



Item 204.21 - trench exc. of rock  
 Old DI #1 10+0187 left  
 $1.219 \times 1.219 \times 2 \text{ m high (MIFPM)} = 2.97$   
 Old DI #2 10+0367 left  
 $1.219 \times 1.219 \times 2.2 \text{ m high (MIFPM)} = 3.27$

Item 204.20 - trench exc. of earth  
 New 18" RCP approx 10+0200 - 10+038 left  
 $12.73 \text{ m} \times 1.6 = 20.32$   
 New DI, approx 10+039 left  
 $4.25 \text{ m} \times 2.2 = 10.56$   
 New Junction Box, approx 10+043 left  
 $6.5 \text{ m} \times 2.2 = 14.30$   
 New 18" RCP approx 10+040 - 10+049 left  
 $1.2 \text{ m} \times 1.6 = 1.92$

Item 204.30 - Granular Backfill for Structures  
 New 18" RCP, approx 10+0200 - 10+038 left  
 trench earth minus volume culvert plus old DI volume  
 $\pi r^2 \times \text{length} = \pi \cdot 225^2 \times 13.4 = 2,136 \text{ m}^3$   
 $20.32 - 2.13 + 1.71(\#1) + 1.93(\#2) = 21.83$   
 New DI, approx 10+039 left  
 trench earth minus volume DI  
 $10.56 - 3.20 = 7.36$   
 New Junction Box, approx 10+043 left  
 trench earth minus volume jct box  
 $14.30 - 4.76 = 9.54$   
 New 18" RCP, approx 10+040 - 10+049 left  
 trench earth minus volume pipe  
 $\pi r^2 \times \text{length} = \pi \cdot 225^2 \times 0.6 = 0.10 \text{ m}^3$   
 $1.92 - 0.10 = 1.82$   
 Abutment #1 Extension (See page 30135-10 for sketch/dimensions and also page 30134-4)  
 $(3.40 \times 0.50 \times 0.84) + (0.82 \times 0.50 \times 0.91) = 1.80$

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