

Scope of Services

Recommendations, Guidelines and Specifications for Rainwater Harvesting and Recharge Projects

Upper Verde River Watershed Protection Coalition

Munderloh Consulting (Consultant)

Purpose: Analyze existing projects to develop recommendations, guidelines and specification for the expansion of Rainwater Harvesting and Recharge Systems (RHR Systems) throughout the Upper Verde River Watershed Protection Coalition (Coalition) Project Area. The project is broken into Four Tasks as follows:

Task 1: Evaluation of existing systems and lessons learned - \$2,500

- Site visits as necessary and meetings with person(s) responsible for managing and maintaining the installation to evaluate the four existing RHR Systems installed by the Coalition. The analysis will include an estimate of the rainwater captured and recharged and will provide a list of lessons learned and recommendations for future RHR Systems. Systems that will be analyzed include:
 - Yavapai County Adult Probation in Prescott Valley. This site has been in operation since 2018 and has the longest period of record.
 - Prescott Rodeo Grounds.
 - Chino Valley Territorial School
 - Chino Valley Library
- Compile existing engineering drawings or specs in appendices.
- Document the advantages/disadvantages of the RHR Systems compared to the to direct capture and storage ("cistern") types of rainwater systems for the climate in central Yavapai County.

Task 2: Analysis of Yavapai County Requirements for Adopting Rainwater Harvesting and Recharge Systems as a Standard Building Practice - \$2,500

- Review Yavapai County Building codes and meet with Yavapai County Development Services Officials regarding adoption of RHR Systems as a standard building practice.
- Provide estimates of costs for installation for new construction and for retrofit at existing home.

Task 3: Develop Specifications for up to three generic types of RHR Systems - \$4,500

- Information from the first phases will be used to develop specifications and general drawings for up to three generic types of RHR.
 - traditional rock-filled French drain system
 - leeching chamber system
 - "vertical" French drain system
- Development of a capacity look-up table to help determine size of drainage field and amount of excavation required for each system for certain area of roof capture and for a range of three typical percolation rates found in Chino Valley, Prescott Valley and Paulden areas.
- Develop a brochure suitable for general public.

Task 4: Meetings and Review - \$500

- Draft report will be made available for TAC review and comment.
- Attend up to two TAC meetings and one Board Meeting to present findings.

Consultant reserves the right to confer with TAC Chair and Sage Consulting regarding reallocation of funds within the various Tasks with the total contract not to exceed \$10,000. Consultant hourly rates are \$90 per hour.