

SCWA Young Professionals Civil Engineering Department

Peter Schembri

Jason White

Shawn Mauldin

SCWA Workforce Statistics

- SCWA is comprised of 581 Employees
- Currently the Average Employee Age is 47, which is 6 years older than the Industry Average of 41
- Currently 139 of The SCWA's 581 Employee's are eligible for retirement
 - Eligible within 5 years 270 Employees
 - Eligible within 10 years 372 Employees
- 97 Employees under the age of 35

What Does All This Mean?

- We as a company need to take a conscious approach to passing on the Knowledge and Experience garnered throughout the careers of seasoned employees to facilitate a seamless transition from one generation to another.
- Allowing vast troves of information to leave without a viable means of replacement is a surefire way to guarantee a precarious transition into the future of the Authority

Civil Engineering Department Overview

- Chief Engineer
Tim Kilcommons, P.E.
- Lead Civil Engineer
Scott Meyerdierks
- Water Quality Engineer
Joe Roccaro
- Lead Project Manager
Raymond Meyer
- Senior Civil Engineer
Bill Lazar, P.E.
- Associate Project Manager
Rich Taromina
- Associate Civil Engineer
Jason White
- Assistant Civil Engineers
Pete Schembri
Shawn Mauldin

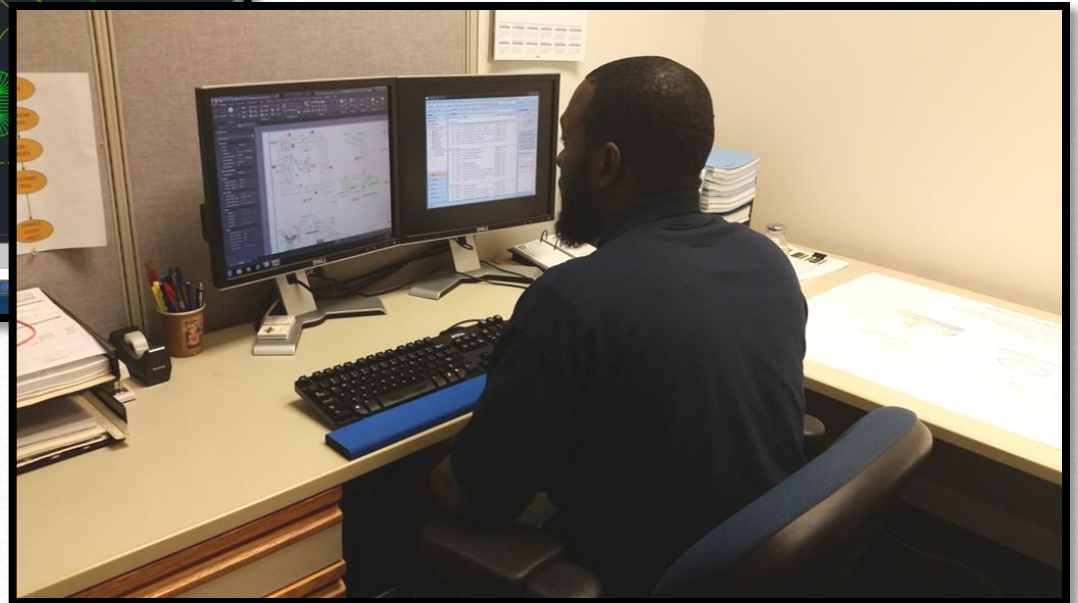
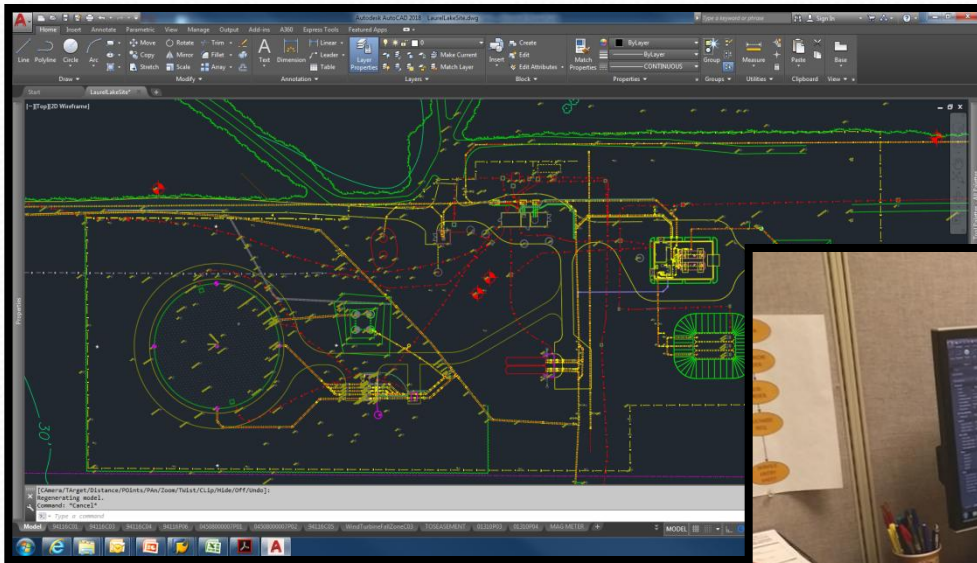


Engineering Department Mission Statement

The Engineering Department is responsible for designing, improving, constructing and delivering all aspects of SCWA water supply/treatment & employee infrastructure needs.

Responsibilities of Civil Dept.

- Develop Construction Drawings & Job Specifications



Responsibilities of Civil Dept.

- Job Site Supervision, Coordination & Inspection



Responsibilities of Civil Dept.

- Tank & Filter Construction, Maintenance & Rehabilitation



Easton Street I.R. System Construction



Sill's Road Tank Rehabilitation

Company Approach with Young Engineers

- Shadow & Observe seasoned employees
- On & Off Site Training Opportunities
- Independence to take on projects of various magnitude and complexity
- Development technical skills through a mixture of Freedom & Guidance.
 - “Take the ball and run with it”

Training & Developmental Opportunities

- On Site Training
 - Valve Insertion
 - Filter Operation & Maintenance
- Off Site Training
 - Tank Maintenance & Rehabilitation Related
 - Asphalt Design
 - Touring of the Atlantic Ductile Iron Pipe Foundry
 - Product Usage Classes
 - Water Infrastructure Conference
- Seminars
 - American Water Works Association
 - AWWA Young Professionals

Water Storage Tank Maintenance

- Competent Tower Climbers Certification
 - Houston, Texas
 - 2 Day Course
- Water Storage Tanks Operation, Maintenance & Rehabilitation
 - Madison, Wisconsin
 - 2 Day Course

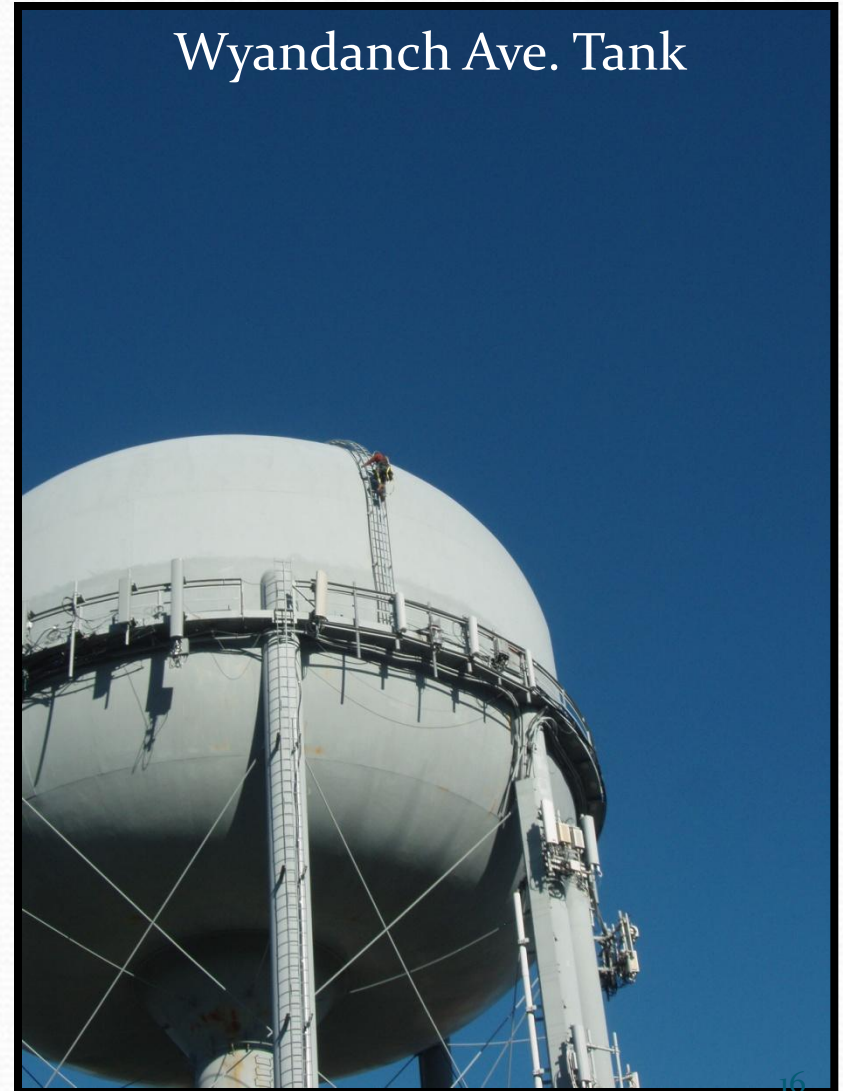


Water Storage Tank Maintenance

Smith Street Tank



Wyandanch Ave. Tank



Sill's Road Tank



Projects

Pre-Engineered Metal Buildings

Purpose:

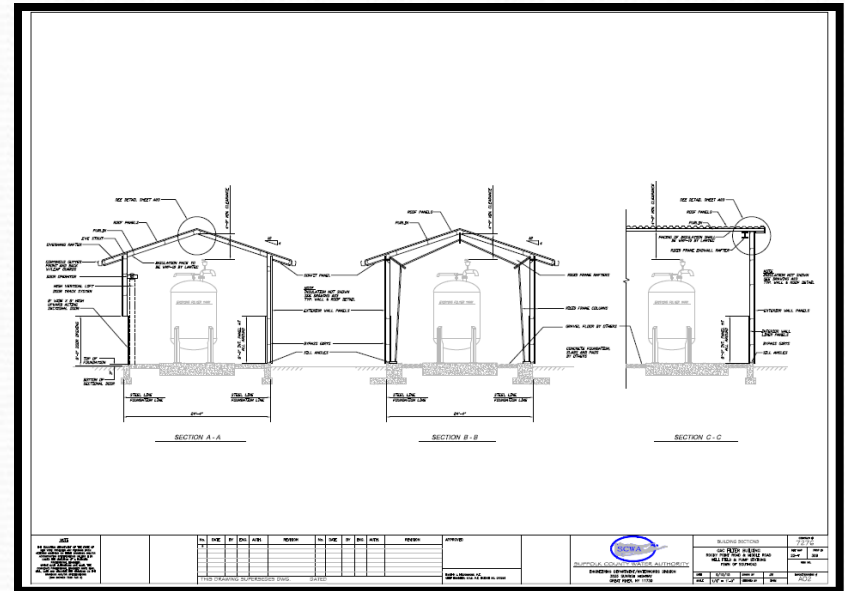
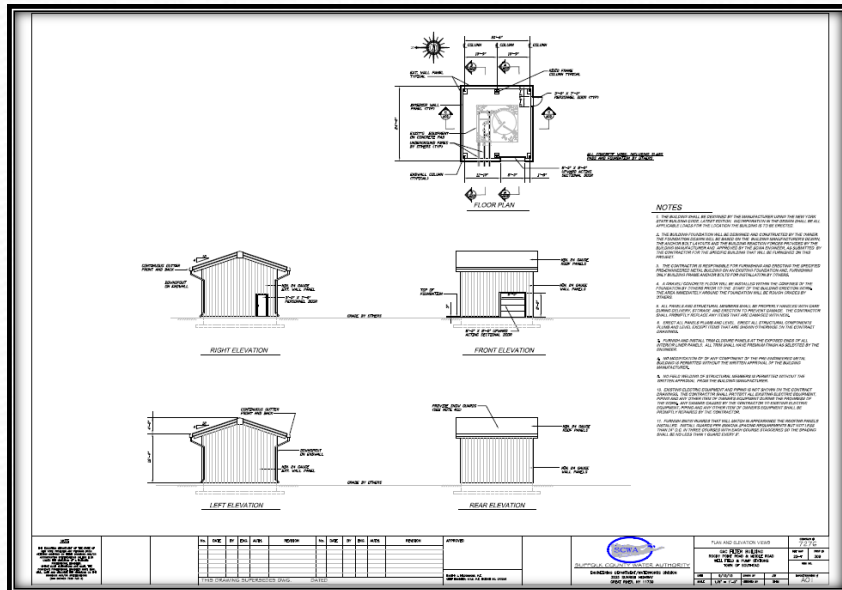
To protect water filter systems (some valued at over 1 million dollars) and allow them to remain in service during winter months.

Types:

- GAC Filter Buildings (Model 8, 10 & 12)
- Iron Removal Filter Building(s)
- AOP System

Pre-Engineered Metal Buildings

GAC Filter Building (Model 8) Contract Drawings



Pre-Engineered Metal Buildings

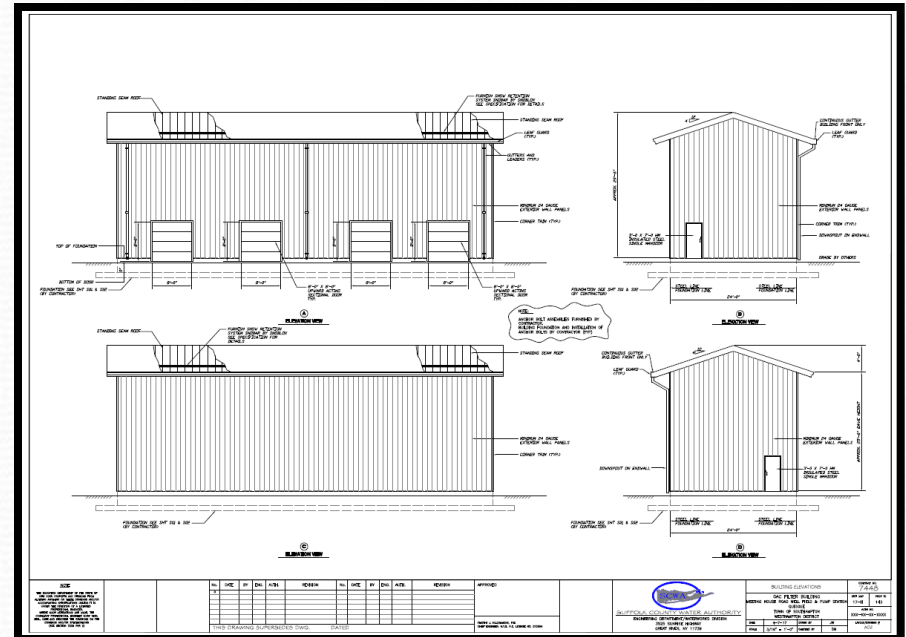
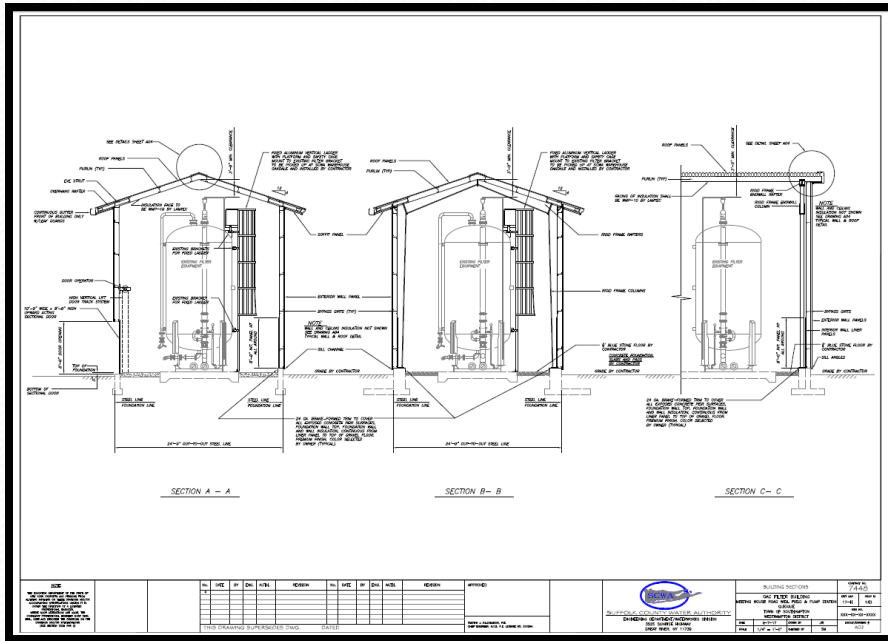
GAC Filter Building (Model 8)

Rocky Point Road & Middle Rd Southhold



Pre-Engineered Metal Buildings

GAC Filter Building (Model 10) Contract Drawings



Pre-Engineered Metal Buildings

GAC Filter Building (Model 10)

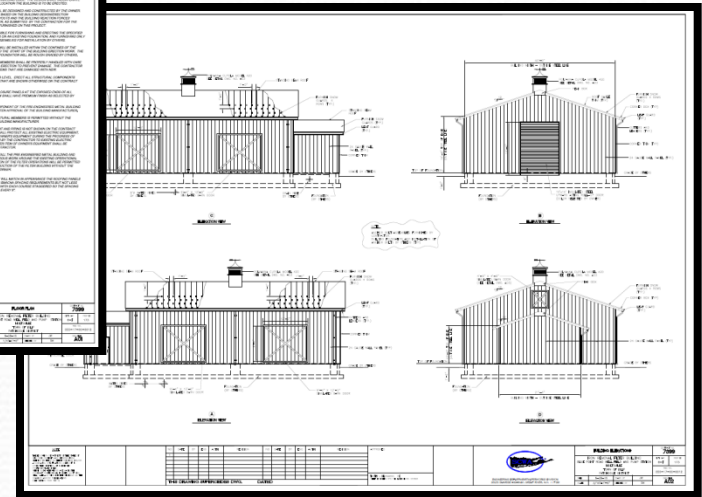
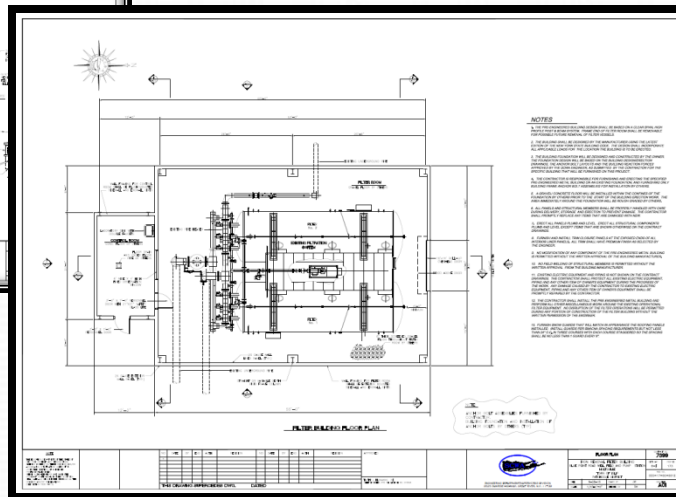
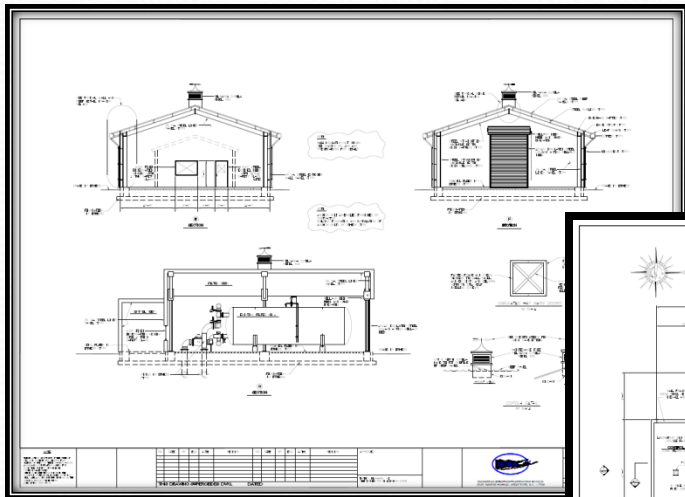
Meeting House Road

Currently Under Construction



Pre-Engineered Metal Buildings

Iron Removal Filter Building Contract Drawings



Pre-Engineered Metal Buildings

Iron Removal Filter Building

Easton St

Blue Point Road



Blue Point Iron Removal System

- Clearing for construction of Recharge Basin used for backwash from Iron Removal Filter.



Smith Street Babylon Iron Removal Backwash Tank

- Due to inspections by SCWA we determined existing backwash tank was corroded and rusted causing water to leak and flood Smith St Site.

Scope of Work

- Removal and Proper Disposal of Existing 100,000 gallon steel bolted tank.
- Construction of new 100,000 gallon bolted steel tank needed to backwash water from iron removal plant.

Smith Street Babylon Iron Removal Backwash Tank

- Inspection Photos



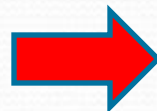
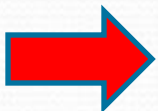
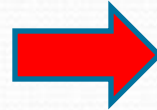
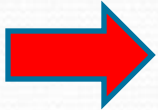
Smith Street Babylon Iron Removal Backwash Tank

- Existing Tank



Smith Street Babylon Iron Removal Backwash Tank

- New Tank Construction

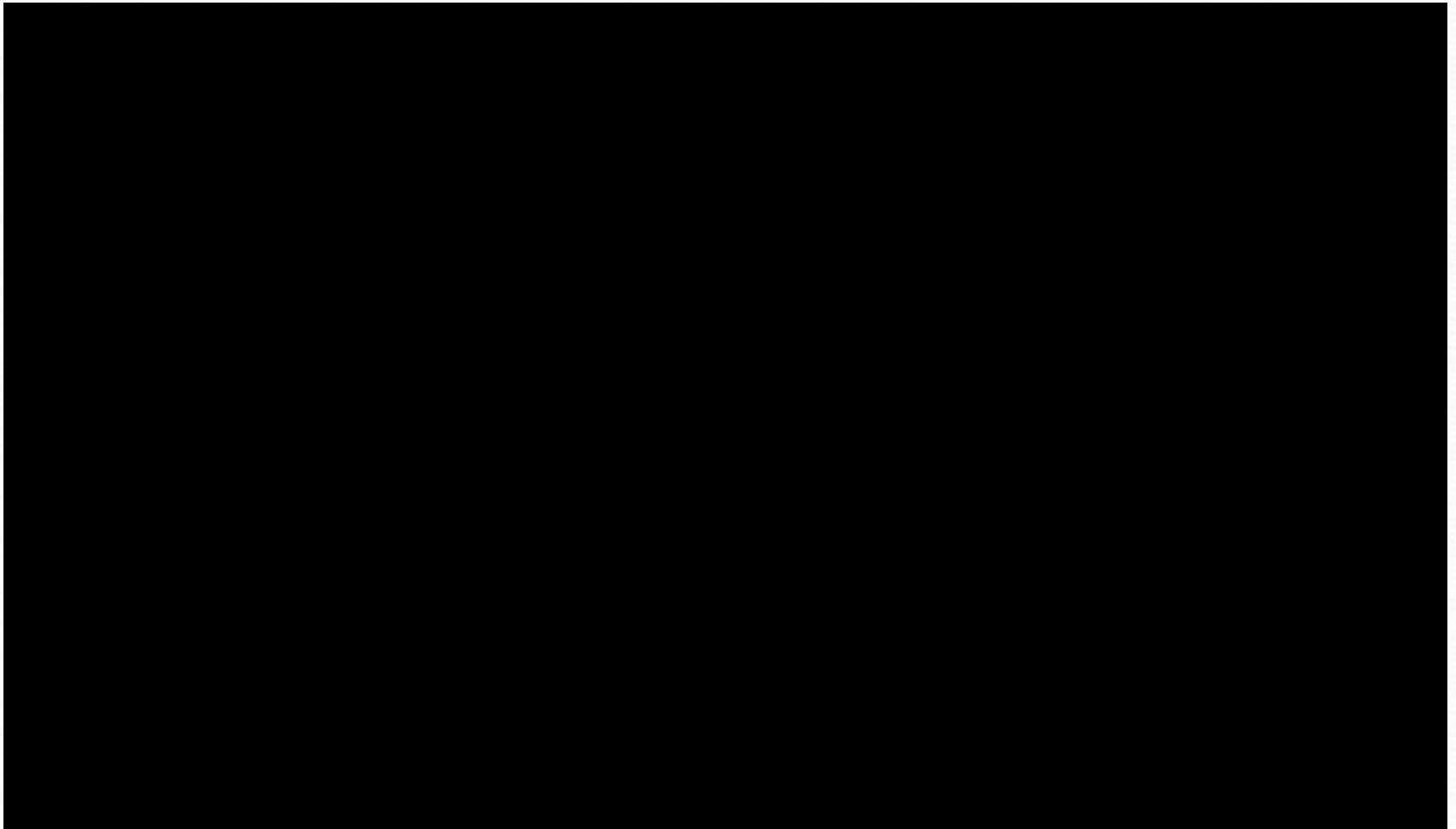


Third Avenue Tank Demolition

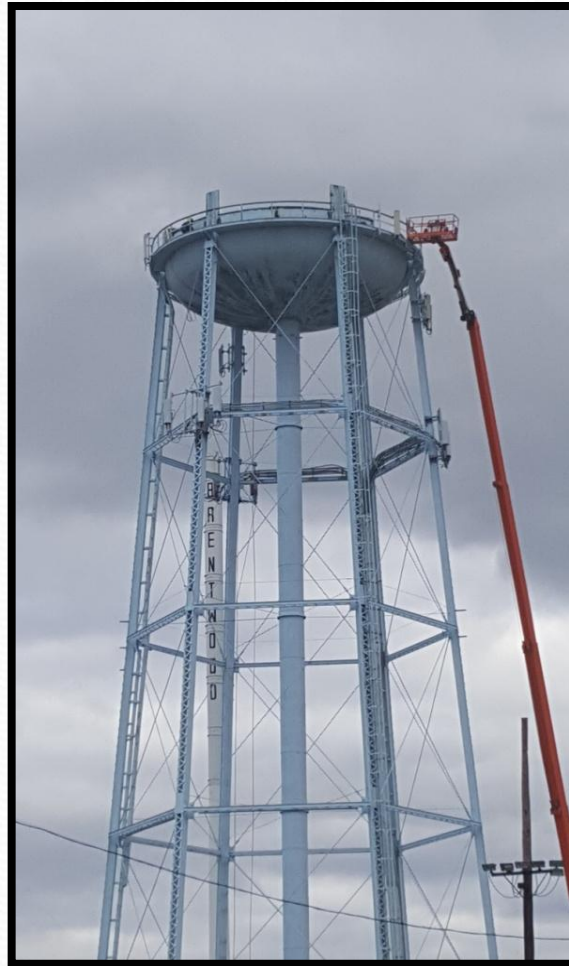
- Demolition and removal of a 300,000 gallon Riveted Steel Elevated Storage Tank



Third Avenue Tank Demolition

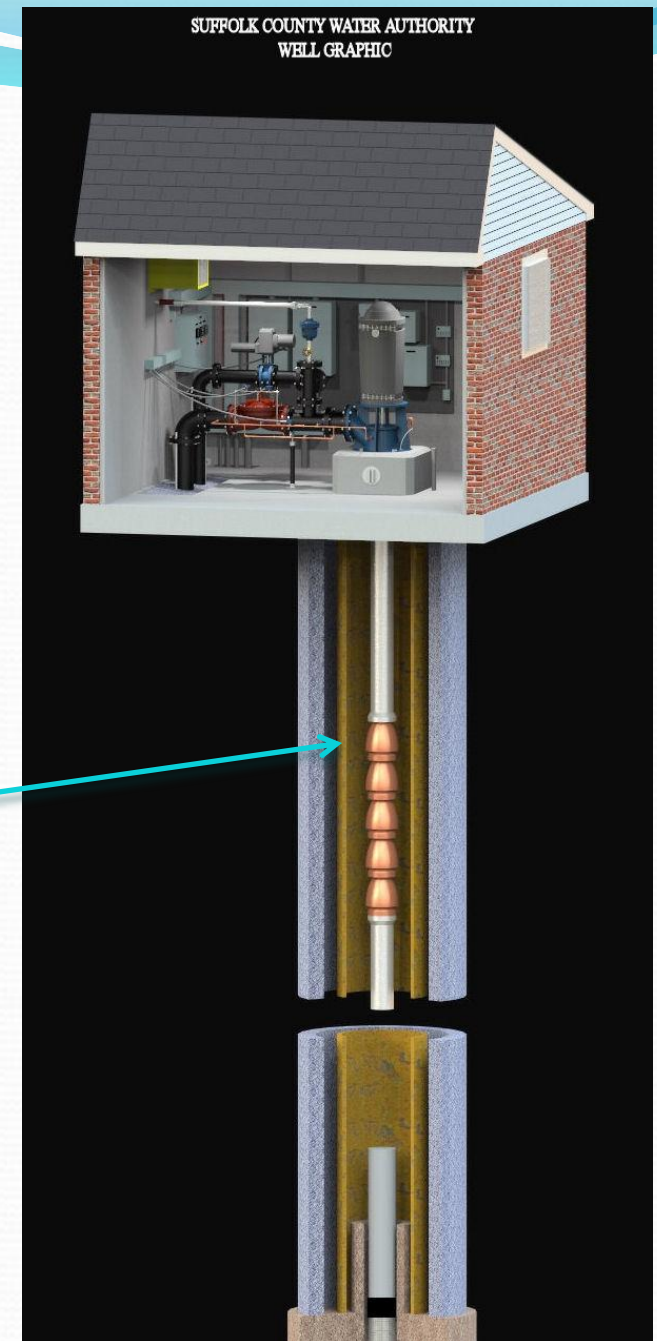


Third Avenue Tank Demolition



Blowoff/Recharge Basins

- Blowoff basins are a vital part of water distribution.
 - These basins provide a place for us to discharge the stagnant water in the well casing before sending it out to the distribution system.
 - Additionally, blowoff basins act as a buffer against water hammer when turning a well on and off.



Blowoff/Recharge Basin

INITIAL STAKE OUT



EXCAVATION



SETTING THE DRAIN POOLS



INTERCONNECTING THE POOLS



Blowoff/Recharge Basin

BACKFILLING



CONT.



CONNECTING THE GOOSENECK

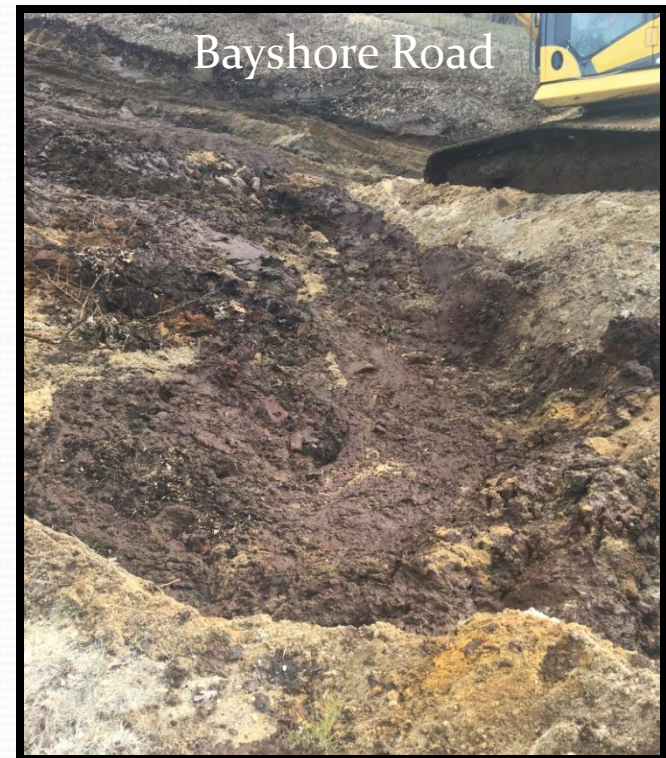


FINISHING



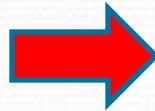
Blowoff/Recharge Basin

- Other than blowing off a well these basins are also used to contain the water used to wash the fines out of the new activated carbon.
- Over time the iron will build up and prevent water from draining.



ALBIN AVE. IRON REMOVAL SYSTEM UPGRADES

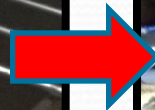
MEDIA REMOVAL



CONT.



PREVIOUS UNDER-DRAIN

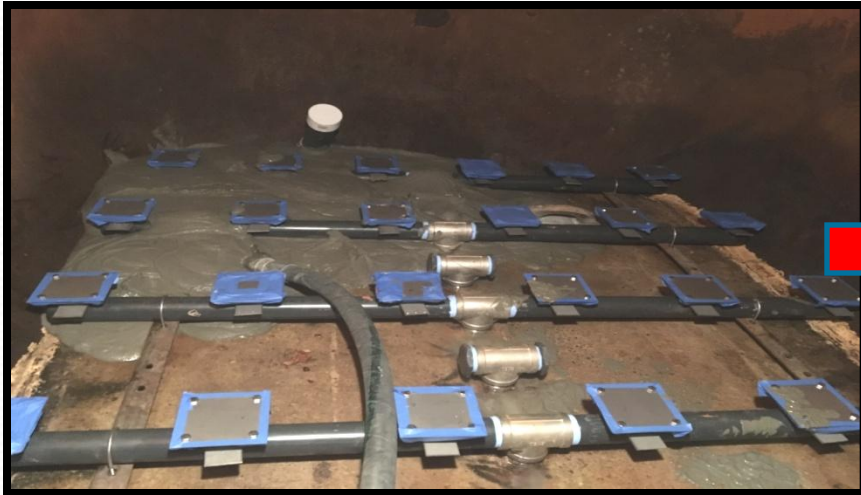


NEW UNDER-DRAIN INSTALL



ALBIN AVE. IRON REMOVAL SYSTEM UPGRADES

GROUTING



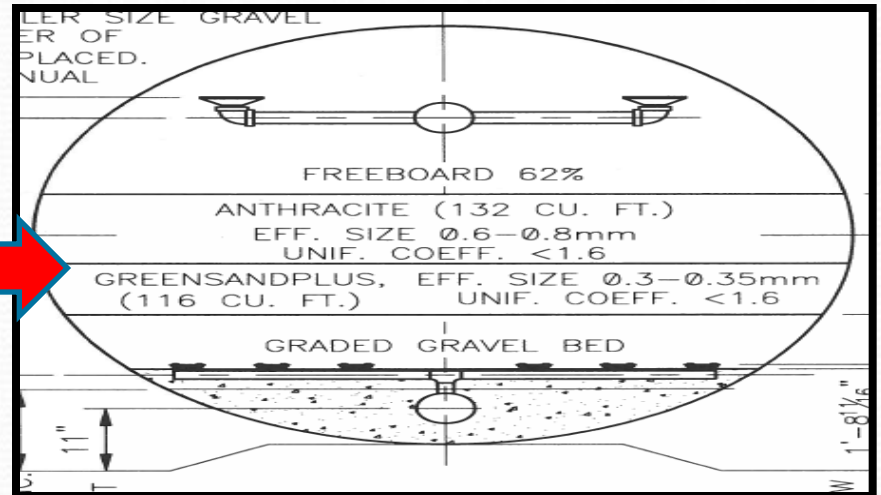
THE AFTERMATH



GRAVEL BED



NEW FILTER MEDIA SYSTEM

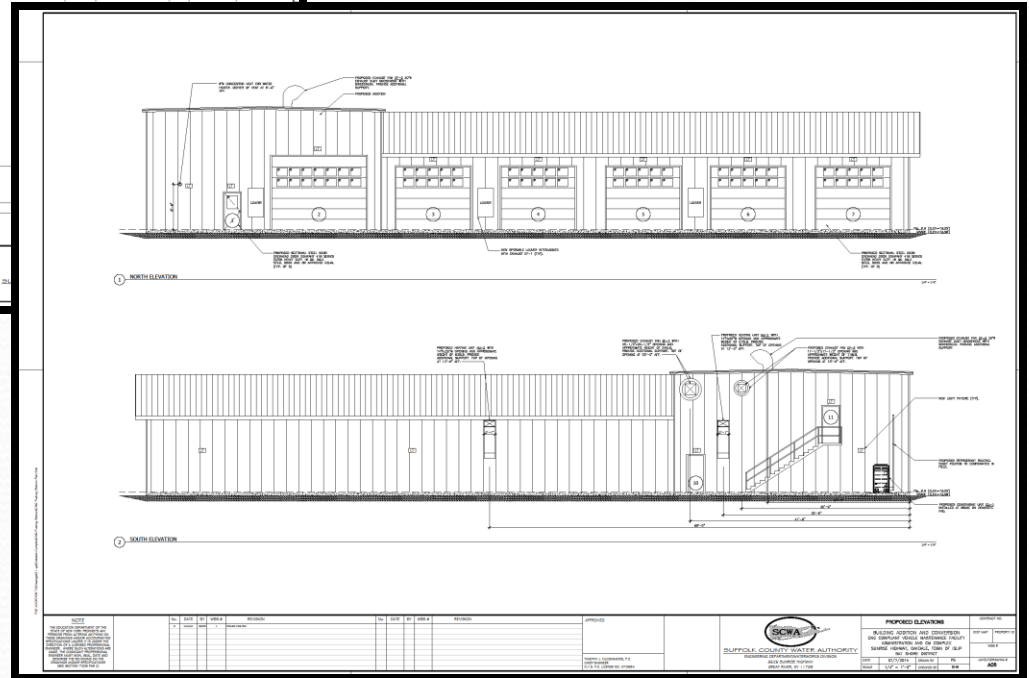
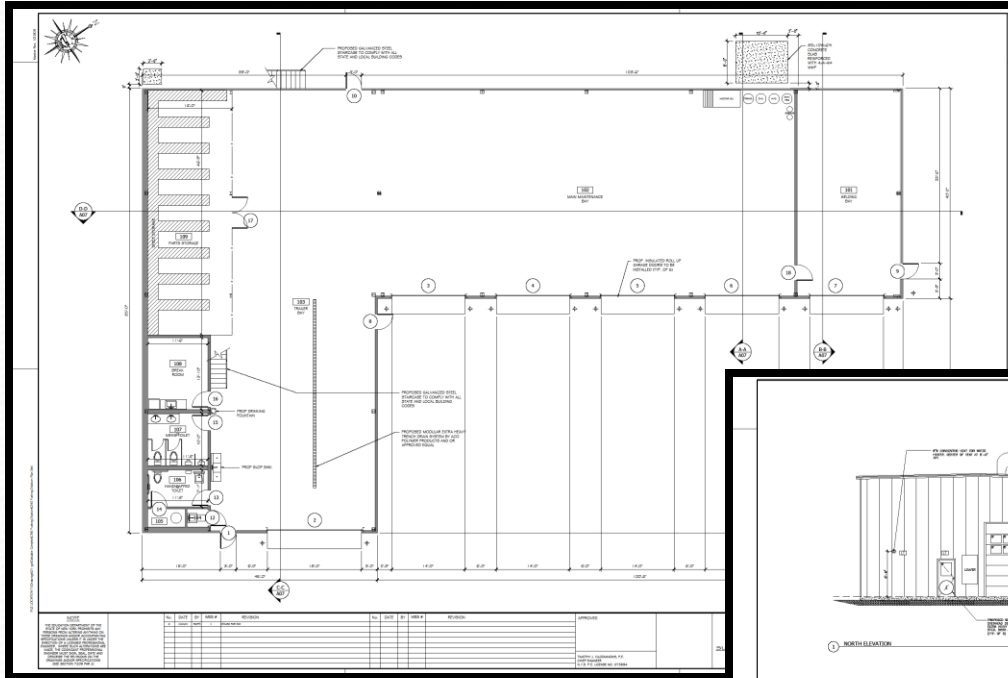


Geotechnical Survey of SCWA Projects

- Performed inspections on the Soil borings for
 - Oakdale CNG Fleet Maintenance Facility
 - Laurel Lake 2 MG Concrete Reservoir



CNG Fleet Maintenance Facility



CNG Fleet Maintenance Facility

PREPARE SITE FOR CONSTRUCTION



SELECTIVELY DEMOLISH EXISTING BUILDING



PREPARE EXISTING FOUNDATION FOR ADDITION



START ERECTING STEEL & PREPARING FOR ADDITION CONCRETE FOUNDATION POUR



CNG Fleet Maintenance Facility

POUR THE SLAB FOUNDATION FOR BUILDING ADDITION



COMPLETE STEEL STRUCTURE



SHEATH BUILDING



BEGIN FRAMING FINISHED OFFICE SPACE

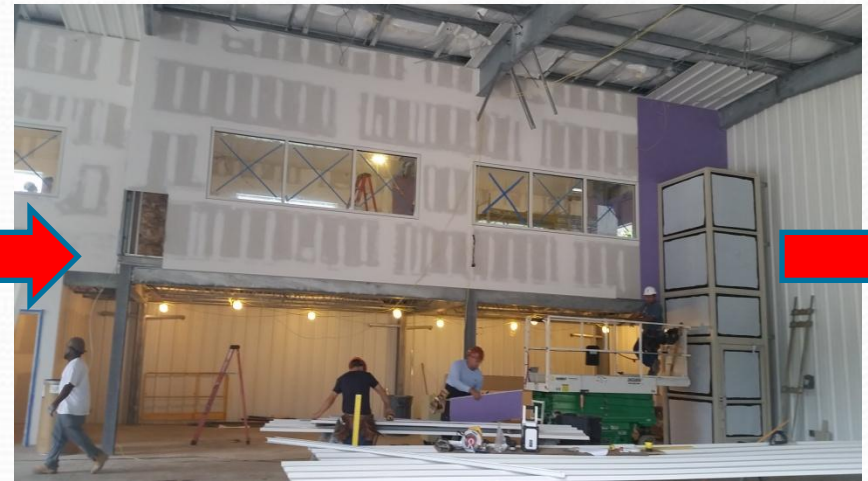


CNG Fleet Maintenance Facility

SHEATH INTERIOR OFFICE SPACE



INSTALL HANDICAPPED VERTICAL LIFT



INSTALL THE SANITARY & GRAY WATER SYSTEMS



INSTALL THE STAIRCASES



CNG Fleet Maintenance Facility

INSTALLATION OF GARAGE DOORS



INSTALLATION OF FUME EXTRACTION SYSTEM



INSTALLATION OF LUBRICATION



CONNECT BUILDING TO THE NATURAL GAS SERVICE FEEDING THE CNG PUMP STATION



CNG Fleet Maintenance Facility

PAINT BUILDING INTERIOR



INSTALL BULK LUBRICATION FLUID SYSTEM



SITE RESTORATION



LOGO INSTALLATION



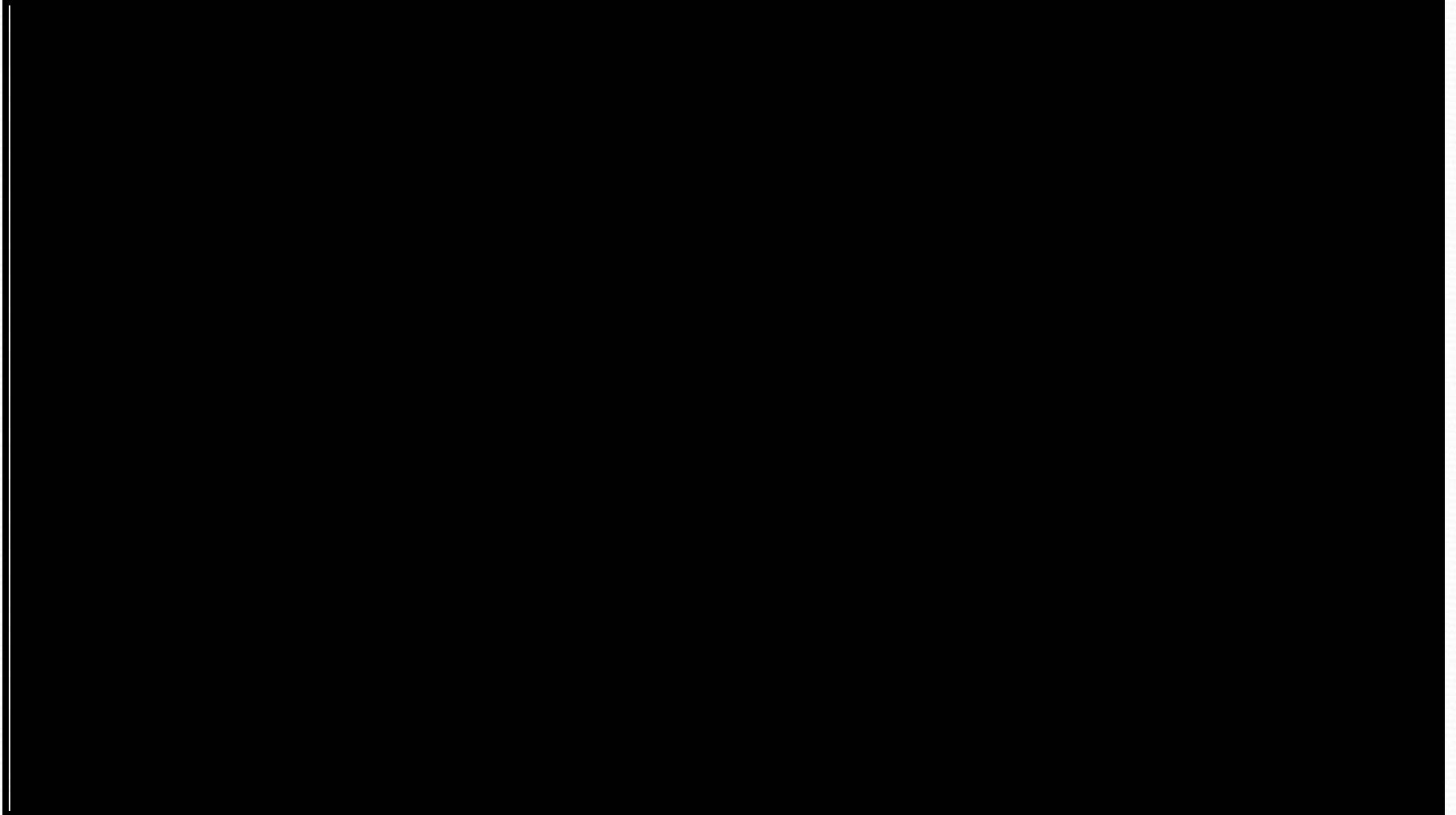
CNG Fleet Maintenance Facility

FINAL PRODUCT

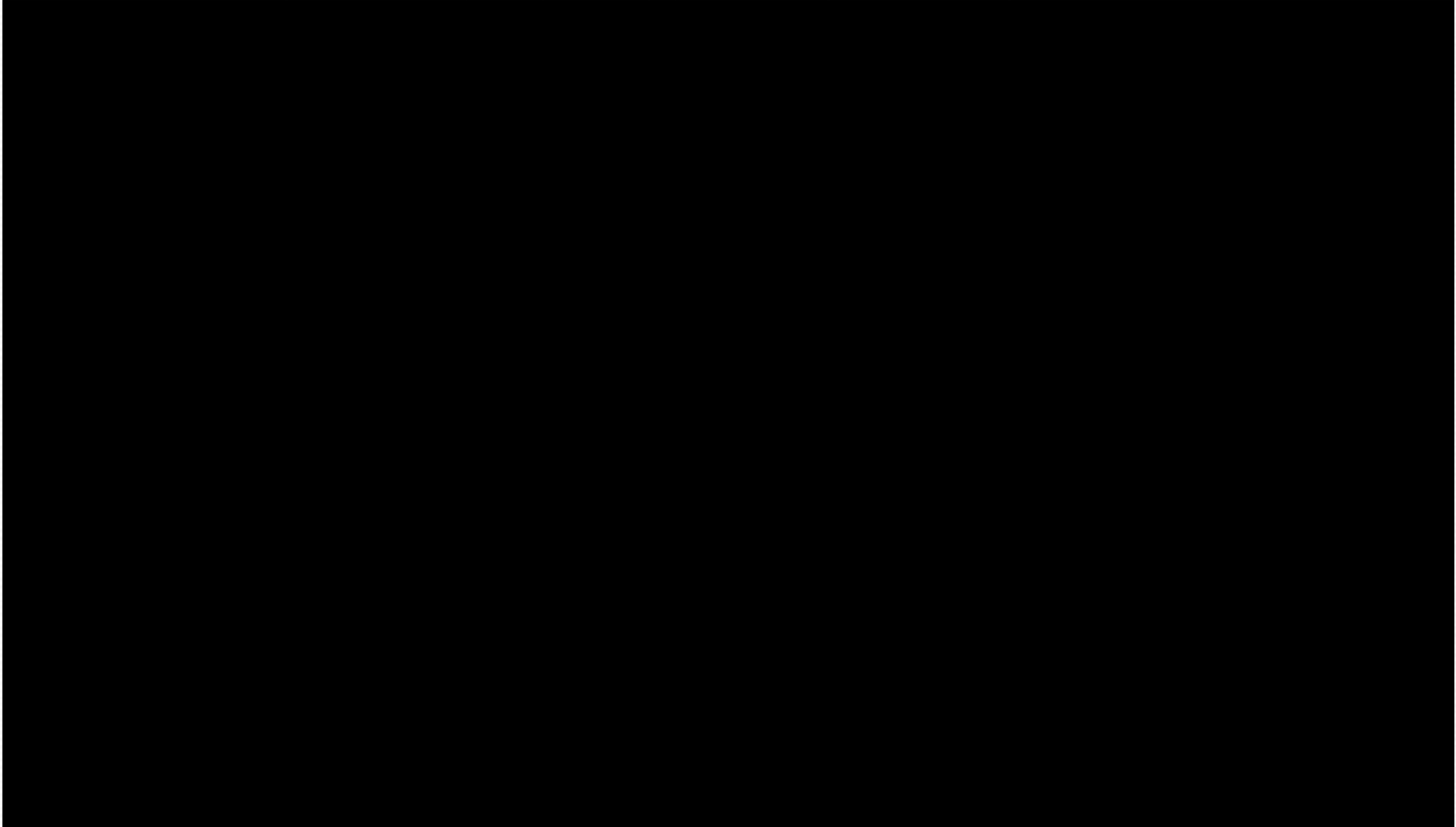


CNG Fleet Maintenance Facility

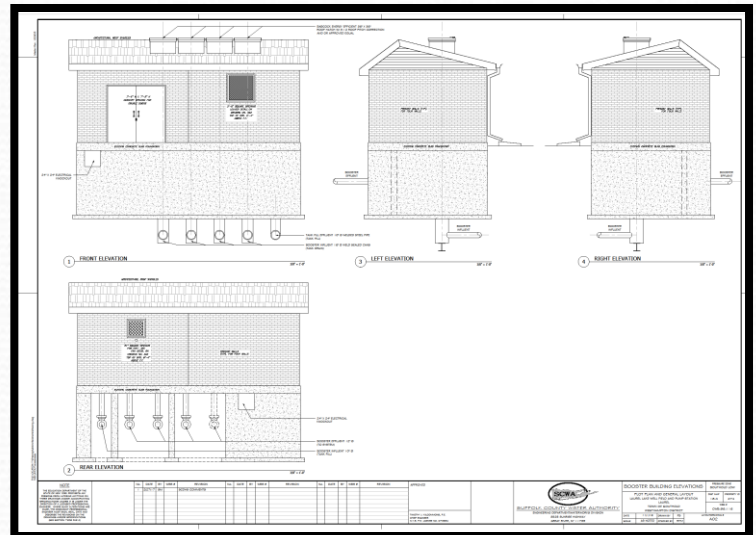
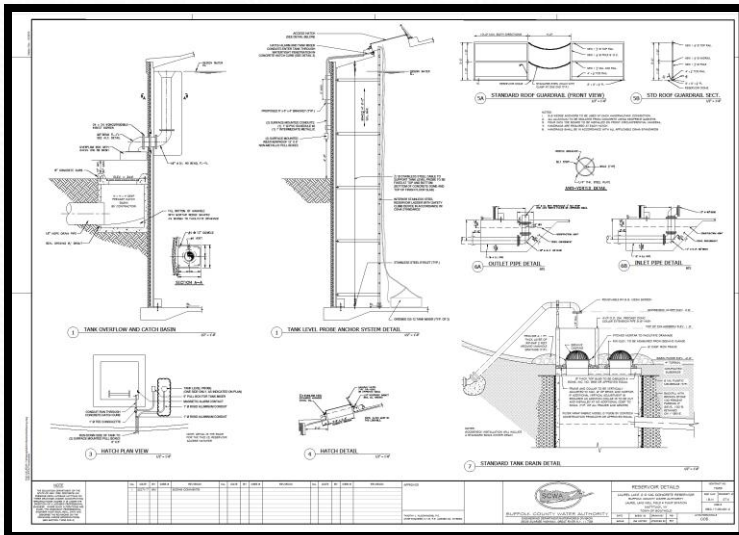
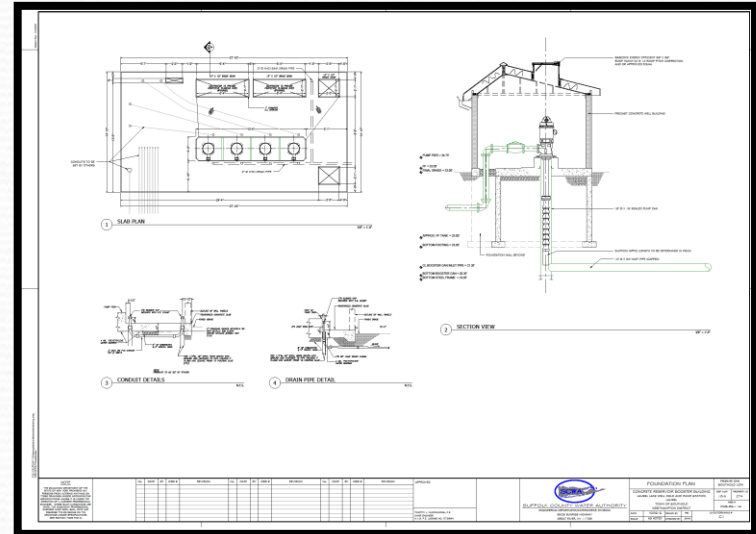
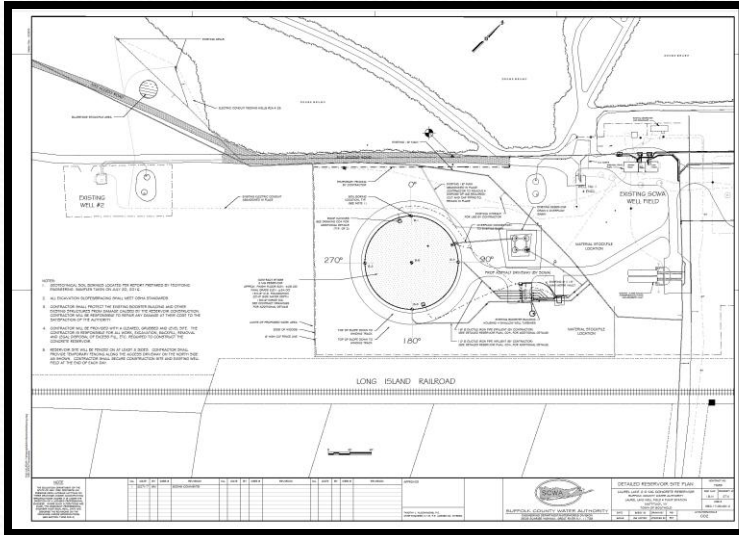
BUILDING INTERIOR



CNG Fleet Maintenance Facility



Laurel Lake Concrete Reservoir & Booster

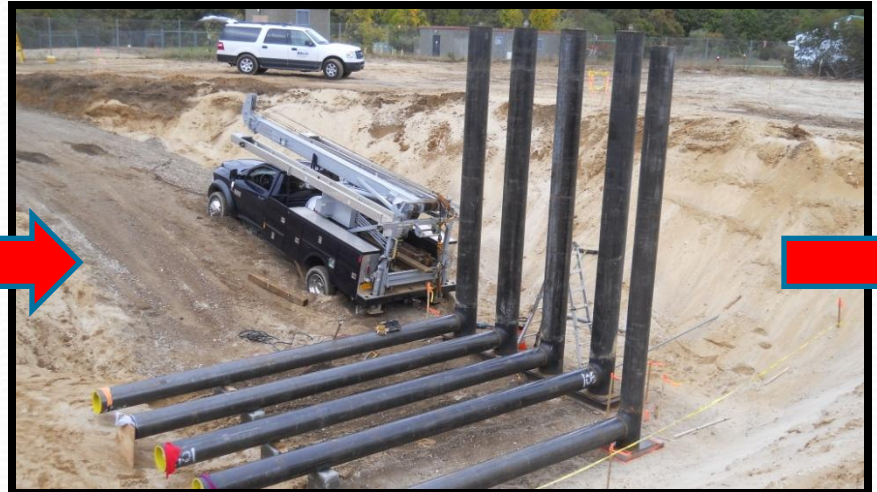


Booster Station Construction

CLEAR SITE AND PREP FOR CONSTRUCTION



EXCAVATION & INSTALLATION OF CUSTOM FABRICATED BOOSTER CANS



CONSTRUCT FULL DEPTH CONCRETE FOUNDATION & BACKFILL



POUR THE CONCRETE SLAB FLOOR & SET THE BUILDING WALLS



Booster Station Construction

CONSTRUCT ROOF & INSTALL APPURTANENCES



PIPE INFLUENT & EFFLUENT MANIFOLDS



INSTALL PUMPS, MOTORS



INSTALL CHECK VALVES & PIPE TO SYSTEM



Booster Station Construction

INSTALL ELECTRICAL CONTROLS & MOTOR STARTERS



INSTALL & PROGRAM SCADA RTU



COMPLETION OF THE RESERVOIR BOOSTER



Pre-Stressed Concrete Reservoir Construction

EXCAVATE MATERIAL PREP SUBGRADE FOR THE TANK SLAB



CONSTRUCT ACCESS ROADS & RAMPS



PREP BASE COURSE & FORM TANK SLAB



Pre-Stressed Concrete Reservoir Construction

POUR MONOLITHIC CONCRETE SLAB



Pre-Stressed Concrete Reservoir Construction

FLOOD THE TANK SLAB



FORM AND POUR PRECAST CONCRETE PANELS



ERECT SCAFFOLD SUPPORT STRUCTURE



Pre-Stressed Concrete Reservoir Construction

CRANE ON SITE SETTING PRECAST CONCRETE PANELS



Pre-Stressed Concrete Reservoir Construction

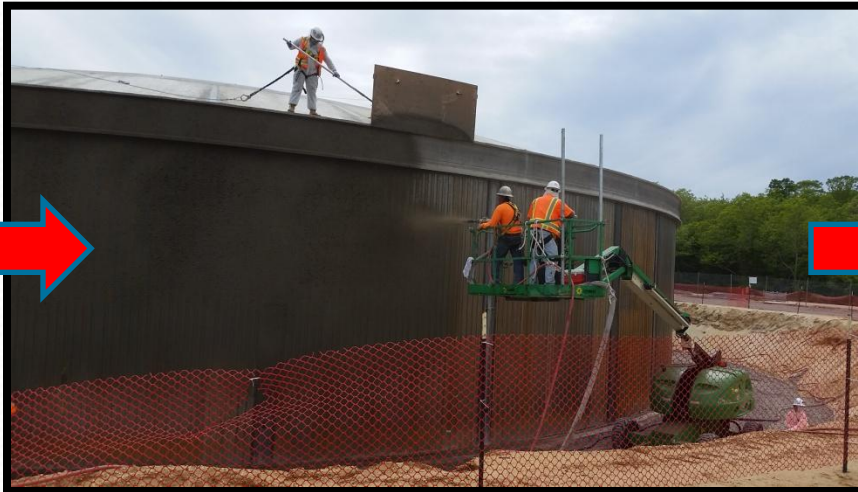
FORM AND POUR CONCRETE BETWEEN PANELS



WIND TANK WITH STEEL CABLE



SPRAY SHOTCRETE OVER STEEL CABLE



CONNECT TANK TO BOOSTER STATION



Pre-Stressed Concrete Reservoir Construction

REMOVE SCAFFOLDING SUPPORT



Pre-Stressed Concrete Reservoir Construction

INSTALL APPURTENANCES



Pre-Stressed Concrete Reservoir Construction

TANK BURIAL & SITE RESTORATION



Pre-Stressed Concrete Reservoir Construction

AMERICAN WATER WORKS ASSOCIATION - WATER STORAGE PROJECT OF THE YEAR



QUESTIONS?

