APPENDIX B

Table B-1: Total shear stress at cross section 1 for depth ratio 0.285

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	144	10	0.144	1.54	0.093506	0.001821	0.040871	1.670401
Main channel	46	35	0.161	0.96	0.167708	0.001826	0.05481	3.004169
Left floodplain	52	10	0.052	0.62	0.083871	0.001823	0.038729	1.499917

Table B-2: Total shear stress at cross section 2 and cross section 4 for depth ratio 0.285

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	100	10	0.1	1.1	0.090909	0.001821	0.040299	1.624001
Main channel	46	35	0.161	0.96	0.167708	0.001826	0.05481	3.004169
Left floodplain	100	10	0.01	1.1	0.090909	0.001823	0.040321	1.625785

Table B-3: Total shear stress at cross section 3 for depth ratio 0.285

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	52	10	0.052	0.62	0.083871	0.001821	0.038708	1.498272
Main channel	46	35	0.161	0.96	0.167708	0.001826	0.05481	3.004169
Left floodplain	144	10	0.144	1.54	0.093506	0.001823	0.040893	1.672236

Table B-4: Total shear stress at cross section 1 for depth ratio 0.375

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	144	15	0.216	1.59	0.135849	0.001821	0.04926	2.42681
Main channel	46	40	0.184	0.96	0.191667	0.001826	0.05859	3.43334
Left floodplain	52	15	0.078	0.67	0.116418	0.001823	0.04563	2.08198

Table B-5: Total shear stress at cross section 2 and cross section 4 for depth ratio 0.375

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	100	15	0.15	1.15	0.130435	0.001821	0.04827	2.33008
Main channel	46	40	0.184	0.96	0.191667	0.001826	0.05859	3.43333
Left floodplain	100	15	0.15	1.15	0.130435	0.001823	0.04829	2.33264

Table B-6: Total shear stress at cross section 3 for depth ratio 0.375

Location	Bottom width ,b (cm)	depth of flow, h (cm)	Area (m^2)	Wetted Perimeter, P (m)	Hydrulic Radius, R= A/P (m)	Longitudinal slope, S□	Shear Velocity, Vf (m/s)	Shear Stress,τ (N/m^2)
Right floodplain	52	15	0.078	0.67	0.116418	0.001821	0.045604	2.079691
Main channel	46	40	0.184	0.96	0.191667	0.001826	0.058595	3.433337
Left floodplain	144	15	0.216	1.59	0.135849	0.001823	0.04929	2.429474

Table B-7: Coriolis coefficient α and Boussinesq coefficient β for cross section 1.

Cross section 1	Right Floodplain α	Right Floodplain β	Main Channel α	Main Channel β	Left Floodplain α	Left Floodplain β
No Encroachment (D=0.285)	1.1103	1.0354	1.0117	1.0040	1.0654	1.0216
Encroachment at bend on left side (D=0.285)	1.0200	1.0067	1.0492	1.0170	1.0808	1.0261
Encroachment at bend on both side (D=0.285)	1.0491	1.0165	1.1030	1.0362	1.0564	1.0183
Encroachment at crossover on left side (D=0.285)	1.4466	1.1491	1.0225	1.0075	1.0919	1.0310
Encroachment at crossover on both side (D=0.285)	1.0857	1.0294	1.1189	1.0431	1.0203	1.0069
No Encroachment (D=0.375)	1.3704	1.1254	1.0198	1.0069	1.4723	1.1562
Encroachment at bend on left side (D=0.375)	1.2670	1.0906	1.0561	1.0197	1.1318	1.0443
Encroachment at bend on both side (D=0.375)	1.4887	1.1632	1.0104	1.0035	1.1678	1.0572
Encroachment at crossover on left side (D=0.375)	1.2394	1.0800	1.0125	1.0041	1.0659	1.0220
Encroachment at crossover on both side (D=0.375)	1.3703	1.1239	1.0340	1.0117	1.4473	1.1504

Table B-8: Coriolis coefficient α and Boussinesq coefficient β for cross section 2.

Cross section 2	Right Floodplain α	Right Floodplain β	Main Channel α	Main Channel β	Left Floodplain α	Left Floodplain β
No Encroachment (D=0.285)	1.1341	1.0445	1.1558	1.0550	1.0822	1.0276
Encroachment at bend on left side (D=0.285)	1.4062	1.1373	1.0650	1.0211	1.2499	1.0904
Encroachment at bend on both side (D=0.285)	1.1383	1.0482	1.1292	1.0437	1.0808	1.0269
Encroachment at crossover on left side (D=0.285)	1.0595	1.0199	1.0306	1.0099	-	-
Encroachment at crossover on both side (D=0.285)	0.0000	0.0000	1.1331	1.0431	-	-
No Encroachment (D=0.375)	1.2269	1.0788	1.1959	1.0696	1.5125	1.1755
Encroachment at bend on left side (D=0.375)	1.9254	1.3111	1.3831	1.1328	1.4916	1.1648
Encroachment at bend on both side (D=0.375)	1.1279	1.0431	1.0197	1.0065	1.5091	1.1826
Encroachment at crossover on left side (D=0.375)	1.1296	1.0451	1.0410	1.0133	-	-
Encroachment at crossover on both side (D=0.375)	-	-	1.0560	1.0183	-	-

Table B-9: Coriolis coefficient α and Boussinesq coefficient β for cross section 3.

Cross section 3	Right Floodplain α	Right Floodplain β	Main Channel α	Main Channel β	Left Floodplain α	Left Floodplain β
No Encroachment (D=0.285)	1.1061	1.0345	1.0069	1.0024	1.0482	1.0157
Encroachment at bend on left side (D=0.285)	1.1093	1.0382	1.0329	1.0116	-	-
Encroachment at bend on both side (D=0.285)	-	-	1.0655	1.0223	-	-
Encroachment at crossover on left side (D=0.285)	1.3661	1.1262	1.0117	1.0040	1.4020	1.1313
Encroachment at crossover on both side (D=0.285)	1.1486	1.0520	1.1860	1.0657	1.1239	1.0421
No Encroachment (D=0.375)	1.2453	1.0782	1.0268	1.0090	1.2130	1.0708
Encroachment at bend on left side (D=0.375)	1.8126	1.2725	1.1834	1.0621	-	-
Encroachment at bend on both side (D=0.375)	-	-	1.0432	1.0145	-	-
Encroachment at crossover on left side (D=0.375)	1.5057	1.1682	1.0310	1.0108	1.2404	1.0848
Encroachment at crossover on both side (D=0.375)	1.5194	1.1804	1.0465	1.0158	1.1881	1.0604

Table B-10: Coriolis coefficient α and Boussinesq coefficient β for cross section 4.

Cross section 4	Right Floodplain α	Right Floodplain β	Main Channel α	Main Channel β	Left Floodplain α	Left Floodplain β
No Encroachment (D=0.285)	1.0433	1.0144	1.0614	1.0193	1.0716	1.0246
Encroachment at bend on left side (D=0.285)	1.2271	1.0817	1.2294	1.0727	1.1778	1.0585
Encroachment at bend on both side (D=0.285)	1.0257	1.0086	1.2066	1.0667	1.1867	1.0615
Encroachment at crossover on left side (D=0.285)	1.1184	1.0392	1.0959	1.0329	1.1193	1.0394
Encroachment at crossover on both side (D=0.285)	1.3710	1.1226	1.0259	1.0085	1.3269	1.1191
No Encroachment (D=0.375)	1.3411	1.1158	1.0697	1.0240	1.2080	1.0712
Encroachment at bend on left side (D=0.375)	1.4201	1.1396	1.1638	1.0551	1.1889	1.0609
Encroachment at bend on both side (D=0.375)	1.1524	1.0499	1.3464	1.1147	1.1456	1.0487
Encroachment at crossover on left side (D=0.375)	1.1845	1.0614	1.0816	1.0280	1.1714	1.0571
Encroachment at crossover on both side (D=0.375)	1.5098	1.1714	1.0720	1.0241	1.1256	1.0443