



DIM	SIZE (mm)	DESCRIPTION
Ø	48 (min)	MINIMUM DIAMETER OF BOLLARD
T	3 (min)	MINIMUM WALL THICKNESS OF BOLLARD
L	1200 (max)	MAXIMUM LENGTH OF BOLLARD RAIL
H	700 (min)	MINIMUM HEIGHT OF BOLLARD ABOVE NSL
D	500 (min)	MINIMUM DEPTH OF POLLARD BELOW NSL
O	400 (min)	MINIMUM OFFSET OF BOLLARDS FROM STRUCTURES
P	300 (min)	MINIMUM CLEARANCE FROM PIPE
W	900 (min)	MINIMUM CLEAR ACCESS AND WORK AREA

DIM	SIZE (mm)	DESCRIPTION
Ø	90 (min)	MINIMUM DIAMETER OF BOLLARD
T	2 (min)	MINIMUM WALL THICKNESS OF BOLLARD
L	3000 (max)	MAXIMUM LENGTH OF BOLLARD RAIL
H	700 (min)	MINIMUM HEIGHT OF BOLLARD ABOVE NSL
D	500 (min)	MINIMUM DEPTH OF POLLARD BELOW NSL
O	600 (min)	MINIMUM OFFSET OF BOLLARDS FROM STRUCTURES
C	500 (min)	MINIMUM HIGHT OF CHAIN ABOVE NSL
A	800 (min)	MINIMUM CLEAR OPENING
	800 (min) & 1000(max)	CLEAR OPENING WHERE BOLLARDS ARE TO PROTECT STRUCTURES FROM STOCK AND CHAINS ARE TO BE INSTALLED

1. BOLLARDS ARE TO BE CONCRETED INTO A HOLE OF MINIMUM 450mm DIAMETER
 - CONCRETE TO BE 20MPa (min)
 - CONCRETE TO BE BEVELED DOWN FROM POST TO SHED WATER
2. BOLLARDS ARE TO HAVE 2x SECURING LUGS ON EACH LEG EVENLY SPACED WITHIN CONCRETED REGION
3. BOLLARDS ARE TO BE THE STANDARD OLIVE GREEN (G25 to AS 2700 (REF WWD20, WW COLOUR PROCEDURE))
4. 12mm GALVANISED CHAINS ARE TO BE USED WHERE BOLLARDS ARE REQUIRED TO PROTECT STRUCTURES FROM STOCK
5. CHAINS ARE TO BE FIXED TO THE BOLLARDS WITH 12mm GAUGE WELDED RINGS AND AND 12mm GALVANISED D-SHACKLES



(CONSTRUCTION ISSUE)

				CONSULTANT DETAILS:	 A Group of Shoalhaven City Council	DESIGNED:	DATE:	COMPANY:	TITLE: STANDARD DRAWING WASTEWATER ABOVE GROUND ASSETS TYPICAL BOLLARD PROTECTION ARRANGEMENT						
						DRAWN:	DATE:	COMPANY:							
						CHECKED:	DATE:	COMPANY:							
0	MODIFIED REMS DRAWING 24.066-004-1	R.D.	22-10-19			CONSULTANT REFERENCE No.	APPROVED:	DATE:	COMPANY:	SIZE:	SCALE:	INDEX No.	DRAWING No.	SHEET	REV No.
No.	REVISION DETAILS	DWN	DATE				D.B.	22-10-19	S.W.	A1	N.T.S.		25350	054	0