

Surface Water Modeling and Flood Damage Reduction Study

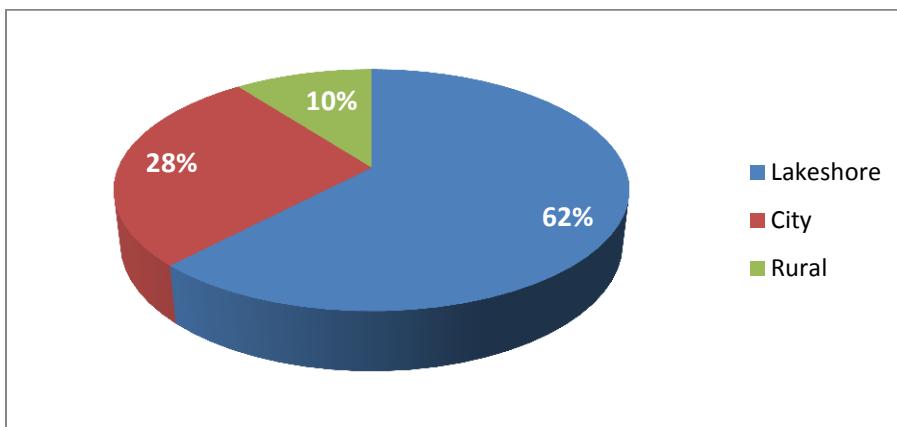
May 28, 2015, public meeting

A total of 30 people responded to the survey distributed during the May 28, 2015, public meeting. The survey questioned participants about the location of their properties, what they viewed as important factors in selecting a potential flood-mitigation project, and their feelings about use of public funding for flood mitigation efforts. Survey results are documented on pages 2-7. A summary of participant comments on survey forms and as documented during facilitated discussions is provided on pages 8-9.

Property location

Within the watershed district I live on (please check one box): lakeshore/city lot/rural land

A total of 28 (out of 30) participants responded to this question: 18 indicated that they live on the lakeshore, eight in the city, and three in rural areas. One person indicated that property was owned on both the lakeshore and in the city.



Factors

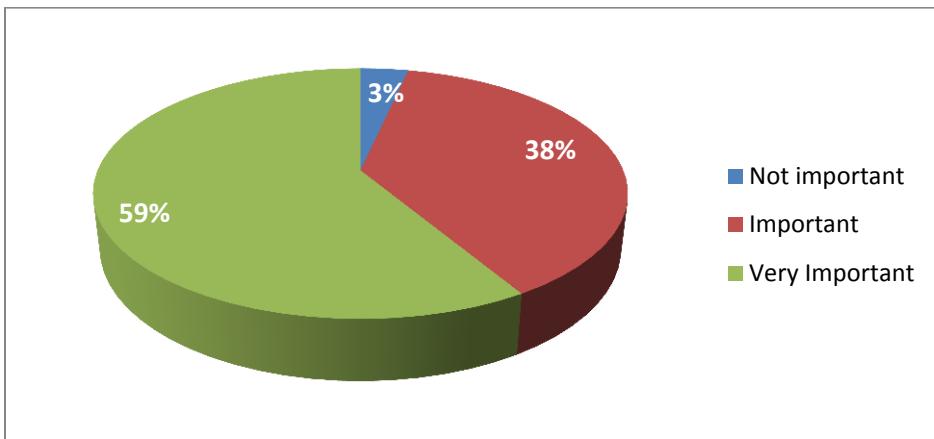
Participants were asked to rate the following factors that could be considered in the "universe of options" for flood mitigation.

- **Cost/benefit ratio:** Installation and maintenance costs of options should be weighed against the potential to reduce the volume or rate of stormwater
- **Water quality benefits:** Options should result in less sediment and pollutants
- **Protection below the 100-year FEMA flood level:** Options should protect properties and public roads below the 100-year FEMA flood level
- **Project readiness:** Options should be completed quickly

Respondents were asked to describe each of these options as either *not important/important/very important* and then to rank the factors from 1 to 4 in order of importance (1 being most important and 4 being least important).

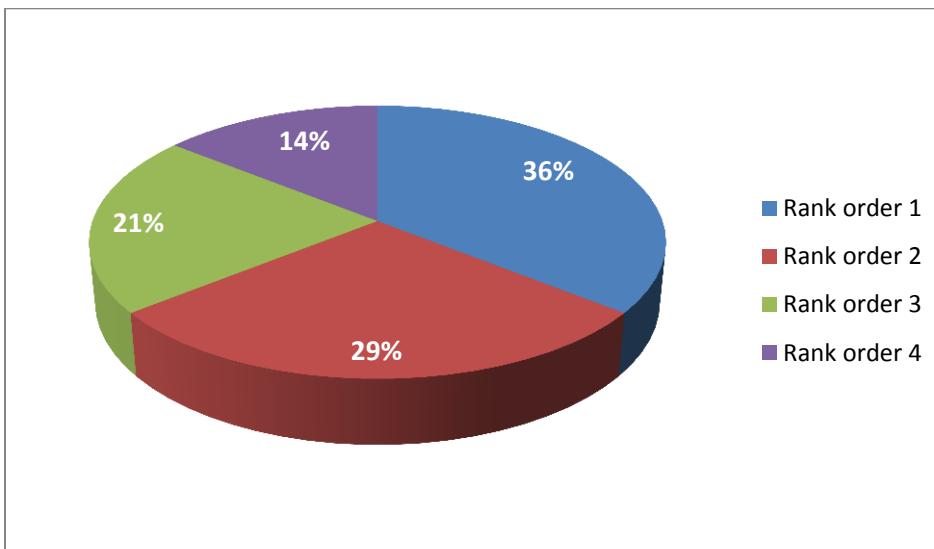
Cost/benefit ratio

Twenty-nine of the 30 participants responded to this question. Seventeen described cost/benefit ratio as a *very important* factor, 11 described it as *important*, and one as *not important*.



The rank order assigned to cost/benefit ratio benefit was as follows (two respondents did not provide a rank order of factors):

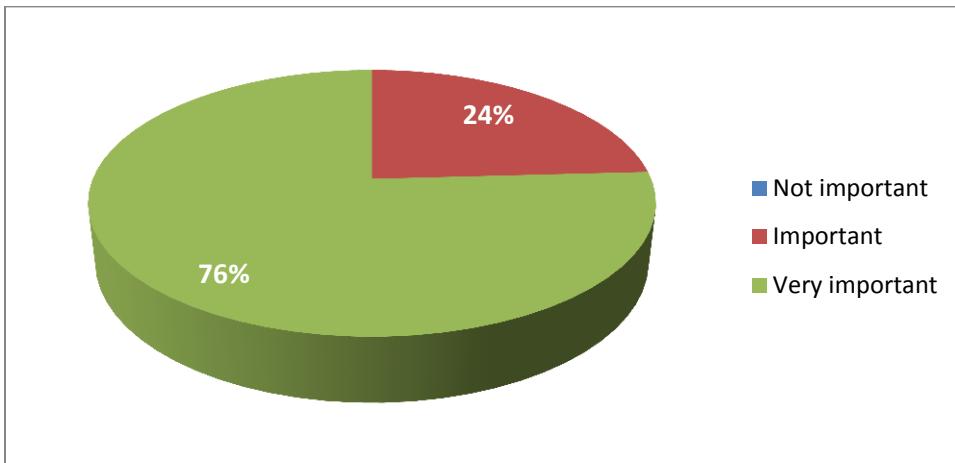
- **Rank order 1:** 10 participants
- **Rank order 2:** 8 participants
- **Rank order 3:** 6 participants
- **Rank order 4:** 4 participants



As shown above, 36% of participants ranked this factor as their first priority and a majority of participants (65%) ranked this factor as first or second in order of importance.

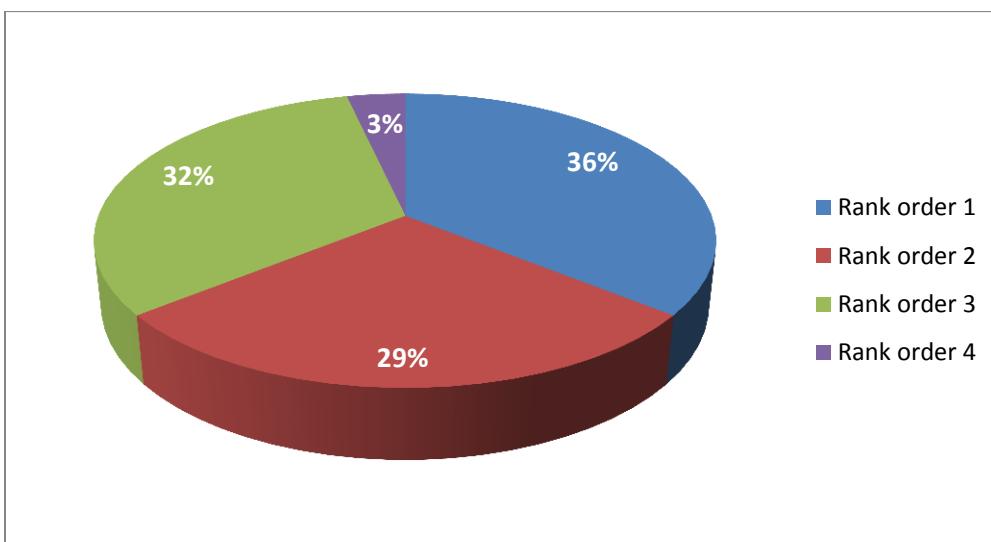
Water quality benefits

Twenty-nine of the 30 participants responded to this question. Twenty-two described water quality benefits as a *very important* factor and 7 described it as *important*. No participant described this factor as *not important*.



The rank order assigned to water quality benefits was as follows (two participants did not provide a rank order of factors):

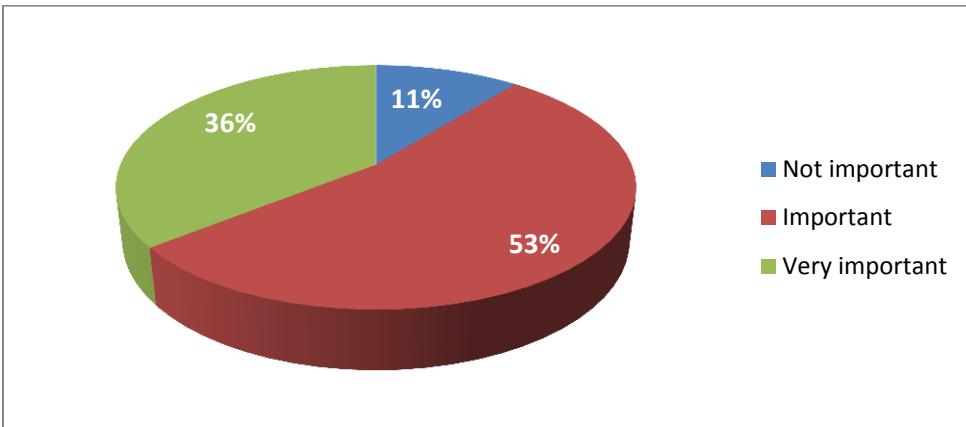
- **Rank order 1:** 10 participants
- **Rank order 2:** 8 participants
- **Rank order 3:** 9 participants
- **Rank order 4:** 1 participants



As with cost/benefit ratio, 65% of participants ranked water quality benefits as first or second in terms of importance; only one assigned it a rank of 4.

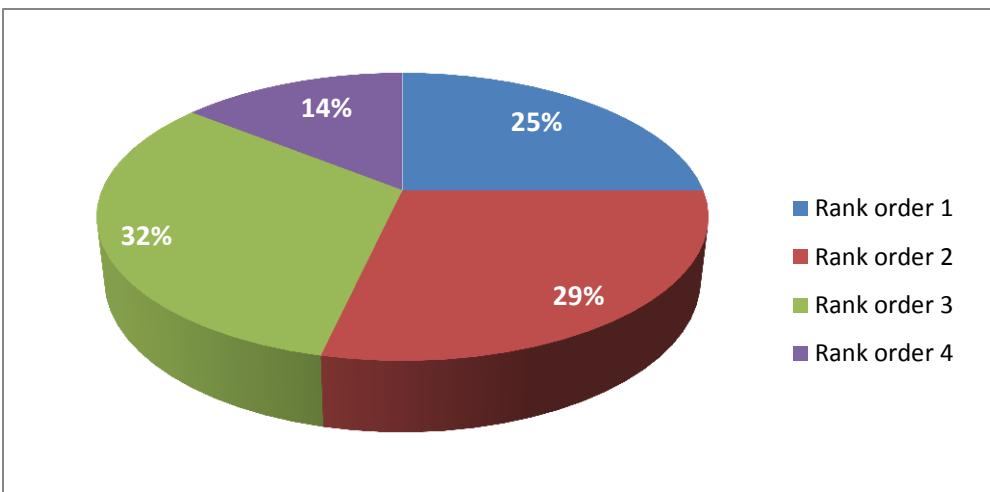
Protection below the FEMA 100-year flood level

Twenty-eight of the 30 participants responded to this question. Ten described protection below the 100-year FEMA flood level as a *very important* factor, 15 described it as *important*, and 7 as *not important*.



The rank order assigned to protection below the FEMA 100-year flood level was as follows (two participants did not provide a rank order of factors):

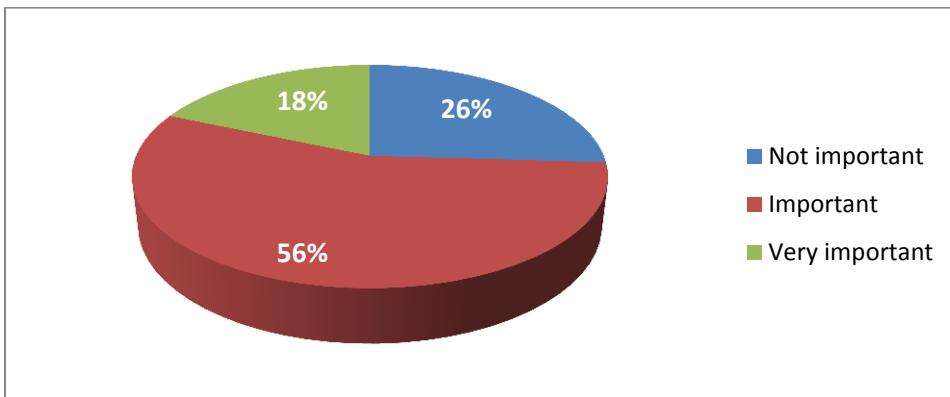
- **Rank order 1:** 7 participants
- **Rank order 2:** 8 participants
- **Rank order 3:** 9 participants
- **Rank order 4:** 4 participants



As shown above, ratings assigned to this factor were more evenly distributed than those for cost/benefit ratio and water quality. Though this factor was assigned a rank of 1 or 2 by the majority of participants (54%), cost/benefit and water quality factors ranked higher (65%).

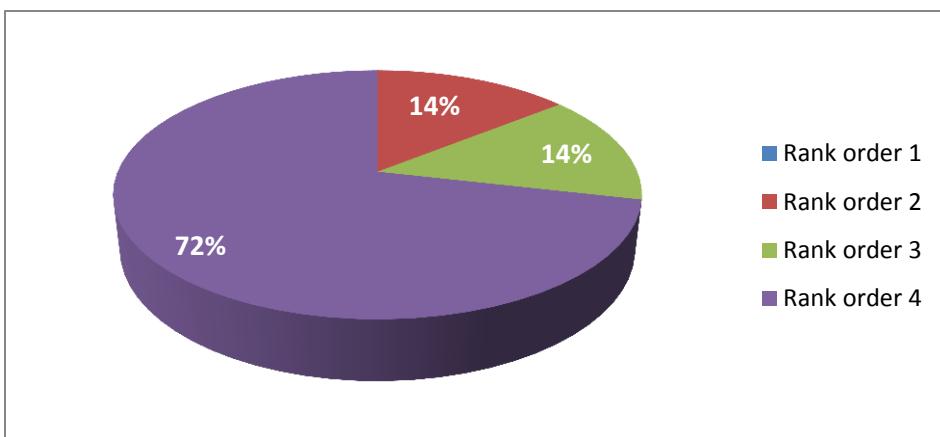
Project readiness

Twenty-seven of the 30 participants responded to this question. Five described expedited project completion as a *very important* factor, 15 described it as *important*, and five as *not important*.



The rank order assigned to project readiness was as follows (two participants did not provide a rank order of factors):

- **Rank order 1:** 0 participants
- **Rank order 2:** 4 participants
- **Rank order 3:** 4 participants
- **Rank order 4:** 20 participants



While 74% of respondents described project readiness as *important* or *very important*, this factor had the lowest rank order. No one considered this to be their number-one priority factor and 72% considered it to be their lowest priority.

Factor comparisons

The tables below provide a comparison of responses for the level of importance and rankings assigned to each factor.

Importance level

Factor	Value Assigned (% of Participants)		
	Not Important	Important	Very Important
Cost/benefit	3%	38%	59%
Water quality	0%	24%	76%
100-year FEMA flood level	11%	53%	36%
Project readiness	26%	56%	18%

As shown above, participants were reticent to define factors as *unimportant*. Cost/benefit ratio and water quality factors were considered most important and, by comparison, project readiness least (although 74% still considered it either *important* or *very important*).

Rankings

Factor	Rank Order Assigned (% of Participants)			
	Rank Order 1	Rank Order 2	Rank Order 3	Rank Order 4
Cost/benefit	36%	29%	21%	14%
Water quality	36%	29%	32%	3%
100-year FEMA flood level	25%	29%	32%	14%
Project readiness	0%	14%	14%	72%

Rankings for each factor were fairly well distributed—with the exception of project readiness (no participant gave it a rank order of 1 and 72% gave it a rank order of 4). Again, cost/benefit ratio and water quality were ranked as a first priority among the greatest number of participants (36% each); another 29% considered these factors as a second priority.

Funding support

In the last part of the survey, participants were asked to indicate if they would support two funding mechanisms as part of a flood mitigation project:

- Use of public money to protect individual homes/businesses
- Increasing property taxes to finance the options

Support for Public Funding		Support for Property Tax Increase	
Yes	No	Yes	No
69%	31%	60%	40%

Although a majority supported public funding/property tax increases, a number of respondents indicated that support depended on how much money was needed and/or how it was used. Specific considerations mentioned were:

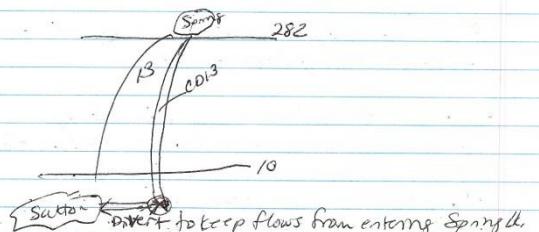
- Whether the project would be successful in removing homes from the floodplain.
- Whether the project would protect businesses.
- Whether the project improved water quality or provided other public benefits.

General sentiment was that public funds should be used to benefit the entire community, rather than select property owners.

Participant comments

Comments from survey forms and facilitated discussion are provided below, categorized by subject (s= survey form, d=discussion; numerals indicate number of similar responses).

Cost/benefit ratio factor	
S	Project cost should not be the only consideration—analysis needs to include value of homes, etc.
D	Duration of cost calculation—how do you calculate the personal loss?
2D	Need to consider the likelihood/frequency of dealing with these impacts every 100–500 years. Is doing flood protection (e.g., sandbagging and other routine emergency operations) sufficient, vs. spending significant funds to reduce risk frequency?
D	What is the cost/benefit of buyout vs. other options?
100-year FEMA flood level factor	
S	Flood level should not be lowered to the new FEMA standard (use 909 ft).
S	Is 100-year FEMA flood level the "right standard" given that these are not "river flooding" events?
D	City has the responsibility to protect to the level that was previously permitted
Project readiness factor	
D	Five years or less
Public funding	
S	Tax increase—YES only if the entire watershed is taxed
D	City has the obligation to protect
D	Everyone needs to help fund the projects as they will benefit
D	Public funds should be spent for protecting against business impacts—economic
S	Supports use of some public money ("how much is the question ... in the greater good"); should probably not increase property taxes given this is a "long-duration solve in a changing environment"
2S	Supports use of public money and increased property taxes "depending on how much for both"
S	Use public money only if removing homes from floodplain; include USACE (federal) and state money in funding options
D	Increase taxes only for water quality and other public benefits; tax dollars should not be spent to protect landscaping
S	Have you looked at lakefront taxes lately? You are driving owners out. Why?
D	Tax dollars should not be spent to benefit 27 affected homes
Mitigation options	
S3	Would support upper-watershed storage as first option
D2	Creating upper-watershed storage is 2-for-1. You can get rid of the phosphorus and create less flooding. This is also an option that will not cause more damage to the outlet.
D2	Lease upstream land for storage (or drainage easement with compensation for property damage during flood events; no flooding, no payments); get help from township and Scott SWCD to work with landowners
D	Other ponding/storage below outlet—Pike Lake, Wilds, SIMSC lands, etc.
D	Can we dam up Artic Lake?
D	Are Sutton and Arctic Lake options feasible and cost effective?
D2	Storage in Artic Lake—between Spring and Prior Lakes (no private property)
S2	Dam the Pheasants Forever wetland south of Spring Lake; it was once blocked by a beaver dam
S	Spread out 2,000 acre feet among different basins (4)

S	OK with a temporary blockage of the outlet from Spring Lake to Prior Lake, but it needs to be fair. You can't let Spring Lake rise 6-8 feet while Prior Lake only goes up 3 to 4 feet. There has to be set rules so that Prior Lake doesn't open up the outlet during drought times but restrict it during floods; it needs to be fair.
S	Recommend combined effort of quick, easy upstream catch; set outlet control for Spring Lake to slow flow to Prior Lake; avoid Prior Lake outlet above 65, given multiple issues
D	Similar to what SMSC has been doing, Prior Lake could pump treated water back into the aquifer to manage water levels; could also use treated lake water for municipal use
D	The old outlet on the east end of Prior Lake is too high to get the right flow; that's why they made the outlet in the first place. Let's not consider that a viable option.
D	Although Spring Lake did not have the extent of flooding that Prior Lake did, it still did extensive damage to shorelines and property. The option to dam up Spring Lake will just switch the damage from Prior Lake to Spring Lake. Lakeshore owners who had damages on Spring weren't able to claim flood insurance, so it may have cost them more individually.
D	Work with Scott County to create a new lake in Spring Lake Regional Park for more storage.
D	What about everyone doing a rain garden (i.e., many small projects vs. a few large ones)?
D	Unplug Candy Cove
D	Build a small seawall in areas prone to flooding
D2	Like the Sutton Lake idea, but there are many farms and ditches downstream of the wetland that don't contribute to Sutton Lake
D	Put a restriction on ditch (CO 13) to divert water to Sutton Lake during flooding and keep flows from entering Spring Lake; get SWCD to work with adjacent farmer/landowners
	 <p>A hand-drawn diagram on lined paper illustrating a proposed diversion plan. At the top, 'Spring' is written above a horizontal line. To the right, '282' is written. Below 'Spring', a curved line labeled 'B' and 'CO 13' shows a bend in a ditch. At the bottom, '10' is written. In the bottom left, 'Sutton' is written next to a small lake icon. A curved arrow originates from the ditch area and points towards the Sutton lake, with the handwritten note 'divert to keep flows from entering Spring' written below the arrow.</p>

Miscellaneous comments/questions

S	Cost-effective options should be considered to protect public streets and the seven neighborhoods that were affected by the flood
D	Buyouts "don't feel right"
D	Need a "Plan B" for a failure of the outlet channel
D	Continuing to maintain the outlet channel is very costly; the outlet channel project was assessed to benefitting properties
D	40 mi? that go to outlet structure—how much drainage area does the ditch serve?
D	Need to balance high- and low-water impacts
D	Moral equivalency: high water = homes destroyed; low water affects recreational use
D	Low water affects property values—shallow bays can end up with no lakeshore if water levels are low enough
D	Model for different events (how often do flows go above 905 feet?), 20-year frequency?
D	Can we run a drought scenario with the flood scenario when considering different options?
D	What is the impact on wetlands if you store a lot of water on a high-quality wetland—what is the impact of added "bounce?"
D	Discharge into Spring Lake is very sediment-laden; Spring Lake is the filter for Prior Lake.
D	There is no silver bullet.

Attendance list

Respondent name	Address	Contact information
Fred Corrigan	PLSLWD Manager	fcorrigan@armofmn.com
Katie Gehler*		
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Kathy Nielsen*	Spring Lake Township	
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Mark Vierling	651 Bluebill Circle, Shakopee	mvierling@nasi.com
Jim and Liz Weninger	2591 Spring Lake Road, Shakopee	james.weninger1946@gmail.com lizw@mchsi.com
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Pete Young*		
Identified Survey Monkey respondents (three did not provide contact information)		
James Goodchild	14450 Watersedge Trail, Prior Lake	goodyjrg@yahoo.com , 612-716-1903
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* Indicates facilitator