

# DRAIN FIELD REPAIR

---

Proposal for  
NORTH FORK SSD

---

Prepared for  
8/14/2023

CHRIS WRIGHT  
PUBLIC WORKS DIRECTOR

P : 801.362.6013  
E : chris@nfssd.org

---

Contact Information  
APCO Inc.  
710 South Redwood Road  
North Salt Lake, UT 84054

---

# Project Description

## SUMMARY

APCO is pleased to provide a proposal for repair of the Drain Field Radio I/O panel and communications at North Fork SSD. APCO will replace the water-damaged Drain Field Radio I/O panel and add additional hardware to the Plant Radio I/O panel to allow communication between the Plant and Drain Field sites. APCO's scope for this project is detailed below.

## DRAIN FIELD RADIO I/O PANEL

### LABOR

- Panel design and drawings
- Panel fabrication
- HMI integration
- I/O radio programming and configuration
- Terminations of wiring inside panel (panel to be installed and wire pulled by Sundance personnel)
- Testing and commissioning

### HARDWARE

- NEMA 4X enclosure
- Backplane
- Transceiver
- Heater
- Power supply and distribution
- Transformer
- I/O radio digital input cards
- Yagi antenna
- Other hardware needed for a complete and functional control panel

## PLANT RADIO I/O PANEL

---

### LABOR

- Panel design and drawings
- I/O radio programming and configuration
- Hardware installation in existing Plant Radio I/O panel
- Testing and commissioning

### HARDWARE

- Transceiver
- PLC relays
- I/O radio digital output cards
- Power distribution

## Assumptions/Clarifications

---

- APCO will coordinate with Sundance on the specific panel location and the wiring needed to integrate the drain field monitoring hardware.
- It is assumed that there is sufficient spare I/O and space in the existing Plant Radio I/O panel to add needed hardware for radio communication.
- The existing plant Yagi antenna will be used for communications to the drain fields.
- It is assumed that any required trench work will be provided by Sundance.
- It is assumed that all floats are functioning.
- The Drain Field Radio I/O panel will be installed by Sundance.
- All conduit and the radio antenna will be installed by Sundance.
- Panel terminations in both the Drain Field Radio I/O panel and the Plant Radio I/O panel will be performed by APCO.
- It is assumed that signal/power wires and all wire pulling will be provided by Sundance.
- If APCO needs to provide further installation support (anything more than specified in the scope above) that support will be billed at Time and Expense, according to APCO's current service rates.

# Budget

This project will be carried out on a Fixed Fee basis and this proposal has been prepared in accordance with this billing structure. The project will be billed on a percent complete basis until the fulfilment of the listed price. Equipment procurement is a part of the project and will be billed upon receipt by APCO.

Sales tax will not be charged if a Utah state sales tax exemption certificate is provided or already on file.

---

Labor & Expenses	\$ 19,717
Hardware (Remote Site)	\$ 14,457
Hardware (Plant Site)	\$ 5,598
<i>Sales Tax</i>	\$ 1,454
 Project Total	 \$ 41,227

---

# Conclusion

We look forward to working with you on this and future projects. Please contact me if you have any questions.

Sincerely,



Cameron Price  
(801) 989-1168  
cameron.price@apco-inc.com