



# Middle Republican Natural Resources District

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## WSF Close Out Report for Application # 4159 Middle Republican NRD High Tech Irrigation Implementation

In 2016 the MRNRD received funding from the Nebraska Department of Natural Resources (NDNR) Water Sustainability Fund to implement the “High-Tech Irrigation Project”. This project has pulled all the available tools and technology together providing the producer and the NRD the ability to manage their water at a level only very few have achieved. It is difficult to describe how cost effective a project is when the alternative is to not put the system in.

Our producers are at level that took extreme conditions to get there and learn how to read their meters that are installed at every irrigation well in our District. By being able to give them this wireless irrigation and crop management tool it has helped them take their water usage a notch further by knowing what is happening in the active root zone of a crop and that data that is collected to know their real time water usage. The local producers within our District are doing a great amount in maximizing the resource for the state, future generations, and small town viability.

The MRNRD is committed to having a purpose of sustaining a balance between water users and water supplies so that the economic viability, social and environmental health, safety, and welfare of the river basin can be achieved and maintained for both the near term and long term. Having said that the wireless irrigation equipment is a piece that has helped us make the puzzle complete.

By the MRNRD providing this additional tool to our local producers we will be more likely to ensure the long term availability of the aquifer. Implementing these wireless irrigation and crop management systems has allowed the District to do more with less. By doing more with high end technology efficiencies and using less water we estimated that 0.74 inches of water was saved per acre per year on these fields over the past two years. If we can ensure that there will be a sustainable aquifer for generations to come we will ensure our District’s small towns viability.

This project has offered real-time data that provides growers with the information needed to make quick, effective management decisions. The benefits of these systems for our producers will avoid over or under watering, set alarms for critical events, make timely decisions about power, fertilizer, chemicals, and more. The project helped producers reduce their costs while improving their yields and reducing water usage. The MRNRD feels that by implementing these wireless irrigation systems we are allowing our producers to properly use the precious

natural resource of water in a more efficient manner. This has helped the District achieve our goal that efficiency is a core element of a sustainable water source.

This highly-successful project deployed remote telemetry on flow meters and soil moisture probes in forty-nine irrigated fields within the MRNRD for improved irrigation water management. In December of 2018, the MRNRD was awarded \$250,000 from the Water Sustainability to implement Phase 2 of this program. This program will be available to farmers in the project area to implement the practice of soil moisture monitoring.

**Sylvia Johnson, Assistant Manager**