

**Advanced Aquifer Monitoring Systems  
in the Twin Platte NRD  
WSF #5304**

**FINAL REPORT – December 15, 2023**

This grant was a significant benefit for the Twin Platte Natural Resources District (TPNRD) and their constituents to better understand aquifer water levels at any given time throughout the district.

Historically TPNRD staff would monitor aquifer water levels every spring and fall in a mix of well types, giving the district a snapshot in time of what the ground water levels were doing. Assumptions were made about the aquifer when determining water levels any other time of the year and decisions were made after the fact. With this grant the TPNRD was able to drill dedicated monitoring wells and install water level sensors that were connected by a LoRaWan network, that can give daily (but could be hourly) readings across the district (135 sites). The readings that were generated are stored in a data storage platform for long-term use in monitoring, improving the ability to model historic conditions, and future changes. This alone allowed the TPNRD to have the ability to understand and manage the precious ground water resource in the TPNRD.

Lastly the grant allowed the TPNRD to share these real-time aquifer levels with their constituents. The TPNRD now has a quick link from the homepage of its website for anyone to easily access the map of level loggers throughout the district. Historical water level readings were matched with the real-time loggers to give the entire historical and present aquifer levels. The grant allowed the TPNRD to be proactive with ground water resources and monitor the aquifer prior to situational problems and empowering them to make proactive water management decisions.