JOINT CITY COUNCIL WORK SESSION
(Crystal, Golden Valley, and New Hope City Councils)

AGENDA SUMMARY
MAY 23, 2013
6:30 P.M.
City of New Hope (Council Chambers)
4401 Xylon Avenue North

Open for public observation
Light refreshments will be provided

1. Call to Order

2. Introductions

3. Attendance *(list of attendees on back of agenda)*

4. Update on the Feasibility of Backup Water Supply
    - Discuss and Develop Consensus on Direction

5. DNR Drought Monitoring Information

6. Other Business

7. Adjournment

Participants may include the following:

CRYSTAL COUNCIL:	Jim Adams, Mayor Laura Libby, Council Member Julie Deshler, Council Member Joe Selton, Council Member Mark Hoffmann, Council Member John Budziszewski, Council Member Casey Peak, Council Member
CRYSTAL STAFF:	Anne Norris, City Manager Tom Mathisen, Director of Public Works Randy Kloepper, Water Superintendent
NEW HOPE COUNCIL:	Kathi Hemken, Mayor John Elder, Council Member Eric Lammle, Council Member Dan Stauner, Council Member Andy Hoffe, Council Member
NEW HOPE STAFF:	Kirk McDonald, City Manager Guy Johnson, Director of Public Works
GOLDEN VALLEY COUNCIL:	Shep Harris, Mayor DeDe Scanlon, Council Member Paula Pentel, Council Member Steve Schmidgall, Council Member Joanie Clausen, Council Member
GOLDEN VALLEY STAFF:	Tom Burt, City Manager Jeannine Clancy, Director of Public Works Sue Virnig, Finance Director Dave Lemke, Utilities Supervisor Pat Schutrop, Recording Secretary
OTHERS:	Bernie Bullert, Director, Minneapolis Water Treatment and Distribution Services Glen Gerads, Assistant Director, Minneapolis Water Treatment and Distribution Services Bonnie Morey, SEH, Inc., Facilitator Brian LeMon, Barr Engineering Company Michelle Stockness, Barr Engineering Company

Joint Water Commission
Crystal-Golden Valley-New Hope

Emergency Water Supply
Tri-City Councils Meeting
May 23rd, 2013

Purpose of this work session

* Remind you of the risks to with your water supply
* Update on emergency supply work since last year
* Obtain direction for next steps on emergency supply

Work Before May 2012

* New Hope Well Emergency Reactivation Request January of 2012 (Regulatory requirement to allow use of existing New Hope well)
* Water Interaction Study to determine impacts of adding unsoftened groundwater to current system
* Preliminary cost estimate for emergency supply
* Last year you authorized a feasibility study to better define the well project

Why are we doing this?

* To ensure a water supply under emergency conditions where Minneapolis supply to the JWC is interrupted
* Fire protection, health, safety & welfare during an emergency
* Peace of mind for residents during an emergency
* Secure business viability during an emergency
* Identified action item in your Comp Plan

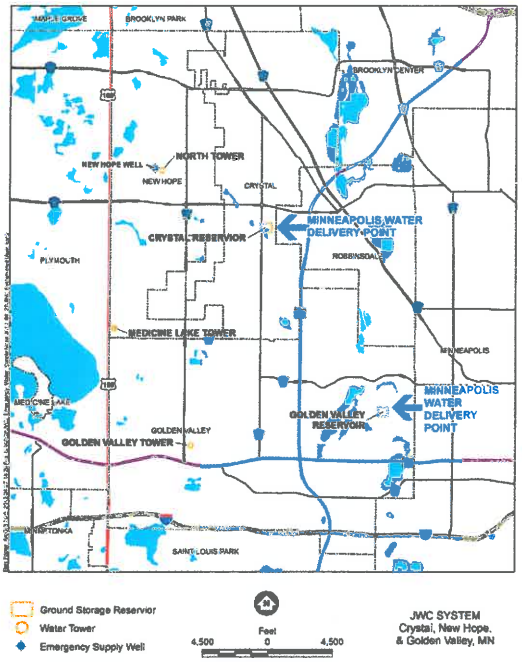
Where are we going…

* JWC System Facts
* Risks
* Current Emergency Responses
* Current Planning Results
* Cost Considerations
* Next Steps

JWC System Facts

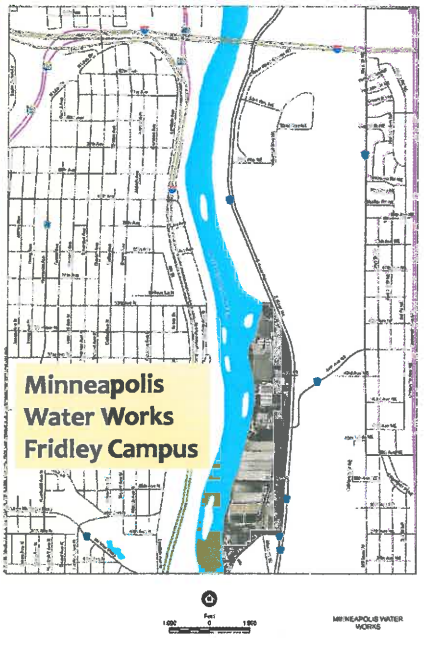
JWC System

* Supply & treatment by Minneapolis
* Crystal reservoir-19 MG
* Golden Valley res.-9 MG
* Elevated storage-3.5MG
* Limited emergency supply
  * New Hope Well



Minneapolis Supply & Treatment

* Supply: Mississippi River via single intake
* Treated at Fridley & Columbia Heights facilities
* Softened and filtered
* No current emergency supply
  * Emergency supply being planned now



JWC Water Facts

Water Quality

* Softened filtered water
* Low in iron & manganese
* Variable in temperature

Water Use

* JWC Avg. Day ~6.8MGD
* Winter low use day ~5.5 MGD
* Peak day ~18 MGD
* 2.2 BG/year

JWC Water Facts

Who is using our water?

* Residential: 76.8% (5.4 MGD)
* Commercial: 18.1% (1.3 MGD)
* Industrial: 5% (0.3 MGD)

Future Trends

* Stable to declining use trends
* Stable population (slight increase projected)
* Decline due to:
  * Conservation (80 to 75 gpcd)
  * Leak detection and repair
  * Fixture replacement

Risks

JWC Risks

Risk	Mitigation
* Mechanical failure	* Existing redundant systems
* Power failure	* Multiple distant delivery points
* Major reservoir failure	* Emergency power generator at the Golden Valley Reservoir
* Short term supply interruptions	* Multiple reservoirs
* Long term supply interruption	* ~ Three days supply in storage
	* New Hope well: ~1/5 JWC avg. day

Long Term Interruption: Risks

Higher Probability Risks

* Drought (30's, 88, 07)
* Flooding (65, 69, 11)
* Tornado (65, 11)
* Loss of Power
* Bottleneck

* Color means this has occurred but without long term interruption

Other Risks

* Fire/explosion
* Spill
* Work Stoppage
* Chemical Reaction/Spill
* Terrorism and Cyber attacks
* Operator Error
* Water Hammer (supply main failure)

Current Emergency Responses

Demand Reduction Measures

* Stage 1: Voluntary Reduction Measures
* Stage 2: Mandatory Reduction Measures
* Stage 3: Mandatory Water Allocation Restrictions based on priority uses

Priority Uses

* **MN Statutes: 103G.261 Water allocation priorities**

1. Domestic water supply, excluding industrial and commercial uses of municipal water supply, and use for power production that meets the contingency planning provisions
2. A use of water that involves consumption of less than 10,000 gallons of water per day
3. Agricultural irrigation, and processing of agricultural products involving consumption in excess of 10,000 gallons per day (JWC has no 3rd priority water users)

Priority Uses

4. Power production in excess of the use provided for in the contingency plan (JWC has no 4th priority water users)
5. Uses, other than agricultural irrigation, processing of agricultural products, and power production, involving consumption in excess of 10,000 gallons per day (List of 5th priority water users on next slide)
6. Nonessential uses, lawn sprinkling, car washing etc

5th Priority Water Users

Golden Valley (9):

* Courage Center
* Mermaid Car Wash
* General Mills (Main Campus)
* Liberty Carton
* Honeywell
* General Mills (JFB)
* Tennant

New Hope

* Minneapolis Die Casting
* Dakota Growers

Crystal

* Regal Car Wash

Current Planning Results

Concept Under Consideration

* Finish preparing New Hope Well for emergency use
* Drill three new wells
  * One near the Crystal Reservoir
  * One near the Golden Valley Reservoir
  * One ~1/4 mile from one of the reservoirs
* Total supply ~5.5 to 6.8 MGD

Work Before May 2012

* New Hope Well Emergency Reactivation Request January of 2012 (Regulatory requirement to allow use of existing New Hope well)
* Water Interaction Study to determine impacts of adding unsoftened groundwater to current system
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Reminder: What would you notice?

* Move from soft to hard water (more soap use)
* Winter Emergency: move from very cold to cool water
* Summer Emergency: move from warm to cool water
* Some might notice more iron taste than now
* Remember this is an emergency and you have water!

Work Since Last Meeting

* Feasibility Study for Emergency Supply Wells
* Site specific analysis
* Alternatives based on actual well sites
* Layout watermains for each alternative
* Detailed cost estimate for each alternative
* Rate impact analysis for selected alternatives

Each Alternative Includes

* Cost to bring New Hope Well online
* Three new specifically sited wells
* Pipelines connecting each to the reservoirs
* The chemical addition for each well
* Backup power requirements
* Site work and restoration

Assumptions

* New Hope well will supply 900 to 1,100 gpm.
* Three new wells will supply 1,000 to 1,200 gpm each.
* One each next to Crystal and Golden Valley reservoirs
* 3rd well within 1/4 mile of one of the reservoirs.

Assumptions (cont'd)

* New wells to include
  * submersible well pump and motor
  * pitless adapter
  * valve and metering vault
* Wells used for emergency, exercised regularly.
* New wells are Prairie du Chien-Jordan aquifer wells.

Alternatives Considered

Alt	New Hope	Crystal			Golden Valley		
Alt 1	Well 1	Crystal 1	Crystal 2		GV 1		
Alt 2	Well 1	Crystal 1		Crystal 3	GV 1		
Alt 3	Well 1	Crystal 1			GV 1	GV 2	
Alt 4	Well 1	Crystal 1			GV 1		GV 3

Figure 7

PROPOSED WELL LOCATIONS-
CITY OF CRYSTAL
Emergency Supply Feasibility Study
Joint Water Commission
Cities of Crystal, Golden Valley
and New Hope

Crystal Well Sites

Site 1: Next to reservoir

Site 2: South of pond between Douglas and Adair

Site 3: Just off 41st Ave N

Golden Valley Well Sites

Site 1: North of reservoir

Site 2: Near boat landing

Site 3: South of Golden Valley Rd

Cost Considerations

Approximate Cost to Implement

Alternative	Est. Cost	Standby Power	Total
Alt 1: NH 1, Crystal 1 & 2, Golden Valley 1	$ 4.37M	$ 290K	**$ 4.7M**
Alt 2: NH 1, Crystal 1 & 3, Golden Valley 1	$4.31M	$ 290K	**$4.6M**
Alt 3: NH 1, Crystal 1, Golden Valley 1 & 2	$4.11M	$ 290K	**$4.4M**
Alt 4: NH 1, Crystal 1, Golden Valley 1 & 3	$4.14M	$ 290K	**$4.4M**

Rate Impacts to You

* $4.7 M over 10 years:
  * Adds $0.21/1000 gallons (5% increase).
  * Average per connection increase ~ $1.15 to $1.55/month for 10 years
* The actual rate increase will be determined by a finance plan which will be developed if the project is authorized

Summary

* Interruption of water supply is a risk to JWC & Mpls
* Minimal emergency supply in place: New Hope Well
* Mpls is still planning emergency supply
* 5th priority users at risk
* Emergency supply is a Comp Plan action item
* JWC emergency supply cost: ~$4.4 to $4.7M
* Could be coordinated w/ Mpls emergency supply plan

Next Steps

Options

* Decide if you want emergency wells
* If yes then:
  * Adopt Resolution to:
    * Authorize consultant services
    * Authorize contract documents for new well(s)
* If no:
  * Wait on Minneapolis back up supply

Questions?

Resolution 13- May __, 2013

Commissioner _____ introduced the following resolution and moved its adoption:

RESOLUTION ACCEPTING EMERGENCY WATER SUPPLY PRELIMINARY DESIGN AND FEASIBILITY STUDY; DIRECTING STAFF TO PROCEED WITH IMPLEMENTATION

WHEREAS, the Joint Water Commission (JWC) is a joint powers entity authorized by Minnesota Statute 471.59 consisting of the cities of Crystal, Golden Valley, and New Hope, initiated in 1963; and,

WHEREAS, based on this agreement, the three cities built their water distribution systems to be interconnected without reference to city boundaries; and,

WHEREAS, the JWC has an ongoing long-term water purchase agreement with the City of Minneapolis water utility and intends to continue that relationship; and,

WHEREAS, the JWC continues to have concerns regarding the reliability of the Mississippi River as the sole water supply source for the City of Minneapolis and its customers; and,

WHEREAS, in 2009 the JWC and, separately, each of the three member cities, adopted a Water Supply, Emergency and Conservation Plan to comply with Minnesota Statute 473.859, and said statute requires the JWC and the three member cities to identify and develop an emergency source of water supply; and,

WHEREAS, the JWC has identified groundwater from the Prairie du Chien/Jordan aquifer to be a viable alternative water supply on an emergency basis; and,

WHEREAS, legislation was passed during the 2004 legislative session authorizing the JWC to drill wells to meet the needs of the three member cities on a case-by-case basis; and

WHEREAS, at the direction of the three City Councils at the May 7, 2012 Tri-Council meeting, the Emergency Water Supply Preliminary Design and Feasibility Study was prepared; and,

WHEREAS, the study sets forth recommendations for siting of wells, cost implications and alternatives for implementation of an emergency water supply.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of (Golden Valley, Crystal or New Hope), Minnesota:

1. That the Joint Water Commission develop a Capital Improvement Program to implement an emergency water supply.
2. That the Joint Water Commission retain engineering and other professional and contractor services to implement and construct an emergency water supply.

Adopted by the City Council of the City of (Golden Valley, New Hope or Crystal), Hennepin County, Minnesota, this _____ day of May, 2013.

_____
Mayor

Attest: _____
City Clerk

The motion for the adoption of the foregoing resolution was seconded by Member
and upon a vote being taken thereon, the following voted in favor thereof:
and the following voted against the same:
whereupon said resolution was declared duly passed and adopted, signed by the Mayor and his/her signature attested by the City Clerk.

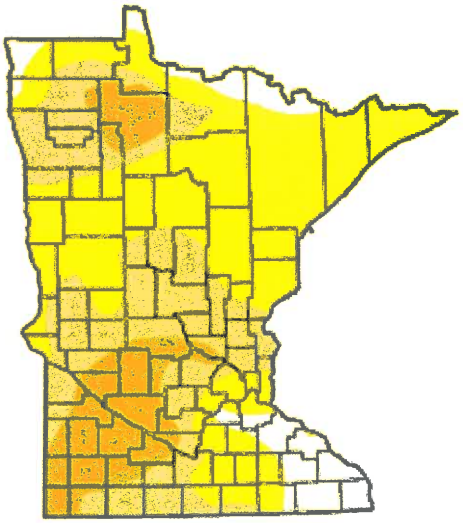
Schutrop, Pat

To: Schutrop, Pat
Cc: tom.mathisen@crystalmn.gov
Subject: RE: Community Water Suppliers Drought Response

From: MN Department of Natural Resources [mailto:dnr.updates@updates.mndnr.gov]
Sent: Wednesday, May 15, 2013 2:04 PM
To: Tracy, Bert
Subject: Community Water Suppliers Drought Response

Minnesota Department of Natural Resources
www.mndnr.gov

The Department of Natural Resources is contacting Minnesota's community public water suppliers in follow-up to last fall's communication about drought response actions. Dry, hot conditions in both 2011 and 2012 have posed challenges to many public and private water supplies. Much-needed winter precipitation has helped alleviate drought intensity across most of the state, but additional spring rain is needed to provide recharge to our aquatic systems.



As of April 30th, the U. S. Drought Monitor displayed that in Minnesota:

- 91% of the state is Abnormally Dry or worse
- 46% is experiencing Moderate Drought or worse
- 15% remains in Severe Drought

In preparation for unknown weather patterns in 2013, the DNR encourages water suppliers to do the following three things:

1. Review the state's Drought Plan Matrix (on the DNR website; a link to the site is embedded below)
2. Implement the drought response measures in your public water supply plan, if you have one, and the applicable steps in the Drought Plan Matrix for water suppliers
3. Promote water conservation to your customers and clients

1. Review Minnesota's Drought Plan Matrix

Minnesota has a statewide Drought Plan that provides a framework for responding to droughts. It is an important resource for all public water suppliers. It outlines five drought phases, which correlate to the U.S. Drought Monitor. It identifies the actions public water suppliers must take as each drought phase is reached.

At this point, 91% of Minnesota is experiencing some level of drought, with notable portions of the state in the moderate and severe categories. All public water suppliers should be aware of their planned drought response, and the majority should begin implementing specified actions contained in the Drought Plan.

2. Implement Drought Contingency Measures and Prepare Communications to Users

If you serve over 1,000 people, you should have a Water Supply Plan that includes sections related to your drought preparedness, drought response and water conservation programs. Now is the time to review those sections and implement the planned actions. If you do not have a Plan, you can still ask your customers/clients to reduce their use of water and you can implement at least basic conservation measures.

91% of Minnesota is in at least the Drought Watch Phase. That means public water suppliers need to be providing conservation information to their customers and

requesting them to implement voluntary measures to reduce water use. Please work on preparing these communications and sharing them with your customers throughout the coming months.

Just over 15% of the state is at the Drought Warning Phase. In accordance with the Plan, suppliers implement the water use restrictions covered in their water supply plans, and implement water use reduction actions with a goal of reducing water use to 50% above January levels.

3. Promote Conservation

Water conservation will reduce the demand placed upon groundwater and surface water resources, and on municipal water supply systems. DNR encourages you to actively communicate with your customers on the importance and benefits of water conservation.

Spring is an excellent time of the year to affect the summertime practices of your customers and to guide them to the benefits of conservation. Given the severity of the fall drought in both 2011 and 2012, communities all recognize the value of protecting water supplies for the long-term. Additionally, communities may undertake water audits and leak detection, which often leads to significant reductions in water loss as well as cost savings.

Drought highlights the challenges we face as water supplies are stressed and recent increased media and public attention has been focused on water resources, all across the state. The need for clean and robust supplies exists at all times, and underscores the need for planning for long-term sustainable water supplies for all communities and homes.

More Information and Contact Resources

Visit the DNR website to find the latest information and fact sheets on the drought. Additionally, please direct specific questions to:

Princesa VanBuren Hansen, Water Use Specialist, princesa.hansen@state.mn.us, 651-259-5731

Greg Spoden, State Climatologist, gregory.spoden@state.mn.us. 651-296-4214

The DNR seeks to maintain an open partnership with you in providing safe, reliable drinking water sources to the citizens of our state. When facing the challenges posed by a drought, we must work together to ensure the public understands the implications of their individual actions and how everyone can take steps to ensure we are prepared to adapt in case dry weather patterns persist. We appreciate your participation and engagement in achieving these goals.

Minnesota Department of Natural Resources
info.dnr@state.mn.us

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