EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries

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AGENDA
WATER RESOURCES ADVISORY COMMITTEE
Thursday, June 25, 2020
10:30 AM – 11:30 AM
VIRTUAL MEETING - GoToMeeting

DUE TO COVID-19 OUTBREAK, EAST-WEST GATEWAY'S OFFICES ARE CURRENTLY CLOSED TO THE PUBLIC AND WILL BE UNTIL FURTHER NOTICE

1. CALL TO ORDER - Carol Lawrence, Chair, East-West Gateway Council of Governments

2. DISCUSSION ITEMS

   A. Transportation Alternatives Program
   - Melissa Theiss, East-West Gateway Council of Governments

   B. International Erosion Control Association and 2020 Virtual Great Connections Conference
   - Paul Mueller, St. Charles County

3. OTHER BUSINESS/ANNOUNCEMENTS

   A. Water Matters Programming
   - Brooke Butler, Nine Network of Public Media

   B. Report from OneSTL
   - Aaron Young, East-West Gateway Council of Governments

   C. Update on Operation Clean Stream
   - Bonnie Harper, Open Space Council

4. ADJOURNMENT

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Minutes

Regional Water Resources Advisory Committee
Thursday, February 21, 2020
10:30 am – 12:00 pm
East-West Gateway Council of Governments

Attendees:
Carol Lawrence, Chair – East-West Gateway Council of Governments
Steven Brendel – Madison County Planning & Development
Brooke Butler – Nine Network of Public Media
Jim Kircherrer – Nine Network of Public Media
Barbara Charry – The Nature Conservancy
Tom Schweiss – Great Rivers Greenway
Libby Reuter – Watershed Cairns
Caitlin Zera – Open Space Council
Jamie Paige – City of Wentzville
Rebecca Losli – Metropolitan St. Louis Sewer District
Gary Moore – Washington University/University of Missouri – St. Louis
John Schumacher – U.S. Geological Survey
Todd Miller – Missouri Department of Transportation
David Stokes – Great Rivers Habitat Alliance
Dr. John McEnery – McEnery Water Resources
Hal Graef – U.S. Army Corps of Engineers
Shawn Sullivan – U.S. Army Corps of Engineers
Lisa Koerkenmeier – City of Brentwood
David Lobbig - Missouri History Museum

Staff:
Mary Grace Lewandowski Jennifer Vuitel Maureen McCarthy Aaron Young Gena Jain

1. CALL TO ORDER

The meeting of the Regional Water Resources Advisory Committee (WRC) was called to order by Chair Carol Lawrence, East-West Gateway Council of Governments (EWG). Those attending introduces themselves.

2. DISCUSSION ITEMS

A. Draft Lower Meramec Multi-Jurisdictional Floodplain Management Plan: For the Communities of the Lower Meramec Basin
- Hal Graef, Project Manager, U.S. Army Corps of Engineers, St. Louis District

This project was developed several years ago as a part of the Silver Jacket project. The Silver Jackets is an umbrella term that the U.S. Army Corps of Engineers (USACE) uses as a source of funding for inter-agency flood risk management. Eight communities from Union to Arnold, unincorporated St. Louis County, and Jefferson County along with governmental and

nongovernmental agencies came together to decide what can be done as a region for the Lower Meramec River Basin as relates to floodplain management. For the partners there were in person meetings and update webinars and for the public there were public meetings in Eureka, Sunset Hills, and Arnold. At the public meetings the National Nonstructural Committee shared their findings from the assessment of 17 structures in the Lower Meramec Basin. All of the information from those meetings is available on the USACE website.

At this time the USACE is on step eight of the plan, which is drafting an action plan. The USACE followed the Federal Emergency Management Agency's (FEMA) ten-step plan to develop their action plan for the Lower Meramec Basin. The following goal will be getting the jurisdictions to adopt the plan and then to begin implementation. Appendix B contains a breakdown of all 942 flood-prone structures within the Lower Meramec Basin along with what potential flood mitigation strategy might be used for each of those structures. USACE received input from each of the communities covered in the plan and looked at specific structures based on their recommendations. USACE is waiting to receive FEMA's comments on the draft plan so they can be incorporated into the final draft and the plan can be finalized.

FEMA conducted a Flood Insurance Study (FIS) for Jefferson County in June 2019 by using existing flood maps. The preliminary maps from St. Louis and Franklin Counties were also analyzed. The data acquired from the FIS and the Flood Insurance Rate Maps (FIRMs) informed and guided this Floodplain Management Plan (FMP). The FIRMs can be found on the State Emergency Management Agency (SEMA) website.

This study evaluated a list of nonstructural floodplain management tools to determine if they are: effective or not; recommended or not; or require further evaluation. The list of physical nonstructural measures considered by USACE includes elevation, relocation, buyouts, and dry/wet floodproofing. The nonphysical nonstructural measures includes flood warning systems, floodplain mapping, land use regulations, evacuation plans, etc. The one percent annual exceedance probability (AEP) flood event recommendations helped to identify the cost and approach to mitigating all 942 structures that are expected to be damaged during such a potential flood event. Of the structures located within the one percent floodplain in the Meramec Basin, it is recommended that 17 percent be elevated, 13 percent be acquired, 38 percent be flood proofed, 27 percent be relocated, and five percent have sewer checks or utility relocation.

Communities in the Lower Meramec Basin are being encouraged to join the national Community Rating System (CRS) of FEMA and National Flood Insurance Program. This is one of the nonstructural mitigation efforts that are considered effective and is recommended by the USACE. It evaluates a member community's floodplain management efforts. The rating system can result in flood insurance premium reductions depending on how many CRS points are awarded.

Another mitigation strategy being recommended is the implementation of land use policies and regulations by local governments. These could include building restrictions in the floodplain, bringing in fill, and freeboard requirements. Jefferson County has recently revised their floodplain ordinance, which is aimed at restricting new development in the floodplain. It

includes requirements for building in Special Flood Hazard Areas (SFHA). Model ordinances are available through SEMA for those wanting to implement floodplain regulations. The report includes an ordinance table that shows what types of ordinances cities and towns in the Lower Meramec Basin have already adopted. The table provides some specifics of those ordinances as well as the enforcement fines.

From the beginning the USACE has recommended community education and advocacy. Communication between a unit of government and its residents creates trust and a sense of shared responsibility. It is being recommended that the cities and counties in the Lower Meramec Basin form an official committee or group to be made up of representatives from government, private citizens, and others. The mission would be to openly communicate the risk of living in or near a floodplain and to host public meetings to help citizens learn how to respond to natural disasters.

A public alert and warning system is also recommended by the USACE as an effective mitigation tactic. It is important for communities to sign up for the CodeRED Alert system and to install flood warning lights near flood prone sections of roads. It is important to continue using the Meramec River gages as well as National Weather Service predictions to help for potential evacuations. The U.S. Geological Survey also has helpful tools such as the Flood Inundation Mapper. One of the most important next steps for these communities is to be prepared for future emergency flooding situations. USACE is recommending the development of an emergency action plan, which will utilize the flood warning systems. Emergency plans should be based on indicators or stages of magnitude of the risk. There should be communication, evacuation, and post action plans developed before the next emergency.

While researching different flood mitigation efforts the USACE inspected residential homes in selected areas of the Lower Meramec Basin in order to determine what adaptive measures are physically possible for individual home-owners. These include relocating utilities, wet proofing, and dry proofing. The results have been documented in Appendix D of the report. A full list of structures and adaptive measure recommendations can be found in Appendix E. Appendix F identifies potential funding sources, which include grants, loans, tax revenue, fees, incentive programs, and more. Several temporary flood risk management measures were also evaluated. These include polyethylene sheeting attached to the interior of a structure, applying clear liquid sealant and caulking to the structure exterior, and utilizing sandbag berms or other approved barriers. These effective temporary measures are being recommended.

Structure and land buyouts were determined to be effective and are recommended flood mitigation tactics. Acquisitions are one of the less expensive mitigation strategies, except when the total cost is within 25 percent of other nonstructural measures. Since acquisition completely removes the flood hazard into perpetuity it was assumed that the property owner and the city would elect to pay marginally more to acquire the structure rather than select a strategy that does not fully remove the risk of damage. USACE evaluated moratoriums on development in floodplains as a possible mitigation strategy and they do not recommend it. It was determined

that such a measure would only impact a very small number of vacant properties and might be considered a "taking" if implemented.

Something that can be done after many buyouts is wetland restoration and creation of open space and recreation areas. Restoration is a large scale proposition based on watershed size, topography, and rainfall intensity. The process involves identifying and mapping open space, the prioritization of parcels, the acquisition of property and education of landowners about available incentivized conservations programs, and restoration of habitat types that attenuate or reduce the floodwater velocities. Open space along a stream provides for an area that is free of man-made structures to allow stormwater runoff and flood-waters to flow unobstructed as nature intended.

The report ends with the Lower Meramec Multi-Jurisdictional Floodplain Management Action Plan. The plan has seven steps for jurisdictions to consider: adopt the Lower Meramec Multi-Jurisdictional Management Plan; implement nonstructural recommendations listed in Appendix E; develop/ update a comprehensive public outreach plan; develop/ update a flood emergency preparedness plan; develop/ update higher regulatory floodplain management standards; maintain and expand the expand the existing flood warning systems; and join the CRS. USACE estimates that FEMA's review of the preliminary plan will be completed in February 2020. The final Flood Management Plan should be transmitted to the partners in March 2020. It is recommended that the FMP is reviewed and updated regularly.

There are currently other ongoing initiatives of the USACE. They are working on small floodplain management project in Eureka and have requests for projects in Pacific and Arnold. The corps is working with FEMA and USGS to assist with their mapping projects. The USACE is also helping The Nature Conservancy (TNC) with their Floodplain Prioritization Tool because the Lower Meramec Basin is serving as the pilot project. Barbara Charry, TNC, provided more information on the online Lower Meramec Floodplain Prioritization Tool. It allows the user to identify opportunities for floodplain conservation and restoration. The tool is designed to help decision-makers optimize their investments and minimize the impacts of development. The following is the link to the tool https://maps.freshwaternetwork.org/meramec-floodplain/
The tool allows you to choose flood frequency, spatial scale, and what type of action will be done. The tool utilizes environmental, economic, and social data. Once all of the search criteria is selected, the tool highlights the areas that match the desired characteristics. Search results include information listed in the USACE report such as the restoration rank.

During the plan development, USACE received questions from stakeholders about alternative structural solutions such as reservoirs and altering every flood prone structure. The reason that those are not the recommended actions is the cost. To flood proof every structure at risk of flooding would cost near $92 million and it is very costly to build and maintain reservoirs. The stakeholders were also interested in the funding sources and cost of the strategies that are recommended by USACE. The total cost of the nonstructural mitigation actions is not yet known, but those figures will be determined at a later time.

B. Brentwood Bound Plan: Building a Bright Future. Floodplain Mitigation and Improvements to Manchester Road

- Lisa Koerkenmeier, Planning and Development Director, City of Brentwood

One of the first projects Ms. Koerkenmeier worked on in 2016 focused on grant funding that the city was going to receive in order to assist with storm recovery efforts due to a major storm at the end of 2015. Urban flooding along Deer Creek has become more of a concern. During heavy rain Manchester Road is often inundated and shut down and there are about 30 properties that are impacted. There have been multiple studies about the flooding and a continued need to solve the issue. This has led to the development of the Brentwood Bound Plan.

In May of 2017 the Board of Aldermen for the City of Brentwood approved the Brentwood Bound Plan. This plan was developed to address flood mitigation, Manchester Road improvements, and the Deer Creek Greenway Connector. The cost of this plan is $80 million. In April 2018 the Board approved Certificates of Participation that provided nearly half of the required funding for the plan. In April 2019 the new Manchester Corridor (MC) Commercial Zoning Ordinance and the Conceptual Development plan were both approved. The passing of Proposition B in April 2019 by the citizens of Brentwood provides the remaining funding for the plan.

The project area is from Hanley Road in the east to Brentwood Blvd. in the west and involves about 90 parcels and 130 businesses. The flood mitigation component of this plan seeks to solve public health and safety problems caused by recurring 100-year floods. Solutions include removing Manchester Road from being identified as in the 100-year floodplain and floodway, reduce that floodplain from 60 acres to 29 acres, and develop a sustainable urban creek area. The 29 acres remaining in the floodplain will adequately handle anticipated stormwater volume. Property along Deer Creek will be used for flood mitigation with two holding areas, stepping back the streambank and streambank restoration. Most of the property removed from the floodplain is along the Manchester Corridor. Property out of the floodplain should be more viable for redevelopment.

The Manchester Road improvements between Hanley Road and Bremerton Road will be accomplished through a collaboration between Missouri Department of Transportation (MoDOT) and the City of Brentwood. MoDOT will be funding the replacement of the Manchester Road Bridge over Deer Creek near Hanley Road, making sidewalk and ADA improvements, and upgrading traffic signals. Brentwood will be funding a new pedestrian tunnel, new lighting and signage, trailheads, accessible curbs and sidewalks, and a shared use path. It is estimated that the design drawings will be completed by summer 2020. MoDOT will be acquiring properties from June 2019 to summer 2020. There will be three total property acquisitions, however the majority of the acquisitions are easements.

The third part of the Brentwood Bound plan, the Deer Creek Greenway Connector, is not yet fully funded. There is a 16-month community engagement, design, and permitting process. The project was presented to the Great Rivers Greenway (GRG) Board on August 13, 2019. If approved, GRG staff and Brentwood Board will review budgets and work on a partnership agreement between GRG and the City of Brentwood. The hope is that the new greenway

connection and trail updates will help increase property values and encourage new development in Brentwood.

Currently all aspects of the plan remain on schedule. The property acquisitions for flood mitigation will be completed by summer 2020. In January 2020 a demolition package was issued and the buildings set to be removed in the floodplain have been demolished. The whole plan is scheduled to be completed by the end of 2022.

C. Reconnecting to the Mighty Mississippi: 2020 Listening Sessions in Preparation for 2021 Summit

- David Lobbig, Curator of Environmental Life, Missouri History Museum

The St. Louis History Museum has built an exhibit called the Mighty Mississippi that highlights the importance of the Mississippi watershed through its history. The exhibit contains images, media, and 250 artifacts that are separated into four different sections: Lifeblood of the Heartland; First Peoples' World; Course of Empires; and Avenue of Industry. The exhibit helps people to explore flooding and development, clean water and community health, commerce and industry, natural resources and biodiversity, and the climate crisis.

An extension of this exhibit is being planned and is called the 2020 River Conversations. These public interactions seek to look at freshwater issues from a variety of perspectives and involve community members and local stakeholders in the discussions. There are six planned River Conversations: reconnecting to the river; understanding and communicating the importance of the river; valuing the river's gifts; nurturing and restoring a natural river; protecting and respecting the rivers; and living with the river, its floodplains, and wetlands.

The first conversation, reconnecting to the river, is scheduled for April 18, 2020 as an all-day symposium. It will seek to build appreciation of the Mississippi River. The discussion will also try to grow awareness of the importance of the river on both a local and global scale. The goals are to empower people to relate to the river in new ways, raise awareness of how decisions about the river are made, and show how individuals can actively support the river's well-being.

All of those conversations will lead up to the 2021 Global Freshwater Summit, scheduled for April 23-25, 2021. The summit will be a celebration of recovery and restorations of freshwater biomes of the Mississippi and Missouri Rivers. People will be given the opportunity to recognize the importance of these rivers and watersheds. The summit will help people consider the intrinsic rights of the rivers and explore their personal and civic relationships to the rivers.

D. Water Matters Programming

- Nine Network of Public Media

The Nine Network is working to develop a story on the Lower Meramec Multi-Jurisdictional Floodplain Management Plan and they are looking for case studies. They attended the first informational meetings about the plan 18 months ago and would like to follow up on that information.

E. Report from OneSTL Water and Green Infrastructure Working Group

The Water and Green Infrastructure working group has a new leader, Rachel Bartels with the Missouri Water Keepers. The group has discussed what they would like their focus to be. One of their first priorities is outreach and engagement with organizations that are already working in watersheds and try to bring the groups together to work with each other. The original target was to have the entire St. Louis region included in watershed plans. The focus has shifted to looking at existing watershed plans to make sure they are effective and being implemented. The working group would like to host several learning sessions to help interested groups learn how to go about the planning process. The working group will continue to meet ever second Tuesday of the month. For more information contact Aaron Young.

3. OTHER BUSINESS/ ANNOUNCEMENTS

- On February 12- Bourbeuse Watershed Flood Risk Review meeting in Union, MO.
- On February 28 and 29 - the Open Space Council, St. Louis County Parks, and GRG will have willow harvesting at George Winter Park. The harvested plants will be prepared and planted at Lower Meramec Park. The rain dates are March 6 and 7.
- March 3 - 5 - Mississippi River Cities and Towns Initiative Capitol Meeting in Washington, D.C.
- On March 5 - Meramec River Recreation Association Meeting at the Sunset Hills Recreation Center from 3 pm - 5 pm
- On March 7 - Deer Creek Watershed Alliance is hosting a honeysuckle sweep in the Shady Creek Nature Sanctuary in Webster Groves
- The Missouri Stream Team is holding Volunteer Water Quality Monitoring Workshops for 2020. Register at mostreamteam.org
    - Babler State Park in Wildwood on Friday, March 20th, from 8:30 a.m. - 5 p.m.
    - Babler State Park in Wildwood on Saturday, March 21st, from 8:30 a.m. - 5 p.m.
    - MDC St. Louis Regional Office in the Busch Conservation Area in St. Charles County on Wednesday, April 15th, from 8:30 a.m. – 5 p.m.
- On April 7 MSD Wastewater Capital Rate proposal will be on the ballot in the City of St. Louis and St. Louis County. July 28 - 30 Great Connections Conference hosted by the Great Lakes and Great Rivers Chapters of the International Erosion Control Association (IECA) in Chesterfield MO. July 30th will be a field day. More information can be found on the IECA website at: http://www.ieca.org/IECA/IECA_Events/2020_Events/2020_Great_Connections.aspx
- The St. Louis Chapter of the Environmental & Water Resources Institute is hosting the 2020 Environmental & Water Resources Spring Symposium/ Workshop at the Engineers Club of St. Louis. Contact Dr. Azadeh Bloorchian at azedeh.bloorchian@stantec.com for more information. Register for the workshop online at: https://events.r20.constantcontact.com/register/eventReg?oeidk=a07egws29

4. ADJOURNMENT

There being no other business, the meeting was adjourned. The next meeting of the Water Resources Advisory Committee will be announced at a later time.