

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, January 25, 2021 at 8AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

The meeting will be held both in person and remotely by Zoom Video Conference. To access this meeting by Zoom, customers and the public must email the Green Valley Water District at [office@gvwaterdistrict.com](mailto:office@gvwaterdistrict.com) to request an invitation with instructions on how to log in. Include your email address to receive this invitation.

1. Call to order and Roll Call – Committee Chair, Robert (Bob) Hedden
2. Cotonia Well Project up-date
  - A. Completion date and final costs
  - B. Possible project(s) for un-used loan funds
3. Meritage Canoa Ranch Expansion
4. Storage Tanks and Transmission pipeline relocation
5. Engineering Hydrology Study (Bring Draft Scope of Work to the meeting)
  - A. Discussion on the feasibility of contracting for an up-dated infrastructure Hydrology study both for the existing system and future system expansion.
6. Capital Budget
7. Call to the Public
8. Next meeting Monday, February 22, 2021 at 8:00 AM.
9. Adjournment

Green Valley Water District

Persons with a disability may request a reasonable accommodation by contacting GVWD at (520) 625-9112 at least 24-hours before the meeting to facilitate the accommodation. The meeting location is ADA compliant.
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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, January 21, 2021**

Roll Call: Committee Chair, Bob Hedden

Committee Members

present: Robert (Bob) Hedden  
Patricia (Pat) Carlstad  
Joseph (Hart) Krumrine  
Steven (Steve) Lathrop  
Lee Lemas  
Daniel (Dan) Van Norman  
George Orndorff  
Eric Sullwold

Board Clerk: Luis Rodriguez

Staff present: Dara Duffy  
Lora Burruel

Board Members

present: Darlene (Dar) Hollingsworth

Advisors present: John Green  
Raymond (Ray) Weisgarber

Committee Members

absent: Kenneth (Ken) Goff

Advisors absent: William (Bill) Lardy

1. Meeting was called to order at 8:00 AM by Committee Chair, Robert (Bob) Hedden
1. Cotonia Well Replacement Project:
  - A. Landscaping of the well site property and installation of the split rail fence should be completed within the next two (2) weeks.
  - B. Site work within the block wall has been completed with 1/2" minus rock compacted into the dirt sub-base. Expectation is this will provide a better wear surface than "loose" rock placed on the sub-base.
  - C. Remaining project loan amount will be around \$130,000 once all the work has been completed. Use of the remaining loan amount will be done at a future date.
2. Meritage Expansion Project:
  - A. No response regarding their expansion plans. Either the Board Chairman or DM is to write to Meritage regarding the status of their expansion plans.
3. Storage Tanks and Transmission pipeline relocation:
  - A. No response from Freeport in the form of a Memorandum of Understanding (MOU).
4. Engineering Hydrology Study: Reviewed some of the rationale to consider as we decide whether to propose the Board consider contracting for the study
  - A. Reviewed the basis for developing the 2007 Master Plan because of the potential rapid expansion within the District's franchise area.
  - B. The subject Master Plan included an engineering review of the current District infrastructure plus the expansion within Canoa Ranch. The Canoa Ranch expansion

included a new stand-alone well site and it's required supporting equipment ie: arsenic treatment, booster pumps, back-up well, etc.

- C. The 2017 5-yr Strategic Plan agreed with the required new well site included in the 2007 Master Plan even though expansion had slowed considerably without any indication of that changing in the foreseeable future.
  - D. A request from Meritage in 2020 as to what the Water District would require if they completed the development of their remaining Canoa Ranch property which would include building another 350 residential units.
  - E. Reviewed the scope of work for the Engineering study and suggested the committee members come prepared for the February meeting with questions, concerns, comments, etc. (Attached is the Scope of Work for the Engineering study)
5. Capital Budget:
- A. DM has prepared a 5-yr Capital Budget for review and discussion. DM has stated the next two (2) years will consist of up-grading and installing a new meter reading system.
  - B. Question was raised as to whether an increased amount of capital funds be budgeted starting with the next fiscal year. Current amount has been in place for over 10 years.

The meeting was adjourned at 9:02AM.

Next meeting Monday, February 22, 2021 at 8:00AM.

**Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
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**MONDAY, February 22, 2021 at 8AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

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The meeting agenda:

1. Call to order and Roll Call – Committee Chair, Robert (Bob) Hedden
2. Engineering Hydrology Study discussion (Bring Draft Scope of Work to the meeting)
  - A. Discussion on the Hydrology study. Note: Bring a copy of both the Engineering Hydrology Study Scope of Work (from last month) and the Study Q&A document.
3. Major pipeline replacement project associated within the Desert Jewel Rd. area.
4. Call to the Public
5. Next meeting Monday, March 22, 2021 at 8:00 AM.
6. Adjournment

**Green Valley Water District**

Posted February 17, 2020 @ 11am

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, February 22, 2021**

Committee Members

present: Robert (Bob) Hedden - Chair  
Patricia (Pat) Carlstad  
Joseph (Hart) Krumrine  
Steven (Steve) Lathrop  
Lee Lemas  
George Orndorff  
Eric Sullwold

Board Clerk: Luis Rodriguez

Staff present: Dara Duffy  
Lora Burruel

Board Members

present: Darlene (Dar) Hollingsworth

Advisors present: John Green  
Raymond (Ray) Weisgarber

Committee Members

absent: Daniel (Dan) Van Norman  
Kenneth (Ken) Goff

Advisors absent: William (Bill) Lardy

1. Meeting was called to order at 8:00 AM by Committee Chair, Robert (Bob) Hedden
2. Engineering Hydrology Study: Reviewed and discussed basis and rationale for the proposed study and answered questions of Committee members regarding the study.
  - A. Discussed the historical aspects of the current water infrastructure including the Developer establishing the water system for his development, using gravity vs. pressurized system to deliver water, and the inclusion of an additional well in Canoa Ranch in the Developer's expansion plans.
  - B. Noted GVWD developed a Master Plan in 2006-07 that included an evaluation of the water infrastructure at the time plus the expansion in Canoa Ranch requiring a 2<sup>nd</sup> well. Answered the question that the proposed Hydrology Study was not a new Master Plan but an up-date to the current Master Plan's infrastructure section.
  - C. Discussed the proposed study evaluating the impact of changing the current water delivery system to an entire pressurized system vs the current system which is a combination of a gravity and pressurized system. This is predicated on the possibly having to relocate the current storage tanks due to a problem with Freeport's retention pond.
  - D. Reviewed possible up-grades to the existing well site to accommodate any Canoa Ranch expansion without having to develop an additional well site and its accompanying equipment in Canoa Ranch. Proposed Canoa Ranch expansion would be a 33% increase in water demand over the existing system.
  - E. Committee agreed to propose to the Board a Request for Quote (RFQ) be prepared to be issued in March to three (3) Engineering Firms to develop costs for conducting the proposed Study. Costs would be included in GVWD's 2021 – 2022 Budget if Board agrees to proceed.

3. Pipeline Replacement project in San Ignacio Heights:
  - A. GVWD's DM noted the District has been experiencing a number of water leaks in the above area associated with poor material quality and installation methods used by the Developer.
  - B. Area problem has been known for five (5) yrs. and District was waiting for the problem to become severe enough to warrant developing a project to replace a considerable amount of pipe within the area to insure long-term reliability of the system.
  - C. DM developing scope of work and costs associated with replacing pipe in the affected area. Information will be available for March Tech meeting.

The meeting was adjourned at 9:26 AM.

Next meeting Monday, March 22, 2021 at 8:00 AM.

**Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, March 22, 2021 at 8AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

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The meeting agenda:

1. Call to order and Roll Call – Committee Chair, Robert (Bob) Hedden.
2. Meritage Expansion up-date.
3. Repair/replace San Ignacio Heights pipeline infrastructure.
4. Discuss RFQ responses as they relate to the Engineering Hydrology Study.
5. Call to the Public.
6. Next meeting Monday, April 19, 2021 at 8:00 AM.
7. Adjournment

Green Valley Water District

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, March 22, 2021**

Committee Present:	Robert (Bob) Hedden Lee Lemas George (Dr.) Orndorff	Joseph (Hart) Krumrine Patricia (Pat) Carlstad Steve Lathrop
Committee Absent:	Eric Sullwold Kenneth (Ken) Goff	Daniel (Dan) Van Norman
District Staff:	Dara Duffy	Lora Burruel
Board Members	Darlene (Dar) Hollingsworth	John Green
Advisors:	Edwin (Ed) Storey	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 9:32AM by Committee Chair, Robert (Bob) Hedden.
2. Meritage Expansion Up-date:
  - A. Meritage requested a delay in responding to GVWD's March 5<sup>th</sup> due date for a response on Meritage's expansion plans in Canoa Ranch. Delay requested based on Meritage's difficulty in resolving a sewer plan requirement.
  - B. Meritage sewer problem stems from the Developers not constructing the sewer line under the water line to the Rest Area. GVWD in their discussions with ADOT gave approval for that type of installation.
  - C. Pima County now not allowing the sewer line to be placed in the open area between the frontage road and I-19; GVWD will not allow the sewer line to be placed less than 10' from the water line center line; County now requiring the sewer line to be placed under I-19 in two places which is not feasible.
  - D. WLB Group asked GVWD if the District would entertain the idea of Meritage removing the existing water line, installing a sewer line, and reinstalling the water line at least 5' over the new sewer line per GVWD's construction specifications.
  - E. WLB request was discussed at the Managers Meeting. GVWD agreed to have WLB Group develop their proposal for GVWD to evaluate. Proposal would include hooking up the new 12" water line along Canoa Road, hooking up the new 8" water line to two (2) developments located east of Camino Del Sol, and extending the 12" water line under Atascosa Peak Drive for a loop around the expansion area. The 16" water line being proposed along GVWD's franchise area western boundary would be eliminated.
  - F. Above proposal in Item E would be required by April 5<sup>th</sup> and would include an expansion timeline.
3. Repair/Replace Pipeline in San Ignacio Heights:
  - A. GVWD has been experiencing a significant number of water leaks in the area's 6", 8", & 12" pipelines. (15 major water leaks in 15 yrs.)
  - B. Cause of the water leaks is primarily due to the type of plastic pipe installed (thin wall vs. heavy wall) and pipe not installed on sand but with back-fill full of rocks and other debris. This pipe was installed by the Developer in late 80's and early 90's.
  - C. GVWD had a local contractor (Dominguez Earthmovers) develop a proposal for replacing the pipeline in the major effected areas. Cost was about \$3.5m for about 12,000' of pipe.
  - D. "Slip Lining" the affected pipeline was suggested as a possible solution to the problem. This concept is used extensively in wastewater pipelines and has become more common in potable water lines.

- E. GVWD contacted a company that has developed a “slip lining” product being used extensively on the East Coast. They have developed a lining using a polymer that adheres to the wall of the existing pipe. This polymer has structural characteristics.
  - F. Cost to “slip line” a pipeline is estimated to be 65% of replacing the pipeline. This cost is based on doing at least 2500’ of pipe at a time.
  - G. GVWD is developing the information to have a proposal developed so a decision can be made on how to proceed with resolving the current problem.
4. RFQ for proposed Engineering Hydrology Study:
- A. WLB Group declined to submit proposal – conflict of interest due their development of Maritage Canoa Ranch expansion plans.
  - B. No proposals received on March 5<sup>th</sup> due date.
  - C. GVWD contacted both Stantec and Westland Resources and they indicated an interest in developing a proposal.
  - D. Contacted Riley Engineering and they expressed an interest in submitting a proposal.
  - E. Removed two (2) items from proposal since they had minimal interest at this time. Items removed was developing back-up water sources for the golf course wells & developing a proposal for utilizing GVWD’s newly acquired one (1) acre property.
  - F. Revised RFQ has been sent out to the three Engineering firms with a due date of April 15<sup>th</sup>.
  - G. Will discuss proposals during April Tech Committee Meeting.
5. Call to the Public.
6. Next meeting Monday, April 19, 2021 at 8:00AM.
7. The meeting was adjourned at 10:23AM.

## **Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, April 19, 2021 at 8AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

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The meeting agenda:

1. Call to order and Roll Call – Committee Chair, Robert (Bob) Hedden.
2. Review Engineering Hydrology Study proposals from the contacted Engineering firms.
3. Review Slip Lining proposal for the pipelines located in San Ignacio Heights HOA.
4. Review Meritage expansion plans in Canoa Ranch block 275.
5. Call to the Public.
6. Next meeting Monday, May 24, 2021 at 8:00 AM.
7. Adjournment

Green Valley Water District  
Posted April 13, 2021 @ 11am

By \_\_\_\_\_  
Luis Rodriguez, Clerk of the Board

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, April 19, 2021**

Committee Present:	Robert (Bob) Hedden Eric Sullwold Steve Lathrop	Joseph (Hart) Krumrine Patricia (Pat) Carlstad
Committee Absent:	Lee Lemas Kenneth (Ken) Goff	Daniel (Dan) Van Norman George (Dr.) Orndorff
District Staff:	Dara Duffy	Lora Burruel
Board Members	Darlene (Dar) Hollingsworth	John Green
Advisors:	Edwin (Ed) Storey	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:02AM by Committee Chair, Robert (Bob) Hedden.
2. Meritage Canoa Ranch Expansion:
  - A. GVWD has not received the proposed expansion plan for Block 27-S.
3. RFQ for proposed Engineering Hydrology Study:
  - A. GVWD has received three (3) proposals from the Engineering firms contacted.
  - B. Proposals need to be vetted by DM and Tech Committee Chairman because of the wide range of cost proposals.
  - C. Intend to discuss each proposal individually with each engineering firm to be satisfied they understand what is being asked for in the RFQ.
  - D. Intend to have each firm make a presentation to the Tech Committee before the Tech Committee discusses each proposal and makes a recommendation to the Board.
4. Install "slip lining" within sections of the pipeline infrastructure in the San Ignacio Heights HOA:
  - A. GVWD has received a proposal from a construction company licensed to install a polymer slip lining for the identified sections.
  - B. Total slip lining cost for 6200' of pipeline is \$1.2M.
  - C. GVWD will have to construct the proposed 13 access areas for the slip lining work plus temporary water lines for the affected areas. Estimated cost is \$0.4M.
  - D. Initial Tech Comm. discussion indicated additional discussion with both the construction company and supplier of the slip lining material will be necessary.
  - E. Proposed timing for the project is within fiscal year 2022 & 2023.
  - F. Committee recommended one possible method for paying for this project is to re-do the current debt structure to include this project.
  - G. Finance Committee is to develop possible funding methods for the project.
5. Call to the Public. No comments.
6. Next meeting Monday, May 24, 2021 at 8:00AM.
7. The meeting was adjourned at 8:43AM.

**Green Valley Domestic Water Improvement District**

# **ENGINEERING HYDROLOGY STUDY**

## **SCOPE OF WORK**

The Green Valley Water District (GVWD) is up-dating the water infrastructure information included in their 2007 Master Plan. The up-dated information will be developed for the following criteria:

1. Evaluate existing infrastructure capability to provide redundancy, residential water pressure of 55 psi, capacity requirements, arsenic treatment, backup capacity for potable system, fire department requirements, and meeting ADD & MDD requirements.
2. Evaluate whether a 16" Transmission line installed along the western edge of the GVWD franchise area would address capacity, pressure, and flow concerns for future development both north and south of the Escondido Wash.
3. System expansion of 350 additional residences north of the Escondido Wash in Canoa Ranch. Evaluate the expansion using the same infrastructure capability as in Item #1.
4. System expansion of 1200 residential units south of the Escondido Wash in Canoa Ranch. This expansion to be evaluated on same basis as in Item #3.
5. Possible relocation of the two existing 2,500,000 gal storage tanks and 16" transmission pipelines to and from the tanks due to an expansion of the Freeport McMoRan retention ponds. This evaluation will include possible sites for the relocated tanks, the required storage capacity for the total system expansion, the impact on the "gravity" portion of the infrastructure, and possible "tie-ins" into the existing system.
6. As part of Item #5, evaluate converting the entire GVWD infrastructure to a pressurized system. Evaluation will include identifying all equipment necessary to make the conversion to the pressurized system.
7. The three (3) golf courses have their own wells for their irrigation water. The Desert Hills GC well is also the back-up for GVWD's potable water. Back-up water for the other two (2) golf courses is supplied from the potable water system. An evaluation needs to be made if and how GVWD should implement a back-up water source.
8. Evaluate whether a new well should be established on property GVWD owns adjacent to the northwest corner of the County park. The evaluation should be whether this site would become a back-up for the current potable water system or for backing up the Desert Hills and San Ignacio golf course wells.
9. Provide updated system drawings depicting the designed pressures and flow capacity.

**The intent of this study is to provide information to GVWD so the business can plan for up-grading the existing system as necessary plus identifying how the existing system can be expanded to accommodate the growth within its franchise area.**

**GVWD's current basic system is gravity fed from the two (2) storage tanks and supported with booster pumps in those areas where gravity cannot provide the required water volume or pressure for residential and fire department requirements (primarily areas in Canoa Ranch).**

**GVWD's system requirements are met from a single water site utilizing an 850 gpm pump feeding into a 1000 gpm Arsenic Treatment Facility. Back-up for this well site is a 700 gpm well that provides water to the Desert Hills golf course but is also piped into the primary well site infrastructure. Water from the well site flows through a combination of 8" and 12" pipes into the 16" pipelines leading to the Storage Tanks. The system is then gravity fed into 12" pipelines that lead into the various service areas. The primary 12" service line is located in the Camino Del Sol right-of-way which runs through the current GVWD service area. GVWD's goal for the individual residential service areas is to provide 55 psi pressure and avoid system dead-ends thus having a requirement to "loop" the systems within each service area. In addition, GVWD requires two (2) water entry points into a service area to minimize the impact of any service disruption (water line break).**

**As part of this study, maps will be provided showing the location and size of the pipelines within the system infrastructure. Pipelines within the expansion area will be limited to the two (2) primary entrance points and an overall looping of the entire expansion area. Pipelines serving residential areas within the expansion areas are the responsibility of the developer having approval from GVWD and meeting GVWD's design criteria and guidelines.**

**03-05-2021**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

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The meeting agenda:

1. Call to order and Roll Call – Committee Chair, Robert (Bob) Hedden.
2. Review GVWD's chlorination/Disinfection procedures.
3. Meritage Canoa Ranch expansion.
4. Freeport's MOU for Storage tanks and pipeline relocation
5. Slip Lining project
6. Review and Discuss Engineering Study proposals.
7. 5 – yr. Capital Budget
8. Call to the Public.
9. Next meeting scheduled for Monday, June 21, 2021 at 8:00 AM.
10. Adjournment

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, May 24, 2021**

Committee Present:	Robert (Bob) Hedden Eric Sullwold Steve Lathrop George (Dr.) Orndorff	Joseph (Hart) Krumrine Patricia (Pat) Carlstad Lee Lemas Edwin (Ed) Storey
Committee Absent:	Daniel (Dan) Van Norman	Kenneth (Ken) Goff
District Staff Present:	Dara Duffy	Lora Burruel
Board Directors Present:	Darlene (Dar) Hollingsworth	John Green
Advisors Present:	None	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:00AM by Committee Chair, Robert (Bob) Hedden.
2. GVWD Chlorination and Disinfection Procedures:
  - A. DM discussed the required testing to insure GVWD's water infrastructure met ADEQ's water quality requirements.
  - B. Discussed both the operational water quality requirements (chlorination) and monthly administrative and testing requirements.
  - C. Discussed water quality procedures and policies associated with the installation of pipe within the existing pipeline infrastructure. This related to both replacement pipe sections and additions to the existing pipeline infrastructure.
  - D. All the procedures, policies, and protocols associated with GVWD's water quality are well documented and maintained.
  - E. In the 20 yrs. GVWD has been in business, they have not had any operational water quality non-compliance issues. There have been some administrative issues that have been corrected with both the training of the personnel and up-dated written procedures.
3. Meritage Canoa Ranch Expansion:
  - A. Engineering firm WLB Group has indicated both Meritage and Fairfield Homes are discussing how to proceed with both the sewer and water requirement in completing the "build-out" of residential units in Canoa Ranch. Expectation is it will still be a couple of months before they are ready to sit down with GVWD.
4. Install "slip-lining" within sections of the pipeline infrastructure in the San Ignacio Heights HOA:
  - A. April Tech Committee minutes are still germane today.
5. Review and discuss the Engineering Hydrology Study proposals from the three (3) contacted Engineering firms:
  - A. Engineering firms that bid on the study were: Stantec Engineering, Riley Engineering, & Westland Resources. WLB Group declined to bid because of "confliction" since they were representing Meritage in the Canoa Ranch expansion.
  - B. Initial bids were for the attached "Scope of Work" except for items #7 & 8. Bids ranged in price from \$32,000 - \$110,000.
  - C. Engineering firms were asked to re-bid the "Scope of Work" for items #1-4 & 9. This re-bid was based on the MOU (Memorandum of Understanding) received from Freeport indicating they were unsure as to if and when the storage tanks and supplying pipelines may need to be re-located.
  - D. Re-bid amounts were as follows:
    - a. Stantec: \$26,500

- b. Riley: \$44,600
  - c. Westland: \$64,190
  - E. Discussion revolved around the differences between Stantec and Riley. Westland was eliminated because of cost.
    - a. Stantec discussion points:
      - Expected to be the low cost bidder since they developed the initial review and development of the water infrastructure information in 2006.
      - Reduced presence of Engineering disciplines in Tucson office. All work has to be approved in either Phoenix or Colorado
      - Concern about “honest” evaluation of up-grading current water infrastructure vs establishing a 2<sup>nd</sup> well site for expansion in Canoa Ranch. Stantec has been backing the need for a 2<sup>nd</sup> well site.
      - Potential to have extra oversight in their up-dating the current water infrastructure since they have been reluctant to incorporate current system capabilities into the existing water infrastructure information.
    - b. Riley
      - Firm located in Tucson
      - Water systems and hydrology information development are their specialties.
      - Would provide a “fresh & new” evaluation of the existing water system infrastructure and system expansion possibilities.
- Committee is recommending GVWD issue a contract to Riley Engineering even though they were not the low bidder. GVWD will contact recent organizations using Riley Engineering to confirm GVWD’s appraisal of Riley’s capabilities and performance.
- 6. Call to the Public. No comments.
  - 7. Next meeting is scheduled for Monday, June 21, 2021 at 8:00AM.
  - 8. The meeting was adjourned at 9:43AM.

## **Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

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The meeting agenda:

1. Call to order and Roll Call – District Manager, Dara Duffy
2. SCADA propagation study update
3. Meter audit update
4. San Ignacio Heights slip lining update
5. Meritage expansion update
6. Call to the Public.
7. Next meeting scheduled for Monday, September 20, 2021 at 8:00 AM.
8. Adjournment

**Green Valley Water District**

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, June 21, 2021**

Committee Present:	Joseph (Hart) Krumrine Eric Sullwold Steve Lathrop	Patricia (Pat) Carlstad George (Dr.) Orndorff
Committee Absent:	Robert (Bob) Hedden Daniel (Dan) Van Norman Edwin Storey	Kenneth (Ken) Goff Lee Lemas
District Staff Present:	Dara Duffy	Lora Burruel
Board Directors Present:	Darlene (Dar) Hollingsworth	John Green
Advisors Present:	None	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:01AM by District Manager, Dara Duffy.
2. SCADA propagation study update. The Study is complete. The official report has not been released. The DM has been in phone contact with 360RF, (the contractor). They have identified that our current system is extremely weak. Some of the recommendations are to install a sixty (60) ft tower at GVWD Headquarters and a one hundred (100) ft transmission tower at the Cotonia Well. Pima County regulations only allow a maximum tower height of twenty-four (24) ft. The DM is working with Tucson Electric Power (TEP) to discuss installing our whip antenna on their towers just west of the District's boundary. An update should be provided by our next Board of Directors meeting on September 23.
3. Meter audit update. Year one (1) of the replacement project is on schedule. The schedule has been revised to a three (3) year plan. Year two (2) will focus on changing all radio units to function with the FlexNet system. Year three (3) will replace all remaining meters that contain moving parts. Delivery of new meters from our vendor has slipped from the original date of July due to production delays caused by lack of computer chips and raw materials. The current delivery date is tentatively set for November 2021. The DM has asked for partial shipments to get started on the project as quickly as possible.
4. San Ignacio Heights slip lining project update. The local vendor for the project has provided their "Budgetary purposes" estimate of \$775K. This is for the support work to include digging the access holes, providing temporary water to the homeowners, compaction, repaving, etc. The DM will go out for official bids when the Board decides to move forward with this project.
5. Meritage expansion update. WLB Engineering has been working with Meritage and Fairfield. Both builders have verbally agreed to install their sewer line along the Frontage Road and replace our water line above it. This will require a new Line Extension Agreement which the DM will draft this summer once she receives written confirmation of the verbal agreement. The estimated start date is one to two years.
6. Call to the Public. No comments.
7. Next meeting is scheduled for Monday, September 20th, 2021, at 8:00AM.
8. The meeting was adjourned at 8:25AM.

**Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, September 20, 2021, at 8AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

The meeting will be held both in person and remotely by Zoom Video Conference. To access this meeting by Zoom, customers and the public must email the Green Valley Water District at [office@gvwaterdistrict.com](mailto:office@gvwaterdistrict.com) to request an invitation with instructions on how to log in. Please include your email address to receive this invitation.

The meeting agenda:

1. Call to order and Roll Call – Chair, Bob Hedden
2. Freeport MOU for the Storage Tanks relocation
3. San Ignacio Heights Slip Lining project
4. Canoa Ranch Residential Expansion (Meritage)
5. SCADA Propagation Study
6. FlexNet Propagation Study
7. Meter Change out project
8. Riley Engineering Up-date
9. 5 yr. Capital Budget
10. Call to the Public.
11. Next meeting scheduled for Monday, October 25, 2021, at 8:00 AM.
12. Adjournment

Persons with a disability may request a reasonable accommodation by contacting GVWD at (520) 625-9112 at least 24-hours before the meeting to facilitate the accommodation. The meeting location is ADA compliant.
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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, September 20, 2021**

Committee Present:	Robert (Bob) Hedden Eric Sullwold Lee Lemas	Patricia (Pat) Carlstad George (Dr.) Orndorff
Committee Absent:	Edwin Storey Joseph (Hart) Krumrine	Daniel (Dan) Van Norman
District Staff Present:	Dara Duffy	
Board Directors Present:	Darlene (Dar) Hollingsworth	John Green
Advisors Present:	None	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:00AM by Committee Chair, Bob Hedden.
2. Freeport MOU for the Storage Tanks Relocation: Freeport has not developed a MOU for the possible relocation of the storage tanks. This project will be removed from the Tech Committee's activities until the subject document is received by GVWD.
3. San Ignacio Heights Slip Lining Project: Project is on hold because it is not cost effective to initiate at this time. Estimated cost of project is \$3.4mm.
  - A. Current number of water line breaks does not justify replacing significant pipeline length that is the principal driver for using "Slip Lining" vs physical pipeline replacement.
  - B. Pipeline breaks in the area involved will be monitored to determine when it may be feasible to institute a Slip Lining Project.
4. Canoa Ranch Residential Expansion (Meritage): Meritage has decided not to complete the construction in their un-developed area.
  - A. GVWD has been notified Fairfield Homes has decided to complete the construction in the impacted area.
  - B. GVWD will be meeting with Fairfield Homes to determine what Fairfield intends to do and within a given timetable.
  - C. GVWD will be conveying to Fairfield the District's construction requirements and relevant Line Extension Agreement.
5. SCADA Propagation Study: GVWD had the subject study done to determine what was needed to maximize both the capability and reliability of the SCADA system.
  - A. Study indicated GVWD needed to install two (2) towers for the transfer of information via radio waves from the various sites on the SCADA system to a centralized location.
  - B. Study recommended a 100' tower to be located at the Cotonia Well Site and a 50' tower at the Office Bldg.
  - C. GVWD is now developing the costs for each tower. The tower at the Cotonia Well Site is included in the 2021-2022 Capital budget.
6. FlexNet Propagation Study: This study was done to determine what would be needed to read the water meters once the meters with MXU capability had been installed.
  - A. The study determined the towers used for the SCADA system could be used provided there was a 10' distance between SCADA and FlexNet discs. This project is also included in the 2021-2022 Capital Budget.

7. Meter Change Out Project: GVWD received 384 new meters without MXU's. Chips associated with the MXU's are not available thus rendering the meters unusable until the MXU's are received.
  - A. An additional 320 meters with MXU's are also in the 2021-2022 Capital Budget. At this point it's undetermined when these meters will arrive.
  - D. This is a multi-year (2-3 yrs.) project since existing SR2 meters need to be equipped with MXU's to make the entire meter reading activity "radio" possible.
8. Riley Engineering Up-date: This is the engineering firm GVWD is now using to provide engineering support.
  - A. The initial project GVWD has requested from Riley is a review and up-date of information regarding GVWD's current infrastructure.
  - B. Riley's September report has indicated they found both inaccurate and missing information associated with the current infrastructure.
  - C. Expectation is that Riley's October report will have a complete review and up-date of GVWD's system. It's also expected they will identify possible projects to improve the System's reliability and effectiveness.
9. 5 yr. Capital Budget: An updated Capital Budget will be developed for the October Technical Committee Meeting.
10. Call to the Public. No comments.
11. Next meeting is scheduled for Monday, October 25<sup>th</sup>, 2021, at 8:00AM.
12. The meeting was adjourned at 8:44AM.

## **Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, October 25<sup>th</sup>, 2021, at 8:00AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

The meeting will be held both in person and remotely by Zoom Video Conference. To access this meeting by Zoom, customers and the public must email the Green Valley Water District at [office@gvwaterdistrict.com](mailto:office@gvwaterdistrict.com) to request an invitation with instructions on how to log in. Please include your email address to receive this invitation.

The meeting agenda:

1. Call to order and Roll Call – Chair, Bob Hedden
2. Canoa Ranch Residential Expansion
3. SCADA & FlexNet Propagation Study Up-date
4. Meter Change out project Up-date
5. Riley Engineering Up-date
6. Call to the Public.
7. Next meeting scheduled for Monday, November 15<sup>th</sup>, 2021, at 8:00 AM.
8. Adjournment

**Green Valley Water District**

Persons with a disability may request a reasonable accommodation by contacting GVWD at (520) 625-9112 at least 24-hours before the meeting to facilitate the accommodation. The meeting location is ADA compliant.

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, October 25<sup>th</sup>, 2021**

Committee Present:	Robert (Bob) Hedden Eric Sullwold Lee Lemas Joseph (Hart) Krumrine	Patricia (Pat) Carlstad George (Dr.) Orndorff Edwin Storey
Committee Absent:	Daniel (Dan) Van Norman	
District Staff Present:	Dara Duffy	
Board Directors Present:	Darlene (Dar) Hollingsworth	John Green
Advisors Present:	None	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:00AM by Committee Chair, Bob Hedden.
2. Canoa Ranch Residential Expansion
  - A. As noted in the Sept. meeting minutes, Fairfield Homes is now going to complete the “build-out” north of the Escondido Wash.
  - B. Fairfield is submitting to Pima County a revised plat for the area. Fairfield is changing the layout of the homes to be built. Revised plat is expected to be approved by March 2022.
  - C. Pima County is going to install a sewer line along the East frontage road from Canoa Road to Elephant Head Road. Installation to occur starting mid-year 2022.
  - D. Line Extension Agreement will be developed after both the revised plat and the new sewer line have been approved.
  - E. Fairfield is expecting to start actual home building in 4<sup>th</sup> quarter – 2022.
3. SCADA & Flex-Net Propagation study up-date:
  - A. Towers for both systems have been designed and are out for bid. Towers to be installed during this fiscal year.
  - B. Towers are:
    - a. 100’ tower at Cotonia Well Site with capability to service both Scada and Flex-net systems.
    - b. 60’ tower at Main office to service Scada systems.
    - c. 60’ tower at Calle Tres booster station to service Flex-net system.
4. Meter Change out Project:
  - A. MXU’s are still on back order with unknown shipping date.
5. Riley Engineering:
  - A. Actual water pressure readings were taken on October 5th in Canoa Ranch to verify current information.
  - B. Expect to have initial report on current water infrastructure and expected system expansion by 2<sup>nd</sup> week of November.
  - C. Riley will make formal presentation of their report at the November Tech meeting.
6. Call to the Public. No comments.
7. Next meeting is scheduled for Monday, November 15<sup>th</sup>, 2021, at 8:00AM.
8. The meeting was adjourned at 8:26AM.

**Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, November 15<sup>th</sup>, 2021, at 8:00AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

The meeting will be held both in person and remotely by Zoom Video Conference. To access this meeting by Zoom, customers and the public must email the Green Valley Water District at [office@gvwaterdistrict.com](mailto:office@gvwaterdistrict.com) to request an invitation with instructions on how to log in. Please include your email address to receive this invitation.

The meeting agenda:

1. Call to order and Roll Call – Chair, Bob Hedden
2. SCADA & FlexNet Propagation Study Up-date
3. Meter Change out project Up-date
4. Riley Engineering Up-date
5. Call to the Public.
6. Next meeting scheduled for Monday, December 13<sup>th</sup>, 2021, at 8:00 AM.
7. Adjournment

**Green Valley Water District**

Persons with a disability may request a reasonable accommodation by contacting GVWD at (520) 625-9112 at least 24-hours before the meeting to facilitate the accommodation. The meeting location is ADA compliant.

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, November 15<sup>th</sup>, 2021**

Committee Present:	Robert (Bob) Hedden Eric Sullwold Joseph (Hart) Krumrine	Patricia (Pat) Carlstad George (Dr.) Orndorff Lee Lemas
Committee Absent:	Daniel (Dan) Van Norman	Edwin Storey
District Staff Present:	Dara Duffy	Lora Burruel
Board Directors Present:	Darlene (Dar) Hollingsworth	
Advisors Present:	None	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 7:59AM by Committee Chair, Bob Hedden.
2. SCADA & Flex-net Up-date:
  - A. District waiting for bids for the construction of the required towers and installation of the discs.
1. Meter Change out Project:
  - A. MXU's are still on back order with unknown shipping date.
2. Riley Engineering:
  - A. Engineer developing and up-dating the District's water infrastructure information left the Company.
  - B. Project information delayed until the end of November.
  - C. Project information to be presented to the Committee Chairman before presenting to the rest of the committee at the December Tech meeting.
3. Call to the Public. No comments.
4. Next meeting is scheduled for Monday, December 13<sup>th</sup>, 2021, at 8:00AM.
5. The meeting was adjourned at 8:04AM.

**Green Valley Domestic Water Improvement District**

**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING NOTICE AND AGENDA**

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the customers of the Green Valley Domestic Water Improvement District and to the general public that the Green Valley Domestic Water Improvement District will hold a meeting open to the public on:

**MONDAY, December 13<sup>th</sup>, 2021, at 8:00AM  
at the Green Valley Water District Conference Room  
3200 S. Camino Del Sol, Green Valley, AZ**

The meeting will be held both in person and remotely by Zoom Video Conference. To access this meeting by Zoom, customers and the public must email the Green Valley Water District at [office@gvwaterdistrict.com](mailto:office@gvwaterdistrict.com) to request an invitation. Please submit your request at least 24 hours in advance and include your email address.

The meeting agenda:

1. Call to order and Roll Call – Hart Krumrine, due to the absence of Chair, Bob Hedden
2. SCADA & FlexNet Propagation Study Up-date
3. Meter Change out project Up-date
4. Riley Engineering Up-date
5. Call to the Public.
6. Next meeting scheduled for Monday, January 24<sup>th</sup>, 2022, at 8:00 AM.
7. Adjournment

**Green Valley Water District**

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**GREEN VALLEY DOMESTIC WATER IMPROVEMENT DISTRICT  
TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Monday, December 13<sup>th</sup>, 2021**

Committee Present:	Joseph (Hart) Krumrine Eric Sullwold Edwin Storey	Patricia (Pat) Carlstad George (Dr.) Orndorff
Committee Absent:	Daniel (Dan) Van Norman Robert (Bob) Hedden	Lee Lemas
District Staff Present:	Dara Duffy	Lora Burruel
Board Directors Present:	Darlene (Dar) Hollingsworth	
Advisors Present:	Raymond (Ray) Weisgarber	
Public Present:	None	
Clerk of the Board:	Luis Rodriguez	

1. Meeting was called to order at 8:00AM by Hart Krumrine, in the absence of Chair, Bob Hedden.
2. SCADA & Flex-Net Propagation study up-date:
  - A. No progress has been made. Still waiting for bids.
3. Meter Change out Project up-date:
  - A. MXU's are still on back order with unknown shipping date. A report is expected in January 2022 on meter change-outs with available MXUs on the shelves.
4. Riley Engineering up-date:
  - A. Riley Engineering presented their Draft Hydrology Study report. The study was focused on Canoa Ranch and the Canoa Ranch proposed expansion. The Study identified one need: Fire Prevention flow at the Canoa Ranch Booster Station pressure zone area. Riley agreed to revise their report to match the District's nomenclature.
5. Call to the Public. No comments.
6. Next meeting is scheduled for Monday, January 24<sup>th</sup>, at 8:00AM.
7. The meeting was adjourned at 8:26AM.

**Green Valley Domestic Water Improvement District**