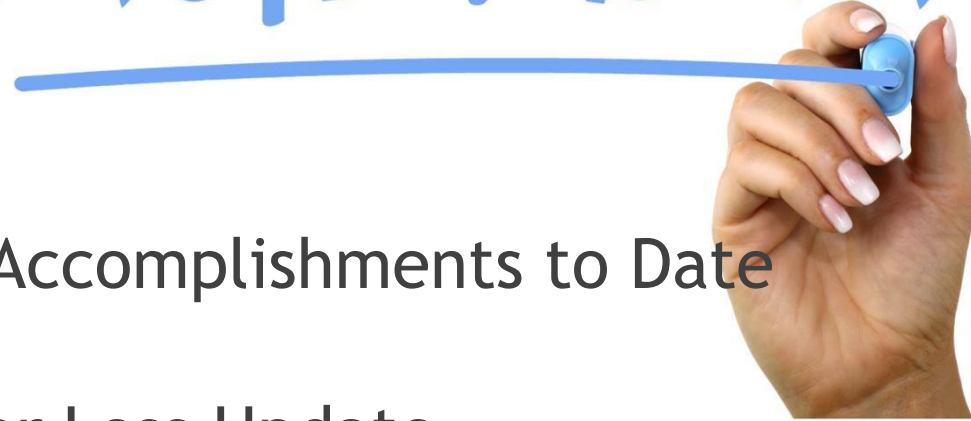


# Alliance Water Resources, Inc. Operations Update

**Martin County Water District**

June 8, 2022

# AGENDA



- ▶ Key Accomplishments to Date
- ▶ Water Loss Update
- ▶ Project Updates
- ▶ Discussion/Questions

## Key Accomplishments to Date

- ▶ New Excavator purchased for use in Martin County
- ▶ Peracetic Acid has been approved for use at both WWTP's and is being fed
- ▶ New billing software purchased and Implemented
- ▶ QGIS and GEOSYNC CLOUD Implementation.
- ▶ 25 meters GIS Mapped
- ▶ Leak Mapping on GIS
- ▶ Kept reservoir levels up while battling pump issues





# Key Accomplishments to Date

- ▶ Master Meter Zones Identified
- ▶ Water Loss Control Implementation
- ▶ Critical Operational Equipment for Regulatory Compliance and Leak Detection
- ▶ Made several hydraulic corrections in the system with a bore machine and poly water line
- ▶ Purchased New Trench Box for Safe Excavation
- ▶ New Pump at Meathouse Booster Station
- ▶ Repaired broken valve
- ▶ **Worked with the county to clean Reservoir**



# Key Accomplishments to Date

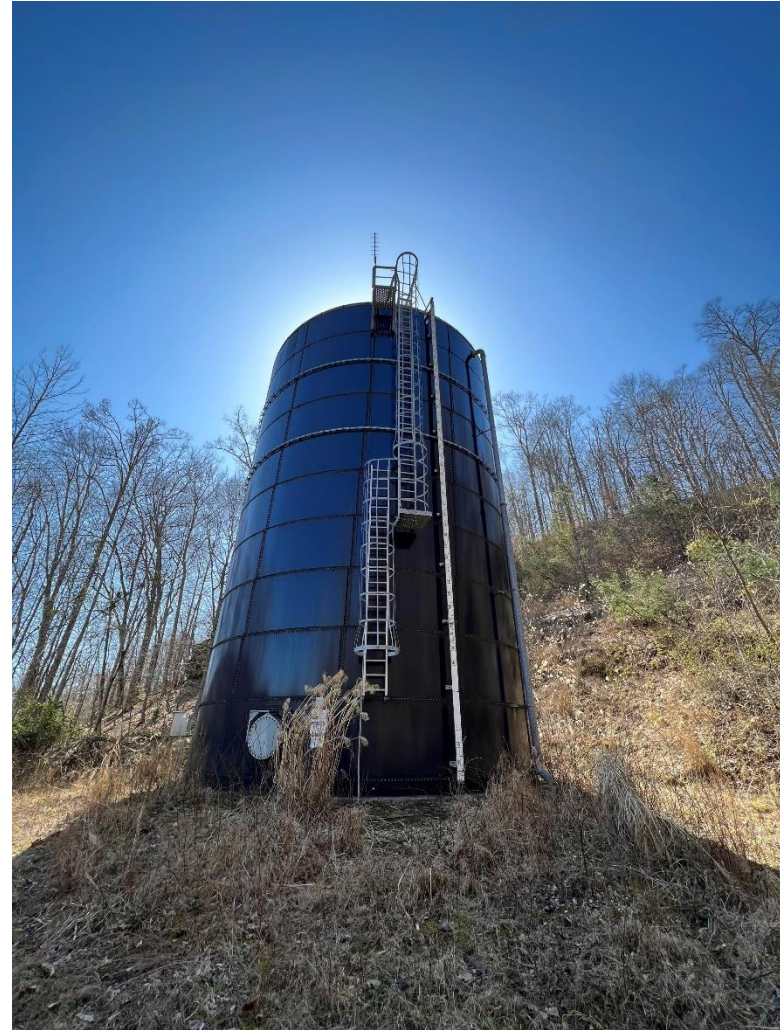
- ▶ Replaced a broken and leaking hydrant in the Warfield area
- ▶ Installed New Booster Station Building at Cassell Branch
- ▶ Purchased New Booster Station Building for Meathouse Booster Station
- ▶ **6 Trucks brought from Alliance Water Resources and Provided for District Use**
- ▶ Repaired the District Excavator and Purchased New Tracks
- ▶ **AWR purchased a Dump Trailer for use**
- ▶ **AWR Purchasing a New Excavator for use in Martin County**



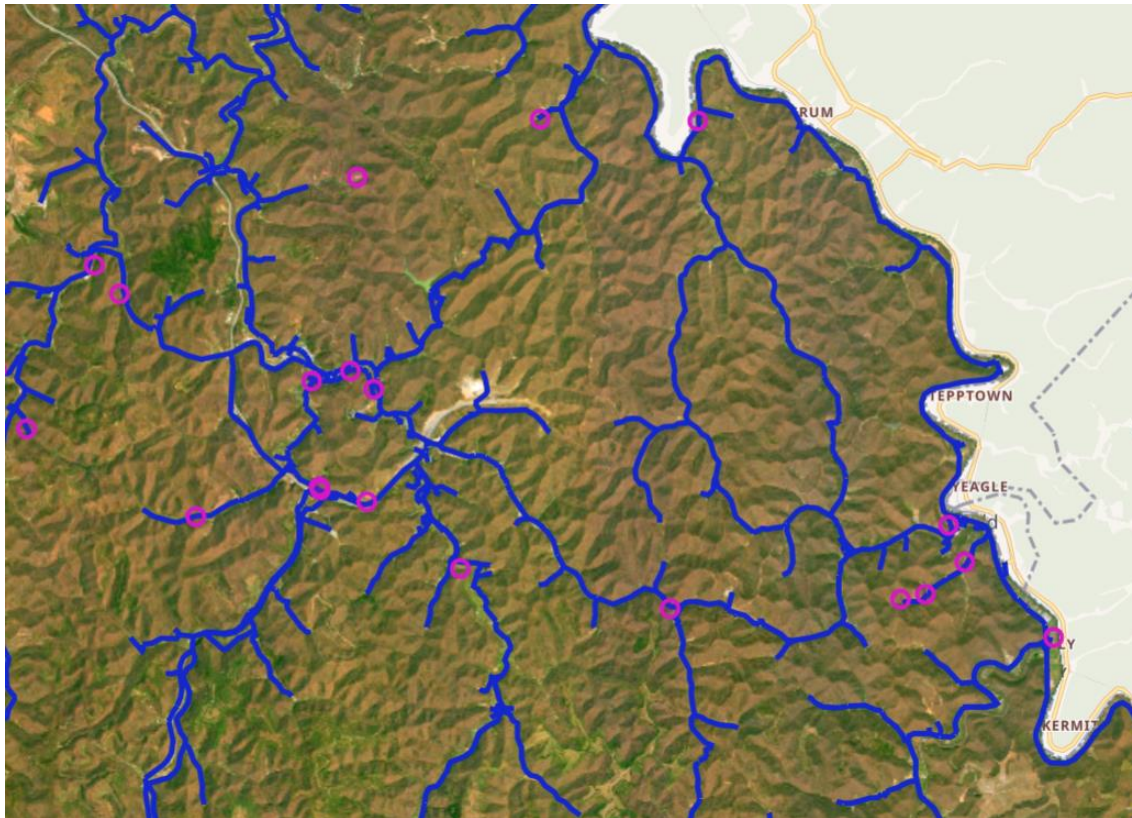


# Key Accomplishments to Date

- ▶ Fixing Hydraulic and System Issues the Right Way
- ▶ 10 Newly Acquired Licenses in the District
- ▶ Improved Efficiency in Meter Reading
- ▶ 10 Theft of Water since January
- ▶ Inventory Control Program
- ▶ Graveled Access Road for Clearwells
- ▶ Pump Redundancy at 292 Booster Station
- ▶ New Pump at Buffalo Horn Booster Station
- ▶ Cleaned up on ALL Booster Stations and Tank Sites



# Key Accomplishments To Date



- ▶ Data collection for CIP
- ▶ PSC rate increase
- ▶ Loan approval from KRWA board and MCWD board
- ▶ Customer Complaint Tracking

| WATER LOSS THROUGH THE YEARS |                |                                   |
|------------------------------|----------------|-----------------------------------|
| Year                         | Production     | Loss/based on average consumption |
| 2004                         | 654.925        | 73%                               |
| 2005                         | 635.820        | 72%                               |
| 2006                         | 595.314        | 70%                               |
| 2007                         | 596.649        | 70%                               |
| 2008                         | 628.100        | 72%                               |
| 2009                         | 616.037        | 71%                               |
| 2010                         | 706.247        | 75%                               |
| 2011                         | <b>707.558</b> | 75%                               |
| 2012                         | 677.316        | 74%                               |
| 2013                         | 688.024        | 74%                               |
| 2014                         | 683.843        | 74%                               |
| 2015                         | 661.022        | 73%                               |
| 2016                         | 696.292        | 75%                               |
| 2017                         | 695.581        | 75%                               |
| 2018                         | 668.494        | 74%                               |
| 2019                         | 666.399        | 73%                               |
| 2020                         | 647.228        | 72%                               |
| 2021                         | 638.312        | 74%                               |
| 2022                         | 621.71         | 71%                               |

350+ Leaks Repaired  
CURRENT PACE

# WATER LOSS THROUGH THE YEARS



### WATER LOSS THROUGH THE YEARS WITH AWR

| MONTH        | PRODUCTION         | CONSUMPTION        | OTHER KNOWN USE   | LOSS       |
|--------------|--------------------|--------------------|-------------------|------------|
| <b>2020</b>  |                    |                    |                   |            |
| JAN          | 56,546,000         | 14,830,000         | 828,000           | 72%        |
| FEB          | 50,284,000         | 12,846,000         | 699,000           | 73%        |
| MAR          | 53,702,000         | 11,651,000         | 732,000           | 77%        |
| APR          | 52,441,000         | 12,727,000         | 806,000           | 74%        |
| MAY          | 54,077,000         | 15,431,000         | 745,000           | 70%        |
| JUN          | 52,524,000         | 13,154,000         | 734,000           | 74%        |
| JUL          | 54,433,000         | 19,448,000         | 900,000           | 63%        |
| AUG          | 55,159,000         | 15,005,000         | 905,000           | 71%        |
| SEPT         | 53,436,000         | 13,425,000         | 904,000           | 73%        |
| OCT          | 55,673,000         | 15,610,000         | 829,000           | 70%        |
| NOV          | 53,448,000         | 16,818,000         | 872,000           | 67%        |
| DEC          | 55,505,000         | 13,028,000         | 987,000           | 75%        |
| <b>TOTAL</b> | <b>647,228,000</b> | <b>173,973,000</b> | <b>9,941,000</b>  | <b>72%</b> |
| <b>2021</b>  |                    |                    |                   |            |
| JAN          | 59,453,000         | 12,255,000         | 878,000           | 78%        |
| FEB          | 49,582,000         | 12,790,000         | 744,000           | 73%        |
| MAR          | 55,257,000         | 11,678,000         | 848,000           | 77%        |
| APR          | 50,859,000         | 13,070,000         | 911,000           | 73%        |
| MAY          | 52,395,000         | 14,355,000         | 955,000           | 71%        |
| JUN          | 50,619,000         | 16,136,000         | 1,126,000         | 66%        |
| JUL          | 52,152,000         | 13,937,000         | 1,160,000         | 71%        |
| AUG          | 54,175,000         | 13,141,000         | 1,226,000         | 73%        |
| SEPT         | 51,326,000         | 17,268,000         | 879,000           | 65%        |
| OCT          | 54,261,000         | 8,448,000          | 610,000           | 83%        |
| NOV          | 52,900,000         | 14,015,000         | 971,000           | 72%        |
| DEC          | 55,333,000         | 10,570,000         | 785,000           | 79%        |
| <b>TOTAL</b> | <b>638,312,000</b> | <b>157,663,000</b> | <b>11,093,000</b> | <b>74%</b> |
| <b>2022</b>  |                    |                    |                   |            |
| JAN          | 52376000           | 13531000           | 984000            | 72%        |
| FEB          | 50301000           | 12437000           | 954000            | 73%        |
| MAR          | 54170000           | 12399000           | 961000            | 75%        |
| APR          | 50411000           | 13922000           | 907000            | 71%        |
| MAY          | 51788000           | 17117000           | 1118000           | 65%        |
| <b>TOTAL</b> | <b>621,710,400</b> | <b>166,574,400</b> | <b>11,817,600</b> | <b>71%</b> |

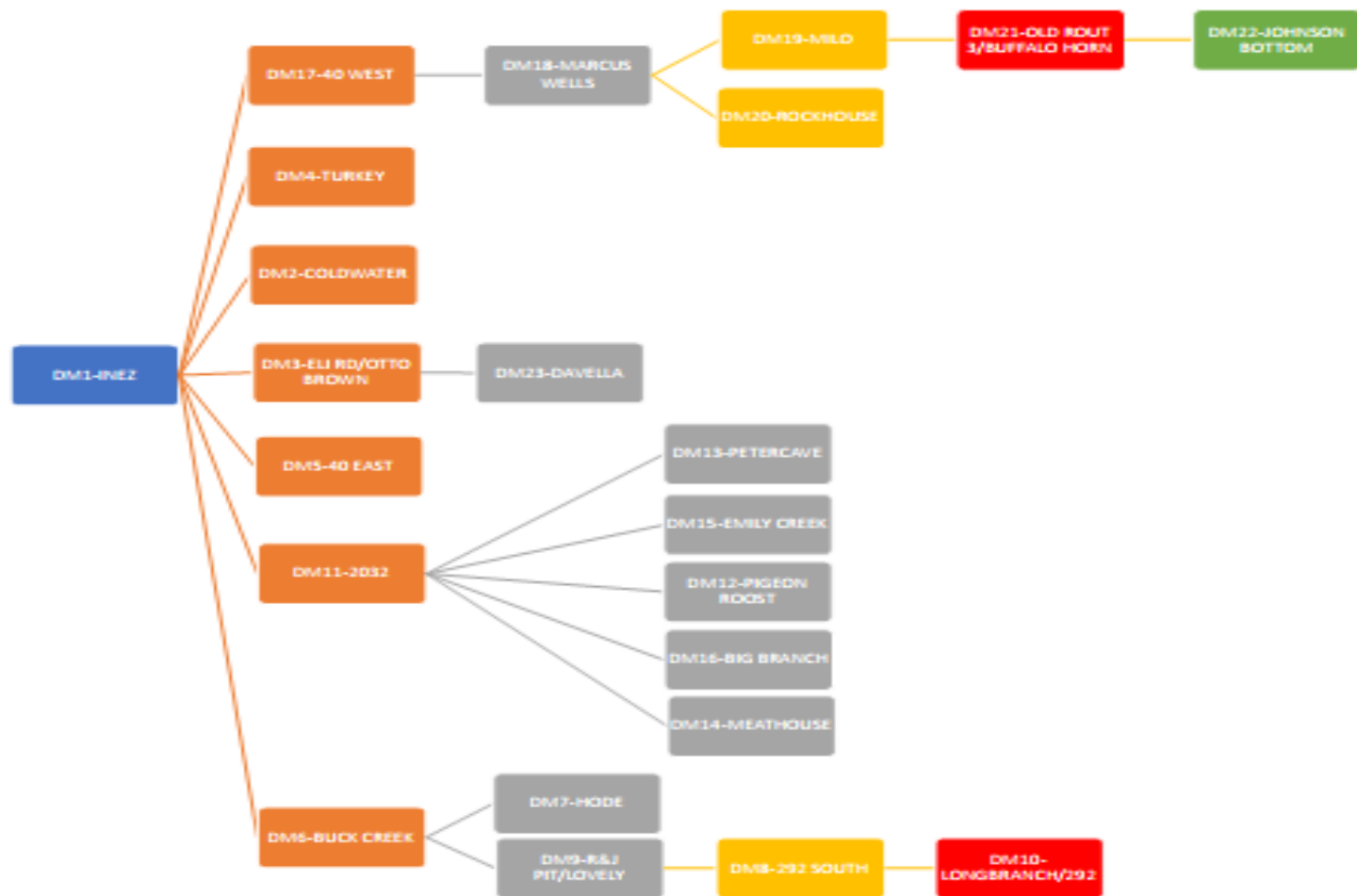
CURRENT PACE

# WATER LOSS WITH AWR

|      | LOCATION          | WATER LOSS PERCENTAGE | MG LOST |
|------|-------------------|-----------------------|---------|
| DM1  | INEZ              | 90%                   | 20.969  |
| DM2  | COLDWATER         | 69%                   | 2.022   |
| DM3  | OTTO BROWN        | 8%                    | 0.078   |
| DM4  | TURKEY            | 72%                   | 2.089   |
| DM5  | 40 EAST           | 98%                   | 4.294   |
| DM6  | BUCKCREEK         | 368%                  | UNK     |
| DM7  | HODE              | 50%                   | 0.995   |
| DM8  | 292 S @ RR BRIDGE | 34%                   | 0.144   |
| DM9  | R&J PITT          | 27%                   | 0.134   |
| DM10 | LONG BRANCH       | UNK                   | UNK     |
| DM11 | ROCKCASTLE 2032   | 80%                   | 1.529   |
| DM12 | PIGEON ROOST      | 50%                   | 0.195   |
| DM13 | PETER CAVE        | -87%                  | UNK     |
| DM14 | MEATHOUSE         | 44%                   | 0.236   |
| DM15 | EMILY CREEK       | 41%                   | 0.119   |
| DM16 | BIG BRANCH        | 12%                   | 0.01    |
| DM17 | 40 WEST           | 81%                   | 0.56    |
| DM18 | MARCUS WELLS      | 48%                   | 0.714   |
| DM19 | MILO              | 75%                   | 1.333   |
| DM20 | ROCKHOUSE         | 21%                   | 0.095   |
| DM21 | OLD RT 3          | 59%                   | 1.199   |
| DM22 | JOHNSON BOTTOM    | 58%                   | 0.117   |
| DM23 | DAVELLA           |                       |         |

## WATER LOSS PERCENTAGE BY ZONE

# MASTER METER FLOW CHART

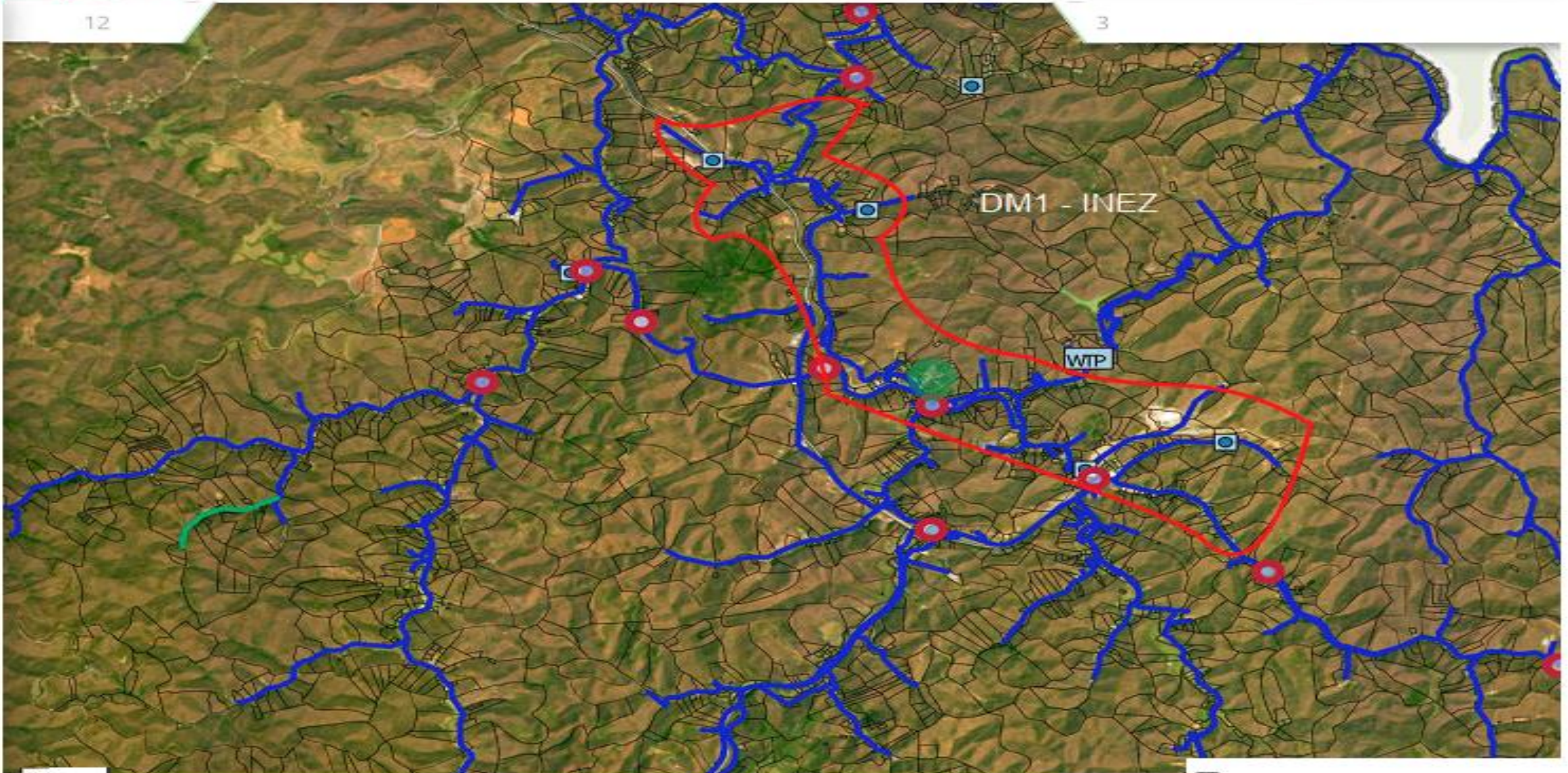




# MASTER METER FLOW CHART





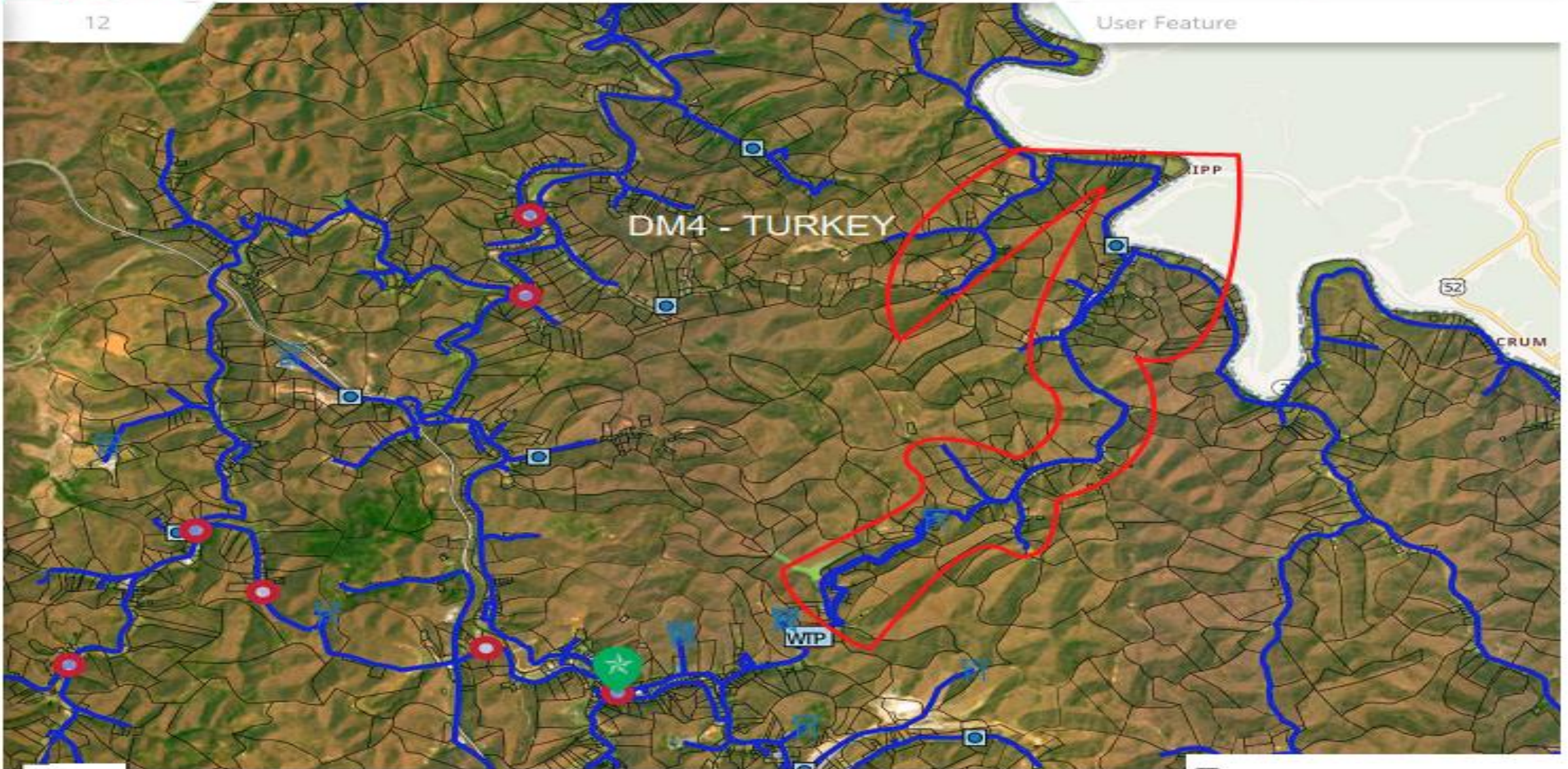




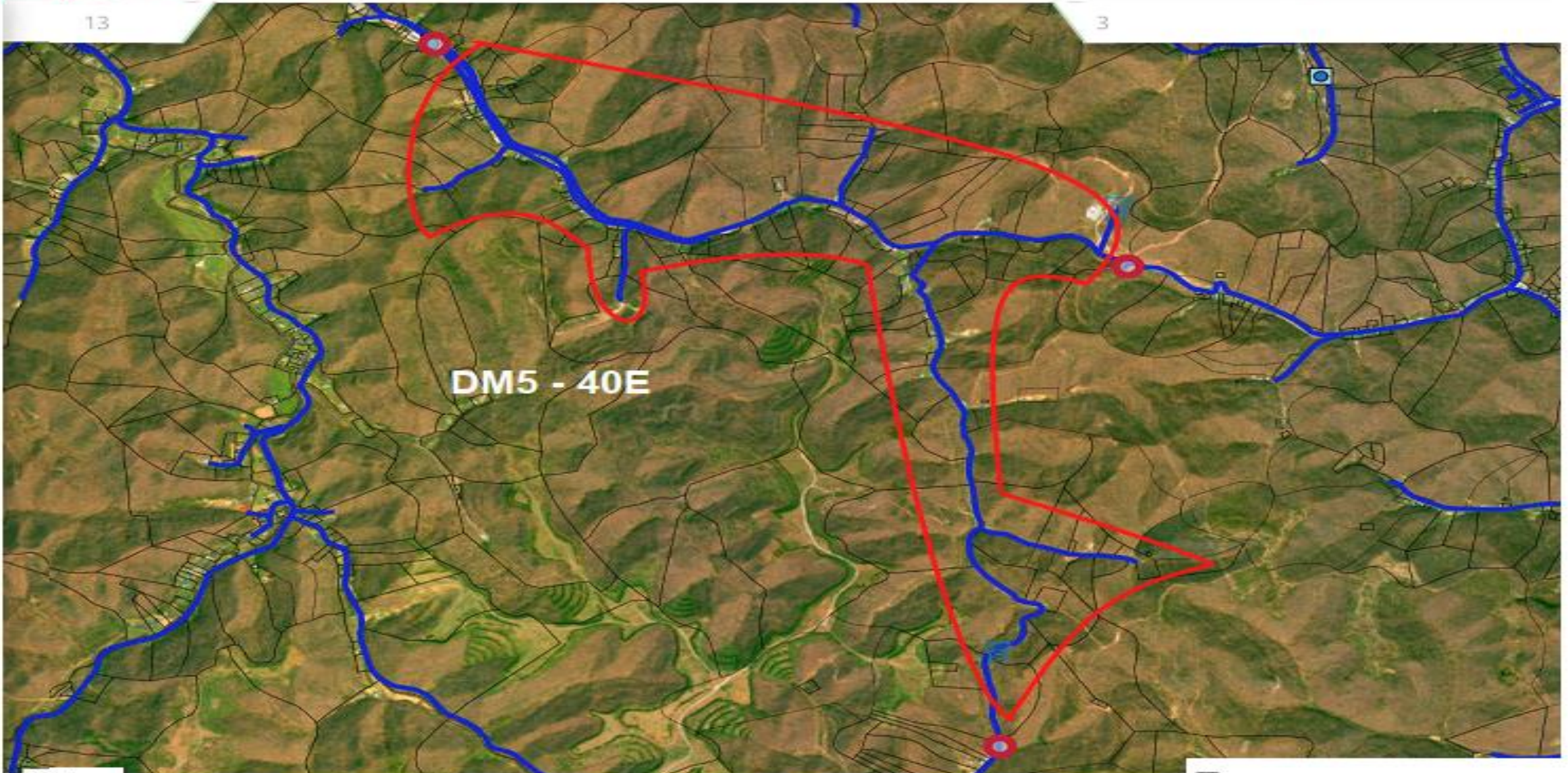


12

User Feature







13

3

DM5 - 40E

500 m

© MapTiler © OpenStreetMap contributors

### NEW IDENTIFIED PROJECTS

| PROJECT NAME                    | PROJECTED PROBABLE COST |
|---------------------------------|-------------------------|
| 40E Water Line Replacement      | \$ 760,000.00           |
| Turkey Water Line Replacement   | \$ 6,822,000.00         |
| Coldwater Line Replacement      | \$ 8,419,000.00         |
| Old Route 3 Line Replacement    | \$ 5,066,000.00         |
| Turkey Storage Tank Replacement | \$ 681,000.00           |
|                                 |                         |
| Total                           | \$ 21,748,000.00        |

# Water System Improvements Project Status Update

**Martin County Water District**

June 8, 2022



Under Construction

# RWI & WTP Improvements

## ▶ Raw Water Intake Improvements:

- Concrete Ramp & Winch System for Moving Raw Water Pumps Up & Down Slope
- Electrical Building Upgrade, Telemetry, Line Reactors and Instrumentation

## ▶ Water Treatment Plant Improvements:

- Rehabilitation of Treatment Units 1 & 3 with New Valve Vault for Unit 1
- Replace Outside Chlorine Chemical Feed Piping
- Replace Master Meter

## ▶ Status:

- Project Construction Began: October 4, 2021
- Contractor Performing Work: Pace Contracting, LLC of Louisville Kentucky

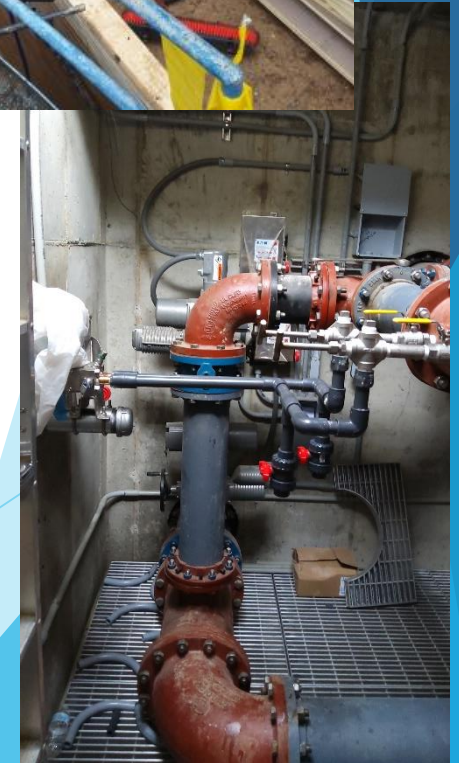
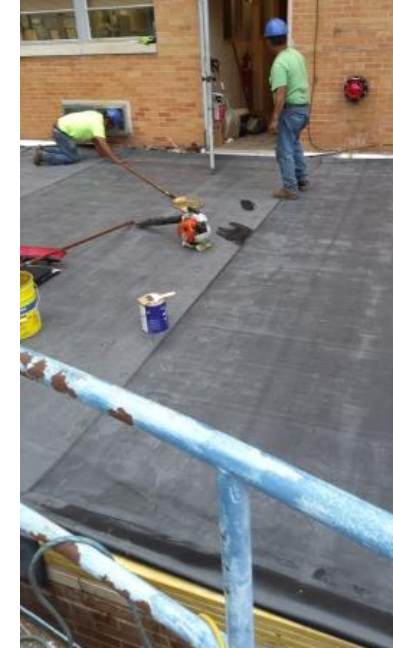
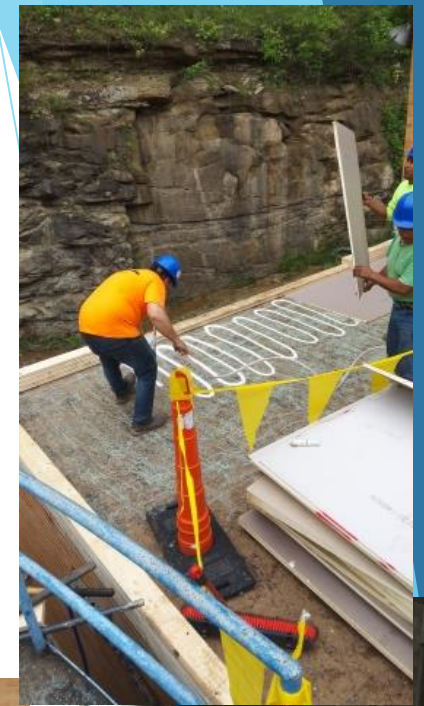
# WTP Improvements

## ▶ Work to Date:

- Installation of Plate Walls/Perimeter Troughs for Unit 1
- Installation of Valve Vault 1 Process Pipe
- Installation of Flow Meters
- Installation of the Venturi Tubes
- Replacement of Roof Over Chemical Feed Room

## ▶ Projected Major Equipment Delivery Dates:

- Tube Settlers: Pushed from April to June
- Underdrains: Pushed from April to Unknown Date
- Control Panel Components: Awaiting two Components
- Loss of Head Transmitters: Waiting on Delivery Date





# RWI Improvements

## ► Work to Date:

- Electrical Building is Framed & covered with Siding
- Electrical Building Soffits and Door Frames are Set
- RWI site is graded & Seeded
- RWI Rip Rap Bank Protection and Stone Roads are Installed

## ► Projected Major Equipment Delivery Dates:

- Electrical Gear & Panels: Pushed from May to July



# Project to Utilize Remaining ARC Funds

# Kentucky 292 South Pumping Station & 292 South Tank Telemetry

## ► Need for the Project:

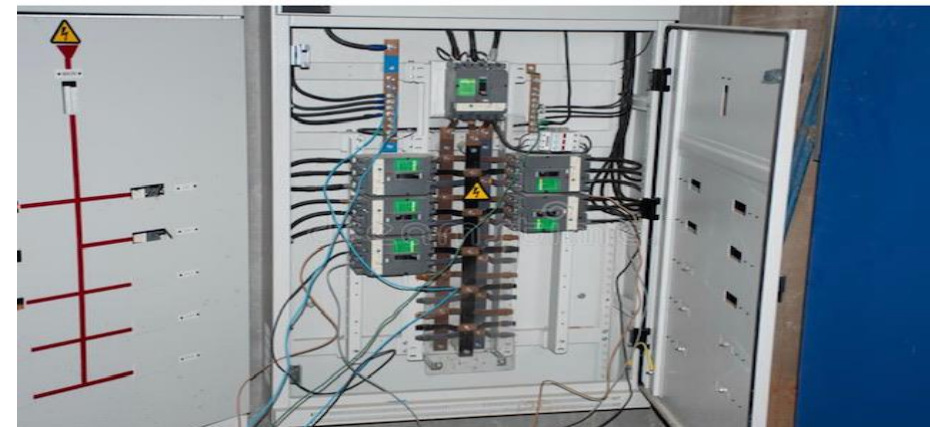
- ARC project has \$85,832 in unspent funds.
- Neither the Pumping Station nor Water Storage Tank it pumps to have operating telemetry.

## ► Major Items of Work:

- A solar powered tank site PLC-RTU with panel, coax & antenna
- A pump station PLC-RTU with panel, coax & antenna
- Level sensor for monitoring tank level
- Mechanical/Electrical Improvements to the Pumping Station

## ► Project Status:

- Awaiting signed Agreement from ARC.





# Designed Projects Awaiting Funding

# Mainline, Service Line, Meter Replacement In the Warfield Area

## ▶ Project will Replace the following in the Warfield Area:

- Existing Mainline
- Existing Meters & Service Line
- Existing Valves & Hydrants

## ▶ Status:

- Due to overage on the RWI/WTP Project, the District deferred construction of this project to a later date in order to use the funds associated with this project for construction of the RWI/WTP Project.
- Permits and Approvals (DOW, KYTC, Floodplain Management, Corps of Engineers, AML, etc.) required for construction have been obtained.
- Additional Project Funding through the Corps of Engineers should become available in the future.



# Projects in Design



# USP Big Sandy, Eastern Kentucky Business Park & Big Sandy Airport Water Improvements

- ▶ Submittal to Revise Scope has been forwarded to AML for Consideration
- ▶ Components Remaining in Project from Original Scope
  - Upgrade of the Existing Davella Pump Station
  - Construct Master Meter & Booster Chlorination
- ▶ Proposed Revised Scope Components:
  - Relocate the proposed Pump Station so that it replaces the existing Otto Brown Station. This station is beyond its useful life and subject to confined space constraints.
  - Replace existing waterline in the vicinity of the Otto Brown Station that is subject to leaks.
  - Provide Modifications to the Middle Fork Tank rather than construct a new tank.



# High School Pump Station/Tank Piping Modifications

- ▶ **Construct Valve Vault and Check Valve**
  - Install Valve Vault and Check Valve to allow District to feed additional service areas with the High School Water Storage Tank.

# Projects Seeking Funding



# FEMA Backup Generator Project

▶ **Project includes the following:**

- One Generator to operate 750-HP VFD Controlled RWI Pump
- Two Generators to operate 60-HP VFD Controlled Pumping Stations



▶ **Project Status:**

- The Kentucky Division of Emergency Management requested Hazard Mitigation Grant Program Approval for the Project from FEMA Region IV on April 25<sup>th</sup>. The total proposed budget for the project is \$1,320,000.



# KYTC Utility Projects Awaiting Funding

# Hunters Lane Utility Relocation & KY 908 Guardrail Project

## ▶ Hunters Lane Utility Relocation:

- Relocation of existing waterline to facilitate construction of a new bridge for the KYTC Bridging Kentucky Program

## ▶ KY 908 Guardrail:

- Relocation of existing 14” waterline along Route 908 to facilitate installation of new guardrail.





# Projects in Planning

# Opinions of Probable Project Cost Prepared

- ▶ 40 East Water Improvement Project
- ▶ Coldwater Water Improvement Project
- ▶ Old Route 3 Water Improvement Project
- ▶ Water Treatment Plant to Turkey Tank Water Improvement Project
- ▶ Spicy Mountain Booster Pump Station and Water Line Extension Project
- ▶ Turkey Water Storage Tank Rehabilitation/Painting





Questions?