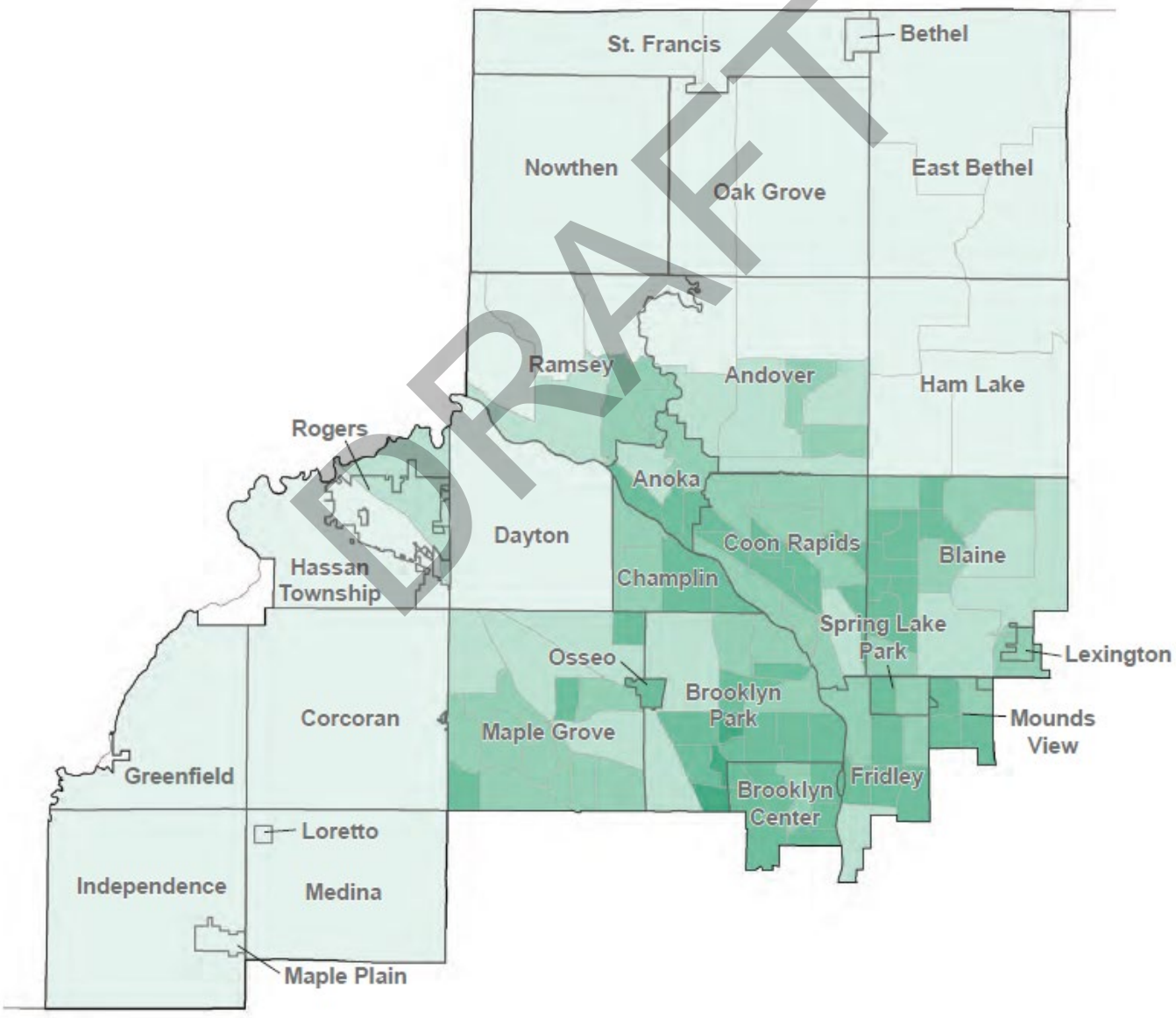
NORTHWEST METRO SUBREGIONAL WATER SUPPLY PLANNING CONSIDERATIONS

A CHAPTER OF THE METRO AREA WATER SUPPLY PLAN

SECOND DRAFT – MARCH 2024



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Water supply planning context and current conditions

Everything that happens on land impacts water, and water is all connected.

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the Northwest Metro will see growth. Preliminary estimates, which are being evaluated with community input through spring of 2024, suggest that approximately 110,000 more people, 52,000 more households, and 79,000 new jobs will be added to the Northwest Metro by 2050 compared to 2020.

Population growth, as well as corresponding growth in employment and employment centers, will increase water demand in an area that is predominantly served by groundwater. At the same time, climate change serves as a risk multiplier, amplifying the impacts that drought and flooding can have on water supply. As growth occurs, and climate continues to change, it is important to plan and collaborate to ensure there is sufficient, reliable, and safe water supply for people, the economy, and the function of local ecosystems.

The Northwest Metro chapter of the Water Supply Planning Atlas contains more details in the description of current challenges.

Definition of success for water supply planning in the Northwest Metro Subregion

In defining what it would tangibly mean if the Northwest Metro were to achieve the outcome of a sufficient, reliable, and safe water supply, participants identified the following vision concepts as central to their consideration:

- Adequate supply, and efficient use of that supply
    - Extraction does not exceed recharge or compromise surface water resources
    - Basic needs are met with clean, affordable drinking water for all
    - Infiltration is maximized in new development, and conservation is a norm
    - Diversity of supply available—other sources, including reuse
- Improved source water quality and reductions in contaminants of emerging concern (PFAS, chloride, microplastics)
- Increase in climate resilience
- Increased understanding
    - Connections between groundwater, surface water, and stormwater management
    - Individual awareness and ownership of the need to reduce impacts
- Sufficient, sustainable funding for infrastructure, staff, adapting to new treatment needs, etc.
- Enhanced coordination around aligned goals—between city departments, between cities, between and with agencies, within agencies

Issues and opportunities

Achieving the identified success will require addressing barriers as well as advancing opportunities. In considering the full water supply picture, participants offered their thoughts for what barriers would need to be addressed or opportunities could be pursued to achieve the identified success. Those comments were merged with issues, goals, and actions offered at the March 15, 2023; Subregional Workshop also hosted by Met Council. These were then summarized into the following focus areas, listed here in alphabetical order.

Asset management
Asset management is important to take care of and extend the life and usability of existing infrastructure. To do so, though, requires sufficient funding, planning (inclusive of conservation planning to reduce needs), and trained staff to do upkeep and maintenance of water systems.

Climate change
Climate change is occurring. This leads to concern about impacts from drought and flooding, as well as uncertainty about future conditions.

Changing behaviors and social norms
Education and outreach to the general public is needed to increase understanding of groundwater management and the process of how water gets to the tap and all that entails. While the audiences may differ (ages, languages, public vs. private well user, decision-makers), there is a need for increasing the consistency of educational materials and messaging across the region to encourage personal action, shifting of social norms, and a view of groundwater conversation as a non-political need to protect the finite resource for future generations. A coordinated education effort or programs (such as a K-6 outreach program, workshops for residents, private well user outreach, etc.) is needed to support this aim.

Funding
The current funding structure isn't working. Water is cheap, but the work needed to ensure safe and sufficient water supply is not. As new requirements come out, they often do without a funding source to support compliance. Adjusting the rate structure to reflect the true cost of water and encourage conservation could support a more sustainable funding model, as would an increase in dedicated funding from the state to support compliance and system maintenance for all.

Governmental collaboration
Local governments experience different expectations and conflicting requirements from different entities (MDH, DNR, MPCA, Met Council, City Councils, etc.), and differences across jurisdictional boundaries compound this to make regional water supply planning and plan implementation challenging.

> **Agencies**
> It would be helpful to see agencies aligned under shared goals, with roles and expectations clearly defined. As a part of this, reviewing and seeking adjustments where rules conflict with each other, sharing data, streamlining roles, and otherwise improving coordination within and across agencies would each make a difference for local communities. Additionally, there is desire to see increased collaboration between agencies and cities.
>
> **Integrated water management**
> Silos within water resource management can be broken down to pursuing multiple water-related benefits at once, rather than treating them as conflicting priorities or creating unintended consequences. Data to support a more integrated approach are needed, such as how to identify or monitor for ecosystem impacts.
>
> **Collaboration into action**
> Increased collaboration alone is not the goal. Rather, intentional collaboration--whether it is within cities, city to city, between cities and agencies, within agencies, or across agencies--can produce enhanced outcomes and action.

Growth and planning
As development occurs, it is important that it happens alongside a comprehensive understanding of groundwater management so that economic development goals are in line with groundwater and ecosystem protection. This could include more compact development or preserving space for parks and recreation infrastructure. Guidance for long term population forecasting is also needed to support planning for appropriately-sized growth.

Private well users
Education and water testing for private well users is needed to protect public health and equip people with information to help them make informed decisions. Free private well testing should be expanded for low-income private well users.

Water quality
Whether it is managing chloride (including legacy chloride in soil), addressing PFAS issues, keeping up with other emerging contaminants like microplastics, removing lead from the system, or engaging in research and education, groundwater contamination creates challenges for water supply. Sustained and increased funding is needed in order to keep water safe.

Groundwater Quantity/Water Balance
Groundwater is a finite resource, and in order to provide a good foundation for growth and to meet future needs, action must be taken now.

Conservation
A decreasing trend for peak summer demand can help to reduce infrastructure needs, but will require more widespread adoption of conservation measures (and an increase in funding for these activities). For residents and businesses, this would include things like less lawn irrigation and a shift away from green turf grass as a norm. For higher water volume users, this may mean appropriation permits are more strictly reviewed. Construction dewatering is also more strictly reviewed, with incorporation of injection wells to retain shallow groundwater.

Reuse
Stormwater reuse for practices like irrigation can reduce groundwater demand for non-potable uses. Provision for grey water reuse in new buildings and developments could further reduce demand, though would require a change in plumbing codes.

Modeling
Dynamic modeling of groundwater is needed to understand movement, quantity, demand, impacts of high-volume users, and what a sustainable water balance would look like. This kind of data would support informed decision making for growth as well as degree of action required to meet water supply needs.

Surface water sourcing
As constraints on groundwater increase, investigating an expansion of surface water supply is warranted.

Workforce
With recent and upcoming retirements of water operators and other experienced staff, there is a large hole in institutional knowledge that is only expected to increase in the coming years. There is a need for shared workforce planning and strategy to meet workforce needs, including mentorship programs, outreach to schools for recruitment, and introduction of water careers as options. Additionally, there is a need to fund existing and future staffing levels.

Prioritized focus areas and action plan

In a survey following the first workshop, participants were asked to share which of the focus areas they believed should have the most focused attention from the Northwest Metro subregion and Met Council in the next ten years, as well as why. The survey outcomes were shared for discussion at the second workshop, and based on that discussion, participants agreed to the following as the priority focus areas for the Northwest Metro (again, recorded here in alphabetical order so as to not reflect further prioritization among them). Statements for what success looks like in 10 years, as identified by participants, are also included for each.

Asset Management

- An understanding of quantity and quality of assets
- An ability to forecast replacement and upgrade costs

Governmental Collaboration

- Required information into one location and government agencies are able to split out what it is that they need, or at least a reduction of duplicative work
- Full overarching model to see inputs and outputs is necessary for regional coordination to understand where conservation action or other action would be useful
- Within government, planners and engineers understand each other and can anticipate results of each other's actions

Groundwater quantity and water balance (inclusive of growth and planning)

- Understanding quality and quantity of supply (distinct aquifers)
- Communicate where recharge areas exist. Recharge areas will be outside MCES authority so would need to address how/who would set policies in the recharge area.
- Define educational work plan—conservation and awareness of issues

Water Quality (inclusive of private well users)

- Improved sampling methodologies (standards and locations)—individual well (raw water) vs. distributed
- Increased/required testing of private wells—make it available and affordable
- Adapting to whatever new standards and requirements there are

Workforce

- Robust asset management/GIS system to capture institutional knowledge
- Consistent pipeline of staff entering the field of water supply, distribution, treatment, and storage
- High schools, technical colleges, and universities actively promoting public works
- Succession planning for those retiring
- Get kids excited about water

It should be noted that, as a part of the discussion, the following focus areas were identified as "implementation considerations", in that they would be needed (either as a strategy or something to manage for) in order to support success for any of the other focus areas. As such, these were requested to be incorporated as action plans to address priority focus areas were developed:

- Changing behaviors and social norms
- Climate change
- Funding

- Sustainability
- Short term (grants)

The following pages reflect the action plan developed by participants at and following the second subregional workshop in order to address the priority focus areas. It is possible and expected that actions not reflected here may emerge as important steps needed to be taken in subsequent years. This list, therefore, is a reflection of what was being considered in late 2023. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals.

Figure 1. The framework for action to achieve MAWSAC goals includes four general steps. Northwest metro focus areas generally fall across the framework steps.

Actions to support success

Table 1. The following pages reflect the action plan developed by participants at and following the second subregional workshop in order to address the priority focus areas. It is possible and expected that actions not reflected here may emerge as important steps needed to be taken in subsequent years. This list, therefore, is a reflection of what was being considered in late 2023. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals.

ACTIONS	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			PROPOSED ROLES (DRAFT)			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	POSSIBLE LEAD	MET COUNCIL	SUBREGION	LOCAL
COLLABORATION AND CAPACITY BUILDING										
Convene regional meetings of cities with appropriate agency staff for meetings to specifically collaborate between public works and city planners	Collaboration	x					Regional planners (health), LGU planners, LGU public works, DNR Area Hydros, Met Council			
~~Foster a collaborative (rather than competitive) mindset and practice between cities for development for the benefit of all communities.~~	~~Collaboration~~						~~Locals~~			
Encourage ~~Create~~ more mechanisms for proactive financing rather than reactive funding	Collaboration, Asset Management	x	x				MDH, MPCA, Legislature, LGUs			
Increase understanding of the importance of a sustainable water supply among school aged children, pursue an educational standard	Water Quantity, Workforce	x	x				Cities, Agencies, School District Administrators			
Partner with organizations actively participating in STEM events	Workforce	x	x				Met Council			
SYSTEM ASSESSMENT										
Model future needs for supply and distribution	Asset Management									
Conduct an inventory of existing assets	Asset Management									
Establish a workgroup involving agencies and local government reps and Met Council to identify and recommend changes or removals to statutes/rules (~~Create~~ a regional interest group of water supply professionals ~~to advocate~~ for us)	Collaboration	x					Met Council, Agencies			
Define how current data is being used, and share for modeling purposes	Water Quantity	x					DNR, Met Council, Cities (pumping data)			
Develop a comprehensive, dynamic model	Water Quantity						Met Council/DNR			
Increase affordability of ~~access to~~ accurate testing--particularly for PFAS	Water Quality	x	x				MDH			
MITIGATION MEASURE EVALUATION										
Forecast challenges for water supply systems and asset ~~asses~~ implications, infrastructure needs	Asset Management	x	x	x	x	x	Cities, Agencies			
Improve treatment technologies to address contamination discovered, with appropriate policy backing and funding	Water Quality		x				Private enterprise			
Continue ~~Engage in~~ ambient monitoring for early detection and monitoring of new contaminants	Water Quality						MDH, UMCR			
PLANNING AND IMPLEMENTATION										
Seek funding for and implement changes to improve asset management and the quality/usefulness of existing assets	Asset Management	x	x	x	x	x	Cities, agencies			
Support a bill for groundwater modeling funding to create a regional dynamic model for shared use	Collaboration	x	x							
Continue work between agencies to streamline plans	Collaboration	x	x	x	x	x				
Effective ~~Continue to improve in best practices that support effective virtual~~ engagement	Collaboration	x	x	x	x	x	Agencies			

Standardize water conservation best practices across the region and state	Water Quantity		x							
Explore feasibility and needs for injection wells for deeper aquifers	Water Quantity									
~~Explore options to maintain shallow groundwater levels during construction dewatering through nearby injection of pumped water~~	~~Water Quantity~~									
Seek funding for solutions to combat contaminants	Water Quality						State/federal			
Support peer to peer outreach like master gardeners for private well and septic system users	Water Quality	x	x				UMN extension, Met Council, Nonprofits, private well owners			
Continue education to realtors on private wells and septic systems	Water Quality	x	x				UMN extension, MDH, MPCA, or a nonprofit			
Enlist communications and behavior change professionals to support effective education and outreach campaigns, especially for private well users.	Water Quality	x					Schools, cities, watersheds, media			
Engage in an education campaign on local water infrastructure importance, challenges, and needs for learning institutions, the general public, and elected officials	Workforce						Operators, public works staff			

Appendix A: Subregional engagement process

Scoping and gaging local support

MAWSAC, in the 2022 report to the Council and MN Legislature, recommended updating the 2050 regional development guide and related policy and system plans (which connect to the master water supply plan) to support MAWSAC goals, customized for subregional and local conditions. The committee also recommended taking a new subregional approach that leverages subregional water supply working groups to inform regional and local policy and plan updates.

On July 19th and September 8th, 2022, the Metro Area Water Supply Advisory (MAWSAC) and their Technical Advisory Committee (TAC) discussed an approach to subregional engagement and potential content for subregional chapters in the updated Metro Area Water Supply Plan. Meeting materials document those discussions and are available on the Council's website:

- July 19, 2022 MAWSAC meeting (agenda, presentation, handout, minutes)
- September 8, 2022 TAC meeting (agenda, presentation, handout, minutes)

On March 15, 2023, Metropolitan Council hosted a workshop for all the metro region's subregional work group participants. Four people from the northwest metro attended. The proposed approach for subregional engagement was presented, and workshop participants expressed support for it and shared some water supply priorities in their areas. A summary about the workshop was shared with MAWSAC at their May 9, 2023 meeting and is available on the Council's website (presentation, summary).

Core team of local stakeholders to customize engagement for the Northwest subregion

On August 17, 2023, a kick-off meeting was held with core team members to scope an engagement approach in the northwest metro.

Core team members included:

- Brett Angell – City of Rogers
- Chris Lord – Anoka Conservation District
- Heather Nelson – City of Champlin

Outcomes that the core team sought from the engagement process:

- A shared vision for water supply in the subregion for 2050
- A shared understanding of the water supplies available in the northwest metro
- A list of all issues, with top issues identified (and inclusive of key opportunities)
- Action plans to address priority items
- An understanding of what the Metro Area Water Supply Plan is and how it benefits them

Subregional engagement: Workshops

On January 19, 2024, the first workshop for the northwest metro was held to introduce the project and the approach to updating the Metro Area Water Supply Plan, share subregional water supply information in the newly developed Water Supply Planning Atlas, and get input about what successful water supply planning should look like, what is already working well, what challenges exist, and what high-level goals do people have for the next ten years.

Attendees who signed in:

- Michael Weber, Brooklyn Center
- Jack Gleason, DNR
- Abby Shea, MDH
- Brian Noma, MDH
- Rick Luckow, Brooklyn Park
- Heather Nelson, Champlin
- Don Peterson, Mounds View
- Pete Klingenberg, Anoka
- Tim Himmer, Coon Rapids
- Mark Anderson, Anoka
- Eric Bye, Coon Creek Watershed
- Brett Angell, Rogers
- Todd Shoemaker, Shingle/West Mississippi WMO
- Kent Torve, Corcoran/Stantec
- Claudia Hochstein, DNR
- Nick Tomczik, RCWD
- Michael Wagner, Anoka County
- David Berkowitz, Andover
- Steve S., Medina
- Dusty Finke, Medina

Draft focus areas that emerged from the first workshop were merged with issues, goals, and actions offered at an earlier March 15, 2023 Subregional Workshop also hosted by Met Council. These were then shared with participants in a survey to identify priorities to work on at the second workshop.

On February 8, 2024, a second workshop for the northwest metro was held to focus on drafting action plans for priority focus areas identified at Workshop 1 and through the survey. In small groups, participants filled out action plan worksheets for the focus areas identified at the first workshop. Groups rotated through three topics each, revising and adding to the ideas of the group who discussed the topic before them.

Workshop photos

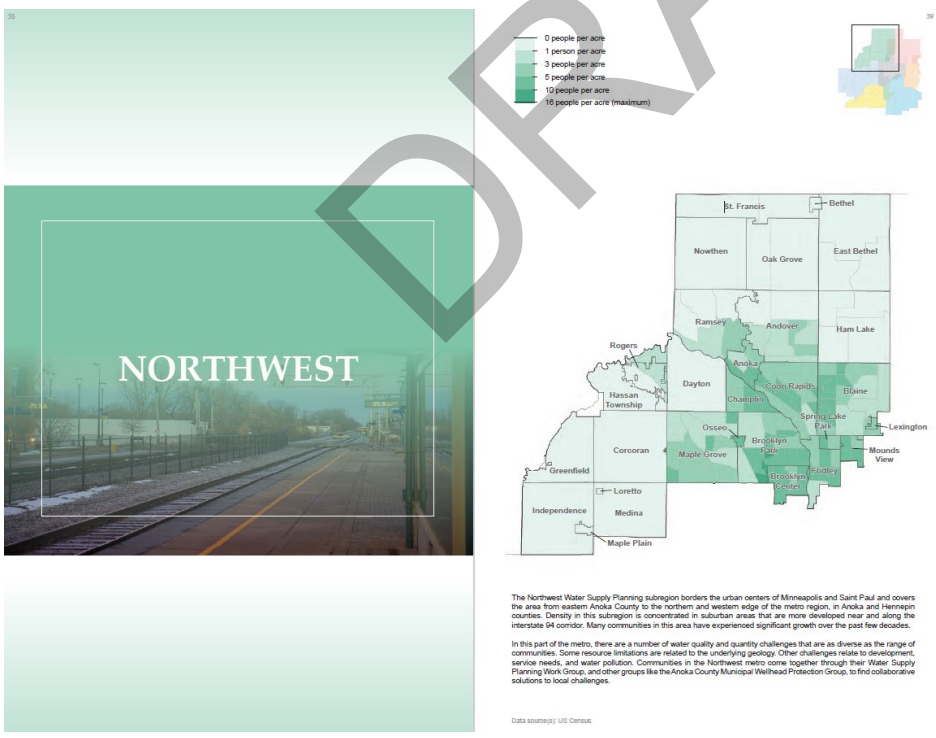

Figure 2. The Northwest chapter of the recently-released Water Supply Planning Atlas for the Twin Cities Metropolitan Area provided subregional water supply information and context to support group discussion.

Figure 3. Workshop 1 for the northwest metro water supply group was hosted by the City of Champlin and held at the Mississippi Crossing Event Center.

Glossary and Initialisms

BWSR: Minnesota Board of Water and Soil Resources

CECs: Contaminants of emerging concern

Data standards: Data standards are documented agreements on representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data.

DNR: Minnesota Department of Natural Resources

DWSMA: Drinking water supply management area, designated by municipal water suppliers and the Minnesota Department of Health.

EMWREP: East Metro Water Resource Education Program, a partnership of 30 local units of government hosted by the Washington Conservation District.

MC: Metropolitan Council

MDH: Minnesota Department of Health

MIDS: Minimum Impact Design Standards

MPCA: Minnesota Pollution Control Agency

PFAS: Per- and Polyfluorinated Substances

SWCD: Soil and Water Conservation District

WD: Watershed District

WMO: Watershed Management Organization

VOC: Volatile organic compounds are compounds that have a high vapor pressure and a low water solubility.

What other terms should be included to ensure we all mean the same thing?

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