

Minutes of the Ad Hoc Stormwater Committee Village of Shorewood Hills

Wed., Feb. 6, 2019

(reviewed and approved at Mar. 14, 2019 Committee meeting)

1. **Called to Order at 7:01 PM:**
 - a. **Roll Call:** Committee Members Present: Chair/Village President Dave Benforado, Gloria Beach, Carolyn Benforado, Greg Brauer, Peter Hans, Mark Mandel, Eric Riedner.
 - b. **Others Present:** Village Administrator Karl Frantz, Village Engineer Brian Berquist (Town and Country Engineering), Village Trustee Mark Lederer, City of Madison Deputy City Engineer Greg Fries, City of Madison Stormwater Engineer Janet Schmidt Amber Lefers, PE, AE2S, and approximately two Village residents.
2. **Meeting Notice:** D.Benforado inquired and K.Frantz confirmed that the meeting had been properly posted in compliance with open meeting laws.
3. **Review Prior Meeting Minutes:** Committee reviewed draft meeting minutes from Jan. 9, 2019, meeting. Motion to approve by C.Benforado, second by E.Riedner. Approved with one minor correction (6-0-1, M. Mandel abstaining).
4. **Update/technical presentation from City of Madison Engineering regarding future stormwater management options in University Ave. corridor.**
 - a. **G.Fries introduced Amber Lefers**, a stormwater PE with AE2S, the company the City contracted with to test and refine its computer stormwater model regarding the Willow Creek watershed and flooding in the University Ave corridor area.
 - b. **The City Stormwater Model:** After reviewing and testing the model in Dec/Jan, A.Lefers concluded that the model was “over predicting” the volume and max height of stormwater on University Ave during flood events (overpredicting max height by as much as a foot). She endorsed the model as being a strong model and indicated that she had made a few refinements to it. She cross-checked it against the 2001 Strand report data, and that report’s data supports her conclusion that the model is overpredicting the amount of stormwater in any given event.
 - c. **Four options examined** to remediate the flooding situation along the University Ave corridor in a least cost manner, a major driver being the trade-off between land value and construction costs. Four options: a 25-year event, a 50-year event, a 100-year event, and the 8/20/18 flash flood event (which was more of a 100-200 year event). All options assumed utilizing all 5 acres of the Garden Homes residential neighborhood as a temporary fenced in deep holding area for stormwater with inlets behind Janet’s. The purpose of the holding area would be to de-energize the stormwater surge/take the peak of the surge, before that stormwater is piped to Lake Mendota either to the east, west or north and to allow for that new large pipe to be efficiently filled. All options based on NOAA Atlas 14 assumptions for rainfalls (that a 25 year event means 4.95” rain/24 hrs; that a 50 year event means 5.72” rain/24 hrs; that a 100 year event means 6.66” rain/24 hrs, knowing that most rainfalls do not stretch out over a 24 hour period, but are usually heavier and condensed into a shorter time period).
 - i. **25-year event option:**

1. Assumes a 12 ft deep Garden Homes stormwater holding area (gravity flow east to Locust box culvert) and “fixing” two choke points in the current stormwater conveyance system to the east:
 - a. At Shorewood Blvd/University Ave., enlarging the connection between the new 2010 era box culvert under University Ave and the older box culvert that runs parallel to the railroad tracks.
 - b. At Grand Ave/Old University Ave., improving the connection to the new 96” relief pipe that extends to Willow Creek.
 2. Model indicates that under this scenario, flooding of University Ave would still take place, but that no flooding of buildings with a ground floor level of 887 ft would take place (e.g., Janet’s, Walgreens, US Bank). At 885 ft elevation, stormwater starts flowing east down University Ave.
- ii. **50-year event option:**
1. Assumes all above plus:
 - a. Extension of 96” relief tunnel from Grand Ave to Shorewood Blvd along University Ave.
 - b. New wider inlets into a 20 ft deep Garden Homes stormwater detention area, with a lift station (20,000 gallons per minute) at the NW corner pushing stormwater via a 36” forced main west along the railroad tracks to the Spring Harbor drainage basin (assuming the Spring Harbor system can accept that volume).
 2. Model indicates that this would maintain the max height of the stormwater at University Ave/Shorewood Blvd at or below 882 ft, which means that Whole Foods would not flood.
- iii. **100-year event option:**
1. Assumes all of the above plus:
 - a. Instead of a Spring Harbor diversion pipe, an 11.5 ft diameter pipe north from the Garden Homes stormwater detention area under Blackhawk Country Club to Lake Mendota (a pipe of that diameter has roughly as much carrying capacity as two 8 ft pipes).
 - b. The Garden Homes detention area is only 12 ft deep under this scenario, there are additional inlets into that area (300 linear ft wrapped around the SE corner of the Garden Homes stormwater detention area), and there is a 10 ft deep concrete channel on the south side of the Walgreens parking lot with a 6X12 box to the Garden Homes stormwater detention area. Without the Garden Homes stormwater detention area:
 - i. The pipe(s) to Lake Mendota would have to be substantially larger to accept the stormwater surge; and
 - ii. The inlet intake area to channel the surge of stormwater into the pipe(s) would have to be huge.
- iv. **8/20/18 flash flood event:**
1. Assumes all of the above, and there would need to be two parallel outflow 11.5” diameter pipes to Lake Mendota from the Garden Homes stormwater detention area.

- d. **Madison Yards:** In answer to questions from P.Hans, G.Fries indicated that the planned “Madison Yards at Hill Farms” project send stormwater in three directions, two of which feed in the Willow Creek watershed, the other on the west side of that property feeds into the Spring Harbor watershed. G.Fries also indicated that The Yards must comply with stricter stormwater rules that would otherwise be the case under City/County or State regulations because it is in the Willow Creek watershed.
5. **Potential Village stormwater flood evaluation tool.**
 - a. B.Berquist presented the Committee with a Village stormwater flood evaluation computer tool that he created. Accessing Village Assessor data and topographical data, this tool makes certain assumptions about each home such that the Committee could perform broad brush analysis of Village flood impacts at a given flood height. The Committee thought the tool would be worthwhile to utilize.
6. **Potential short-term Village stormwater management options.**
 - a. At the request of the Committee and the Village Board, B.Berquist discussed whether there was any “low-hanging fruit” in terms of flood prevention activities or undertakings the Village could take that would be impactful in 2019. Berquist opined that there were none other than:
 - i. Directing Village Public Works to stay on top of the maintenance and clearing of stormwater inlets, and to make sure that the Garden Homes stormwater check valve (just east of Locust and Burbank) is routinely inspected and maintained.
 - ii. Consider installing a warning system of some kind at the Garden Homes stormwater check valve that would warn when the valve had closed (e.g., a loud horn, flashing red light on nearby light pole, blast text message, much like what happens when a Village lift station motor quits).
7. **Future Meeting Dates:** Committee confirmed their next meeting dates:
 - a. ~~Wed., March 6~~ Thur., March 14 (7 PM) – initial discussion of Committee findings to report to the Board by May; and
 - b. Wed., April 3, 2019.
8. **Adjournment:** Committee adjourned at 8:59 PM.

Respectfully submitted by Dave Benforado on Feb. 19, 2019.