	2	365	730	6.5
	96	Ø10	2	335	670	4.1
	97	Ø12	2	310	620	5.5
	98	Ø10	2	305	610	3.8
	99	Ø10	2	705	1410	8.7
	100	Ø10	2	360	720	4.4
	101	Ø10	2	300	600	3.7
	102	Ø20	2	430	860	21.2
	103	Ø16	2	260	520	8.2
	104	Ø16	2	180	360	5.7
	105	Ø12	3	170	510	4.5
	106	Ø8	60	150	9000	35.5
					Total+10%:	185.2
					Ø6:	87.8
					Ø8:	122.6
					Ø10:	284.1
					Ø12:	240.2
					Ø16:	256.1
					Ø20:	62.2
					Total:	1053.0
Pórtico 9	1	Ø10	2	485	970	6.0
	2	Ø12	2	510	1020	9.1
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	470	940	8.3
	5	Ø12	2	430	860	7.6
	6	Ø10	1	370	370	2.3
	7	Ø10	1	365	365	2.3
	8	Ø10	2	320	640	3.9
	9	Ø10	1	265	265	1.6
	10	Ø10	1	250	250	1.5
	11	Ø10	2	80	160	1.0
	12	Ø10	2	505	1010	6.2
	13	Ø10	2	475	950	5.9
	14	Ø10	2	495	990	6.1
	15	Ø10	2	460	920	5.7
	16	Ø10	2	425	850	5.2
	17	Ø10	2	70	140	0.9
	18	Ø16	2	260	520	8.2
	19	Ø12	3	210	630	5.6
	20	Ø12	4	200	800	7.1
	21	Ø10	2	140	280	1.7
	22	Ø10	2	135	270	1.7
	23	Ø6	101	126	12726	28.2
					Total+10%:	148.5
Pórtico 11	24	Ø16	3	710	2130	33.6
	25	Ø12	2	550	1100	9.8
	26	Ø16	2	455	910	14.4
	27	Ø10	2	430	860	5.3
	28	Ø10	2	355	710	4.4
	29	Ø10	2	705	1410	8.7
	30	Ø10	2	545	1090	6.7
	31	Ø10	2	350	700	4.3
	32	Ø16	2	585	1170	18.5
	33	Ø16	2	260	520	8.2
	34	Ø12	2	180	360	3.2
	35	Ø12	2	145	290	2.6
	36	Ø8	64	150	9600	37.9
					Total+10%:	173.4
Pórtico 12	37	Ø12	2	494	988	8.8
	38	Ø10	1	444	444	2.7
	39	Ø10	2	494	988	6.1
	40	Ø10	2	130	260	1.6
	41	Ø6	14	126	1764	3.9
					Total+10%:	25.4
					Ø6:	35.3
					Ø8:	41.7
					Ø10:	101.0
					Ø12:	78.1
					Ø16:	91.2
					Total:	347.3
Pórtico 7	1	Ø16	3	690	2070	32.7
	2	Ø12	2	595	1190	10.6
	3	Ø12	2	535	1070	9.5
	4	Ø12	2	525	1050	9.3
	5	Ø12	6	485	2910	25.8
	6	Ø12	6	480	2880	25.6
	7	Ø12	2	480	960	8.5
	8	Ø16	2	395	790	12.5
	9	Ø10	2	390	780	4.8
	10	Ø10	3	360	1080	6.7
	11	Ø10	2	340	680	4.2
	12	Ø10	2	330	660	4.1
	13	Ø10	1	310	310	1.9
	14	Ø10	1	290	290	1.8
	15	Ø10	1	285	285	1.8
	16	Ø10	4	275	1100	6.8
	17	Ø10	2	260	520	3.2
	18	Ø10	2	190	380	2.3
	19	Ø10	2	680	1360	8.4
	20	Ø10	2	565	1130	7.0
	21	Ø10	2	525	1050	6.5
	22	Ø10	2	520	1040	6.4
	23	Ø10	6	475	2850	17.6
	24	Ø10	6	470	2820	17.4
	25	Ø10	2	475	950	5.9
	26	Ø10	2	350	700	4.3
	27	Ø10	2	255	510	3.1
	28	Ø10	2	185	370	2.3
	29	Ø16	3	580	1740	27.5
	30	Ø12	3	385	1155	10.3
	31	Ø16	2	395	790	12.5
	32	Ø16	2	245	490	7.7
	33	Ø12	2	225	450	4.0
	34	Ø12	2	220	440	3.9
	35	Ø12	2	215	430	3.8
	36	Ø12	8	200	1600	14.2
	37	Ø12	2	195	390	3.5
	38	Ø10	2	130	260	1.6
	39	Ø6	95	126	11970	26.6
	40	Ø8	125	150	18750	74.0
					Total+10%:	484.7
					Ø6:	29.3
					Ø8:	81.4
					Ø10:	129.9
					Ø12:	141.9
					Ø16:	102.2
					Total:	484.7

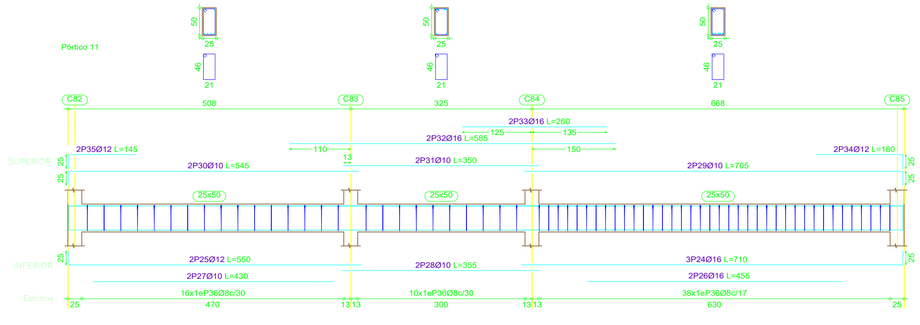


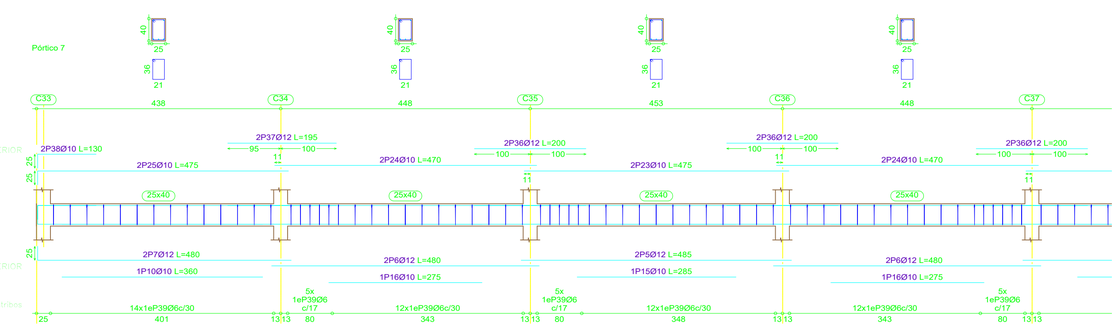


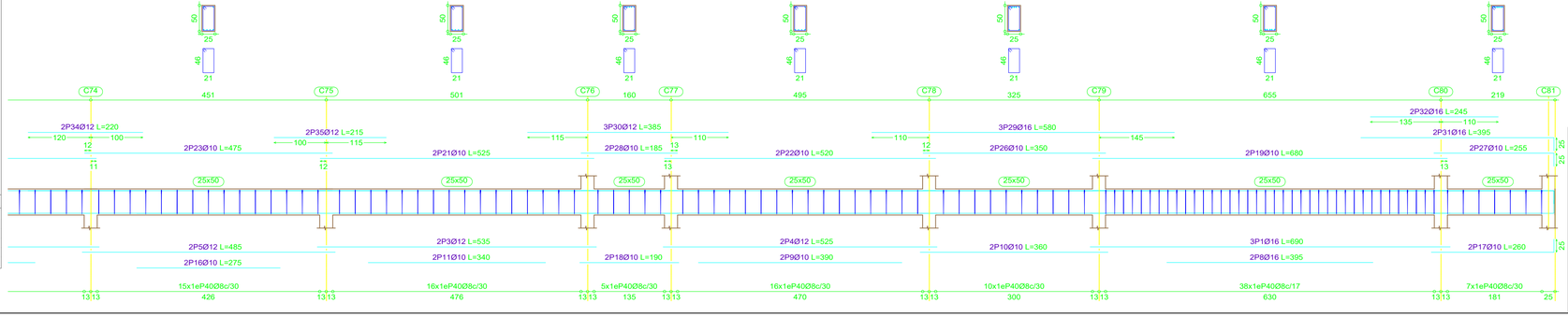










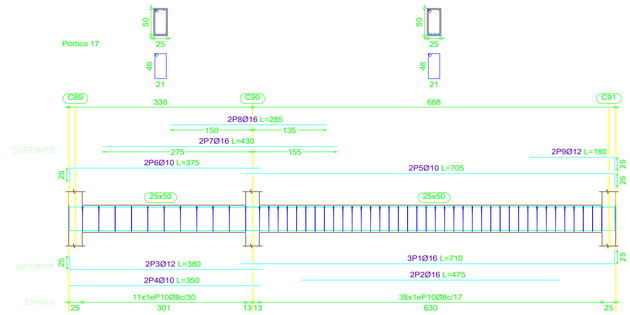


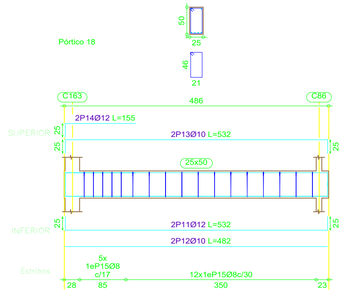
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

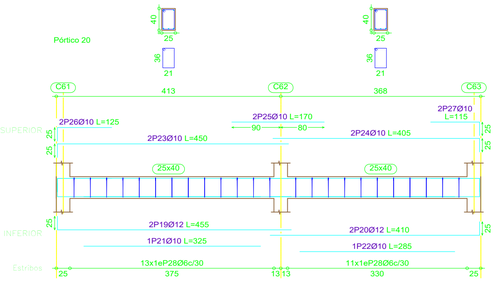
17/31

DESPIECE DE VIGAS
PRIMERA PLANTA
ESCALA 1:60

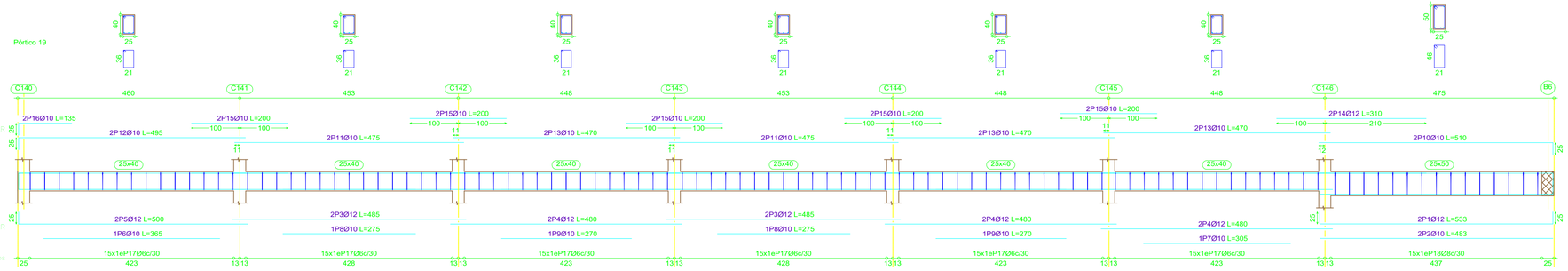
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 17	1	Ø16	3	710	2130	33.6
	2	Ø16	2	475	950	15.0
	3	Ø12	2	380	760	6.7
	4	Ø10	2	350	700	4.3
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	375	750	4.6
	7	Ø16	2	430	860	13.6
	8	Ø16	2	285	570	9.0
	9	Ø12	2	180	360	3.2
	10	Ø8	49	150	7350	29.0
					Total+10%:	140.5
Pórtico 18	11	Ø12	2	532	1064	9.4
	12	Ø12	2	482	964	5.9
	13	Ø10	2	532	1064	6.6
	14	Ø12	2	155	310	2.8
	15	Ø8	17	150	2550	10.1
					Total+10%:	38.3
					Ø8:	43.0
					Ø10:	33.2
					Ø12:	24.3
					Ø16:	78.3
					Total:	178.8
Pórtico 19	1	Ø12	2	533	1066	9.5
	2	Ø10	2	483	966	6.0
	3	Ø12	4	485	1940	17.2
	4	Ø12	6	480	2880	25.6
	5	Ø12	2	500	1000	8.9
	6	Ø10	1	365	365	2.3
	7	Ø10	1	305	305	1.9
	8	Ø10	2	275	550	3.4
	9	Ø10	2	270	540	3.3
	10	Ø10	2	510	1020	6.3
	11	Ø10	4	475	1900	11.7
	12	Ø10	2	495	990	6.1
	13	Ø10	6	470	2820	17.4
	14	Ø12	2	310	620	5.5
	15	Ø10	10	200	2000	12.3
	16	Ø10	2	135	270	1.7
	17	Ø6	90	126	11340	25.2
	18	Ø8	15	150	2250	8.9
					Total+10%:	190.5
Pórtico 20	19	Ø12	2	455	910	8.1
	20	Ø12	2	410	820	7.3
	21	Ø10	1	325	325	2.0
	22	Ø10	1	285	285	1.8
	23	Ø10	2	450	900	5.5
	24	Ø10	2	405	810	5.0
	25	Ø10	2	170	340	2.1
	26	Ø10	2	125	250	1.5
	27	Ø10	2	115	230	1.4
	28	Ø6	24	126	3024	6.7
					Total+10%:	45.5
Pórtico 21	29	Ø10	4	90	360	2.2
	30	Ø10	2	146	292	1.8
	31	Ø10	2	146	292	1.8
	32	Ø6	6	126	756	1.7
					Total+10%:	8.3
Pórtico 22	33	Ø16	3	710	2130	33.6
	34	Ø12	2	550	1100	9.8
	35	Ø10	2	520	1040	6.4
	36	Ø16	2	470	940	14.8
	37	Ø12	2	360	720	6.4
	38	Ø10	2	350	700	4.3
	39	Ø10	2	705	1410	8.7
	40	Ø10	2	545	1090	6.7
	41	Ø10	2	350	700	4.3
	42	Ø16	2	425	850	13.4
	43	Ø16	2	260	520	8.2
	44	Ø12	2	180	360	3.2
	45	Ø12	2	145	290	2.6
	46	Ø8	64	150	9600	37.9
					Total+10%:	176.3
Pórtico 23	47	Ø12	2	640	1280	11.4
	48	Ø12	2	525	1050	9.3
	49	Ø10	1	420	420	2.6
	50	Ø10	2	405	810	5.0
	51	Ø10	2	635	1270	7.8
	52	Ø10	2	520	1040	6.4
	53	Ø10	2	400	800	4.9
	54	Ø16	2	610	1220	19.3
	55	Ø10	2	140	280	1.7
	56	Ø6	46	116	5336	11.8
					Total+10%:	88.2
Pórtico 24	57	Ø12	2	690	1380	12.3
	58	Ø16	2	710	1420	22.4
	59	Ø12	2	525	1050	9.3
	60	Ø10	1	400	400	2.5
	61	Ø16	1	395	395	6.2
	62	Ø12	2	355	710	6.3
	63	Ø12	2	370	740	6.6
	64	Ø10	2	305	610	5.4
	65	Ø10	2	220	440	2.7
	66	Ø10	2	685	1370	8.4
	67	Ø10	2	705	1410	8.7
	68	Ø10	2	520	1040	6.4
	69	Ø10	2	350	700	4.3
	70	Ø10	2	365	730	4.5
	71	Ø10	2	295	590	3.6
	72	Ø10	2	210	420	2.6
	73	Ø10	2	450	900	5.5
	74	Ø20	2	380	760	18.7
	75	Ø12	2	365	730	6.5
	76	Ø12	2	180	360	3.2
	77	Ø10	2	130	260	1.6
	78	Ø6	100	116	11600	25.7
					Total+10%:	190.7
					Ø6:	78.1
					Ø8:	51.5
					Ø10:	227.8
					Ø12:	191.9
					Ø16:	129.6
					Ø20:	20.6
					Total:	699.5
Pórtico 25	1	Ø16	2	710	1420	22.4
	2	Ø12	2	615	1230	10.9
	3	Ø16	2	615	1230	19.4
	4	Ø12	2	505	1010	9.0
	5	Ø10	1	425	425	2.6
	6	Ø12	1	395	395	3.5
	7	Ø10	2	355	710	4.4
	8	Ø12	1	350	350	3.1
	9	Ø10	1	310	310	1.9
	10	Ø10	2	705	1410	8.7
	11	Ø10	2	605	1210	7.5
	12	Ø10	2	600	1200	7.4
	13	Ø10	2	500	1000	6.2
	14	Ø10	2	350	700	4.3
	15	Ø12	3	600	1800	16.0
	16	Ø12	2	330	660	5.9
	17	Ø16	3	280	840	13.3
	18	Ø10	2	180	360	2.2
	19	Ø10	2	140	280	1.7
	20	Ø6	87	126	10962	24.3
					Total+10%:	192.2

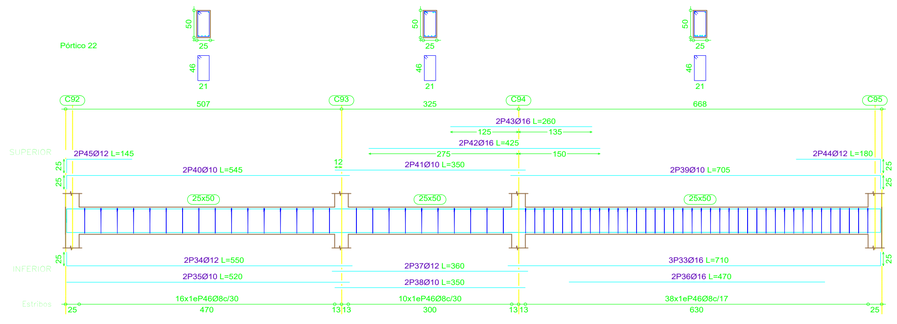


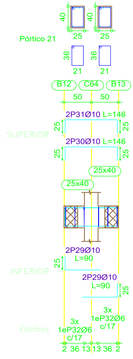


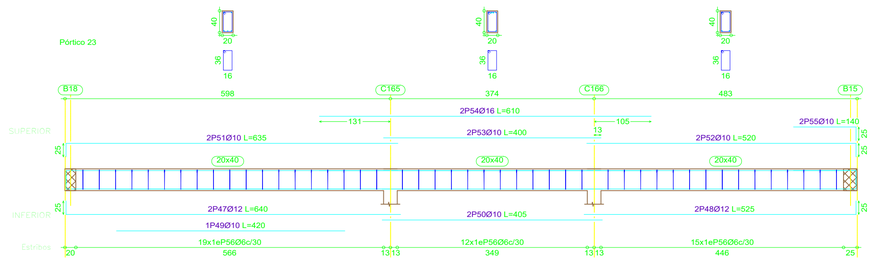


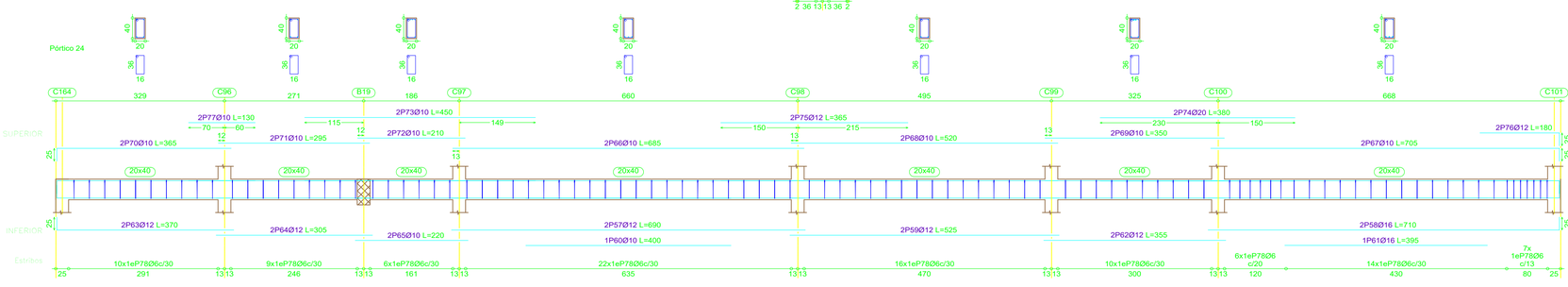
DESPIECE DE VIGAS
PRIMERA PLANTA
ESCALA 1:60

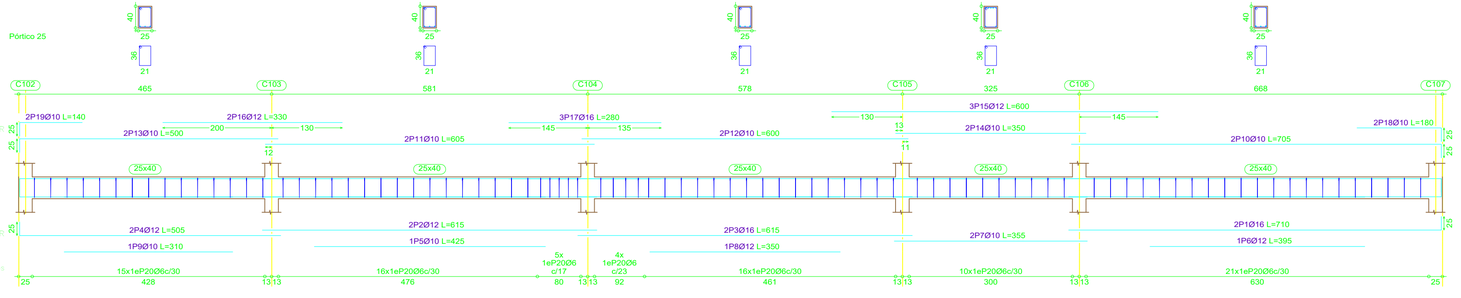








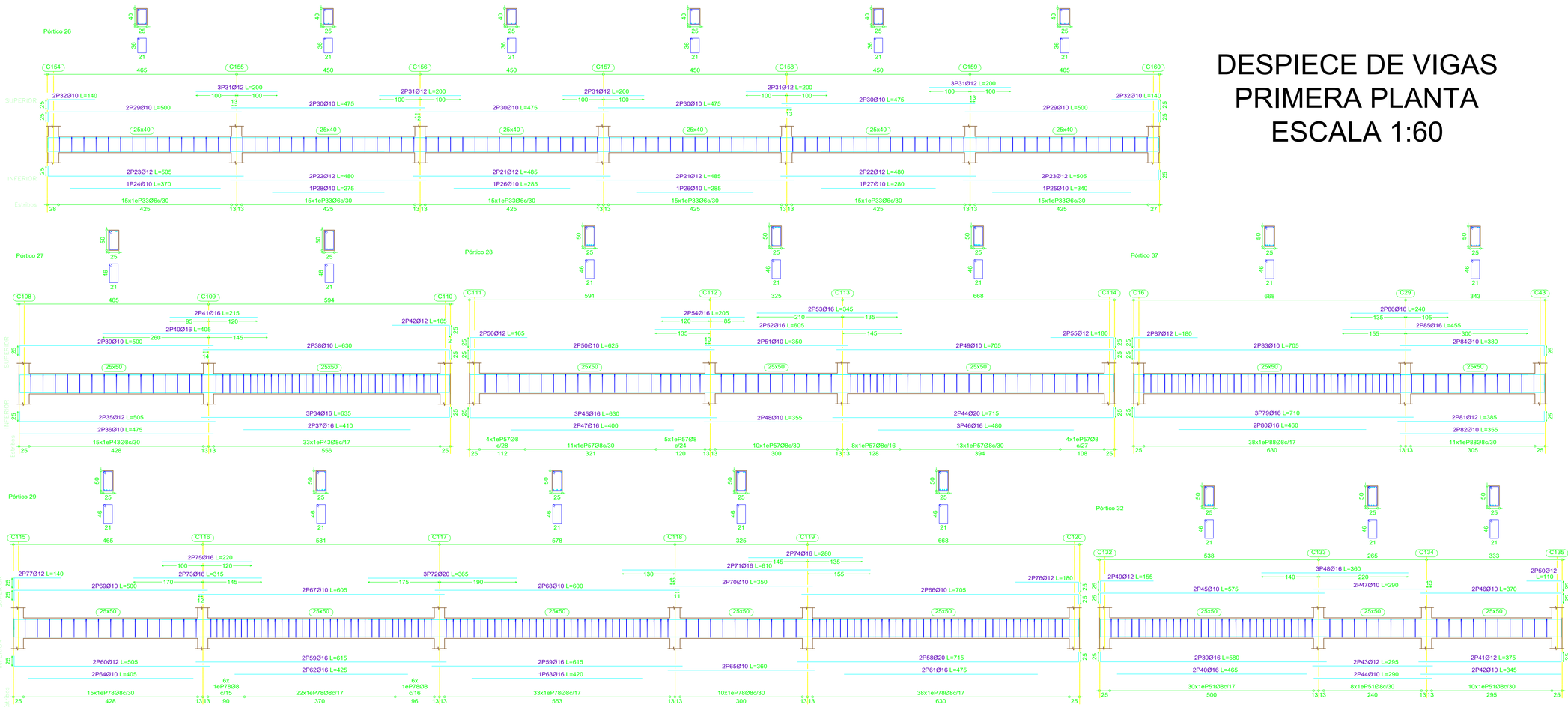




UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

DESPIECE DE VIGAS PRIMERA PLANTA ESCALA 1:60

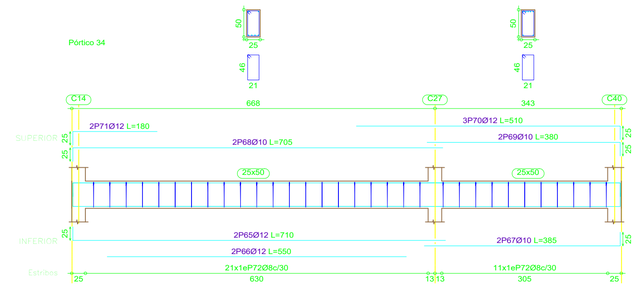
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 26	21	Ø12	4	485	1940	17.2
	22	Ø12	4	480	1920	17.0
	23	Ø12	4	505	2020	17.9
	24	Ø10	1	370	370	2.3
	25	Ø10	1	340	340	2.1
	26	Ø10	2	285	570	3.5
	27	Ø10	1	280	280	1.7
	28	Ø10	1	275	275	1.7
	29	Ø10	4	500	2000	12.3
	30	Ø10	8	475	3800	23.4
	31	Ø12	12	200	2400	21.3
	32	Ø10	4	140	560	3.5
	33	Ø6	90	126	11340	25.2
					Total+10%:	164.0
Pórtico 27	34	Ø16	3	635	1905	30.1
	35	Ø12	2	505	1010	9.0
	36	Ø10	2	475	950	5.9
	37	Ø16	2	410	820	12.9
	38	Ø10	2	630	1260	7.8
	39	Ø10	2	500	1000	6.2
	40	Ø16	2	405	810	12.8
	41	Ø16	2	215	430	6.8
	42	Ø12	2	165	330	2.9
	43	Ø8	48	150	7200	28.4
					Total+10%:	135.1
Pórtico 28	44	Ø20	2	715	1430	35.3
	45	Ø16	3	630	1890	29.8
	46	Ø16	3	480	1440	22.7
	47	Ø16	2	400	800	12.6
	48	Ø10	2	355	710	4.4
	49	Ø10	2	705	1410	8.7
	50	Ø10	2	625	1250	7.7
	51	Ø10	2	350	700	4.3
	52	Ø16	2	605	1210	19.1
	53	Ø16	2	345	690	10.9
	54	Ø16	2	205	410	6.5
	55	Ø12	2	180	360	3.2
	56	Ø12	2	165	330	2.9
	57	Ø8	55	150	8250	32.6
					Total+10%:	220.8
Pórtico 29	58	Ø20	2	715	1430	35.3
	59	Ø16	4	615	2460	38.8
	60	Ø12	2	505	1010	9.0
	61	Ø16	2	475	950	15.0
	62	Ø16	2	425	850	13.4
	63	Ø16	1	420	420	6.6
	64	Ø10	2	405	810	5.0
	65	Ø10	2	360	720	4.4
	66	Ø10	2	705	1410	8.7
	67	Ø10	2	605	1210	7.5
	68	Ø10	2	600	1200	7.4
	69	Ø10	2	500	1000	6.2
	70	Ø10	2	350	700	4.3
	71	Ø16	2	610	1220	19.3
	72	Ø20	3	365	1095	27.0
	73	Ø16	2	315	630	9.9
	74	Ø16	2	280	560	8.8
	75	Ø16	2	220	440	6.9
	76	Ø12	2	180	360	3.2
	77	Ø12	2	140	280	2.5
	78	Ø8	130	150	19500	77.0
					Total+10%:	347.8
Pórtico 37	79	Ø16	3	710	2130	33.6
	80	Ø16	2	460	920	14.5
	81	Ø12	2	385	770	6.8
	82	Ø10	2	355	710	4.4
	83	Ø10	2	705	1410	8.7
	84	Ø10	2	380	760	4.7
	85	Ø16	2	455	910	14.4
	86	Ø16	2	240	480	7.6
	87	Ø12	2	180	360	3.2
	88	Ø8	49	150	7350	29.0
					Total+10%:	139.6
					Ø6:	54.5
					Ø8:	183.8
					Ø10:	223.9
					Ø12:	181.0
					Ø16:	449.0
					Ø20:	107.3
					Total:	1199.5
Pórtico 30	1	Ø20	2	715	1430	35.3
	2	Ø12	4	610	2440	21.7
	3	Ø12	2	510	1020	9.1
	4	Ø16	2	470	940	14.8
	5	Ø12	2	465	930	8.3
	6	Ø10	2	400	800	4.9
	7	Ø12	2	380	760	6.7
	8	Ø10	2	355	710	4.4
	9	Ø10	2	705	1410	8.7
	10	Ø10	4	600	2400	14.8
	11	Ø10	2	505	1010	6.2
	12	Ø10	2	350	700	4.3
	13	Ø16	2	610	1220	19.3
	14	Ø16	3	300	900	14.2
	15	Ø16	2	260	520	8.2
	16	Ø12	2	260	520	4.6
	17	Ø12	2	215	430	3.8
	18	Ø12	2	180	360	3.2
	19	Ø12	2	140	280	2.5
	20	Ø8	111	150	16650	65.7
					Total+10%:	286.8
Pórtico 31	21	Ø16	2	710	1420	22.4
	22	Ø12	2	580	1160	10.3
	23	Ø12	3	450	1350	12.0
	24	Ø12	2	425	850	7.5
	25	Ø12	2	355	710	6.3
	26	Ø10	1	350	350	2.2
	27	Ø12	2	295	590	5.2
	28	Ø10	1	290	290	1.8
	29	Ø10	2	705	1410	8.7
	30	Ø10	2	575	1150	7.1
	31	Ø10	2	350	700	4.3
	32	Ø10	2	290	580	3.6
	33	Ø16	2	355	710	11.2
	34	Ø16	2	270	540	8.5
	35	Ø16	2	210	420	6.6
	36	Ø12	2	180	360	3.2
	37	Ø10	2	155	310	1.9
	38	Ø6	62	126	7812	17.3
					Total+10%:	154.1
Pórtico 32	39	Ø16	2	580	1160	18.3
	40	Ø16	2	465	930	14.7
	41	Ø12	2	375	750	6.7
	42	Ø10	2	345	690	4.3
	43	Ø12	2	295	590	5.2
	44	Ø10	2	290	580	3.6
	45	Ø10	2	575	1150	7.1
	46	Ø10	2	370	740	4.6
	47	Ø10	2	290	580	3.6
	48	Ø16	3	360	1080	17.0
	49	Ø12	2	155	310	2.8
	50	Ø12	2	110	220	2.0
	51	Ø8	48	150	7200	28.4
					Total+10%:	130.1
Pórtico 33	52	Ø12	2	580	1160	10.3
	53	Ø12	2	425	850	7.5
	54	Ø12	2	375	750	6.7
	55	Ø10	1	345	345	2.1
	56	Ø12	2	295	590	5.2
	57	Ø10	1	290	290	1.8
	58	Ø10	2	575	1150	7.1
	59	Ø10	2	370	740	4.6
	60	Ø10	2	290	580	3.6
	61	Ø10	2	325	650	10.3
	62	Ø10	2	155	310	1.9
	63	Ø10	2	110	220	1.4
	64	Ø6	35	126	4410	9.8
					Total+10%:	79.5
Pórtico 38	101	Ø16	2	596	1192	18.8
	102	Ø12	1	315	315	2.8
	103	Ø10	2	596	1192	7.3
	104	Ø10	4	155	620	3.8
	105	Ø6	17	126	2142	4.8
					Total+10%:	41.3

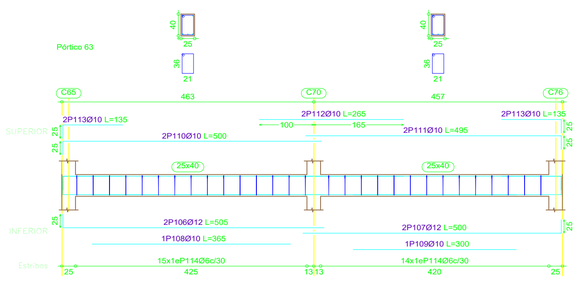


UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

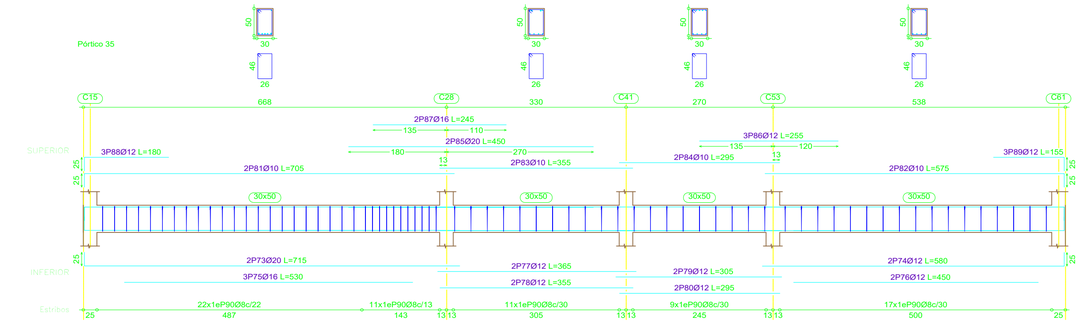
19/31

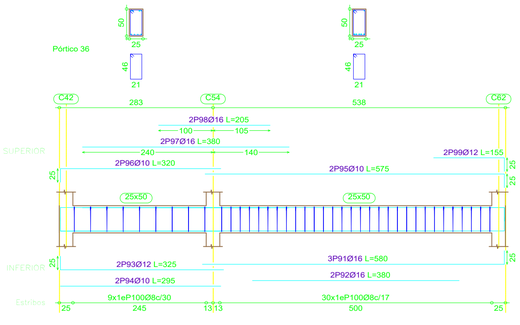
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 34	65	Ø12	2	710	1420	12.6
	66	Ø12	2	550	1100	9.8
	67	Ø10	2	385	770	4.7
	68	Ø10	2	705	1410	8.7
	69	Ø10	2	380	760	4.7
	70	Ø12	3	510	1530	13.6
	71	Ø12	2	180	360	3.2
	72	Ø8	32	150	4800	18.9
					Total+10%:	83.8
Pórtico 35	73	Ø20	2	715	1430	35.3
	74	Ø12	2	580	1160	10.3
	75	Ø16	3	530	1590	25.1
	76	Ø12	2	450	900	8.0
	77	Ø12	2	365	730	6.5
	78	Ø12	2	355	710	6.3
	79	Ø12	2	305	610	5.4
	80	Ø12	2	295	590	5.2
	81	Ø10	2	705	1410	8.7
	82	Ø10	2	575	1150	7.1
	83	Ø10	2	355	710	4.4
	84	Ø10	2	295	590	3.6
	85	Ø20	2	450	900	22.2
	86	Ø12	3	255	765	6.8
	87	Ø16	2	245	490	7.7
	88	Ø12	3	180	540	4.8
	89	Ø12	3	155	465	4.1
	90	Ø8	70	160	11200	44.2
					Total+10%:	237.3
Pórtico 36	91	Ø16	3	580	1740	27.5
	92	Ø16	2	380	760	12.0
	93	Ø12	2	325	650	5.8
	94	Ø10	2	295	590	3.6
	95	Ø10	2	575	1150	7.1
	96	Ø10	2	320	640	3.9
	97	Ø16	2	380	760	12.0
	98	Ø16	2	205	410	6.5
	99	Ø12	2	155	310	2.8
	100	Ø8	39	150	5850	23.1
					Total+10%:	114.7
Pórtico 63	106	Ø12	2	505	1010	9.0
	107	Ø12	2	500	1000	8.9
	108	Ø10	1	365	365	2.3
	109	Ø10	1	300	300	1.8
	110	Ø10	2	500	1000	6.2
	111	Ø10	2	495	990	6.1
	112	Ø10	2	265	530	3.3
	113	Ø10	4	135	540	3.3
	114	Ø6	29	126	3654	8.1
					Total+10%:	53.9
					Ø6:	43.9
					Ø8:	198.3
					Ø10:	230.0
					Ø12:	304.4
					Ø16:	302.8
					Ø20:	102.1
					Total:	1181.5
Pórtico 39	1	Ø16	3	710	2130	33.6
	2	Ø12	2	545	1090	9.7
	3	Ø16	2	500	1000	15.8
	4	Ø12	2	430	860	7.6
	5	Ø12	2	360	720	6.4
	6	Ø12	2	355	710	6.3
	7	Ø10	2	705	1410	8.7
	8	Ø10	2	540	1080	6.7
	9	Ø10	2	355	710	4.4
	10	Ø16	2	600	1200	18.9
	11	Ø16	2	265	530	8.4
	12	Ø12	3	180	540	4.8
	13	Ø12	3	145	435	3.9
	14	Ø8	65	160	10400	41.0
					Total+10%:	193.8
					Ø8:	45.1
					Ø10:	21.8
					Ø12:	42.5
					Ø16:	84.4
					Total:	193.8
Pórtico 40	1	Ø16	3	710	2130	33.6
	2	Ø12	2	545	1090	9.7
	3	Ø12	2	515	1030	9.1
	4	Ø16	2	485	970	15.3
	5	Ø12	2	360	720	6.4
	6	Ø12	2	355	710	6.3
	7	Ø10	2	705	1410	8.7
	8	Ø10	2	540	1080	6.7
	9	Ø10	2	355	710	4.4
	10	Ø16	2	460	920	14.5
	11	Ø16	2	245	490	7.7
	12	Ø12	3	180	540	4.8
	13	Ø12	3	145	435	3.9
	14	Ø8	65	160	10400	41.0
					Total+10%:	189.3
					Ø8:	45.1
					Ø10:	21.8
					Ø12:	44.2
					Ø16:	78.2
					Total:	189.3
Pórtico 41	1	Ø16	2	710	1420	22.4
	2	Ø12	2	545	1090	9.7
	3	Ø10	2	435	870	5.4
	4	Ø10	2	360	720	4.4
	5	Ø10	2	335	670	4.1
	6	Ø10	2	705	1410	8.7
	7	Ø10	2	540	1080	6.7
	8	Ø10	2	355	710	4.4
	9	Ø12	2	585	1170	10.4
	10	Ø12	2	235	470	4.2
	11	Ø12	2	180	360	3.2
	12	Ø12	2	145	290	2.6
	13	Ø8	48	150	7200	28.4
					Total+10%:	126.1
					Ø8:	31.3
					Ø10:	37.0
					Ø12:	33.2
					Ø16:	24.6
					Total:	126.1
Pórtico 42	1	Ø12	2	710	1420	12.6
	2	Ø12	2	570	1140	10.1
	3	Ø12	2	350	700	6.2
	4	Ø10	2	345	690	4.3
	5	Ø12	2	310	620	5.5
	6	Ø10	2	280	560	3.5
	7	Ø10	2	705	1410	8.7
	8	Ø10	2	345	690	4.3
	9	Ø10	2	305	610	3.8
	10	Ø12	3	390	1170	10.4
	11	Ø12	2	180	360	3.2
	12	Ø12	2	100	200	1.8
	13	Ø8	41	150	6150	24.3
					Total+10%:	108.6
					Ø8:	26.8
					Ø10:	27.0
					Ø12:	54.8
					Total:	108.6
Pórtico 47	1	Ø16	3	690	2070	32.7
	2	Ø12	2	505	1010	9.0
	3	Ø10	2	475	950	5.9
	4	Ø16	2	395	790	12.5
	5	Ø12	2	375	750	6.7
	6	Ø10	2	345	690	4.3
	7	Ø10	2	245	490	3.0
	8	Ø10	2	680	1360	8.4
	9	Ø10	2	500	1000	6.2
	10	Ø10	2	370	740	4.6
	11	Ø10	2	235	470	2.9
	12	Ø16	2	460	920	14.5
	13	Ø16	2	435	870	13.7
	14	Ø16	2	270	540	8.5
	15	Ø16	2	240	480	7.6
	16	Ø8	62	150	9300	36.7
					Total+10%:	194.9
					Ø8:	40.3
					Ø10:	38.9
					Ø12:	17.2
					Ø16:	98.5
					Total:	194.9

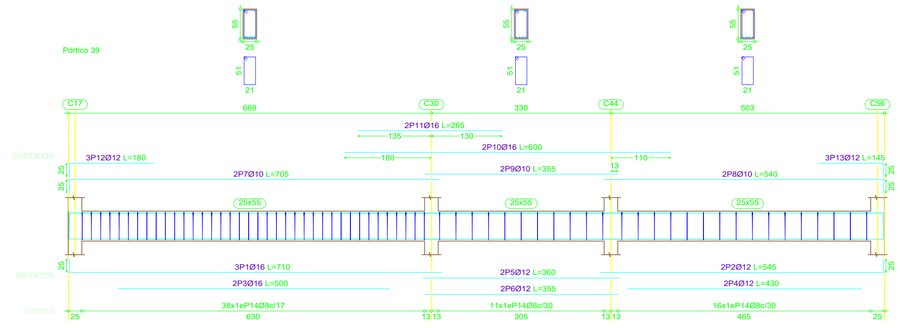


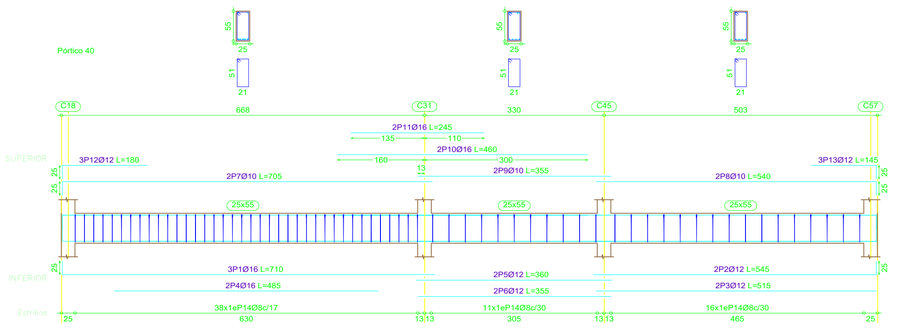


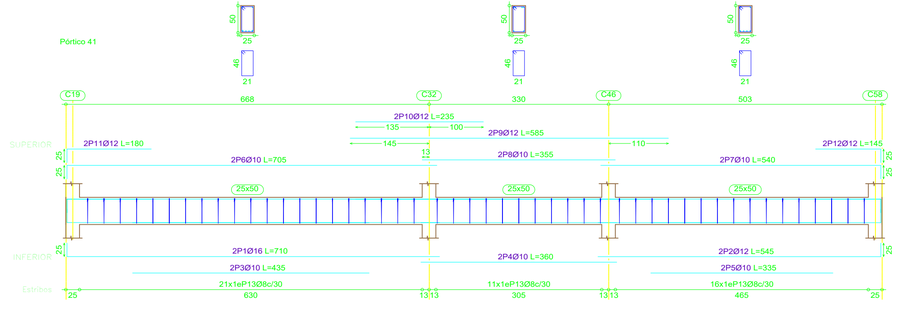
DESPIECE DE VIGAS PRIMERA PLANTA ESCALA 1:60

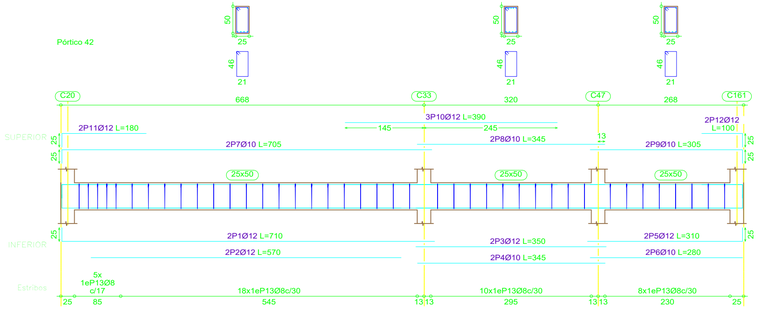


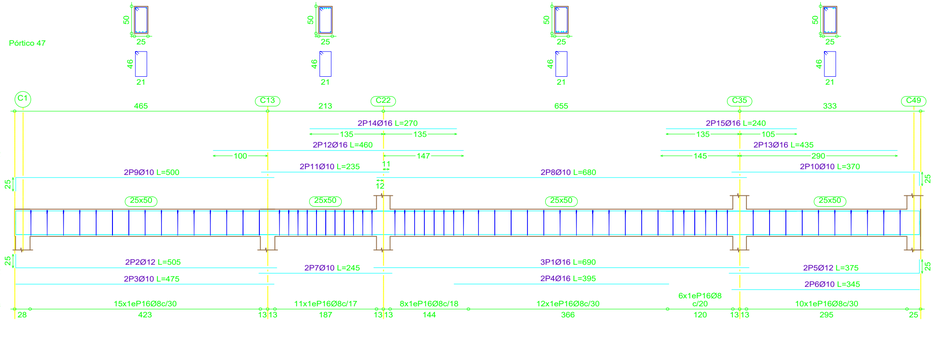








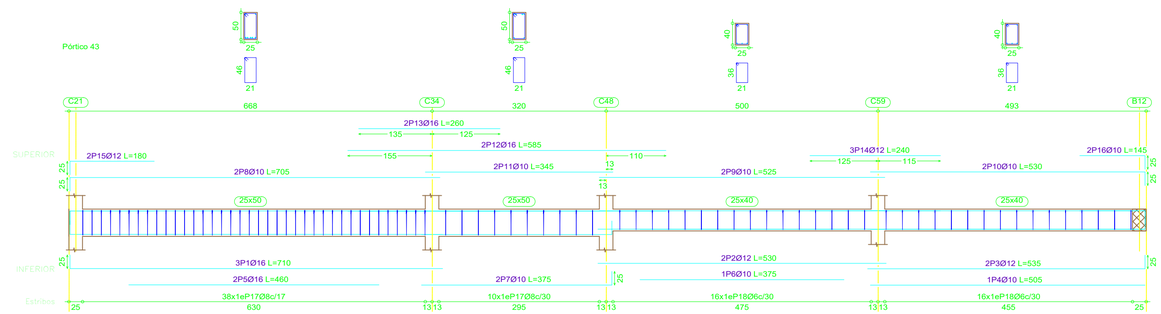


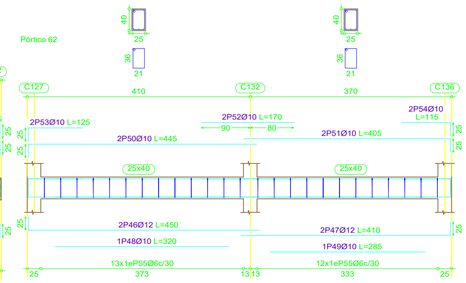


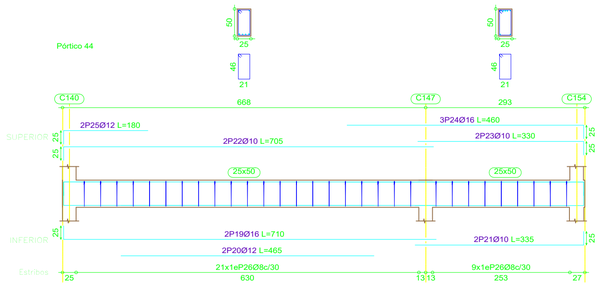
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

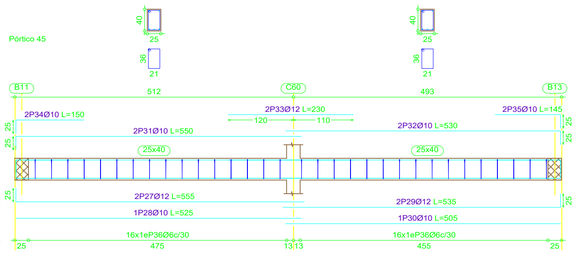
DESPIECE DE VIGAS
PRIMERA PLANTA
ESCALA 1:60

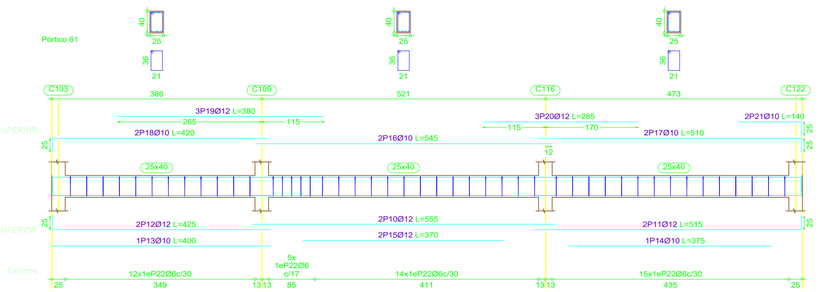
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 43	1	Ø16	3	710	2130	33.6
	2	Ø12	2	530	1060	9.4
	3	Ø12	2	535	1070	9.5
	4	Ø10	1	505	505	3.1
	5	Ø16	2	460	920	14.5
	6	Ø10	1	375	375	2.3
	7	Ø10	2	375	750	4.6
	8	Ø10	2	705	1410	8.7
	9	Ø10	2	525	1050	6.5
	10	Ø10	2	530	1060	6.5
	11	Ø10	2	345	690	4.3
	12	Ø16	2	585	1170	18.5
	13	Ø16	2	260	520	8.2
	14	Ø12	3	240	720	6.4
	15	Ø12	2	180	360	3.2
	16	Ø10	2	145	290	1.8
	17	Ø8	48	150	7200	28.4
	18	Ø6	32	126	4032	8.9
					Total+10%:	196.2
Pórtico 44	19	Ø16	2	710	1420	22.4
	20	Ø12	2	465	930	8.3
	21	Ø10	2	335	670	4.1
	22	Ø10	2	705	1410	8.7
	23	Ø10	2	330	660	4.1
	24	Ø16	3	460	1380	21.8
	25	Ø12	2	180	360	3.2
	26	Ø8	30	150	4500	17.8
					Total+10%:	99.4
Pórtico 45	27	Ø12	2	555	1110	9.9
	28	Ø10	1	525	525	3.2
	29	Ø12	2	535	1070	9.5
	30	Ø10	1	505	505	3.1
	31	Ø10	2	550	1100	6.8
	32	Ø10	2	530	1060	6.5
	33	Ø12	2	230	460	4.1
	34	Ø10	2	150	300	1.8
	35	Ø10	2	145	290	1.8
	36	Ø6	32	126	4032	8.9
					Total+10%:	61.2
Pórtico 46	37	Ø20	2	715	1430	35.3
	38	Ø16	2	500	1000	15.8
	39	Ø10	2	335	670	4.1
	40	Ø10	2	705	1410	8.7
	41	Ø10	2	330	660	4.1
	42	Ø16	3	470	1410	22.3
	43	Ø16	2	255	510	8.0
	44	Ø12	3	180	540	4.8
	45	Ø8	39	160	6240	24.6
					Total+10%:	140.5
Pórtico 62	46	Ø12	2	450	900	8.0
	47	Ø12	2	410	820	7.3
	48	Ø10	1	320	320	2.0
	49	Ø10	1	285	285	1.8
	50	Ø10	2	445	890	5.5
	51	Ø10	2	405	810	5.0
	52	Ø10	2	170	340	2.1
	53	Ø10	2	125	250	1.5
	54	Ø10	2	115	230	1.4
	55	Ø6	25	126	3150	7.0
					Total+10%:	45.8
					Ø6:	27.2
					Ø8:	77.9
					Ø10:	125.6
					Ø12:	92.0
					Ø16:	181.6
					Ø20:	38.8
					Total:	543.1
Pórtico 48=Pórtico 54	1	Ø16	3	710	2130	33.6
	2	Ø16	2	455	910	14.4
	3	Ø10	2	335	670	4.1
	4	Ø10	2	705	1410	8.7
	5	Ø10	2	330	660	4.1
	6	Ø16	2	465	930	14.7
	7	Ø16	2	270	540	8.5
	8	Ø12	2	180	360	3.2
	9	Ø8	47	150	7050	27.8
					Total+10%:	131.0
					(x2):	262.0
Pórtico 61	10	Ø12	2	555	1110	9.9
	11	Ø12	2	515	1030	9.1
	12	Ø12	2	425	850	7.5
	13	Ø10	1	400	400	2.5
	14	Ø10	1	375	375	2.3
	15	Ø12	2	370	740	6.6
	16	Ø10	2	545	1090	6.7
	17	Ø10	2	510	1020	6.3
	18	Ø10	2	420	840	5.2
	19	Ø12	3	380	1140	10.1
	20	Ø12	3	285	855	7.6
	21	Ø10	2	140	280	1.7
	22	Ø6	46	126	5796	12.9
					Total+10%:	97.2
					Ø6:	14.1
					Ø8:	61.2
					Ø10:	64.4
					Ø12:	62.9
					Ø16:	156.6
					Total:	359.2
Pórtico 49	1	Ø16	2	695	1390	21.9
	2	Ø16	3	715	2145	33.9
	3	Ø16	2	535	1070	16.9
	4	Ø16	1	435	435	6.9
	5	Ø10	2	375	750	4.6
	6	Ø10	2	710	1420	8.8
	7	Ø10	2	685	1370	8.4
	8	Ø10	2	370	740	4.6
	9	Ø16	2	505	1010	15.9
	10	Ø20	2	410	820	20.2
	11	Ø16	2	270	540	8.5
	12	Ø12	3	185	555	4.9
	13	Ø8	86	160	13760	54.3
					Total+10%:	230.8
					Ø8:	59.7
					Ø10:	29.0
					Ø12:	5.4
					Ø16:	114.4
					Ø20:	22.3
					Total:	230.8
Pórtico 50	1	Ø16	3	710	2130	33.6
	2	Ø16	2	460	920	14.5
	3	Ø10	2	335	670	4.1
	4	Ø10	2	705	1410	8.7
	5	Ø10	2	330	660	4.1
	6	Ø16	2	470	940	14.8
	7	Ø16	2	275	550	8.7
	8	Ø12	3	180	540	4.8
	9	Ø8	47	160	7520	29.7
					Total+10%:	135.3
Pórtico 60	10	Ø16	2	770	1540	24.3
	11	Ø12	1	480	480	4.3
	12	Ø12	2	250	500	4.4
	13	Ø10	2	220	440	2.7
	14	Ø10	2	980	1960	12.1
	15	Ø12	2	390	780	6.9
	16	Ø12	2	250	500	4.4
	17	Ø12	2	195	390	3.5
	18	Ø8	30	150	4500	17.8
					Total+10%:	88.4
					Ø8:	52.2
					Ø10:	34.9
					Ø12:	31.1
					Ø16:	105.5
					Total:	223.7

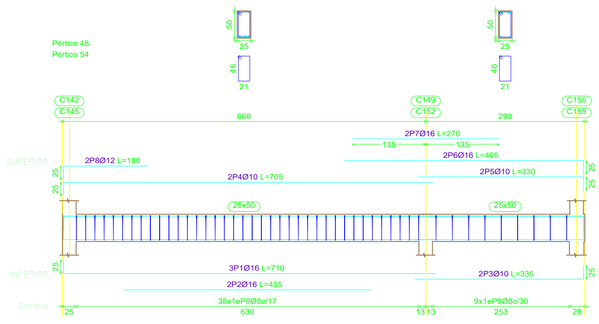


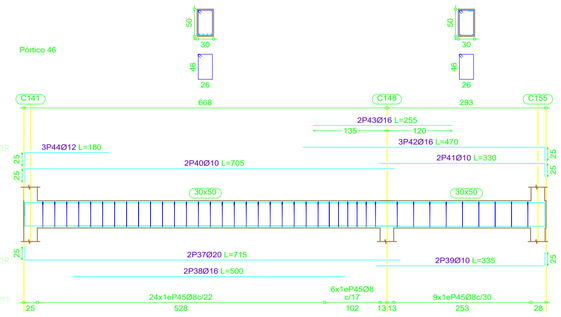


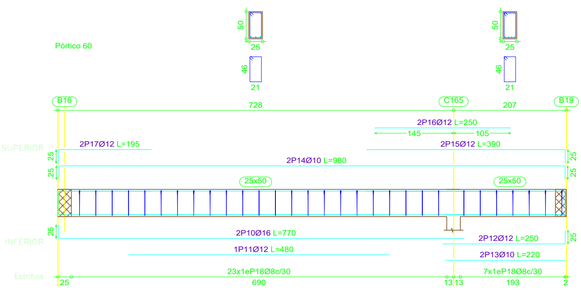


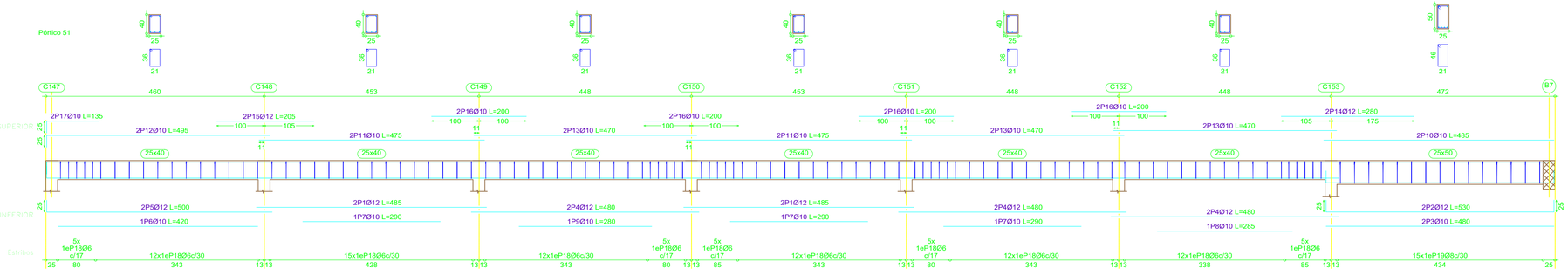


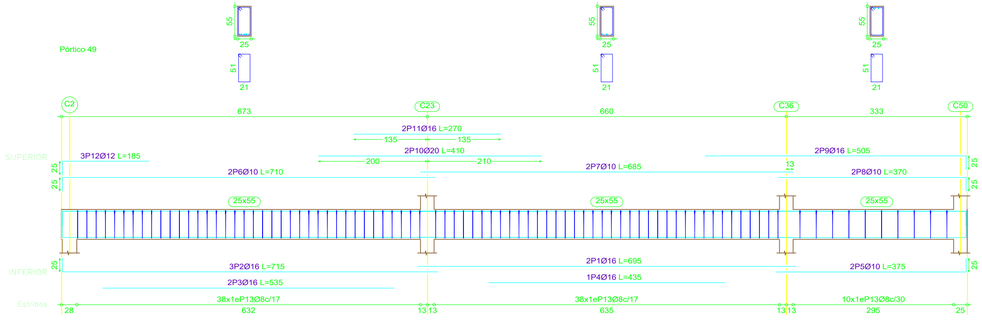


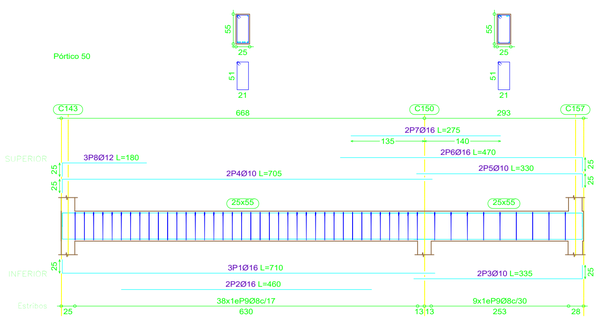












UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
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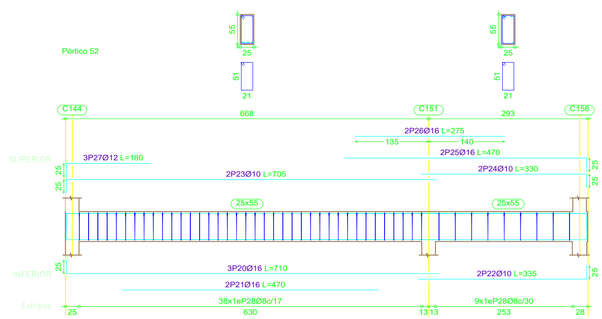
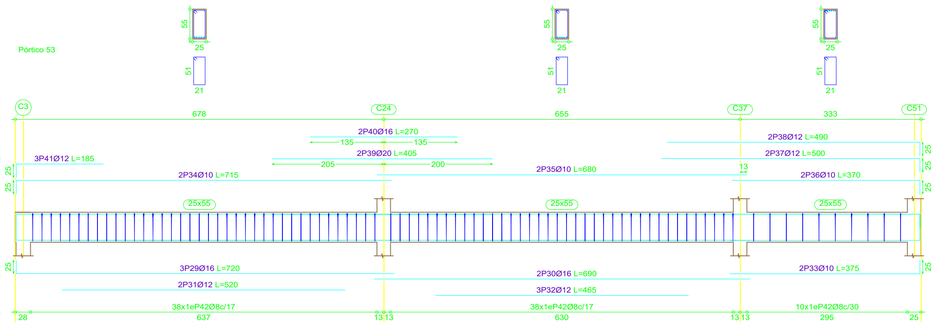
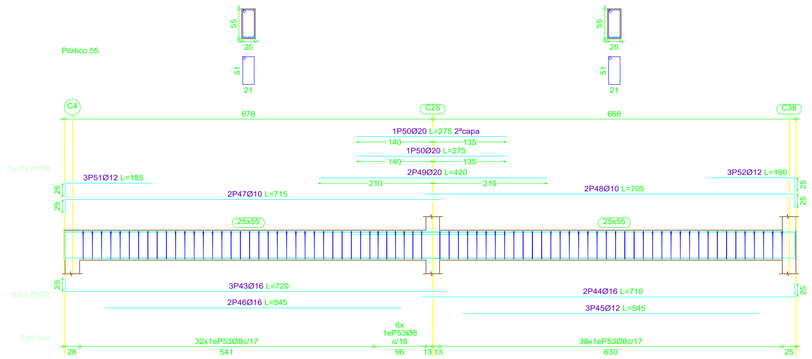
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

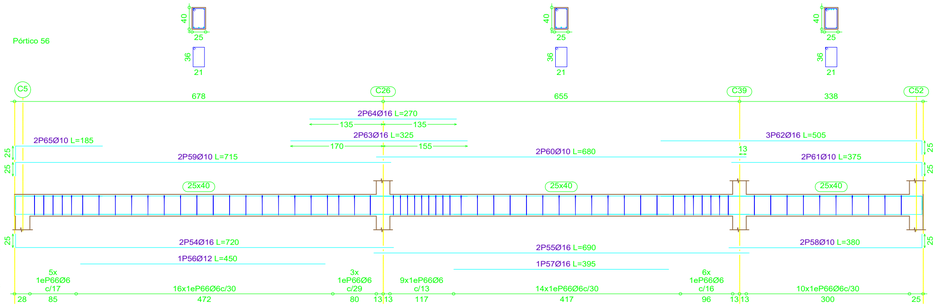
DESPIECE DE VIGAS
PRIMERA PLANTA
ESCALA 1:60

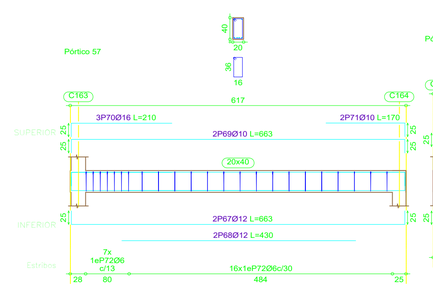
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 51	1	Ø12	4	485	1940	17.2
	2	Ø12	2	530	1060	9.4
	3	Ø10	2	480	960	5.9
	4	Ø12	6	480	2880	25.6
	5	Ø12	2	500	1000	8.9
	6	Ø10	1	420	420	2.6
	7	Ø10	3	290	870	5.4
	8	Ø10	1	285	285	1.8
	9	Ø10	1	280	280	1.7
	10	Ø10	2	485	970	6.0
	11	Ø10	4	475	1900	11.7
	12	Ø10	2	495	990	6.1
	13	Ø10	6	470	2820	17.4
	14	Ø12	2	280	560	5.0
	15	Ø12	2	205	410	3.6
	16	Ø10	8	200	1600	9.9
	17	Ø10	2	135	270	1.7
	18	Ø6	100	126	12600	28.0
	19	Ø8	15	150	2250	8.9
					Total+10%:	194.5
Pórtico 52	20	Ø16	3	710	2130	33.6
	21	Ø16	2	470	940	14.8
	22	Ø10	2	335	670	4.1
	23	Ø10	2	705	1410	8.7
	24	Ø10	2	330	660	4.1
	25	Ø16	2	470	940	14.8
	26	Ø16	2	275	550	8.7
	27	Ø12	3	180	540	4.8
	28	Ø8	47	160	7520	29.7
					Total+10%:	135.6
Pórtico 53	29	Ø16	3	720	2160	34.1
	30	Ø16	2	690	1380	21.8
	31	Ø12	2	520	1040	9.2
	32	Ø12	3	465	1395	12.4
	33	Ø10	2	375	750	4.6
	34	Ø10	2	715	1430	8.8
	35	Ø10	2	680	1360	8.4
	36	Ø10	2	370	740	4.6
	37	Ø12	2	500	1000	8.9
	38	Ø12	2	490	980	8.7
	39	Ø20	2	405	810	20.0
	40	Ø16	2	270	540	8.5
	41	Ø12	3	185	555	4.9
	42	Ø8	86	160	13760	54.3
					Total+10%:	230.1
Pórtico 55	43	Ø16	3	720	2160	34.1
	44	Ø16	2	710	1420	22.4
	45	Ø12	3	545	1635	14.5
	46	Ø16	2	545	1090	17.2
	47	Ø10	2	715	1430	8.8
	48	Ø10	2	705	1410	8.7
	49	Ø20	2	420	840	20.7
	50	Ø20	2	275	550	13.6
	51	Ø12	3	185	555	4.9
	52	Ø12	3	180	540	4.8
	53	Ø8	76	160	12160	48.0
					Total+10%:	217.5
Pórtico 56	54	Ø16	2	720	1440	22.7
	55	Ø16	2	690	1380	21.8
	56	Ø12	1	450	450	4.0
	57	Ø16	1	395	395	6.2
	58	Ø10	2	380	760	4.7
	59	Ø10	2	715	1430	8.8
	60	Ø10	2	680	1360	8.4
	61	Ø10	2	375	750	4.6
	62	Ø16	3	505	1515	23.9
	63	Ø16	2	325	650	10.3
	64	Ø16	2	270	540	8.5
	65	Ø10	2	185	370	2.3
	66	Ø6	63	126	7938	17.6
					Total+10%:	158.2
Pórtico 57	67	Ø12	2	663	1326	11.8
	68	Ø12	2	430	860	7.6
	69	Ø10	2	663	1326	8.2
	70	Ø16	3	210	630	9.9
	71	Ø10	2	170	340	2.1
	72	Ø6	23	116	2668	5.9
					Total+10%:	50.1
Pórtico 58	73	Ø12	2	555	1110	9.9
	74	Ø12	2	515	1030	9.1
	75	Ø12	2	425	850	7.5
	76	Ø10	1	400	400	2.5
	77	Ø12	2	375	750	6.7
	78	Ø10	1	375	375	2.3
	79	Ø10	2	545	1090	6.7
	80	Ø10	2	510	1020	6.3
	81	Ø10	2	420	840	5.2
	82	Ø12	3	380	1140	10.1
	83	Ø16	2	255	510	8.0
	84	Ø10	2	140	280	1.7
	85	Ø6	44	126	5544	12.3
					Total+10%:	97.1
Pórtico 59	86	Ø16	2	980	1960	30.9
	87	Ø16	2	620	1240	19.6
	88	Ø10	2	980	1960	12.1
	89	Ø16	2	240	480	7.6
	90	Ø12	3	240	720	6.4
	91	Ø16	2	220	440	6.9
	92	Ø8	30	160	4800	18.9
					Total+10%:	112.6
					Ø6:	70.2
					Ø8:	175.6
					Ø10:	227.6
					Ø12:	237.6
					Ø16:	424.9
					Ø20:	59.8
					Total:	1195.7
Pórtico 64	1	Ø12	2	495	990	8.8
	2	Ø12	2	515	1030	9.1
	3	Ø12	2	425	850	7.5
	4	Ø10	1	375	375	2.3
	5	Ø10	1	300	300	1.8
	6	Ø10	1	280	280	1.7
	7	Ø10	2	95	190	1.2
	8	Ø10	2	485	970	6.0
	9	Ø10	2	510	1020	6.3
	10	Ø10	2	420	840	5.2
	11	Ø10	2	85	170	1.0
	12	Ø10	2	250	500	3.1
	13	Ø10	2	210	420	2.6
	14	Ø10	2	140	280	1.7
	15	Ø10	2	120	240	1.5
	16	Ø6	45	126	5670	12.6
					Total+10%:	79.6
					Ø6:	13.8
					Ø10:	37.9
					Ø12:	27.9
					Total:	79.6
Pórtico 65	1	Ø10	2	495	990	6.1
	2	Ø12	2	505	1010	9.0
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	460	920	8.2
	5	Ø10	1	370	370	2.3
	6	Ø10	1	345	345	2.1
	7	Ø10	1	315	315	1.9
	8	Ø10	2	490	980	6.0
	9	Ø10	2	500	1000	6.2
	10	Ø10	2	495	990	6.1
	11	Ø10	2	450	900	5.5
	12	Ø10	2	660	1320	8.1
	13	Ø10	3	200	600	5.3
	14	Ø10	2	140	280	1.7
	15	Ø10	2	135	270	1.7
	16	Ø6	58	126	7308	16.2
					Total+10%:	104.8
Pórtico 66	17	Ø12	2	455	910	8.1
	18	Ø12	2	410	820	7.3
	19	Ø10	1	325	325	2.0
	20	Ø10	1	295	295	1.8
	21	Ø10	2	450	900	5.5
	22	Ø10	2	405	810	5.0
	23	Ø10	2	170	340	2.1
	24	Ø10	2	125	250	1.5
	25	Ø10	2	115	230	1.4
	26	Ø6	24	126	3024	6.7
					Total+10%:	45.5
					Ø6:	25.1
					Ø10:	73.8

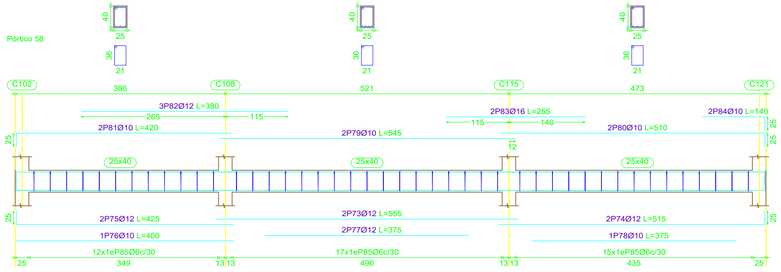


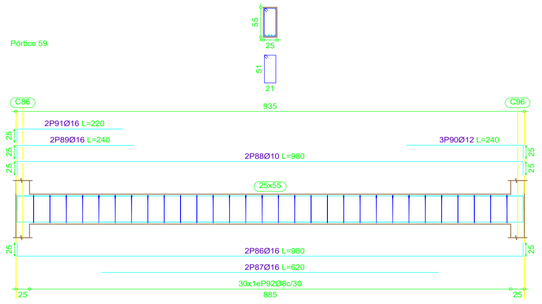


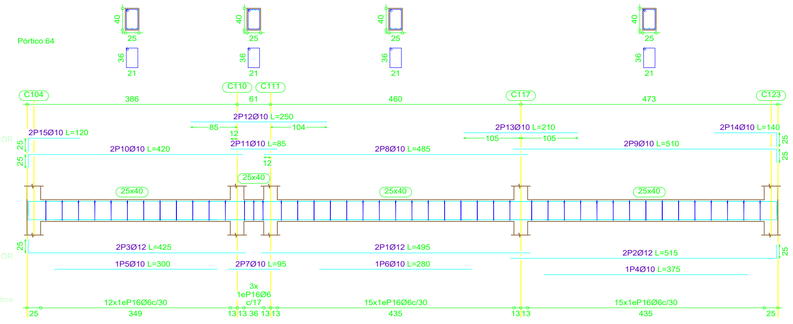


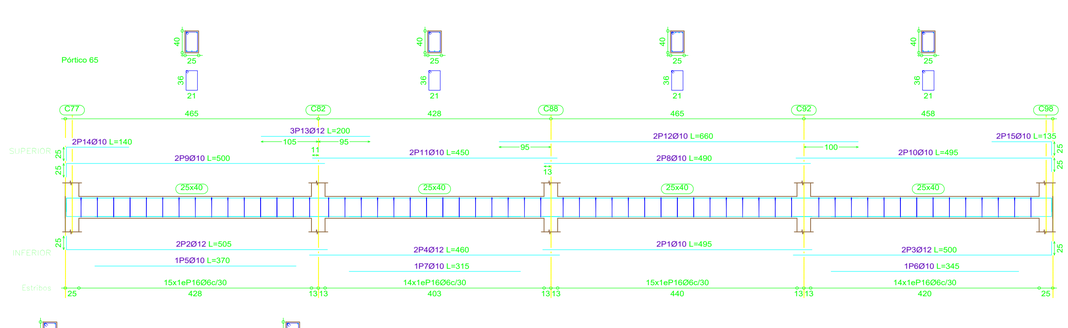


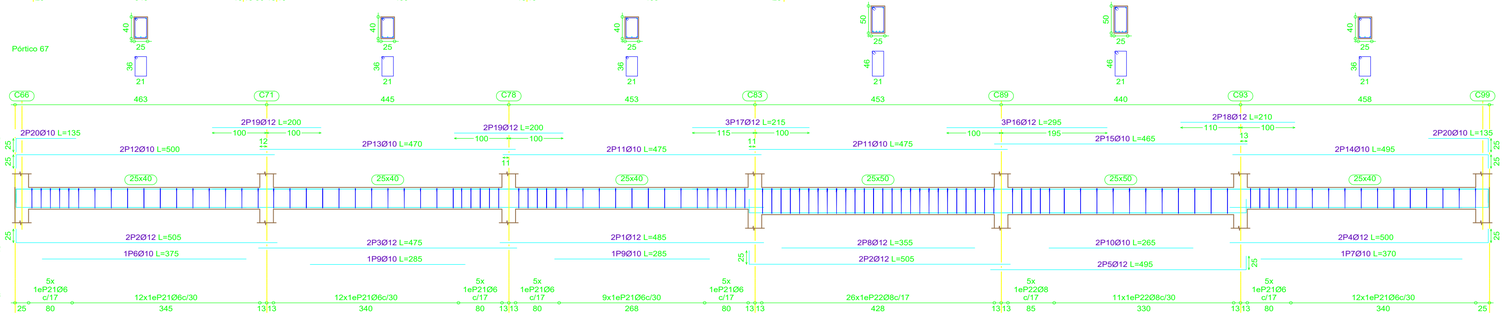








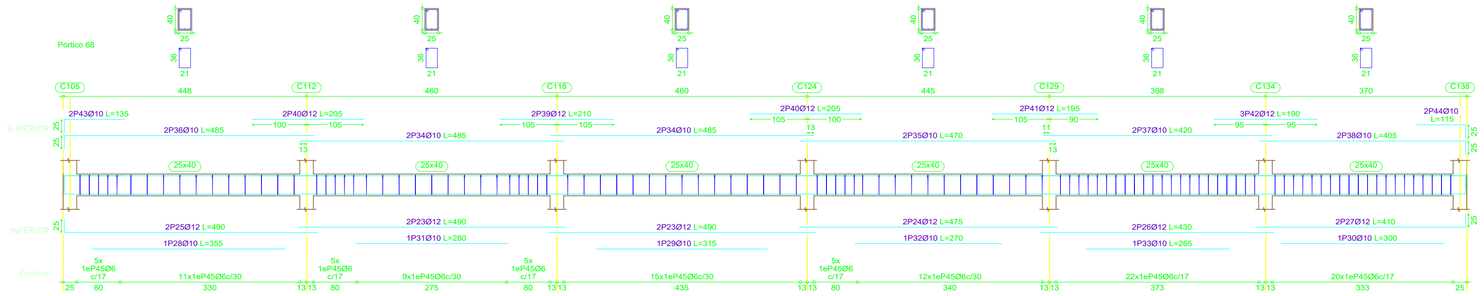




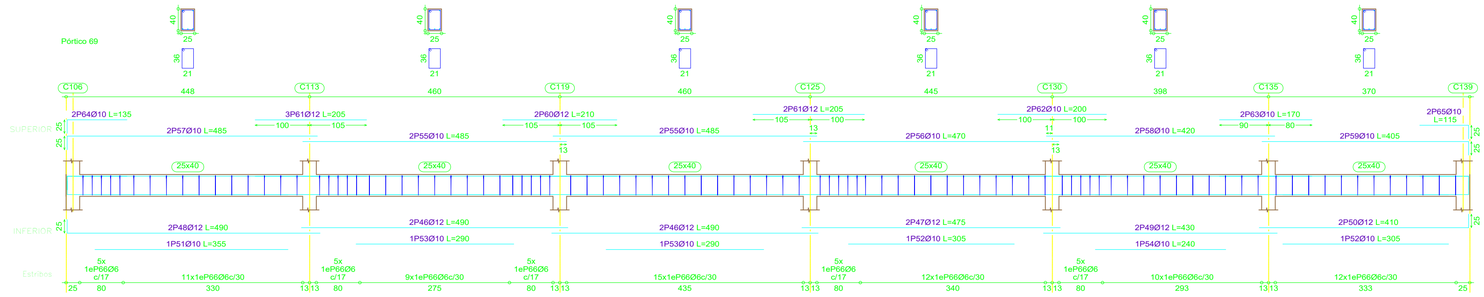
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS PRIMERA PLANTA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

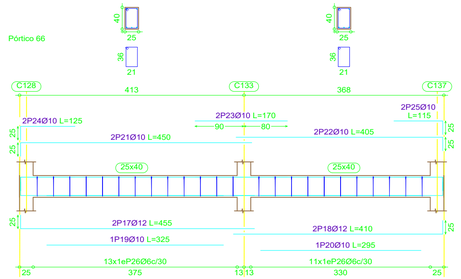
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 67	1	Ø12	2	485	970	8.6
	2	Ø12	4	505	2020	17.9
	3	Ø12	2	475	950	8.4
	4	Ø12	2	500	1000	8.9
	5	Ø12	2	495	990	8.8
	6	Ø10	1	375	375	2.3
	7	Ø10	1	370	370	2.3
	8	Ø12	2	355	710	6.3
	9	Ø10	2	285	570	3.5
	10	Ø10	2	265	530	3.3
	11	Ø10	4	475	1900	11.7
	12	Ø10	2	500	1000	6.2
	13	Ø10	2	470	940	5.8
	14	Ø10	2	495	990	6.1
	15	Ø10	2	465	930	5.7
	16	Ø12	3	295	885	7.9
	17	Ø12	3	215	645	5.7
	18	Ø12	2	210	420	3.7
	19	Ø12	4	200	800	7.1
	20	Ø10	4	135	540	3.3
	21	Ø6	70	126	8820	19.6
	22	Ø8	42	150	6300	24.9
				Total+10%:		195.8
Pórtico 68	23	Ø12	4	490	1960	17.4
	24	Ø12	2	475	950	8.4
	25	Ø12	2	490	980	8.7
	26	Ø12	2	430	860	7.6
	27	Ø12	2	410	820	7.3
	28	Ø10	1	355	355	2.2
	29	Ø10	1	315	315	1.9
	30	Ø10	1	300	300	1.8
	31	Ø10	1	280	280	1.7
	32	Ø10	1	270	270	1.7
	33	Ø10	1	265	265	1.6
	34	Ø10	4	485	1940	12.0
	35	Ø10	2	470	940	5.8
	36	Ø10	2	485	970	6.0
	37	Ø10	2	420	840	5.2
	38	Ø10	2	405	810	5.0
	39	Ø12	2	210	420	3.7
	40	Ø12	4	205	820	7.3
	41	Ø12	2	195	390	3.5
	42	Ø12	3	190	570	5.1
	43	Ø10	2	135	270	1.7
	44	Ø10	2	115	230	1.4
	45	Ø6	109	126	13734	30.5
				Total+10%:		162.3
Pórtico 69	46	Ø12	4	490	1960	17.4
	47	Ø12	2	475	950	8.4
	48	Ø12	2	490	980	8.7
	49	Ø12	2	430	860	7.6
	50	Ø12	2	410	820	7.3
	51	Ø10	1	355	355	2.2
	52	Ø10	2	305	610	3.8
	53	Ø10	2	290	580	3.6
	54	Ø10	1	240	240	1.5
	55	Ø10	4	485	1940	12.0
	56	Ø10	2	470	940	5.8
	57	Ø10	2	485	970	6.0
	58	Ø10	2	420	840	5.2
	59	Ø10	2	405	810	5.0
	60	Ø12	2	210	420	3.7
	61	Ø12	5	205	1025	9.1
	62	Ø10	2	200	400	2.5
	63	Ø10	2	170	340	2.1
	64	Ø10	2	135	270	1.7
	65	Ø10	2	115	230	1.4
	66	Ø6	94	126	11844	26.3
				Total+10%:		155.4
Pórtico 70	67	Ø12	2	485	970	8.6
	68	Ø12	4	480	1920	17.0
	69	Ø12	2	505	1010	9.0
	70	Ø12	2	475	950	8.4
	71	Ø12	2	500	1000	8.9
	72	Ø10	1	375	375	2.3
	73	Ø10	1	360	360	2.2
	74	Ø10	1	300	300	1.8
	75	Ø10	1	290	290	1.8
	76	Ø10	1	275	275	1.7
	77	Ø10	1	270	270	1.7
	78	Ø10	2	475	950	5.9
	79	Ø10	2	500	1000	6.2
	80	Ø10	6	470	2820	17.4
	81	Ø10	2	495	990	6.1
	82	Ø12	11	200	2200	19.5
	83	Ø10	4	135	540	3.3
	84	Ø6	100	126	12600	28.0
				Total+10%:		164.8
				Ø6:		114.8
				Ø8:		27.4
				Ø10:		221.7
				Ø12:		314.4
				Total:		678.3
Pórtico 71	1	Ø12	2	485	970	8.6
	2	Ø12	4	480	1920	17.0
	3	Ø12	2	505	1010	9.0
	4	Ø12	2	475	950	8.4
	5	Ø12	2	500	1000	8.9
	6	Ø10	1	370	370	2.3
	7	Ø10	1	360	360	2.2
	8	Ø10	1	275	275	1.7
	9	Ø10	3	270	810	5.0
	10	Ø10	2	475	950	5.9
	11	Ø10	2	500	1000	6.2
	12	Ø10	6	470	2820	17.4
	13	Ø10	2	495	990	6.1
	14	Ø10	10	200	2000	12.3
	15	Ø10	4	135	540	3.3
	16	Ø6	87	126	10962	24.3
				Total+10%:		152.5
Pórtico 72	17	Ø12	4	490	1960	17.4
	18	Ø12	2	500	1000	8.9
	19	Ø12	2	490	980	8.7
	20	Ø10	1	360	360	2.2
	21	Ø10	1	295	295	1.8
	22	Ø10	2	280	560	3.5
	23	Ø10	4	485	1940	12.0
	24	Ø10	2	495	990	6.1
	25	Ø10	2	485	970	6.0
	26	Ø10	2	210	420	2.6
	27	Ø10	4	205	820	5.1
	28	Ø10	4	135	540	3.3
	29	Ø6	58	126	7308	16.2
				Total+10%:		103.2
Pórtico 73	30	Ø12	2	505	1010	9.0
	31	Ø12	2	500	1000	8.9
	32	Ø10	1	370	370	2.3
	33	Ø10	1	365	365	2.3
	34	Ø10	2	500	1000	6.2
	35	Ø10	2	495	990	6.1
	36	Ø12	3	200	600	5.3
	37	Ø10	4	135	540	3.3
	38	Ø6	29	126	3654	8.1
				Total+10%:		56.7
				Ø6:		53.6
				Ø10:		137.7
				Ø12:		121.1
				Total:		312.4

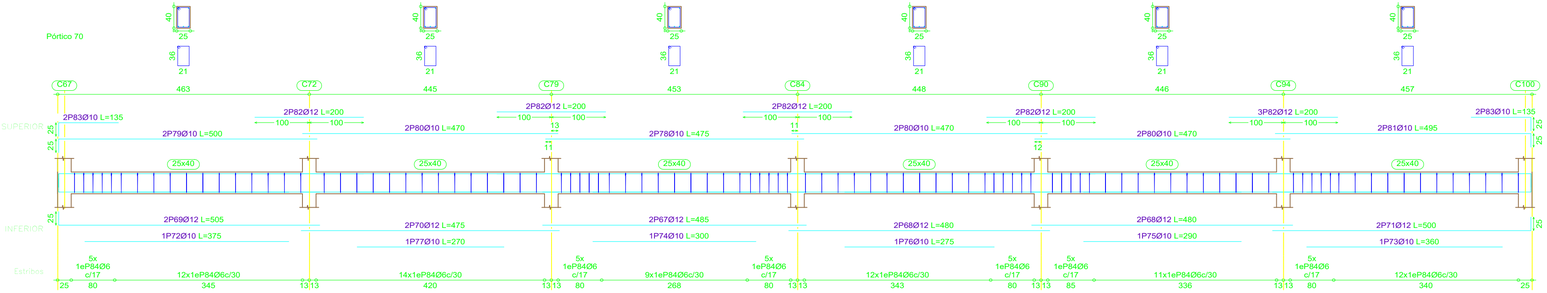
Resumen Acero PRIMERA PLANTA Vigas		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	2859.7	698	
	Ø8	3313.7	1438	
	Ø10	3730.1	2530	
	Ø12	2543.5	2484	
	Ø16	1589.0	2759	
	Ø20	152.2	413	10322

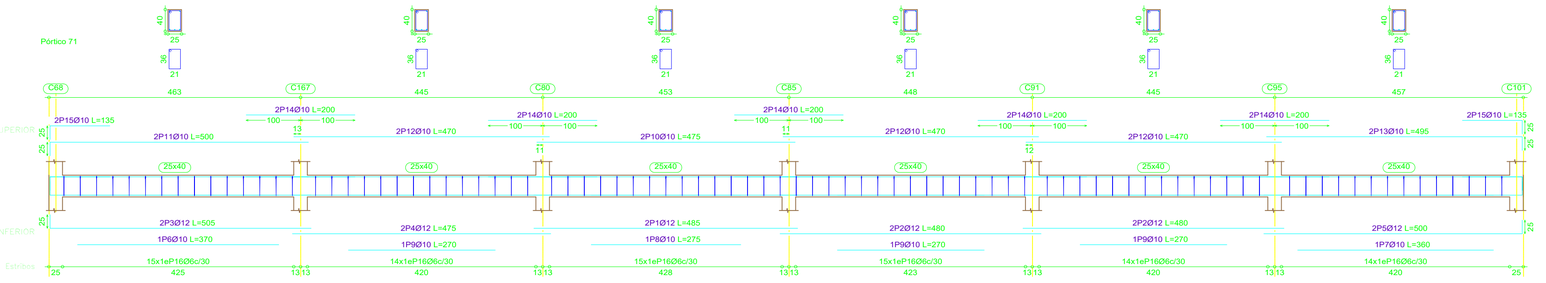


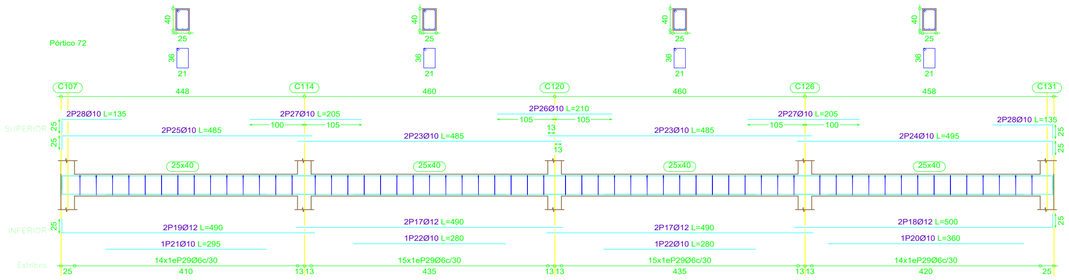
DESPIECE DE VIGAS PRIMERA PLANTA ESCALA 1:60

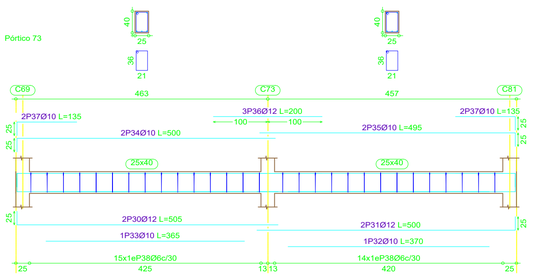












UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

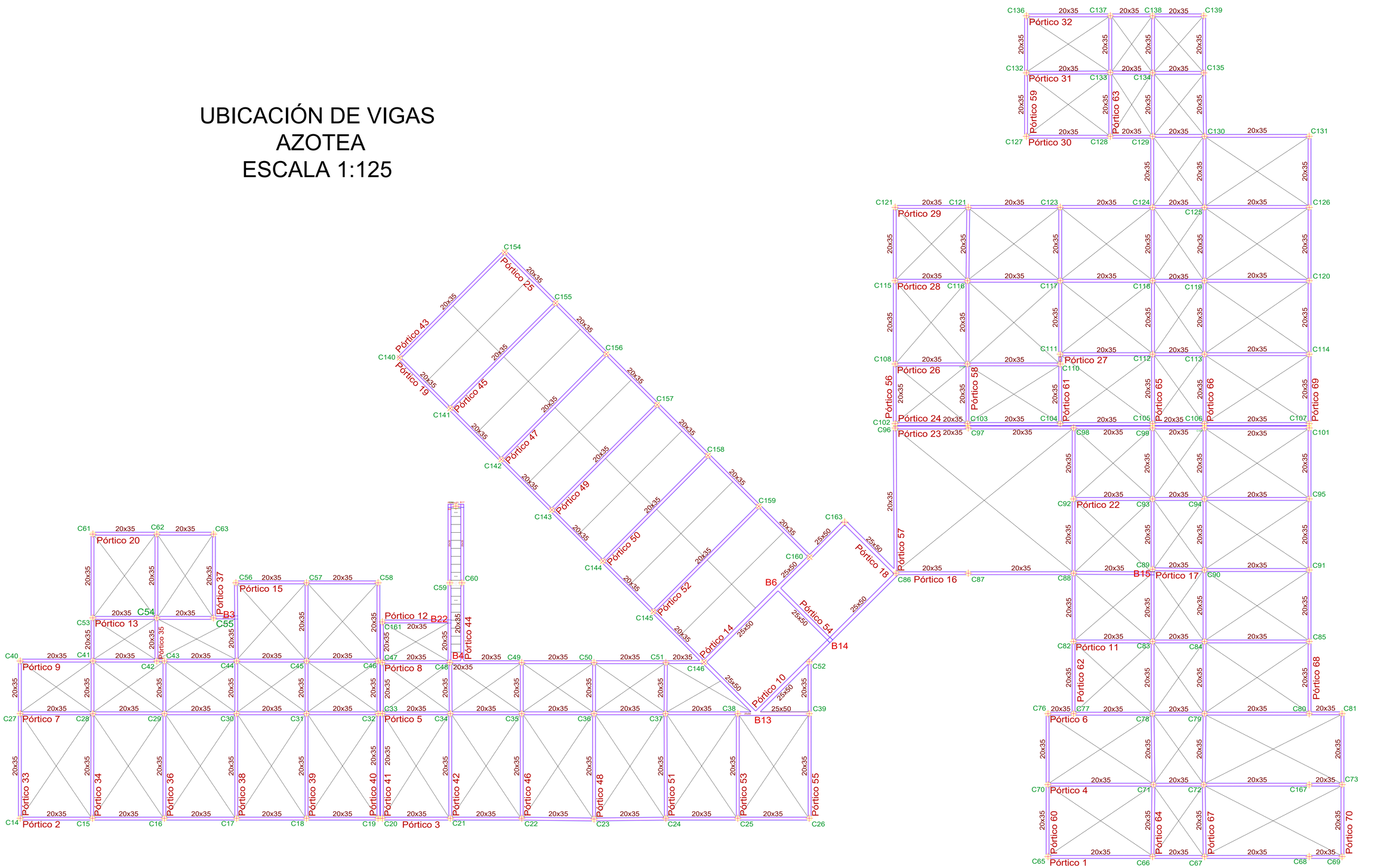
DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV - 502 PROYECTO DE GRADO II

VIGAS PRIMERA PLANTA

DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	23/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

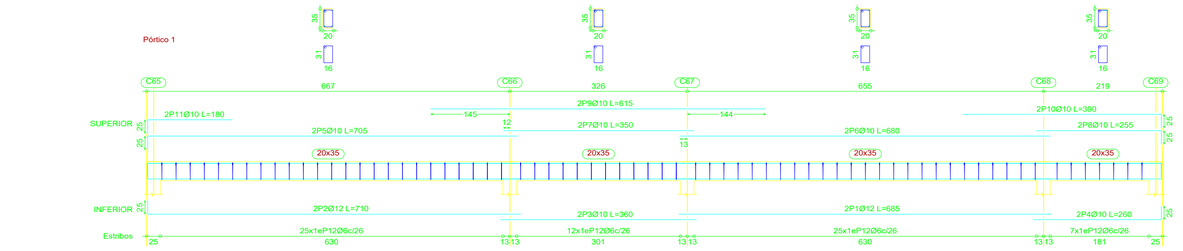
UBICACIÓN DE VIGAS
AZOTEA
ESCALA 1:125

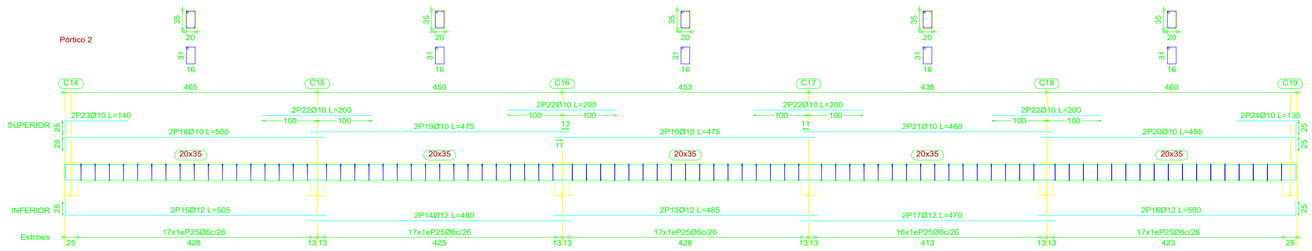


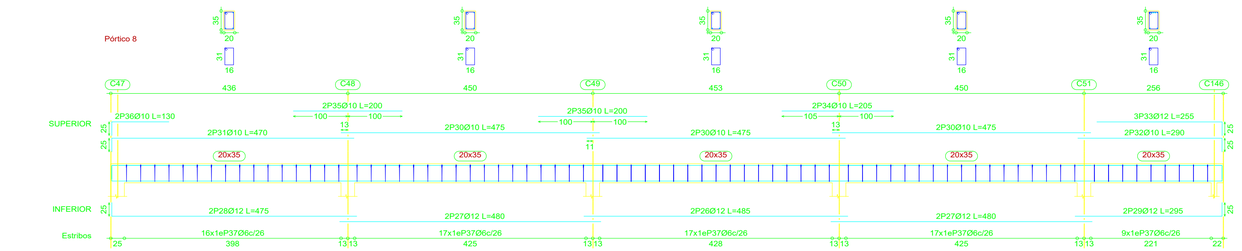
	UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"
	DEPARTAMENTO DE ESTRUCTURAS
	MATERIA: CIV - 502 PROYECTO DE GRADO II
	UBICACIÓN DE VIGAS AZOTEA
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

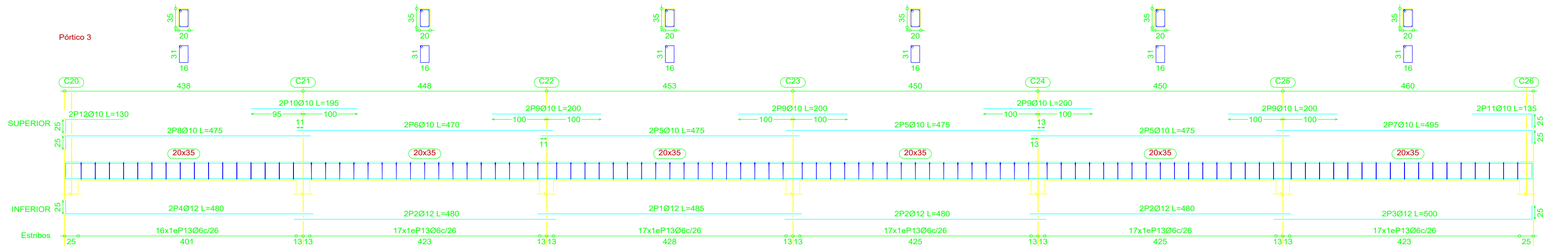
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 1	1	Ø12	2	685	1370	12.2
	2	Ø12	2	710	1420	12.6
	3	Ø10	2	360	720	4.4
	4	Ø10	2	260	520	3.2
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	680	1360	8.4
	7	Ø10	2	350	700	4.3
	8	Ø10	2	255	510	3.1
	9	Ø10	2	615	1230	7.6
	10	Ø10	2	390	780	4.8
	11	Ø10	2	180	360	2.2
	12	Ø6	69	106	7314	16.2
					Total+10%:	96.5
Pórtico 2	13	Ø12	2	485	970	8.6
	14	Ø12	2	480	960	8.5
	15	Ø12	2	505	1010	9.0
	16	Ø12	2	500	1000	8.9
	17	Ø12	2	470	940	8.3
	18	Ø10	2	500	1000	6.2
	19	Ø10	4	475	1900	11.7
	20	Ø10	2	495	990	6.1
	21	Ø10	2	460	920	5.7
	22	Ø10	8	200	1600	9.9
	23	Ø10	2	140	280	1.7
	24	Ø10	2	135	270	1.7
	25	Ø6	84	106	8904	19.8
					Total+10%:	116.7
Pórtico 8	26	Ø12	2	485	970	8.6
	27	Ø12	4	480	1920	17.0
	28	Ø12	2	475	950	8.4
	29	Ø12	2	295	590	5.2
	30	Ø10	6	475	2850	17.6
	31	Ø10	2	470	940	5.8
	32	Ø10	2	290	580	3.6
	33	Ø12	3	255	765	6.8
	34	Ø10	2	205	410	2.5
	35	Ø10	4	200	800	4.9
	36	Ø10	2	130	260	1.6
	37	Ø6	76	106	8056	17.9
					Total+10%:	109.9
					Ø6:	59.3
					Ø10:	138.3
					Ø12:	125.5
					Total:	323.1

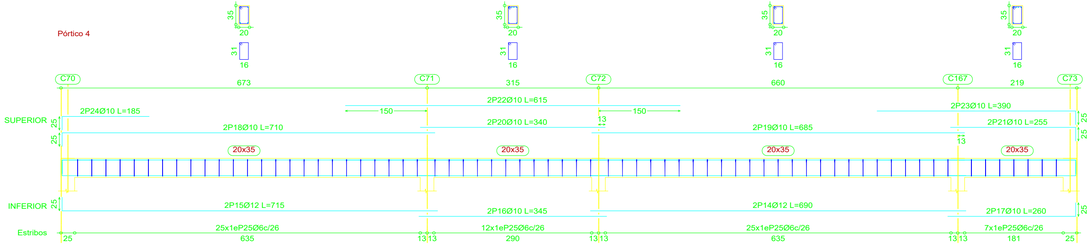
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 3	1	Ø12	2	485	970	8.6
	2	Ø12	6	480	2880	25.6
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	480	960	8.5
	5	Ø10	6	475	2850	17.6
	6	Ø10	2	470	940	5.8
	7	Ø10	2	495	990	6.1
	8	Ø10	2	475	950	5.9
	9	Ø10	8	200	1600	9.9
	10	Ø10	2	195	390	2.4
	11	Ø10	2	135	270	1.7
	12	Ø10	2	130	260	1.6
	13	Ø6	101	106	10706	23.8
					Total+10%:	139.0
Pórtico 4	14	Ø12	2	690	1380	12.3
	15	Ø12	2	715	1430	12.7
	16	Ø10	2	345	690	4.3
	17	Ø10	2	260	520	3.2
	18	Ø10	2	710	1420	8.8
	19	Ø10	2	685	1370	8.4
	20	Ø10	2	340	680	4.2
	21	Ø10	2	255	510	3.1
	22	Ø10	2	615	1230	7.6
	23	Ø10	2	390	780	4.8
	24	Ø10	2	185	370	2.3
	25	Ø6	69	106	7314	16.2
					Total+10%:	96.7
Pórtico 5	26	Ø12	4	485	1940	17.2
	27	Ø12	4	480	1920	17.0
	28	Ø12	2	518	1036	9.2
	29	Ø12	2	480	960	8.5
	30	Ø10	2	380	760	4.7
	31	Ø10	4	475	1900	11.7
	32	Ø10	4	470	1880	11.6
	33	Ø10	2	495	990	6.1
	34	Ø10	2	475	950	5.9
	35	Ø12	2	235	470	4.2
	36	Ø10	6	200	1200	7.4
	37	Ø10	2	195	390	2.4
	38	Ø12	2	135	270	2.4
	39	Ø10	2	130	260	1.6
	40	Ø6	84	106	8904	19.8
	41	Ø8	15	150	2250	8.9
					Total+10%:	152.5
Pórtico 6	42	Ø12	2	685	1370	12.2
	43	Ø12	2	525	1050	9.3
	44	Ø10	2	360	720	4.4
	45	Ø10	2	260	520	3.2
	46	Ø12	2	215	430	3.8
	47	Ø10	2	680	1360	8.4
	48	Ø10	2	520	1040	6.4
	49	Ø10	2	350	700	4.3
	50	Ø10	2	255	510	3.1
	51	Ø10	2	210	420	2.6
	52	Ø10	2	580	1160	7.2
	53	Ø10	2	390	780	4.8
	54	Ø10	2	220	440	2.7
	55	Ø6	69	106	7314	16.2
					Total+10%:	97.5
Pórtico 7	56	Ø12	2	485	970	8.6
	57	Ø12	2	510	1020	9.1
	58	Ø12	2	480	960	8.5
	59	Ø12	2	500	1000	8.9
	60	Ø12	2	470	940	8.3
	61	Ø10	2	505	1010	6.2
	62	Ø10	2	475	950	5.9
	63	Ø10	2	470	940	5.8
	64	Ø10	2	495	990	6.1
	65	Ø10	2	460	920	5.7
	66	Ø10	2	205	410	2.5
	67	Ø10	6	200	1200	7.4
	68	Ø10	2	140	280	1.7
	69	Ø10	2	135	270	1.7
	70	Ø6	84	106	8904	19.8
					Total+10%:	116.8
Pórtico 13	71	Ø12	2	455	910	8.1
	72	Ø12	2	385	770	6.8
	73	Ø10	2	195	390	2.4
	74	Ø10	2	545	1090	6.7
	75	Ø10	2	450	900	5.5
	76	Ø10	2	260	520	3.2
	77	Ø10	2	170	340	2.1
	78	Ø10	2	125	250	1.5
	79	Ø6	34	106	3604	8.0
					Total+10%:	48.7
Pórtico 14	80	Ø16	2	985	1970	31.1
	81	Ø16	1	590	590	9.3
	82	Ø10	2	365	730	4.5
	83	Ø10	2	980	1960	12.1
	84	Ø10	2	360	720	4.4
	85	Ø16	2	510	1020	16.1
	86	Ø16	2	320	640	10.1
	87	Ø12	2	245	490	4.4
	88	Ø8	49	150	7350	29.0
					Total+10%:	133.1
Pórtico 15	89	Ø12	2	500	1000	8.9
	90	Ø12	2	495	990	8.8
	91	Ø10	2	495	990	6.1
	92	Ø10	2	490	980	6.0
	93	Ø10	2	200	400	2.5
	94	Ø10	4	135	540	3.3
	95	Ø6	34	106	3604	8.0
					Total+10%:	48.0
					Ø6:	123.0
					Ø8:	41.7
					Ø10:	329.4
					Ø12:	264.9
					Ø16:	73.3
					Total:	832.3

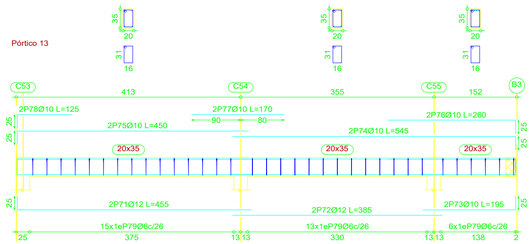


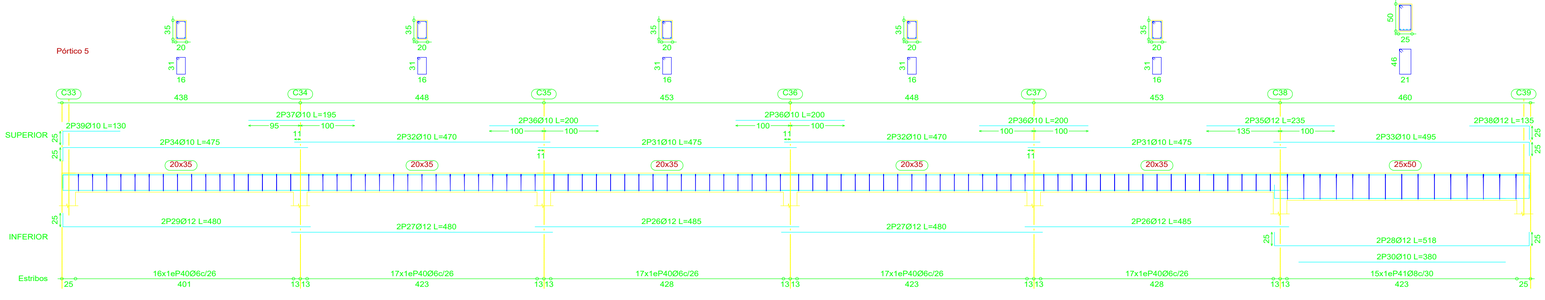












DESPIECE DE VIGAS
AZOTEA
ESCALA 1:60

UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

DEPARTAMENTO DE ESTRUCTURAS

MATERIA: CIV - 502 PROYECTO DE GRADO II

VIGAS AZOTEA

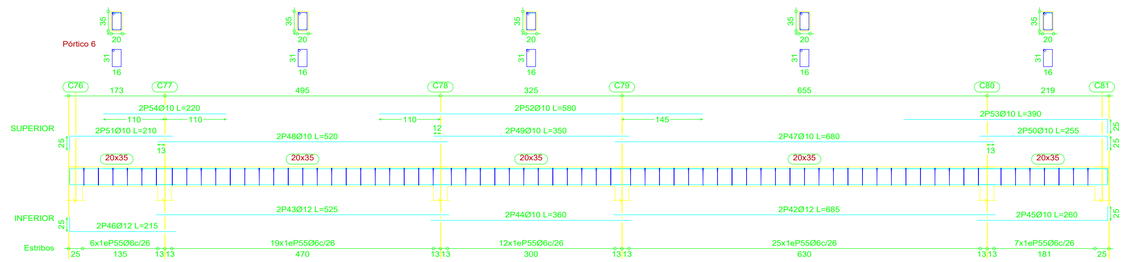
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	25/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

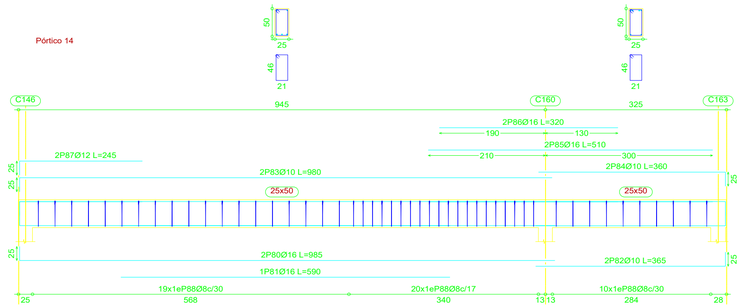
DESPIECE DE VIGAS
AZOTEA
ESCALA 1:60

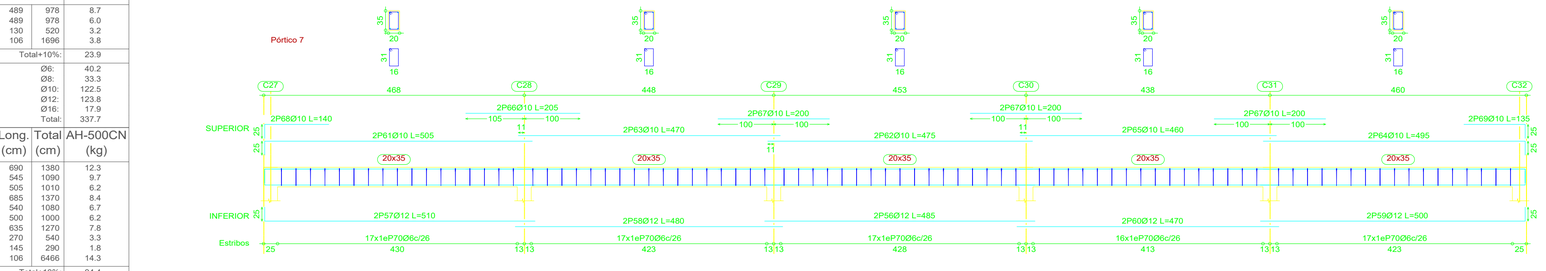
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 9	1	Ø12	2	485	970	8.6
	2	Ø12	2	510	1020	9.1
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	470	940	8.3
	5	Ø12	2	430	860	7.6
	6	Ø10	2	80	160	1.0
	7	Ø10	2	505	1010	6.2
	8	Ø10	2	475	950	5.9
	9	Ø10	2	495	990	6.1
	10	Ø10	2	460	920	5.7
	11	Ø10	2	425	850	5.2
	12	Ø10	2	70	140	0.9
	13	Ø10	2	240	480	3.0
	14	Ø10	6	200	1200	7.4
	15	Ø10	2	140	280	1.7
	16	Ø10	2	135	270	1.7
	17	Ø6	83	106	8798	19.5
					Total+10%:	117.5
Pórtico 10	18	Ø12	2	830	1660	14.7
	19	Ø12	2	630	1260	11.2
	20	Ø12	2	525	1050	9.3
	21	Ø10	2	490	980	6.0
	22	Ø10	2	820	1640	10.1
	23	Ø10	2	490	980	6.0
	24	Ø16	3	345	1035	16.3
	25	Ø12	2	210	420	3.7
	26	Ø8	51	150	7650	30.2
					Total+10%:	118.3
Pórtico 11	27	Ø12	2	710	1420	12.6
	28	Ø12	2	550	1100	9.8
	29	Ø10	2	355	710	4.4
	30	Ø10	2	705	1410	8.7
	31	Ø10	2	545	1090	6.7
	32	Ø10	2	350	700	4.3
	33	Ø10	2	580	1160	7.2
	34	Ø10	2	180	360	2.2
	35	Ø10	2	145	290	1.8
	36	Ø6	56	106	5936	13.2
					Total+10%:	78.0
Pórtico 12	37	Ø12	2	489	978	8.7
	38	Ø10	2	489	978	6.0
	39	Ø10	4	130	520	3.2
	40	Ø6	16	106	1696	3.8
					Total+10%:	23.9
					Ø6:	40.2
					Ø8:	33.3
					Ø10:	122.5
					Ø12:	123.8
					Ø16:	17.9
					Total:	337.7

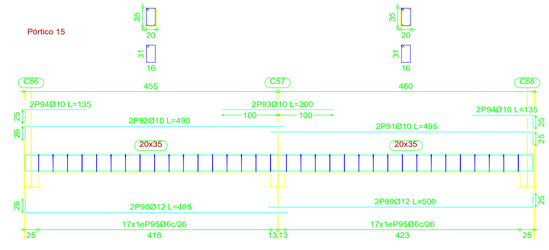
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 16	1	Ø12	2	690	1380	12.3
	2	Ø12	2	545	1090	9.7
	3	Ø10	2	505	1010	6.2
	4	Ø10	2	685	1370	8.4
	5	Ø10	2	540	1080	6.7
	6	Ø10	2	500	1000	6.2
	7	Ø10	2	635	1270	7.8
	8	Ø10	2	270	540	3.3
	9	Ø10	2	145	290	1.8
	10	Ø6	61	106	6466	14.3
					Total+10%:	84.4
Pórtico 57	11	Ø12	2	980	1960	17.4
	12	Ø10	2	980	1960	12.1
	13	Ø10	4	240	960	5.9
	14	Ø6	35	106	3710	8.2
					Total+10%:	48.0
					Ø6:	24.9
					Ø10:	64.2
					Ø12:	43.3
					Total:	132.4

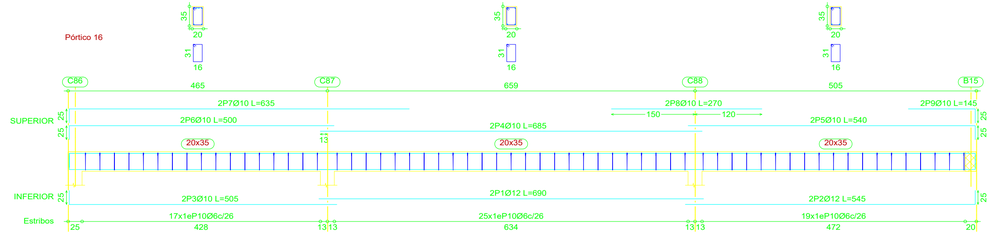
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 17	1	Ø12	2	710	1420	12.6
	2	Ø12	2	380	760	6.7
	3	Ø10	2	705	1410	8.7
	4	Ø10	2	375	750	4.6
	5	Ø10	2	245	490	3.0
	6	Ø10	2	180	360	2.2
	7	Ø6	37	106	3922	8.7
					Total+10%:	51.2
Pórtico 18	8	Ø12	2	532	1064	9.4
	9	Ø10	2	482	964	5.9
	10	Ø10	2	532	1064	6.6
	11	Ø8	15	150	2250	8.9
					Total+10%:	33.9
					Ø6:	9.6
					Ø8:	9.8
					Ø10:	34.2
					Ø12:	31.5
					Total:	85.1

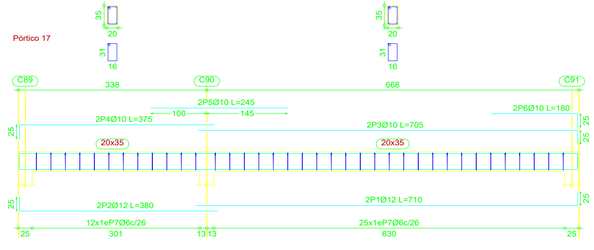


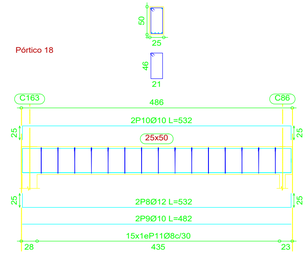


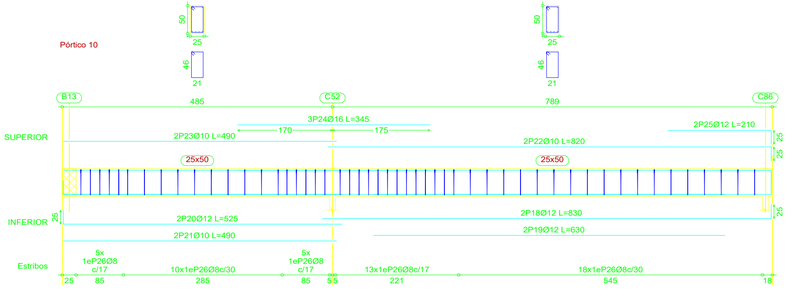


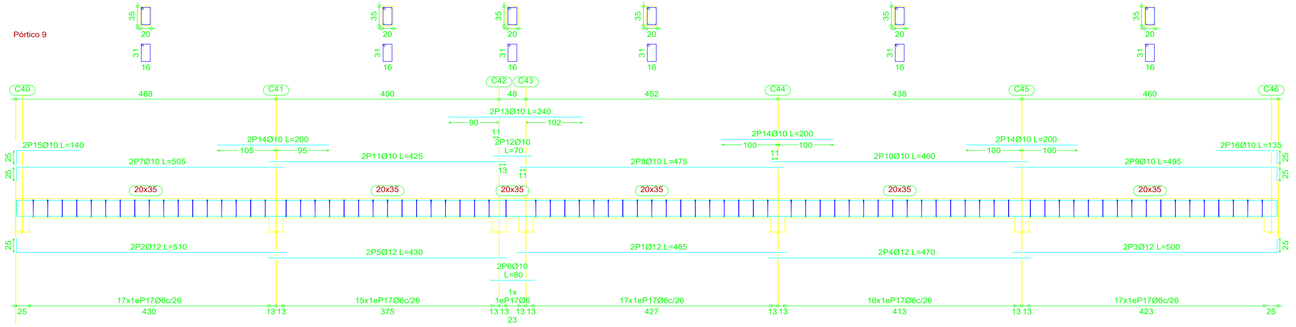


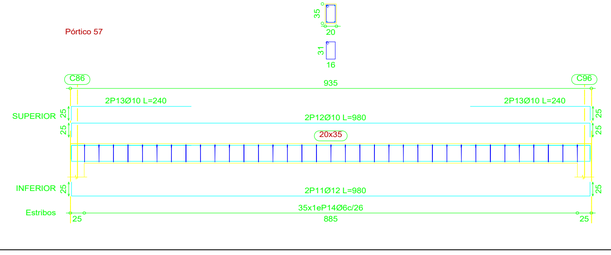


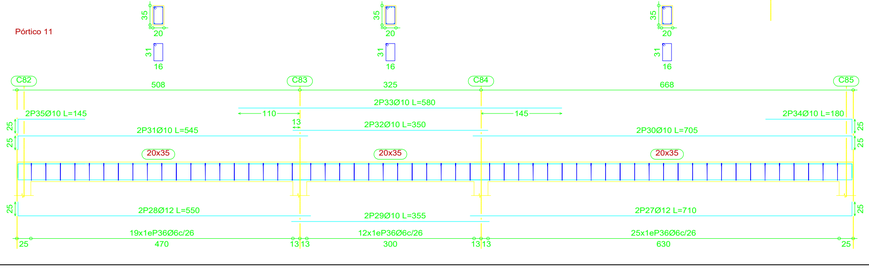


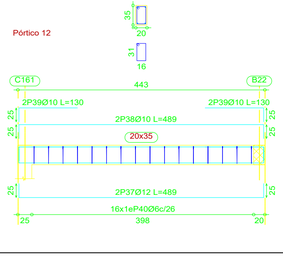












UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

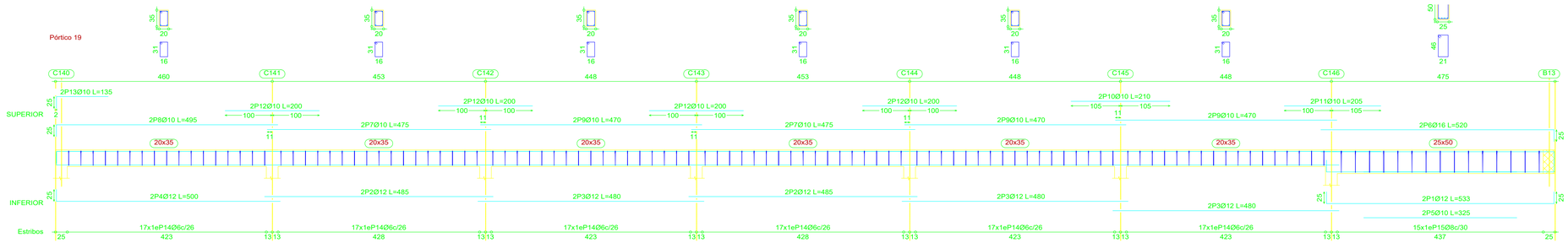
DEPARTAMENTO DE ESTRUCTURAS

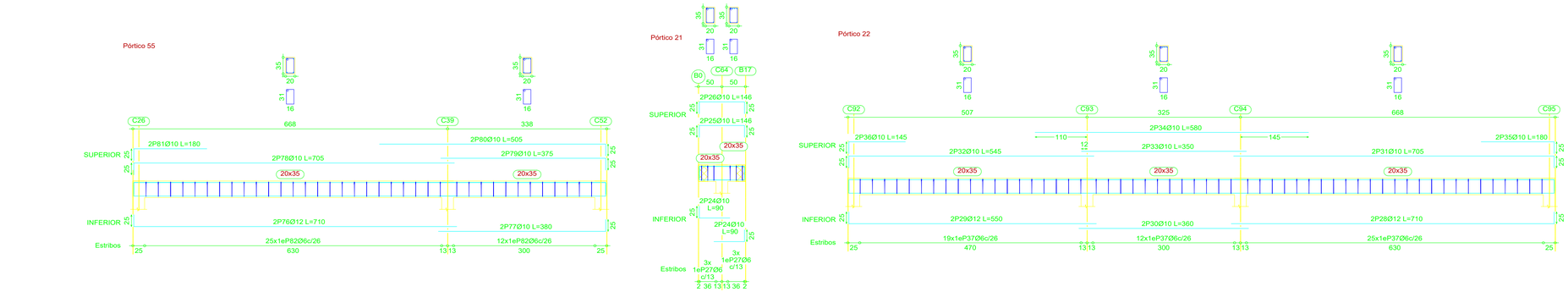
MATERIA: CIV - 502 PROYECTO DE GRADO II

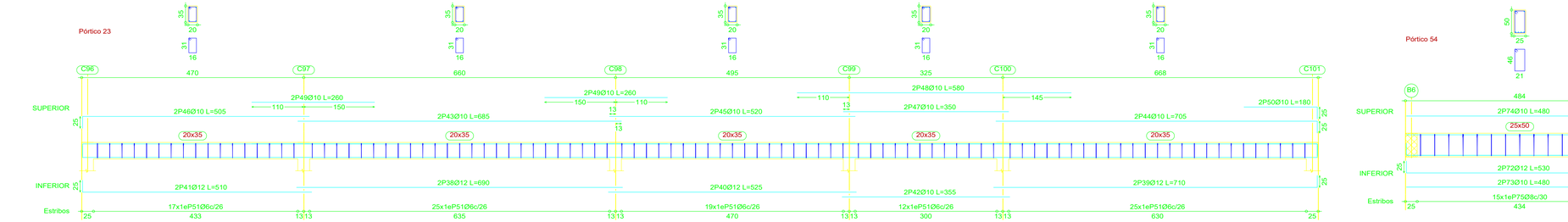
VIGAS AZOTEA

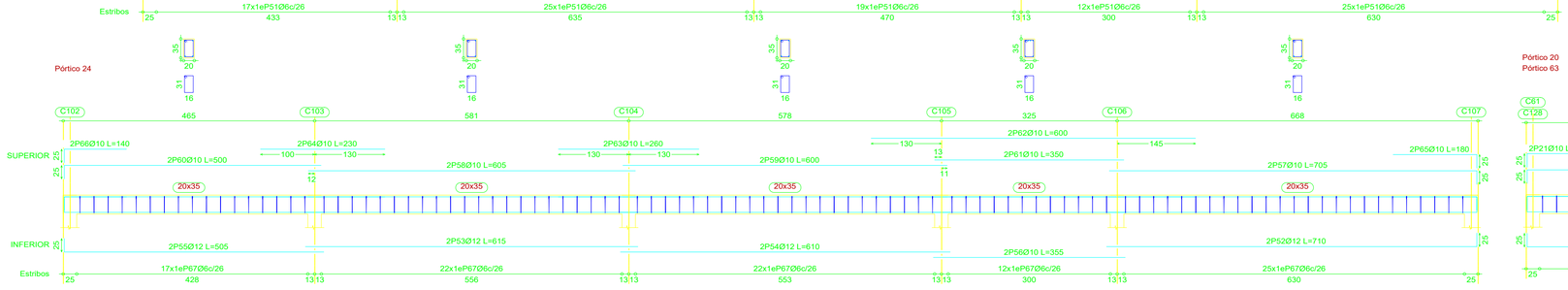
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	26/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

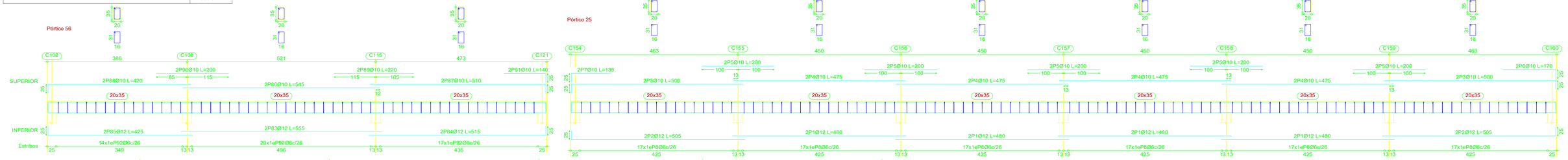
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 19	1	Ø12	2	533	1066	9.5
	2	Ø12	4	485	1940	17.2
	3	Ø12	6	480	2880	25.6
	4	Ø12	2	500	1000	8.9
	5	Ø10	2	325	650	4.0
	6	Ø16	2	520	1040	16.4
	7	Ø10	4	475	1900	11.7
	8	Ø10	2	495	990	6.1
	9	Ø10	6	470	2820	17.4
	10	Ø10	2	210	420	2.6
	11	Ø10	2	205	410	2.5
	12	Ø10	8	200	1600	9.9
	13	Ø10	2	135	270	1.7
	14	Ø6	102	106	10812	24.0
	15	Ø8	15	150	2250	8.9
				Total+10%:		183.0
Pórtico 20=Pórtico 63	16	Ø12	2	455	910	8.1
	17	Ø12	2	410	820	7.3
	18	Ø10	2	450	900	5.5
	19	Ø10	2	405	810	5.0
	20	Ø10	2	170	340	2.1
	21	Ø10	2	125	250	1.5
	22	Ø10	2	115	230	1.4
	23	Ø6	28	106	2968	6.6
				Total+10%:		41.3
				(x2):		82.6
Pórtico 21	24	Ø10	4	90	360	2.2
	25	Ø10	2	146	292	1.8
	26	Ø10	2	146	292	1.8
	27	Ø6	6	106	636	1.4
				Total+10%:		7.9
Pórtico 22	28	Ø12	2	710	1420	12.6
	29	Ø12	2	550	1100	9.8
	30	Ø10	2	360	720	4.4
	31	Ø10	2	705	1410	8.7
	32	Ø10	2	545	1090	6.7
	33	Ø10	2	350	700	4.3
	34	Ø10	2	580	1160	7.2
	35	Ø10	2	180	360	2.2
	36	Ø10	2	145	290	1.8
	37	Ø6	56	106	5936	13.2
				Total+10%:		78.0
Pórtico 23	38	Ø12	2	690	1380	12.3
	39	Ø12	2	710	1420	12.6
	40	Ø12	2	525	1050	9.3
	41	Ø12	2	510	1020	9.1
	42	Ø10	2	355	710	4.4
	43	Ø10	2	685	1370	8.4
	44	Ø10	2	705	1410	8.7
	45	Ø10	2	520	1040	6.4
	46	Ø10	2	505	1010	6.2
	47	Ø10	2	350	700	4.3
	48	Ø10	2	580	1160	7.2
	49	Ø10	4	260	1040	6.4
	50	Ø10	2	180	360	2.2
	51	Ø6	98	106	10388	23.1
				Total+10%:		132.7
Pórtico 24	52	Ø12	2	710	1420	12.6
	53	Ø12	2	615	1230	10.9
	54	Ø12	2	610	1220	10.8
	55	Ø12	2	505	1010	9.0
	56	Ø10	2	355	710	4.4
	57	Ø10	2	705	1410	8.7
	58	Ø10	2	605	1210	7.5
	59	Ø10	2	600	1200	7.4
	60	Ø10	2	500	1000	6.2
	61	Ø10	2	350	700	4.3
	62	Ø10	2	600	1200	7.4
	63	Ø10	2	260	520	3.2
	64	Ø10	2	230	460	2.8
	65	Ø10	2	180	360	2.2
	66	Ø10	2	140	280	1.7
	67	Ø6	98	106	10388	23.1
				Total+10%:		134.4
Pórtico 53	68	Ø12	2	726	1452	12.9
	69	Ø10	2	726	1452	9.0
	70	Ø10	4	180	720	4.4
	71	Ø6	25	106	2650	5.9
				Total+10%:		35.4
Pórtico 54	72	Ø12	2	530	1060	9.4
	73	Ø10	2	480	960	5.9
	74	Ø10	2	480	960	5.9
	75	Ø8	15	150	2250	8.9
				Total+10%:		33.1
Pórtico 55	76	Ø12	2	710	1420	12.6
	77	Ø10	2	380	760	4.7
	78	Ø10	2	705	1410	8.7
	79	Ø10	2	375	750	4.6
	80	Ø10	2	505	1010	6.2
	81	Ø10	2	180	360	2.2
	82	Ø6	37	106	3922	8.7
				Total+10%:		52.5
Pórtico 56	83	Ø12	2	555	1110	9.9
	84	Ø12	2	515	1030	9.1
	85	Ø12	2	425	850	7.5
	86	Ø10	2	545	1090	6.7
	87	Ø10	2	510	1020	6.3
	88	Ø10	2	420	840	5.2
	89	Ø10	2	220	440	2.7
	90	Ø10	2	200	400	2.5
	91	Ø10	2	140	280	1.7
	92	Ø6	51	106	5406	12.0
				Total+10%:		70.0
				Ø6:		137.1
				Ø8:		19.5
				Ø10:		346.4
				Ø12:		288.5
				Ø16:		18.1
				Total:		809.6

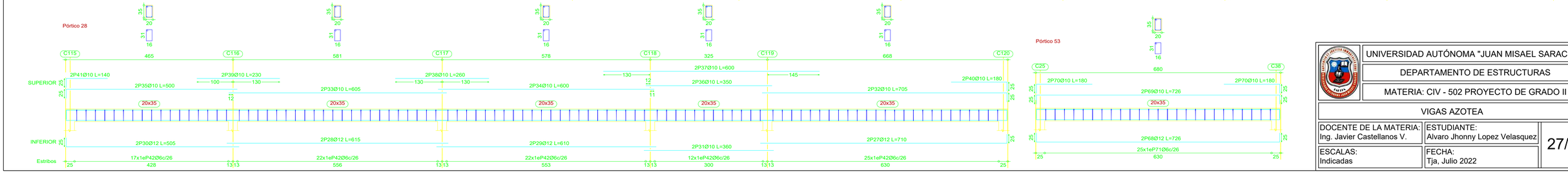










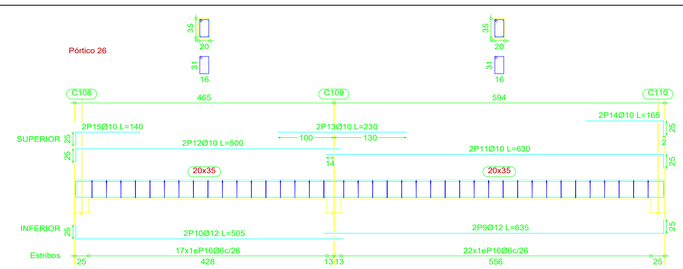


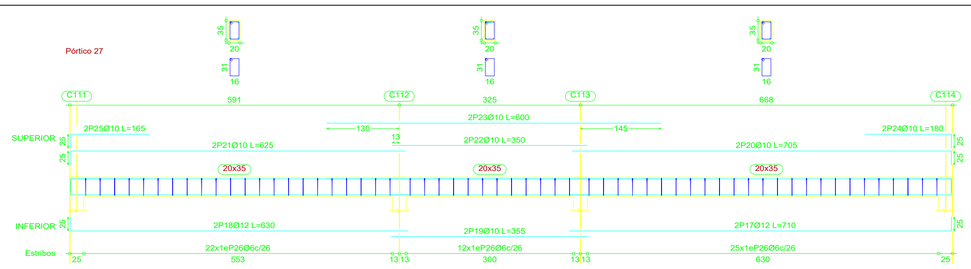
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS AZOTEA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

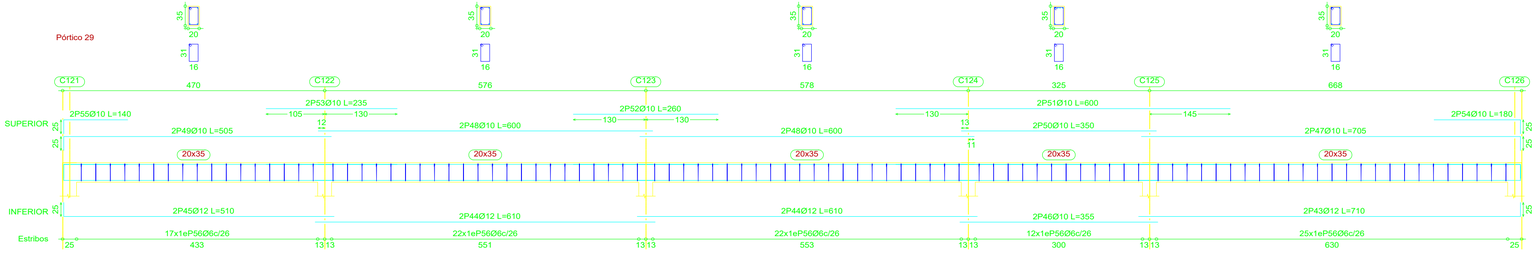
27/31

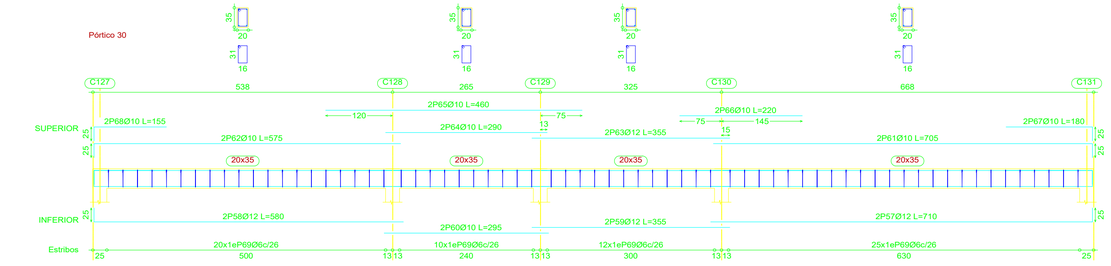
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 25	1	Ø12	8	480	3840	34.1
	2	Ø12	4	505	2020	17.9
	3	Ø10	4	500	2000	12.3
	4	Ø10	8	475	3800	23.4
	5	Ø10	10	200	2000	12.3
	6	Ø10	2	170	340	2.1
	7	Ø10	2	135	270	1.7
	8	Ø6	102	106	10812	24.0
				Total+10%:		140.6
Pórtico 26	9	Ø12	2	635	1270	11.3
	10	Ø12	2	505	1010	9.0
	11	Ø10	2	630	1260	7.8
	12	Ø10	2	500	1000	6.2
	13	Ø10	2	230	460	2.8
	14	Ø10	2	165	330	2.0
	15	Ø10	2	140	280	1.7
	16	Ø6	39	106	4134	9.2
				Total+10%:		55.0
Pórtico 27	17	Ø12	2	710	1420	12.6
	18	Ø12	2	630	1260	11.2
	19	Ø10	2	355	710	4.4
	20	Ø10	2	705	1410	8.7
	21	Ø10	2	625	1250	7.7
	22	Ø10	2	350	700	4.3
	23	Ø10	2	600	1200	7.4
	24	Ø10	2	180	360	2.2
	25	Ø10	2	165	330	2.0
	26	Ø6	59	106	6254	13.9
				Total+10%:		81.8
Pórtico 28	27	Ø12	2	710	1420	12.6
	28	Ø12	2	615	1230	10.9
	29	Ø12	2	610	1220	10.8
	30	Ø12	2	505	1010	9.0
	31	Ø10	2	360	720	4.4
	32	Ø10	2	705	1410	8.7
	33	Ø10	2	605	1210	7.5
	34	Ø10	2	600	1200	7.4
	35	Ø10	2	500	1000	6.2
	36	Ø10	2	350	700	4.3
	37	Ø10	2	600	1200	7.4
	38	Ø10	2	260	520	3.2
	39	Ø10	2	230	460	2.8
	40	Ø10	2	180	360	2.2
	41	Ø10	2	140	280	1.7
	42	Ø6	98	106	10388	23.1
				Total+10%:		134.4
Pórtico 29	43	Ø12	2	710	1420	12.6
	44	Ø12	4	610	2440	21.7
	45	Ø12	2	510	1020	9.1
	46	Ø10	2	355	710	4.4
	47	Ø10	2	705	1410	8.7
	48	Ø10	4	600	2400	14.8
	49	Ø10	2	505	1010	6.2
	50	Ø10	2	350	700	4.3
	51	Ø10	2	600	1200	7.4
	52	Ø10	2	260	520	3.2
	53	Ø10	2	235	470	2.9
	54	Ø10	2	180	360	2.2
	55	Ø10	2	140	280	1.7
	56	Ø6	98	106	10388	23.1
				Total+10%:		134.5
Pórtico 30	57	Ø12	2	710	1420	12.6
	58	Ø12	2	580	1160	10.3
	59	Ø12	2	355	710	6.3
	60	Ø10	2	295	590	3.6
	61	Ø10	2	705	1410	8.7
	62	Ø10	2	575	1150	7.1
	63	Ø12	2	355	710	6.3
	64	Ø10	2	290	580	3.6
	65	Ø10	2	460	920	5.7
	66	Ø10	2	220	440	2.7
	67	Ø10	2	180	360	2.2
	68	Ø10	2	155	310	1.9
	69	Ø6	67	106	7102	15.8
				Total+10%:		95.5
Pórtico 31	70	Ø12	2	580	1160	10.3
	71	Ø12	2	375	750	6.7
	72	Ø10	2	295	590	3.6
	73	Ø10	2	575	1150	7.1
	74	Ø10	2	370	740	4.6
	75	Ø10	2	290	580	3.6
	76	Ø10	2	465	930	5.7
	77	Ø10	2	155	310	1.9
	78	Ø10	2	110	220	1.4
	79	Ø6	42	106	4452	9.9
				Total+10%:		60.3
Pórtico 51	80	Ø12	2	710	1420	12.6
	81	Ø12	2	375	750	6.7
	82	Ø10	2	705	1410	8.7
	83	Ø12	2	375	750	6.7
	84	Ø10	2	220	440	2.7
	85	Ø10	2	180	360	2.2
	86	Ø6	37	106	3922	8.7
				Total+10%:		53.1
				Ø6:		140.3
				Ø10:		327.5
				Ø12:		287.4
				Total:		755.2

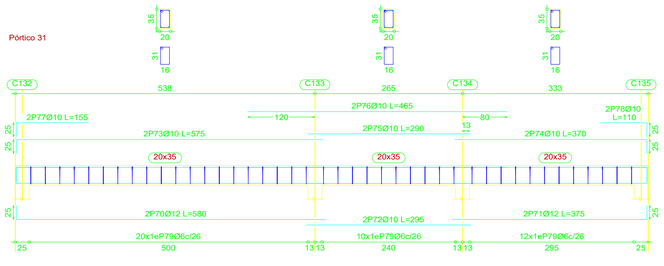
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 32	1	Ø12	2	580	1160	10.3
	2	Ø12	2	375	750	6.7
	3	Ø10	2	295	590	3.6
	4	Ø10	2	575	1150	7.1
	5	Ø10	2	370	740	4.6
	6	Ø10	2	290	580	3.6
	7	Ø10	2	460	920	5.7
	8	Ø10	2	155	310	1.9
	9	Ø10	2	110	220	1.4
	10	Ø6	42	106	4452	9.9
				Total+10%:		60.3
Pórtico 33	11	Ø12	2	710	1420	12.6
	12	Ø12	2	385	770	6.8
	13	Ø10	2	705	1410	8.7
	14	Ø12	2	385	770	6.8
	15	Ø10	2	220	440	2.7
	16	Ø10	2	180	360	2.2
	17	Ø6	37	106	3922	8.7
				Total+10%:		53.4
				Ø6:		20.5
				Ø10:		45.7
				Ø12:		47.5
				Total:		113.7

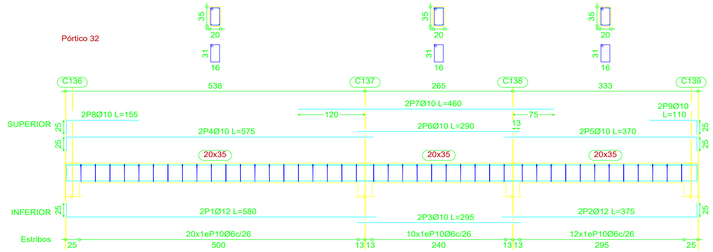


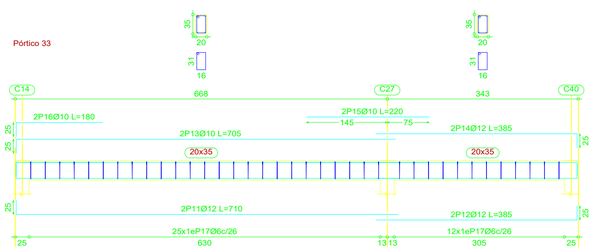


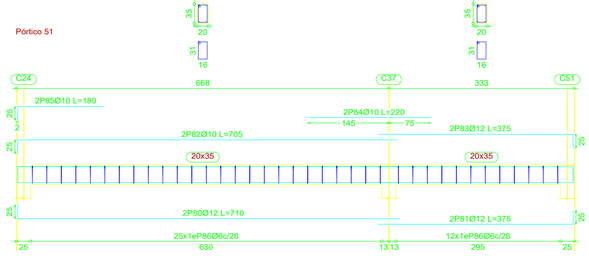


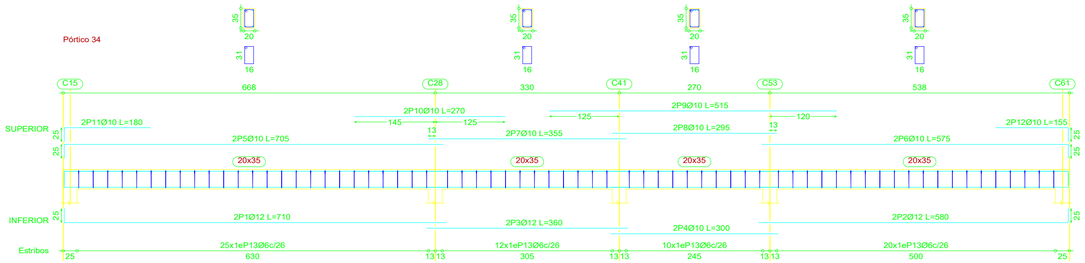


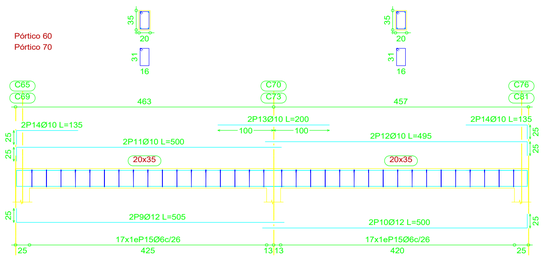


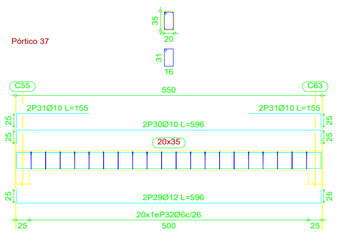


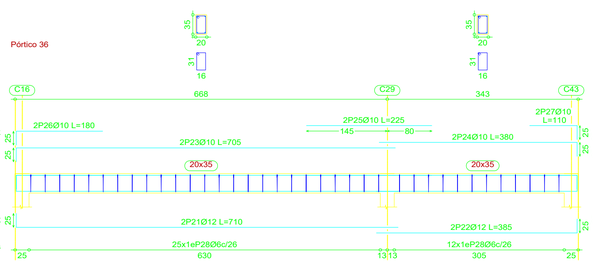


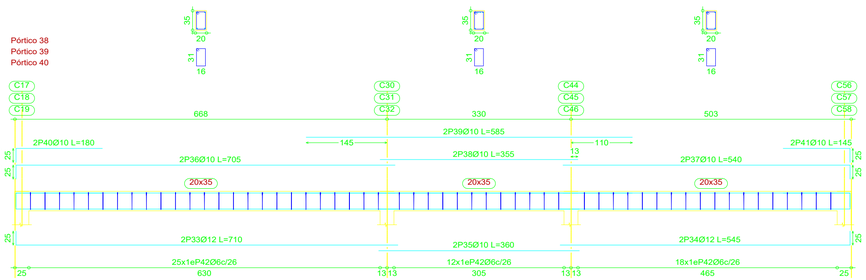


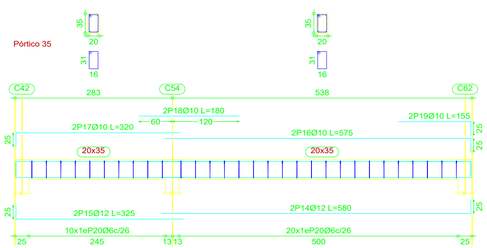












DESPIECE DE VIGAS AZOTEA ESCALA 1:60

UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

DEPARTAMENTO DE ESTRUCTURAS

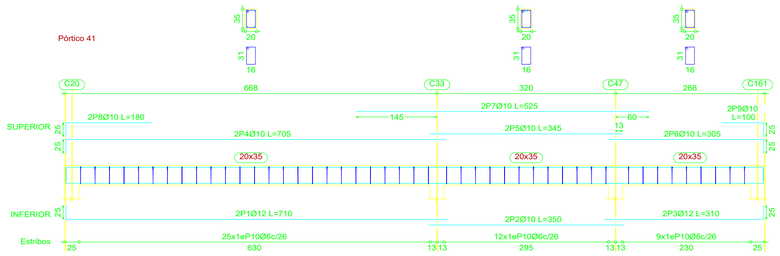
MATERIA: CIV - 502 PROYECTO DE GRADO II

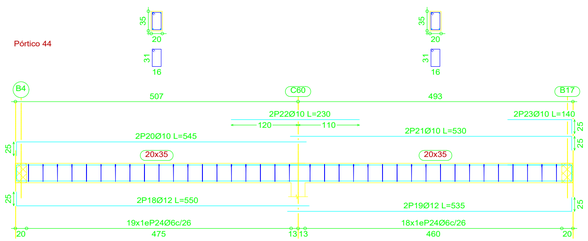
VIGAS AZOTEA

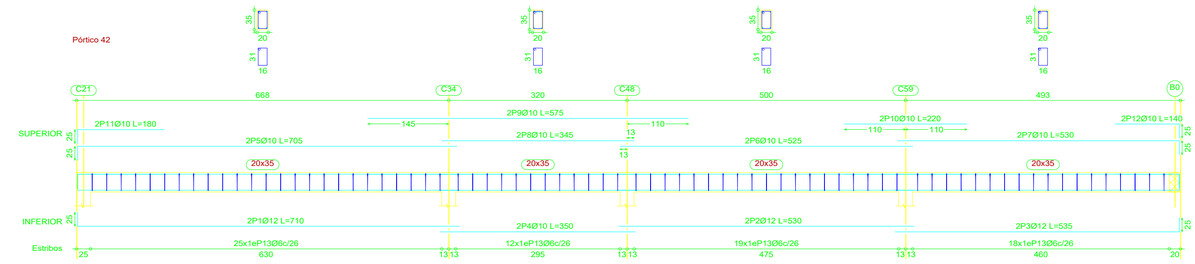
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	28/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

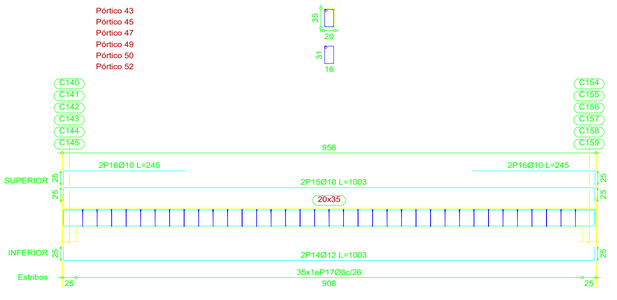
DESPIECE DE VIGAS
AZOTEA
ESCALA 1:60

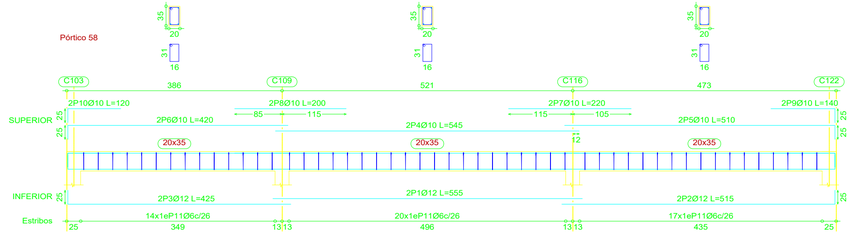
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 34	1	Ø12	2	710	1420	12.6
	2	Ø12	2	580	1160	10.3
	3	Ø12	2	360	720	6.4
	4	Ø10	2	300	600	3.7
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	575	1150	7.1
	7	Ø10	2	355	710	4.4
	8	Ø10	2	295	590	3.6
	9	Ø10	2	515	1030	6.4
	10	Ø10	2	270	540	3.3
	11	Ø10	2	180	360	2.2
	12	Ø10	2	155	310	1.9
	13	Ø6	67	106	7102	15.8
					Total+10%:	95.0
Pórtico 35	14	Ø12	2	580	1160	10.3
	15	Ø12	2	325	650	5.8
	16	Ø10	2	575	1150	7.1
	17	Ø10	2	320	640	3.9
	18	Ø10	2	180	360	2.2
	19	Ø10	2	155	310	1.9
	20	Ø6	30	106	3180	7.1
					Total+10%:	42.1
Pórtico 36	21	Ø12	2	710	1420	12.6
	22	Ø12	2	385	770	6.8
	23	Ø10	2	705	1410	8.7
	24	Ø10	2	380	760	4.7
	25	Ø10	2	225	450	2.8
	26	Ø10	2	180	360	2.2
	27	Ø10	2	110	220	1.4
	28	Ø6	37	106	3922	8.7
					Total+10%:	52.7
Pórtico 37	29	Ø12	2	596	1192	10.6
	30	Ø10	2	596	1192	7.3
	31	Ø10	4	155	620	3.8
	32	Ø6	20	106	2120	4.7
					Total+10%:	29.0
Pórtico 38=Pórtico 39=Pórtico 40	33	Ø12	2	710	1420	12.6
	34	Ø12	2	545	1090	9.7
	35	Ø10	2	360	720	4.4
	36	Ø10	2	705	1410	8.7
	37	Ø10	2	540	1080	6.7
	38	Ø10	2	355	710	4.4
	39	Ø10	2	585	1170	7.2
	40	Ø10	2	180	360	2.2
	41	Ø10	2	145	290	1.8
	42	Ø6	55	106	5830	12.9
					Total+10%:	77.7
					(x3):	233.1
					Ø6:	82.4
					Ø10:	213.1
					Ø12:	156.4
					Total:	451.9
Pórtico 41	1	Ø12	2	710	1420	12.6
	2	Ø10	2	350	700	4.3
	3	Ø12	2	310	620	5.5
	4	Ø10	2	705	1410	8.7
	5	Ø10	2	345	690	4.3
	6	Ø10	2	305	610	3.8
	7	Ø10	2	525	1050	6.5
	8	Ø10	2	180	360	2.2
	9	Ø10	2	100	200	1.2
	10	Ø6	46	106	4876	10.8
					Total+10%:	65.9
					Ø6:	11.9
					Ø10:	34.1
					Ø12:	19.9
					Total:	65.9
Pórtico 42	1	Ø12	2	710	1420	12.6
	2	Ø12	2	530	1060	9.4
	3	Ø12	2	535	1070	9.5
	4	Ø10	2	350	700	4.3
	5	Ø10	2	705	1410	8.7
	6	Ø10	2	525	1050	6.5
	7	Ø10	2	530	1060	6.5
	8	Ø10	2	345	690	4.3
	9	Ø10	2	575	1150	7.1
	10	Ø10	2	220	440	2.7
	11	Ø10	2	180	360	2.2
	12	Ø10	2	140	280	1.7
	13	Ø6	74	106	7844	17.4
					Total+10%:	102.2
Pórtico 43=Pórtico 45=Pórtico 47 Pórtico 49=Pórtico 52	14	Ø12	2	1003	2006	17.8
	15	Ø10	2	1003	2006	12.4
	16	Ø10	4	245	980	6.0
	17	Ø6	35	106	3710	8.2
					Total+10%:	48.8
					(x6):	292.8
Pórtico 44	18	Ø12	2	550	1100	9.8
	19	Ø12	2	535	1070	9.5
	20	Ø10	2	545	1090	6.7
	21	Ø10	2	530	1060	6.5
	22	Ø10	2	230	460	2.8
	23	Ø10	2	140	280	1.7
	24	Ø6	37	106	3922	8.7
					Total+10%:	50.3
Pórtico 46	25	Ø12	2	710	1420	12.6
	26	Ø12	2	375	750	6.7
	27	Ø10	2	705	1410	8.7
	28	Ø10	2	370	740	4.6
	29	Ø10	2	285	570	3.5
	30	Ø10	2	180	360	2.2
	31	Ø10	2	110	220	1.4
	32	Ø6	37	106	3922	8.7
					Total+10%:	53.2
Pórtico 48	33	Ø12	2	715	1430	12.7
	34	Ø10	2	375	750	4.6
	35	Ø10	2	710	1420	8.8
	36	Ø10	2	370	740	4.6
	37	Ø10	2	505	1010	6.2
	38	Ø10	2	185	370	2.3
	39	Ø6	37	106	3922	8.7
					Total+10%:	52.7
					Ø6:	101.8
					Ø10:	240.7
					Ø12:	208.7
					Total:	551.2
Pórtico 58	1	Ø12	2	555	1110	9.9
	2	Ø12	2	515	1030	9.1
	3	Ø12	2	425	850	7.5
	4	Ø10	2	545	1090	6.7
	5	Ø10	2	510	1020	6.3
	6	Ø10	2	420	840	5.2
	7	Ø10	2	220	440	2.7
	8	Ø10	2	200	400	2.5
	9	Ø10	2	140	280	1.7
	10	Ø10	2	120	240	1.5
	11	Ø6	51	106	5406	12.0
					Total+10%:	71.6
					Ø6:	13.2
					Ø10:	29.2
					Ø12:	29.2
					Total:	71.6
Pórtico 61	1	Ø12	2	495	990	8.8
	2	Ø12	2	515	1030	9.1
	3	Ø12	2	425	850	7.5
	4	Ø10	2	95	190	1.2
	5	Ø10	2	485	970	6.0
	6	Ø10	2	510	1020	6.3
	7	Ø10	2	420	840	5.2
	8	Ø10	2	85	170	1.0
	9	Ø10	2	255	510	3.1
	10	Ø10	2	210	420	2.6
	11	Ø10	2	140	280	1.7
	12	Ø10	2	120	240	1.5
	13	Ø6	50	106	5300	11.8
					Total+10%:	72.4
					Ø6:	13.0
					Ø10:	31.5
					Ø12:	27.9
					Total:	72.4

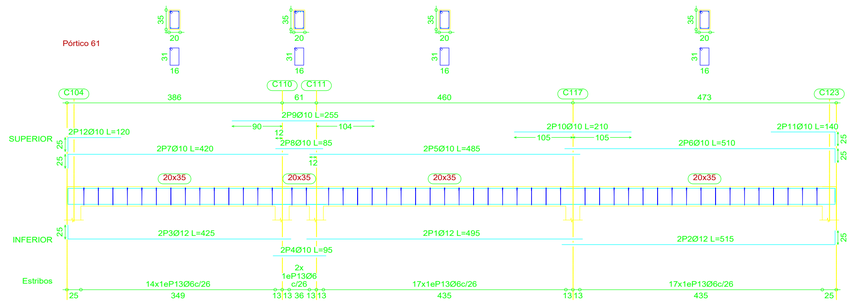


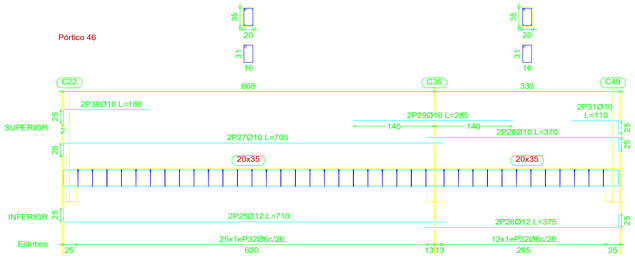


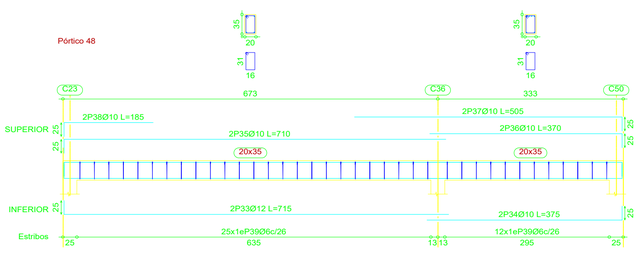


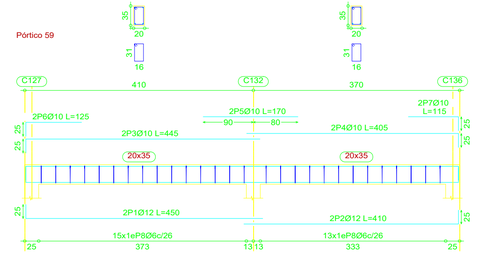


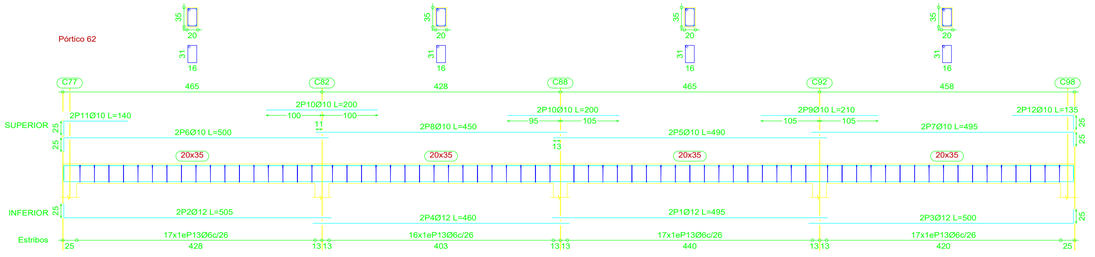












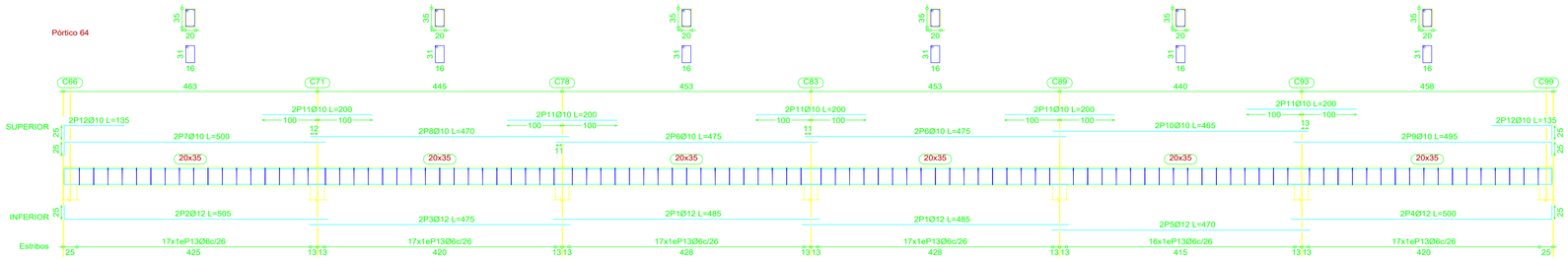
UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"	
DEPARTAMENTO DE ESTRUCTURAS	
MATERIA: CIV - 502 PROYECTO DE GRADO II	
VIGAS AZOTEA	
DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez
ESCALAS: Indicadas	FECHA: Tja, Julio 2022

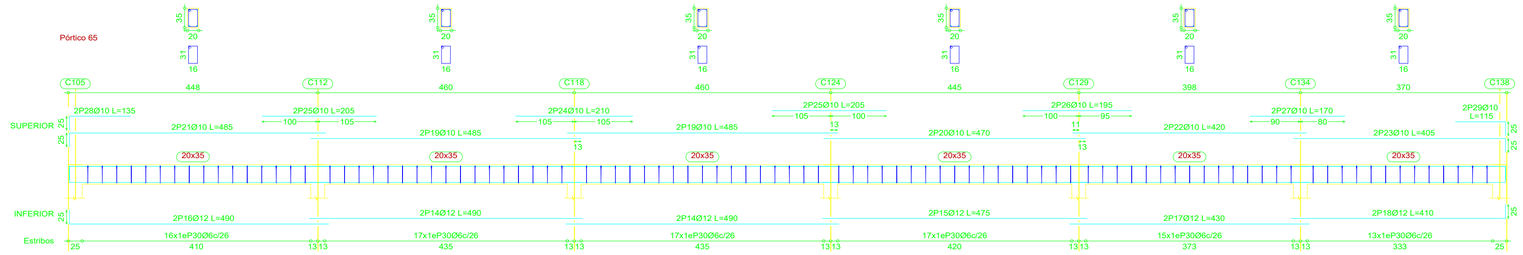
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 59	1	Ø12	2	450	900	8.0
	2	Ø12	2	410	820	7.3
	3	Ø10	2	445	890	5.5
	4	Ø10	2	405	810	5.0
	5	Ø10	2	170	340	2.1
	6	Ø10	2	125	250	1.5
	7	Ø10	2	115	230	1.4
	8	Ø6	28	106	2968	6.6
					Total+10%:	41.1
Pórtico 60=Pórtico 70	9	Ø12	2	505	1010	9.0
	10	Ø12	2	500	1000	8.9
	11	Ø10	2	500	1000	6.2
	12	Ø10	2	495	990	6.1
	13	Ø10	2	200	400	2.5
	14	Ø10	4	135	540	3.3
	15	Ø6	34	106	3604	8.0
					Total+10%:	48.4
					(x2):	96.8
					Ø6:	24.8
					Ø10:	56.9
					Ø12:	56.2
					Total:	137.9

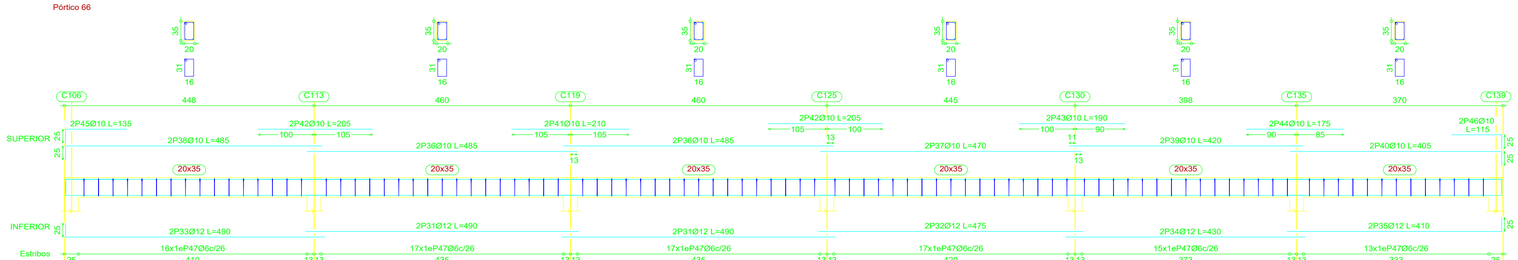
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 62	1	Ø12	2	495	990	8.8
	2	Ø12	2	505	1010	9.0
	3	Ø12	2	500	1000	8.9
	4	Ø12	2	460	920	8.2
	5	Ø10	2	490	980	6.0
	6	Ø10	2	500	1000	6.2
	7	Ø10	2	495	990	6.1
	8	Ø10	2	450	900	5.5
	9	Ø10	2	210	420	2.6
	10	Ø10	4	200	800	4.9
	11	Ø10	2	140	280	1.7
	12	Ø10	2	135	270	1.7
	13	Ø6	67	106	7102	15.8
					Total+10%:	93.9
					Ø6:	17.3
					Ø10:	38.2
					Ø12:	38.4
					Total:	93.9

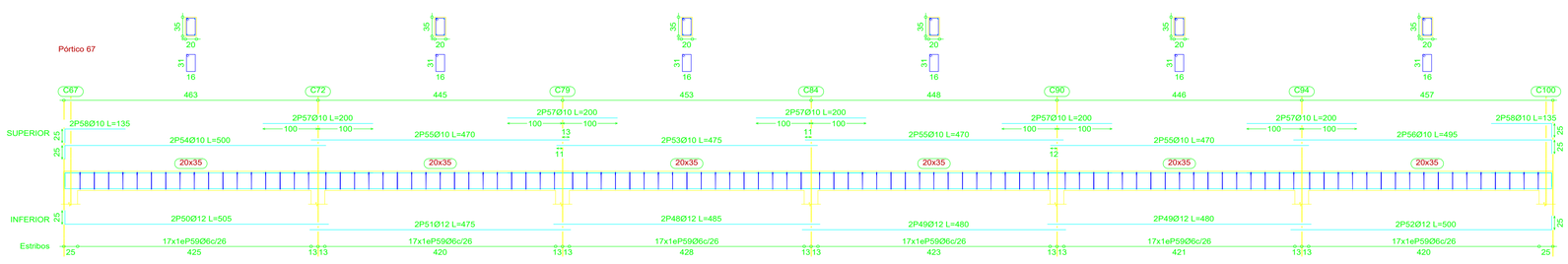
Elemento	Pos.	Diám.	No.	Long. (cm)	Total (cm)	AH-500CN (kg)
Pórtico 64	1	Ø12	4	485	1940	17.2
	2	Ø12	2	505	1010	9.0
	3	Ø12	2	475	950	8.4
	4	Ø12	2	500	1000	8.9
	5	Ø12	2	470	940	8.3
	6	Ø10	4	475	1900	11.7
	7	Ø10	2	500	1000	6.2
	8	Ø10	2	470	940	5.8
	9	Ø10	2	495	990	6.1
	10	Ø10	2	465	930	5.7
	11	Ø10	10	200	2000	12.3
	12	Ø10	4	135	540	3.3
	13	Ø6	101	106	10706	23.8
					Total+10%:	139.4
Pórtico 65	14	Ø12	4	490	1960	17.4
	15	Ø12	2	475	950	8.4
	16	Ø12	2	490	980	8.7
	17	Ø12	2	430	860	7.6
	18	Ø12	2	410	820	7.3
	19	Ø10	4	485	1940	12.0
	20	Ø10	2	470	940	5.8
	21	Ø10	2	485	970	6.0
	22	Ø10	2	420	840	5.2
	23	Ø10	2	405	810	5.0
	24	Ø10	2	210	420	2.6
	25	Ø10	4	205	820	5.1
	26	Ø10	2	195	390	2.4
	27	Ø10	2	170	340	2.1
	28	Ø10	2	135	270	1.7
	29	Ø10	2	115	230	1.4
	30	Ø6	95	106	10070	22.3
					Total+10%:	133.1
Pórtico 66	31	Ø12	4	490	1960	17.4
	32	Ø12	2	475	950	8.4
	33	Ø12	2	490	980	8.7
	34	Ø12	2	430	860	7.6
	35	Ø12	2	410	820	7.3
	36	Ø10	4	485	1940	12.0
	37	Ø10	2	470	940	5.8
	38	Ø10	2	485	970	6.0
	39	Ø10	2	420	840	5.2
	40	Ø10	2	405	810	5.0
	41	Ø10	2	210	420	2.6
	42	Ø10	4	205	820	5.1
	43	Ø10	2	190	380	2.3
	44	Ø10	2	175	350	2.2
	45	Ø10	2	135	270	1.7
	46	Ø10	2	115	230	1.4
	47	Ø6	95	106	10070	22.3
					Total+10%:	133.1
Pórtico 67	48	Ø12	2	485	970	8.6
	49	Ø12	4	480	1920	17.0
	50	Ø12	2	505	1010	9.0
	51	Ø12	2	475	950	8.4
	52	Ø12	2	500	1000	8.9
	53	Ø10	2	475	950	5.9
	54	Ø10	2	500	1000	6.2
	55	Ø10	6	470	2820	17.4
	56	Ø10	2	495	990	6.1
	57	Ø10	10	200	2000	12.3
	58	Ø10	4	135	540	3.3
	59	Ø6	102	106	10812	24.0
					Total+10%:	139.8
Pórtico 68	60	Ø12	2	505	1010	9.0
	61	Ø12	4	480	1920	17.0
	62	Ø12	2	500	1000	8.9
	63	Ø10	2	500	1000	6.2
	64	Ø10	4	470	1880	11.6
	65	Ø10	2	495	990	6.1
	66	Ø10	2	205	410	2.5
	67	Ø10	4	200	800	4.9
	68	Ø10	2	140	280	1.7
	69	Ø10	2	135	270	1.7
	70	Ø6	68	106	7208	16.0
					Total+10%:	94.2
Pórtico 69	71	Ø12	4	490	1960	17.4
	72	Ø12	2	500	1000	8.9
	73	Ø12	2	490	980	8.7
	74	Ø10	4	485	1940	12.0
	75	Ø10	2	495	990	6.1
	76	Ø10	2	485	970	6.0
	77	Ø10	2	210	420	2.6
	78	Ø10	4	205	820	5.1
	79	Ø10	4	135	540	3.3
	80	Ø6	67	106	7102	15.8
					Total+10%:	94.5
					Ø6:	136.6
					Ø10:	297.9
					Ø12:	299.6
					Total:	734.1

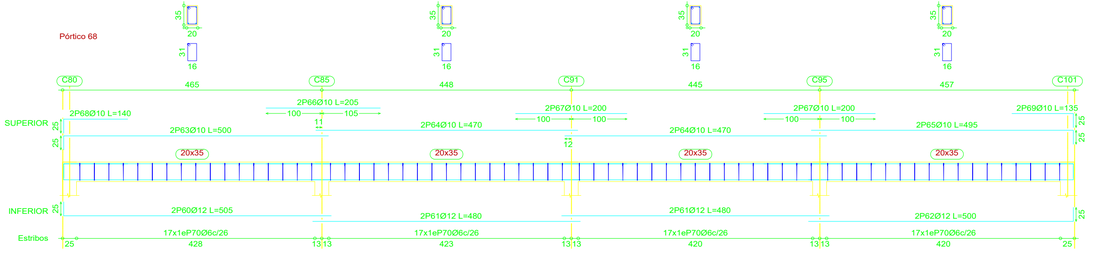
Resumen Acero AZOTEA Vigas		Long. total (m)	Peso+10% (kg)	Total
AH-500CN	Ø6	3915.6	956	
	Ø8	240.0	104	
	Ø10	3464.5	2350	
	Ø12	2097.9	2049	
	Ø16	63.0	109	5568

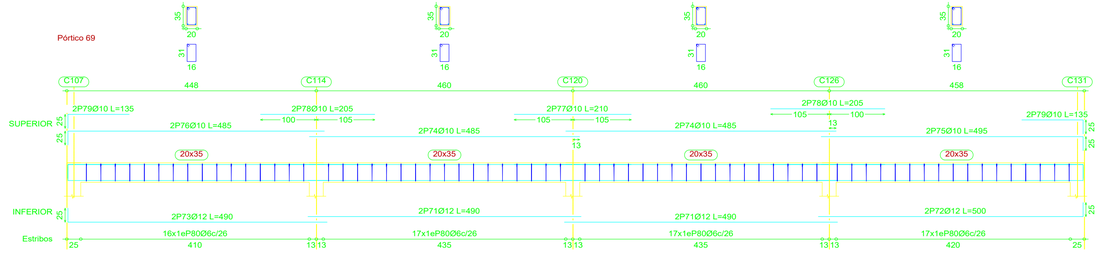












DESPIECE DE VIGAS AZOTEA
ESCALA 1:60

UNIVERSIDAD AUTÓNOMA "JUAN MISAEL SARACHO"

DEPARTAMENTO DE ESTRUCTURAS

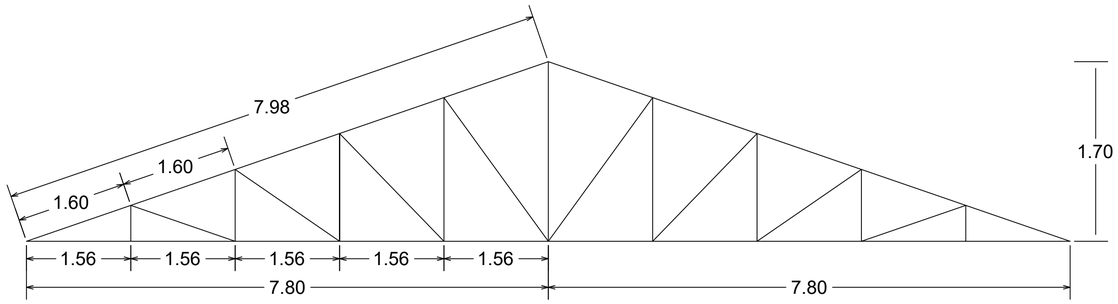
MATERIA: CIV - 502 PROYECTO DE GRADO II

VIGAS AZOTEA

DOCENTE DE LA MATERIA: Ing. Javier Castellanos V.	ESTUDIANTE: Alvaro Jhonny Lopez Velasquez	30/31
ESCALAS: Indicadas	FECHA: Tja, Julio 2022	

LONGITUD DE BARRAS

SECCIÓN TIPO I
ESC 1:50



SECCIÓN TIPO II
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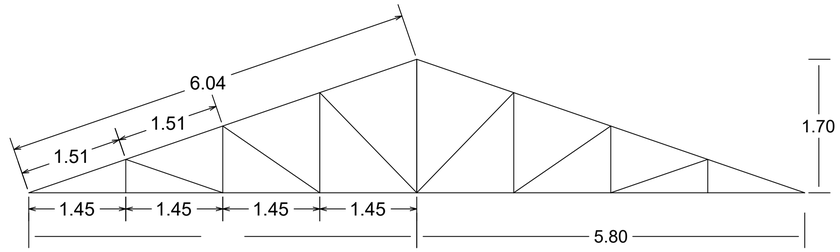
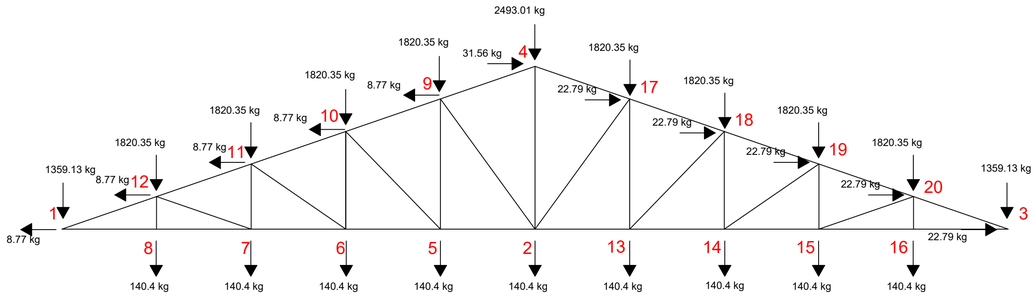
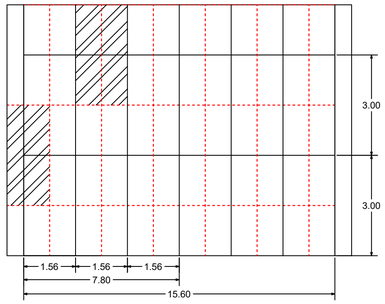


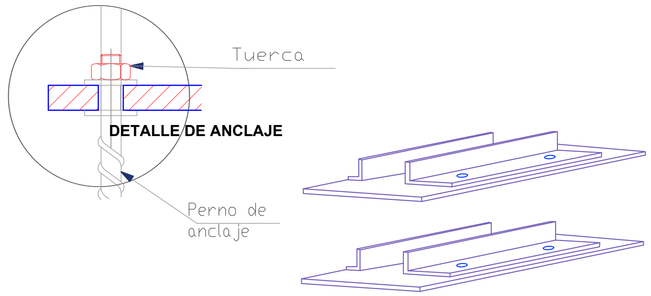
CARGAS SOBRE NUDOS
ESC 1:50



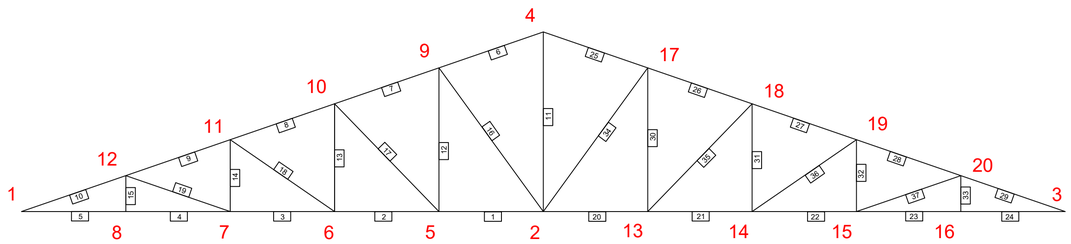
SECCIÓN TIPO I
ESC 1:100



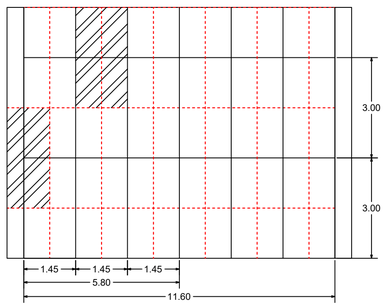
DETALLE DE ANCLAJE



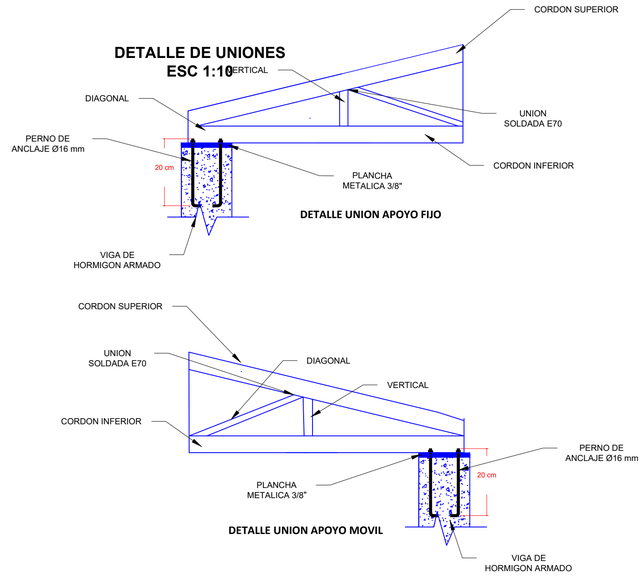
DISPOSICIÓN DE BARRAS Y NUDOS
ESC 1:50



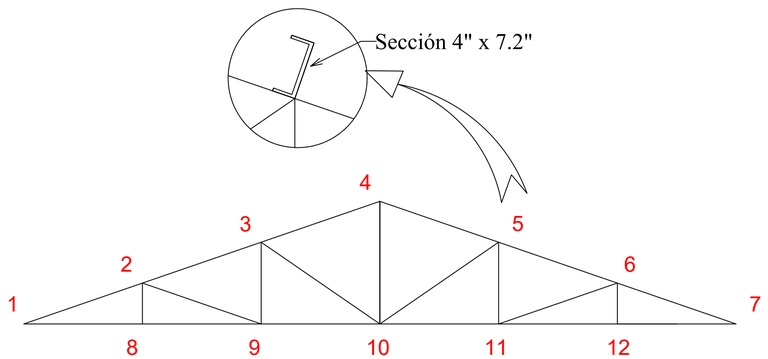
SECCIÓN TIPO II
ESC 1:100



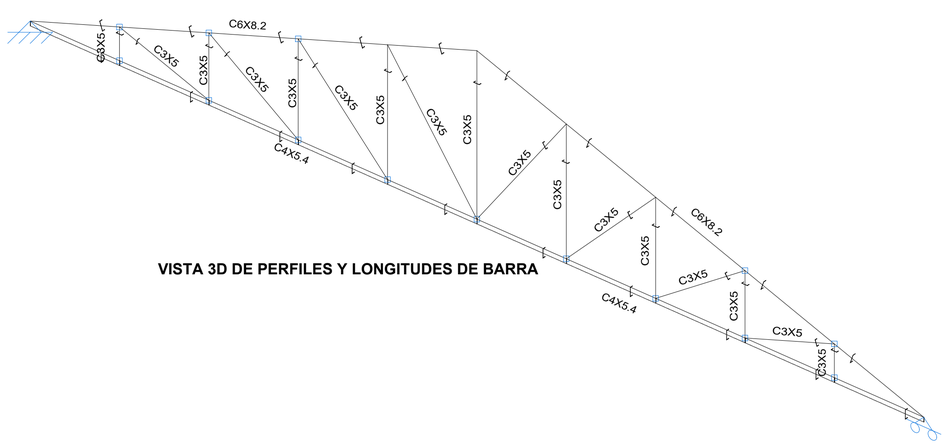
DETALLE DE UNIONES
ESC 1:10



VISTA 3D DE PERFILES Y LONGITUDES DE BARRA



VISTA 3D DE PERFILES Y LONGITUDES DE BARRA



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ESCALAS: Indicadas	FECHA: Tja, Julio 2022