



# Memorandum

To: Mr. Dave LaFrance, P.E.  
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From: Greg Wierenga  
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Date: February 28, 2005

Subject: **Cost Allocations**  
**Mallridge Lift Station Improvements**  
**City Project 50376, SS03-1255**

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This memo presents a first draft of project cost allocations for Mallridge Lift Station and future trunk sewer downstream from Mallridge.

Figure 1 shows service area delineation as follows

Total Service Basin:..... 3,900 ac.  
New Lift Station Service Basin: ..... 2,600 ac.  
Existing Lift Station Service Basin:..... 1,900 ac. (500 ac. non-sewered)

A fairly large portion of the total basin and new lift station basin (about 400 acres) is outside of the natural drainage basin north of the Freeland property. I believe it is possible to service this area from the new lift station site. This is the service boundary that was included in the Preliminary Engineering Study. An argument can be made that this 400-acre area should not be included on the basis that it would be served by the next gravity main to the north. We can discuss this further.

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**Development Forecast (Ultimate Residential Dwelling Units)**

<u>Service Basin</u>	<u>Gross Area</u>	<u>Density</u>	<u>Ultimate Dwelling Units</u>	<u>Existing D.U.</u>
Existing Mallridge	1,400 ac.	2.4 d.u./ac.	3,360 d.u.	800 d.u.
Add New Lift Station	700 ac.	2.4 d.u./ac.	1,680 d.u.	--
Add Trunk Sewer	1,300 ac.	2.4 d.u./ac.	3,120 d.u.	--
	3,400 ac.		8,160 d.u.	

Budgetary Costs for Sewer Improvements:

Rebuild Existing Lift Station: .....\$732,000  
 New Lift Station (LaCrosse Site): .....\$1,381,000  
 Trunk Sewers: .....\$5,000,000 (below lift station)

Cost Allocation to Future Development.

- Trunk Sewer

$$\frac{\text{Cost}}{\text{Future Dwelling Units Served}} = \frac{\$5,000,000}{8,160 - 800} = \$680/\text{d.u.}$$

- New Lift Station (Less Cost of Existing Rebuild)

$$\frac{\$1,381,000 - \$732,000}{(3,360 - 800) + 1,680} = \frac{\$649,000}{4,240} = \$153/\text{d.u.}$$

- Maximum Service for New Station (2,100 d.u.)

$$\frac{\$1,381,000 - \$732,000}{2,100 - 800} = \frac{\$649,000}{1,300 \text{ d.u.}} = \$500/\text{d.u.}$$

- Total Assessment (New Lots in Service Area of New Lift Station)

Lift Station Cost + Trunk Sewer Cost

$$\$500 + \$680 = \$1,180$$

GW/sjf

