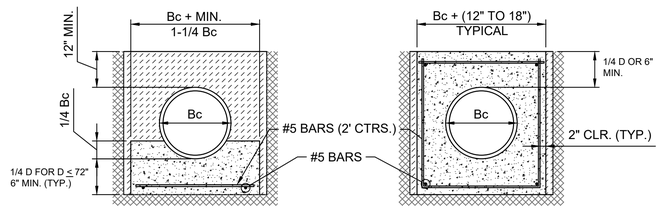


CONCRETE CRADLE

CONCRETE ENCASEMENT

CLASS A

NOT TO SCALE

Bc = OUTSIDE PIPE DIAMETER

H = BACKFILL FROM TOP OF PIPE TO EXISTING GROUND

D = INSIDE PIPE DIAMETER

d = DEPTH OF BEDDING MATERIAL BELOW PIPE

GRANULAR BEDDING MATERIAL OR SAND-GRAVEL BEDDING

COMPACTED EMBEDMENT

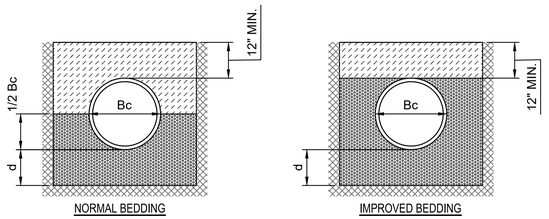
CONCRETE

DEPTH OF BEDDING MATERIAL BELOW PIPE		
D	d (MIN) SOIL	d (MIN) ROCK
27" & SMALLER	4"	6"
30" TO 60"	5"	9"
66" & LARGER	6"	12"

GRANULAR BEDDING MATERIAL SHALL BE AN APPROVED MATERIAL CONSISTING OF DURABLE CRUSHED ROCK CONFORMING WITH THE REQUIREMENTS OF THE LATEST REVISION OF ASTM C-33 SIZE NO. 67 (3/4" TO NO. 4); TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING. SOUNDNESS, ABRASION, AND ABSORPTION LIMITS SHALL BE AS REQUIRED FOR COARSE AGGREGATES IN 03 30 00 CAST-IN-PLACE CONCRETE IN THE SPECIFICATIONS.

SAND-GRAVEL BEDDING MATERIAL - SAND-GRAVEL MIX MEETING CITY OF WICHITA STANDARD SPECIFICATIONS.

COMPACTED EMBEDMENT SHALL BE AN APPROVED SAND MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL, AND STONES WITH 100% PASSING THE 3/4" SIEVE TO BE PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK AND COMPACTED TO 95 PERCENT MAXIMUM DENSITY AS DETERMINED BY ASTM D698. GRANULAR BEDDING MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED EMBEDMENT MATERIALS.

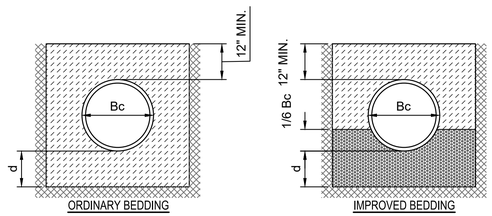


NORMAL BEDDING

IMPROVED BEDDING

CLASS B

NOT TO SCALE



ORDINARY BEDDING

IMPROVED BEDDING

CLASS C

NOT TO SCALE

CLASS A "CONCRETE CRADLE" AND/OR CLASS A "CONCRETE ENCASEMENT" IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. HOWEVER, WHERE UNEXPECTED TRENCH CONDITIONS EXIST OR IMPROPER TRENCHING IS PERFORMED CLASS A BEDDING MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

CLASS B BEDDING SHALL BE USED FOR ALL FLEXIBLE PIPE.

A. CLASS B NORMAL BEDDING SHALL BE USED FOR PVC PIPE UNLESS WET CONDITIONS ARE ENCOUNTERED.

B. CLASS B IMPROVED BEDDING SHALL BE USED FOR OTHER FLEXIBLE PIPE, AND FOR PVC PIPE IN WET CONDITIONS.

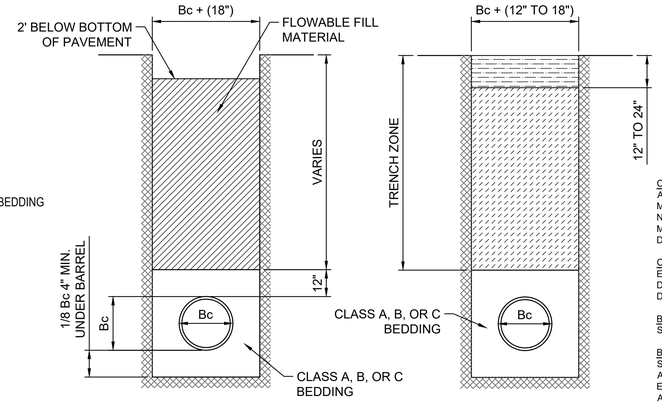
CLASS C BEDDING SHALL BE USED FOR ALL RIGID PIPE.

A. CLASS C ORDINARY BEDDING SHALL BE USED FOR ALL RIGID PIPE UNLESS WET CONDITIONS ARE ENCOUNTERED.

B. CLASS C IMPROVED BEDDING SHALL BE USED FOR WET CONDITIONS EXISTING IN THE TRENCH, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER. THE DIMENSIONS SHALL BE EQUAL TO THAT REQUIRED FOR "ROCK" EXCAVATION (SEE SPECIFICATIONS).

PIPE ZONE BACKFILLING

NOT TO SCALE



BACKFILL - FLOWABLE FILL

BACKFILL TYPE I

Bc = OUTSIDE PIPE DIAMETER

COMPACTED GRANULAR BACKFILL

COMPACTED EARTH BACKFILL

COMPACTED GRANULAR BACKFILL MATERIAL SHALL BE AN APPROVED SAND MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES WITH 100% PASSING THE 3/4" SIEVE AND NOT MORE THAN 15% PASSING A NO. 200 SIEVE; TO BE JETTED AND MECHANICALLY VIBRATED INTO PLACE AND COMPACTED TO 95% DENSITY AS DETERMINED BY ASTM D698.

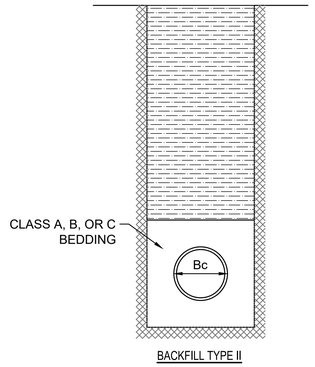
COMPACTED EARTH BACKFILL SHALL CONSIST OF MATERIAL EXISTING PRIOR TO TRENCHING OR SELECTED MATERIAL AS DIRECTED BY THE ENGINEER, AND SHALL BE COMPACTED TO 90% DENSITY AS DETERMINED BY ASTM D698.

BACKFILL: BACKFILL MATERIAL AND COMPACTION REQUIREMENTS SHALL CONFORM TO EITHER TYPE I OR TYPE II.

BACKFILLING THROUGH ROCK: BACKFILLING THROUGH ROCK SHALL BE PERFORMED AS SPECIFIED IN THE PARAGRAPH BACKFILL ABOVE, EXCEPT THAT THE PIPE ZONE IS INCREASED TO PROVIDE EIGHTEEN (18) INCHES OF COVER OVER THE PIPE. WHEN APPROVED BY THE ENGINEER THE REMAINDER OF THE BACKFILL MAY BE EXCAVATED ROCK PROVIDED THE EXCAVATED ROCK HAS BEEN BROKEN UP SO THAT EARTH AND ROCK WILL THOROUGHLY MIX AND NOT RESULT IN VOIDS AROUND THE LARGER PIECES OF ROCK. ANY EXCESS ROCK REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED SHALL BE REMOVED OR WASTED AS DIRECTED BY THE ENGINEER.

BACKFILLING UNDER PAVEMENT: BACKFILLING UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE PERFORMED AS BACKFILL TYPE I OR BACKFILL - FLOWABLE FILL TO A LEVEL OF TWO (2) FEET FROM THE BOTTOM OF THE PAVEMENT. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED WITH SELECTED MATERIAL, SUFFICIENTLY DAMP TO BE PROPERLY COMPACTED IN LAYERS NOT EXCEEDING SIX (6) INCHES IN DEPTH, COMPACTION SHALL BE PERFORMED WITH MECHANICAL TAMPERS AND CONTINUED UNTIL A RELATIVE DENSITY OF 100 PERCENT OF STANDARD DENSITY, IN CONFORMANCE WITH ASTM D698 IS ATTAINED.

BACKFILLING UNDER GRAVEL STREETS: WHERE THE TRENCH CROSSES OR IS IN EXISTING GRAVEL SURFACED STREETS, THE BACKFILL SHALL BE COMPACTED AS PROVIDED IN THE PARAGRAPH "BACKFILLING UNDER PAVEMENT".



BACKFILL TYPE II

TRENCH ZONE BACKFILLING

NOT TO SCALE

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

JOSHUA GOLKA LICENSED 24136 01/24/2025 KANSAS PROFESSIONAL ENGINEER

CHISHOLM CREEK PARK NORTH IMPROVEMENTS

N WOODLAWN BLVD, WICHITA, KS 67220

Issue:		
1	ISSUED FOR BID	01/24/25

JOB NO.	247042-001
DATE	24 JANUARY 2025
PM	JAG
DESIGNED BY	JAG
DRAWN BY	BAB
CHECKED BY	DRC

BEDDING & BACKFILL SHEET

CS503

SAVED 12/5/2024 1:41:32 PM BY BENJAMIN.BOCKOVER
PLOTTED 1/24/2025 10:29:52 AM BY BENJAMIN.BOCKOVER
U:\WICHITA-CIVIL\2024\247042\001\02\P04_PLANS\Q30\247042-001-CS503.DWG