



# Yolo Subbasin Groundwater Agency

## Groundwater Sustainability Agency

34274 State Highway 16 ▪ Woodland, CA 95695 ▪ 530.662.3211 ▪ [www.yologroundwater.org](http://www.yologroundwater.org)

### STAFF MEMO

**Date:** November 9, 2023  
**To:** YSGA Executive Committee  
**From:** Kristin Sicke, Executive Officer  
**Subject:** **Recommend to Board Authorization to Proceed with Project Initiation and Private Job Work Orders**

#### **Recommendation:**

The Executive Committee recommends Board of Directors to authorize the Executive Officer to authorize three Private Job Work Orders with the Yolo County Flood Control & Water Conservation District (YCFC&WCD) for the completion of the multi-completion monitoring wells known as the Chapman Well, Forbes Well, and Road 13 Well projects.

#### **Background:**

In May 2023, the Executive Officer executed an agreement with the California Department of Water Resources for the construction of three multi-completion monitoring wells in the Yolo Subbasin under the Technical Support Services Program. The three wells are sited at [Chapman Reservoir](#), [Forbes Ranch](#), and [County Road 13](#). All three sites have been constructed and are ready for the installation of real-time monitoring equipment.

The entire project has an estimated total cost of \$942,126; \$899,685 of which is being funded by DWR, as shown in the table below:

Budget Category	DWR Contribution	GSA Contribution	Totals
1 – Site Clearances	\$26,000	\$2,172	\$28,172
2 – Permitting	\$12,000	\$2,654	\$14,654
3 – Construction Activities	\$817,643	\$1,225	\$818,868
4 – Data Collection	\$10,000	\$28,890	\$38,890
5 – Other Field Activities	\$26,042	\$7,500	\$33,542
6 – Final Reporting	\$8,000	\$0	\$8,000
<b>TOTALS</b>	<b>\$899,685</b>	<b>\$42,441</b>	<b>\$942,126</b>

The installation of real-time monitoring equipment is expected to cost approximately \$47,670; including \$31,685 in labor and equipment funded by the YSGA and \$15,985 in equipment provided by DWR. The labor and equipment funded by the YSGA will allow the wells to be incorporated into the real-time monitoring network through YCFC&WCD's existing SCADA network, using staff expertise and more robust technology than can be provided by DWR.

YCFC&WCD has offered a private job proposal to perform the work for YSGA on a time and materials basis not to exceed \$31,685.

Authorization of the attached Private Job Work Orders will authorize the Executive Officer to reimburse YCFC&WCD up to \$31,685 for labor and equipment to complete instrumentation of the well sites. If authorized, funds will be expended from the YSGA Groundwater Monitoring Program budget line item; \$8,230 of the budgeted \$90,000 in the adopted FY 2024 Budget has been expended as of September 30, 2023 (and will be included in the request for approval in payment of bills in the upcoming November 20 Board meeting).



**YOLO COUNTY FLOOD CONTROL & WATER  
CONSERVATION DISTRICT**

**PRIVATE JOB WORK ORDER**

Bill To: Yolo Subbasin Groundwater Agency  
Address: 34274 Highway 16, Woodland, CA 95695  
Phone #: 530-662-3211  
Project Name: Chapman Well Real-Time Monitoring Installation  
Project Location: Near Chapman Reservoir Outlet  
Private Job Number:  
Project Start Date: 11/15/2023  
Estimated Project Cost: \$7,435  
Project Manager: Tim Ireland

Project Description:

I request the Yolo County Flood Control and Water Conservation District to Perform the following work:

Build and install monitoring system for the existing multi-completion monitoring well near Chapman Reservoir outlet. This monitoring system will connect to the existing SCADA site at the reservoir outlet for power and communication. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase four well level sensors for this project.

**I AGREE TO PAY FOR THE REQUESTED WORK AS FOLLOWS:**

- 50% Down Payment is required
- Final Payment when job is completed
- 30 days from billing date

Signature \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

Approved \_\_\_\_\_  
General Manager

Accounts become delinquent 30 days from date mailed. Delinquent accounts are charged a finance charge of 1.5% per month.



**Yolo County Flood Control & Water Conservation District  
Project INITIATION & COST ESTIMATE Form**

**Project Name:** Chapman Well Real-Time Monitoring Site Installation  
**Date of Form Submittal:** 11/7/2023  
**Project Requested by:** Tim Ireland  
**Project Location:** Near Chapman Reservoir Outlet  
**Job Number:** \_\_\_\_\_

**Project Type (check all that apply):**

- Facilities
- Operation & Maintenance
- Water & Environmental Resources
- Engineering
- Administration
  
- Large Capital
- Small Capital
- Expense
  
- Construction
- Study

**Project to be Performed by:**

- District staff
- External consultant/contractor
- Combination of District staff and external consultant/contractor

**Project Manager:** Tim Ireland  
**Consultant Contact:** \_\_\_\_\_  
**Contractor Contact:** \_\_\_\_\_

**Est. Total Project Cost:** \$7,435.00  
**Cost Share to bill:** \_\_\_\_\_  
**Est. Project Schedule:** 2 Weeks

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**Project Description:**

Build and install monitoring system for the existing multi-completion monitoring well near Chapman Reservoir outlet. This monitoring system will connect to the existing SCADA site at the reservoir outlet for power and communication. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase four well level sensors for this project.

**Chapman Well Real-Time Monitoring Well Installation**

11/7/2023

*Parts and Labor Estimate for Installing Solar Powered Real-Time Well Monitoring Site*

Item Description	YSGA Quantity	DWR Quantity	Unit Price	YSGA Total	DWR Total	Total
<b>Electrical Panel</b>						
Custom Built Electrical Panel by YCFCWCD	1	0	\$1,200	\$1,200	\$0	\$1,200
<b>Water Level Sensors</b>						
Level Sensor for 0-200ft H2O, 250ft Cord (Keller Acculevel 0507.01107.051325.13)	0	4	\$938	\$0	\$3,750	\$3,750
Sensor Sink Weight (Keller 900001.0033)	0	4	\$28	\$0	\$112	\$112
<b>Equipment Pole, Grounding and Conduit</b>						
Equipment Enclosure Mount (custom)	1	0	\$150	\$150	\$0	\$150
Conduit and fittings	1	0	\$150	\$150	\$0	\$150
<b>Equipment</b>						
Pickup Truck	7	0	\$42	\$294	\$0	\$294
<b>Hardware Total Estimate</b>				<b>\$1,500</b>	<b>\$3,862</b>	<b>\$5,362</b>
<b>Equipment Total</b>				<b>\$294</b>	<b>\$0</b>	<b>\$294</b>
<b>Labor Total Estimate</b>				<b>\$4,000</b>	<b>\$0</b>	<b>\$4,000</b>
<b>Labor Contingency (10%)</b>				<b>\$400</b>		
<b>Overhead (20%)</b>				<b>\$1,239</b>		
<b>Total Estimate</b>				<b>\$7,433</b>	<b>\$3,862</b>	<b>\$11,295</b>



**YOLO COUNTY FLOOD CONTROL & WATER  
CONSERVATION DISTRICT**

**PRIVATE JOB WORK ORDER**

Bill To: Yolo Subbasin Groundwater Agency  
Address: 34274 Highway 16, Woodland, CA 95695  
Phone #: 530-662-3211  
Project Name: Forbes Well Real-Time Monitoring Installation  
Project Location: East end of Forbes Ranch  
Private Job Number:  
Project Start Date: 11/15/2023  
Estimated Project Cost: \$13,185  
Project Manager: Tim Ireland

Project Description:

I request the Yolo County Flood Control and Water Conservation District to Perform the following work:

Build and install solar powered monitoring system for the existing multi-completion monitoring well at the East end of Forbes Ranch. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase four well level sensors and one radio system for this project.

**I AGREE TO PAY FOR THE REQUESTED WORK AS FOLLOWS:**

- 50% Down Payment is required
- Final Payment when job is completed
- 30 days from billing date

Signature \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

Approved \_\_\_\_\_  
General Manager

Accounts become delinquent 30 days from date mailed. Delinquent accounts are charged a finance charge of 1.5% per month.



**Yolo County Flood Control & Water Conservation District  
Project INITIATION & COST ESTIMATE Form**

**Project Name:** Forbes Well Real-Time Monitoring Site Installation  
**Date of Form Submittal:** 11/7/2023  
**Project Requested by:** Tim Ireland  
**Project Location:** East end of Forbes Ranch  
**Job Number:** \_\_\_\_\_

**Project Type (check all that apply):**

- Facilities
- Operation & Maintenance
- Water & Environmental Resources
- Engineering
- Administration
  
- Large Capital
- Small Capital
- Expense
  
- Construction
- Study

**Project to be Performed by:**

- District staff
- External consultant/contractor
- Combination of District staff and external consultant/contractor

**Project Manager:** Tim Ireland  
**Consultant Contact:** \_\_\_\_\_  
**Contractor Contact:** \_\_\_\_\_

**Est. Total Project Cost:** \$13,185.00  
**Cost Share to bill:** \_\_\_\_\_  
**Est. Project Schedule:** \_\_\_\_\_

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**Project Description:**

Build and install solar powered monitoring system for the existing multi-completion monitoring well at the East end of Forbes Ranch. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase four well level sensors and one radio system for this project.

# Forbes Well Real-Time Monitoring Well Installation

11/7/2023

Parts and Labor Estimate for Installing Solar Powered Real-Time Well Monitoring Site

Item Description	YSGA Quantity	DWR Quantity	Unit Price	YSGA Total	DWR Total	Total
<b>Electrical Panel</b>						
Custom Built Electrical Panel by BAT Electric	1	0	\$4,936	\$4,936	\$0	\$4,936
<b>Power System (spare parts)</b>						
140 Watt, 12v Solar Panel (Ameresco BSP140-12)	1	0	\$233	\$233	\$0	\$0
Solar Panel Mount (Tamarack UNI-SP/01A)	1	0	\$82	\$82	\$0	\$0
Solar Panel Mount Knee Brace (Tamarack SP-KNBR-001)	1	0	\$64	\$64	\$0	\$0
100 AH Sealed Battery	1	0	\$333	\$333	\$0	\$0
<b>Radio System</b>						
Trio-Q Radio (Schneider-Electric TBURQR4HH-F00E2L00)	0	1	\$1,710	\$0	\$1,710	\$1,710
Yagi Antenna (Schneider-Electric TBUMANTY-06-4CM)	0	1	\$447	\$0	\$447	\$447
10ft Coaxial Cable (Schneider-Electric TBUMRFANT-10F3M-A)	0	1	\$105	\$0	\$105	\$105
3ft Coaxial Jumper (Schneider-Electric TBUMRFJP-N-N-1M)	0	1	\$93	\$0	\$93	\$93
Surge Arrestor (Schneider-Electric TBUMLT-ARRES-TYPEA)	0	1	\$162	\$0	\$162	\$162
<b>Water Level Sensors</b>						
Level Sensor for 0-200ft H2O, 225ft Cord (Keller Acculevel 0507.01107.051324.13)	0	4	\$896	\$0	\$3,585	\$3,585
Sensor Sink Weight (Keller 900001.0033)	0	4	\$28	\$0	\$112	\$112
<b>Equipment Pole, Grounding and Conduit</b>						
Ground Rod, Ground Clamp and #6 Stranded Conductor	1	0	\$50	\$50	\$0	\$50
Radio Mast	1	0	\$150	\$150	\$0	\$150
Equipment Pole with Base	1	0	\$150	\$150	\$0	\$150
Equipment Enclosure Mount (custom)	1	0	\$100	\$100	\$0	\$100
Concrete	1	0	\$20	\$20	\$0	\$20
Conduit and fittings	1	0	\$150	\$150	\$0	\$150
<b>Equipment</b>						
Pickup Truck	6	0	\$42	\$252	\$0	\$252
Boom Truck	1	0	\$63	\$63	\$0	\$63
<b>Hardware Total Estimate</b>				<b>\$6,269</b>	<b>\$6,214</b>	<b>\$11,770</b>
<b>Equipment Total</b>				<b>\$315</b>	<b>\$0</b>	<b>\$315</b>
<b>Labor Total Estimate</b>				<b>\$4,000</b>	<b>\$0</b>	<b>\$4,000</b>
<b>Labor Contingency (10%)</b>				<b>\$400</b>		
<b>Overhead (20%)</b>				<b>\$2,197</b>		
<b>Total Estimate</b>				<b>\$13,181</b>	<b>\$6,214</b>	<b>\$19,395</b>





**YOLO COUNTY FLOOD CONTROL & WATER  
CONSERVATION DISTRICT**

**PRIVATE JOB WORK ORDER**

Bill To: Yolo Subbasin Groundwater Agency

Address: 34274 Highway 16, Woodland, CA 95695

Phone #: 530-662-3211

Project Name: Road 13 Well Real-Time Monitoring Installation

Project Location:

Private Job Number:

Project Start Date: 11/15/2023

Estimated Project Cost: \$11,065

Project Manager: Tim Ireland

Project Description:

I request the Yolo County Flood Control and Water Conservation District to  
Perform the following work:

Build and install solar powered monitoring system for the existing multi-completion monitoring well at the West end of CR13. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase three well level sensors and one radio system for this project.

**I AGREE TO PAY FOR THE REQUESTED WORK AS FOLLOWS:**

- 50% Down Payment is required
- Final Payment when job is completed
- 30 days from billing date

Signature \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

Approved \_\_\_\_\_  
General Manager

Accounts become delinquent 30 days from date mailed. Delinquent accounts are charged a finance charge of 1.5% per month.



**Yolo County Flood Control & Water Conservation District  
Project INITIATION & COST ESTIMATE Form**

**Project Name:** Road 13 Well Real-Time Monitoring Installation  
**Date of Form Submittal:** 11/7/2023  
**Project Requested by:** Tim Ireland  
**Project Location:** End of CR13, 1/4 mile South  
**Job Number:** \_\_\_\_\_

**Project Type (check all that apply):**

- Facilities
- Operation & Maintenance
- Water & Environmental Resources
- Engineering
- Administration
  
- Large Capital
- Small Capital
- Expense
  
- Construction
- Study

**Project to be Performed by:**

- District staff
- External consultant/contractor
- Combination of District staff and external consultant/contractor

**Project Manager:** Tim Ireland  
**Consultant Contact:** \_\_\_\_\_  
**Contractor Contact:** \_\_\_\_\_

**Est. Total Project Cost:** \$11,065.00  
**Cost Share to bill:** \_\_\_\_\_  
**Est. Project Schedule:** \_\_\_\_\_

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**Project Description:**

Build and install solar powered monitoring system for the existing multi-completion monitoring well at the West end of CR13. This project will be completed by YCFCWCD staff for YSGA in partnership with DWR. DWR's Technical Support Services (TSS) funded the installation of the monitoring well and will also fund and purchase three well level sensors and one radio system for this project.

# Road 13 Well Real-Time Monitoring Well Installation

11/7/2023

Parts and Labor Estimate for Installing Solar Powered Real-Time Well Monitoring Site

Item Description	YSGA Quantity	DWR Quantity	Unit Price	YSGA Total	DWR Total	Total
<b>Electrical Panel</b>						
Custom Built Electrical Panel by BAT Electric in 2018 (from inventory)	1	0	\$3,130	\$3,130	\$0	\$3,130
<b>Power System (spare parts)</b>						
140 Watt, 12v Solar Panel (Ameresco BSP140-12)	1	0	\$233	\$233	\$0	\$0
Solar Panel Mount (Tamarack UNI-SP/01A)	1	0	\$82	\$82	\$0	\$0
Solar Panel Mount Knee Brace (Tamarack SP-KNBR-001)	1	0	\$64	\$64	\$0	\$0
100 AH Sealed Battery	1	0	\$333	\$333	\$0	\$0
<b>Radio System</b>						
Trio-Q Radio (Schneider-Electric TBURQR4HH-F00E2L00)	0	1	\$1,710	\$0	\$1,710	\$1,710
Yagi Antenna (Schneider-Electric TBUMANTY-06-4CM)	0	1	\$447	\$0	\$447	\$447
10ft Coaxial Cable (Schneider-Electric TBUMRFANT-10F3M-A)	0	1	\$105	\$0	\$105	\$105
3ft Coaxial Jumper (Schneider-Electric TBUMRFJP-N-N-1M)	0	1	\$93	\$0	\$93	\$93
Surge Arrestor (Schneider-Electric TBUMLT-ARRES-TYPEA)	0	1	\$162	\$0	\$162	\$162
<b>Water Level Sensors</b>						
Level Sensor for 0-200ft H2O, 300ft Cord (Keller Acculevel 0507.01107.051327.13)	0	1	\$1,020	\$0	\$1,020	\$1,020
Level Sensor for 0-200ft H2O, 350ft Cord (Keller Acculevel 0507.01107.051329.13)	0	1	\$1,103	\$0	\$1,103	\$1,103
Level Sensor for 0-200ft H2O, 400ft Cord (Keller Acculevel 0507.01107.051331.13)	0	1	\$1,185	\$0	\$1,185	\$1,185
Sensor Sink Weight (Keller 900001.0033)	0	3	\$28	\$0	\$84	\$84
<b>Equipment Pole, Grounding and Conduit</b>						
Ground Rod, Ground Clamp and #6 Stranded Conductor	1	0	\$50	\$50	\$0	\$50
Radio Mast	1	0	\$150	\$150	\$0	\$150
Equipment Pole with Base	1	0	\$150	\$150	\$0	\$150
Equipment Enclosure Mount (custom)	1	0	\$100	\$100	\$0	\$100
Concrete	1	0	\$20	\$20	\$0	\$20
Conduit and fittings	1	0	\$150	\$150	\$0	\$150
<b>Equipment</b>						
Pickup Truck	7	0	\$42	\$294	\$0	\$294
Boom Truck	1	0	\$63	\$63	\$0	\$63
<b>Hardware Total Estimate</b>				<b>\$4,463</b>	<b>\$5,909</b>	<b>\$9,658</b>
<b>Equipment Total</b>				<b>\$357</b>	<b>\$0</b>	<b>\$357</b>
<b>Labor Total Estimate</b>				<b>\$4,000</b>	<b>\$0</b>	<b>\$4,000</b>
<b>Labor Contingency (10%)</b>				<b>\$400</b>		
<b>Overhead (20%)</b>				<b>\$1,844</b>		
<b>Total Estimate</b>				<b>\$11,064</b>	<b>\$5,909</b>	<b>\$16,972</b>