



# **A G E N D A**

## **COMMISSION ON STORM WATER ISSUES MEETING**

**Tuesday, March 1, 2022 at 6:30 p.m.**  
**Heman Park Community Center**  
**975 Pennsylvania Ave., University City, MO 63130**

- 1. MEETING CALLED TO ORDER**
- 2. ROLL CALL**
- 3. APPROVAL OF AGENDA**
- 4. APPROVAL OF MINUTES – 2-1-2022 Meeting Minutes (Draft Attached)**
- 5. ANNOUNCEMENTS**
- 6. CITIZEN PARTICIPATION**
- 7. NEW BUSINESS**
  - a. Stormwater Needs Assessment Survey (part of Stormwater Master Plan) – Draft Attached
- 8. OLD BUSINESS**
- 9. SUBCOMMITTEE REPORTS**
  - a. Communications
  - b. Army Corps Study – See Attachments
  - c. Flood Early Warning System
- 10. COUNCIL LIAISON COMMENTS**
- 11. OTHER BUSINESS**
- 12. ADJOURNMENT**

Please call (314) 505-8572 or email [salpaslan@ucitymo.org](mailto:salpaslan@ucitymo.org) to confirm your attendance.



Storm Water Task Force  
6801 Delmar Boulevard, University City, Missouri 63130,  
Phone: (314) 505-8560, Fax: (314) 862-0694

**Draft: MINUTES OF THE STORMWATER COMMISSION  
February 1, 2022**

1. **Call to Order.** The nineteenth meeting of the Stormwater Commission (Commission) was called to order at 6:30 PM by Chair Todd Thompson.
2. **Attendance-Roll Call.** The following Commission members were present by Zoom meeting: Garry Aronberg, Bob Criss, Mark Holly, Eric Karch, Todd Thompson, Eric Stein. Also in attendance were Tim Cusick, Councilman, Sinan Alpaslan, Director of Public Works, John Mulligan, City Attorney.
3. **Agenda.** The Following Agenda was approved by voice vote (motion and second: Messrs. Holly and Criss): Roll Call; Approval of Agenda; Approval of Minutes; Citizen Comments, Announcements by Commissioners, Committee Reports: USACE Upper River des Peres Flood Risk Management, Early Warning, Communication, New Business, Old Business, Council Liaison Comments; Adjournment.
4. **Minutes.** The minutes of the January 4, 2021, Commission meeting were approved as amended (Messrs. Thompson, Karch, voice vote approval). Amendments to the January 4 minutes are indicted below:
  - In New business, change agnenda to agenda,
  - In Subcommittee Reports, change repot to report and Henson to Hinson. Add "that" before summarizes.
  - In Old Business, change wone to one.
5. **Announcements**
  - Mark Holly will be speaking to River des Peres Watershed Coalition on behalf of the Commission.
6. **Citizen Comments.** There were no citizen comments.
7. **New Business**
  - **Kempland Bridge.** City plans to make application for a Federal Transportation Improvement grant administered through East-West Gateway Coordinating Council to replace the Kempland Place bridge over the River des Peres near the northwest corner of University City. If successful, the construction would be in FY 2026.
    - Total cost is likely to be over \$1 million.
    - A no-rise certification will be part of the work (no-rise of the 100-yr FEMA water surface elevation).
    - But a larger opening may be considered during design.
    - The TIP grants are very competative.
    - Groby and Pennsylvania bridges will need replacement in the future, also.
  - **Capital Improvement Program.** Mr. Sinan seeks suggestions from the Commission for stormwater capital improvement projects (CIP):
    - **Funding.** City anticipates that stormwater CIP will be funded through Park and Stormwater Sales Tax funds and OMCI Funds. Projects identified in the Stormwater Management Plan will likely be the OMCI projects. Each type of funding has restrictions on use.
    - **Mona Drive** top of bank fence was damaged during bank stabilization, but fence was not replaced. City is now submitting the fence replacement for OMCI funds.
    - **Dredging** of streams – clearing under bridges at Groby and Vernon was suggested as CIP projects.
    - **The 7591 Amherst** erosion project is not proceeding due to long-unresolved issue of whether MSD or City should pay. City feels this is an MSD project and MSD should pay. The Stormwater Management Planning team will discuss with the City financial responsibility regarding MSD, City, and private projects. The discussion may lead to adoption of a financial responsibility policy.



- *Award.* Motion by Messrs. Karch and Holly and passed by voice vote to self-nominate the Commission for Association of State Floodplain Managers James Lee Witt Award. Key features of to highlight are active review of USACE risk management report, early warning system, initiation of stormwater management plan. The nomination is due February 10. Mr. Karch will prepare initial draft and pass it among the Commission by email for comments and editing.
- *Future in-person meetings.* Most favor in person over zoom meetings. Messrs. Thompson and Aronberg moved we return to in-person meeting with social distancing and masks and subject to City requirements. Motioned passed by voice vote.

#### 8. Subcommittee Reports.

- *Communication Subcommittee.* Dr. Criss provided an update on a Web-based library he has developed. He requested that the Commissioners offer suggestions for improvements and content. Features are summarized below:
  - Links to Task Force Report, ASCE Report on River des Peres, other storm related reports of interest to U. City residents,
  - Photos and videos of floods,
  - Papers of Dr. Criss such as correlation of flow rate and flow volume to depth that has better correlation than Mannings equation,
  - Inundation map of River des Peres.
- *Risk Management Subcommittee (Mr. Karch).*
  - City Manager has asked the Corps to prepare a locally preferred plan – detention – DB4.
  - Corps report will still present non-structural plans and the Corps report will serve as a support for grant applications,
  - Mr. Karch advised that Stormwater Management Plan team suggests some edits to survey questions considering the City's preference for LPP; Commissioner feedback requested before next Commission meeting.
  - Corps has been communicating with Overland and Corps is optimistic that Overland would participation with U. City in a detention basin project.
  - Corps favors early warning system be incorporated into LPP for the detention basin. Corps would want oversight of the system design. Commissioners may reject Corps-sponsored early warning.
  - Next mtg with Corps is February 14.
- *Early Warning (Messrs. Stein and Criss)*
  - Chief Hinson is developing a protocol for Battalion Chiefs to place observers when early warning system flooding is imminent,
  - Chief Hinson will, observe the warning system and develop experience with it before initiating a red code public warning component,
  - Chief was supportive of having cameras at Hafner Ct, Pennsylvania, and Groby
  - Stage sensors and staff gauges will be installed this spring.

#### 9. Old Business. None

#### 10. Councilman Cusick Comments.

- Trivers has reported to the Council about the Annex remodeling design – it is on schedule for the \$19,000,000 annex project. The annex will include a new police station.
- I-170 at Olive, and I-170 at Delmar projects are on schedule.

#### 11. Adjournment was at 8:15 by Karch and holly passed.

Minutes Preparation. Minutes were prepared by Garry Aronberg.

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STORMWATER NEEDS ASSESSMENT  
**Survey Questionnaire for All Property Owners and Residents**



The City of University City is developing a plan to address stormwater problems. We need your input as a resident or business owner in University City to identify the stormwater problems. If you have not experienced any stormwater problems, that information is also important. In either case, please complete the following survey.

You may have completed a previous survey, and we thank you for that, but please complete this one as well as it is more detailed. Thank you!

Complete this questionnaire online at [XXX](#)  
or complete this copy and submit (instructions are at the end of the questionnaire).

1. **What is the property address?** \_\_\_\_\_  
*Note: if you own or have experience with more than one property, please fill out a separate survey for each property. To evaluate your stormwater problem, we need to know the location of the problem.*
  
2. **How long have you lived in your house or operated your business at the current address?**
  - 0-2 years
  - 3-5 years
  - 6-10 years
  - More than 10 years
  
3. **Does a stream, river, or other natural drainage channel border the property?**
  - Yes
  - No
  - Not sure (Note: We can contact you with that information, if you chose "not sure". Please make sure to provide your contact information at the end of the survey.)
  
4. **EROSION: Does stormwater cause erosion or soil loss at this property?**
  - NO
  - In the YARD, along the DRIVEWAY, or in COMMON GROUND
  - Along the STREET
  - Near NON-HABITABLE STRUCTURE (such as a detached garage, shed, or deck)
  - Near HABITABLE STRUCTURE (such as an attached garage, house, store, or office)
  
5. **YARD FLOODING: Does flooding or ponding occur in the yard, driveway, or common ground?**
  - NEVER.** I've never experienced flooding of the yard, driveway, or common ground.
  - RARELY.** Only once or twice in the past 10 years.
  - OCCASIONALLY.** About once every 1 or 2 years.
  - OFTEN.** Several times per year.
  
6. **STREET FLOODING: Does flooding or ponding occur in the nearby street?**
  - NEVER.** I've never seen flooding or ponding in the nearby street.
  - RARELY.** Only once or twice in the past 10 years.
  - OCCASIONALLY.** About once every 1 or 2 years.
  - OFTEN.** Several times per year.

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**7. NON-HABITABLE STRUCTURE FLOODING: In your experience, how often has a non-habitable structure (such as a detached garage, shed, or deck) flooded or ponded?**

- NEVER.** I've never experienced flooding of a non-habitable structure.
- RARELY.** Only once or twice in the past 10 years.
- SOMEWHAT OFTEN.** About once every 1 or 2 years.
- VERY OFTEN.** Multiple times per year.

**8. HABITABLE STRUCTURE FLOODING: In your experience, how often has a habitable structure (such as an attached garage, house, store, office) flooded or ponded?**

- NEVER.** I've never experienced flooding of a habitable structure.
- RARELY.** Only once or twice in the past 10 years.
  - Basement
  - First Floor
- OCCASIONALLY.** About once every 1 or 2 years.
  - Basement
  - First Floor
- OFTEN.** Multiple times per year.
  - Basement
  - First Floor

**9. Please enter your comments or concerns about stormwater below.**

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**10. Would you like a member of the study team to contact you for further conversation about storm water problems?**

- Yes
- No

**11. If you would like to be contacted, please give us your name, phone and/or email address.**

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

**THANK YOU FOR COMPLETING THE QUESTIONNAIRE!**

Please use the following options to return the completed questionnaire:

Use the enclosed envelope to send to:  
Public Works Department  
City Hall  
6801 Delmar Blvd.  
University City, MO 63130

or

Place the questionnaire in  
the drop box marked  
Stormwater Survey in the  
First Floor Lobby of City Hall

or

Complete the  
questionnaire online:  
**xxx**  
(preferred method)

STORMWATER NEEDS ASSESSMENT  
**Special Stormwater Questions for Floodplain Property Owners**



**For Properties Affected by Flooding of the River Des Peres and other creeks.** ~~The City of University City is considering grants to fund Floodproofing and buyouts are being considered by the City of University City~~ to aid residential and business property owners who are affected by flooding from the River Des Peres. You would be affected by flooding from the River Des Peres if you meet at least one of the three criteria listed below:

1. Your mortgage lender requires you to purchase flood insurance, or
2. Your property is in the floodplain, or
3. Your property has been flooded by the River Des Peres or other creeks.

**If you meet at least one of the three criteria listed above, please answer questions A through J.**

**A. What is the property address?** \_\_\_\_\_

**B. Do you have a flood insurance policy?**  Yes  No  Choose Not To Answer

**C. Have you ever filed a claim for damage with FEMA?**  Yes  No  Choose Not To Answer

**D. How often has flooding from the River Des Peres or other creeks entered your yard?**

- Never  Once  More than once

**E. How often has flooding from the River Des Peres or other creeks entered your house or business?**

- Never  Once  More than once

**Case #1: Business Floodproofing.** Commercial (non-residential) buildings can be protected with barriers, by raising of floors, or by modifying the interior to make it more flood resistant.

**F. Would you participate in a voluntary program as described in Case #1 above?**

- Yes  
 Maybe  
 No  
 Not Applicable

**Case #2: Residential Main Floor Flood Damage Mitigation.** If the main floor of your house floods more than two feet deep, a possible voluntary mitigation method would be to elevate the main floor of the house and thereby reduce your flood insurance costs. Elevating the house would be by jacking the house upward from the old foundation so that the main floor would be above the flood level. (The main floor is typically the floor on which the kitchen and living room are located.) A new foundation would be constructed. The area below the main floor could be used only for storage or parking – not as a living space, laundry room, spare bedroom, or den. If elevating the main floor is more costly than buying the house, the City may offer to buy the house.

**G. Would you participate in a voluntary program as described in Case #2 above?** The use of your basement would be limited or lost. The program would be at no cost to you, and it may reduce your flood insurance premiums.

- Yes  
 Maybe  
 No  
 Not applicable

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Case #3: Residential Basement Flood Damage Mitigation. If your basement partially fills with River Des Peres floodwater and the first floor does not flood, the basement could be modified to minimize flood damage and thereby reduce your flood insurance costs. For homes with shallow flooding, utilities such as furnace, water heater, air conditioner, and electric panel could be protected with minor adjustments. For homes with deeper flooding, the basement could be converted to a non-habitable space and thereby reduce your flood insurance costs. The utilities, such as furnace, water heater, air conditioner, and electrical panel would be moved to the main floor, either to an existing space or an add-on space. The basement would be filled or limited to storage and parking of cars, or filled – not used as a living space, laundry room, spare bedroom, or den. If filling the basement and moving the mechanical equipment is more costly than buying the house, the City may offer to buy the house.

**H. Would you participate in a voluntary program as described in Case #3 above?** The use of your basement would be limited or lost. The program would be at no cost to you, and it may reduce your flood insurance premiums.

- Yes
- Maybe
- No
- Not applicable

Case #4: Residential Buyout. If you-it qualifies, your residential propertyies can-would be bought to allow you to remove you-fromout of the floodplain.

**I. Would you participate in a voluntary program as described in Case #4 above?**

- Yes
- Maybe
- No
- Not Applicable

Case #5: Residential Windows or Doors. For some homes, flood water enters the basement through windows or doors. Options to mitigate this include installing glass block windows, barriers around the windows, or eliminating the walkout stairway by sealing its entrance and filling the stairway. *These options are not recognized by FEMA and thus would not reduce flood insurance premiums.*

**J. Would you participate in a voluntary program as described in Case #5 above?**

- Yes
- Maybe
- No
- Not Applicable

**THANK YOU FOR COMPLETING THE QUESTIONNAIRE!**

Please use the following options to return the completed questionnaire:

Use the enclosed envelope to send to:  
Public Works Department  
City Hall  
6801 Delmar Blvd.  
University City, MO 63130

or

Place the questionnaire  
in the drop box marked  
Stormwater Survey in  
the First Floor Lobby of  
City Hall

or

Complete the  
questionnaire online:  
**xxx**  
(preferred method)

**Commented [EK3]:** This question was dictated by USACE's version of basement mitigation. I suggest we broaden this to include other options. FYI - regarding shallow flooding, here's a link to a 2017 FEMA document on how to protect building systems. Chapter4 is the most pertinent info. [https://www.fema.gov/sites/default/files/2020-07/fema\\_p-348\\_protecting\\_building\\_utility\\_systems\\_from\\_flood\\_damage\\_2017.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_p-348_protecting_building_utility_systems_from_flood_damage_2017.pdf)

**Commented [EK4]:** already dealt with in Case #4

**Commented [KS5]:** May be removed per Sinan's comment ("We know that the Army Corps-proposed buyouts will be mandatory but I would also think that asking a property owner for their thoughts about a mandatory buyout might lose relevance at this point. Wanted to just open this one up for additional thoughts from your team.")

**Commented [EK6R5]:** Now that we're not participating in the non-structural portion of USACE's project, I say we keep this as-is. I re-worded to make it singular. The instructions indicate that a person should fill out a separate form for each property, so multiple properties is not relevant.

1/31/2022

USACE Mtg via WebEx

Sinan, Eric, Matt, Janet

1. DB4 originally actually included an early warning system (EWS). Corps admitted that they did not make this very clear because the focus was on the non-structural. Does Commission want to include the EWS in the LPP?
  - a. Corps asked what are the approximate costs of the system that two of the Commissioners have been developing? Sinan indicated rough estimates are:
    - i. Person-hours to develop the EWS concept, relationship between rainfall/timing/flood levels that would trigger a warning, meet with City EMS, etc.
    - ii. Subscription costs for server to manage rainfall data \$2k/year
    - iii. \$20k for rain gages and poles; replacement costs needed at some point
    - iv. Code Red system to notify citizens - \$10k to initiate; not sure of ongoing annual costs
  - b. USACE indicated that if we wanted EWS with DB4
    - i. They'd need a new letter from the City indicating LPP is DB4 and EWS
    - ii. They would need some oversight of the technical
    - iii. Total cost for EWS would include a 50-year period of analysis/service
    - iv. Need to be sure that total cost would not exceed \$3.6 million to stay in CAP limits (see below). All felt the EWS costs would be below this threshold.
2. This project is a specifically-authorized project by Congress.
3. Standing authorities – programs where Congress gives them authority every year to do projects.
4. Looking for ways to proceed that are more streamlined and give better chance to receive funding
  - a. Current process is a General Investigations Study which could take 2 or 3 years to get funded
  - b. Continuing Authority Program (CAP)
    - i. Several sections; each has federal limits on funding; typically funded every year
      1. 205 – small flood risk management project; limit is \$10M federal (once including City's cost share the total project cost limit would be closer to \$13M)
      2. Small eco-restoration
      3. Beneficial reuse of material
    - ii. Since DB4 is appx \$9.4M. Since it meets CAP Section 205 limits...
      1. Benefits:
        - a. Cap conversion would be a streamlined process.
        - b. Easier on authorization side. Don't need chief's report and signature.
        - c. Since dollars authorized annually, this could allow it to proceed faster.
        - d. Feasibility study dollars available as well
        - e. Easier on implementation
        - f. Same cost-share 63/35



g. Matt is program manager for the St Louis district Cap Program

2. Downsides?

- a. None known.
- b. Uncertain whether its possible to do Cap Conversion.
- c. Even if we selected NED, there is risk that Congress would not fund the project. Risk of LPP instead of NED is no different.

5. Overland coordination

- a. been meeting regularly (USACE, U City, and Overland)
- b. Been well-received by Overland; our site is a current dog park that floods a lot. They had been considering whether or not to invest, and are happy to consider doing so at a different site. Looking to move the dog park at Legion Park.
- c. Land swap would not happen until report is completed (sometime next year)
- d. Coordinating with USACE Real Estate on
- e. USACE conducting site survey of current and future dog park site (Legion Park) for Cultural Resources assessment

6. Status

- a. Looking ahead to ADM
- b. Wrap up draft report. Agency Technical Review (ATR) back check on the technical data and real estate costs for the NED. They will share (late March) the report draft going into ADM.
  - i. Corps offered that we could provide comments / request revisions.
  - ii. Report will not identify property addresses for non-structural (works good for our pursuit of a City-selected list that differs from Corps list).
  - iii. Commission will likely request the backup data used for the report.
  - iv. Janet's opinion is that the Corps report will be a good foundation document for pursuing other grant opportunities. This opinion is based on her experience at her previous employer [Heartlands Conservancy] on FEMA grants.
- c. NEPA policy may require that the report be posted on the project website for public comment. If so, not likely needing to do another public meeting.
- d. After ADM, final review/edits to finalize the report.

**From:** [Eric Karch](#)  
**To:** [Sinan Alpaslan](#); [garonberg@sbcglobal.net](mailto:garonberg@sbcglobal.net); [Todd Thompson](#); [Mark Holly](#); [Tim Cusick](#); [John F Mulligan](#); [Bob Criss](#)  
**Subject:** Fw: RDP Flood Warning System Follow-up  
**Date:** Friday, February 11, 2022 9:52:59 AM

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**CAUTION:** This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Commissioners,

Below is the latest from the Corps on their conditions if we decide to include the Flood Warning System in the LPP. I suggest we add a vote on this to our March 1 meeting agenda. I appreciate that Criss and Stein have already shared their gut feeling of suspicion, and I will likely yield to their ultimate decision. That said, I personally am confident that the system development is robust and will stand-up to the Corp's scrutiny, and think we should be sure to take into account the possible funding support. If my rough guess is correct, including the FWS in the LPP would save the City \$143k (in today's dollars).

The Corps said "any costs spent on the system prior to implementation of the USACE project would not be able to receive cost credit." We don't know when the implementation would begin, but by the time the USACE project is implemented, we'll be down to maintenance/subscription costs. The Corps indicated that the costs should be estimated on a 30-year basis. Here's backup for my rough guess of \$220k for the 30-year total Flood Warning System costs for maintenance and subscription, but I welcome a revision by other Commissioners that are more knowledgeable about these costs.

- server costs for managing rainfall data and issuing warning = \$2k/year
- Code Red (assuming it is implemented) = ?; for now I'll assume it's double the server costs (\$4k/year)
- assume rain gages will need to be replaced once in 30 years, so add the \$20k initial installation costs
- assume additional water level gages and cameras (yet to be priced and installed) will need to be replaced once in 30 years; assume \$20k (same as rain gages)
- 30years x (\$4k+\$2k) + \$20k + \$20k = \$220k total 30-year maintenance and subscription costs
- 65% funding by the Corps (if included in the LPP) = 65% x \$220k = \$143k (in 2021 dollars)

Thanks,  
Eric K

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**From:** Jones, Matthew A CIV USARMY CEMVS (USA) <Matthew.A.Jones@usace.army.mil>  
**Sent:** Thursday, February 3, 2022 11:05 AM  
**To:** Sinan Alpaslan <salpaslan@ucitymo.org>; Eric Karch <ekar76@hotmail.com>; Todd Thompson <ucity7024@gmail.com>

**Cc:** Buchanan, Janet | CIV USARMY CEMVP (USA) <Janet.I.Buchanan@usace.army.mil>

**Subject:** RDP Flood Warning System Follow-up

Hello Sinan, Eric, and Todd,

We've gathered some more information for you about how the Flood Warning System (FWS) could be incorporated into the LPP. Please see below.

The summary is: we think the FWS could be incorporated into the LPP and the Final Report quite easily and at a low level of detail, if you would like to include it. No-one we've talked to so far has said we have specific requirements on design of the system, but in PED, we would be more involved with checking the design and function of the system to make sure it works effectively. The details that would be worked out during PED would include calibration of the system and frequency of testing the system.

One detail that would be helpful for us to justify the FWS in the plan is the warning time – how much advance time the FWS would give. Do you happen to have numbers on that at this stage? It's ok if you don't, but it would be helpful.

As we mentioned on the call on Monday, the FWS would be cost shared the same as the rest of the plan – 65% federal to 35% nonfederal. Any costs spent on the system prior to implementation of the USACE project would not be able to receive cost credit. Also, as we mentioned, the FWS would likely add to the cost but not increase the benefits (it's hard to document benefits with a FWS apparently); but since the cost of an FWS would be low compared to the overall project cost, this is not a big concern re justifying the plan to the vertical team.

Our overall thought is that if the FWS is included in the LPP now and you decide to take it out of this project later (and continue independently), that will be easier than trying to put it back in later. But, you may decide against it based on the ongoing coordination with USACE that would be needed to move the FWS forward as part of this project.

If you would like to proceed with the FWS as part of the LPP, we will need documentation from the City with the cost estimates you've developed so far, with notation of any costs already spent and planned to be spent before this project is implemented. We don't think an updated letter of support would be needed, since the "DB4 Only" alternative already included a FWS at the final array stage. But if you would like to send a new letter clarifying that the FWS is included in the LPP, that's totally fine.

Can you share the Commission's initial response to this question, from any discussion held at your Tuesday meeting?

Best, and please let us know if you have any questions!

Matt and Janet