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October 27, 2011  
Ref: #7383

**RECEIVED**

Township of Worcester  
1721 Valley Forge Road  
P.O. Box 767  
Worcester, PA 19490-0767

Attention: William J. McCauley, Interim Township Manager

Reference: Meadow Lane Subdivision - Calculation for Sanitary Sewer Reimbursement

Dear Mr. McCauley:

CKS Engineers, Inc. has completed our calculation of the reimbursement cost for connection to the sanitary sewer line installed by the developer of the Meadow Lane Subdivision. These calculations were performed in accordance with the terms of the agreement entitled "Sanitary Sewer Line Recapture and Reimbursement Agreement", dated September 9, 2008, between Worcester Township and the developer (MJE Builders, Inc.). Enclosed please find a table which outlines the different cost items that can be included in the project cost as part of the reimbursement calculation. In addition, we have determined the total number of probable connections to the sewer and subsequently determined a reimbursement per connection (EDU) for this project.

We have also enclosed a copy of the itemized breakdown of all costs associated with this project as submitted by the developer. These costs have been reviewed by CKS Engineers, Inc. and have been verified as accurate for inclusion in this calculation.

Based on the calculations, the Township should collect \$24,503.05 for each EDU (single-family home) to be connected to the sanitary sewer system, exclusive of the four (4) Meadow Lane Subdivision lots. This total amount includes the cost to be reimbursed to the developer plus the current tapping fee (\$3,500) for connection to the sewer treatment plant.

From the collected amount, the developer is to be reimbursed \$19,952.90, which represents the proportionate share of the construction cost, with 5% deducted for administrative costs for the Township.

Ref: #7383  
Page 2

This letter provides the calculations and evaluations required by the reimbursement agreement, and I hereby certify that these calculations and the associated costs are correct.

Please contact this office if you have any questions or need any further assistance on this reimbursement.

Very truly yours,  
CKS ENGINEERS, INC.  
Township Engineers



Joseph J. Nolan, P.E.

JJN/mdm

Enclosures

cc: ✓ Eunice C. Kriebel, Assistant Township Manager (w/encl.)  
James J. Garrity, Esq., Township Solicitor (w/encl.)  
Andrew Freimuth, Esq. (w/encl.)  
Mike Evans, MJE Buildings, Inc. (w/encl.)  
File (w/encl.)

<b>MEADOW LANE SANITARY SEWER CONSTRUCTION</b>	
<b>CALCULATION FOR REIMBURSEMENT</b>	
<b>A. PROJECT COST (see attached spreadsheet for detailed breakdown):</b>	
1. Engineering Design - Developer's Consultant	\$ 16,923.85
2. Design Review, Construction Inspection - Township Engineer	\$ 21,787.43
3. Construction Costs - Developer's Contractor	\$ 276,334.50
<b>TOTAL COST</b>	<b>\$ 315,045.78</b>
<b>B. TOTAL PROBABLE CONNECTIONS TO SEWER SYSTEM:</b>	
1. Meadow Lane Subdivision (MJE)	4 EDUs
2. Zaveta Subdivision	6 EDUs
3. Worcester Township Subdivision	3 EDUs
4. Hollow Road Properties	2 EDUs
<b>TOTAL EDUs</b>	<b>15 EDUs</b>
<b>C. CALCULATION FOR REIMBURSEMENT TO DEVELOPER:</b>	
1. $\frac{\$315,045.78}{15 \text{ EDUs}} = \$21,003.05 / \text{EDU}$ to be collected by Township	
2. Township to retain 5% or \$1,050.15/EDU	
3. Reimbursement to Developer: $\$21,003.05 - \$1,050.15 = \$19,952.90/\text{EDU}$	
<b>D. TOWNSHIP MUST ALSO COLLECT TAPPING FEE FOR CONNECTION TO TREATMENT PLANT:</b>	
Current Tapping Fee: \$3,500/EDU	
Therefore, total amount to be collected by Township is:	
$\$21,003.05 + \$3,500.00 = \$24,503.05/\text{EDU}$	

**Meadowlane  
for release**

Engineers- Review of shop drawing submittals	\$19,885.28
Engineers- Review planning modules for public sewer/sewer system design	\$1,902.15
S. Calculation -- calc extra force main points	\$143.75
R-S storm sewer onsite -- restake 1-3 and 1-7 and add stations on force main in Hollow Rd. & stake water tap	\$405.00
R-S sanitary-on-site S & L -- restake force main & lats from culvert to cul-de-sac	\$337.50
S-Calculation -- calc rest of storm and force main	\$115.00
S-Sanitary OnSite Sewer & Lats -- stake lateral for Zavata and tie-in	\$135.00
S-Calculation -- calc all force main	\$115.00
S-Calculation -- make cut-sheet for force	\$115.00
S-Sanitary OnSite Sewer & Lats -- stake force main and offsets	\$337.60
S-Sanitary OnSite Sewer & Lats -- stake force main centers and r/w along Hollow	\$405.00
L-Property Line S/O -- stake property line at township by bridge	\$405.00
Force main revisions per MCCD revision	\$187.50
Site visit	\$75.00
Take pictures of force main path for CADD	\$240.00
Download pics of force main path	\$60.00
TOPO for proposed force main	\$1,885.00
Site visit to investigate and measure bridge cross	\$540.00
Layout location of new force main	\$485.00
Force main details	\$194.00
Force main design	\$485.00
Force main profiles	\$582.00
Force main lateral details	\$150.00
Force main profile revisions	\$300.00
Bob's redline mark-up revisions	\$562.50
Add points for force main topo into file	\$180.00
Sanitary force main profile revisions	\$262.50
Planning module resub. new binders created	\$144.00
Location of road bridges/prop. force main	\$1,088.00
Response letter & submission	\$120.00
Cadd draft on force main survey	\$702.00
12/14 Planning module issues	\$236.00

**Meadowlane  
for release**

9/27 Site mtg. to stake force main locations		\$468.00
New force main layout		\$543.75
Force main profile revisions		\$471.25
11/8 Planning and force main		\$295.00
Force main sheet view revisions		\$181.25
Force main profile revisions		\$217.50
Force main rev.		\$214.00
Force main stake location site visit		\$267.50
Force main profile revisions		\$253.75
Force main revisions		\$145.00
LPS sewer design & report		\$840.00
Planning module submission		\$69.75
Planning Modules submission packages		\$69.75
Planning module		\$23.25
7/25 Sewer design and lot layout		\$105.00
Sanitary connection		\$362.50
7/26 Force main		\$105.00
Sanitary profiles		\$471.25
Planning Module		\$93.00
6/26 Planning module		\$420.00
6/28 PMLD		\$210.00
6/21 Force main w/Blue		\$105.00
Rock excavation		\$890.00

**Meadowlane  
for release**

Sanitary sewer force main -Permanent paving restoration		\$3,850.00
-Restore driveway		\$500.00
-Return topsoil		\$3,000.00
-Rake & Seed		\$1,936.00
-Return Topsoil		\$850.00
-Rake & Seed		\$1,584.00
-2" SDR21 PVC		\$12,000.00
-2" SDR21 PVC Bends w/thrust blocks		\$375.00
-Tie-into at manhole 1		\$3,260.00
-Tunnel under utilities		\$11,200.00
-2A Mod full stone backfill at road crossing at pump station entrance		\$1,008.00
-2A Mod full stone backfill in pump station drive		\$4,068.00
-Temporary paving		\$1,400.00
-Return topsoil		\$1,650.00
-2" SDR21 PVC		\$48,000.00
-2" SDR21 PVC bends w/thrust blocks		\$1,250.00
-1.5" SDR21 (includes 5 laterals to 20')		\$7,800.00
-Flushing connections		\$11,730.00
-Services		\$1,398.00
-Tunnel under electric crossing		\$2,800.00
-Crossing at Texas Eastern Pipelines		\$5,600.00
-Concrete encasement under utilities shown on draw		\$4,720.00
-Stream crossing at STA 7+00 -- coffer dam with 24" flume pipe		\$7,006.00
Rock filter		\$432.00
Dewater		\$400.00
2" SDR21 PVC		\$6,750.00
Concrete encasement		\$2,360.00
-Stream crossing at STA 12+50 -- Cofferdam		\$9,480.00
Rip Rap for filter to divert stream		\$2,312.00
Dewater		\$800.00
2" SDR21 PVC		\$13,140.00
Concrete encasement		\$4,130.00

**Meadowlane  
for release**

-Strip topsoil in grass areas only	\$4,400.00
-Traffic control	\$4,020.00
-2" SDR21 PVC	\$7,500.00
-2" SDR21 PVC bends w/thrust blocks	\$250.00
-1.5" SDR21 (includes 5 laterals to 20')	\$12,000.00
-Flushing connections service	\$932.00
-Tunnel under electric crossing	\$5,600.00
-Sawcut paving	\$1,640.00
-Restore irrigation, Belgian block curb and pavers at existing driveway crossing	\$1,460.00
Sanitary Sewer -- 1.5" SDR26 laterals to 10' behind Texas Eastern	\$16,560.00
- 2" SDR26 PVC Force main	\$16,150.00
- 1.5" SDR26 Force Main	\$5,700.00
- 1.5" SDR26 Laterals to 10' behind Texas Eastern	\$7,360.00
Sanitary Sewer -- Lateral connections	\$2,745.00
- Flushing connections	\$10,530.00
- Air release manhole (includes manhole, air release valve -- no details on	\$1,808.50
revised 10/13/11	
Total	\$315,045.78