

January 6, 2022

Members
Technical Advisory Committee
Shingle Creek and West Mississippi
Watershed Management Commissions
Hennepin County, Minnesota

The agendas and meeting packets for both the TAC and regular meetings are available to all interested parties on the Commission's web site at
<http://www.shinglecreek.org/tac-meetings.html> and
<http://www.shinglecreek.org/minutes--meeting-packets.html>

Dear Commissioners and Members:

Regular meetings of the Shingle Creek and West Mississippi Watershed Management Commissions will be held **Thursday, January 13, 2022, at 12:45 p.m.**

The Joint SCWM Technical Advisory Committee will meet at **11:00 a.m.**, prior to the regular meetings.

To join a meeting: <https://us02web.zoom.us/j/834887565?pwd=N3MvZThacmNRVDFrOWM3cU1KRU5qQT09>, which takes you directly to the meeting.

OR, go to www.zoom.us and click Join A Meeting. Please use the regular meeting ID and passcode for both meetings. The meeting ID is **834-887-565**. The passcode for this meeting is **water**.

If your computer is not equipped with audio capability, you need to dial into one of these numbers:

+1 929 205 6099 US (New York)	+1 312 626 6799 US (Chicago)	+1 669 900 6833 US (San Jose)
+1 346 248 7799 US (Houston)	+1 253 215 8782 US	+1 301 715 8592 US

Meetings remain open to the public via the instructions above.

Please email me at judie@jass.biz to confirm your attendance at the TAC meeting. Thank you.

Regards,

Judie A. Anderson
Administrator

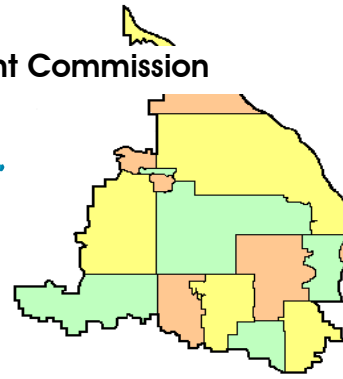
cc: Alternate Commissioners
Stantec

Member Cites
BWSR

Troy Gilchrist
MPCA

TAC Members
Met Council

Z:\Shingle Creek\TAC\2022 TAC\01 Notice_ TAC Meeting.docx



A meeting of the joint Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions is scheduled for **11:00 a.m., Thursday, January 13, 2022. This is a virtual meeting.**

To join the meeting, click <https://zoom.us/j/834887565> or go to www.zoom.us and click Join A Meeting. The meeting ID is **834-887-565**. The password is **water**. If your computer is not equipped with audio capability, you need to dial into one of these numbers:

+1 929 205 6099 US (New York)	+1 312 626 6799 US (Chicago)	+1 669 900 6833 US (San Jose)
+1 346 248 7799 US (Houston)	+1 253 215 8782 US	+1 301 715 8592 US
Meeting ID: 990 970 201. Passcode: 579973		

January 13, 2022

A G E N D A

1. Call to Order.
 - a. Roll Call.
 - b. Approve Agenda.*
 - c. Approve Minutes of Last Meeting.*
2. Fourth Generation Plan.
 - a. Rules Update.*
 - b. Maintenance Policy.*
 - c. Public Input and Review
3. Other Projects.
 - a. HUC8 Study – update.*
 - b. Crystal Lake Management Plan – Change Order.*
 - c. Bass Lake Grant Application.*
4. Other Business.
5. Next TAC meeting is scheduled for February 10, 2022.
6. Adjournment.

MINUTES

December 9, 2021

A virtual meeting of the Technical Advisory Committee (TAC) of the Shingle Creek and West Mississippi Watershed Management Commissions was called to order by Chair Richard McCoy at 11:02 a.m., Thursday, September 9, 2021.

Present: Andrew Hogg, Brooklyn Center; Mitchell Robinson, Brooklyn Park; Mark Ray, Crystal; Derek Asche, Maple Grove; Liz Stout and Katie Kowalczyk, Minneapolis; Nick Macklem, New Hope; Amy Riegel and Ben Scharenbroich, Plymouth; Richard McCoy, Robbinsdale; Ed Matthiesen, Diane Spector, Erik Megow, Katie Kemmitt, and Todd Shoemaker, Stantec; and Amy Juntunen and Judie Anderson, JASS.

Not represented: Osseo.

Also present: Burt Orred, Jr., Crystal; and Steve Christopher, Board of Water and Soil Resources (BWSR).

- I. Motion by Ray, second by Hogg to **approve the agenda**. * *Motion carried unanimously.*
- II. Motion by Ray, second by Riegel to **approve the minutes*** of the October 14, 2021, meeting. *Motion carried unanimously.*

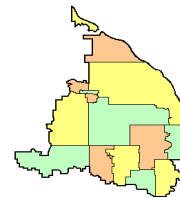
III. Fourth Generation Watershed Management Plan.

A. As part of the 4th Generation Plan planning process members will be reviewing the Commissions' Rules and Standards and revising them as necessary to:

1. Align with the 2020 MS4 general permit,
2. Align with the latest guidance in the Minnesota Stormwater Manual, and
3. Add clarity to how the Commissions will review certain project elements to align with City and surrounding Watershed requirements.

B. The following sections provide an overview of rule updates and discussion points for each of the topics listed above.

1. 2020 MS4 General Permit Updates
 - a. Impervious Surface Disturbance Definition and treatment scope
 - 1) The MS4 Permit has project size triggers based on the amount of new or reconstructed impervious surface.
 - 2) The Commission has project size triggers based on the site size; therefore, the Commission's project size classifications are more stringent. The Commission currently defines a *Site* as, "A space, parcel, or parcels of real property owned by one or more than one person which is being or is capable of being developed or redeveloped as a single project"



b. Threshold and Treatment Scope Comparison with MS4 General Permit (shown in Table 1 of Staff's December 3, 2021, memo)

1) For detached single-family residential and other non-linear projects, the current Commission requirements meet or exceed the MS4 requirements.

2) For Linear projects, the current Commission requirements do not meet the MS4 requirements. The current requirements only require treatment if more than one acre of new impervious surface is constructed.

Discussion: Do we need to better define 'Project Size' or base the requirements on the amount of disturbed impervious surface to align with MS4? Stout will share the guidance the City of Minneapolis is developing regarding linear projects.

Need to demonstrate that you cannot meet requirements – why you did what you did. Need an SOP on how decision was made. How much money is too much to acquire a right-of-way?

Cities, others, are considering setting up banking programs for linear projects. Who would track these banks? PCA is talking about watershed banking and trading. Should we wait?

2. Minnesota Stormwater Manual Updates

a. Guidance for permitting Mechanical Treatment Devices (MTDs)

1) Currently MTDs are being reviewed on a case-by-case basis and Commission review relies on Engineering review and third-party testing (i.e., Washington State Technology Assessment Protocol – Ecology (TAPE) and testing from the New Jersey Department of Environmental Protection (NJDEP).

2) Staff recommend that the Commissions revise the Rules to rely on guidance of the MN Stormwater Manual, outlined here: [TP and TSS credits and guidance for manufactured treatment devices \(mtds\) - Minnesota Stormwater Manual \(state.mn.us\)](#)

3) Here is an overview of how the MTDs are credited for TP Removal, based on three tiers (See above link for Device-specific removals and additional conditions for receiving the outline credits, below):

a) Tier 1 - Credit: 50 percent reduction

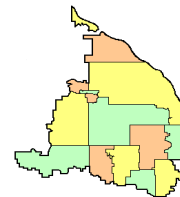
b) Tier 2 - Credit: based on an assessment of 95% lower confidence limits (LCLs) or the LCL for TSS.

i. If removal is affected by influent concentration, we calculated an LCL for all data with influent concentrations greater than 0.05 mg/L

ii. Compare the above value with the TAPE LCL and use the lower of the two values

iii. If both LCLs are less than 50%, we calculate a value for TP removal based on the LCL for TSS removal. This value equals the TSS LCL times 0.75, where 0.75 represents the assumed fraction of phosphorus that is in particulate form. If this value exceeds 50%, it is used as the Tier 2 credit.

c) Tier 3 – Credit based on monitoring using appropriate monitoring protocols



i. If a device has a known mechanism for removing dissolved phosphorus, the credit assumes that 40% of the DP is removed, PP is 75% of TP, and the LCL for TP removal is equal to or greater than the Tier 3 value.

Discussion: Are cities seeing a lot of small (>5 ac) projects utilizing MTDs?

- For filtration, we currently allow a 1:1 credit for volume control. Based on 50% removals, do we want to continue to provide 1:1 credit for filtration practices?
- This discussion will likely need to consider how we manage our water quality requirements.
- Are there any other MN Stormwater Manual updates that affect how Cities are handling/reviewing stormwater projects?

3. Project Elements Needing Additional Clarity

a. Water Quality Requirements. Currently, must remove 60% TP and 85% TSS from stormwater prior to discharge through BMPs or infiltrating 1.3" of runoff

b. Rate control: Currently, rate control calculations are required for 2-, 10-, and 100-year 24-hour storm events using Atlas 14 depths (MSE3 distribution). These storm events are consistent with Bassett Creek and Elm Creek WMOs.

Discussion:

Water Quality – Should the Commission update its Water Quality requirements to align with MS4 or adjacent WMO (Bassett Creek and Elm Creek) requirements?

- MS4 – Water quality is met with volume control of 1.0".
- Bassett Creek – Water quality is met with volume control of 1.1," or 0.55" and 75% TP Removal.
- Elm Creek – Water quality is met with infiltration of 1.1," or no net increase of TP and TSS.

Rate Control – Resiliency

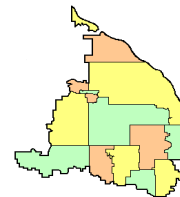
- For projects that include the conveyance of public waters or within floodplains and floodways, should we require a Mid-century (Upper 90th percentile 100-year or 500-year, Atlas 14 storm event?)
- Should we also require rate control for the 100-year, 10-day storm event?

Standard Operating Procedures (SOPs): Do we need to formalize SOPs to include requirements for:

- Modeling and requirements for turf fields
- Witness testing for infiltration basins
- Water storage and re-use

Should we consider **abstraction credits** for:

- Preservation/planting of trees to align with Hennepin County Climate Action Plan (HC CAP) Goals
- Use of biochar to promote carbon sequestration to align with HC CAP
- Wetland, stream, floodplain conservation easements



C. Anything else that should be considered for revision/clarification in the Rules and Standards?

IV. Maintenance and Resiliency Policy.*

A. The TAC and Commissions had previously discussed the potential to create an annual levy for “maintenance” to fund work resulting from capital projects which did not fall neatly into either operations or bricks and mortar projects. This would include such work as ongoing rough fish management, aquatic vegetation management, repair and maintenance of Commission-installed BMPs such as carp barriers and iron-enhanced sand filters. In many cases this work was initiated as part of a grant-funded project and the initial years’ work was funded through the grant. However, once the grant was completed, it is necessary to continue that maintenance type work to sustain the water quality benefits of the project.

Staff estimates that there is \$30,000 – \$50,000 in annual ongoing maintenance-type work. The Commissions’ attorney consulted with an attorney at Hennepin County, and they agreed that there was sufficient statutory authority for a levy for maintenance. However, when the pandemic struck there was no interest in considering a new levy in that time of uncertainty.

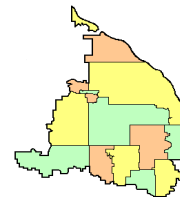
However, the need still remains. Staff still believes that the magnitude of annual potential need is in the \$30,000 - \$50,000 range. If the TAC and Commissions agree to pursue this, it will be necessary to craft a policy that clearly defines what kinds of maintenance expenses would be funded, and what would be the member cities’ responsibilities.

Some activities clearly would fall under the Commission category – maintenance of a BMP that was installed by the Commission that the City would not have chosen to do themselves, such as repair or replacement of a carp barrier or an iron-enhanced sand filter. There are also activities that are clearly City responsibilities – pond dredging, operating a street sweeper, or removing invasive vegetation.

However, there is the “muddy middle” that needs further discussion. Who is responsible for removing a tree that falls into a stream where the Commission has undertaken a stream restoration project? What if a 500-year storm comes through and takes out a whole section of restored stream? The following is a partial list Staff has been discussing:

- Annual rough fish maintenance management
- Curly-leaf pondweed maintenance treatment
- Carp barrier cleaning
- Carp barrier repair and maintenance
- SRP filter maintenance or refresh
- Emergency repairs
- Channel bank maintenance where Commission has done restoration projects
- Crystal Pond filter bench maintenance if needed, till in biochar
- Champlin Pond filter bench maintenance if needed
- Lake alum touchup treatment
- 639W weir maintenance

Following brief discussion, it was a consensus to direct Staff to begin to craft a potential policy. The earliest a levy could be considered would be fall 2022 for collection in 2023.



B. Resiliency Grant.*

This is a new MPCA grant program in 2021 providing financial assistance to undertake *planning for increased resilience* to the impacts of Minnesota's changing climate (warmer and wetter with more damaging rains and cold weather warming, and more extreme heat and drought in the future) *within any of the following three focus areas: stormwater, wastewater, community resilience*. Some of the stormwater planning activities that can be funded through this grant are:

1. Vulnerability assessment using hydrologic/hydraulic modeling to identify areas (e.g., stream corridors, bridges, intersections, etc.) that are at increased risk for flooding, including assessing potential scenarios of short- and long-term changes to precipitation.
2. Inventory of infrastructure issues to identify critical impacts (e.g., number of structures flooded, frequency of flooding, social vulnerability, local environmental impacts, etc.), resulting in a prioritized list of critical areas needing infrastructure improvements to increase resilience.

The HUC8 model update identified flood risk areas based on current climate and weather patterns. As we continue to experience a non-stationary climate, this model provides an opportunity to explore the potential for flood risk 50-100 years out and identify critical infrastructure for protection before the need arises. Staff suggest that the TAC and Commission consider submitting a grant application to include the following activities:

1. In recent discussions with the State Climatologist and with Hennepin County previously while working on similar resiliency assessment for Minnehaha Creek, it seems a reasonable proxy for the 2050-2060 critical event is the 90th percentile Atlas 14 precipitation depth, or the 500-year event depth, which in many cases is very close to the 90th percentile. Conduct additional model runs using the selected depth and map the resulting flood risk areas.
2. Use GIS and field surveys to identify critical public and private infrastructure that could be impacted with an emphasis on structures, crossings, and road flooding. Prioritize the list based on impacts to public health and safety and identify potential improvements to increase resiliency.
3. Develop policy and technical guidance to guide development or redevelopment in those areas.

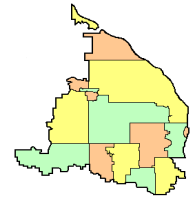
Staff estimate a cost of about \$25,000 to complete this work. The grant program requires a 10% match, so the Commission's investment would be about \$2,500. Funding would be available in spring 2022 and run through June 2023.

This grant prioritizes (but is not limited to) communities with higher concentrations of low-income residents, people of color and non-English speakers, including tribal communities. Much of the lower watershed includes large parts of Minneapolis, Brooklyn Center, Brooklyn Park, Robbinsdale, Crystal, and New Hope are located in these MPCA-identified areas for Environmental Justice.

Motion by Ray, second by Riegel to recommend to the Shingle Creek Commission that this application be made to the MPCA, with the Commission's share coming from the Cost Share fund. *Motion carried unanimously.*

V. Other Business.

Matthiesen recapped the bid-openings for the Meadow Lake drawdown and Connections II projects. Both projects received bids under the anticipated costs.



VI. There being no further business, the meeting was adjourned at 12:35 p.m.

Respectfully submitted,

A handwritten signature in black ink, reading "Judie A. Anderson".

Judie A. Anderson
Recording Secretary
JAA:tim

Z:\Shingle Creek\TAC\2021 TAC\December 9 2021 TAC Minutes.docx

To: Shingle Creek/West Mississippi WMO TAC

From: Ed Matthiesen, P.E.
Diane Spector
Katie Kemmitt

Date: January 7th, 2022

Subject: Fourth Generation Plan Update

**Recommended
Commission Action**

For discussion.

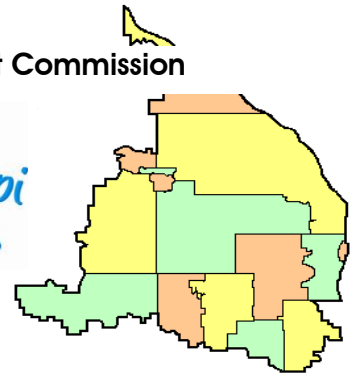
Over the past few months, the TAC and Commissions have begun work on the watersheds' 4th Generation Plan. Since the December 9th, 2021 meeting staff have updates on the following initiatives:

- Potential Maintenance and Resiliency Funding to address ongoing maintenance-type work.
- Rules and Standards Update to align the watersheds' project standards with the 2020 MS4 General Permit, the Minnesota Stormwater Manual, and the City and surrounding watershed requirements.
- Online story map to visualize watershed data, projects, and history.

Maintenance and Resiliency Funding: Staff have drafted a Maintenance and Resiliency Funding policy for TAC and Commission review (attached). The policy addresses the types of work that may be eligible for funding, including any work resulting from capital projects that doesn't fall neatly into either operations or brick and mortar projects. At the January 13th meeting we'd like to discuss the draft policy for comments and suggested changes. A potential topic for discussion includes how the policy relates to ongoing, regular operations and maintenance (O&M). For example, if the Commission were to install a pump and filter, would O&M be handled by the Commission, park boards, or cities?

Rules and Standards Update: Staff are currently working to provide a draft Rules and Standards Update for the 4th Generation Plan. Updates will be presented at the February meeting.

Online Story Map: The Commissions have seen an early-stage online story map draft to accompany the 4th Generation Plan. Work on the story map continues, with updates to layers and data shown. The plan moving forward is to use the story map as a visual, data-driven tool and keep the WMO website as the main source for watershed information. The story map will link back to the website where possible for in-depth information on projects, Commission processes, and more.



Shingle Creek Watershed Management Commissions Maintenance and Resiliency Funding Guidelines

The Shingle Creek and West Mississippi Watershed Management Commissions undertake projects that aim to improve water resources in the watersheds. Projects are taken on by the Commissions directly or by member cities, with cost-share provided through the Capital Improvements Program (CIP) or the small BMP Cost-Share Program. Maintenance, repair, or replacement of these projects is often ongoing and necessary to continue providing water quality benefits in the watershed. The Commissions will allocate up to **\$50,000** per year to complete improvements that fall under the classifications described below.

Projects that will be considered for Commission funding under the Maintenance and Resiliency Funding policy fall into four general categories as follows:

1. Maintenance, repair, or replacement of CIP projects classified as activities of watershed-wide benefit (see the Commissions' CIP policy) that are funded up to 100 percent by the Commission. Examples of eligible actions include:
 - Maintenance or media replacement for water quality filters (639W iron-enhanced sand filter, Crystal Pond biochar, Champlin Pond biochar, etc.)
 - 639W weir maintenance
 - Channel bank maintenance where Commission has done restoration projects
 - Emergency repairs
2. Actions to maintain lake internal load reductions such as:
 - Annual rough fish maintenance management
 - Rough fish barrier cleaning, repair, and maintenance
 - Whole-lake invasive aquatic vegetation management treatments performed for water quality, excluding those for recreation, aesthetics, or navigation and with Hennepin County and DNR concurrence
 - Alum treatment touch-up
3. Actions to maintain watershed resiliency given changes in frequency and intensity of weather events such as:
 - Increasing watershed storage
 - Channel stabilization
 - Converting impervious surface to native vegetation
4. Other actions that do not fall within the above three categories, evaluated on a case-by-case basis by the TAC and recommended to the Commissions.

Actions that will not be considered include any city actions for meeting National Pollutant Discharge Elimination System (NPDES) permit requirements and other activities that are clearly city responsibilities including pond dredging, street sweeping, and removing terrestrial invasive vegetation.

All candidate actions will be reviewed by the TAC and recommended to the Commissions for approval. Unallocated funds will carry over from year to year and be maintained in a designated fund account.

DRAFT January 2022

Adopted:

To:	Shingle Creek WMC	From:	Todd Shoemaker Woodbury
Project/File:	227701170	Date:	January 6, 2022

Reference: HUC8 Study Update

Reference: HUC8 Study Update

The Minnesota DNR initiated the process to update FEMA flood risk maps in 2017. One component of that process is to update the hydrologic and hydraulic computer model for each participating Twin Cities Hydrologic Unit Code (HUC) 8 watersheds (i.e., Shingle Creek, Coon Creek, Minnehaha Creek).

Stantec completed the Shingle Creek HUC8 model update and submitted it to the DNR for review in March 2021. The DNR subsequently held a “Flood Risk Review” (FRR) meeting on April 1, 2021, to discuss model results and implications to property owners and local floodplain administrators. There were two key outcomes from the FRR:

1. The effective (current) floodplain map and profile differ by up to ten feet. This is a mapping error in either the effective map or profile not a calculation error; regardless, it may create a perceived increase and discrepancy compared to the updated model. The DNR is aware and must be prepared to educate data users.
2. There is an increase in flood elevation upstream of Noble Avenue in Brooklyn Center that causes encroachment to properties along Unity Avenue. Structures here appear to have been permitted by elevating above the effective flood elevation and receiving approval through FEMA's Letter of Map Change process.

The DNR paused the flood risk map update in mid-2021 due to staffing shortages, but we were informed on December 21, 2021 that the process is now resuming. Stantec has confirmed the DNR has the most current Shingle Creek model submitted as a result of the 2021 Ryan Lake Subwatershed Assessment. At this time, final review of the Shingle Creek model and updated flood risk maps are scheduled to be completed by September 1, 2022.

Z:\Shingle Creek\GrantOpportunities\2018 Flood Mapping\M - SCWMC re HUC8 Update.docx

To: Shingle Creek/West Mississippi WMO TAC

From: Ed Matthiesen, P.E.
Diane Spector
Katie Kemmitt

Date: January 7th, 2022

Subject: Crystal Lake Management Plan Change Order

Recommended Commission Action	For discussion. Direct staff to move forward with grant task change order for carp removals in 2022.
--	--

Carp removals on Crystal Lake in 2021 were extremely successful, with over 3,900 carp removed (an estimated ~33% of the lake's population), moving the lake closer to improved water quality. Because of the success of carp removals, staff recommend another field season of carp removal efforts in 2022 to bring the lake's carp population below harmful levels. The grant's carp removal task budget has been expended. In addition, one of two alum doses was successfully applied to the lake in September 2021. The alum treatment came in under budget at \$52,776.69. The second alum treatment will be applied in 2022 and is expected to cost a similar amount.

Staff suggest moving some of the projected excess funds from the alum treatment task to the carp removal task to fund 2022 carp removals in the project grant work plan. The suggested change will have no impact on the scope and total cost of the project but will allow additional efforts of carp removal on the lake.

To: Shingle Creek/West Mississippi WMO TAC

From: Ed Matthiesen, P.E.
Diane Spector
Katie Kemmitt

Date: January 7th, 2022

Subject: Bass Lake Vegetation Improvements

Recommended Commission Action	For discussion. Direct staff to move forward with a grant application to pursue work.
--	---

The Commission has successfully improved water quality and clarity on Bass Lake in Plymouth, MN through the Bass and Pomerleau Lakes Alum Project. Water quality is the best it has been in decades; however, the native aquatic plant community appears to be limited. Curly-leaf pondweed (CLP) is still present in the lake in significant areas, and overall native species diversity is low.

In January, staff met with the DNR and the Bass Lake Improvement Association (BLIA) to discuss lake vegetation management options moving forward. The DNR was supportive of continued herbicide spot-treatments of CLP and recommended native plant introductions from a donor lake to increase plant diversity in the lake. The BLIA would like to prioritize CLP management and was supportive of increasing native plant diversity through plant introductions of plants that won't impede recreation. The DNR provided a list of recommended plants to introduce and will be providing staff with the permitting requirements associated with plant translocation.

Staff discussed pursuing a DNR Conservations Partners Legacy Grant (CPL) in February 2022 for available funds in May 2022 to fund native plant introductions and monitoring efficacy. The DNR CPL grant would fund up to two plant harvest and translocation events and the related pre- and post-monitoring to evaluate efficacy. The BLIA expressed support for pursuing the grant and would be willing to provide volunteer time and designate undisturbed areas of the lake for plant introductions. The DNR would also provide staff support during the translocation events but would not be available to provide all the staff work, which would need to be supplemented by volunteer and Commission staff time.

This would be a relatively low-cost project (<\$25,000) based on the DNR's estimate of the overall level of effort for the plant collection and translocation and follow-up monitoring. The CPL grants require a 10% match. Time spent by volunteers is eligible to serve as a portion of that match as in-kind services. There should be sufficient funds left over in the aquatic vegetation management reserve to provide any additional cash match. If you wish to proceed staff will prepare a draft grant application for your review at the February 10 meeting. The grants are due by February 21.