

Bull Run Mountain / Evergreen Water Supply Improvements

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Deputy Director of Operations & Maintenance
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Service Authority
Exceptional Water Service

Project Team

- ◆ Prince William County Service Authority (SA):
 - ◆ Glenn Pearson, Deputy Director, O&M
- ◆ Consultants:
 - ◆ Dewberry Engineers, Inc.
 - ◆ Emery and Garrett Groundwater Investigations, a division of GZA (EGGI)
 - ◆ ERM & Associates, LLC

Mission & Vision

Mission

PWCSA is dedicated to excellence in providing safe, reliable water service to our customers and returning clean water to the environment.

Vision

To be a nationally acclaimed leader in providing clean water and excellent customer service through sustainable, innovative business practices, community partnerships and environmental stewardship.

Service Authority by the Numbers

- \$1.6 Billion in assets.
- 96,400 accounts.
- Serving about 370,000 people in Prince William County.



Project Needs

- ◆ Some SA wells are more than 40 years old.
- ◆ SA is experiencing diminishing yields from some wells, mainly due to age.
- ◆ SA is committed to **maintaining the level of service** and water quality our customers have enjoyed for decades.

Project Impacts

- ◆ Maintain the level of service (*i.e.*, quality, reliability and redundancy) of water supply to customers in SA's current area of service:
 - ◆ The amount of water supplied is based on demand, not the number or size of wells.
 - ◆ We will **supply the same amount of water before and after this project.**
- ◆ Designed to **avoid or greatly mitigate impacts on other private wells.**
- ◆ SA is working with landowners to secure access and permanent easements.
- ◆ Above ground infrastructure will be low-key and in keeping with local architecture.

Project Will NOT Impact...

- ◆ The SA's current service area.
- ◆ Our customers' current water rates.
- ◆ The County's Rural Crescent designation or land uses.
- ◆ Our existing water distribution system for Bull Run Mountain and Evergreen.
- ◆ Citizens' obligations to become an SA customer.

Project Timeline

- **May 2019:** Conduct geophysical surveys
- **September 2019:** Develop test wells, conduct pumping and water quality tests
- **November 2019:** Convert test wells into production wells
- **2020 - 2022:** Design well houses and piped connections to existing distribution system
- **Early 2022:** Conduct Public Facility Review with the County Planning Commission
- **2022 - 2023:** Construct well houses and piping systems
- **2023:** System startup, check-out and full operation

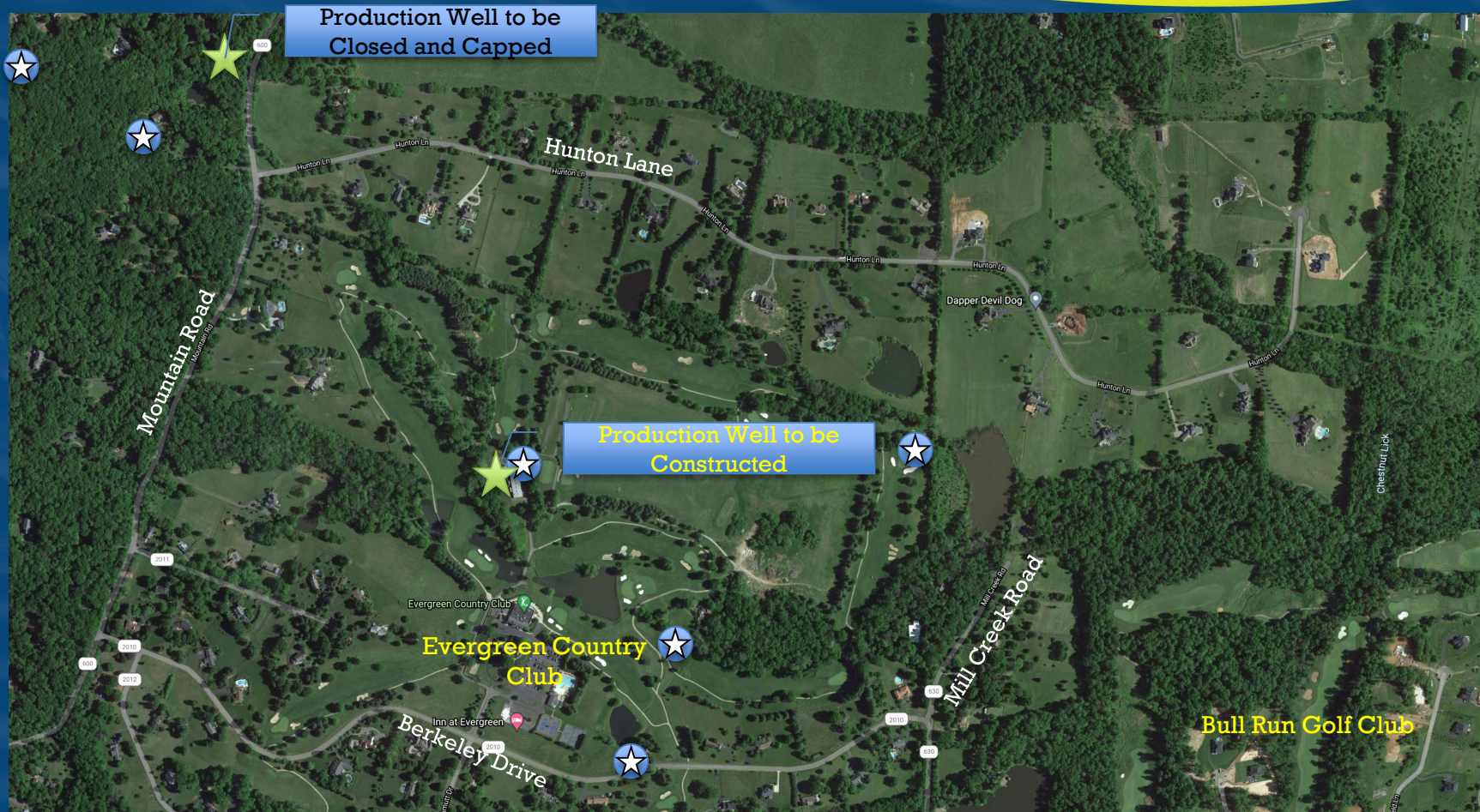
Easements

- ◆ Ingress/egress easement:
 - ◆ Temporary – expires when construction is completed.
 - ◆ Used mainly for vehicle access to work site.
- ◆ Temporary easement:
 - ◆ Temporary – expires when construction is completed.
 - ◆ Used mainly for storage of materials along/near permanent easement.
- ◆ Permanent easement:
 - ◆ Remains in place after construction.
 - ◆ Used for drive/road access, buried water mains and production well heads and housing.

Production Wells

- Two production wells:
 - One well will be developed for this project.
 - 60 gpm maximum safe yield.
 - Well depth of 330 feet below existing ground elevation.
 - One well will be capped and closed unless/until needed.
 - 10 gpm maximum safe yield.
 - Well depth of 220 feet below existing ground elevation.
- Remaining test wells drilled in 2019 were capped and closed to prevent potential contamination from the surface.

Locations of Production Wells



Production wells



Locations of wells monitored and sampled during drawdown tests

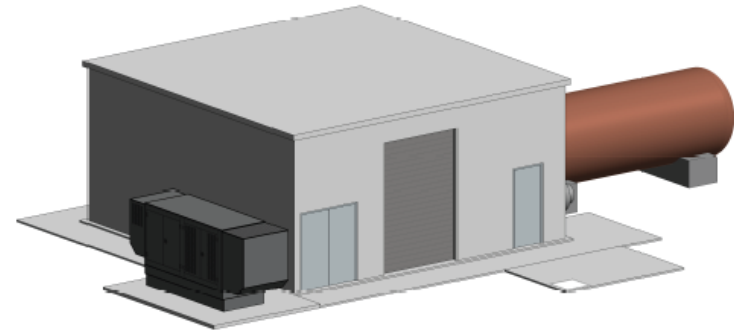
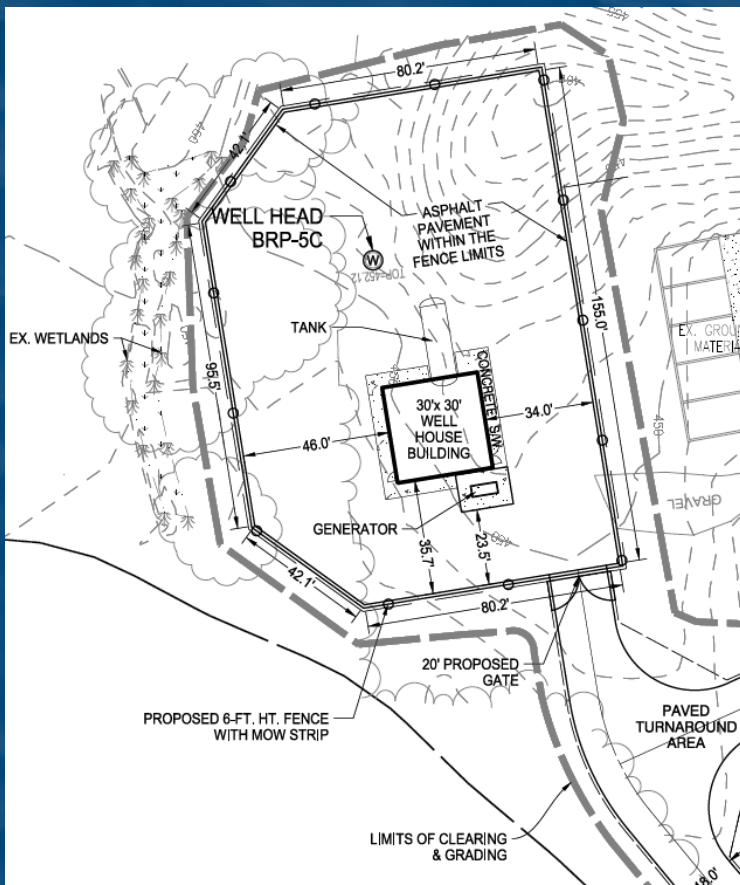


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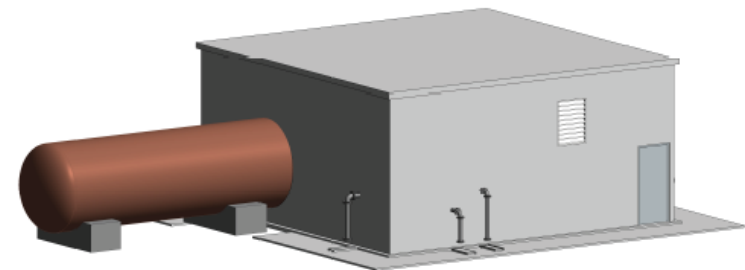
Production Well Impact Testing

- 3-day pump testing applied “maximum stress” to the underlying aquifer.
- Water levels at surrounding monitoring locations were surveilled continuously:
 - Three days prior to testing,
 - During testing,
 - Throughout the six days after pumping test completion.
- **Water levels at all monitoring locations**, except the well on the golf course, **indicated no impacts**.

Well House on Evergreen CC Property

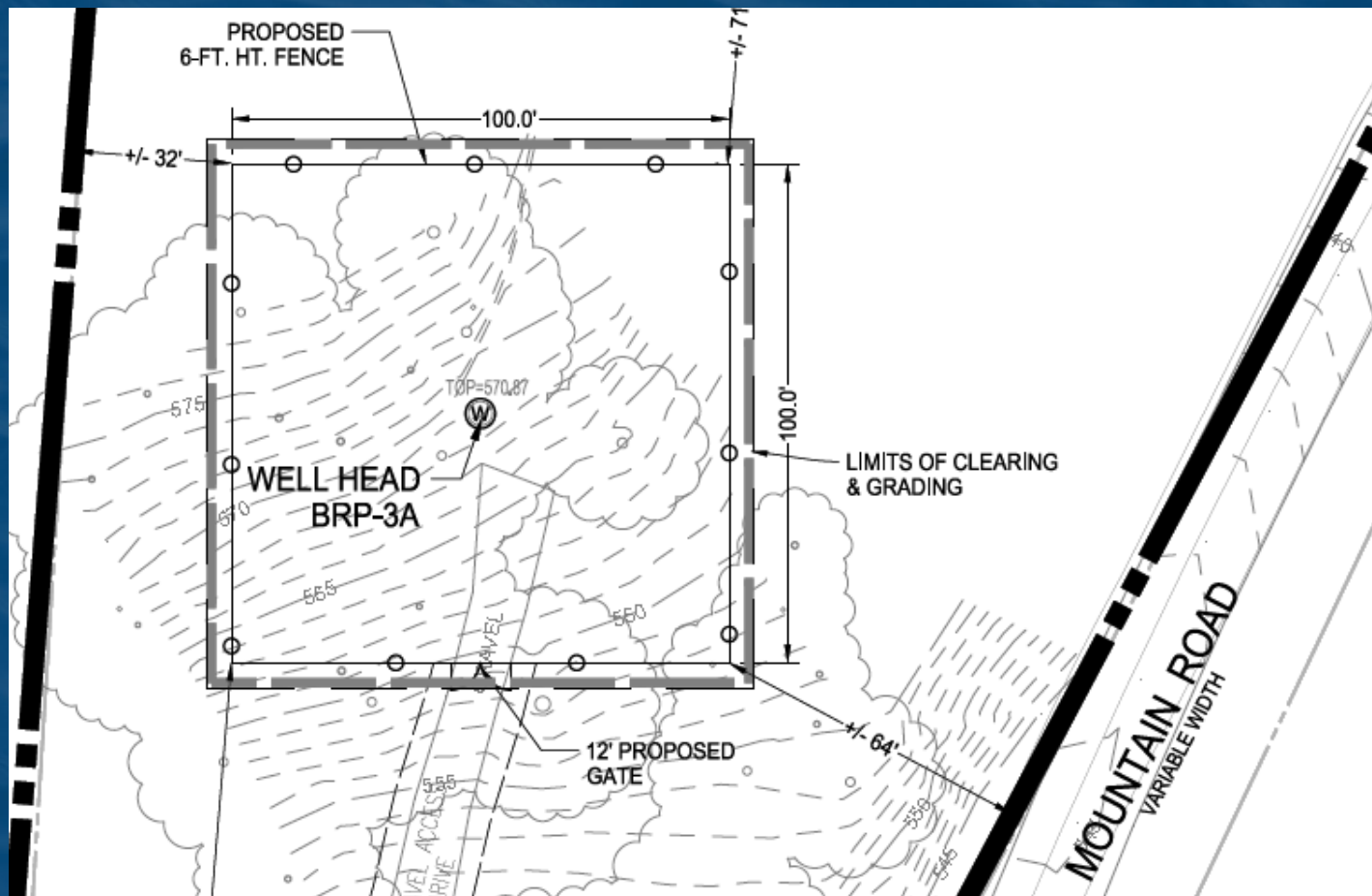


① 3D VIEW 1
30' x 30' WTS



② 3D VIEW 2
30' x 30' WTS

Production Well to be Closed and Capped



Questions?

Project website:

<https://www.pwcsa.org/brme-project>

Email: BRMEWater@pwcsa.org



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