LEGEND

H = MAXIMUM ALLOWABLE HEIGHT OF COVER OVER THE TOP OF THE PIPE, EXCLUDING PAVEMENT THICKNESS.

FILL HEIGHTS AND DESIGN ASSUMPTIONS ARE BASED ON AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, SECTION 12, FOR 900 PSI LONG TERM STRENGTH OF HDPE, AND AASHTO T180 MINIMUM RELATIVE COMPACTION OF 95% OR 90%.

FILL HEIGHTS ARE BASED ON AASHTO M330 FOR POLYPROPYLENE, TYPE S PIPE WITH OUTER, CORRUGATED WALL AND SMOOTH INNER LINEAR.

FILL HEIGHTS, FOR INSTALLATION WITH HIGH WATER TABLE, REQUIRE A SPECIAL DESIGN. THE MAXIMUM HEIGHT IN HIGHWATER LOCATIONS SHOULD BE 15 FEET OR BASED ON AASHTO LRFD DESIGN SPECIFICATIONS.

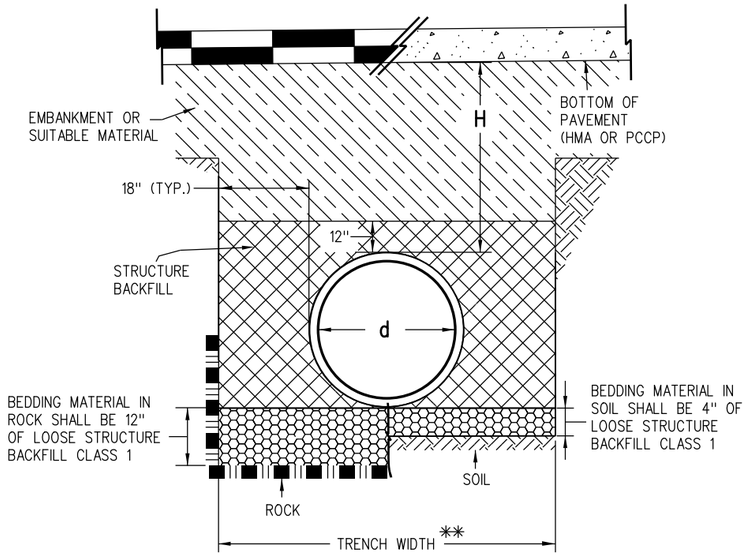
THE MINIMUM COVER SHALL BE AS SHOWN ON THESE TABLES OR CONFORM TO AASHTO REQUIREMENTS, WHICHEVER IS GREATER. THE MINIMUM COVER FOR PIPE IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT: HMA OR PCCP.

THE MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE SUBGRADE DURING CONSTRUCTION. THE MINIMUM COVER IS BASED ON DUAL AXLE LOADS UP TO 50,000 POUNDS.

L_1 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 624.

L_2 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 603.

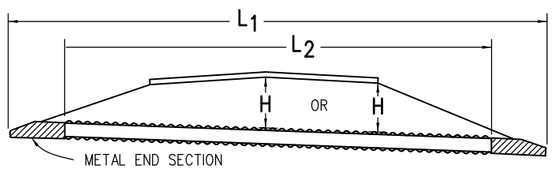
\+ = THE MINIMUM SPACING BETWEEN THE OUTSIDE WALLS OF MULTIPLE PIPES OR END SECTIONS IS 18" OR 1/2(d), WHICHEVER IS GREATER.



INSTALLATION OF PIPE

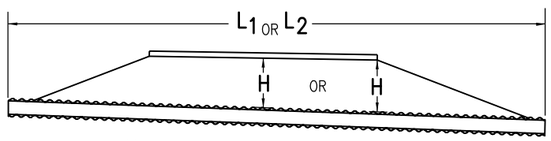
GENERAL NOTES

1. ALL PIPES SHALL MEET THE REQUIREMENTS OF AASHTO M330 FOR POLYPROPYLENE, TYPE S FOR HIGH DENSITY CORRUGATED POLYPROPYLENE PIPE (PP) WITH SMOOTH INNER SURFACE.
2. WHEN A PIPE IS TO BE EXTENDED, THE SAME PIPE MATERIAL AND SIZE AS IN THE ORIGINAL INSTALLATION SHALL BE USED.
3. MINIMUM COVER SHALL BE PROVIDED DURING CONSTRUCTION TO PROTECT THE PIPE FROM DAMAGE.
4. WHEN INSTALLING A GUARDRAIL OR A SIGN POST DIRECTLY ABOVE A PIPE, THE POST'S BOTTOM MUST BE AT LEAST 1 FOOT ABOVE THE TOP OF THE PIPE. THE HOLE FOR THE POST SHALL BE DRILLED INTO THE SOIL.
5. STRUCTURE BACKFILL MATERIAL SHALL BE CLASS 1.
6. FOR PIPES 24 INCHES OR LESS IN DIAMETER, H MIN. MAY BE REDUCED TO ONE FOOT FOR LOW VOLUME APPROACH ROADS NOT ON STATE HIGHWAYS.



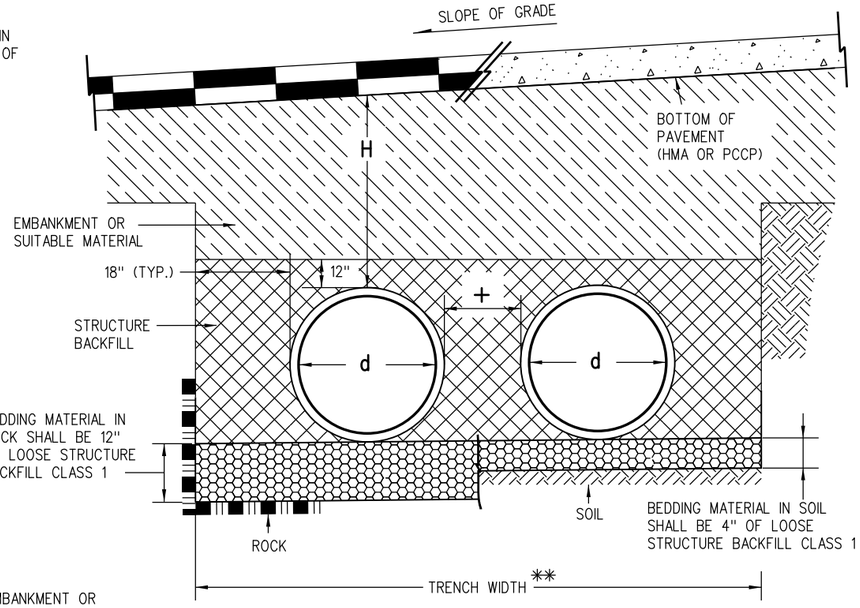
NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

PIPE WITH END SECTIONS



NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

PIPE WITHOUT END SECTIONS

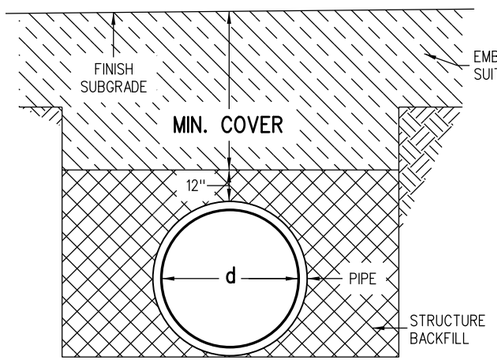


INSTALLATION OF MULTIPLE PIPES

** TRENCH WIDTH ASSUMES STABLE IN-SITU SIDE WALL

PIPE DIAMETER, d (IN.)	H MINIMUM HEIGHT OF COVER (FT.)	H MAXIMUM HEIGHT OF COVER (FT.)	
		95% COMPACTION	90% COMPACTION
12	2	25	17
15	2	27	20
18	2	23	17
24	2	20	14
30	2	23	17
36	2	20	14
42	2	18	13
48	3	20	13
60	2.5	21	14

MINIMUM AND MAXIMUM COVER



CONSTRUCTION MINIMUM COVER FOR PIPE

NOMINAL PIPE DIAMETER (IN.)	MINIMUM COVER (IN.) FOR INDICATED AXLE LOADS (KIPS)			
	18.0-50.0	50.0-75.0	75.0-110.0	110.0-150.0
24 - 36	24.0	30.0	36.0	36.0
42 - 48	36.0	36.0	42.0	48.0
54 - 60	36.0	36.0	42.0	48.0

AASHTO MINIMUM COVER FOR CONSTRUCTION LOADS

Computer File Information	Sheet Revisions			
Creation Date: 07/31/19	(R-X)	mm/dd/yy	XXXXXXX	XXXXXX
Designer Initials: JBK	(R-X)	mm/dd/yy	XXXXXXX	XXXXXX
Last Modification Date: 07/31/19	(R-X)	mm/dd/yy	XXXXXXX	XXXXXX
Detailer Initials: LTA	(R-X)	mm/dd/yy	XXXXXXX	XXXXXX
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)	mm/dd/yy	XXXXXXX	XXXXXX

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As Constructed	
No Revisions:	mm/dd/yy
Revised:	mm/dd/yy
Void:	mm/dd/yy

CORRUGATED POLYPROPYLENE PIPE (AASHTO M330)

Designer:	XXXXXXXX		
Detailer:	XXXXXXXX		
Sheet Subset:	XXXXXXX	Subset Sheets:	XXX of XXX

Project No./Code
XXXXX/XXXX
D-603-4
Sheet Number: 1 of 1
Project Sheet Number: XX