TYPE 'A' INLETS AND OUTLETS

DIAMETER	'd'	300	375	450	525	600	675	750	900	1050	1200	1350	1500	1650	1800
HEADWALL & FOUNDATION	m^3	0.26	0.28	0.29	0.49	0.58	0.65	1.02	1.21	1.42	1.57	1.86	2.12	2.38	2.66
SIDEWALLS & INVERT	m^3	0.25	0.35	0.47	0.65	0.80	0.97	1.22	1.67	2.32	3.00	3.48	4.25	5.09	5.94

EXTRA FOR EACH ADDITIONAL PIPE

DIAMETER	'd'	300	375	450	525	600	675	750	900	1050	1200	1350	1500	1650	1800
HEADWALL & FOUNDATION	m^3	0.13	0.15	0.18	0.24	0.27	0.35	0.54	0.64	0.75	0.90	0.96	1.07	1.17	1.30
INVERT	m^3	0.10	0.15	0.19	0.24	0.30	0.36	0.42	0.57	0.75	0.95	1.17	1.41	1.67	1.95

TYPE 'B' INLETS AND OUTLETS

DIAMETER	'd'	1350	1500	1650	1800
HEADWALL & FOUNDATION	m^3	1.39	1.54	1.94	2.08
SIDEWALLS & INVERT	m^3	5.44	6.69	9.57	11.23

EXTRA FOR EACH ADDITIONAL PIPE

DIAMETER	'd'	1350	1500	1650	1800
HEADWALL & FOUNDATION	m^3	0.96	1.07	1.17	1.30
INVERT	m^3	1.17	1.41	1.67	1.95

QUANTITY OF STONEPITCHING

TYPE 'A' INLETS AND OUTLETS

DIAMETER	'd'	300	375	450	525	600	675	750	825	900	1050	1200	1350	1500	1650	1800	1950
HEADWALL	m^3	0.19	0.23	0.26	0.39	0.42	0.47	0.57	0.63	0.69	0.79	0.92	1.09	1.23	1.38	1.54	1.73
APRON	m^3	0.08	0.10	0.12	0.14	0.20	0.23	0.26	0.29	0.32	0.39	0.46	0.54	0.62	0.71	0.80	0.90
WINGWALLS	m^3	0.15	0.21	0.29	0.49	0.61	0.75	0.90	1.06	1.24	1.63	2.08	2.58	3.12	3.73	4.40	5.16
F92 MESH	m^2	NOT APPLICABLE										13.5	16.5	19.7	23.4	27.3	31.8
TOTAL CONCRETE	m^3	0.4	0.5	0.7	1.0	1.2	1.5	1.7	2.0	2.3	2.8	3.5	4.2	5.0	5.8	6.7	7.8

EXTRA FOR EACH ADDITIONAL PIPE

DIAMETER	'd'	300	375	450	525	600	675	750	825	900	1050	1200	1350	1500	1650	1800	1950
HEADWALL	m^3	0.04	0.05	0.07	0.10	0.11	0.13	0.15	0.16	0.18	0.22	0.26	0.30	0.34	0.39	0.45	0.51
APRON	m^3	0.06	0.08	0.11	0.14	0.21	0.25	0.30	0.34	0.40	0.51	0.65	0.79	0.95	1.13	1.32	1.53
F92 MESH	m^2	NOT APPLICABLE										4.3	5.3	6.3	7.5	8.8	10.2
TOTAL CONCRETE	m^3	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.9	1.1	1.3	1.4	1.8	2.0

FOR SKEWED PIPES

PIPE SKEW	5°–15°	16°–25°	26°–35°	36°–45°
SKEW FACTOR	1.02	1.07	1.16	1.32

INCREASE TOTAL QUANTITY FOR HEADWALL AND APRON ONLY, BY MULTIPLICATION FACTOR ABOVE

QUANTITY OF CONCRETE

TYPE 'B' INLETS AND OUTLETS

DIAMETER	'd'	1350	1500	1650	1800	1950
HEADWALL	m^3	1.46	1.72	2.01	2.31	2.68
APRON	m^3	0.22	0.29	0.39	0.48	0.60
WINGWALLS	m^3	4.88	5.98	7.14	8.53	10.13
TOTAL CONCRETE	m^3	6.6	8.0	9.5	11.3	13.4

EXTRA FOR EACH ADDITIONAL PIPE

DIAMETER	'd'	1350	1500	1650	1800	1950
HEADWALL	m^3	1.14	1.35	1.56	1.79	2.06
APRON	m^3	0.79	0.95	1.13	1.32	1.53
TOTAL CONCRETE	m^3	1.9	2.3	2.7	3.1	3.6

NOTES:

1. THIS STANDARD DRAWING TO BE READ IN CONJUNCTION WITH BSD–8101 AND BSD–8102.
2. QUANTITIES OF SPALLS FOR SIDEWALLS AND INVERT TAKEN FOR L=2d, FOR L=d MULTIPLY APPROPRIATE SPALLS QUANTITY BY 0.5.
3. QUANTITIES ARE SHOWN FOR WINGWALLS WHERE h = H IF h IS LESS THAN H ADJUSTMENT SHOULD BE MADE.
4. EXAMPLE : TWIN 1200 DIA PIPE
   LENGTH OF INVERT = d
   QUANTITIES : SPALLS FOR HEADWALL AND FOUNDATION = 1.57+0.9 = 2.47
   SPALLS FOR SIDEWALLS AND INVERT
   (3.0+0.95)x0.5 = 1.98
   TOTAL = 2.47+1.98 = 4.45m3

ISSUE	AMENDMENT	DRAWN DATE	CHK'D DATE	APPR'D DATE
A	ORIGINAL ISSUE	OCT '13	OCT '13	OCT '13

DRAWING AUTHORISED FOR PUBLICATION
Publish
ASSET ENGINEERING MANAGER
STRATEGIC ASSET MANAGEMENT
DESIGN APPROVED
Publish
CLIENT POSITION
COUNCIL WORK AREA OR BRANCH

DESIGN	Std Dwgs WG	DATE	Mmm 'YY
DRAWN	CPO - P&D	DATE	Mmm 'YY
CHECKED		DATE	Mmm 'YY
DRAWING FILENAME	BSD-8104.dwg		
ASSOCIATED PLANS	SUPERSEDES UMS-371		

BRISBANE CITY

BRISBANE CITY COUNCIL STANDARD DRAWING

QUANTITIES FOR INLETS AND OUTLETS

SCALE: NOT TO SCALE
DWG No.: BSD–8104
ORIGINAL SIZE: A3
REVISION: A