

CUBIC YARDS EXCAVATION PER LINEAR FOOT

| INSIDE PIPE DIAMETER (INCHES) | DEPTH OF EXCAVATION IN FEET | | | | | | | | | | | |
|-------------------------------|-----------------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|
| | 5 | 6 | 7 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 12" | 1.3 | 1.8 | 2.3 | 3.0 | 4.4 | 6.2 | 8.3 | 10.7 | 13.3 | 16.3 | 19.6 | 23.0 |
| 15" | 1.3 | 1.8 | 2.4 | 3.1 | 4.5 | 6.3 | 8.4 | 10.8 | 13.5 | 16.5 | 20.0 | 23.0 |
| 18" | 1.4 | 1.9 | 2.5 | 3.1 | 4.6 | 6.4 | 8.5 | 11.0 | 13.7 | 16.7 | 20.0 | 24.0 |
| 21" | 1.4 | 1.9 | 2.5 | 3.2 | 4.7 | 6.6 | 8.7 | 11.1 | 13.8 | 16.9 | 20.0 | 24.0 |
| 24" | 1.5 | 2.0 | 2.6 | 3.3 | 4.8 | 6.7 | 8.8 | 11.3 | 14.0 | 17.0 | 20.0 | 24.0 |
| 27" | 1.7 | 2.3 | 2.9 | 3.6 | 5.3 | 7.2 | 9.5 | 12.0 | 14.8 | 18.0 | 21.0 | 25.0 |
| 30" | 1.8 | 2.4 | 3.0 | 3.7 | 5.4 | 7.3 | 9.6 | 12.1 | 15.0 | 18.1 | 22.0 | 25.0 |
| 33" | 1.9 | 2.4 | 3.0 | 3.8 | 5.5 | 7.4 | 9.7 | 12.3 | 15.2 | 18.3 | 22.0 | 26.0 |
| 36" | 1.9 | 2.5 | 3.1 | 3.9 | 5.6 | 7.6 | 9.9 | 12.4 | 15.3 | 18.5 | 22.0 | 26.0 |
| 42" | 2.0 | 2.7 | 3.2 | 4.0 | 5.7 | 7.8 | 10.1 | 12.7 | 15.7 | 18.9 | 22.0 | 26.0 |
| 48" | 2.0 | 2.7 | 3.4 | 4.1 | 5.9 | 8.0 | 10.4 | 13.0 | 16.0 | 19.3 | 23.0 | 27.0 |
| 54" | | 3.0 | 3.8 | 4.6 | 6.5 | 8.7 | 11.1 | 13.9 | 17.0 | 20.0 | 24.0 | 28.0 |
| 60" | | | 3.9 | 4.7 | 6.7 | 8.9 | 11.4 | 14.2 | 17.3 | 21.0 | 24.0 | 28.0 |
| 66" | | | 4.0 | 4.9 | 6.9 | 9.1 | 11.7 | 14.5 | 17.7 | 21.0 | 25.0 | 29.0 |
| 72" | | | | 5.0 | 7.0 | 9.3 | 11.9 | 14.8 | 18.0 | 21.0 | 25.0 | 29.0 |
| 78" | | | | 5.2 | 7.2 | 9.6 | 12.2 | 15.1 | 18.3 | 22.0 | 26.0 | 30.0 |
| 84" | | | | | 7.4 | 9.8 | 12.4 | 15.4 | 18.7 | 22.0 | 26.0 | 30.0 |
| 96" | | | | | 7.8 | 10.2 | 13.0 | 16.0 | 19.3 | 23.0 | 27.0 | 31.0 |
| 108" | | | | | | 10.6 | 13.5 | 16.6 | 20.0 | 24.0 | 28.0 | 32.0 |
| | | | | | | | 14.0 | 17.2 | 21.0 | 24.0 | 29.0 | 33.0 |

MNDOT EXCAVATION PAY ITEMS (2451)
 2451.501 STRUCTURE EXCAVATION CLASS ____
 2451.503 GRANULAR BACKFILL
 2451.505 AGGREGATE BACKFILL
 2451.507 GRANULAR BEDDING
 2451.509 AGGREGATE BEDDING
 2451.511 COURSE FILTER AGGREGATE
 2451.513 FINE FILTER AGGREGATE

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SOIL TYPE CLASSIFICATION
 U - ALL MATERIALS UNCLASSIFIED
 E - ALL MATERIALS IN EXCAVATION EXCEPT THOSE CLASSIFIED AS R
 R - LEDGE ROCK, BOULDERS, DETACHED ROCK, CONCRETE, EACH HAVING A VOLUME OF 1/2 CUBIC YARD OR MORE
 W - UPPER LIMIT OF ANY EXCAVATION SO DESIGNATED WILL BE THE ELEVATION OF LOW WATER, ASSUMED OR ACTUAL

MNDOT SPEC. REF. 2451, 2501, 2502, 2503
 MINNEAPOLIS DESIGN CHART
 NOT TO SCALE

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|  | DRW: DCD | DATE: 4/03 | EXCAVATION CHART | STANDARD PLATE NO. SEWR-6000 |
| | APP: HRS | DATE: 1/07 | | |