



Double Horn Future Water Security

THE PATH FORWARD

13-SEP-2025

Meeting Objectives

The first priority is to convey our strategy and preliminary plans for membership demand for potable water and reduce dependence on external water sources.

- Current knowledge and status
- Remaining uncertainties and unknown factors

The second priority is to outline the timeline for obtaining critical information regarding:

- Required investments and financing methods
- Comprehensive timeline and key milestones
- Effects on members

The final objective is to launch a dedicated section on our website that will offer monthly progress updates.

Agenda

- Bottom Line Up Front
- Quick Update on Well Status
- Options
- Moving Forward
- Key Objectives
- Success Criteria for Phase-1
- Key Milestones
- Top 5 Risks
- Conclusions

The Bottom Line Up Front

The current well system is insufficient to meet both present and future water demand.

- The root causes likely include a combination of drought conditions, increased aquifer withdrawals, changes in local geology affecting well recharge rates, and alterations in the geological structure of the wells.
- Long-term projections indicate no improvement in these conditions.
- This challenge is not unique to our area; other nearby cities reliant on aquifers and wells are encountering similar difficulties.

In the short term, procuring water from external sources is necessary to supplement existing wells.

- This approach incurs high costs due to the volume required and the price per gallon from outside suppliers.
- The additional annual cost per household ranges between \$800 and \$5,000 depending on usage
- These expenses are expected to increase annually, likely exceeding inflation rates, driven by ongoing local growth and rising demand.

A long-term solution will require significant investment, and is structured into two phases:

- The exploratory and risk reduction phase (Phase-1), which will have no impact on members and will be funded through the existing budget.
- The well development and water production phase (Phase-2), with its potential impacts is currently under evaluation.

Quick Update on Well Status

Conservation measures remain essential but are insufficient to fully mitigate the environmental factors impacting well performance (refer to the January briefing for the 2025 Annual Meeting for more information).

Although significant usage reductions have been achieved through bulk water applications, the wells continue to experience stress (see backup charts for further details).

Recent rainfall events have failed to provide sustained improvement.

Well #3 may have sustained permanent damage and is unlikely to recover its previous capacity or functionality.

Water supply continues to be supplemented with monthly bulk water purchases from two suppliers, accounting for 35% to 40% of demand.

Six Options Explored

1. Continue to procure bulk water long term
2. Connect with the city of Marble Falls
3. Drill a very deep well (1,200' to 1,500') into the Hickory aquifer
4. Purchase an existing private well
5. Drill additional well(s) to the Ellenburger-San Saba (ESS) aquifer within the existing DHCWSC boundaries
6. Connect to Spicewood Crushed Stone well system

Moving Forward

The DHCWSC board has approved moving forward with options #4 and #5.

While option #4 shows potential, its chance of success is considered low enough that the board opted to pursue option #5 concurrently to prevent any delays.

Hydrology and public water system Subject Matter Experts (SMEs) have been engaged to:

- Define well requirements
- Identify optimal locations for exploratory wells
- Evaluate risks and develop mitigation strategies
- Coordinate with federal, state, and local public water system regulatory agencies
- Create and establish baseline project plans, schedules, and cost estimates for commissioning a new public water well
- Conduct contractor selection and vetting
- Assist in securing permits, inspections, and licenses
- Supervise and manage well drilling and construction activities
- Perform capacity assessments and quality sampling/testing of the well
- Seek financial support through grants and low-interest loans
- Oversee the commissioning and activation of the well.

Option #4 Key Objectives

Identify existing private wells that are suitable for conversion to public wells by evaluating:

- Flow rate
- Water quality and necessary treatment
- Well construction details (including depth, casing size and quality, and ease of extraction)
- Proximity to the water treatment facility

Engage in discussions with property owners to determine the feasibility of securing rights and permissions, including obtaining a signed Letter of Understanding (LOU) between the property holder and DHCWSC.

Conduct an evaluation of the likelihood of securing the required state permits.

Once these conditions are met, proceed to the construction phase, adhering to the primary objectives outlined in Phase 2 of Option #5.

Option #5 Key Objectives

Divided into two phases

1. Risk reduction phase

- Identify locations for drilling test wells
- Obtain any necessary permissions, permits and licenses
- Execute a LOU with property owner
- Source drilling contractor
- Drill 2 test wells
- Test and assess production feasibility (sustained capacity, flow rate and quality)
- Complete by Q1 2026

2. Production transition phase

- Complete the preliminary design
- Create a plan, budget and financing arrangements for putting new well(s) into service based on preliminary design
- Secure financing
- Complete contractor bidding process meeting financial requirements
- Obtain leases and permits
- Complete construction
- Final testing and permits
- Cut into service

What are the Success Criteria for Phase-1

Plan on 2 test wells at less than 500'

Positive assessment that rights and permissions can be obtained

- Letter of understanding between property holder and DHCWSC executed

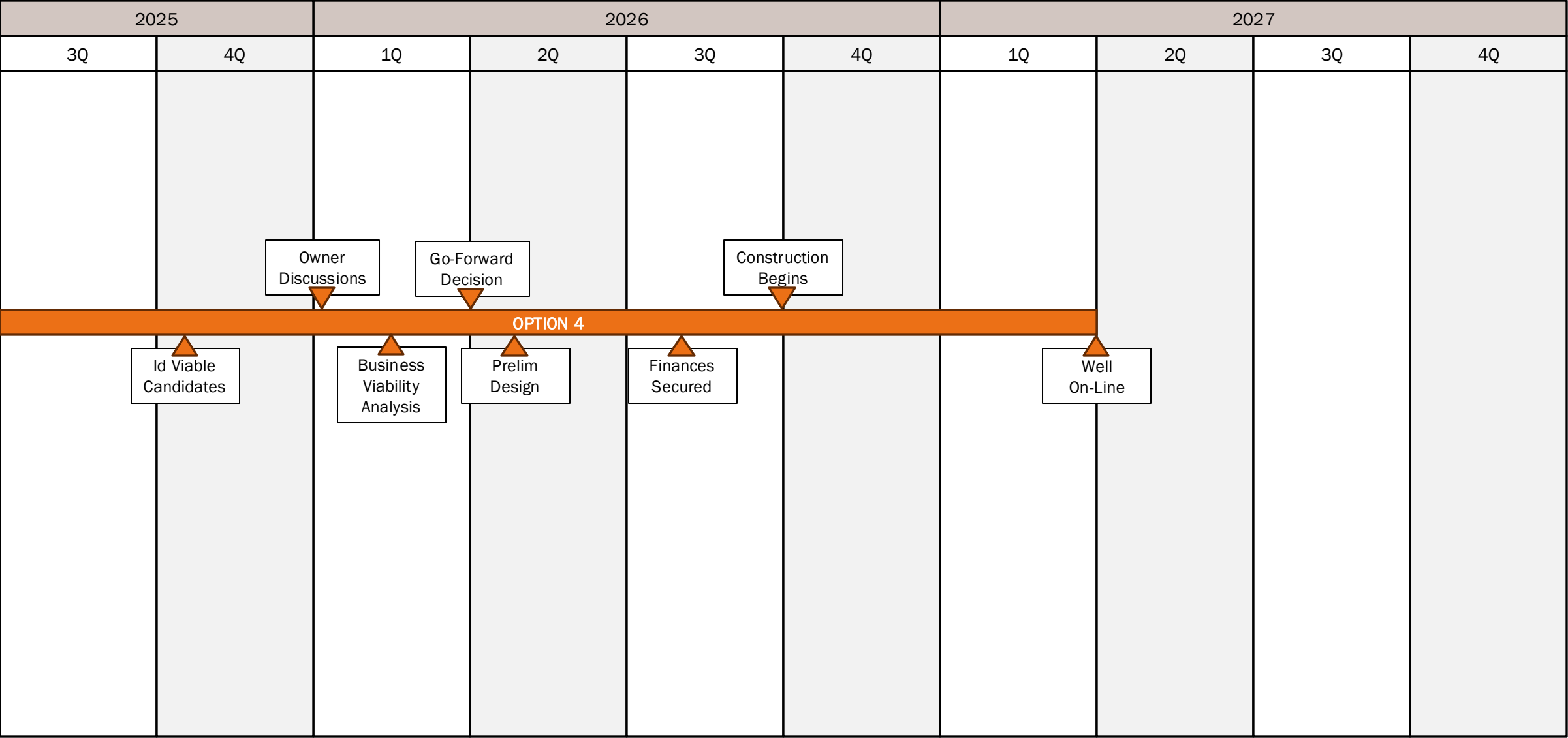
Finding sufficient water to support a future build-out of approximately 170 homes at reasonable monthly usage and conservation rates

- 36-hour pump test validating the sustainability and pumping rates
- Minimum of 60-gal/min flow rate to differentiate between the need to drill 1 or 2 wells

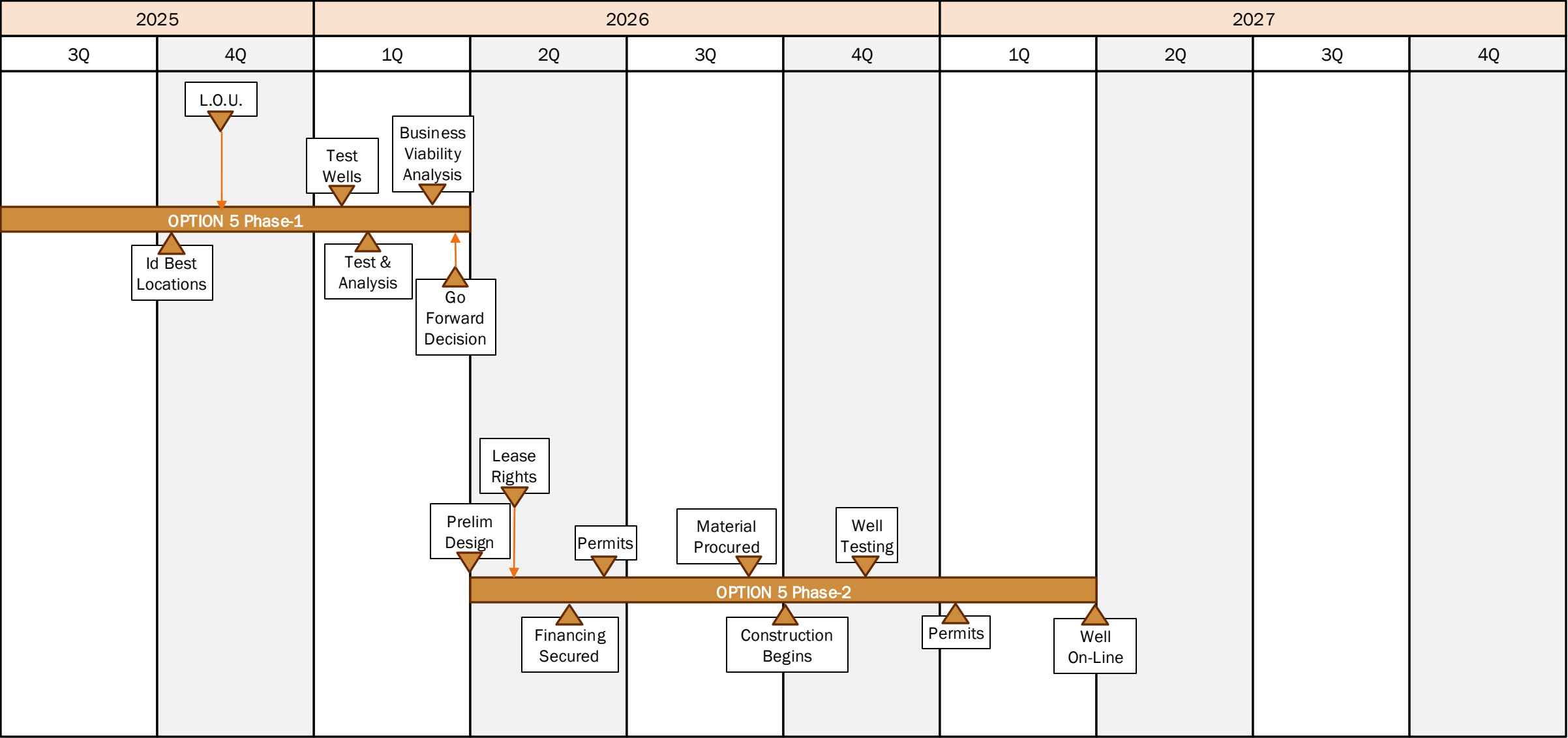
Water chemistry tests validating the quality of the water meets the state statutory and regulatory requirements

- Treatment regiment identified
- 6-to-8-week cycle time

Option #4 Key Milestones



Option #5 Key Milestones



Overview of Top 5 Risks

The primary risk involves securing rights to use an existing well, which may not yield significant long-term cost savings compared to drilling a test well.

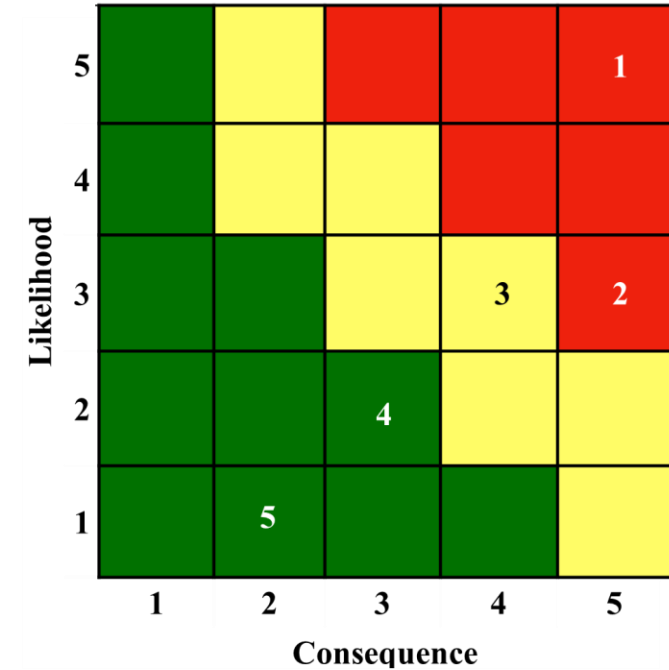
- Obtaining lease rights and permissions could prove challenging.
- Water quality and sustainable flow rates might pose issues, potentially leading to additional time and expense.
- Converting the well, including modifications such as casing size, may incur costs equal to or exceeding those of constructing a new test well.

Regarding test wells, water quality (risk #2) may fail to meet federal and state standards, necessitating the drilling of an additional test well.

Flow rate from the test well (risk #3) may be inadequate to satisfy future demand.

Acquiring lease rights and permissions (risk #4) from property owners at reasonable rates could require negotiations lasting up to a year.

Finally, uncertainties related to soil conditions, weather, and other factors introduce variability in construction cost estimates, which must be carefully managed and incorporated into planning.



Top 5 Risks

1. Unable to procure an existing private well
2. Failure to find a “quality” well location viable for production during phase-1
3. Requires more than 1 production well to meet future demand
4. Unable to obtain long term lease rights to well for production
5. Production transition phase is significantly more expensive than anticipated

Conclusions

Initial efforts are in progress to identify alternative water sources to meet future demand.

Preliminary evaluations suggest a promising likelihood of locating water within or close to the DHCWSC boundaries.

The goal is to have an additional water source operational by mid-2027.

Critical decisions are expected in Q1 2026 regarding the feasibility of acquiring rights to an existing private well and the potential to bring a new well into production.

- Critical path is obtaining long term lease and permissions from land holders (could take up to a year)
- We will provide a detailed update with the plans for Phase-2 at the Jan-2026 annual meeting

Phase-1, involving test wells, is planned to be funded through existing reserves, with no financial impact on members.

Phase-2 will necessitate long-term financing via grants and low-interest loans, along with further assessments to manage the costs associated with activating a new well.

While risks exist, we have effective mitigation strategies in place to address them if they arise.

As updates occur, they will be posted on our website

BACKUP

Historical Water Demand Information

Water Pumped

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Annual Rainfall (inches)	Active Meters	Avg Annual Use/Meter	Avg Monthly Use/Meter
2025	651	553	520	405	432	451	472	556					4,040	23.67	127	31.81	3.98
2024	671	530	616	661	545	736	790	891	840	813	678	756	8,527	27.87	128	66.62	5.55
2023	584	570	609	554	609	853	703	1,044	680	656	623	548	8,033	25.93	125	64.26	5.36
2022	768	690	909	1,051	1,165	1,185	992	822	662	670	605	646	10,165	15.03	123	82.64	6.89
2021	595	729	610	846	671	894	864	976	1,364	747	946	769	10,011	37.18	122	82.06	6.84
2020	605	505	549	803	1,047	1,243	1,615	1,293	790	845	796	749	10,840	25.04	119	91.09	7.59
2019	629	606	658	815	769	948	1,204	1,270	1,240	777	518	700	10,134	22.62	111	91.30	7.61

Figures highlighted in yellow are YTD, not annual totals

What Are The Options?

Option	Pros	Cons
1. Continue to procure bulk water long term	• “Fairly” reliable source of water	• Expensive for members • Does not alleviate the Stage-IV drought usage requirements • Dynamic” pricing driven by inflation, local demand and the cost of diesel fuel • Increased overhead to manage purchase, delivery, quality, and billing • Potential impact to property values
2. Connect with the city of Marble Falls	• Reliable source of quality potable water • Capacity to meet all future needs	• Zero interest from Marble Falls • Extremely long process (5-10 years) from start to production • Extremely expensive requiring grants, bonds, and loans • Would require the continued purchase of bulk water until production • Significantly higher monthly rates • At the mercy of Marble Falls politics
3. Drill a very deep well (1,200’ to 1,500’) into the Hickory aquifer	• Potential large reservoir of underground water • Lower monthly cost to members • Able to control our own destiny	• Very high risk of finding the Hickory aquifer on our side of Hwy-281 • Moderate risk that water quality precludes use in a public system • Relative expensive drilling operation • More expensive pump and associated equipment required
4. Purchase an existing private well	• Eliminates need for exploration wells • Potentially quicker time to production • Potentially cheaper implementation	• Low-to-Moderate probability of convincing owner to sell the well • Probability of finding an existing well that meets capacity and quality requirements that can be converted to a public water system • Likelihood of permitting issues
5. Drill additional well(s) to the Ellenburger-San Saba (ESS) aquifer within the existing DHCWSC boundaries	• “Fairly” reliable source of water • Moderate-to-High likelihood of finding water • Lowest monthly cost to members • Relatively low construction/implementation cost • Able to fund exploration phase within existing budget • High likelihood water quality is suitable for public use • Able to control our own destiny	• Low-to-Moderate risk of finding sufficient water to meet anticipated demand • Special assessment fee required to fund well development and production • Relatively small increase in monthly rates will be required • More than 1 well may be required
6. Connect to Spicewood Crushed Stone well system	• “Fairly” reliable source of water	• High cost of purchasing water from SCS • Likelihood for permitting issues • Very high construction cost for installing pipeline between SCS and DHCWSC plant • Special assessment fee required • High monthly rates • At the mercy of SCS