



2025

Legacy Turnout Sites Requirements Guide



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SOUTH MAIN TURNOUT

Section 1: Purpose

This document outlines the standard requirements and procedures for water withdrawal sites owned and operated by entities other than the Central Arizona Water Conservation District (CAWCD). These sites must obtain the appropriate agreements, land use authorizations, and meet all applicable facility standards to withdraw water from the Central Arizona Project (CAP) system.

CAP recently conducted a comprehensive review of all facilities operating on the CAP system to assess compliance with current standards and requirements. During this review, it was identified that out of more than 125 non-CAWCD-owned facilities, approximately 75 did not meet current operational requirements, lacked equipment standardization, or lacked the necessary agreements.

The sites were constructed prior to 2025 and are classified as **Legacy Turnouts**. Customers who operate these Legacy Turnouts have been contacted via the Water Withdrawal Notification process to inform them of the non-compliance and provide necessary next steps toward aligning their facilities with CAP's agreement and current operational and engineering standards.

To ensure CAWCD continues to serve the interests of all water users effectively, it is now necessary to bring all facilities operating on the CAP canal system into full compliance with established standards. Operators of these withdrawal sites may need to improve their site to meet CAP Standard and may need to obtain one or more of the following agreements:

- **Land Use License/Consent:** Operators must obtain a land use license/consent that grants a water user access to CAWCD facilities/property, operate their equipment and ensures that the withdrawal site does not interfere with CAP operations.
- **Maintenance and Transfer Agreement:** Some sites may require a maintenance and transfer agreement that details the maintenance responsibilities and ownership of assets, as well as the communication protocols between the water user and CAWCD.
- **Water User Agreement:** In rare cases, a three-party agreement between a CAWCD subcontractor, a CAWCD subcontractors' customer, and CAWCD may be necessary.

CAP recognizes the complexities involved in navigating this new process and is committed to being a supportive and dedicated partner for all water users who withdraw water from the CAP system through customer-owned facilities. We understand the need to provide adequate time to make the necessary improvements and enter into the required agreements. To support this effort, this initiative includes three key milestones:

- **December 2025** - Land use licenses executed,
- **December 2026** - Proposed modifications to comply with CAP standards reviewed and approved by CAP by the end of 2026 and
- **December 2027** - Customer site upgrades and required agreements completed and in place by the end of 2027.

Section 2: Land Use Agreement/ Land Case

CAP is a federal Reclamation project, managed by CAWCD on behalf of Reclamation, and as such, all land use authorizations must be in compliance with CAWCD's Operating Agreement with the United States and all applicable federal laws, regulations, and directives.

This section will help walk the Applicant through the process of initiating and ultimately obtaining the required authorization needed to modify, construct, operate, and maintain a Turnout along the CAP and will apply to sites that have infrastructure on CAWCD property.

2.1

LANDS USE APPLICATION

Prior to any modifications to an existing turnout, a Land Use License/Consent application must be submitted to CAP for review. Along with the application, the applicant will also need to submit preliminary design plans, a legal description that delineates the area of CAP property that will be impacted by the project, and proof of insurance. The application and details concerning the other required information listed above can be found on CAP's website or by clicking on the following link.

<https://www.cap-az.com/documents/departments/lands/Land-Use-and-Consent-Application-with-POD-20200220.docx>

PROJECT PLANS

Submit one electronic copy of the design plans depicting the modifications that will be completed on the existing turnout facility. CAP boundaries must be identified in the plans.

NOTE: *The width of the license area/rights-of-way for facilities is limited to the minimum width necessary for construction and maintenance operations and for user safety. A minimum width of 10 feet or the width of construction plus 10 feet (whichever is greater) is generally required. Besides the area occupied by the facility, the right-of-way contains areas necessary for operation and maintenance. In some cases, such areas may exist on both sides of the facility; in other cases, perhaps only on one side of the facility. Historic and customary operation and maintenance will be considered, along with best management practices in establishing the final right-of-way width needed for each individual Project.*

PROPERTY IDENTIFICATION / LEGAL DESCRIPTION

The legal description must be provided in the western grid system of township/range/section and metes and bounds format. Identify the CAP boundaries on the design plans.

PROOF OF INSURANCE

CAP requires proof of liability insurance before the execution of a License or access to CAP property. Applicants must provide a Certificate of Insurance from an “A” rated or better company that names both the United States and the Central Arizona Water Conservation District as additional insureds **or equivalent proof of self-insurance**. Minimum deductibles are noted below:

- Workers Compensation and Employers Liability as required by Arizona Law
- General Liability (with Bodily Injury, Property Damage) – \$1,000,000 Per Occurrence
- Business Automobile Liability Insurance – \$1,000,000 Per Occurrence
- Umbrella – \$1,000,000

These insurance limits are effective as of the publication date of this guidance. They may be subject to change over time or as conditions require.

2.2

ADMINISTRATIVE AND LAND USE FEES

CAP may assess administrative fees to cover CAP's time related to both design review and construction oversight while on CAP property. Once the application is reviewed and the scope of work is evaluated, a fee estimate may be provided for both the design and construction components of the project.

Although fees are typically required, they will not be assessed for sites addressed under the Legacy Turnout Project, provided the site is brought up to CAP Standards within the timeframe specified in Section 1. If a site is not in compliance within the required timeframe, fees will be applied.

If applicable, the design fee must be submitted before the design review will begin. If payment is not received within 90 days after the invoice is provided, CAP may close the file. It is expected that processing fees will cover all anticipated charges to administer the Project; however, for highly complex projects or changes in project scope, additional fees may be assessed. If additional fees are assessed, the Applicant will be notified in writing.

If applicable, the construction fee must be submitted before a Construction Period Land Use License is issued to the facility. It is expected that the fees will cover all anticipated charges required to administer the construction and commissioning portion of the Project; however, for highly complex projects or changes in project scope during construction, additional fees may be assessed. If additional fees are assessed, the Applicant will be notified in writing.

If the Applicant has any facilities on CAP property that are owned and operated by the Applicant, their contractors, or assigns, a Land Use License will need to be obtained by the Applicant. As part of the Land Use License, long-term land use fees may also be assessed for the use of CAP property by the Applicant's facilities. Fees must be paid before a Land Use License is issued to the facility.

CAP personnel may include, but are not limited to: CAP Inspector, Project Engineer, Electrical Engineer, Cathodic Protection Technician, Project Manager, and Instrumentation and Controls Engineer.

The fees will reflect fair market value using methods approved by the Bureau of Reclamation and will be re-determined every five years.

Upon completion of turnover of the facility improvement, the Applicant will receive a separate invoice from CAP for the recurring Land Use Fees.

Checks must be made payable to **the Central Arizona Water Conservation District**.

2.3 DESIGN REVIEW

Once a complete application package has been submitted and accepted, the first review period typically takes approximately four to five weeks. Comments will then be provided back to the Applicant. Each subsequent review takes approximately two weeks. The complexity of the modifications and how well comments are addressed between submittals play an important role in how quickly a project moves through the process.

Once the Land Use License (LUL)/Consent has been executed by the facility owner and CAWCD, the facility owner is authorized to initiate design efforts for the required site improvements (if applicable). The design must incorporate all modifications necessary to meet the requirements outlined in Section 6: Engineering Requirement.

2.4 FACILITY IMPROVEMENTS/ CONSTRUCTION

Prior to any construction activity on CAP property, CAP will have a pre-construction meeting with the Applicant, its contractor, and all associated subcontractors. Safety and security while on CAP property are a priority! Violations of any safety or security requirements or any other stipulation found within the Land Use License may result in stopped work or termination of the License.

For any facilities associated with the Project located on CAP property that will ultimately be turned over to Reclamation to own and for CAP to operate, a Maintenance and Transfer Agreement will need to be executed prior to the start of construction. As-builts for all utilities and facilities located on CAP property must be kept current during construction. Weekly submittals of the latest version of the as-built drawings will be required. Survey information related to buried utilities on CAP property will be required.

2.5 COMMISSIONING AND TURNOVER

Final As-builts will need to be submitted, reviewed and approved by CAP before the Applicant can order and schedule water through CAP's Water Operations Department. Commissioning shall be performed by customer and flowmeter factory representatives designated with CAP oversight. Title to any modifications of the CAP System resulting from the Project shall remain with the United States.

Section 3: Maintenance and Transfer Agreement

The Applicant is required to enter into a Maintenance and Transfer Agreement with CAWCD for the life of the turnout facility as it pertains to features or systems located on the CAWCD property. The purpose of the Maintenance and Transfer Agreement is to define ownership of specific assets related to the turnout and to formalize which party will be responsible for maintaining those assets that exist on CAP property.

Each site is unique, and specific requirements for the transfer of facilities will be determined during the lands case process.

Ownership and maintenance responsibilities for flowmeters, communication equipment, and isolation facilities will be clearly identified as part of the Maintenance and Transfer Agreement. The agreement must be drafted and approved by both the Applicant and CAWCD prior to final turnover of the facilities.

Section 4: Water Use Agreement

The Water Use Agreement (WUA) establishes the formal relationship between the Central Arizona Water Conservation District (CAWCD), its subcontractor, and the subcontractor's customer when water deliveries occur at the customer's withdrawal facility. It outlines the roles, responsibilities, and conditions each party must follow to ensure the effective delivery and use of CAP water. The WUA clarifies the contractual responsibilities between CAP, the CAP subcontractor, and the CAP subcontractor's customer for delivery of CAP water to the customer. Overall, the WUA serves as a key document that protects the interests of all parties involved and supports the reliable and efficient use of Colorado River water supplies.

EXCEPTION: A WUA is not required if the delivery is made directly to an active Arizona Department of Water Resources (ADWR) permitted Underground Storage Facility (USF) or Groundwater Savings Facility (GSF).

Section 5: Engineering Requirements for Turnout

5.1

ENGINEERING REQUIREMENTS FOR TURNOUTS

This section provides performance requirements and standards for the design, retrofit or compliance of turnout sites. The following paragraphs describe system requirements.

FLOW METERS

Each Legacy Turnout site requires a flow meter. Flow meters must meet one of the following standards:

- ANSI/AWWA C701 – Cold Water Meters – Turbine Type, for Customer Service
- ANSI/AWWA C715 – Cold Water Meters - Electromagnetic and Ultrasonic Type for Revenue Applications
- ANSI/AWWA C751 – Magnetic Inductive Flowmeters (Magmeters)

Additionally, each flow meter must be capable of communicating to the CAP system through a CAP wireless connection. All sites with a discharge pipeline 10-inch diameter or larger are required to provide real-time flow signals to CAP headquarters SCADA system. Turnout sites where the discharge is smaller than a 10-inch pipe will be required to communicate totalized flow daily back to CAP for billing purposes.

Each turnout shall be equipped with a flowmeter to accurately measure the flow of water from the CAP system. Since flow measurements are used for revenue billing, accuracy of the flow-metering system is essential for both the CAWCD and for the Water User.

Operators of Legacy Turnouts flowmeters may continue using an existing flowmeter if it meets the following requirements and is approved by CAP.

1. Customers operating Legacy Turnouts sites may own and operate an official accounting flow meter, provided they provide CAP with serial and model numbers.
2. The measuring device must comply with the manufacturer's specifications and applicable AWWA standards.
3. The device must be installed, maintained and tested in accordance with the manufacturer's requirements and applicable AWWA standard.
4. The specific site required flow and totalized flow signals must be communicated back to CAP utilizing serial Modbus/RTU.
5. CAP and the Legacy Turnout operator will conduct side-by-side visual inspections and/or flow verification on an annual basis to ensure proper operation and compliance with all relevant standards. These inspections will include a thorough review of system functionality, equipment condition, and flow measurements. Both parties will jointly assess the performance and make necessary adjustments or recommendations to maintain optimal system integrity. The findings from these inspections will be documented and shared with both CAP and the operator to inform any required actions for system improvements or upgrades.

Alternatively, operators of Legacy Turnouts may choose to procure a CAP-specified flow meter, install it in accordance with CAP standards, and transfer ownership to CAWCD, which will then assume responsibility for its operation and maintenance .

6. Customers may procure and install in accordance with the manufacturer's specifications and applicable AWWA standards and transfer ownership of a CAP Specified Flow meter upon installation. See attached CAP standard flowmeter technical requirements.
7. The specific site required flow and totalized flow signals must be communicated back to CAP utilizing serial Modbus/RTU.

Careful attention shall be given to flowmeter installation details that may affect the accuracy performance of the device and can be device type specific.

ISOLATION/DISCONNECT

The Legacy Turnout sites must be capable of being isolated or disabled to prevent operation. This can be accomplished with a lockable shut-off mechanical valve, a lockable electrical disconnect or other approved means. Each site will be individually evaluated for compliance with the above-mentioned standards and requirements. In the event the existing flow meter does not meet the identified AWWA standard or is not capable of satisfying the communication requirements, the owner is expected to purchase and install new equipment that meets these minimum requirements. The installation of new equipment that meets the required standards will be in accordance with AWWA standard M6 which may require piping and other modifications to the existing system.

TURNOUT INLET AND OUTLET PIPING

The inlet pipeline connects the CAP canal to the turnout flow metering and control facilities. Pumped turnouts inlet piping typically consists of a submersible pump installed over or adjacent to the canal liner directly in the canal. In some cases, pumped turnouts may not be able to isolate the system with a valve, but they shall be provided with a lockable electrical isolation device that ensures that the equipment or circuit is completely de-energized. Appropriate electrical isolation devices, such as disconnect switches, circuit breakers, and isolators, must be used to separate electrical components from their power source.

Outlet pipelines are constructed to connect the flow metering and control facilities with the Water Users pipeline or distribution system. Outlet pipelines shall contain an isolation valve that allow the flowmeter to be isolated from the Water Users system for maintenance purposes.

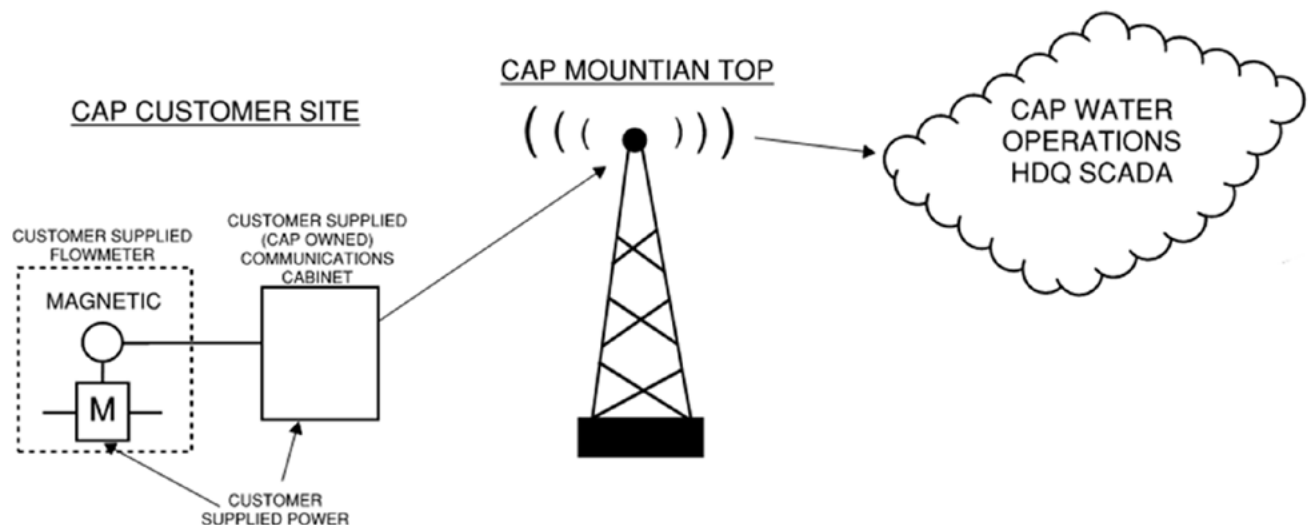
5.1

COMMUNICATION AND SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) REQUIREMENTS

As part of the Legacy Turnout Project, all customer-owned turnout sites are required to maintain communication of flow data to CAP in accordance with established system standards. Site-specific requirements are based on the size of the discharge pipeline following the manifold (if applicable) and are intended to ensure accurate real-time monitoring and operational reporting. In addition to flow data reporting obligations, customers are responsible for the procurement, installation, and turnover of communications equipment necessary to meet CAP's SCADA system requirements.

These requirements include:

1. All customer-owned turnout sites are required to communicate flow data to CAP. Site requirements are characterized on the size of a single discharge pipeline after the manifold (if applicable):
 - a. Turnouts with a Discharge Pipeline **10 Inches or Larger**:
 - i. Must be monitored through the CAP SCADA system.
 - ii. Are required to transmit "real-time" flow signals to the CAP Headquarters SCADA system.



5.2

BILL OF MATERIALS AND ESTIMATED COSTS [GUIDANCE ONLY]

The information provided in **Table 1.0** below is intended solely for budgetary purposes and may not accurately reflect actual pricing. Prices are based on estimates as of April 2025 and may be subject to change due to inflation, market conditions, or other external factors. Vendors may offer varying pricing, and this estimate does not account for labor, supporting structures, electrical work, concrete, sales tax, markup, or any external construction factors, including but not limited to these items. Additionally, these estimates do not cover all potential upgrades, and each site will need to be evaluated individually, considering its existing infrastructure and configuration.

This information is intended to assist Legacy Turnout operators, but it is highly recommended that customers contact the Central Arizona Project (CAP) to schedule a site visit. A site assessment will help define the scope of work more accurately and provide the necessary information to best prepare for required improvements.

Table 1.0

Customer Communications Cabinet for Legacy Turnout Flowmeters

Item #	Model	Description	Estimated Costs (USD)
1	EDGE	Edge device	7,000
2	Radio	Radio	750
3	3R or >	NEMA Cabinet (3R)	850
4	DN100	4" E+H Proline Promag W 800 Electromagnetic FM	6,000
5	DN150	6" E+H Proline Promag W 800 Electromagnetic FM	7,000
6	DN200	8" E+H Proline Promag W 800 Electromagnetic FM	8,000
7	DN300	12" E+H Proline Promag W 800 Electromagnetic FM	13,000
8	DN450	18" E+H Proline Promag W 800 Electromagnetic FM	18,000
9	DN500	20" E+H Proline Promag W 800 Electromagnetic FM	19,000
10	DN600	24" E+H Proline Promag W 800 Electromagnetic FM	21,000