# Review the draft recommended options

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3M PFC Settlement Work Group/Subgroup Meetings

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# Overview and purpose

- Review and discuss the draft recommended options and several key considerations that shaped the options, including:
  - Details on each funding allocation
  - Selecting HI thresholds
  - Ineligible costs
  - White Bear Lake implications
  - Neighborhood connection decisions and potential future connections
  - Particle tracking results and future contingency

# Overview of the recommended options

# Overview and purpose

- Provide a brief overview of the recommended options to set the foundation for the rest of today's discussions

# Recommended options

**Option 1**


Treatment threshold of **HI>0.5**
O & M: 40 years for public water system & 100 years for private wells
Groundwater source of drinking water
Community projects with future sustainable water supply options

**Option 2**

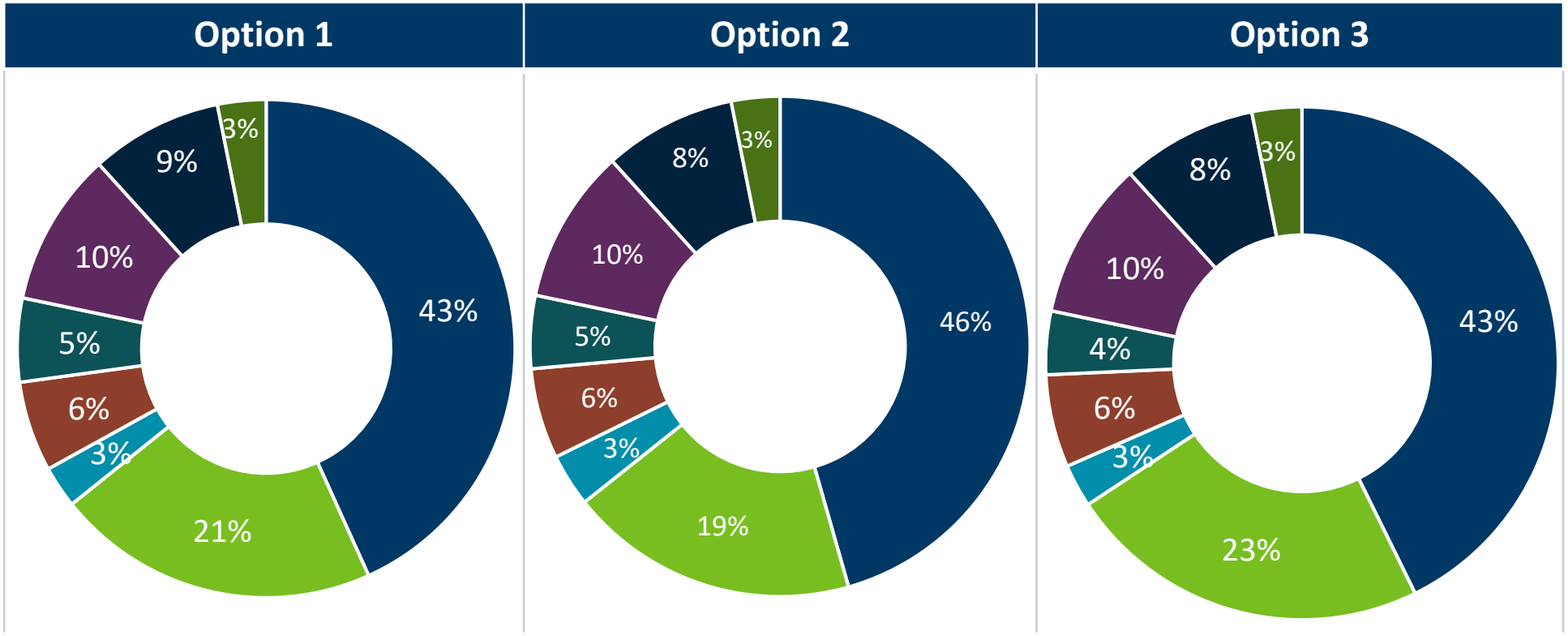

Treatment threshold of **HI>0.3**
O & M: 35 years for public water systems & 100 years for private wells
Groundwater source of drinking water
Community projects with future sustainable water supply options

**Option 3**


Treatment threshold of **HI>0.5**
O & M: 21 years for public water systems & 100 years for private wells
Community projects, connect Lake Elmo and Oakdale to SPRWS
Groundwater source of drinking water for all other communities

| Funding priorities | Option 1 - preferred | Option 2 | Option 3 |
|---|---|---|---|
| Initial capital costs | $302.5 M | $319.1 M | $299.1 M |
| O&M costs for public water systems | $147 M - around *40 years* | $131 M - around 35 *years* | $161 M - around *21 years* |
| O&M costs for private wells | $19 M for over *100 years* | $24 M for over *100 years* | $19 M for over *100 years* |
| Capital costs for potential additional neighborhood connections | $41 M | $41 M | $41 M |
| Future contingency | $38 M | $33 M | $28 M |
| Drinking water protection | $70 M | $70 M | $70 M |
| Sustainability and conservation | $60 M | $60 M | $60 M |
| State administration | $22 M | $22 M | $22 M |
| **Total** | $700 M | $700 M | $700 M |

# Recommended options



# Categories of funding allocation

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- Initial capital costs
- O&M costs for public water systems
- O&M costs for private wells
- Capital costs for potential additional neighborhood connections
- Future contingency for HBV/HRL and plume movement, and for potential cost over-runs
- Drinking water protection
- Sustainability and conservation
- State administration

| Funding priorities | Option 1 - preferred | Option 2 | Option 3 |
|---|---|---|---|
| Initial capital costs | $302.5 M | $319.1 M | $299.1 M |
| O&M costs for public water systems | $147 M - around *40 years* | $131 M - around *33 years* | $161 M - around *21 years* |
| O&M costs for private wells | $19 M for over *100 years* | $23.9 M for over *100 years* | $19 M for over *100 years* |
| Capital costs for potential additional neighborhood connections | $41 M | $41 M | $41 M |
| Future contingency for HBV/HRL and plume movement, & cost over-runs | $38 M | $33 M | $28 M |
| Drinking water protection | $70 M | $70 M | $70 M |
| Sustainability and conservation | $60 M | $60 M | $60 M |
| State administration | $22 M | $22 M | $22 M |

# Initial capital costs

- Costs to construct drinking water supply infrastructure based on projected 2040 demand
- Includes treatment (GAC), distribution systems, POETS, home connections
- Varies across the recommended options based on scenario cost estimates
- Reflects decisions about ineligible costs (e.g., costs due to growth are ineligible) and neighborhood hookups

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| Initial capital | $302.5 M | $319.1 M | $299.1 M |

# O&M costs

- A fund to cover annual O&M of treatment systems and annual bulk water charges (for Option 3)
- Prioritizes treatment because this is more directly focused on PFAS contamination; does not cover O&M for distribution systems
- Does not include recapitalization costs because available funds would not cover a full expected life-cycle of infrastructure (e.g., 50 years)
- Co-Trustees determined the allocation by evaluating tradeoffs with contingencies and other priorities

# O&M costs (cont.)

- O&M for POETS for at least 100 years is a priority and that duration does not vary across the options, but the dollar amount does
- O&M dollar amount and duration for PWSs does vary across the options
- Duration assumes 3.5% interest earning and 3% inflation on annual O&M costs

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| O&M for POETS | $19 M for over *100 years* | $23.9 M for over *100 years* | $19 M for over *100 years* |
| O&M for Public water systems | $147 M - around *40 years* | $131 M - around *33 years* | $161 M - around *21 years* |

# Capital costs for additional neighborhood hookups

- Neighborhoods within communities with existing municipal systems were considered for connection based on the following characteristics:
  - Number of existing homes on wells
  - Number of existing homes on wells with HI>0, HI>0.5, HI>0.75, and HI>1.0
  - Long-term cost of POETS vs. cost of extending distribution mains (capital only)
  - Others
    - Proximity and direction from the nearest source area, with respect to plume movement
    - Size of the area/neighborhood

# Capital costs for additional neighborhood hookups (cont'd)

- For many neighborhoods, we lack sufficient testing data to decide now whether they meet the criteria for hookup to public water system
- Wood estimated the cost to hook up all of the neighborhoods and that amount will be held aside to use for new hookups as new well testing and other data indicate that it is necessary
- Does not vary across the recommended options because neighborhood decisions were held constant

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| Capital for additional hookups | $41 M | $41 M | $41 M |

# Future contingency

- Contingency fund to address expenses that are difficult to predict today
- Covers estimated costs for treatment and/or hook-ups for homes or wells that are within the flow path of the PFAS plumes (See Appendix C of the Conceptual Plan) and are not otherwise captured in initial capital
- Could also cover new treatment requirements if HBV/HRLs change or unforeseen  cost over-runs for projects in the Conceptual Plan

# Future contingency (cont'd)

- Option 2 addresses uncertainty by providing treatment at concentrations lower than the HI>0.5 used by Option 1, which is why the contingency for projected future impacts is lower than Option 1
- Option 3 has higher O&M costs, leaving less available funds for the contingency

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| Future contingency | $38 M | $33 M | $28 M |

# Drinking water protection

- Funds set aside to be used for drinking water protection (note that remediation at the disposal sites is the responsibility of 3M)
- Will help improve overall source water quality and reduce future treatment needs
- The amount is based on preliminary costs estimates from AECOM
- Drinking water protection is a component of Priority 1 of the Settlement

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| Drinking water protection | $70 M | $70 M | $70 M |

# Sustainability and conservation

- Funding to enhance groundwater sustainability and to preserve groundwater as a drinking water source into the future
- Sustainability is a component of Priority 1 of the Settlement
- This could cover sustainability projects that are separate from the Conceptual Plan but still within scope of Priority 1

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| Sustainability | $60 M | $60 M | $60 M |

# State administration

- Anticipated cost to administer the Settlement
- Based on current spending for the 3M Settlement program projected over 20 years

| | **Option 1 - preferred** | **Option 2** | **Option 3** |
|---|---|---|---|
| State administration | $22 M | $22 M | $22 M |

# Health Index treatment thresholds

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- HI threshold determines which wells will receive treatment or a municipal connection
  - It is NOT a treatment target (treatment removes PFAS to non-detectable levels)
- Currently an HI of 1 or greater is the threshold for MDH to issue a Well Advisory if a public or private water supply is experiencing PFAS contamination
- Lower thresholds lead to additional wells receiving treatment or municipal connection, which increases capital and O&M costs
- Work group input showed strong support for a consistent HI treatment threshold across all communities and a threshold less than HI of 1
- Thresholds from HI>0 to HI>1.0 were considered in determining the recommended options

# Building resiliency

The recommendations build a degree of resiliency into the community's drinking water systems in order to cover future potential changes.

Considerations in determining a treatment threshold for the recommendations include:

- Addressing future uncertain conditions
  - Health values
  - Plume movement
  - New research and/or lower detection limits
- Community and work group input

# Public Comments and Questions

# Refining drinking water infrastructure cost estimates

# All-inclusive costs

All costs related to the improvement projects to year 2040

E.g. new water lines, treatment facilities, POETS, water storage tanks, etc.

# Determining eligible and ineligible costs

- Not all costs will be covered by the Settlement
- Settlement funded projects must meet the priorities and goals of Settlement
  - i.e., must be PFAS-related costs
- Ineligible costs were drafted through expedited project approvals and using work group feedback for a systematic approach to determine cost-sharing opportunities
- **“PFAS-eligible” costs** – Ineligible costs were removed from the recommended options’ all-inclusive costs to determine estimated costs incurred by the Settlement

# Ineligible costs

- Additional treatment beyond treatment threshold selected
- Line upsizing due to growth
- Installation of wells needed for growth alone (as opposed to replacing a well that fell out of service due to PFAS contamination)
- Treatment required for chemicals other than PFAS (with the exception of pretreatment required for PFAS treatment technologies)
- Storage tanks needed for growth only
- Infrastructure recapitalization costs
- O&M for anything other than treatment plants and POETS (e.g., O&M for water storage tanks, distribution or raw water lines, booster pump stations, etc.)

# White Bear Lake

# White Bear Lake

- Supreme Court decision filed 7/15/2020
  - Remanded to Court of Appeals
  - Ramsey County District Court Order remains in effect
  - Order includes restrictions on increased groundwater appropriation, especially for communities that are located within 5 miles of White Bear Lake

# White Bear Lake

- Oakdale and Lake Elmo are within 5 miles of White Bear Lake
  - Options all comply with the Ramsey County District Court Order
  - Options 1 & 2 provide groundwater from sources outside of Oakdale and Lake Elmo
    - Initial capital funds provide funding for utilizing groundwater in ways that comply with the current Court Order.
    - This funding level is based on a cost estimate of creating an interconnect from southern Woodbury
    - However, other approaches within that funding range may also be explored with the community.
  - Option 3 provides surface water from SPRWS for both Oakdale and Lake Elmo

# Summary of Recommended Options

| Options by community | Option 1 | Option 2 | Option 3 |
|---|---|---|---|
| Afton, Grey Cloud Island, Denmark Maplewood | Supply private wells with whole-house treatment (POETS) systems if over threshold | | |
| Cottage Grove | Treat 8 of 12 existing public wells<br>Replace 2 existing public wells with 1 new public well<br>2 new treatment plants<br>Connect 67 homes<br>Supply other private wells with POETS if over threshold | | |
| Lake Elmo | Drinking water supply from groundwater for future growth[a]<br>Connect 257 homes<br>Supply other private wells with POETS if over threshold | | Connection to SPRWS<br>Connect 257 homes<br>Supply other private wells with POETS if over threshold |
| Lakeland and Lakeland Shores | Connect 453 homes<br>Supply other private wells with POETS if over threshold | | |
| Newport | Interconnect with Woodbury<br>Connect 9 homes<br>Supply other private wells with POETS if over threshold | | |
| Oakdale | Expand public water system to treat 2 of 9 existing public wells and 2 new public wells<br>Connect 58 homes<br>Supply other private wells with POET systems if over threshold | | Connection to SPRWS<br>Connect 58 homes<br>Supply other private wells with POETS if over threshold |

| Options by community | Option 1 | Option 2 | Option 3 |
|---|---|---|---|
| Prairie Island Indian Community | Treat 1 existing public well<br>1 new treatment plant | | |
| St. Paul Park | Treat 3 of 3 public wells<br>1 new treatment plant<br>Connect 28 homes<br>Supply other private wells with POETS if over threshold | | |
| West Lakeland | 2 new public wells<br>1 new treatment plant<br>Connect 1,190 homes to new distribution system | | |
| Woodbury | Interconnect with Newport<br>Treat 14 of 19 existing public wells<br>1 new treatment plant<br>Supply other private wells with POETS if over threshold | Interconnect with Newport<br>Treat 15 of 19 existing public wells and 5 new public wells<br>1 new treatment plant<br>Supply other private wells with POETS if over threshold | Same as option 1 |

a. Lake Elmo may need alternate sources of water to avoid adverse effects on White Bear Lake. Initial capital funds provide funding for utilizing groundwater in ways that comply with the current Court Order. This funding level is based on a cost estimate of creating an interconnect from southern Woodbury; however, other approaches within that funding range may also be explored.

# Additional slides

# Future contingency (cont'd)

**Particle tracking**