



Engineering Services for FRWA Members

Making your job easier with effective, affordable and practical solutions!

Mission Statement:

Serving FRWA Member Systems (Water and Wastewater) with every phase of utility operations – planning, design, engineering, treatment, permitting, regulatory compliance, troubleshooting, technical, managerial, funding and financial services.

Engineering Services:

Choose FRWA's Professional Engineers or Consultants to help you with any challenge – *please call or email us!*

Please see the back page for the **Engineering Services Request Form**.

Water System Engineering

Going beyond compliance to help you provide high quality drinking water to your customers.

Wells & Source Water

Your wells are the heart of your water system.

Let us help with:

- New/Emergency Well Construction
- Well Casing Repair
- Consumptive or Water Use Permits (CUP/WUP)
- 4-Log (CT) Treatment Calculations
- RTCR Level 2 Assessments



Drinking Water Treatment Engineering

FRWA's engineering team is always evaluating new, affordable, alternative, state-of-the-art treatment methods to improve water quality, exceed customer expectations, and comply with regulations.

We recommend treatment strategies and perform Jar Testing and Pilot Studies for treatment strategies!



Compliance challenges, including:

- Disinfection By-Product Control
- Simultaneous Compliance
- Lead and Copper Corrosion Control
- Iron and Manganese Sequestration
- Iron, TOC, Sulfides, Taste, Odor, and Color
- Rads, TDS, Arsenic, Nitrate/Nitrite
- Aeration and Tank Mixing
- Disinfection (gas, liquid & chlorine dioxide)

Let us assist with aesthetic concerns such as:

- Color, Taste, and Odor

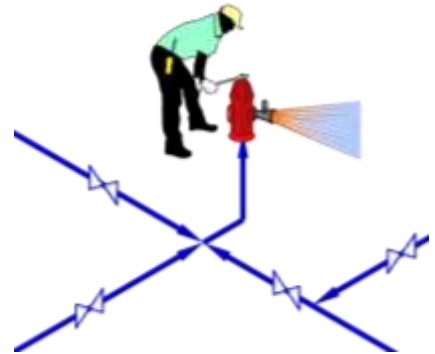
In addition to conventional water treatment, FRWA has expertise with:

- Granular Activated Carbon (GAC) Filters
- Activated Alumina Filters
- Ion/Anion Exchange (Water Softening)
- Reverse Osmosis/Membranes
- Hydrogen Peroxide (H₂O₂)
- Chlorine Dioxide (ClO₂) as a Dry Binary Powder
- Activated Alumina
- Clearitas (NaOH and NaOCl)

Water Distribution Engineering

Sustainable distribution systems are capable of providing high quality water to customers, and resilient to emergency events. Let us help with strategies to extend system life, minimize water main breaks, isolate damages segments and minimize property damage as a result of responding to an emergency, and reduce contamination events.

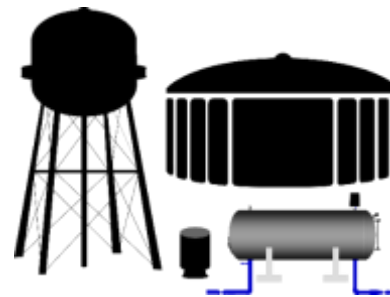
- Hydraulic Studies & Modeling
- Distribution System Design, and Permitting
- Water Main Extensions/Replacements
- Water Pressure, Flow, and Storage
- Fire Protection Studies
- Remote Chlorination
- Automatic Flushing Valves for
 - ✓ DBP Reduction
 - ✓ Improved Potable Water Quality
 - ✓ Better Chlorine Residual
- Traditional & Unidirectional Flushing Plans
- Water Meter and Valve Replacements
- Distribution Maps, Records, and Water Loss



Water Storage

Finished water storage is critical and provides (1) storage volume for daily equalization and flow balancing; (2) fire flow volume; (3) pressure to the distribution system; and (4) for emergency situations including hurricanes, power failures, etc.

- Design & Permitting Storage Tanks
 - ✓ Ground Storage Tanks
 - ✓ Elevated Storage Tanks
 - ✓ Hydropneumatic Tanks
- Tank Aerators
- Tank Mixers, Turn-Over, Baffling, and Venting
- List of Inspectors and Maintenance Companies



Water Supply Pumps & Pumping Facilities

- Design and Permitting High Service Pumps/Booster Pumps
- Troubleshooting and Preventative Maintenance
- Pump Evaluation and Recommendations
- Energy Audits



Wastewater Treatment Engineering

We troubleshoot and deliver in-depth analyses of plant operation to help identify problematic issues and to provide short and long term solutions.

FRWA services include:

- Major and Minor Plant Design
- Operating Permit Renewals
- O&M Performance Reports
- Headworks, Sand, and Grit Removal
- Septage Collection, Treatment, and Rates
- Hydraulic Surges and Tanks
- Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) pumping
- Meeting Effluent Standards through
 - ✓ Nitrification, denitrification, anoxic zones
 - ✓ Biological Nutrient Reduction
- Energy Audits to reduce power bills and increase treatment
 - ✓ Process control evaluation
 - ✓ Oxidation Reduction Potential (ORP)
 - ✓ Diffusers and blower operations
- Corrosion, Hydrogen Sulfide (H₂S) formations, odor reduction
- Coatings and structural integrity of hydraulic structures
- Safety and Standard Operating Procedures
- Hazardous gas monitoring and/or equipment
- Cathodic protection of steel structures/tanks.
- Energy Audits



Pretreatment Programs

We assist wastewater systems with Industrial Pretreatment Programs. A pretreatment program may be required if a WWTP receives discharges from a significant industrial or commercial user that will cause interference with its operation and/or adversely affect effluent or sludge.

- Fats, Oils, and Greases (FOGs)
- Recommendations for controlling heavy metals
 - ✓ Arsenic
 - ✓ Cadmium
 - ✓ Chromium
 - ✓ Copper
 - ✓ Lead
 - ✓ Mercury
 - ✓ Nickel
 - ✓ Zinc

Wastewater Collection Systems

FRWA's engineering team is ready to work with you to evaluate and improve your collection system.

- Inflow and Infiltration (I&I) Studies
 - ✓ Cost effective strategies to reduce I&I
- Sanitary Sewer Evaluation Studies (SSES)
- Sewer Extensions/Replacements
- Force Main Hydraulic Studies and Modeling
- Lift Station design, floats and operations
- Lift Station bypass pumping and emergency power
- Manhole and lift stations inspections
- Gravity Sewer design and troubleshooting
- Corrosion, H₂S formation, odor problems, and reduction in collection systems
- Grinder and Vacuum Design, valve pits, floats and operations



WW Disposal, Reclaimed Water & Residuals

FRWA works with utilities to meet wastewater effluent standards, design reclaimed water systems, and dispose of residuals.

- Because of recent EPA and FDEP nutrient rules we recommend systems with surface water disposal (NPDES) permits seriously consider moving to land application – we assist with cost/feasibility studies, design, and permitting.
 - ✓ Slow Rate Land Application - Sprayfields
 - ✓ Rapid Rate Land Application - RIBs
 - ✓ Monitoring wells
- Reclaimed Water Systems
 - ✓ Public Access – landscape, *public* parks, and golf course
 - ✓ Limited Access – nurseries, agriculture
 - ✓ Industrial Reuse
- Residuals (Sludge and Biosolids) Disposal and Treatment Design, Evaluation, and Feasibility
 - ✓ Sludge drying beds
 - ✓ Dewatering boxes
 - ✓ Belt Presses, Centrifuges, Screw Presses, etc.
 - ✓ Land Application
 - ✓ Composting
 - ✓ Landfill, etc.

Funding Options & Assistance

Recommending funding sources for loans and grants for your projects! Preparing applications and setting up meeting with the various agencies to get you started.

- USDA Rural Development Grants and Loans
- State Revolving Fund Grants and Loans
- Department of Economic Opportunity Grants
- Water Management Districts
- Community Development Block Grants (CDBG)
- Short-Term/Interim Financing
- NRW/USDA Revolving Loans
 - ✓ \$100,000 @ 3% for 10-years
 - ✓ 45 to 60-day approval
- Commercial Bank Financing
- FEMA Grants for Generators



Complete Grant Administration Services: coordinating financial transactions, pay requests, disbursements, managing construction compliance with federal wage and hour requirements (Davis Bacon), and coordinating contractors' compliance with American Iron and Steel requirements.

Financial & Management Services

Utility Management, Financial, and Board Training are available from experienced and effective professionals. Whether the sessions are formal or individual we are always available to help you run your system more effectively and efficiently.

- Impact Fee and Rate Studies
- Capital Improvement Plans (5-year)

Planning & Engineering Studies

- Capacity Analysis Reports
- Feasibility Studies and Cost Estimating
- Engineering Reports/Facility Plans (SRF)
- Environmental Reports
- Water Corrosion Studies
- Value Engineering and Constructability Reviews
- Master Plans and Water Supply Plans
- Asset Management Plans
- Water Audits and Conservation Measures
- Inflow/Infiltration Studies
- Risk Management Plans (RMP) and On-Site Compliance Audits



FRWA Engineering

Our goal is to be more responsive to our members around Florida with high quality, reasonable and practical solutions in a cost-effective manner.

Last	First	Phone	Ext.	Email	Location
Carroll	Sterling	(850) 668-2746	118	Sterling.Carroll@frwa.net	Tallahassee
Van Zant	Katherine	(904) 290-0974	121	Katherine.VanZant@frwa.net	Ocala
Piotrowski	Peyton	(850) 668-2746	113	Peyton@frwa.net	Tallahassee

If it's a regulatory compliance, permitting, or design issue, sometimes we can get some breathing space from FDEP until we can work on your project. This also gives them assurance that we are on your team — *but you have to call us first and we have had a chance to respond with an offer of engineering services!* Projects requiring the CCNA process are steered toward engineering consultants.

FRWA asks for contributions to support engineering salaries, which is still less than most engineers charge for their services. Engineering support includes all phases of the project.

FRWA Consultants (Engineers & Loan/Grant Administration)

FRWA has teamed up with professional engineers and grant writers who share our vision and mission to assist FRWA Members (water and wastewater systems). As a result, FRWA can assist more of our members with critical services.

FRWA puts our member's needs first. Already we assist hundreds of members each year, we now have the capacity to help more!

This team of professionals are either sole proprietors or small firms with considerable expertise, knowledge, and experience to serve water and wastewater systems. All of this is a phone call or email away. Please use us, we're here to help.

NAME	ORGANIZATION	PHONE	EMAIL
David Bolam	Saltus Engineering, Inc.	(904) 742-6545	djbengineering@msn.com
Tom Bryant	Professional Engineer	(850) 443-1313	thomasabryant@comcast.net
Mark Cadenhead	Cadenhead Environmental	(904) 307-6824	mark_cadenhead@bellsouth.net
Michael Crumpton	Arminius Consultants, LLC	(863) 559-2893	michael.crumpton@arminiconsult.net
Patrick Day	DRMP, Inc.	(239) 357-7194	PDay@drmp.com
Andy Easton	Andy Easton & Assoc. (Grants)	(850) 445-7829	andyeaston2@msn.com
Ross Hackethal	DRMP, Inc.	(239) 357-7194	Rhackethal@drmp.com
John Hermann	Arminius Consultants, LLC	(321) 315-7674	johnhermann@arminius.co
Bob Holmden	FRWA SRF Engineer	(850) 264-7218	Robert.Holmden@frwa.net
Dale Long	Municipal Engr Svcs, Inc.	(850) 939-2427	dlong@mesi-fl.com
Daniel Magro	Aclus Engineering, LLC	(407) 491-0163	daniel.magro@acluseng.com
Jeffrey Martin	Professional Engineer	(904) 434-8377	JM4engineer@gmail.com
George McDonald	McDonald Group International Inc.	(352) 637-1652	gmcdonald@mcdonaldgroup.com.
Christine Miranda	Holtz Consulting Engineers, Inc.	(561) 575-2005	Christine.Miranda@holtzconsulting.com
Michael Murphy	FRWA SRF Engineer	(850) 545-9246	mpmurphy1050@gmail.com
Daniel Peterson	Professional Engineer	(352) 562-1993	flyingbass@gmail.com
Phil Phillips	Municipal Engr Svcs, Inc.	(850) 939-2427	pPhillips@mesi-fl.com
Mark Repasky	Wastewater Technologies, Inc.	(850) 561-1111	wastewatertechno@aol.com
Cory Synder	Municipal Engineering Services, Inc.	(850) 939-2427	csnyder@mesi-fl.com

Engineering Services Request Form

Instructions: This form must be completed by the water / wastewater owner or manager and emailed to FRWA at frwa@frwa.net or faxed to (850) 893-4581.

One of the FRWA engineers will contact you to discuss your engineering needs – their advice and input is always free. Should you need permitting or an engineering study and accept the FRWA engineering proposal we'll ask for a contribution in aid of engineering assistance.

Water/Wastewater System Name:			
System Street Address:			
System City, State, Zip:			
System PWS/Facility ID:		County:	
FRWA Member:	<input type="checkbox"/> FRWA Member	<input type="checkbox"/> Willing to will become a FRWA Member	
Contact Person:			
Contact Person Phone(s):			
Contact Person Email:			
Contact Person Title: <i>(check all that apply)</i>	<input type="checkbox"/> System Owner <input type="checkbox"/> System Manager <input type="checkbox"/> Operator <input type="checkbox"/> Engineer <input type="checkbox"/> Other (describe) _____		
Brief Description of the Project or Problem:			
Project Reason <i>(check all that apply):</i>			
<input type="checkbox"/> Compliance/MCL Issues <input type="checkbox"/> Consent Order <input type="checkbox"/> Rate Studies <input type="checkbox"/> Impact Fees <input type="checkbox"/> Public Health <input type="checkbox"/> Infrastructure Replacement <input type="checkbox"/> System Expansion <input type="checkbox"/> Feasibility Studies <input type="checkbox"/> Cost Estimates <input type="checkbox"/> Bid Evaluation/Value Engr	<input type="checkbox"/> Water Source/Well(s) <input type="checkbox"/> Water Treatment <input type="checkbox"/> Water Quality Improvements <input type="checkbox"/> Pumping <input type="checkbox"/> Pressure and Flow (hydraulics) <input type="checkbox"/> Water Distribution <input type="checkbox"/> Storage Tanks <input type="checkbox"/> Ground Storage <input type="checkbox"/> Elevated Storage <input type="checkbox"/> Hydropneumatic Tank	<input type="checkbox"/> Sanitary Sewer Collection <input type="checkbox"/> Lift Stations/Force Mains <input type="checkbox"/> Wastewater Treatment <input type="checkbox"/> Biological Nutrient Reduction <input type="checkbox"/> Septage Treatment <input type="checkbox"/> Wastewater Disposal <input type="checkbox"/> Reuse <input type="checkbox"/> Residuals <input type="checkbox"/> Sludge Handling <input type="checkbox"/> Sludge Disposal	
Comments:			