SAWS Irrigation Plan Review FAQ (DRAFT)

What TCEQ rules is SAWS Conservation using to check irrigation plans for compliance?

- Minimum Standards for the Design of the Irrigation Plan (30 TAC §344.61)
- Minimum Design and Installation Requirements (30 TAC §344.62)

The water meter on my brand-new construction was installed prior to 1/1/2025. Do I need to submit an irrigation plan for my new irrigation system?

- ***YES*. ALL new irrigation systems built in the SAWS service area after 1/1/25 must have a plan submitted to SAWS Conservation.**

If I build an irrigation system after 1/1/25 for a SAWS water customer in Helotes, Castle Hills, Shavano Park, Fair Oaks Ranch, Hill Country Village, Hollywood Park, Somerset, Sandy Oaks or Leon Valley, do I need to submit an irrigation plan to SAWS?

- ***YES*. ALL new irrigation systems built in the SAWS service area after 1/1/25 must have a plan submitted to SAWS Conservation.**

Do I need to submit a plan for irrigation systems constructed prior to 1/1/2025?

- **No.**

What if I've built an irrigation system in 2025 and not turned in a plan?

- **Locations that have not turned in a plan for review will see a delay in landscape variance approval or a delay transferring the water account to the next owner until the plan is submitted for review and approval.**
- **You still need to turn in a plan for SAWS review and approval.** It's in the SAWS Utility Service Regulations for all customers. All irrigation systems in Texas must be constructed to meet TCEQ standards and this is a good way to know if your system is built per the law.

What is the maximum irrigated area for which an irrigation system can be designed at a residential location within the SAWS Service area (*includes other cities with SAWS customers*)?

- Irrigation systems may not be designed to irrigate more than 10,000 square feet at a residential location per SAWS utility service regulations.

Why is measuring static water pressure important?

- Designing the irrigation system to match actual pressure conditions is critical for efficient operation and water conservation.
  For example:
  - If a system is designed for a lower pressure than the actual pressure at installation, components may fail to operate as intended or within manufacturer specifications.
  - Higher than expected pressure can cause water to atomize into a fine mist, which is easily blown away and this uneven distribution of water across sprinkler zones can lead to inadequate irrigation coverage, requiring additional watering to compensate.

How can I measure static water pressure?

- Preferred Method: Attach a pressure gauge directly to the customer service line just beyond the water meter.
- For New Neighborhood Builds:
    - If multiple systems are being installed along the same block, a pressure reading can sometimes be obtained from the No. 1 test cock of an adjacent irrigation backflow device.

Can I measure static pressure at a hose bib?

- **Possibly, but proceed with caution:**
    - If a Pressure Reducing Valve (PRV) is installed between the water meter and the hose bib, the measured pressure at the hose bib will not accurately reflect the static pressure available upstream of the PRV.
    - This is critical because irrigation systems installed between the meter and PRV will operate at a different pressure than what is measured at the hose bib.

What are the pressure requirements for irrigation systems?

- State and local regulations require all irrigation emission devices to be installed to operate within the optimum or recommended pressure range (+/- 10%) specified by the manufacturer for the nozzle and head spacing used.

Why is pressure regulation important in irrigation design?

- Irrigation systems must operate at optimal pressures for efficient water use:
    - Too High: Excessive pressure causes water to atomize into a fine mist, which is easily blown away, leading to uneven coverage and higher water consumption.
    - Too Low: Insufficient pressure prevents sprinkler heads from popping up or distributing water uniformly, also resulting in poor coverage and water leaving the property.

How should pressure regulation be addressed in my irrigation design?

- **Clearly state the method of pressure regulation on the irrigation plan.** When designing an irrigation system, pressure variances across zones—due to differences in size, emission devices, and pressure losses—must be accounted for.

  Examples of Pressure Regulation Statements:

    - **Pressure is regulated at the sprinkler head via pressure-regulated spray bodies.**
    - **Pressure is regulated at the zone valve using flow-control.**
    - **Pressure is regulated at the zone valve using a pressure-reducing dial.**
    - **Pressure is regulated with a PRV.**
- *If no statement of pressure regulation or pressure regulating components are listed, your plan may be rejected if it is determined components would be operating outside of manufacturer specifications.*
- **Important Note:** Pressure-regulating components (e.g., heads, valves, dials) must be included in the system legend.

What should I consider when selecting pressure-regulating components?

- It is critical to choose components rated by the manufacturer to operate within the system's static water pressure.
    - A pressure-regulated spray body is rated for a maximum of 70 PSI by the manufacturer. If the measured static water pressure is 115 PSI, the 70 PSI spray bodies will likely not operate at the designated maximum pressure, and alternative pressure-reducing methods must be considered.

Can I submit an irrigation plan without the water meter number?

- **Yes.** If the water meter number is not available, you may list the property address instead.
- ***NOTE: YOU MAY NOT OPERATE THE SYSTEM WITHOUT A SAWS WATER METER IN PLACE.***

What happens if the meter number or address is incorrect or unidentifiable?

- If the provided meter number or property address cannot be verified, SAWS may request additional follow-up information to confirm the site location.

Is the builder or owner's contact information required?

- **Yes.** You must provide the contact details of the responsible party or system owner, such as the builder or homeowner.
    - Failure to include the builder or owner's contact information may delay the review process until the necessary details are obtained.

Does SAWS irrigation plan review apply to properties outside the City of San Antonio limits?

- **Yes.** As of July 2024, the San Antonio Water System (SAWS) Utility Service Regulations (USR) were updated to require irrigation plan review—and future irrigation inspections—**for all customers receiving water services from SAWS, regardless of location**.

Do I need to submit irrigation plans for commercial properties?

- **Commercial irrigation systems installed OUTSIDE of the San Antonio City Limits must be presented to SAWS Conservation for review and approval.** COSA Development Services is currently responsible for reviewing commercial plans for systems installed INSIDE of the San Antonio City Limits.

In which file format should I submit my irrigation plans?

- **The preferred file format is PDF**, but most other image formats are acceptable, provided they are submitted at a high enough resolution to ensure that fine details and text are easily readable and clear to the reviewer.
- Plans submitted at too low of a resolution to accurately review will be returned, and a higher resolution copy requested.

Do I need to include arcs in in my irrigation plan?

- **Yes.** Arcs allow plan reviewers to evaluate the coverage of the irrigated area quickly and accurately, ensuring the design meets coverage requirements.

Do I need to include mainline and lateral line pipe sizing on my plan diagram?

- **Yes.** Mainline and lateral line pipe sizing should be included for each section of pipe displayed on your diagram.
    - Pipe size documentation allows our plan reviewers to verify accurate pressure loss calculations and will be reviewed in future site inspections.

What should I know about hydrozoning when preparing my irrigation design?

- Hydrozoning is the practice of grouping plants with similar water needs, grown in similar microclimates, and using components with matched precipitation rates within the same irrigation zone. It is a key consideration and requirement for effective irrigation design.
    - Matched Plant Material: Plants with different water requirements—such as shrubs, trees, and grass—should not be grouped in the same zone.
    - Matched Microclimates: Plants grown in deep shade typically require less water than the same species in direct sunlight. These plants should be grouped in separate zones based on their exposure to sunlight.
    - Matched Precipitation Rates: Different irrigation components emit water at varying rates.
      For example:
        - Spray nozzles may emit 1.5 inches of water per hour.
        - Rotors may emit only 0.4 inches per hour.

      Mixing these components in the same zone leads to uneven coverage. All components within a zone should have the same precipitation rate to ensure uniform water distribution.
    - Spray heads and bubbler heads may not be on the same zone.
    - Drip irrigation and bubbler heads may not be in the same zone.

How long should the review process take?

- **SAWS Conservation's goal is to review and return the plan within five (5) business days.**
    - If the plan contains no deficiencies, it may be approved and returned more quickly.
    - If the plan contains deficiencies, it depends on how quickly the revisions are made and returned to SAWS for review.
        - If the plan has deficiencies, you will receive a detailed email containing which checklist requirements are not up to TCEQ standards.

I've included the written plan scale on the plan (example: 1" = 20 feet). Do I need to include the visual scale on the plan?

- **YES.** The visual scale helps to overcome differences if the plan is printed. Please include the numerical and graphical scales.

What is the SAWS tolerance within a zone for heads/nozzles that have different precipitation rates?

- SAWS allows a **maximum of 15% variation** in precipitation rate between different emission devices in the same zone.
    - Plans with zone PR's that have a variation of more than 15% will be returned for revisions due to uneven application uniformity.

Does SAWS allow VAN (variable arc nozzles) nozzles on irrigation systems?

- **YES.** VAN nozzles can be very effective to create an irrigation system that provides excellent coverage, but runtimes can be overscheduled due to high precipitation rates.

- **(updated) VAN and regular matched precipitation rate spray can be used in the same zone as long as the precipitation rates are within 15% of each other.**

Does SAWS allow side strip nozzles on irrigation?

- **YES**, they can be an effective solution in narrow areas that need irrigation at lower rates.
    - **CAUTION: If mixing strip nozzles with non-strip nozzles on the same zone, please ensure all emission devices have a matched precipitation rate of ±15% throughout the entire zone.**

What is the friction loss on the new SAWS Diehl Electronic meters?

- 5/8" meter = 4.3psi @ 15gpm
- 3/4" meter = 2.0psi @ 15gpm
- 1" meter = 1.5psi @ 25gpm
- 1 1/2" meter = 3.5psi @ 70gpm
- 2" meter = 3.6psi @ 110gpm
- **METER SPEC SHEET:** https://www.diehl.com/cms/files/HYDRUS-.pdf?download=1