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VIA ORIENTAL NO CONCELHO DE CASCAIS TROÇO 1

PROJECTO DE EXECUÇÃO VOLUME 7

PROJECTO DE VALORIZAÇÃO E REABILITAÇÃO DA RIBEIRA DE SASSOEIROS

PEÇAS ESCRITAS

- Anexos

JUNHO 2010



VIA ORIENTAL NO CONCELHO DE CASCAIS - TROÇO 1

PROJECTO DE VALORIZAÇÃO E REABILITAÇÃO DA RIBEIRA DE SASSOEIROS

PROJECTO DE EXECUÇÃO

ANEXOS

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ANEXO I

CÁLCULOS E PERFIS PARA A CHEIA CENTENÁRIA T=100

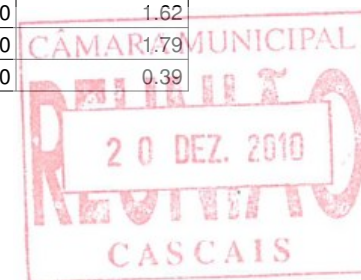
RIBEIRA DE SASSOEIROS

21.00/25.00 m³ / seg



HEC-RAS Plan: Plan 06 River: sassoeiros Reach: montante Profile: PF 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	66	PF 1	21.00	66.00	67.58	67.11	67.72	0.002043	2.04	14.04	12.81	0.52
montante	65.6	PF 1	21.00	65.00	66.82	66.82	67.61	0.006733	4.08	6.10	4.28	0.97
montante	64	PF 1	21.00	64.00	64.77	65.49	67.10	0.088992	6.76	3.11	4.08	2.47
montante	62	PF 1	21.00	62.00	62.80	63.09	63.78	0.027619	4.38	4.82	6.08	1.57
montante	61.25	PF 1	21.00	61.00	62.20	62.51	63.32	0.021711	4.85	4.78	4.76	1.41
montante	60	PF 1	21.00	60.00	61.08	61.77	62.91	0.037807	6.42	3.87	4.36	1.97
montante	59.6	PF 1	21.00	59.60	60.32	60.86	62.30	0.068126	6.47	3.55	6.02	2.43
montante	57	PF 1	21.00	56.90	58.48	59.20	60.41	0.027991	7.57	4.17	4.28	1.92
montante	56.5	PF 1	21.00	56.50	57.39	57.94	59.48	0.087756	6.39	3.28	5.95	2.75
montante	54.5	PF 1	21.00	54.50	56.07	56.74	58.60	0.079269	7.47	3.30	4.90	1.94
montante	52.5	PF 1	21.00	52.50	53.38	54.11	56.40	0.079859	8.63	3.06	4.98	2.94
montante	52	PF 1	21.00	52.00	52.72	53.18	55.48	0.143572	8.34	3.44	12.00	3.17
montante	49	PF 1	21.00	49.00	50.28	50.91	52.08	0.024227	6.12	3.96	4.08	1.73
montante	47.51	PF 1	21.00	47.00	49.69	48.24	49.71	0.000152	0.75	44.92	42.30	0.15
montante	47	PF 1	21.00	46.75	49.62		49.70	0.001139	1.46	18.77	15.67	0.28
montante	46.75	PF 1	21.00	46.75	49.00	49.00	49.53	0.005705	4.32	8.48	7.29	0.92
montante	46	PF 1	25.00	46.00	47.22	47.70	49.10	0.062295	6.22	4.51	10.17	2.03
montante	44.01	PF 1	25.00	44.00	44.50	44.99	46.53	0.106992	6.31	3.96	8.00	2.86
montante	42.51	PF 1	25.00	42.50	43.19	43.50	44.23	0.037061	4.51	5.54	8.00	1.73
montante	40.5	PF 1	25.00	40.50	41.11	41.51	42.45	0.055477	5.13	4.87	8.00	2.10
montante	38	PF 1	25.00	38.00	38.77	39.00	39.61	0.032100	4.06	6.16	8.00	1.48
montante	37.51	PF 1	25.00	37.20	38.13	38.20	38.71	0.014991	3.37	7.41	8.00	1.12
montante	36.51	PF 1	25.00	35.50	36.18	36.49	37.25	0.038497	4.57	5.47	8.00	1.76
montante	34.01	PF 1	25.00	33.70	34.98	34.70	35.28	0.005654	2.45	10.20	8.00	0.69
montante	33.91	PF 1	25.00	33.20	34.29	34.29	34.84	0.012455	3.28	7.61	7.00	1.01
montante	32.70	PF 1	25.00	32.70	33.44	33.72	34.41	0.005146	4.36	5.73	7.70	1.61
montante	32.58	PF 1	25.00	32.58	33.32	33.60	34.30	0.005193	4.38	5.71	7.70	1.62
montante	32.51	PF 1	25.00	32.40	33.09	33.41	34.19	0.039946	4.66	5.37	7.80	1.79
montante	32.01	PF 1	25.00	31.40	33.27	32.39	33.41	0.001817	1.67	14.97	8.00	0.39

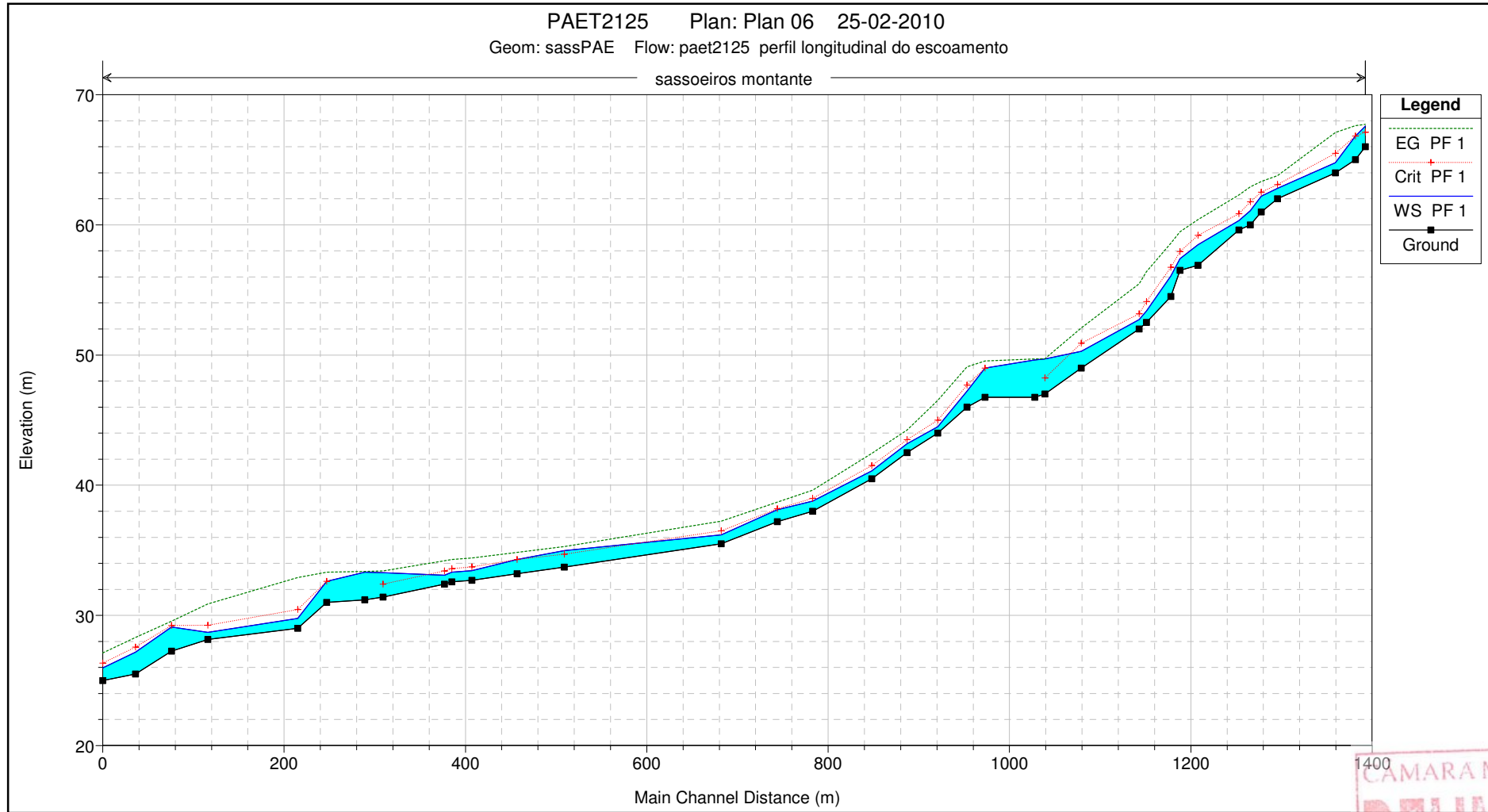


HEC-RAS Plan: Plan 06 River: sassoeiros Reach: montante Profile: PF 1 (Continued)

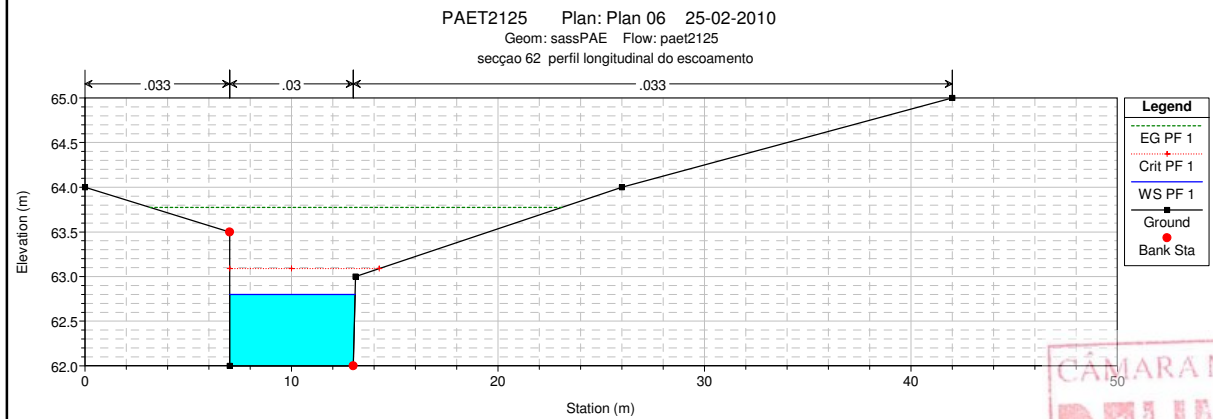
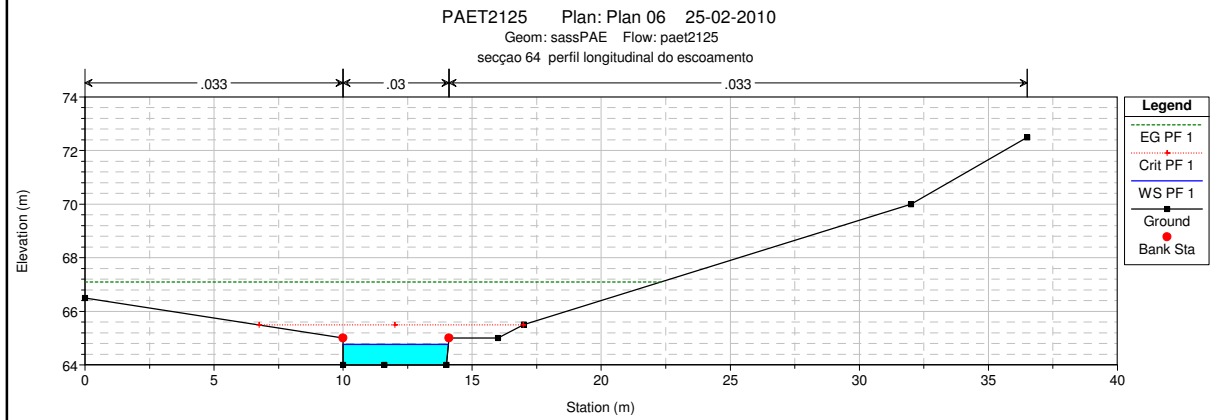
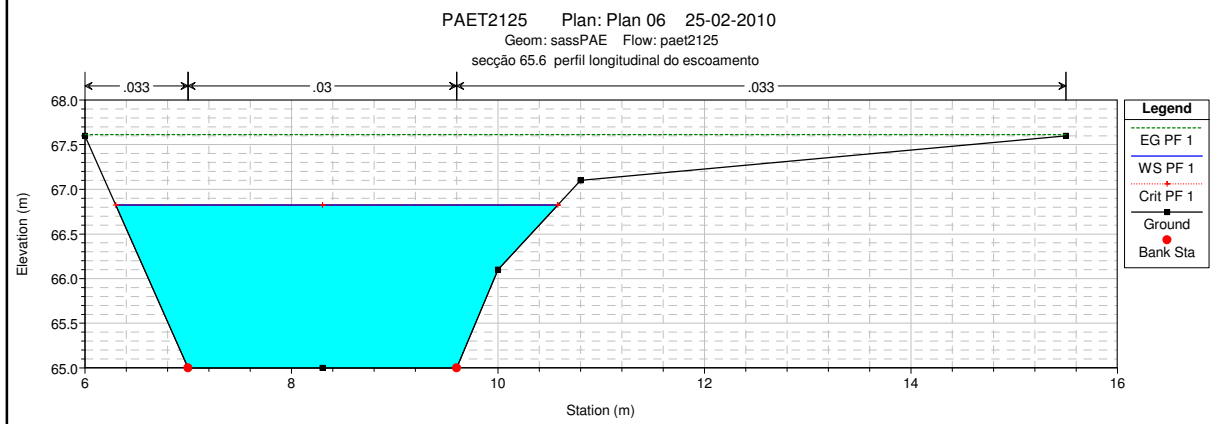
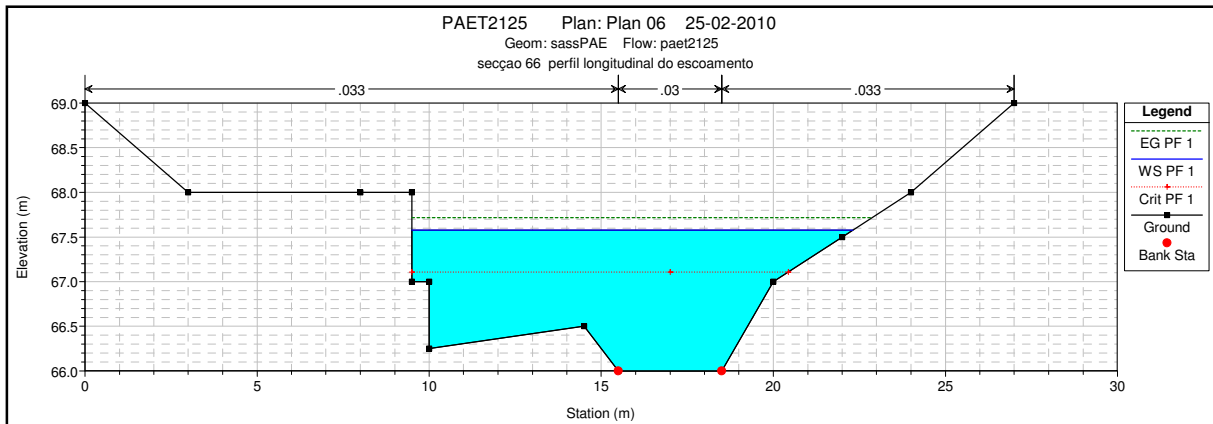
Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	31.01	PF 1	25.00	31.20	33.32		33.39	0.000097	1.16	23.42	12.00	0.25
montante	30.51	PF 1	25.00	31.00	32.61	32.61	33.31	0.002115	3.77	7.42	6.22	0.95
montante	30.01	PF 1	25.00	29.00	29.77	30.46	32.91	0.018756	7.96	3.46	5.50	2.90
montante	28.01	PF 1	25.00	28.15	28.70	29.25	30.88	0.016672	6.55	3.84	7.50	2.83
montante	27.5	PF 1	25.00	27.25	29.11	29.22	29.55	0.025013	3.69	10.30	31.97	0.88
montante	25.5	PF 1	25.00	25.50	27.18	27.56	28.32	0.034076	5.12	6.25	12.95	1.32
montante	25	PF 1	25.00	25.00	25.96	26.33	27.11	0.032941	4.80	5.43	7.38	1.59

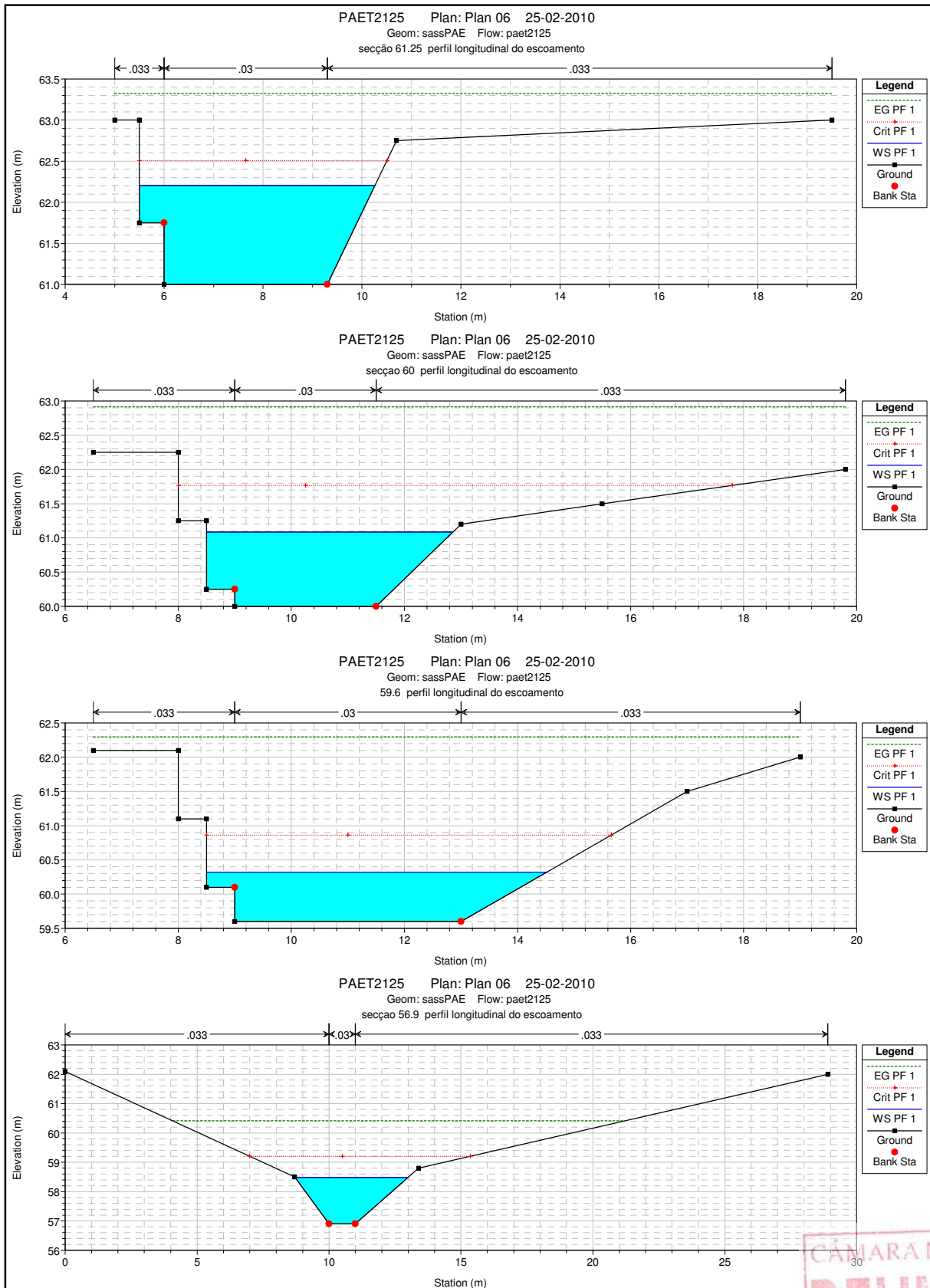


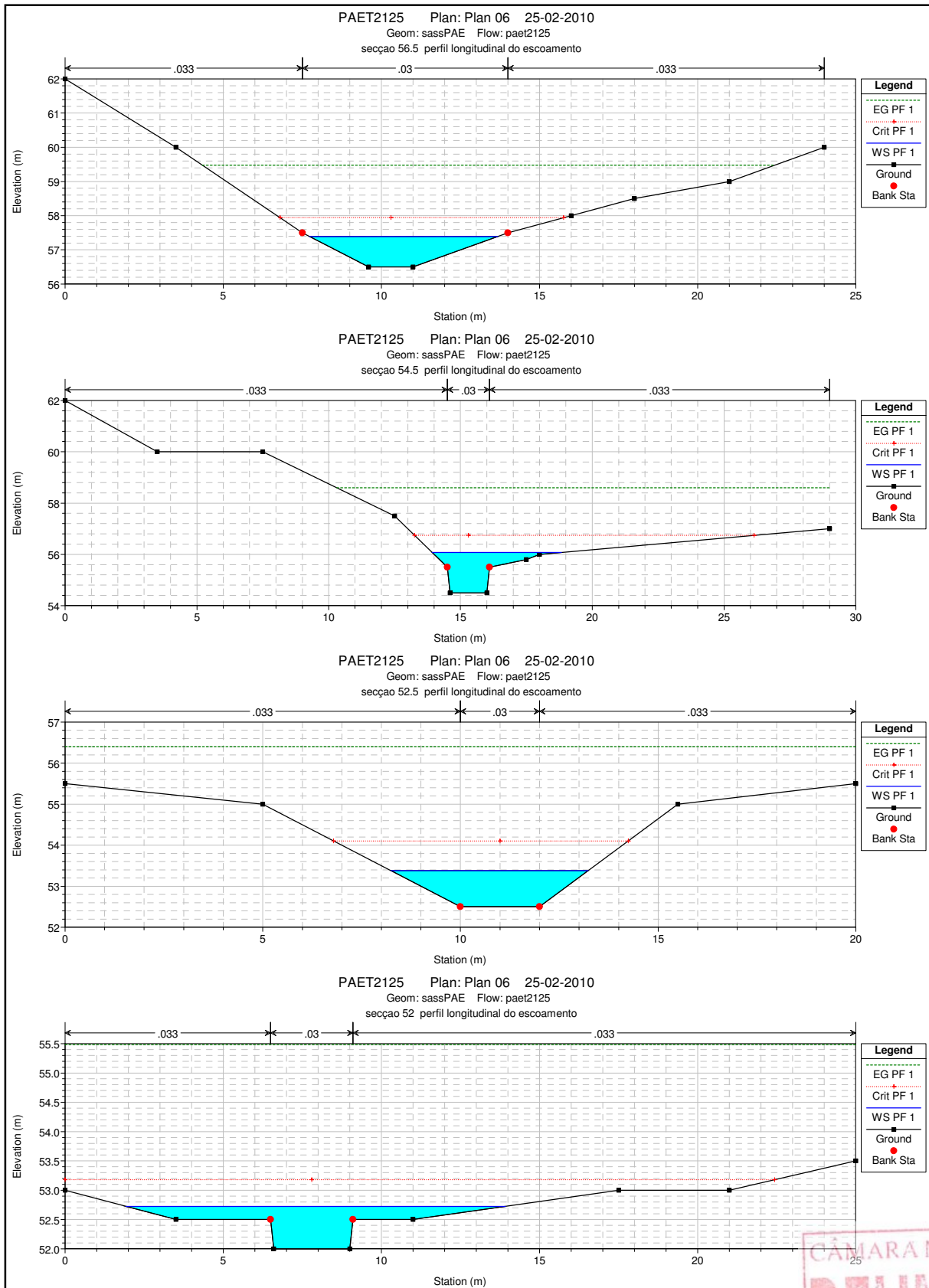
PAET2125 Plan: Plan 06 25-02-2010
Geom: sassPAE Flow: paet2125 perfil longitudinal do escoamento

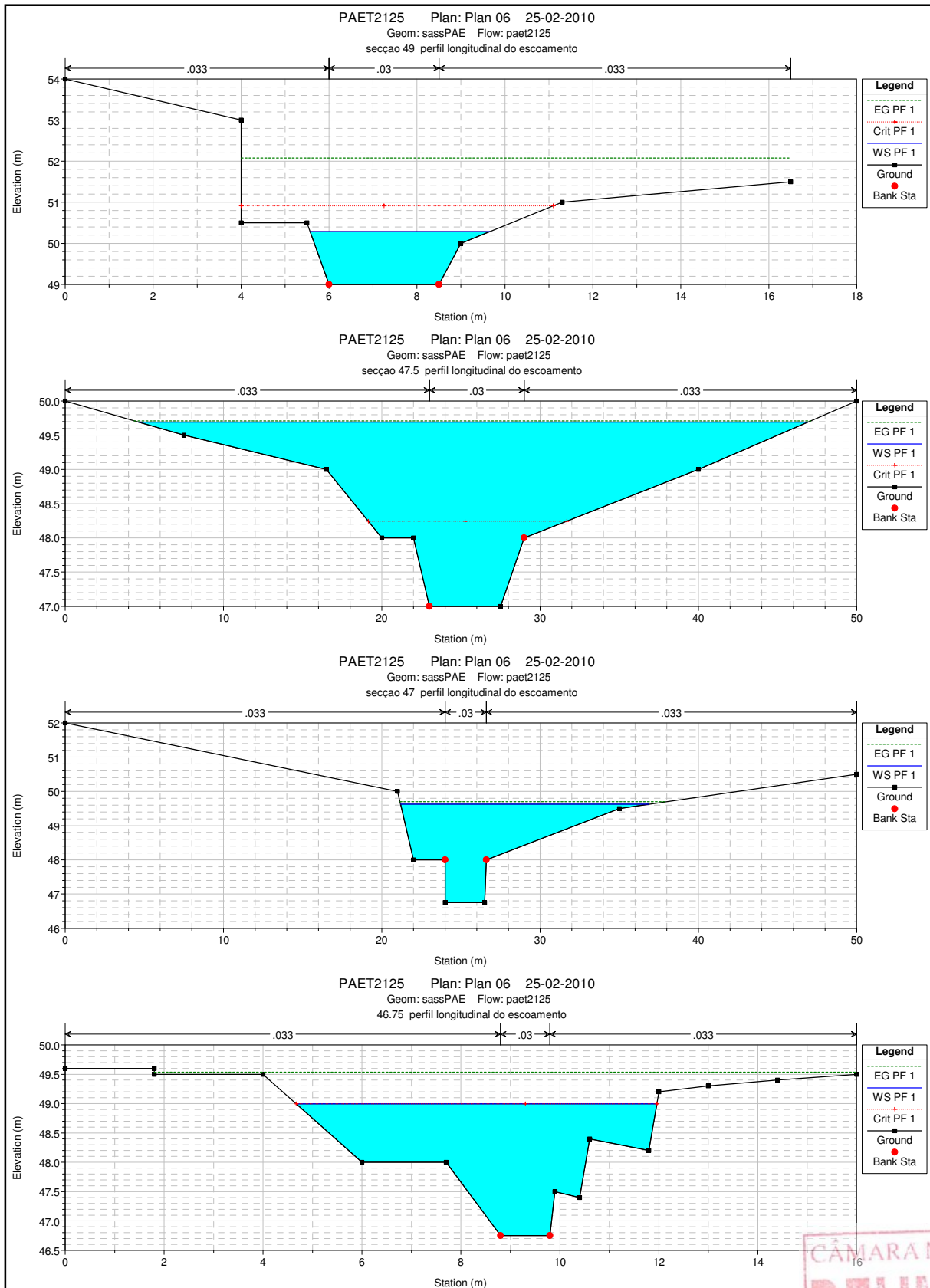


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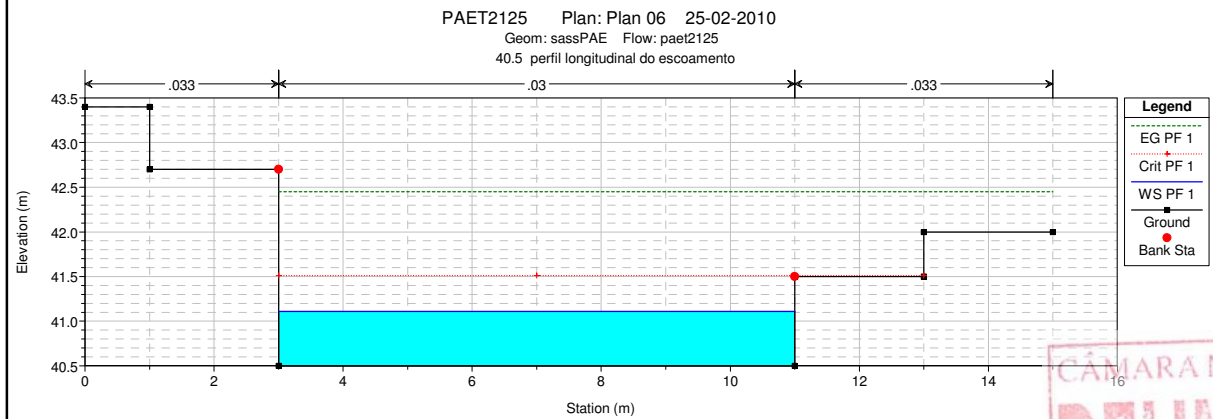
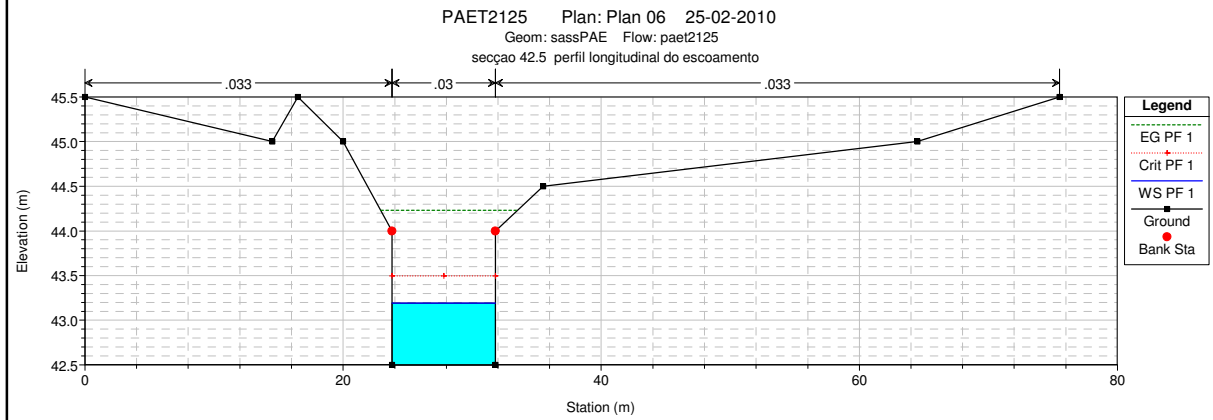
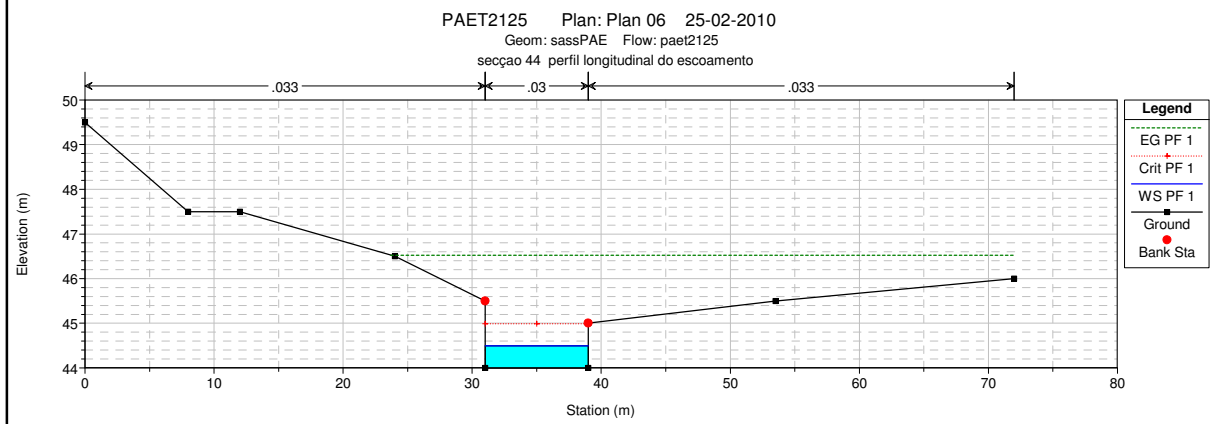
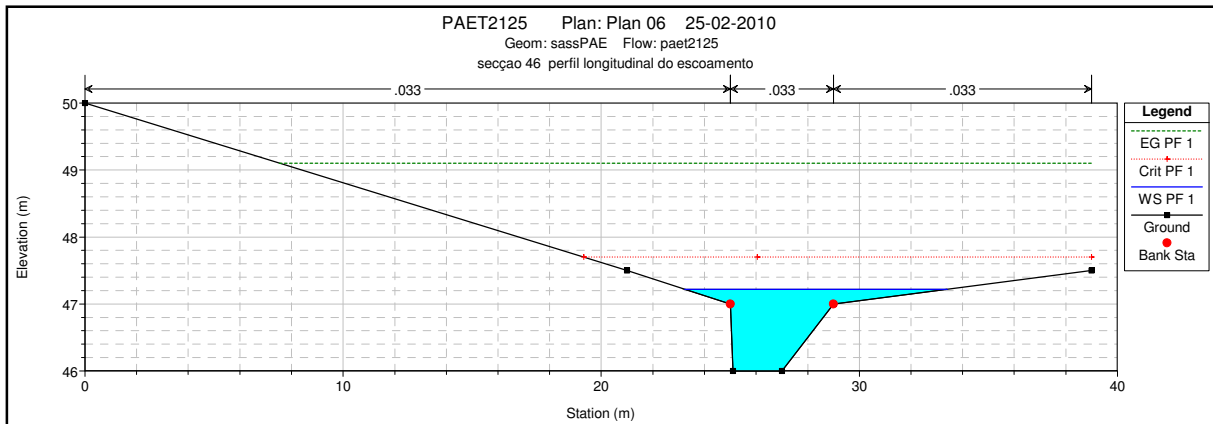


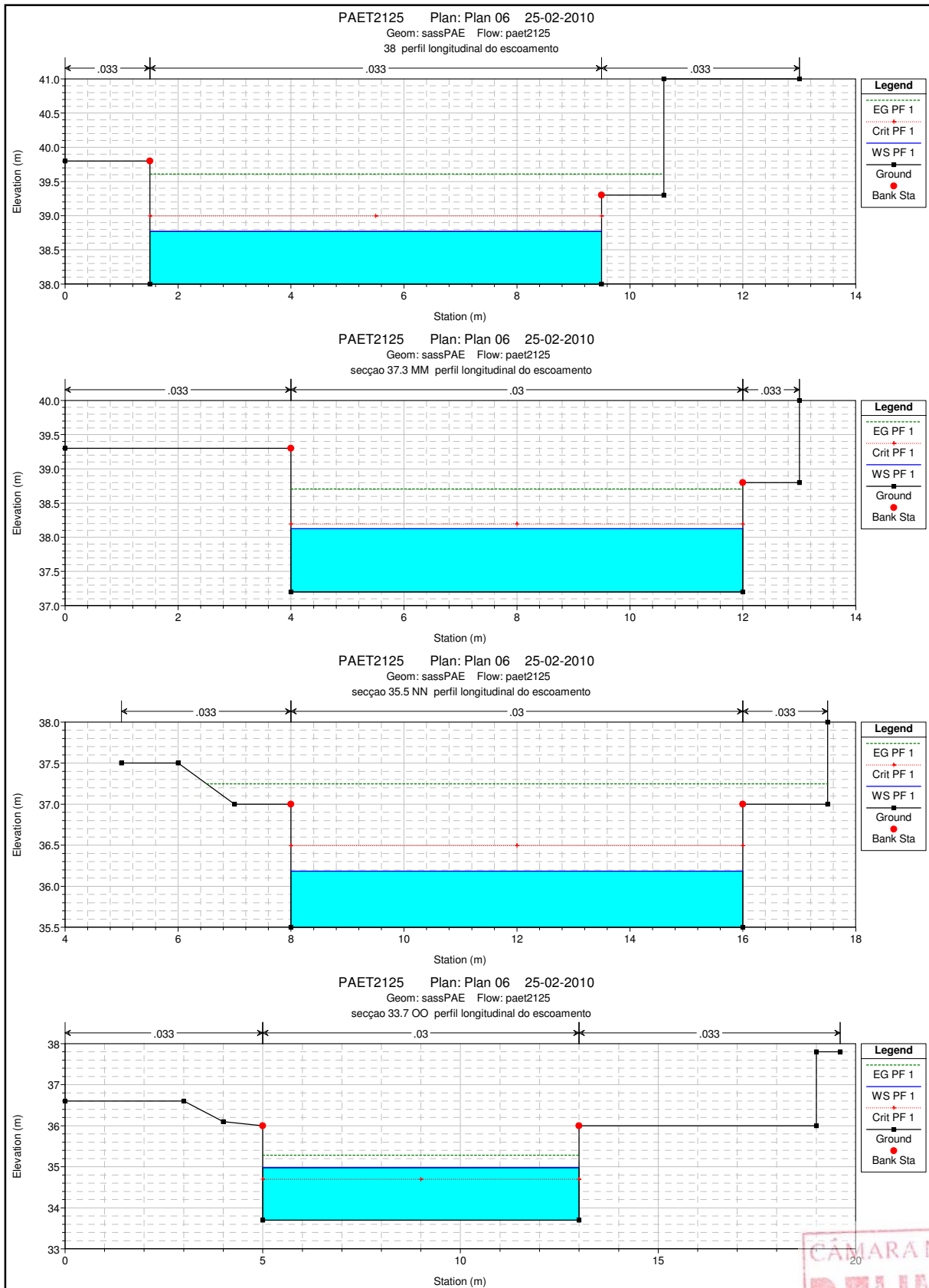


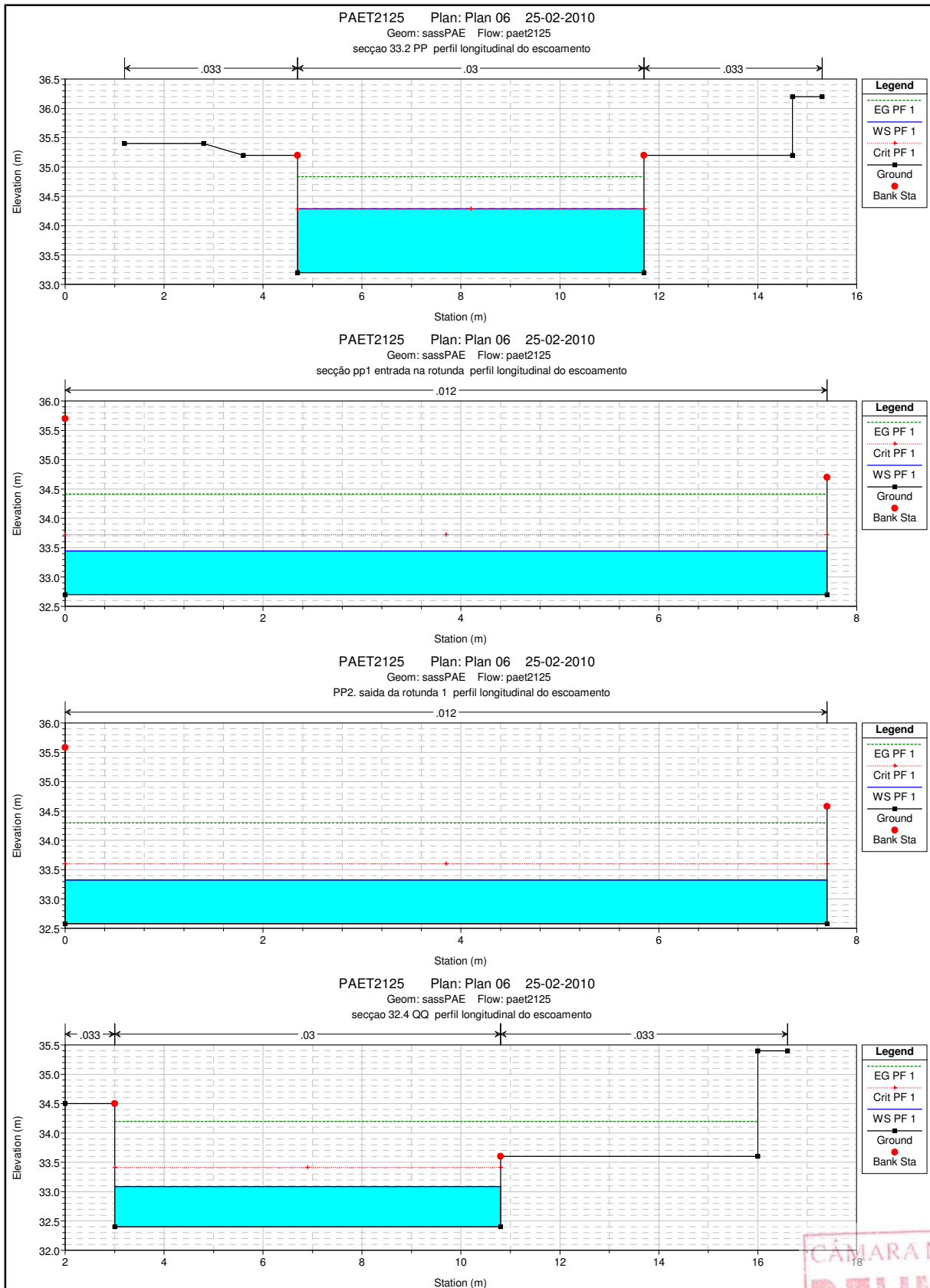


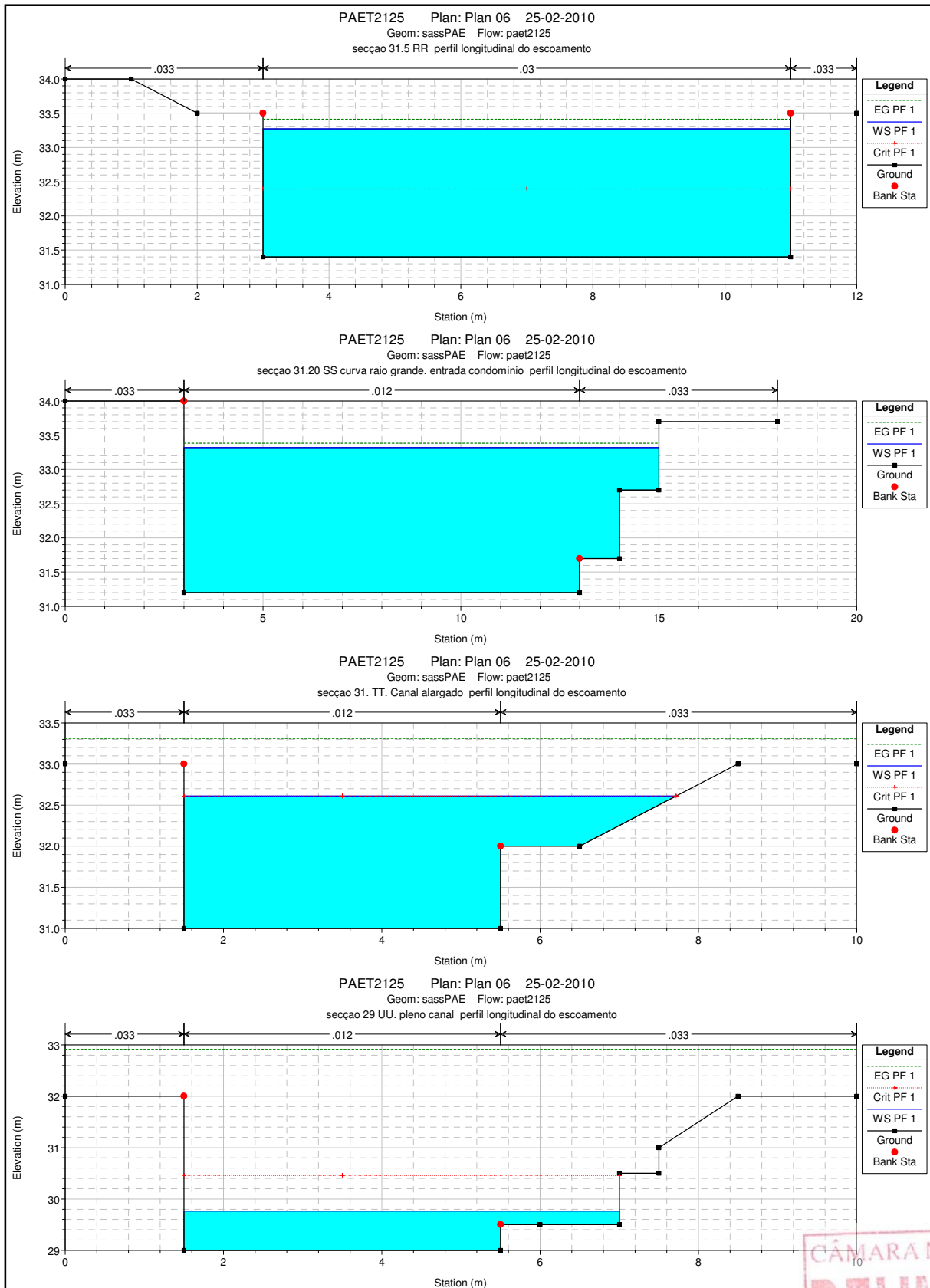


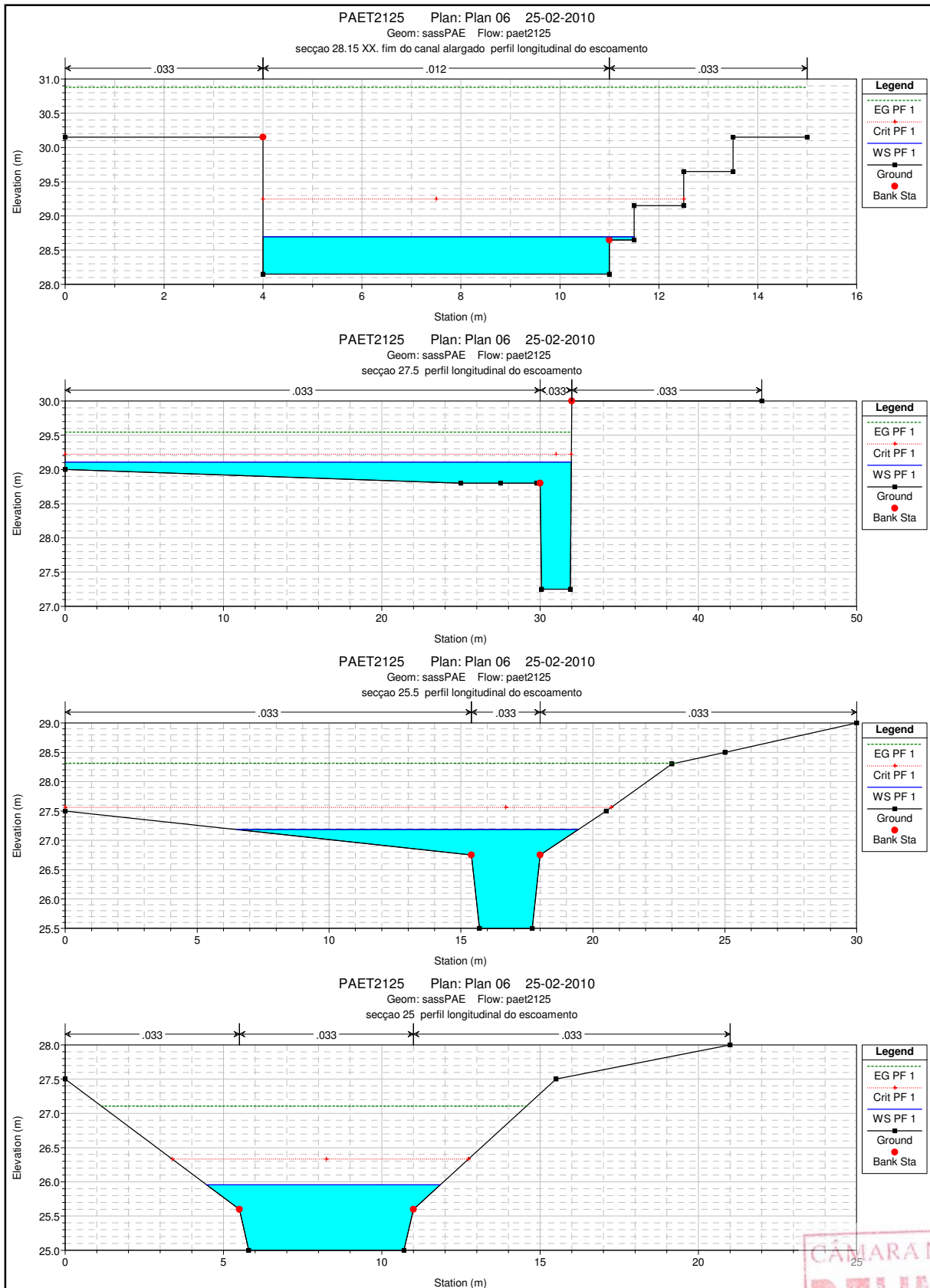
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ANEXO II

CÁLCULOS E PERFIS PARA UMA CHEIA BIANUAL T=2

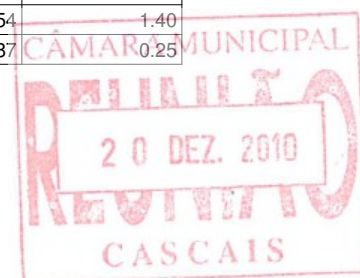
RIBEIRA DE SASSOEIROS

13.5/15.00 m³ / seg

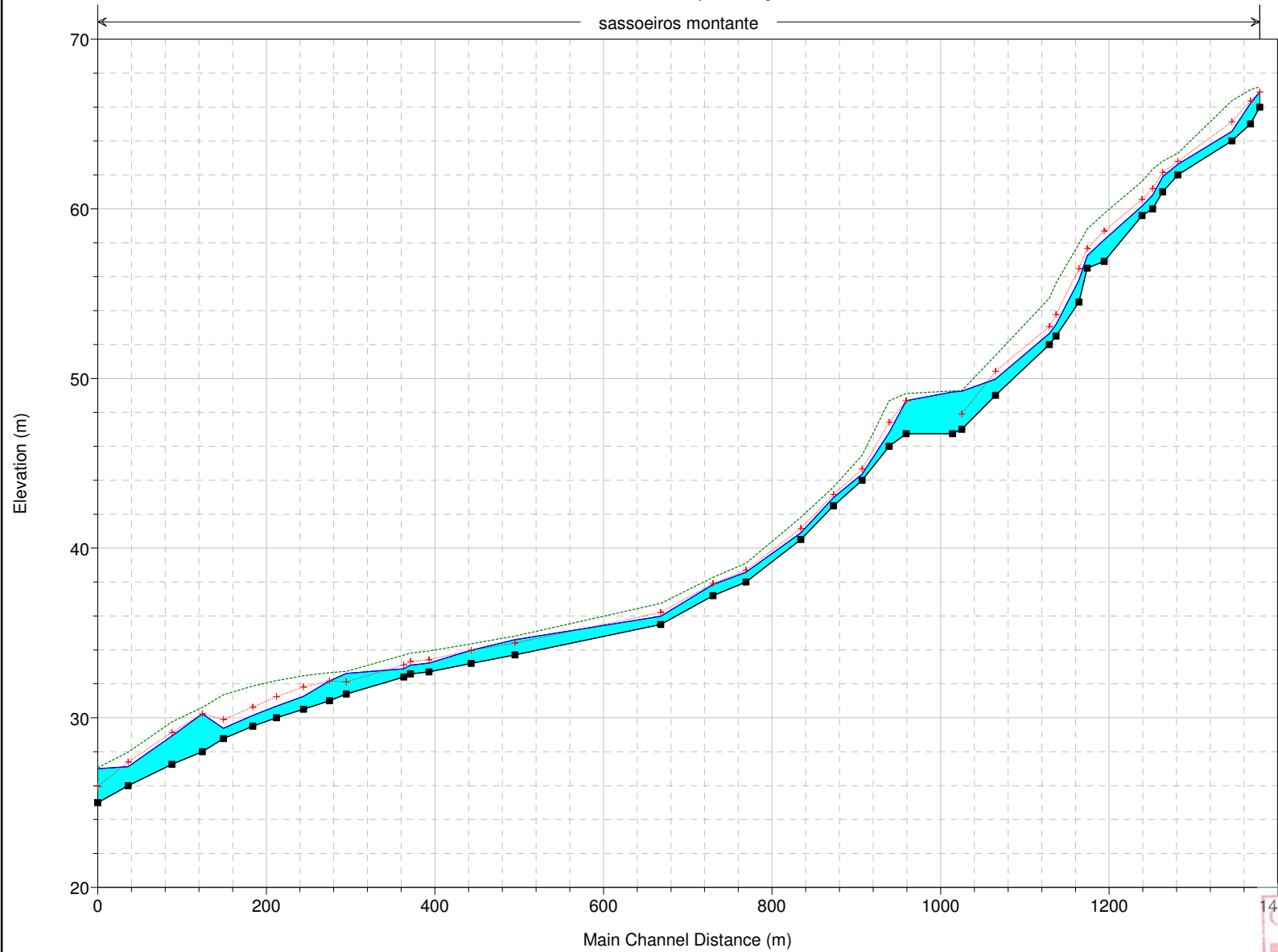


HEC-RAS Plan: Plan 07 River: sassoeiros Reach: montante Profile: PF 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
montante	66	PF 1	13.50	66.00	66.88	66.88	67.19	0.008822	2.88	6.16	9.83	0.98
montante	65.6	PF 1	13.50	65.00	66.22	66.36	67.02	0.011372	4.06	3.73	3.56	1.17
montante	64	PF 1	13.50	64.00	64.56	65.13	66.37	0.094526	5.95	2.27	4.06	2.54
montante	62	PF 1	13.50	62.00	62.63	62.80	63.28	0.024342	3.57	3.80	6.06	1.44
montante	61.25	PF 1	13.50	61.00	61.89	62.15	62.80	0.025602	4.32	3.34	4.52	1.46
montante	60	PF 1	13.50	60.00	60.80	61.19	62.33	0.046789	5.81	2.66	4.00	2.08
montante	59.6	PF 1	13.50	59.60	60.16	60.57	61.62	0.068763	5.51	2.62	5.68	2.34
montante	57	PF 1	13.50	56.90	58.17	58.69	59.73	0.028252	6.58	2.96	3.64	1.86
montante	56.5	PF 1	13.50	56.50	57.24	57.66	58.82	0.082351	5.57	2.42	5.16	2.60
montante	54.5	PF 1	13.50	54.50	55.79	56.48	57.94	0.082414	6.62	2.19	3.23	1.91
montante	52.5	PF 1	13.50	52.50	53.18	53.77	55.63	0.086578	7.60	2.16	4.32	2.94
montante	52	PF 1	13.50	52.00	52.64	53.06	54.72	0.116032	6.91	2.54	10.38	2.79
montante	49	PF 1	13.50	49.00	49.96	50.43	51.36	0.027172	5.35	2.79	3.30	1.74
montante	47.51	PF 1	13.50	47.00	49.26	47.90	49.27	0.000167	0.69	28.94	30.67	0.15
montante	47	PF 1	13.50	46.75	49.20		49.26	0.001110	1.30	13.10	11.92	0.27
montante	46.75	PF 1	13.50	46.75	48.69	48.69	49.12	0.005087	3.70	6.31	6.82	0.85
montante	46	PF 1	13.50	46.00	46.81	47.42	48.70	0.104177	6.09	2.22	3.60	2.47
montante	44.01	PF 1	13.50	44.00	44.36	44.66	45.47	0.084597	4.65	2.90	8.00	2.47
montante	42.51	PF 1	13.50	42.50	42.98	43.16	43.60	0.033531	3.49	3.87	8.00	1.60
montante	40.5	PF 1	13.50	40.50	40.90	41.16	41.82	0.063470	4.26	3.17	8.00	2.16
montante	38	PF 1	15.00	38.00	38.58	38.71	39.11	0.028296	3.24	4.63	8.00	1.36
montante	37.51	PF 1	15.00	37.20	37.86	37.91	38.27	0.015758	2.86	5.25	8.00	1.13
montante	36.51	PF 1	15.00	35.50	35.99	36.21	36.75	0.041053	3.86	3.88	8.00	1.77
montante	34.01	PF 1	15.00	33.70	34.60	34.41	34.82	0.005982	2.09	7.16	8.00	0.71
montante	33.91	PF 1	15.00	33.20	33.97	33.97	34.36	0.012694	2.77	5.41	7.00	1.01
montante	32.70	PF 1	15.00	32.70	33.22	33.43	33.93	0.005601	3.72	4.03	7.70	1.64
montante	32.58	PF 1	15.00	32.58	33.11	33.31	33.81	0.005552	3.71	4.04	7.70	1.63
montante	32.51	PF 1	15.00	32.40	32.88	33.12	33.70	0.044817	4.00	3.75	7.80	1.84
montante	32.01	PF 1	15.00	31.40	32.61	32.11	32.73	0.002372	1.55	9.70	8.00	0.45
montante	31.01	PF 1	15.00	31.00	32.18	32.18	32.66	0.001853	3.08	5.41	8.08	0.91
montante	30.51	PF 1	15.00	30.50	31.26	31.81	32.48	0.007546	4.89	3.07	4.08	1.80
montante	30.01	PF 1	15.00	30.00	30.69	31.25	32.19	0.008596	5.43	2.77	4.02	2.09
montante	29.51	PF 1	15.00	29.50	30.14	30.62	31.88	0.012831	5.84	2.57	4.03	2.34
montante	29.01	PF 1	15.00	28.78	29.38	29.90	31.36	0.015612	6.23	2.41	4.02	2.57
montante	28.01	PF 1	15.00	28.00	30.23	30.23	30.61	0.014929	2.98	5.74	7.03	0.65
montante	27.5	PF 1	15.00	27.25	28.92	29.13	29.76	0.037221	4.28	4.63	21.89	1.08
montante	25.5	PF 1	15.00	26.00	27.12	27.39	27.97	0.031990	4.46	4.38	11.54	1.40
montante	25	PF 1	15.00	25.00	27.00	25.97	27.05	0.000644	1.11	15.98	12.87	0.25

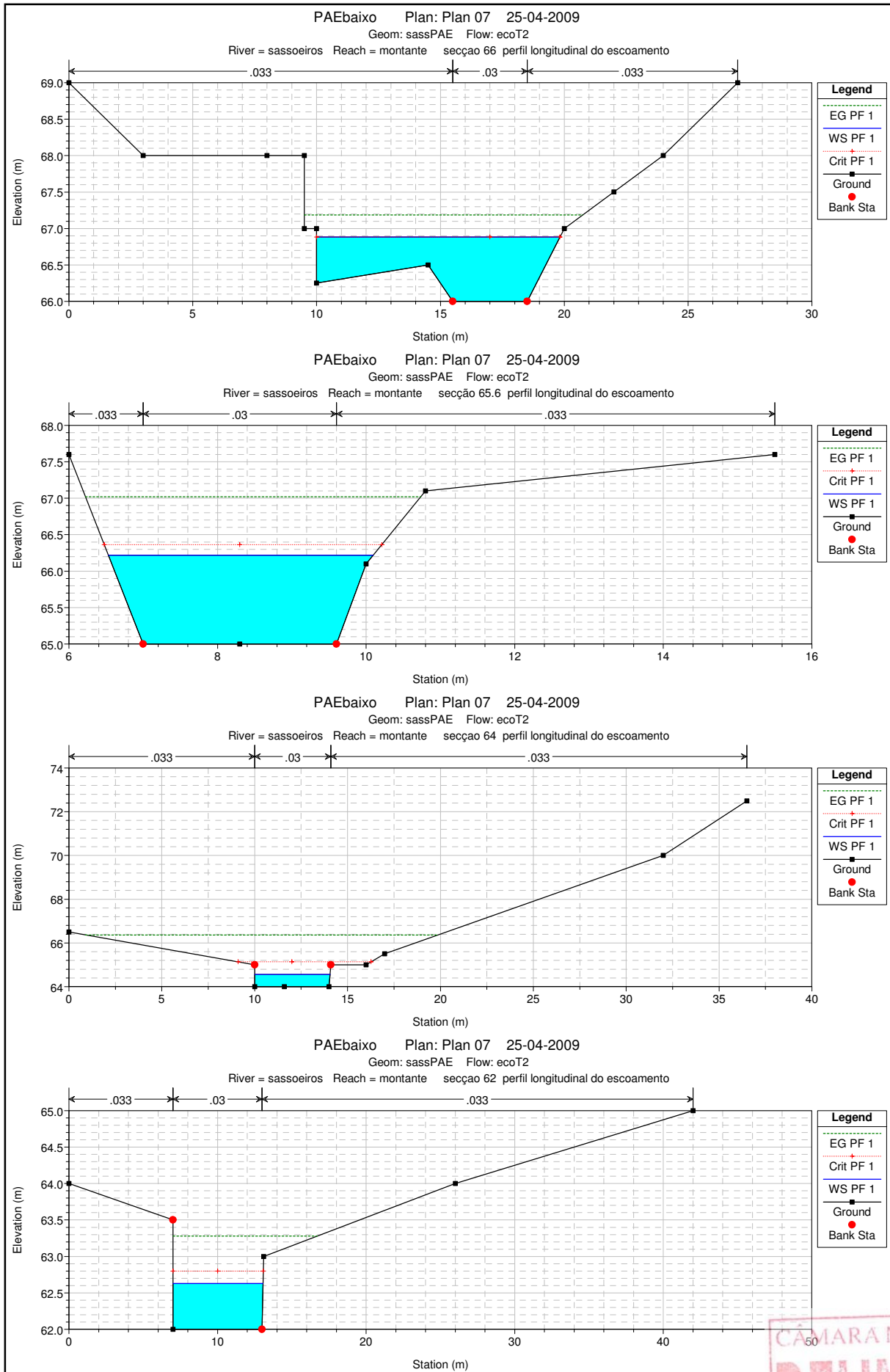


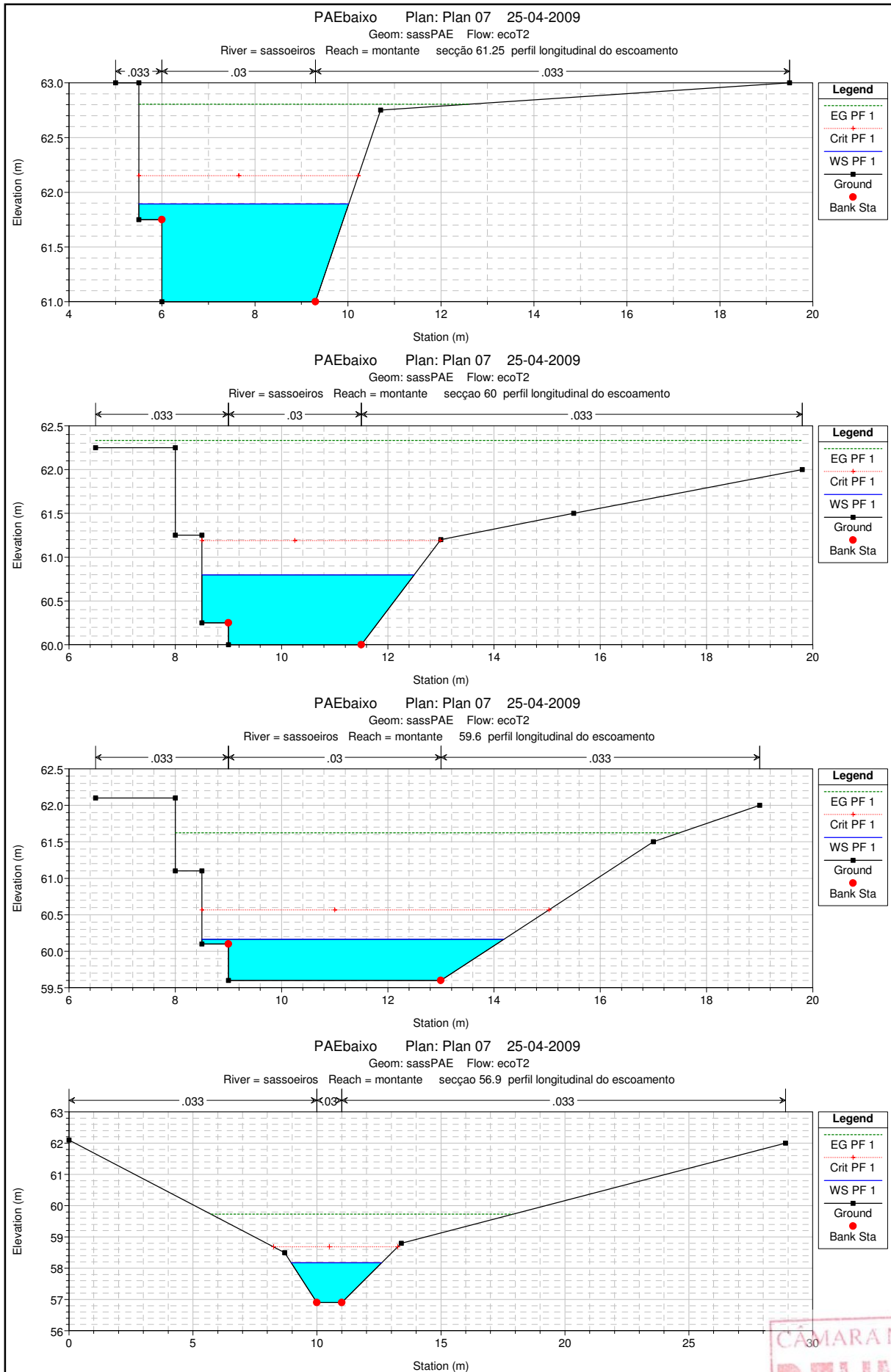
PAEbaixo Plan: Plan 07 25-04-2009
Geom: sassPAE Flow: ecoT2 perfil longitudinal do escoamento

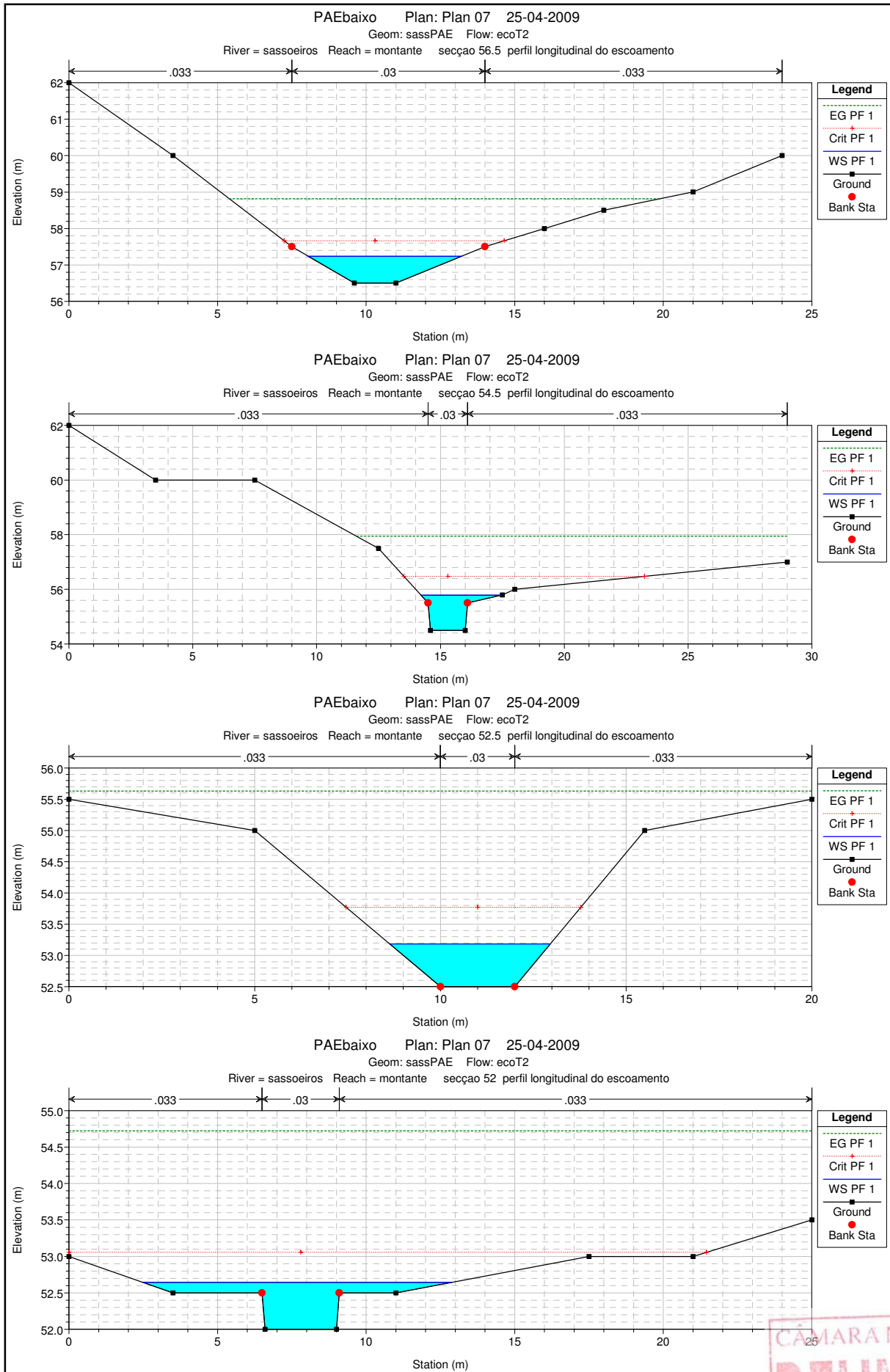


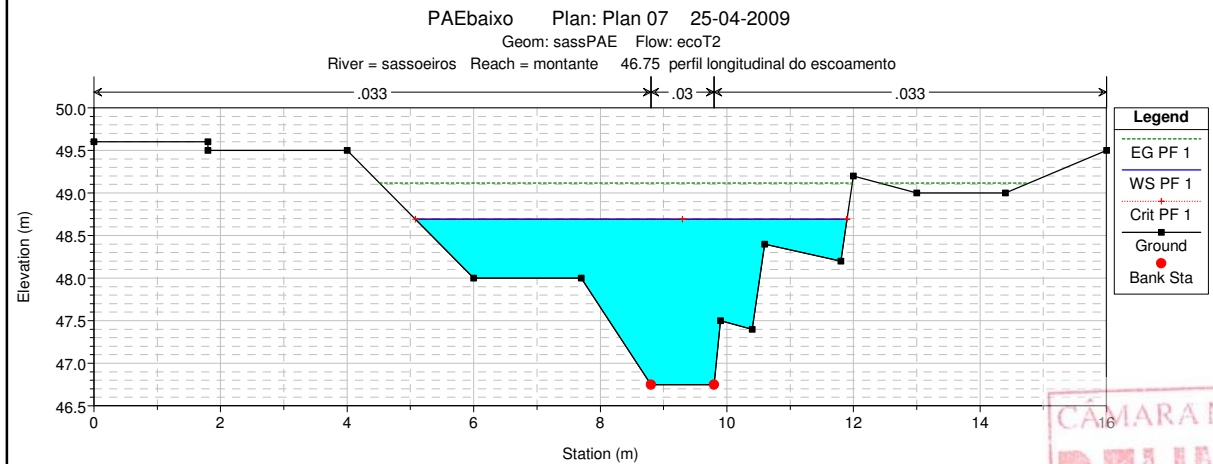
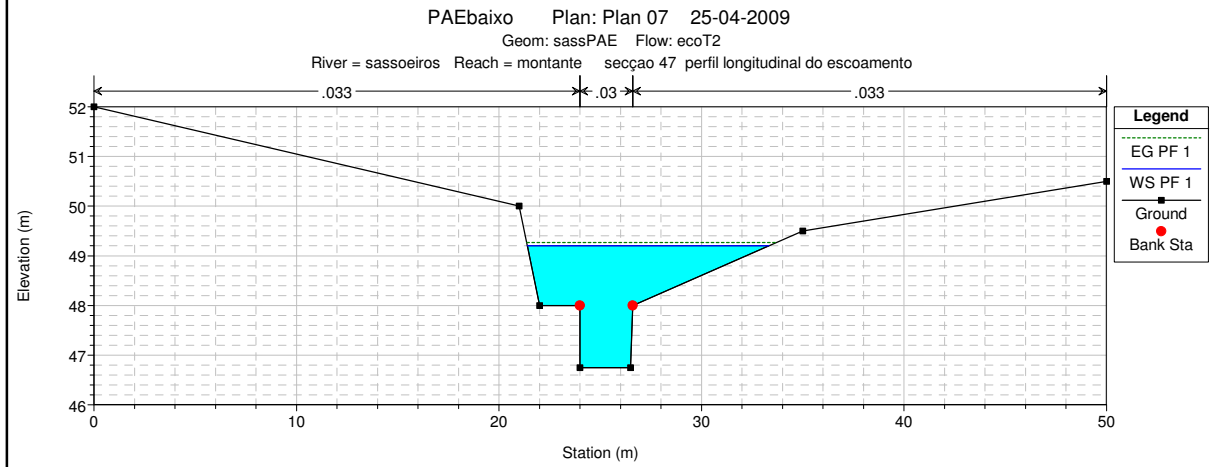
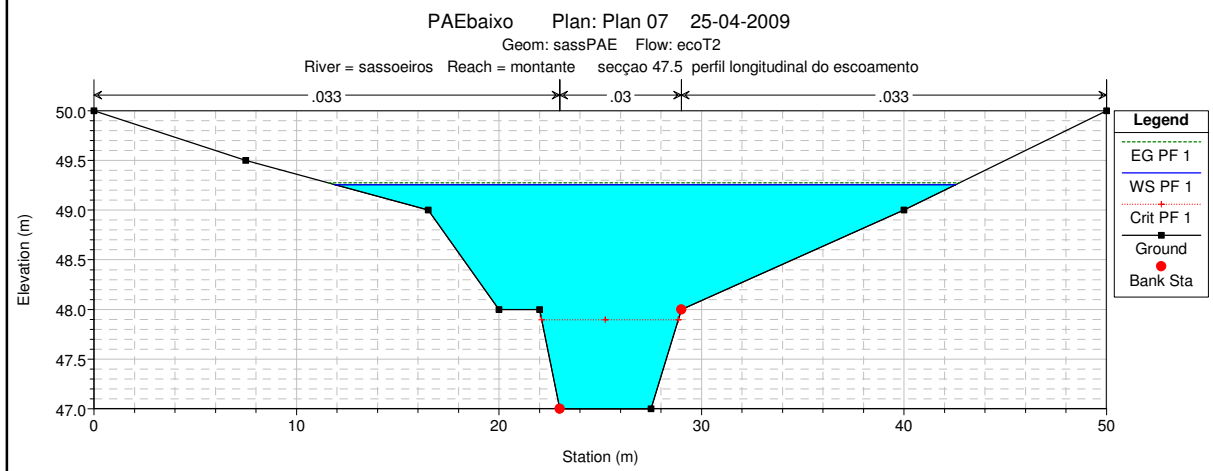
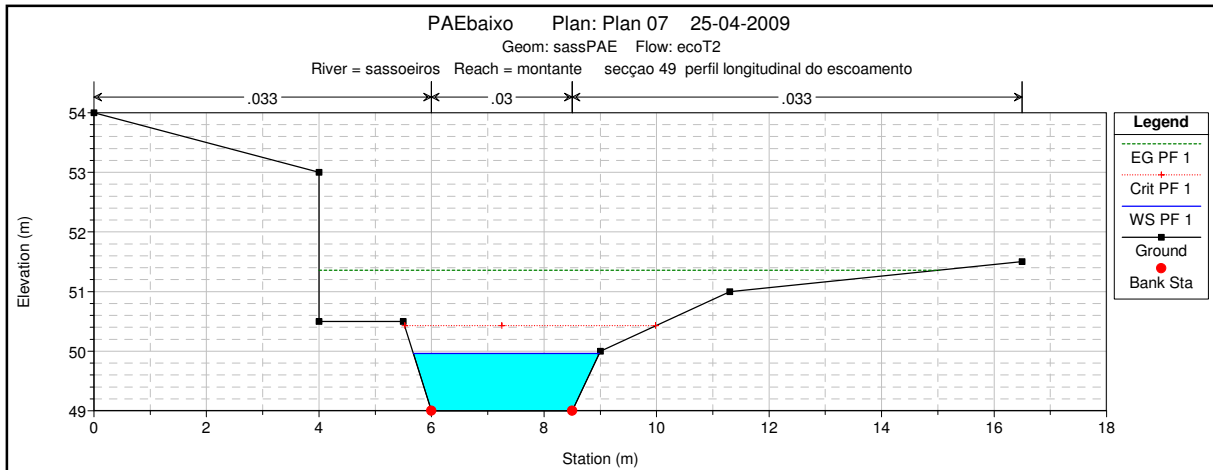
Legend	
EG PF 1	Green Dotted Line
WS PF 1	Blue Solid Line
Crit PF 1	Red Dashed Line with '+'
Ground	Black Solid Line with Square

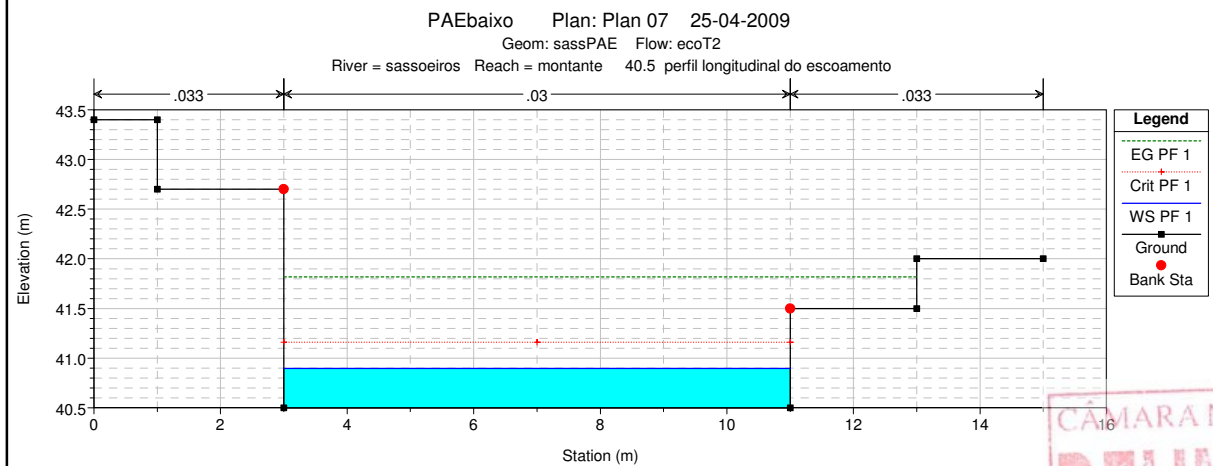
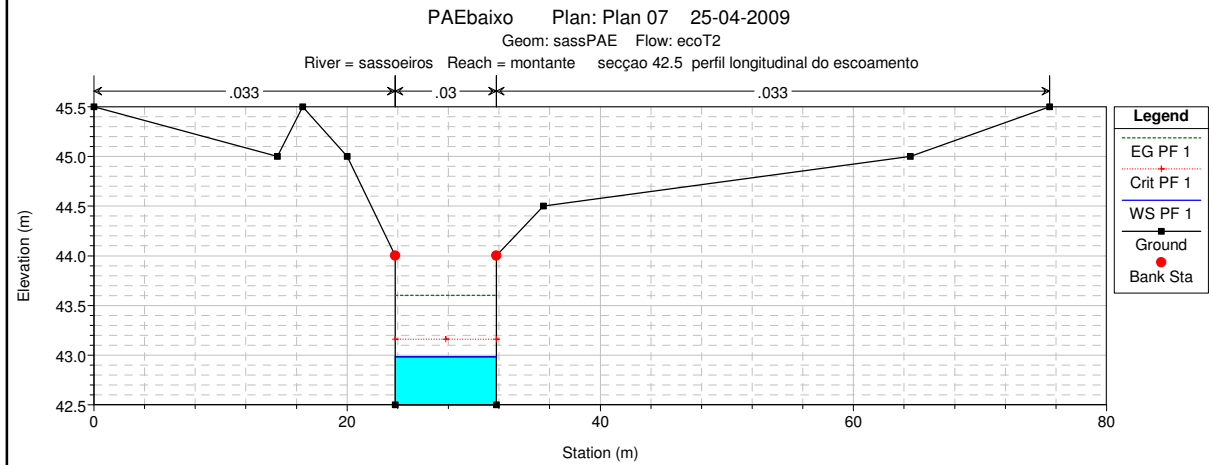
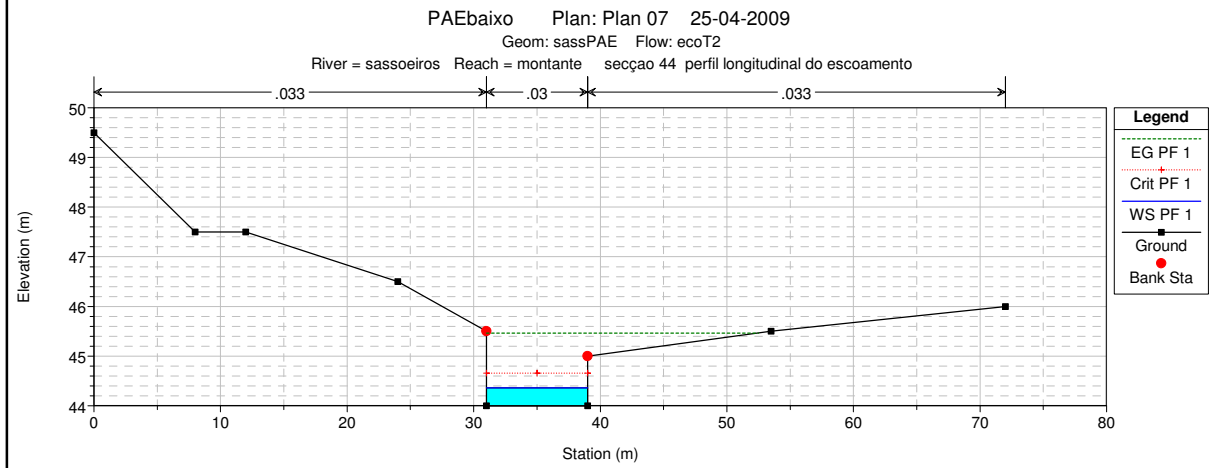
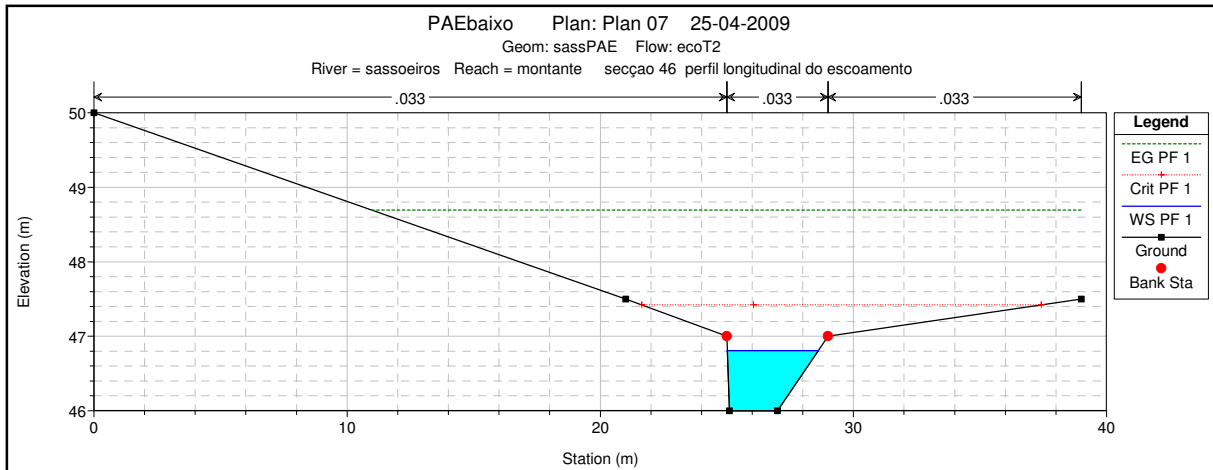


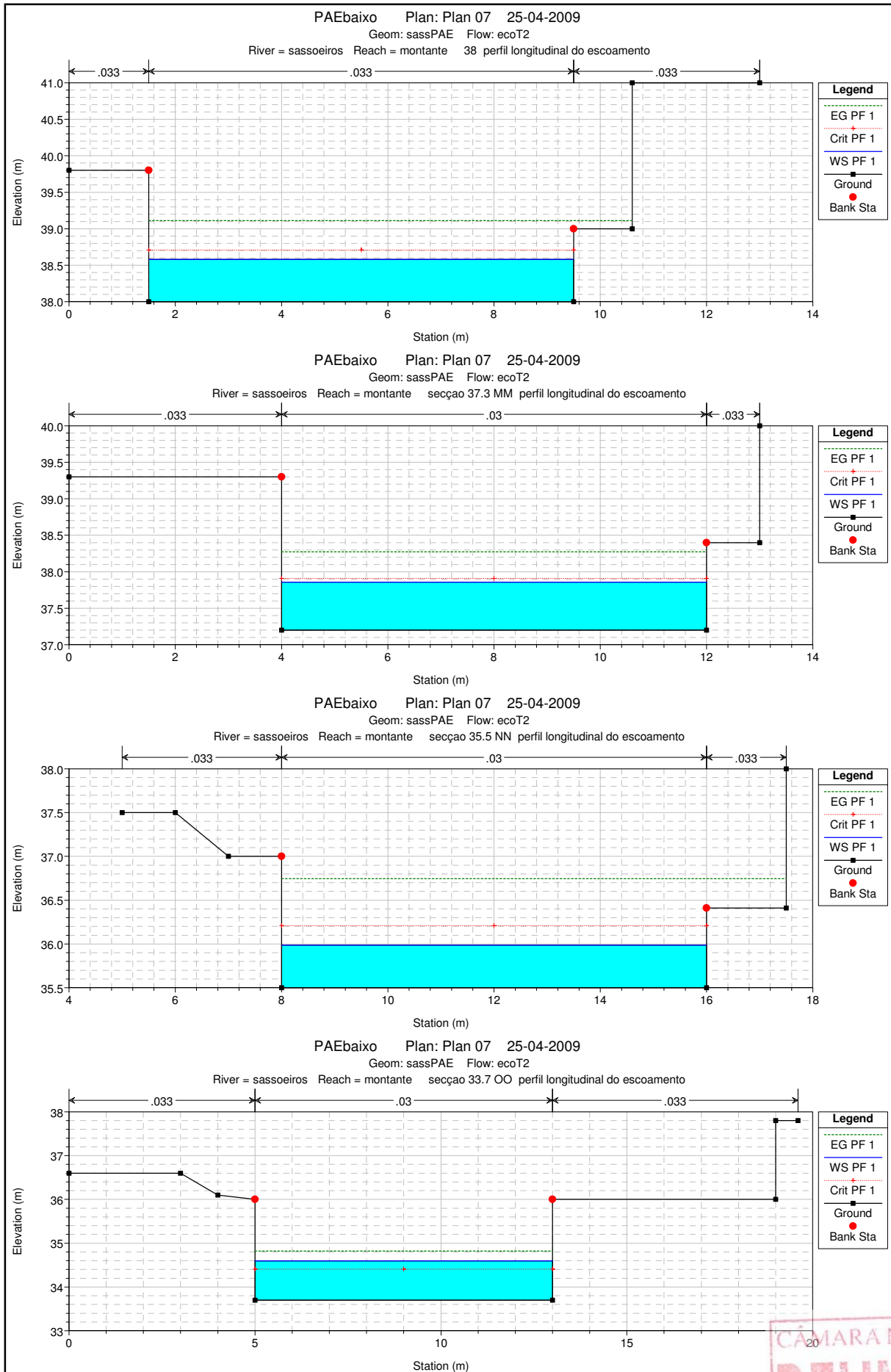


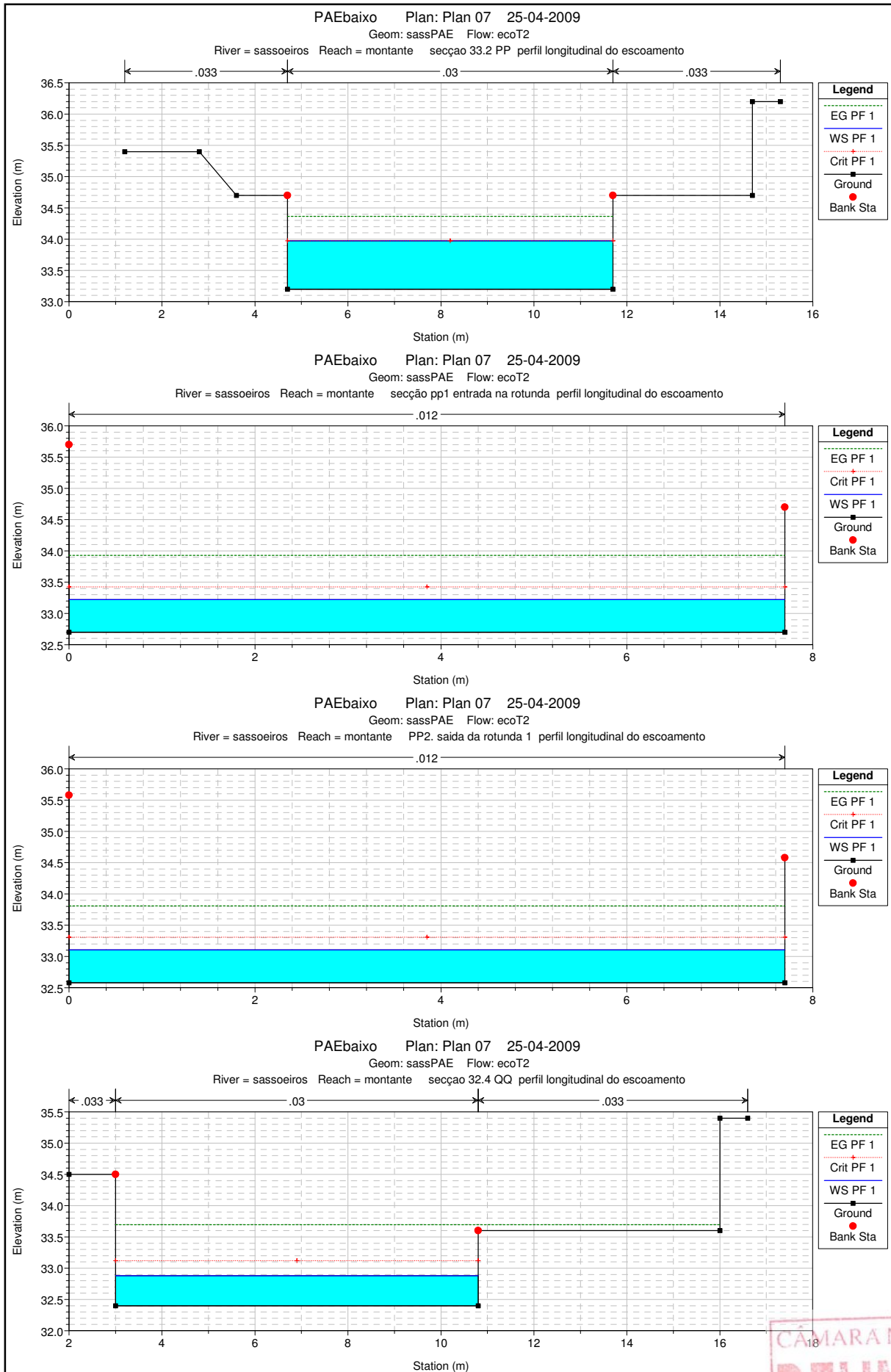


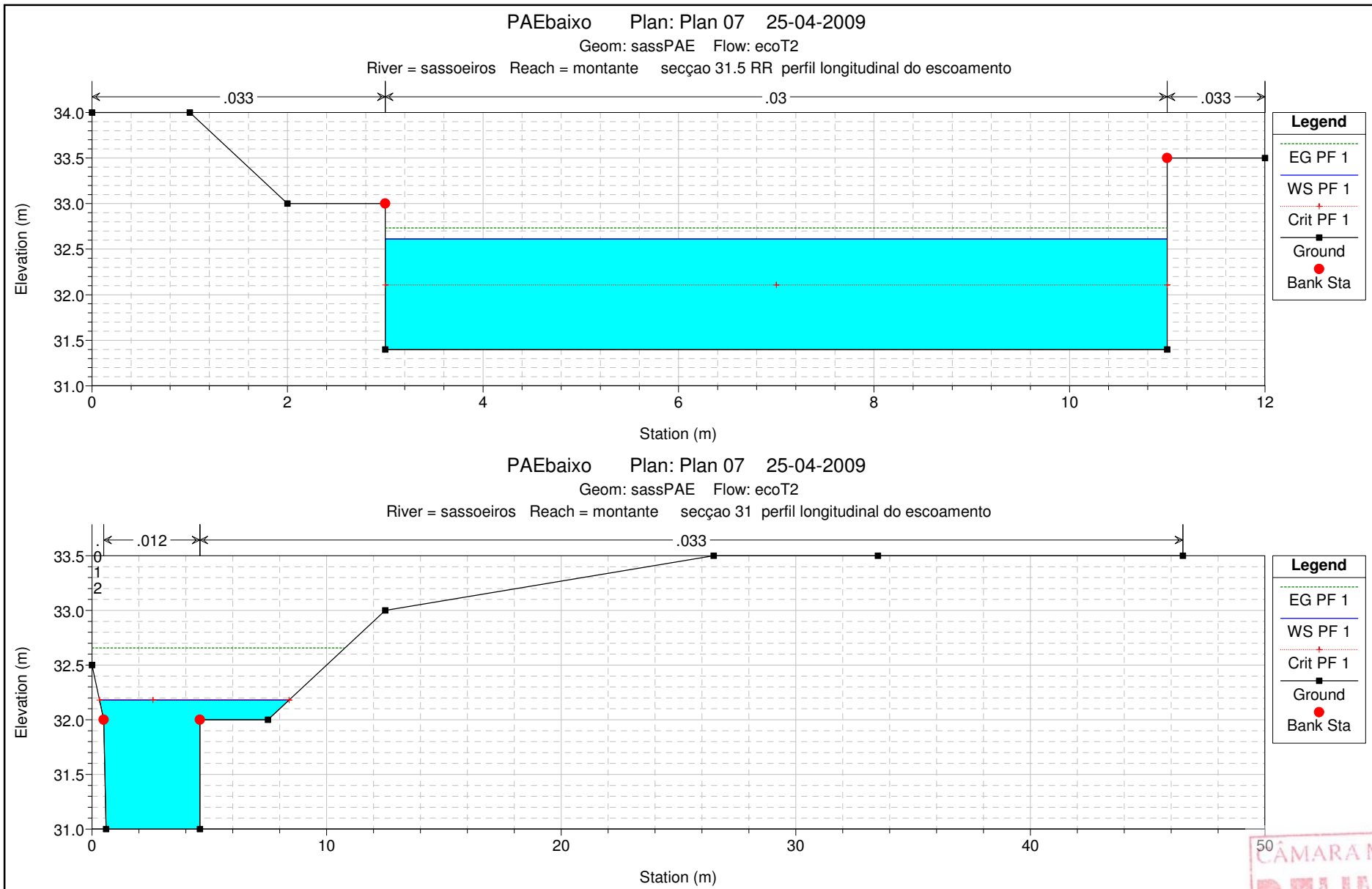












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ANEXO III

**CÁLCULOS E PERFIS PARA A CHEIA CENTENÁRIA T=100
AFLUENTE DA RIBEIRA DE SASOEIROS**

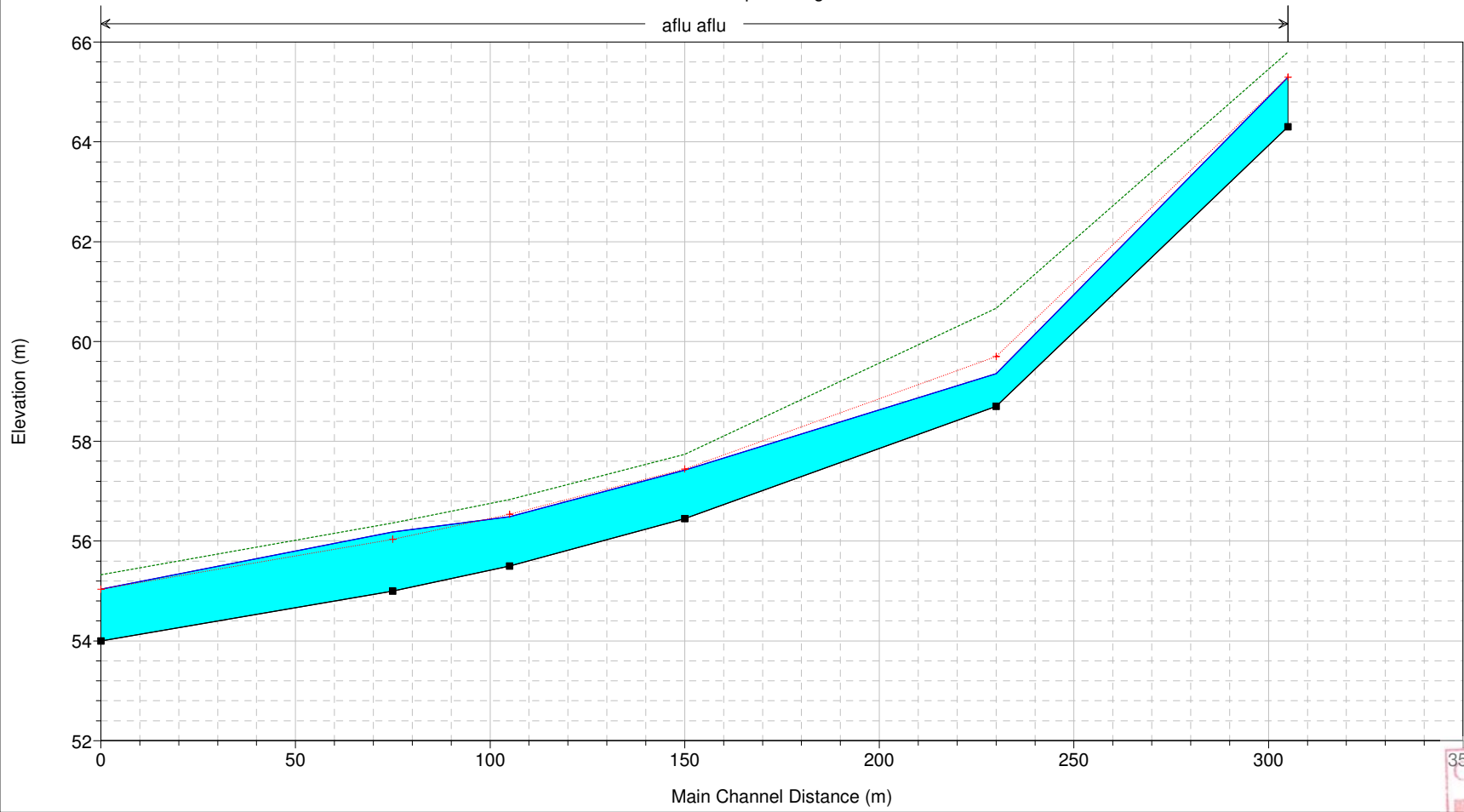


HEC-RAS Plan: Plan 01 River: aflu Reach: aflu Profile: PF 1

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
aflu	66.51	PF 1	2.50	64.30	65.30	65.30	65.80	0.047162	3.14	0.80	0.80	1.00
aflu	60.27	PF 1	2.50	58.70	59.35	59.70	60.66	0.103963	5.40	0.55	1.47	2.13
aflu	58.25	PF 1	2.50	56.45	57.42	57.45	57.74	0.015891	2.76	1.10	1.93	0.89
aflu	57.00	PF 1	3.30	55.50	56.49	56.54	56.83	0.024352	2.80	1.30	2.34	0.90
aflu	56.99	PF 1	3.30	55.00	56.18	56.04	56.36	0.010272	2.05	1.77	2.56	0.60
aflu	56	PF 1	3.30	54.00	55.04	55.04	55.33	0.019153	2.57	1.42	2.39	0.80



aflu_final Plan: Plan 01 11-01-2010
Geom: aflu Flow: perfil longitudinal do escoamento



Legend	
EG PF 1	
WS PF 1	
Crit PF 1	
Ground	



