

## STORMWATER OUTLET DISSIPATER

TYPICAL OUTLET DETAIL. FINAL DIMENSIONS & RIP-RAP TO BE CONFIRMED IN DETAIL DESIGN STAGE



## DISSIPATER NOTES

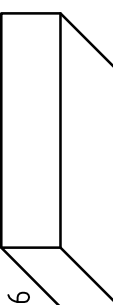
1. ALIGN STRUCTURE EVENLY WITH BANK.
2. LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
3. PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
4. DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
5. SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED. SCOUR PROTECTION TO BE PROVIDED WHERE OPPOSITE BANK IS WITHIN 12-14 TIMES THE PIPE DIAMETER.
6. RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK (50+ 150mm MINIMUM) AS NOTED IN THE SCHEDULE. RIP-RAP TO BE MINIMUM THICKNESS OF RIP-RAP LAYER TO BE 1x AVERAGE ROCK SIZE (50).
7. RIP-RAP IS TO BE PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOTRAB ALL.
8. PLACE ROCK SO THAT IT FORMS A DENSE, WELL-GRADED MASS OF ROCK WITH A MINIMUM OF VOIDS. THE FINISHED RIP-RAP SURFACE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS.
9. GAPS IN RIP-RAP TO BE HAND PLACED WITH TOPSOIL & PLANTED WITH NATIVE SEEDS & RUSHES TO PROVIDE. THE INTENT IS FOR THERE TO BE NO VOIDS BETWEEN RIP-RAP Boulders.
10. ENSURE THE FINISHED ROCK SURFACE BLENDS WITH THE SURROUNDING GROUND LEVELS. NO OVERALL OR PROTRUSION OF ROCK SHOULD BE APPARENT.
11. ENSURE THAT STORMWATER FROM SURROUNDING GROUND IS FREE TO ENTER THE STRUCTURE WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.



# OSD TANK PLAN (STORMWATER DETENTION 2)



## STORMWATER DETENTION 2- OSD TANK DETAILS

<b>SITE AREA</b>	
TOTAL SITE AREA DRAINING TO OSD	37 4.00m <sup>2</sup>
<b>TOTAL SITE AREA DRAINING TO STORAGE</b> (90% INTERPURVUS)	33 300m <sup>2</sup>
<b>STORAGE</b>	
LOW FLOW ORIFICE $\phi$	300mm
VOLUME PROVIDED	900m <sup>3</sup>
<b>INTERNAL TANK DIMENSIONS</b> (INC. HIGH FLOW CHAMBERS)	
	

## OSD HYDRAULICS - CATCHMENT 1 (4.84Ha)

A.I.	DESIGN STORY DURATION(MIN)	NO ATTENTION	PEAK FLOW (m <sup>3</sup> /s)		DEPTH (mm)	STORAGE (m <sup>3</sup> )
			WITH ATTENTION LOW	HIGH		
5	30	1.59	0.926	-	0.926	1150
20	30	2.10	1.150	-	1.150	1700
100	30	2.69	1.240	0.906	2.150	1900
						870

## OSD HYDRAULICS - CATCHMENT 2 (3.74Ha)

Arl	DESIGN STORM DURATION (min)	NO ATTENUATION	PEAK FLOW (m3/s)			DEPTH (mm)	STORAGE (m3)
			WITH ATTENUATION		TOTAL		
5	30	124	0.664	-	0.664	10.50	4.60
20	30	1.63	0.816	-	0.816	14.50	6.50
100	30	2.09	0.816	0.671	1.550	17.00	7.50

### OSD HYDRAULICS - CATCHMENT 3 (1.75ha)

A.I.	DESIGN STORM DURATION (min)	NO ATTENUATION	WITH ATTENUATION		DEPTH (mm)	STORAGE (m <sup>3</sup> )
			LOW	HIGH TOTAL		
5	30	0.574	0.364	0.364	160	550
20	30	0.758	-	0.452	650	24.0
100	30	0.974	0.502	0.268 0.770	800	280

## STORMWATER DETENTION 1- OSD BASIN DETAILS

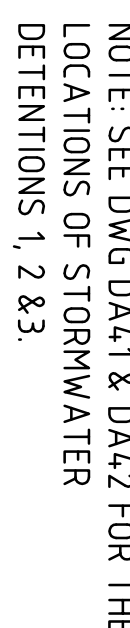
SITE AREA	4.8 4.00m <sup>2</sup>
TOTAL SITE AREA DRAINING TO OSD	
TOTAL SITE AREA DRAINING TO STORAGE (90% IMPERVIOUS)	4.3 560m <sup>2</sup>
STORAGE	
ORIFICE Ø	650mm
VOLUME PROVIDED	870m <sup>3</sup>

## STORMWATER DETENTION 3- OSD BASIN DETAILS

STORAGE	17.52m <sup>3</sup>
ORIFICE Ø	TBC
VOLUME PROVIDED	280m <sup>3</sup>

## OSD HYDRAULICS - TOTAL SITE

		PEAK FLOW (m <sup>3</sup> /s)		
ARI	DESIGN STORM DURATION (MIN)	UNDEVELOPED SITE	DEVELOPED SITE (NO ATTEN)	DEVELOPED SITE (+ATTEN)
5	10	0.554	1.170	0.550
	20	0.855	1.290	0.658
	30	0.844	1.240	0.664
	45	0.780	1.110	0.642
20	10	0.933	1.520	0.664
	20	1.320	1.680	0.797
	30	1.310	0.810	0.810
	45	1.200	1.460	0.787
100	10	1.390	1.970	0.800
	20	1.770	2.090	1.550
	30	1.670	1.970	1.450
	45	1.570	1.840	1.410



FOR DEVELOPMENT APPLICATION