

STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**  
RIGID PIPE

SHEET 2 OF 2  
**300.01**

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.  
NOT LESS THAN 6"

O.D. + 3'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.  
NOT LESS THAN 6"

O.D. + 3'

ROCK FOUNDATION  
PIPE IN TRENCH

TOP OF FILL

GROUND LINE

H

I.D. /6 MIN.  
NOT LESS THAN 6"

O.D. + 3'

UNSUITABLE MATERIAL FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

O.D. + 2'

NORMAL EARTH FOUNDATION

TOP OF FILL

GROUND LINE

H

MIN. O.D.

O.D. + 2'

ROCK FOUNDATION  
PIPE ABOVE GROUND

TOP OF FILL

GROUND LINE

H

MIN. O.D.

O.D. + 2'

UNSUITABLE MATERIAL FOUNDATION

COMPACT AFTER  
PIPE IS PLACED  
& PRIOR TO  
PLACEMENT OF  
FILL

TYPE 4a  
GEOTEXTILE

I.D. /6 MIN.  
NOT LESS  
THAN 6"

1/2" PER FOOT OF 'H'  
BUT NOT LESS THAN 12"  
NOR MORE THAN 24"  
AS DIRECTED BY ENGR.

EARTH

COMPACT AFTER  
PIPE IS PLACED  
& PRIOR TO  
PLACEMENT OF  
FILL

TYPE 4a  
GEOTEXTILE

I.D. /6 MIN.  
NOT LESS THAN 6"

1/2" PER FOOT OF 'H'  
BUT NOT LESS THAN 12"  
NOR MORE THAN 24"  
AS DIRECTED BY ENGINEER

GENERAL NOTES:  
I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.  
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.  
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT  
ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP  
OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1  
FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE  
UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL  
ACCOMPLISH COMPACTION.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II,  
BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE  
WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS  
BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS  
FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

Signed by:  
*Nicole M. Hackler*  
588432034184C5...  
4/8/2025

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS  
AND DEVELOPMENT UNIT

Office 919-707-6950 FAX 919-250-4119

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