



Groveland CSD Department Updates

An Informational Overview of the Current State of Services Provided by GCSD
Peter J. Kampa, GM | Groveland CSD | October 25, 2022



Luis Melchor

Operations Manager

Grade 3 – Water Distribution Certification

Grade 2 Water Treatment Certification

Backflow Prevention General Tester

Cross Connection Control Specialist

Grade 2 - Wastewater Treatment Plant Operator

Grade 3 – Collection System Maintenance

Grade 1 – Plant Maintenance Technologist



What Our Department Does for the Community

WATER:

70 miles of pipeline 4" to 16"

11 Pressure Zones

5 Reservoirs and 2 Clearwells

3 - Turbine pumps 3 - Booster Pump Stations
2 - Transfers

3 Treatment Plants - 2 Mobile Membrane Filtration Units

Wastewater:

1 wastewater treatment plant

16 Sewer Lift Stations

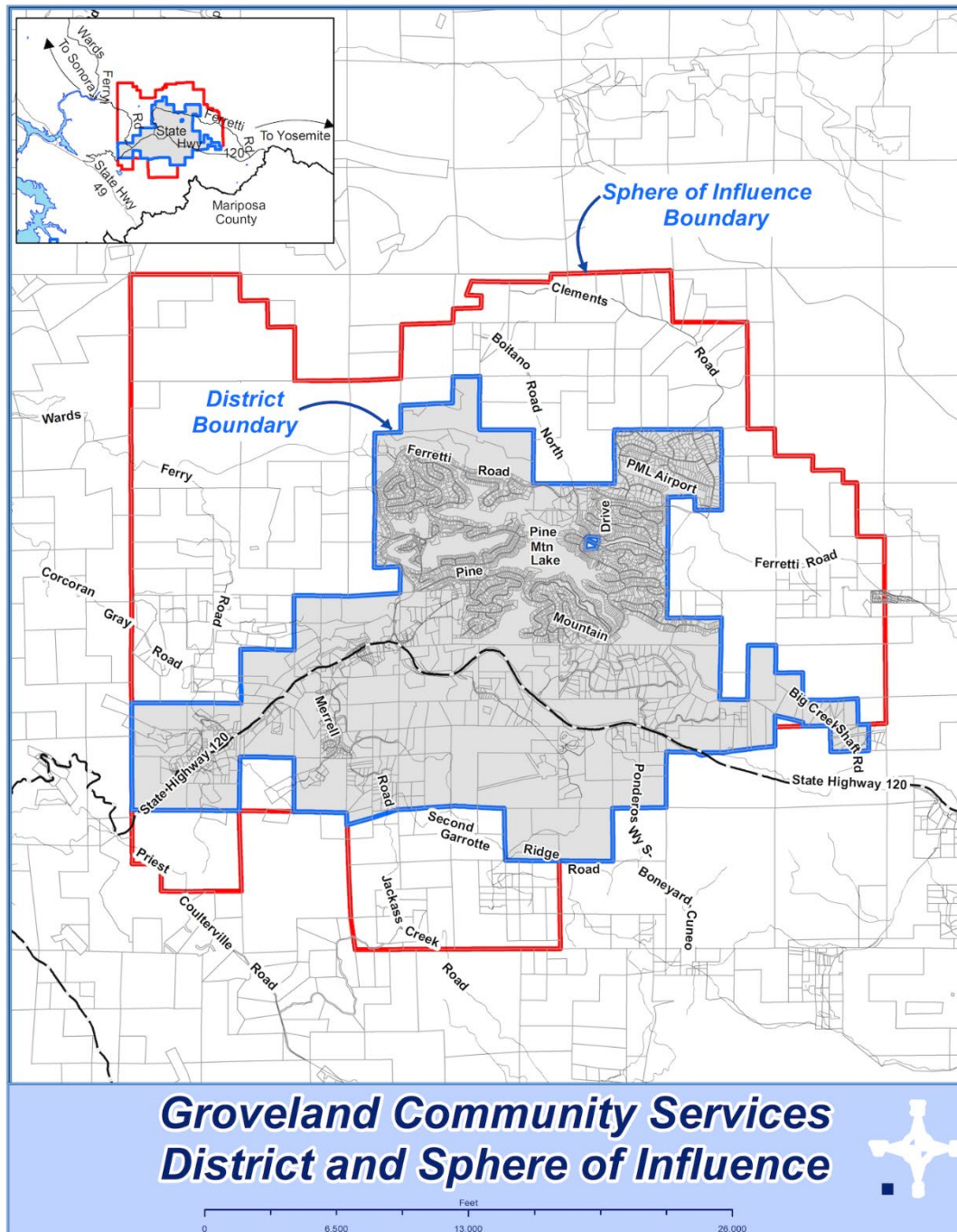
35 Miles of gravity mainline - 7 miles of pressure force mainlines

2 Recycled water reservoirs Res 1 -10 million gallons
Res 2 – 57 million gallons

14 Acres of spray fields, 110 acres of golf course

Fire Department

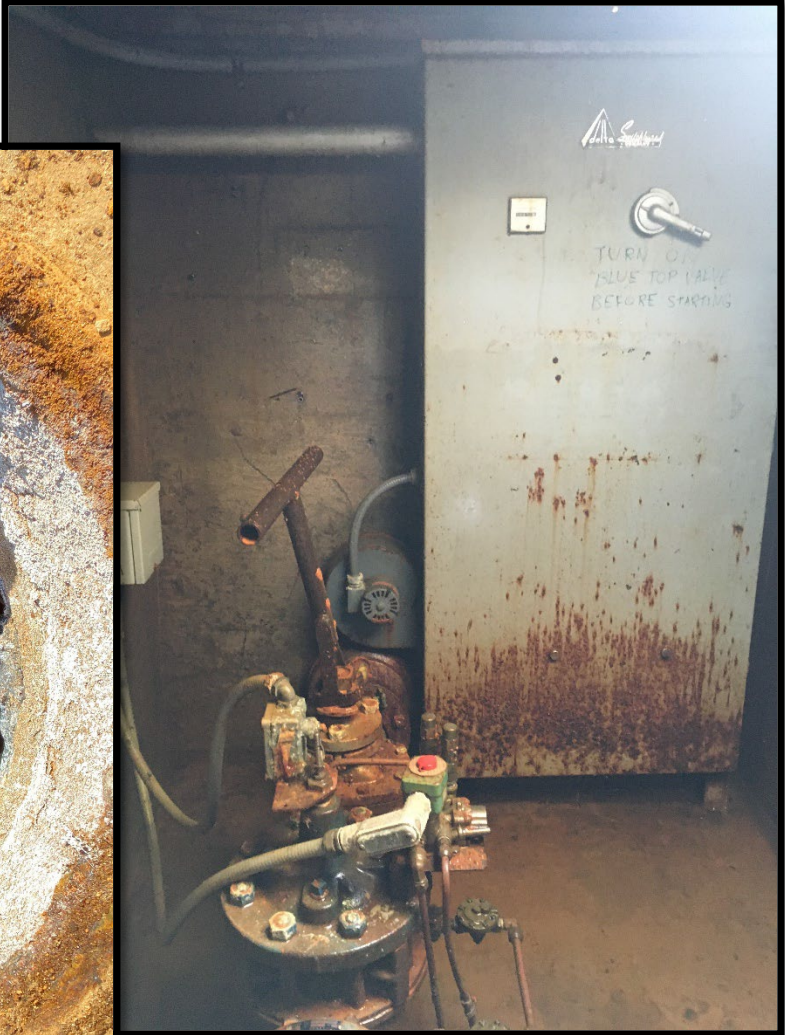
Parks



Department Challenges

- Availability
 - Lead Times
 - Obsolete Equipment/Parts
- Contractors
 - State Regulations
- Aging infrastructure
 - Poor installation
 - Encroachments
- Policies/Procedures

Department Challenges



Department Challenges



Department Accomplishments

- Reliability
 - Moving from reactive to proactive
- Efficiency
- Communications

Operations Department



Greg Dunn
Chief Plant Operator
Grade 3 Wastewater Treatment Plant Operator
Grade D3 Water Distribution Operator
Grade T3 Water Treatment Operator



Anthony Trujillo
Operator 2



Tony Filippi
Operator 1



Steve Buie
Operator 1

What Our Department Does for the Community



Department Challenges





Wastewater Treatment Plant Aeration Blowers



Department Accomplishments











Tank 2 Booster Station





ABOVE
RESERVOIR ₁
LINER
PROJECT

LEFT
SOLIDS
DRYING PAD

Maintenance Department

Andrew Klein – Maintenance Supervisor

- 17 Years Water/Wastewater experience
- Relocated from Santa Rosa, CA to work with the District.
- 16 Months with the District
- SWRCB Grade 4 Water Distribution
- SWRCB Grade 2 Water Treatment
- CWEA Grade 3 Collection System Maintenance
- AWWA CA-NV Backflow Prevention Assembly General Tester



Collection and Distribution/Parks & Building Maintenance

**Andrew Marshall –
Maintenance Lead Worker**

- 5 Years with the District and in the profession.
- SWRCB Grade 2 Water Distribution
- CWEA Grade 1 Collection System Maintenance



**Shane Sawyer –
Collections and
Distribution II**

- 2 Years with the District and in the profession.
- SWRCB Grade 2 Water Distribution
- SWRCB Grade 1 Treatment
- CWEA Grade 1 Collection System Maintenance.



**Al Deshaies –
Collection and Distribution I**

- 3 Years with the District
- 40 Years experience in construction and equipment operation.



**Nathan Moffitt –
Collections and Distribution II**

- 2 Years with the District and in the profession.
- SWRCB Water Distribution 2



Maintenance Mechanics – Treatment Plants, Fleet & Equipment

**Matt Dickens –
Maintenance Mechanic III**

- 15 Years with the District
- 25 Years in Mechanics profession.
- CWEA Mechanical Technologist 3
- SWRCB Grade 2 Water Distribution



**Travis Deutsch –
Maintenance Mechanic II**

- 2 Years with the District
- CWEA Mechanical Technologist 2
- 25 Years in manufacturing of pleasure boats and farm equipment.
- Welder and fabricator.



What Our Department Does for the Community

- We provide safe, reliable potable water to our customer's homes and provide water for fire protection.
- We maintain the sanitary sewer collection system from the home to the Wastewater Treatment Plant.
- We maintain and repair pipes, hydrants, valves, treatment plants, pumping stations, and sanitary sewer lift stations.
- We maintain water meters and read meters monthly for Utility Billing.
- We maintain the Park and District facilities.
- We maintain Fire Department and District vehicle fleet.

Aging Infrastructure, Roots, and Leaks... all in a day's work for the Collections and Distribution crew



An aging steel pipe, coupled with some suspect pipe alignment during installation, was the cause of this water leak which was calculated at 7200 gallons per day. We were notified of the problem by a concerned citizen.

Aging Infrastructure, Roots, and Leaks... all in a day's work for the Collections and Distribution crew



These roots were responsible for a Sanitary Sewer Overflow (SSO) into a nearby creek on Black Rd in Big Oak Flat.



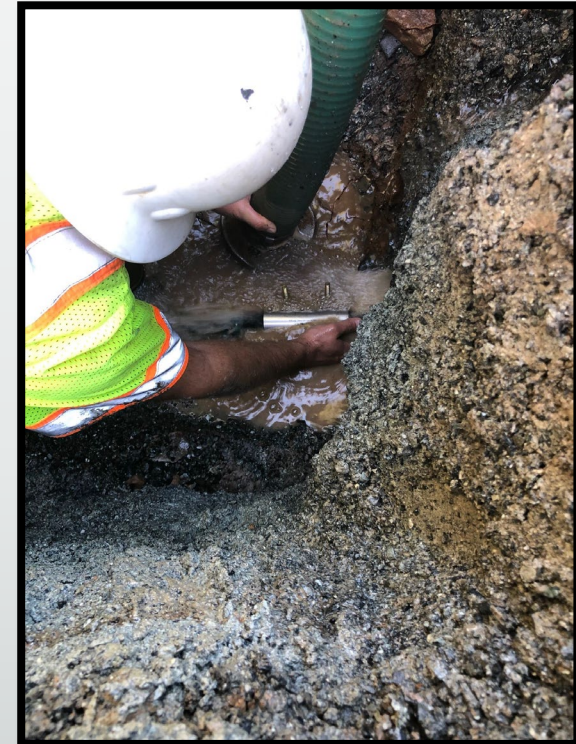
Aging Infrastructure, Roots, and Leaks... all in a day's work for the Collections and Distribution crew



Leak caused by a contractor who was boring next to our line. It was marked out by us for their USA.



This was a repair on a line that had been previously repaired sometime in the past. While we haven't gotten completely away from the practice of crimping plastic lines, we now install a leak band over the crimp to prevent future leaks.



Fabrication of equipment and repairs.



Aeration basin upgrades:

This was a project which was originally put out to bid and came back at nearly \$30,000. We were able to build the aerators in house, at a significant savings. We are currently working on an install date.

Fabrication of equipment and repairs.



Our mechanic saw a need to protect the Fire Department staff from the dangers of the breathing air tank from being accidentally damaged, so he built a cage to protect it.



Damage to equipment is sometimes inevitable, but it is great to have mechanics who can rebuild and make it stronger than the original!

Department Challenges

- Aging Infrastructure.
- Getting back to more preventative maintenance and reducing reactive maintenance.
- Attracting new employees with experience and/or certifications while addressing...
 1. Lack of housing
 2. Remote location
 3. On Call requirements (30-minute proximity to work)

Department Accomplishments

- Implementing effective cross training of staff to fill requirements as needed.
 1. Maintenance mechanics assist with on call and Collection and Distribution repairs
 2. Collections and Distribution Lead works with our Information Technology Guru to gain knowledge of technology infrastructure.
 3. Immediate goal to get an Employee from Collections and Distribution up to speed on the AWS trailer to provide backup to Operations during the annual tunnel shutdowns.
- Implemented Cartegraph maintenance management system and working to refine data and start producing better reporting tools.
- Some significant cost savings by utilizing staff to provide fabrication and installation of items that might typically be bid out to a contractor.

District Property, Easements, and Assets Department



Adam Ahlswede

District Property, Easements, and Assets Manager

Grade 4 – Water Distribution Certification

Grade 2 – Water Treatment Certification

B.S. Business Management

Hire Date: 2/3/2020

Operations Supervisor, Maintenance Department

New Role: 3/1/2022

District Property, Easements, and Assets Manager

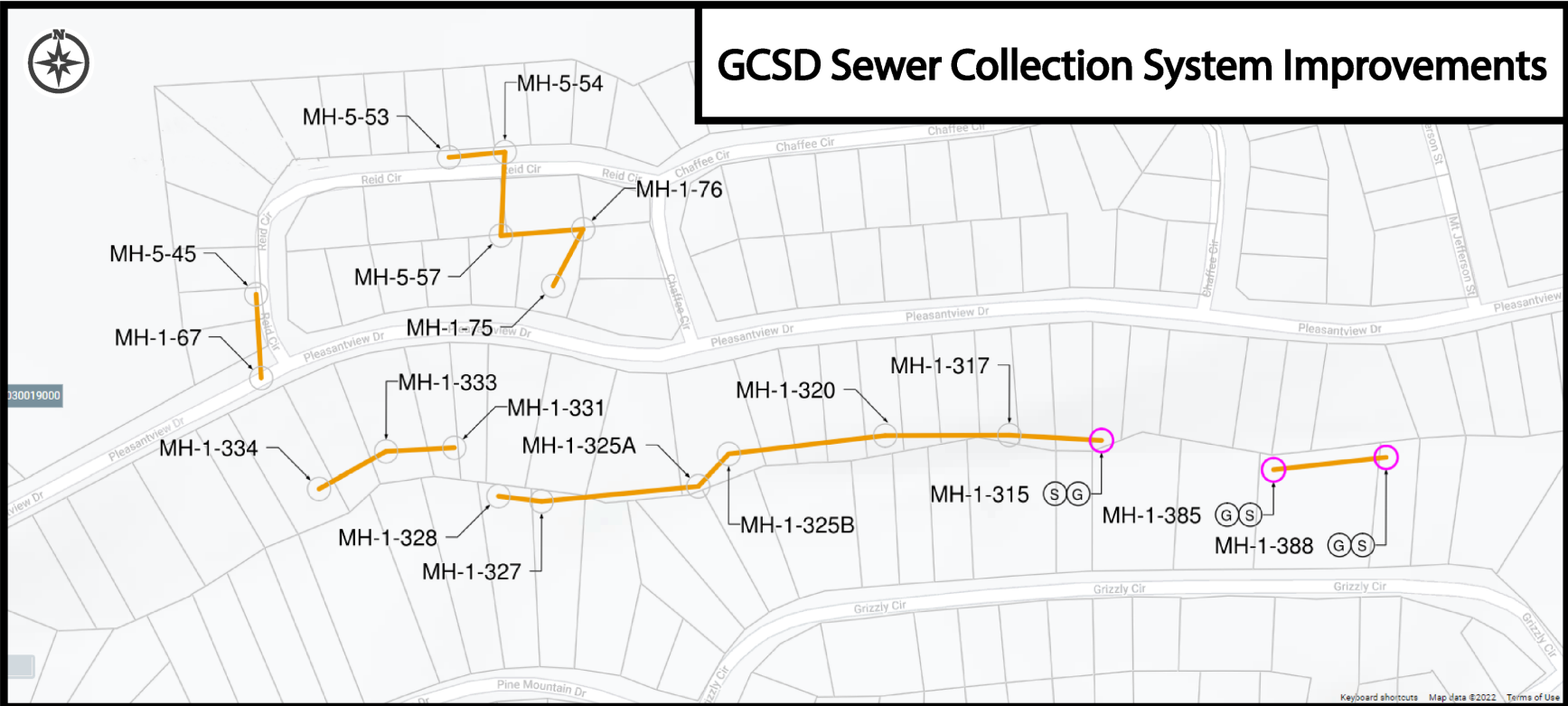
What Our Department Does for the Community

Property – Easements – Assets

- Fuel Reduction & Weed Abatement Management
- Road Development & Maintenance
- Encroachment Permits
- Easement Abandonments
- Easement Maintenance
- Cartegraph Development & Management
- GIS Development & Management

Department Accomplishments

- Sewer Project
 - Property Owner Notifications
 - Contractor Engagement
- Geographic Information System (GIS) Development
 - 80% Completion on GIS Development Project with Patrick Engineering
- Cartegraph Development & Integrations
 - Go-Live
 - ESRI
 - Springbrook
 - USA North
- District Drawings
 - Entered into Contract with BMI Imaging to Digitize Aperture Cards of District Drawings
 - Review and Organization (Digital & Hard Copies)
- Encroachment Permits & Easement Abandonments
 - Developing and Streamlining Processes
 - Contractor, Surveyor, Property Owner Engagement
- Building Good Relations with County Departments
 - GIS
 - Surveyor



GCSD Sewer Collection System Improvements

Legend

- Pipe Replacement ----- ———
- Manhole (No Work) ----- ○
- Manhole (Work) ----- ○

Notes

The pipe replacement work is scheduled to take place from 9/1/2022 to 10/14/2022. The manhole work will be scheduled at a later date.

Sewer Improvement Project

Groveland CA




LD2 Consulting

Date Mon 07/11/2022

Job # GVL-111

Prepared By Les Dean

Weather

<p>7:00 AM</p> <p>71° </p> <p>Clear</p> <p>Wind: 7 MPH Precipitation: 0" Humidity: 81%</p>	<p>12:00 PM</p> <p>92° </p> <p>Humid</p> <p>Wind: 10 MPH Precipitation: 0" Humidity: 53%</p>	<p>3:00 PM</p> <p>97° </p> <p>Humid</p> <p>Wind: 7 MPH Precipitation: 0" Humidity: 45%</p>
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Work Logs

Name	Description	Quantity	Total Hours	Total Hours To Date
Les Dean		1	4	48.5
	Les Dean 07/11/22 03:09PM			
Total		1	4	48.5

Time Cards

Worker	Hours	Pay Type	Classification	Shift	Cost Code	Day Total	Hours To Date
Les Dean Project Manager PAYROLL ATTACHMENTS:	4	Regular Time	Project Manager			4	48.5
Total						4	48.5

Materials

No entry

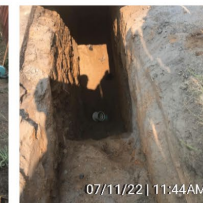
Equipment

Equipment	Supplier/Sub	Hours In Use	Notes	Total Days On Site
Backhoe Cat 420S.		8		7
Cat30B		8		15
CatD4G		0		13
Excavator 245us.		0		21
Ford 550-1		8		21
Hitachi 135us		8		21

Loader_JohnDeere5 44E	0	20
Man Truck/F550	8	21
Parts trailer	8	7
Water Buffaloe 500gal.	8	7

General Notes

- 9:00am onsite.
MH37~MH38.
170'@ 1% grade.
Exposing location of tie in(MH37A,deleted), ex. Watermain is in the way.
Moving tie in location d/s to get 5' horiz. separation.
Located sewer main 9' dp.
9:15am asked Josh to install shoring.
11:55am first stick installed.
1:00pm installing one more stick to complete road crossing.
1:10pm leaving project.



Site Safety Observations

No entry

Quality Control Observations

No entry

Survey

Questions	N/A	No	Yes	Description
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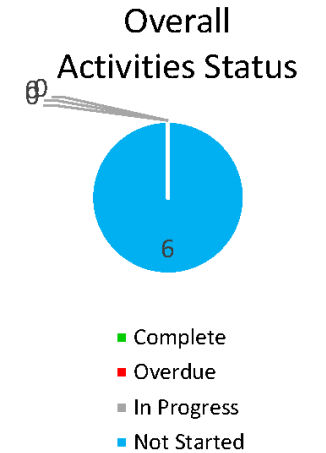
Groveland CSD – W/SW GIS and Asset Management

Report Date: 6/10/2022

Overall Status: ████████	Budget: ████████	Schedule: ████████	Scope: ████████	Resources: ████████
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Project Phase	Contract	Actual	Remaining
Activity 1	\$7,500	\$2,082.50	\$5,418.00
Activity 2	\$14,000	\$0	\$14,000
Activity 3	\$14,000	\$0	\$14,000
Activity 4	\$10,500	\$0	\$10,500
Activity 5	\$8,500	\$0	\$8,500
Activity 6	\$7,500	\$0	\$7,500
TOTAL	\$62,000	\$2,082.50	\$59,917.50

Deliverables/Tasks	Assigned To	Target Complete	% Complete	Billed	Paid
Activity 1: Use Case Validation & Data Model Setup	Patrick	6/20/2022	25	No	N/A
Activity 2: Data Conflation & Migration to ArcGIS	Patrick	7/11/2022	0	No	N/A
Activity 3: ArcGIS Online Configurations	Patrick	8/1/2022	0	No	N/A
Activity 4: Cartegraph Data Migration	Patrick	8/22/2022	0	No	N/A
Activity 5: Cartegraph Configurations	Patrick	9/12/2022	0	No	N/A
Activity 6: Cartegraph Data & System Sustainment	Patrick	10/17/2022	0	No	N/A



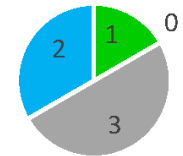
Accomplishments	Upcoming Milestones	Pending/Action Items
<ul style="list-style-type: none"> ShareFile setup for project files Access to AGOL / user / admin privileges Access to Cartegraph / Test / admin user 		<ul style="list-style-type: none"> Need to verify AGOL credits / create budgets (share AGOL credits links to Adam) External data source access * Access to CalCAD data – shapefiles – water, sewer, landbase Trimble Connect data sources – Sewer fgdb Fire hydrants, hydrant valves – Cartegraph & shapefiles Full list of features to manage in Cartegraph

Overall Status: ████████	Budget: ████████	Schedule: ████████	Scope: ████████	Resources: ████████
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Project Phase	Contract	Actual	Remaining
Activity 1	\$8,074.50	\$8,074.50	\$0
Activity 2	\$13,425.00	\$13,425.00	\$0
Activity 3	\$14,937.50	\$14,937.50	\$0
Activity 4	\$9,430.00	\$9,430.00	\$0
Activity 5	\$8,633.00	\$4,375.00	\$4,258.00
Activity 6	\$7,500.00	\$0	\$7,500.00
TOTAL	\$62,000.00	\$50,012.00	\$11,988.00

Deliverables/Tasks	Assigned To	Target Complete	Task % Complete	Budget % Complete	Billed	Paid
Activity 1: Use Case Validation & Data Model Setup	Patrick	6/24/2022	100	100	Yes	Yes
Activity 2: Data Conflation & Migration to ArcGIS	Patrick	8/26/2022	100	100	Yes	Yes
Activity 3: ArcGIS Online Configurations	Patrick	8/26/2022	100	100	Yes	Partial
Activity 4: Cartegraph Data Migration	Patrick	8/26/2022	100	100	Partial	Partial
Activity 5: Cartegraph Configurations	Patrick	10/28/2022	0	0	No	N/A
Activity 6: Cartegraph Data & System Sustainment	Patrick	10/28/2022	0	0	No	N/A

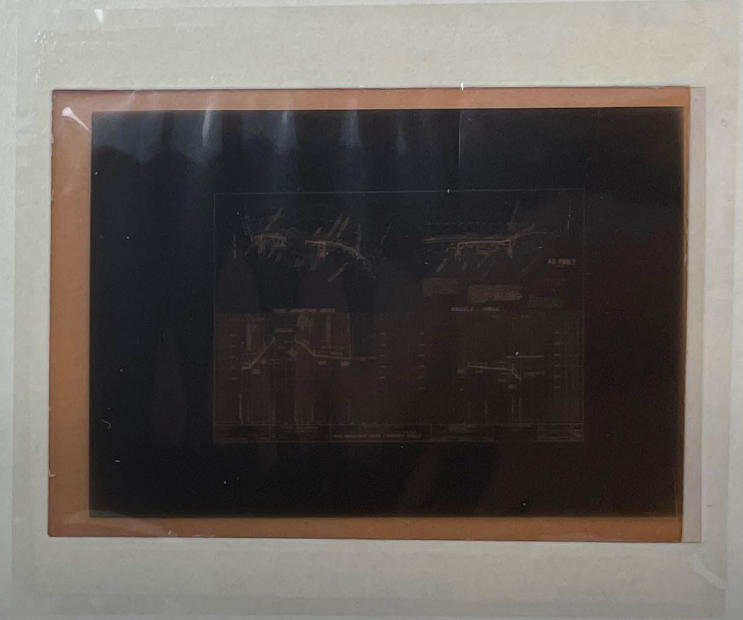
Overall Activities Status



- Complete
- Overdue
- In Progress
- Not Started

Accomplishments	Upcoming Milestones	Pending/Action Items
<ul style="list-style-type: none"> Reviewed Activities libraries and condition categories with Adam and Andy Attachments will be configured to sync to Cartegraph Completed data cleanup and conflation for water and sewer Created individual and combined utilities web maps Added PLSS grid to AGOL and maps Created subdivision unit layer and added attachments 	<ul style="list-style-type: none"> Configure Field Maps app for Water and Sewer collection - Ongoing Configure Activities library and asset condition categories Export inspections and task records from Cartegraph – Cartegraph coordination Integrate sewer, water, parks, & facilities applicable layers to Cartegraph Configure web maps (condensed attributes in popup) - Ongoing Configure web app for parcel viewer 	<ul style="list-style-type: none"> Adam to send action items list for additional data cleanup Determine why elevation data did not carry over to features Find better imagery layer to use as basemap (Maxar?) Determine path forward for linking/displaying parcel maps Cleanup AGOL maps (remove ones not needed) PLSS grid attachments functionality View elevation (Z values) in ArcPro workflow / export elevation Add referenced elevation service to maps

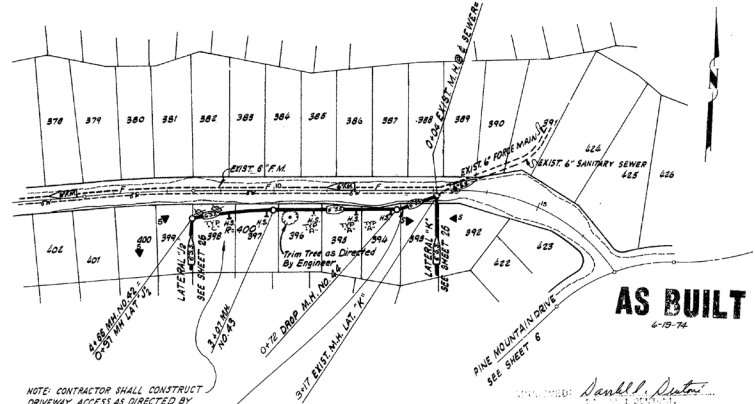
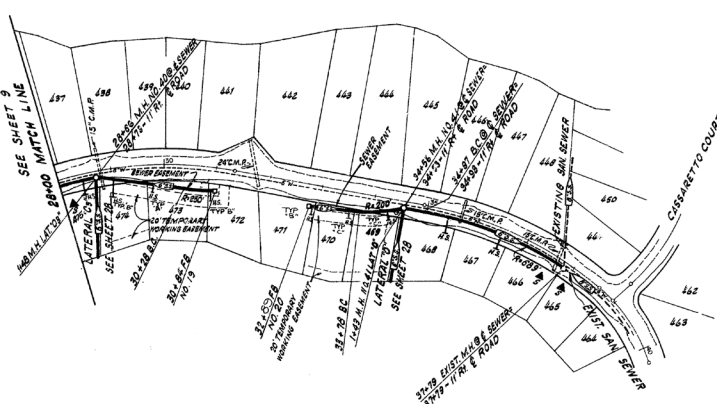
PINE MOUNTAIN LAKE
SEWER PROJECT NO.4
FILE NO. W.O. 1105.40
10 of 47



184 X 1



ZION, ILL. U.S.



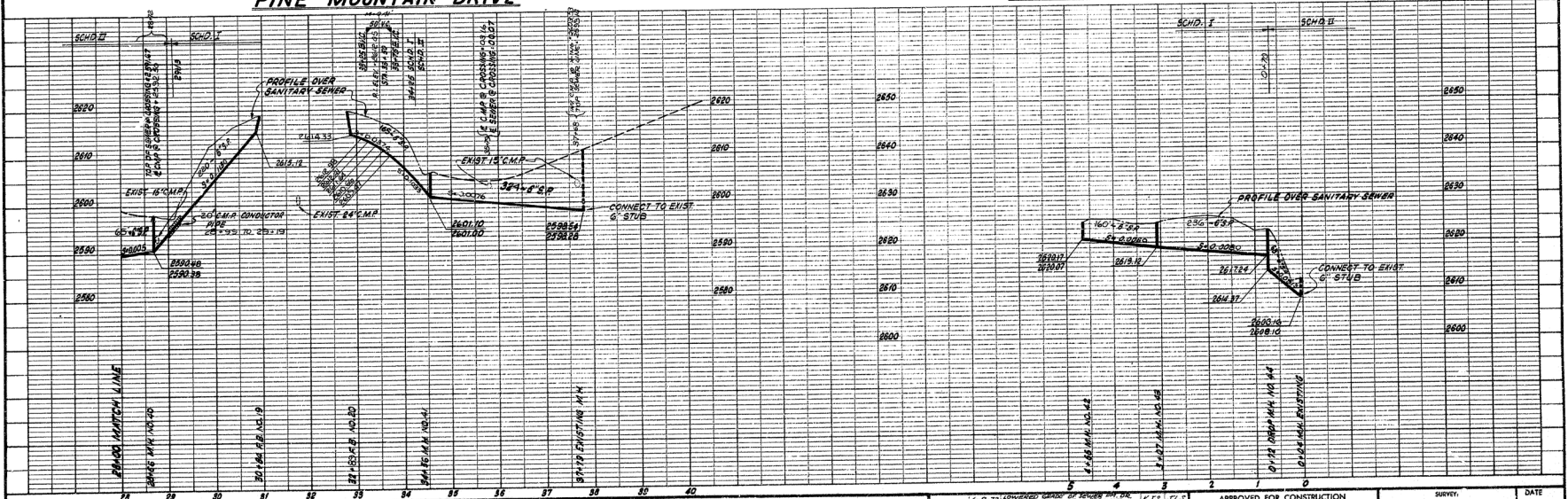
NOTE: CONTRACTOR SHALL CONSTRUCT DRIVEWAY ACCESS AS DIRECTED BY ENGINEER TO PROVIDE ACCESS FOR SEWER CONSTRUCTION. AFTER COMPLETION OF CONSTRUCTION, DRIVEWAY SHALL BE GRADED IN MANNER TO PROVIDE ACCESS FOR LOT 336.

CONTRACTOR SHALL GRADE AN 8' WIDE ACCESS ROAD OVER THE TOP OF THE SEWER. THE ACCESS ROAD SHALL BEGIN AT STATION 0+00 AND SHALL TERMINATE AT STATION 0+80. INSTALL A 18" DIA CMP IN THE ROADSIDE DITCH AS DIRECTED BY THE ENGINEER.

NOTE: CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION OF TRENCH. UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY.

PINE MOUNTAIN DRIVE

GRIZZLY CIRCLE



PREPARED BY:
DRAWN BY: *[Signature]*
SUBMITTED BY: *[Signature]*

RAYMOND VAIL & ASSOCIATES
ENGINEERS - PLANNERS - SURVEYORS
8830 MADISON AVE.
FAIR OAKS, CALIFORNIA

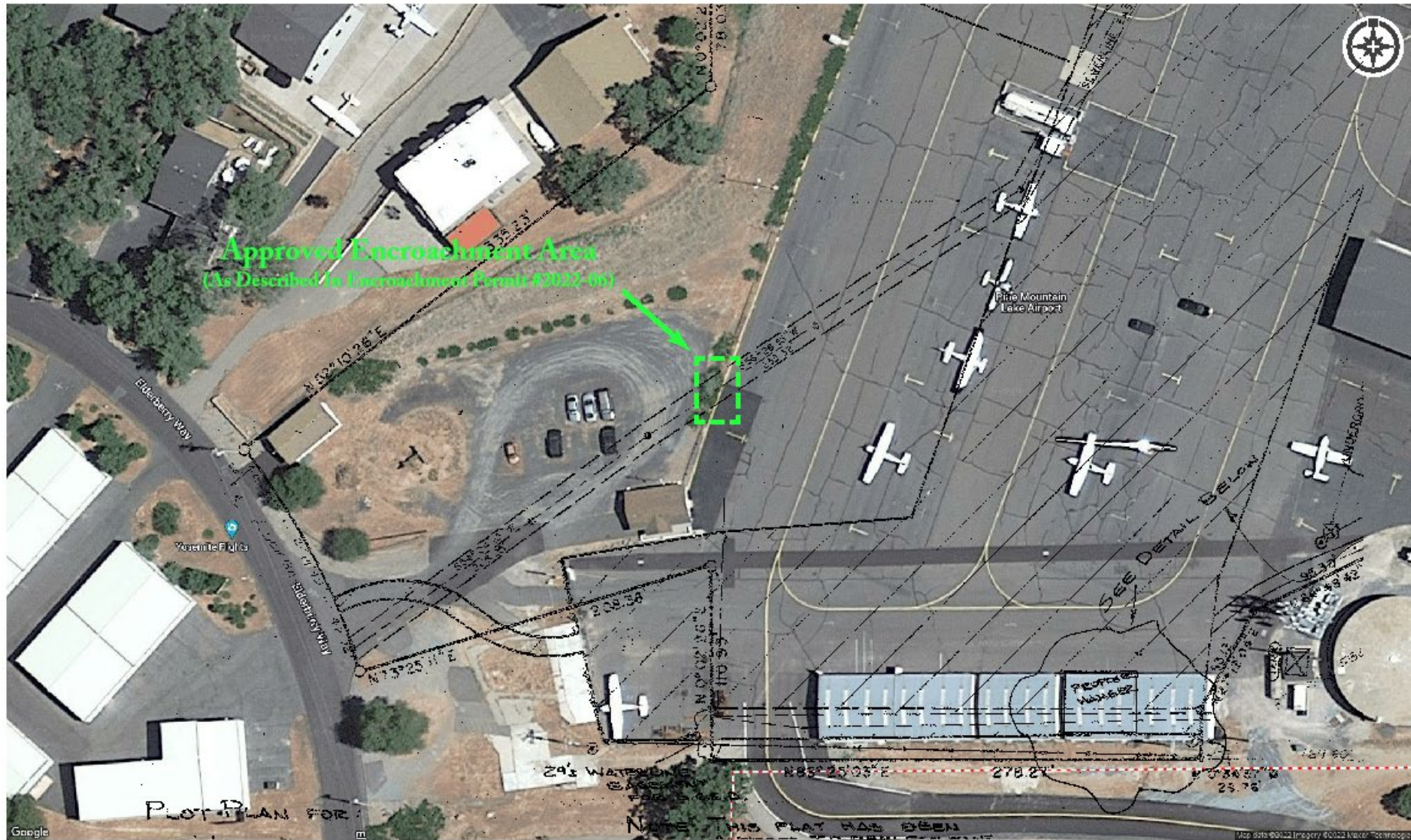
SEWER PROJECT NO. 4
LOCATED IN
PINE MOUNTAIN LAKE UNIT NO'S 1,2,5,7,8,8
PINE MOUNTAIN DRIVE & GRIZZLY CIRCLE
TUOLUMNE COUNTY, CALIFORNIA

REVISION	DATE	DESCRIPTION	BY	APPROVED
1	6-19-74	REMOVE ALL CASE LOT 41	M.H.	

APPROVED FOR CONSTRUCTION
DATE: _____
BY: _____

SURVEY: _____
PLAN: _____
PROFILE: _____
SCALE: HORIZONTAL 1" = 100'
VERTICAL 1" = 10'
SHEET NO. 10 OF 10
DATE: 11/28/73

Pine Mountain Lake Airport - Exhibit B



Department Challenges

- Development and Streamlining of Processes for Managing:
 - The New Position
 - Property, Easements, and Assets
 - Easement Encroachments and PUE Abandonments
 - Records
 - Projects
- Record Management and Availability
 - Drawings
 - Easements
 - Property Descriptions
- Field Verification of Property and Easement Boundaries
- Vehicle Availability

Information
Technology Systems
Department



Steve Rogers



What Our IT Department Does for the Community

- Data
- Security (firewalls virtual and physical, web-based security, anti-virus, backups virtual and physical, surveillance systems)
- Phone Systems (Mitel, now Ring Central)
- Cellular (phone's, tablets, auto dialers)
- Network (routers, switches, Wi-Fi)
- Internet (AT&T fiber, Conifer, Starlink) AT&T is decommissioning all DSL
- Printers
- Camera Systems
- Radios (Vipre, Motorola)
- SCADA (servers, computers, remote access for tablets, PLC's and controls etc.)

Instrumentation:



Hach PH Meter



Rosemount Flow Meter



Tigermag Remote Flow Meter



Hach Turbidimeters

- Repair and upgrades



Dell Server & Backup



SonicWALL Router

- Solar Installation



SCADA System:



Overview

2nd Garrotte

Big Creek

PS4 / PS5

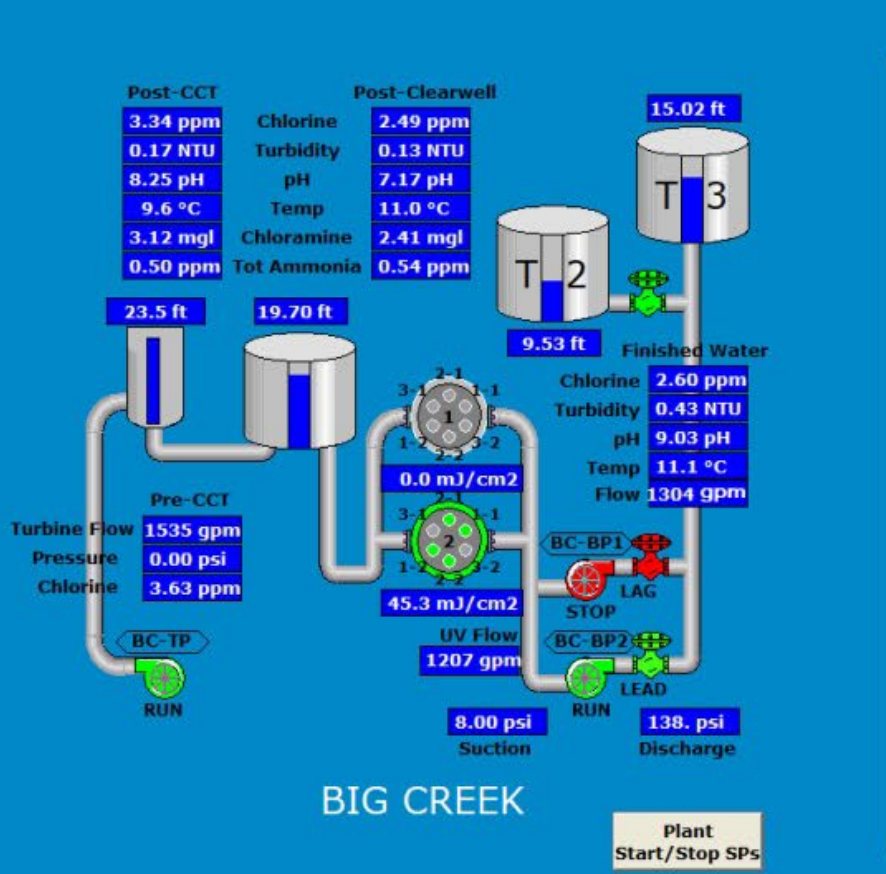
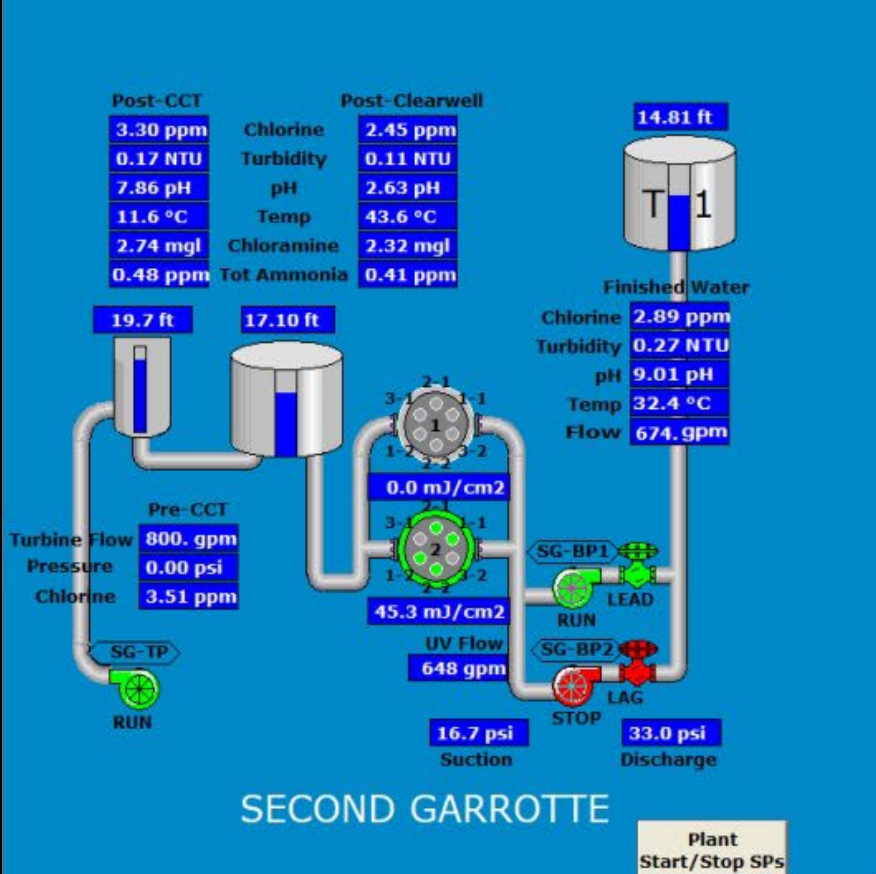
Collections

WWTP

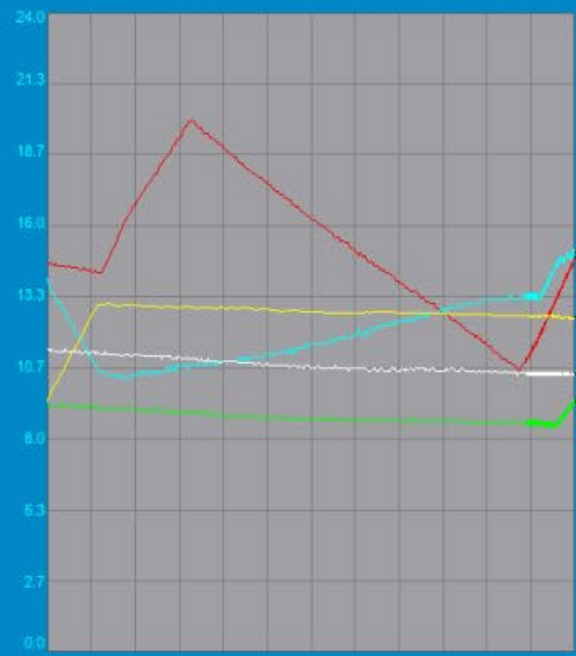
AWS

PM Comms

BWPS/PS2



TANK LEVELS Tuesday, April 5, 2022 - Wednesday, April 6, 2022



TANK 1 LEVEL	14.8 FT
TANK 2 LEVEL	9.5 FT
TANK 3 LEVEL	15.0 FT
TANK 4 LEVEL	12.6 FT
TANK 5 LEVEL	10.5 FT

Tank Alarms

- Ruckus Wi-Fi & Starlink for backup internet.



Department Challenges

- Hardware no longer supported, little or no availability of replacement parts (PLC's OSG etc.)
- Security no longer adequate in today's environment (PLC's, SCADA radios) open transmission or weak encryption and passwords. Single layer of access security.