



MEMORANDUM

TO: President Discipio and Board of Trustees

FROM: Bohdan J. Proczko

CC: Julia Cedillo
Julius Hansen
Cathleen Keating
Paul Flood

DATE: August 4, 2010

RE: Village Sewer System

As a result of the rains of July 10 and July 23 it seemed an appropriate time to provide the Board with information regarding the Village's sewer system. The purpose of this presentation is informational. It is recognized that a majority of the Board was not involved in the most recent large scale sewer improvement project. To that end we will try to describe for you the essential operational characteristics of the Village's sewer system, recent improvements to the system that have been implemented, various alternatives that have been reviewed over time, and how the public system interfaces with private properties. Representatives from Edwin Hancock Engineering will present information at the meeting in greater detail than contained in this memorandum.

First and foremost, stormwater drainage is not a problem that gets solved. Regardless of the amount of money that can be spent or the size of pipes that can be installed, there a rain event will occur that will exceed the capacity of any installed improvements. Rather stormwater drainage must be managed appropriately.

Whenever it rains intensely the word "flooding" quickly comes to mind. In order to effectively manage stormwater we first have to define flooding. Though this may seem relatively easy, if we were to ask five people to define flooding we would get five different answers.

Is water backup in the basement flooding?

Is 6 inches of water standing in the street that drains away within hours after the rain event flooding?

Is standing water in my backyard, that causes no damage, flooding?

A working definition of flooding that could be considered is one where stormwater accumulates in an unacceptable location, for an unacceptable period of time, and causes property damage, or unduly impacts public safety.

The definition of flooding is important because it provides Village Boards and engineers with a measurable target that can be addressed.

The Village of La Grange Park operates what is called a combined sewer system. This means that storm flows and sanitary wastes are transported through a single piping system. La Grange Park is a mature community and at the time the system was constructed combined sewer systems were commonly installed. The Village has maintained and upgraded the system over the years to ensure that the system operates to the designed capacity.

There are several distinct “drainage areas” within the Village:

The northeast portion bounded by 31st St., IHBRR, 26th St., and Maple Avenue, consists of separate storm sewers that drain most storm flows north to Salt Creek while sanitary sewer flows are directed to the 31st St. sewer.

The northern portion of the Village bounded by La Grange Road, Stonegate Rd/Pine Tree Lane, IHBRR, and 31st St. consists of separate storm sewers that discharge into Salt Creek, and sanitary flows that are directed to the 31st St. sewer.

The western portion of the Village bounded by Brewster, Edgewood/Brainard, 31st St., and La Grange Road served by a combined sewer system that discharges into the MWD interceptor via Woodlawn Avenue and via Jackson Avenue.

The central portion of the Village bounded by La Grange Road, 31st Street, Kemman Avenue, and Brewster Avenue is served by a combined sewer system that directs all flows to the 31st St. sewer via a sewer on Kemman Avenue that is fed by sewers crossing under the IHBRR at Oak and Jackson. This portion of the Village has the lowest elevation relative to Salt Creek.

Each area operates slightly differently from the other areas and necessitates different strategies to effectively and economically manage stormwater.

The most recent sewer system improvements constructed in 2007 at a cost of approximately \$5.5 million, in summary, included the following:

- Separating the majority of the sewers in the northeast portion of the Village to remove a majority of storm flows from that section that entered the combined sewer on 31st. Street. Storm flows were directed to Salt Creek.

- Separating the majority of the sewers in the northern section of the Village (exclusive of Sherwood Village that was already a separate system) to remove a majority of the storm flows from the system that entered the 31st Street combined sewer. Storm flows were directed to Salt Creek.
- Upgrading an existing combined sewer on Woodlawn Avenue from Kensington Avenue to its connection to the interceptor sewer located in Bethlehem Woods.

After reviewing various alternatives at that time it was determined that the activities listed above provided the greatest public benefit that could be achieved within the Village's financial capabilities. Alternative projects that were reviewed and ultimately not pursued included

- upsizing a combined sewer on Jackson Street from Spring to Brainard
- constructing the "East Side Relief" sewer connecting to the deep tunnel in LaGrange
- These two options were not pursued because they either did not provide sufficient benefit to warrant implementation at that time or were beyond the Village's funding capability.

The Village did offer a "Sewage Backup Prevention Program" in FY2003-2004. The goal of the program was to encourage single-family homeowners to improve their quality of life and enhance property values through reduction of sanitary sewer backups. The program provided 50% reimbursement of eligible costs subject to a maximum reimbursement of \$1,000 per homeowner. Eligible costs included:

- Installation of overhead sewers.
- Installation of sump pit and sump pump necessary to pump sanitary sewage from below-grade fixtures to an overhead sewer.
- Cost of lining the homeowner's sewer service line to prevent leaking into the drain tile.
- Cost associated with location, excavation and exposure of the sewer service line when performed in conjunction with corrective lining or installation of overhead sewers.
- Cost of trenching and concrete floor replacement associated with eligible work.
- Installation of backflow prevention valve.
- Restoration with grass seed or sod.
- Permit fees.

In FY 2003-2004 the Village budgeted \$50,000 available on first come/first served basis. The Village expended \$15,000 and assisted 16 homeowners with this program.

Although the Village continues to maintain its system to operate efficiently and effectively it is recognized that the system can always be improved. During the most recent rains the

Village's sewer system operated as expected. Even though the Village cannot install pipes of sufficient size to accommodate any rainfall event there are options that the Village can explore to better manage storm flows. We look at rain events because that is when the system is under the most stress.

Any alternative will require public and private participation to be most effective. The Village can do things on its system and on public property to minimize the potential for damage and inconvenience.

Likewise, private property owners have a variety of options they can consider to help improve their circumstances (for example, the improvements listed on the preceding page under the topic "Sewage Backup Prevention Program", as well as the installation of drain tile, grading of land surrounding the home so it drains away from the home and installation of gutters and downspouts directing water away from the home).

From a public perspective the Village can examine a host of options that may or may not prove effective, affordable, and that make sense. Without commenting on the desirability of any options with respect to cost or effectiveness the Village could examine alternatives that could include:

- creating a large detention/retention pond
- create several "micro-ponds"
- re-examine the costs and benefits of the "East Side Relief" sewer
- consider underground storage
- examine lift stations
- examine the possibility of lowering the elevations of streets to better accommodate overland flows during storm events
- encourage residents to implement backup prevention measures on their properties
- re-institute the Sewage Backup Prevention Grant Program

At this point no public options have been discounted nor have any specific options been embraced. Each option carries advantages and disadvantages. There is no magic bullet that can be employed that will easily address this issue.

As stated earlier, the purpose of this memorandum and the overall discussion on drainage and the Village's sewer system was to inform the Board. The purpose was not to encourage a specific course of action. In order to determine which options are viable to pursue additional engineering work will be necessary to quantify the costs/benefits and advantages/disadvantages with each.