

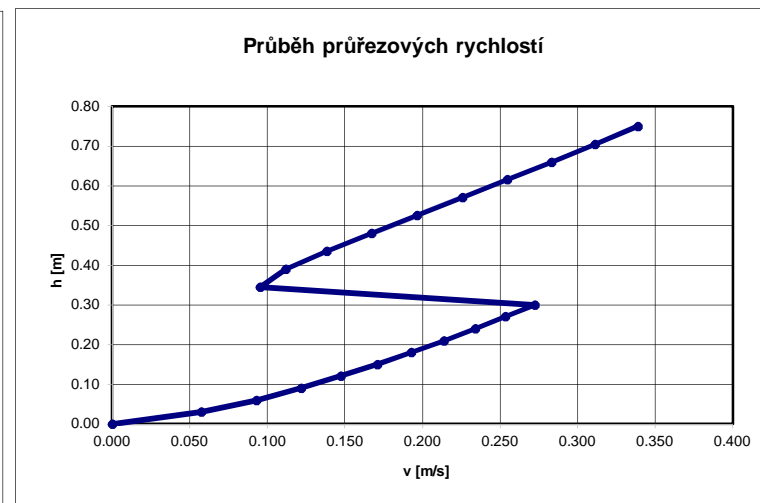
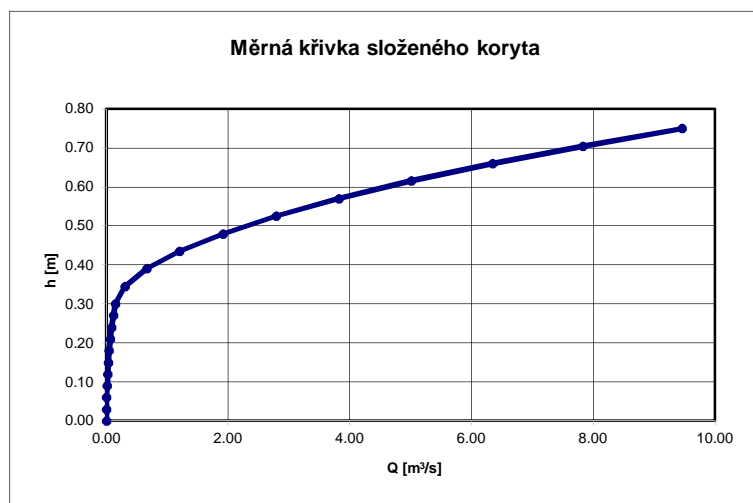
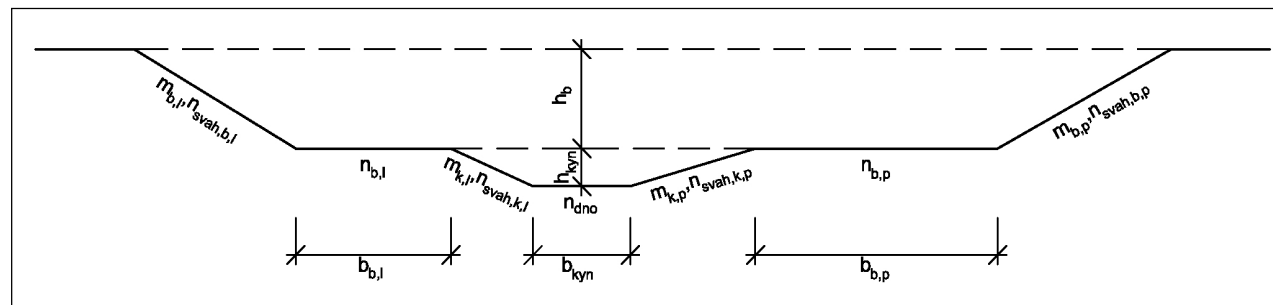
F.2 Výpočet kapacity složeného koryta - Kapacita snížené nivy - řez E - E` (viz příl. D.4.6.)

zadané hodnoty:

b_{kyn}	= 0.6	[m]	b...šířka koryta
$b_{b,l}$	= 23.5	[m]	h...hloubka vody
$b_{b,p}$	= 34.0	[m]	m...sklon svahů
h_{kyn}	= 0.3	[m]	n...drsnostní součinitel
h_b	= 0.5	[m]	i_0 ...podélný sklon koryta
$m_{k,l}$	= 3.8	[-]	
$m_{k,p}$	= 3.8	[-]	
$m_{b,l}$	= 1.0	[-]	
$m_{b,p}$	= 1.0	[-]	
n_{dno}	= 0.030	[-]	
$n_{svah,k,l}$	= 0.030	[-]	
$n_{svah,k,p}$	= 0.030	[-]	
$n_{svah,b,l}$	= 0.050	[-]	
$n_{svah,b,p}$	= 0.050	[-]	
$n_{b,l}$	= 0.050	[-]	
$n_{b,p}$	= 0.050	[-]	
n_{vody}	= 0.010	[-]	
i_0	= 0.001	[-]	

výsledné hodnoty:

$Q_{max,k}$	= 0.14	[m ³ /s]
$Q_{max,b}$	= 9.46	[m ³ /s]



výpočet:

$$R=A/O$$

$$C=1/n \cdot R^y$$

$$y=2,5 \cdot n^{0,5}-0,13-0,75 \cdot R^{0,5} \cdot (n^{0,5}-0,1)$$

$$n=\sum(n_i \cdot Q_i)/O$$

$$Q=A \cdot C \cdot \text{odm.}(R \cdot i_0)$$

$$V=Q_{\text{celk}}/(A_{\text{kyn}}+A_b)$$

Výsledná kapacita kynety je 0.14 [m3/s], celková kapacita koryta 9.46 [m3/s].

výpočtová tabulka:

A...průtočná plocha

O...omočený obvod

R...hydraulický poloměr

C...Chézyho rychlostní součinitel

Q...průtočné množství

v...průměrová rychlost

h	kyneta							bermy							Q _{celk}	v
	A _{kyn}	O _{kyn}	R _{kyn}	n	y	C _{kyn}	Q _{kyn}	A _b	O _b	R _b	n	y	C _b	Q _b		
[m]	[m ²]	[m]	[m]	[-]	[-]	[m ^{0.5} /s]	[m ³ /s]	[m ²]	[m]	[m]	[-]	[-]	[m ^{0.5} /s]	[m ³ /s]	[m ³ /s]	[m/s]
0.00	0.00	0.60	0.000	0.0300	0.303	0.000	0.00								0.00	0.000
0.03	0.02	0.84	0.026	0.0300	0.294	11.342	0.00								0.00	0.057
0.06	0.05	1.07	0.046	0.0300	0.291	13.630	0.00								0.00	0.093
0.09	0.08	1.31	0.065	0.0300	0.289	15.118	0.01								0.01	0.122
0.12	0.13	1.54	0.082	0.0300	0.287	16.257	0.02								0.02	0.147
0.15	0.18	1.78	0.099	0.0300	0.286	17.196	0.03								0.03	0.171
0.18	0.23	2.01	0.115	0.0300	0.284	18.006	0.04								0.04	0.193
0.21	0.29	2.25	0.130	0.0300	0.283	18.724	0.06								0.06	0.214
0.24	0.36	2.49	0.146	0.0300	0.282	19.372	0.08								0.08	0.234
0.27	0.44	2.72	0.161	0.0300	0.281	19.964	0.11								0.11	0.254
0.30	0.52	2.96	0.176	0.0300	0.280	20.512	0.14								0.14	0.272
0.34	0.65	3.05	0.214	0.0294	0.274	22.283	0.21	2.59	57.66	0.045	0.0500	0.409	5.616	0.10	0.31	0.096
0.39	0.78	3.14	0.249	0.0289	0.269	23.860	0.29	5.19	57.78	0.090	0.0500	0.401	7.602	0.37	0.67	0.112
0.43	0.91	3.23	0.282	0.0283	0.264	25.292	0.39	7.78	57.91	0.134	0.0500	0.395	9.052	0.82	1.20	0.138
0.48	1.04	3.32	0.314	0.0278	0.259	26.611	0.49	10.39	58.04	0.179	0.0500	0.390	10.228	1.42	1.91	0.167
0.52	1.17	3.41	0.343	0.0274	0.255	27.837	0.60	12.99	58.17	0.223	0.0500	0.385	11.228	2.18	2.78	0.197
0.57	1.30	3.50	0.372	0.0269	0.251	28.987	0.73	15.61	58.29	0.268	0.0500	0.381	12.104	3.09	3.82	0.226
0.61	1.43	3.59	0.398	0.0265	0.247	30.071	0.86	18.22	58.42	0.312	0.0500	0.377	12.887	4.15	5.00	0.255
0.66	1.56	3.68	0.424	0.0261	0.244	31.100	1.00	20.84	58.55	0.356	0.0500	0.374	13.595	5.35	6.34	0.283
0.70	1.69	3.77	0.448	0.0257	0.241	32.079	1.15	23.46	58.68	0.400	0.0500	0.370	14.243	6.68	7.83	0.311
0.75	1.82	3.86	0.471	0.0253	0.237	33.015	1.30	26.09	58.80	0.444	0.0500	0.367	14.840	8.16	9.46	0.339