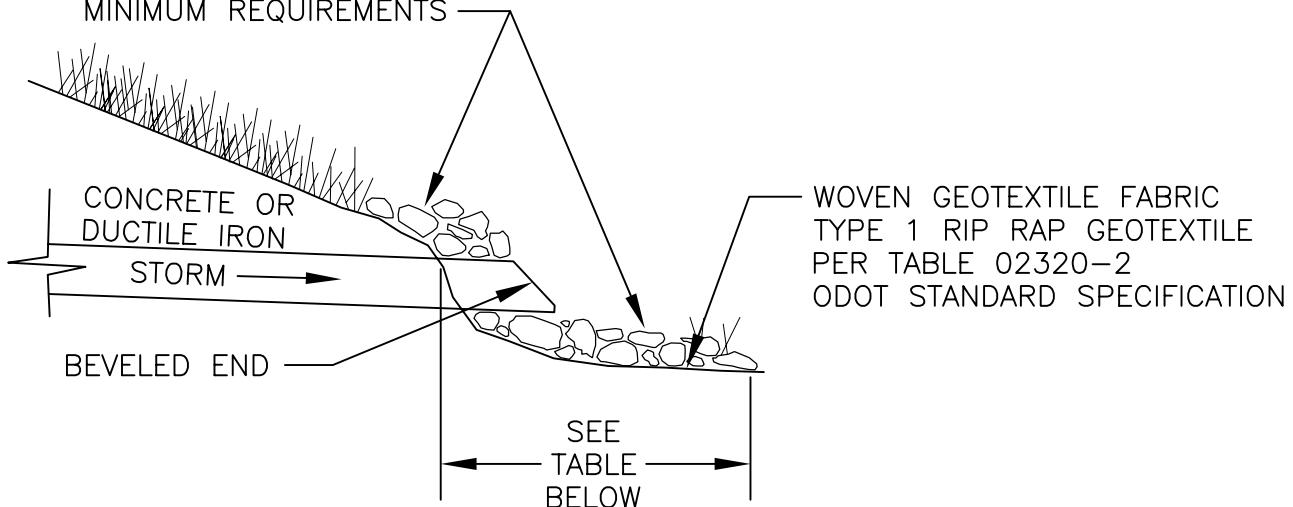


RIP RAP: SEE TABLE  
BELOW FOR TYPE AND  
MINIMUM REQUIREMENTS



### STORM OUTFALL DETAIL

N.T.S.

DISCHARGE VELOCITY AT DESIGN FLOW (fps)		MINIMUM REQUIRED PROTECTION DIMENSIONS				
GREATER THAN	LESS THAN OR EQUAL	TYPE	THICKNESS (ft)	WIDTH	LENGTH (USE GREATER OF)	HEIGHT OVER CROWN
0	5	ODOT CLASS 50 RIP RAP*	1.5	PIPE DIAMETER + 6 FT	8 FT OR 4 X PIPE DIAMETER	1 FT
5	10	ODOT CLASS 200 RIP RAP	2.5	GREATER OF: PIPE DIAMETER + 6 FT	12 FT OR 4 X PIPE DIAMETER	1 FT
10	ENGINEERED ENERGY DISSIPATER REQUIRED					

\* THE CITY MAY REQUIRE ODOT CLASS 100 RIP RAP IN AREAS WITH A LIKELIHOOD OF VANDALISM.

NOTE:

1. PIPE HEADWALLS SHALL BE REQUIRED WHERE PIPE MATERIAL OTHER THAN CONCRETE OR DUCTILE IRON IS EXPOSED IN THE DESIGN OF AN OUTLET OR INLET PIPE OR WHERE REQUIRED TO STABILIZE SLOPE. DETAILS OF ALL HEADWALLS AND END PROTECTION SHALL BE INCLUDED IN THE CONSTRUCTION DRAWINGS.



Public Works Standard Drawings

STORM OUTFALL

SCALE	NTS
DATE	JAN '23
REV.	
ENGR.	DW
DRAWN	KAE
DRAWING NO.	632