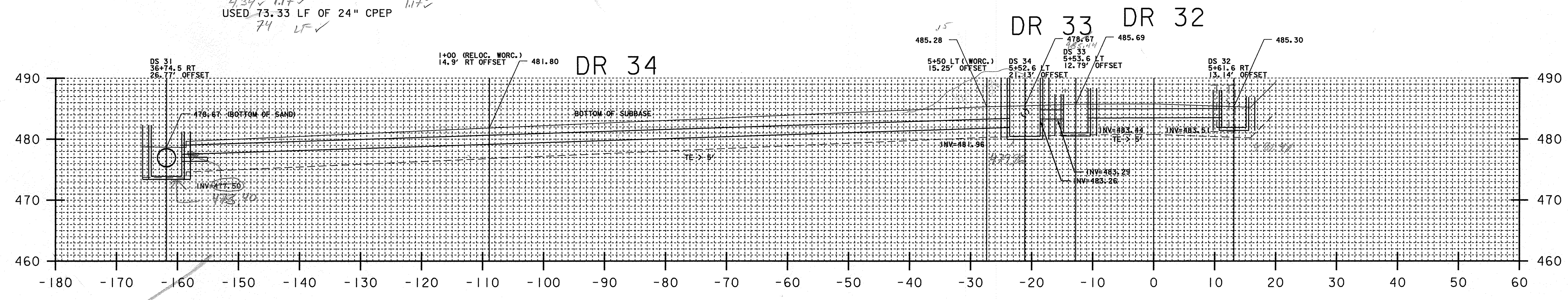


37+95.00 CALCULATED AND DRAWN BY TBG 10/18/07  
 ✓ CPH 01/11/08  
 ✓ TBG 01/22/08

DR 45  
 PIPE T.E. < 5'  
 AREA (FROM CADD) = 97.85 SF \* 4.1' = 401.17 CF/27 = 14.86 CY  
 DS 45  
 STRUCTURE T.E. < 5'  
 $3.54' * \text{PI}(3.42')^2 = 130.08 \text{ CF/27} = 4.82 \text{ CY}$   
 DR 63 GRANULAR BACKFILL  
 $(4.1' * 1' * 71.00') - [(PI(.8')^2/2) * 71.00'] = 179.57 \text{ CF/27} = 6.65 \text{ CY}$   
 USED 73.33 LF OF 24" CPEP  
 74 LF ✓



5+53.6 (WORC. AVE)  
 CALCULATED AND DRAWN BY TBG 10/16/07  
 ✓ CPH 01/11/08  
 ✓ TBG 1/22/08

CALCULATED BY RR 10/3/07 DRAWN BY TBG 1/4/08  
 ✓ CPH 1/11/08  
 TBG 1.22.8  
 DS 31  
 STRUCTURE T.E. > 5'  
 $1.5' (-.33' + .22' + 1.22') / 3 * \text{PI}(3.92')^2 = 42.72 \text{ CF/27} = 1.58 \text{ CY}$   
 STRUCTURE T.E. < 5'  
 $5' * \text{PI}(3.92')^2 = 241.37 \text{ CF/27} = 8.94 \text{ CY}$   
 TOT = 10.52 CY  
 11.45 ✓

CALCULATED AND DRAWN BY TBG 1/8/08  
 ✓ CPH 1/11/08  
 DR 34  
 PIPE T.E. < 5'  
 AREA (FROM CADD) = 377.72 SF \* 3.6' = 1359.79 CF/27 = 50.36 CY  
 DS 34  
 STRUCTURE T.E. < 5'  
 $5.00' * \text{PI}(3.92')^2 = 241.37 \text{ CF/27} = 8.94 \text{ CY}$   
 $- 2.91 \text{ CY (EXIST REM.)} = 6.03 \text{ CY}$   
 STRUCTURE T.E. > 5'  
 $1.5' (-.32' + .65') / 2 * \text{PI}(3.92')^2 = 35.12 \text{ CF/27} = 1.30 \text{ CY}$   
 TOT = 7.33 CY  
 DR 34 GRANULAR BACKFILL  
 $(3.6' * .8' * 136.00') - [(PI(.8')^2/2) * 136.00'] = 254.96 \text{ CF/27} = 9.44 \text{ CY}$   
 USED 138.00 LF OF 18" CPEP  
 SOLID ROCK EXC. (EXIST 5" dia DI @ 20.34)  
 $2.63 * \text{PI}(2.5')^2 = 51.61 \text{ CF/27} = 1.91 \text{ CY}$   
 T.R. (EXIST)  
 $1.37 * \text{PI}(2.5')^2 = 26.83 \text{ CF/27} = 1.00 \text{ CY}$

CALCULATED AND DRAWN BY TBG 10/16/07 (WORC. AVE)  
 ✓ CPH 01/11/08  
 ✓ TBG 1/22/08  
 DR 33  
 PIPE T.E. < 5'  
 AREA (FROM CADD) = 0.99 SF \* 3.6' = 3.56 CF/27 = -0.13 CY  
 DS 33  
 STRUCTURE T.E. < 5'  
 $5.00' * \text{PI}(3.42')^2 = 183.73 \text{ CF/27} = 6.80 \text{ CY}$   
 STRUCTURE T.E. > 5'  
 $1.5' (-.14' + .17' + .30') / 3 * \text{PI}(3.42')^2 = 11.21 \text{ CF/27} = 0.42 \text{ CY}$   
 TOT = 7.22 CY  
 DR 33 GRANULAR BACKFILL  
 $(3.6' * .8' * 4.00') - [(PI(.8')^2/2) * 4.00'] = 4.02 \text{ CF/27} = 0.15 \text{ CY}$   
 USED 6.50 LF OF 18" CPEP

CALCULATED AND DRAWN BY TBG 10/17/07  
 ✓ CPH 01/11/08  
 ✓ TBG 1.22.8  
 DR 32  
 PIPE T.E. < 5'  
 AREA (FROM CADD) = 44.42 SF \* 3.6' = 159.91 CF/27 = 5.92 CY  
 DS 32  
 STRUCTURE T.E. < 5'  
 $(4.01' + 3.79' + 4.46') / 3 * \text{PI}(3.42')^2 = 150.17 \text{ CF/27} = 5.56 \text{ CY}$   
 $- 3.17 \text{ CY (EXIST REM.)} = 2.39 \text{ CY}$   
 DR 32 GRANULAR BACKFILL  
 $(3.6' * .8' * 21.00') - [(PI(.8')^2/2) * 21.00'] = 39.37 \text{ CF/27} = 1.46 \text{ CY}$   
 USED 23.00 LF OF 18" CPEP

VOID  
 SEE SHEET # 12

52.46  
 $2.63 * \text{PI}(2.5')^2 = 51.61$   
 $1.37 * \text{PI}(2.5')^2 = 26.83$   
 $51.61 + 26.83 = 78.44$   
 $78.44 / 1.25 = 62.75$

1/25/08  
 CPH  
 TBG 1/25/08

## U.S. ROUTE 5 HARTFORD AVENUE

PROJECT NAME:	HARTFORD	FILE NAME:	***\$FILENAME\$\$\$	PLOT DATE:	08-JAN-2008
PROJECT NUMBER:	RS 0113(40)	PROJECT LEADER:	KEN UPMAL	DRAWN BY:	E. ATKINS
DESIGNED BY:	K. ISHIKURA	CHECKED BY:	K. ISHIKURA	SHEET	265 OF 239
	E. ATKINS				

SHEET #14