

May 8, 2009

Mr. Mark Hilty, Water Management Department Director  
City of Franklin Administrative Offices  
City Hall Mall  
109 Third Avenue South, Suite 103  
Franklin, TN 37064

RE: **Regional Integrated Water Resources Plan  
Request for Qualifications**

Dear Mr. Hilty:

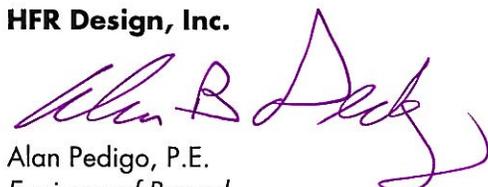
We are pleased to submit six (6) printed copies of our qualifications (plus one electronic copy on CD) for the Franklin Regional Integrated Water Resources Plan project.

We believe that HFR Design, Inc., has experienced personnel that are ideally suited for performing this work. Our Environmental Department has a combined total of 70 years of experience in planning and designing water, wastewater, reclaimed water, and stormwater systems for numerous cities and counties throughout the State. HFR is the oldest and largest engineering firm in Williamson County, and we pride ourselves on being thorough and in understanding our client's needs. It will be our goal to provide cost-effective, practical options as we assist you with the planning and design of this plan.

Thank you for the opportunity to submit our statement of qualifications. Please feel free to call me if you have any questions.

Sincerely,

**HFR Design, Inc.**



Alan Pedigo, P.E.  
Engineer of Record

pc: Rodney Wilson, HFR  
Kyle Dunn, HFR

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# Proposal For

## Regional Integrated Water Resources Plan

May 8, 2009

Submitted to:

The City of Franklin, Tennessee



### **HART FREELAND ROBERTS**

7101 Executive Center Drive, Suite 300  
Brentwood, Tennessee 37027  
615.370.8500





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# *Business Organization*

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HFR's headquarters are located in Brentwood at the following address:

**HFR Design, Inc.**  
**7101 Executive Center Drive**  
**Suite 300**  
**Brentwood, TN 37027**  
**615.370.8500 Phone**  
**615.370.8530 Fax**

Our offices are located approximately 25 minutes from City Hall, and areas of the Harpeth River basin run within a few miles of our offices. Therefore, we could respond very quickly to any requests and needs of the City of Franklin.

All personnel who will work on this project are in our Brentwood office. The Technical Leader of this project, Alan Pedigo, PE, will make it a point to visit the site a minimum of once a week and more frequently, if warranted.

# History

*"We are what we repeatedly do. Excellence, then, is not an act, but a habit."*

*Aristotle*

Known today for successful projects all across America and a resulting national reputation for excellence, Hart Freeland Roberts, Inc. traces its origins to Nashville, Tennessee. There in 1910, architect Russell Hart arrived from New York to design the famed Hermitage Hotel, an enduring landmark in the city.



The founding partners made significant contributions to Nashville's architectural and engineering design legacy, both individually and collectively. Noteworthy examples from the early years include the replica of the **Parthenon** (the city's best known classical symbol); Lifeway Christian Resources **Frost Building**; the **Leslee Cheek Residence** (now part of the First Presbyterian Church); **Old Hickory Bridge**; the **Third National Bank** at Fourth Avenue and Church Street; and the **Executive Residence for the Governor of Tennessee** (formerly the William Ridley Wills Home). Their attention to detail and responsiveness to clients' needs led to these numerous monumental projects that have become part of Nashville's rich heritage.

From its inception until today, HFR continues to be a major player reshaping Nashville's central business district and its surrounding community and state areas. From the **Ryman Auditorium**, the home of country music, to the ultra-modern sports and entertainment facility, the **Sommet Center**, to the new **Main Branch of the Public Library**, all located in the heart of downtown Nashville, HFR has and continues to enjoy a diversity of engineering and architectural successes due to an ongoing commitment to customer satisfaction.

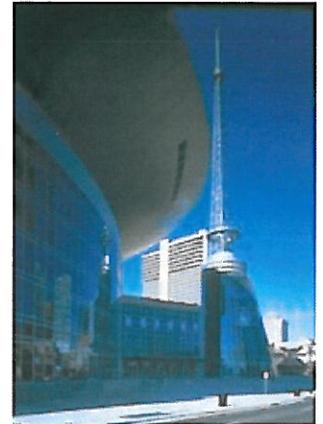


HFR is staffed by over 80 professionals who are licensed in 33 states. Offices are located in Brentwood and Jackson, Tennessee; Kansas City, Missouri; along with a new office in Louisville, Kentucky.

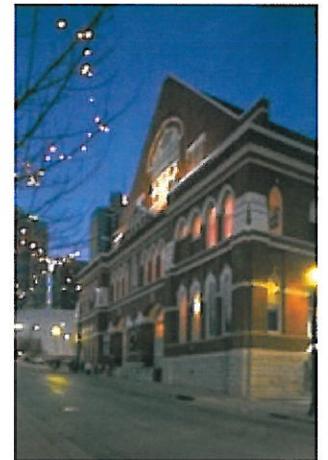


At about the same time, engineers F. Eugene Freeland and Martin Smith Roberts went into practice together in Nashville. While involved in separate companies, the three men worked collectively on various projects before joining forces in 1920 to form one of Tennessee's first architectural-engineering firms, Hart Freeland Roberts, Inc.

The firm made its initial reputation by designing several significant buildings and other structures that remain an important part of Nashville's history and culture.



Sommet Center



Ryman Auditorium



Lifeway Christian Resources

# Services



Tennessee Fire Service and Codes Enforcement Academy

## Civil Engineering

Transportation  
Roadway Design  
Greenway Development  
Stormwater Management  
FEMA Flood Studies  
Drainage Basin Analysis  
Drainage System Improvements  
Site Assessment Studies  
Site Design  
Traffic Analysis



Bell Road



I-24 Welcome Station

## Environmental Engineering

Community Development Block Grant Applications (CDBG)  
State Revolving Fund (SRF) and Rural Utility Services (RUS) Funding Assistance  
Compliance Reports  
Elevated Water Tanks  
Environmental Site Assessments  
Gas Systems  
Ground Storage Tanks  
Groundwater Monitoring  
Inflow/Infiltration Studies  
Operations and Maintenance Manuals/ Training  
Preliminary Engineering Studies



Brentwood Water Tank

Distribution System Mapping and Modeling  
Collection System Mapping and Modeling  
Sanitary Sewer System Rehabilitation and Improvements  
Sanitary Sewer Interceptors and Collector Lines  
Sewage Lift Stations and Force Mains  
Treatability Studies  
Water Booster Pump Stations  
Water Distribution Systems  
Water System Rehabilitation and Improvements

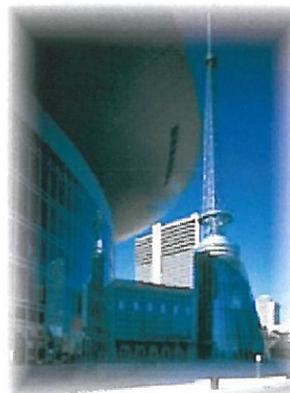
Water Treatment Plants  
Wastewater Treatment Plants



Middle Tennessee Medical Center Crosswalk

## Structural Engineering

Educational Facilities  
Healthcare Facilities  
Industrial Buildings  
Municipal Buildings  
Parking Structures  
Recreational Facilities  
Religious Facilities



Sommel Center



Church Street Bridge

HFR offers a full range of engineering services. Professional design services include civil, environmental, structural and transportation engineering, survey services, architectural and interior design, along with planning and construction management.



Other areas of expertise include market research, master planning, feasibility studies and project programming. With a resume of project experience spanning 99 years, HFR offers a broad spectrum of services with technical design expertise in the following markets:

- **Civil / Site**
- **Transportation**
- **Environmental**
- **Parks & Recreation**
- **Municipal / Civic**
- **Commercial / Retail**
- **Healthcare**
- **Educational**
- **Industrial**



# Project Team

Below is a list of Key Staff who will be assigned to this project. Highlights of their qualifications and experience are provided in the following paragraphs. Their resumes are attached immediately behind this section.

## HFR Design, Inc.

**Alan Pedigo, P.E.**, has 21 years of experience in environmental consulting to municipal, county, and other governmental clients. Based on his expertise and experience, he is proposed to serve as the **Project Manager / Environmental Engineer** on this project. He has designed several wastewater collection and treatment systems, and potable water distribution systems.

**Rodney Wilson, P.E.**, has 25 years of experience in the design, coordination and construction of engineering projects as well as extensive expertise in project management. He will serve as the **Senior Technical Engineer** for this project.

**Jim Gilliam** has over 19 years of experience in civil engineering design specializing in urban drainage, open channel hydraulics, and stormwater calculations. He will serve as the **Stormwater Programs Engineer** for this project.

**Bruce Byrd** has over 36 years of experience in production and coordination for water and wastewater treatment plants, and distribution and collection systems. He will serve as the **Senior Project Coordinator** on this project.

**Glen Dodson** has 22 years of experience in civil engineering design/drafting, and in construction administration, inspection, and management of construction projects. His role will be **CAD Technician Coordinator** on this project.

**Kevin Edmondson, RLS**, has 29 years of experience in the development surveying and engineering projects especially multiple governmental agencies and environmental modeling situations. His role will be **Surveying Coordinator**.

## Sub-Consultant

**Ritchie Taylor, Ph. D.**, is an Associate Professor of Environmental Science at Western Kentucky University and has over 19 years of experience in environmental research and assessment, including rural and urban watershed studies, water modeling, watershed management, and stakeholder development for public health protection. He will serve as a **Senior Technical Advisor**.



# Alan B. Pedigo, PE

Mr. Pedigo has 21 years experience in environmental consulting to industrial and municipal clients. His project experience includes, sanitary sewer design, water system design, elevated storage tank design, wastewater treatability studies and design, bench and pilot scale carbon absorption tests, RCRA permitting and air permitting, Spill Prevention Control and Countermeasures (SPCC) plans, groundwater monitoring, asbestos site supervision, and Environmental Site Assessments. Mr. Pedigo has served industrial clients such as Monsanto Chemical Company, Zeneca (formerly ICI Americas), Goodyear, Upjohn, Mallinckrodt, Kerr-McGee, and Unocal.

## Sewer Systems

City of Brentwood, TN  
 Indian Point Pressure Sewers  
 Williamson Estates Pressure Sewers  
 Highland Park Sewers  
 Metro Water Services, Nashville, TN  
 Hopewell-Berryville Trunk and Lateral Sewers  
 Owl Creek Trunk  
 Interceptor Sewer  
 City of Greenbrier, TN  
 Sewer Extension  
 Pump Station and Force Main  
 Oil/Water Separator & Sewer Additions  
 U.S. Army Reserve Centers  
 Ft. Thomas, KY  
 Louisville, KY  
 Bardstown, KY  
 Lexington, KY  
 Greeneville, TN  
 City of Camden, TN  
 Sewer Extension  
 City of Ethridge, TN  
 Sewer System

## Sewer Rehabilitation

Town of Bruceton, TN  
 2003 CDBG Sewer Rehab

## Wastewater

City of Decatur, AL  
 Heavy Metals Inhibition Study  
 City of Greenbrier, TN  
 Sludge Disposal, Site Selection/Permitting  
 City of Henderson, TN  
 Facultative Lagoon Dredging  
 ABS & AG Wastewater  
 Treatability Study, Monsanto  
 Nitrification Denitrification  
 Wastewater Treatability Study, Mallinckrodt, Raleigh, NC  
 Suspended Solids Filtration Study, Monsanto, Alvin, TX  
 Wastewater Facility  
 Troubleshooting, Monsanto, Nitro, WV

## On-Site Sewage Treatment

Lewis Mart, Joellon, TN  
 Low-Pressure Pipe (LPP) System

Metro Parks Nature Centers  
 at Bell's Bend and Beaman  
 Park Septic Systems  
 Nashville, TN

## Utilities/ Utility

### Relocations

Assisted Living Centers  
 Alabama  
 Georgia  
 Indiana  
 Kentucky  
 South Carolina  
 Tennessee  
 City of Franklin, Liberty Pike  
 City of Brentwood, TN  
 Murray Lane  
 Knox Valley  
 Fire Department Station No. 4  
 City of Henderson, TN  
 SR 100 Utility Relocations  
 City of Milan, TN  
 SR 76 Utility Relocations  
 Metropolitan Nashville-Davidson  
 County Board of Education,  
 John F. Kennedy Middle  
 School  
 TN Dept. Of Transportation,  
 I-65/Harding Place  
 Williamson County Schools,  
 Franklin, TN  
 Page High School,  
 Franklin High School,  
 Fairview High School  
 Dyersburg City Schools  
 Dyersburg Middle School  
 Putnam County Schools  
 Algood Elementary School

## Water Systems

Macon County, TN,  
 Water System Extensions  
 Community of Deanburg,  
 Chester County, TN  
 Water System Extensions  
 City of Bruceton, TN  
 Elevated Water Storage Tank  
 City of Parsons, TN  
 Water Treatment Plant  
 Upgrade  
 City of Camden, TN  
 Telemetry Installation

## Environmental Permitting

Industrial Permitting  
 3M Company, Minneapolis,  
 MN; RCRA Closure Plan  
 for Hazardous Waste Storage  
 Pad

Monsanto, Nitro, WV; NPDES  
 Permit Renewal  
 Monsanto, Greenwood, SC;  
 Hazardous Waste  
 Contingency Plan  
 NGO Energy Co., Baytown, TX;  
 RCRA Part B Permit  
 for industrial boiler  
 SCM Chemicals, Ashtabula, OH;  
 Permit to distill (PTI)  
 18-inch effluent pipeline into  
 Lake Erie  
 Private Sector Right-of-Way  
 (ROW) Permitting  
 Colonial Gas Company  
 Columbia-Gulf  
 Transmission Co.  
 CSX Railroad  
 Nashville & Eastern Railroad  
 Tennessee Department of  
 Environment & Conservation  
 Aquatic Resource Alteration  
 Permits (ARAP)  
 Division of Archaeology –  
 Historical/Cultural Permits  
 Notices of Intent (NOI) for  
 Stormwater Discharges  
 Wetlands Permitting  
 Tennessee Department of  
 Transportation  
 Right-of-Way Infringement  
 Permits  
 Tennessee Valley Authority  
 Right-of-Way Infringement  
 Permits  
 U.S. Army Corps of Engineers  
 Nationwide Permits (NWP's)  
 for Utility Line Repair  
 Section 404 Permits

## Dredging

Henderson, Tennessee;  
 Dredging of South Wastewater  
 Treatment Lagoon  
 U.S. Army Corps of Engineers;  
 Dredging Demonstration  
 Project, Biloxi, MS

## Associate/ Civil Engineer

### Education

Bachelor of Civil Engineering  
 TN Technological University  
 Cookeville, TN – 1987

### Registration

Professional Engineer in  
 Tennessee

### Affiliations

Water Environment Federation  
 National Society of Professional  
 Engineers  
 American Waterworks Association  
 Excellence in Development  
 Committee

### Career Experience

Hart Freeland Roberts, Inc.  
 1996 – Present

DRE Technologies, Inc.  
 1995 – 1996

AquaAeter, Inc.  
 1993 – 1995

The Advent Group, Inc.  
 1987 - 1993



# Rodney L. Wilson, P.E.

Mr. Wilson has 25 years experience in the design, coordination and construction of engineering projects as well as extensive expertise in project management. His diverse experience includes projects from numerous business sections. He brings this expertise to the projects on which he serves as manager or designer.

## **Municipal**

Fire Station #2, Franklin, TN  
Fire Station #6, Franklin, TN  
Fire Station #2, Ashland City, TN  
Fire Station #4, Brentwood, TN  
Fire Training Center,  
Brentwood, TN  
TN Fire Service & Codes  
Enforcement Academy  
Bedford County, TN  
Senior Citizens Center,  
Ashland City, TN  
Metropolitan Nashville/Davidson  
County, TN  
Main Branch Library  
Interior Renovations  
Southeast Branch Library,  
Nashville, TN  
Gaylord Entertainment Center,  
Nashville, TN  
Metro Development & Housing  
Agency, Nashville, TN  
Community Dev. Programs  
Comprehensive Grant  
Program  
Tony Sudekum Homes  
Indefinite Delivery Contract  
Redstone Arsenal Enlisted  
Men's Club, Redstone, AL  
Wastewater Treatment Plant  
Camden, TN  
Fort Pillow, TN  
Lawrenceburg, TN  
Water Treatment Plant  
Ashland City, TN

## **Correctional**

CCA Detention Facility,  
Whiteville, TN  
Giles County Jail, Pulaski, TN  
Hill Detention Center,  
Nashville, TN  
Marshall County Jail,  
Lewisburg, TN  
Metro Detention Facility,  
Nashville, TN  
Williamson County Jail,  
Franklin, TN  
West Tennessee Prison,  
Ft. Pillow, TN

## **Educational**

East Hickman County Middle  
School, Lyles, TN  
Greenbrier Elementary School,  
Greenbrier, TN  
Haywood Elementary School,  
Nashville, TN  
Hendersonville High School,  
Hendersonville, TN  
Middle Tennessee State  
University, Murfreesboro, TN  
Aerospace Building  
MTSU Stadium Turf

Replacement  
1403 East Main Demolition  
Tusculum Elementary  
School, Nashville, TN  
Warren County Elementary  
School, McMinnville, TN  
Warren County High School,  
McMinnville, TN

## **Commercial**

LifeWay Christian Resources,  
Nashville, TN  
Parking Garage & Office Exp.  
Conference Tower  
Operations Building Expan.  
Operations Building Rooftop  
Parking  
Distribution Center, Lebanon  
Commerce Union Bank,  
Lawrenceburg, TN  
Lakeshore Retirement Facility,  
Nashville, TN  
NASA, Michoud Facility  
New Orleans, LA  
Third National Bank, Donelson,  
TN; Hermitage, TN;  
Madison, TN; Melrose, TN;  
Smyrna, TN  
United Methodist Publishing,  
Nashville, TN  
Distribution Center  
Roof Top Parking

## **Religious**

1st Baptist Church, Gallatin, TN  
1st Church of the Nazarene,  
Nashville, TN  
1st Cumberland Presbyterian  
Church, Jackson, TN  
Hermitage Hills Baptist Church  
Hermitage, TN

## **Printing**

Atlanta Offset Press Addition,  
Atlanta, GA  
Binghamton Press & Sun Bulletin  
Press, Binghamton, NY  
Daily News Journal,  
Murfreesboro, TN  
Jackson Sun Press Addition,  
Jackson, TN  
Leaf Chronicle Rehabilitation,  
Clarksville, TN  
Louisville Courier Journal,  
Louisville, KY  
News Star Presshall Addition,  
Monroe, LA  
Rockford Register Star,  
Rockford, IL  
Tennessean Paper Warehouse,  
Nashville, TN  
Tennessean Press Expansion,  
Nashville, TN

Tennessean Press Building,  
Nashville, TN

## **Restoration & Renovation**

Governor's Residence  
Nashville, TN  
Carnegie Library, Nashville, TN  
East Branch Library, Nashville  
Ryman Auditorium, Nashville

## **Healthcare**

Baptist Hospital, Nashville, TN  
20th Avenue Med. Off. Bldg.  
22nd Avenue Med. Off. Bldg.  
20th Avenue Parking  
Garage & Pedestrian Bridge  
21st Avenue Parking  
Garage & Pedestrian Bridge  
  
Continuing Medical  
Education Addition  
Early Morning Admission  
Addition  
Emergency Room Addition  
Mid-State Parking Garage  
Chestnut Hill Hospital,  
Philadelphia, PA  
Jackson-Madison County  
Hospital, Jackson, TN  
Cafeteria Addition  
Cardiovascular Lab. Add.  
Emergency Room Addition  
Emergency Management  
Services Addition  
Jennersville Regional Hospital,  
West Grove, PA  
Limerick Hospital, Limerick, PA  
Maury County Hospital,  
Columbia, TN  
Ambulatory Care  
Business Office Expansion  
Medical Office Building  
Physical Medicine Expansion  
Radiology Expansion  
Middle Tennessee Medical  
Center, Surgery Expansion,  
Murfreesboro, TN  
Monongalia Radiology  
Expansion, Monongalia, WV  
Phoenixville Hospital,  
Phoenixville, PA  
Parking Garage Study  
Land Use Development  
Pottstown Hospital,  
Pottstown, PA  
St. Thomas Hospital,  
Nashville, TN  
Ambulatory Services Addition  
Diagnostic & Testing Addition  
Thompkinsville Hospital,  
Thompkinsville, KY  
Ambulatory Services Addition

## **President Structural Engineer**

## **Education**

Bachelor of Science  
Civil Engineering  
TN Technological University  
Cookeville, TN – 1986

## **Registration**

Professional Engineer in  
Tennessee, Alabama, Florida,  
Georgia, Kentucky, Louisiana,  
Mississippi, Missouri, New Mexico,  
Pennsylvania,  
South Carolina, Texas

## **Affiliations**

Tennessee Society of Professional  
Engineers  
American Society of Civil  
Engineers  
American Institute of Steel  
Construction  
American Concrete Institute  
National Society of Professional  
Engineers  
American Council of Engineering  
Companies

## **Career Experience**

Hart Freeland Roberts, Inc.  
6/86 – 3/90 Junior Engineer  
3/90 – 3/04 Senior Engineer,  
Sr. Vice President  
3/04 – Present President

U.S. Geologic Survey  
1983



# James H. Gilliam, PE

*Mr. Gilliam draws on more than 19 years of experience in civil engineering design with specialized emphasis on site development, including parks and recreation design, roadway design, urban drainage and open channel hydraulics.*

## **Vice President/ Civil Engineer**

### **Education**

*Bachelor of Science  
Civil Engineering  
University of Tennessee  
Knoxville, TN - 1992*

### **Registration**

*Professional Engineer in  
Tennessee, Illinois, and Nebraska*

### **Training**

*Level I & II – Erosion Prevention  
and Sediment Control*

### **Affiliations**

*Institute of Transportation  
Engineers  
American Society of Civil  
Engineers  
American Concrete Institute  
Tennessee Valley Sports Turf  
Managers Association*

### **Career Experience**

*Hart Freeland Roberts, Inc.  
1992 – Present*

*TN Department of Transportation  
Engineer Assistant, Summer's  
1989, 1990, 1991*

### **Residential**

The Heritage at Brentwood,  
Brentwood, TN  
Grandview Estates Section IV,  
Gallatin, TN

### **Site Development**

Hermitage Meadows,  
Nashville, TN  
Lauderdale County Rest Area,  
Henning, TN  
Middle Tennessee State  
University,  
Business/Aerospace Building,  
Murfreesboro, TN  
Smyrna Library, Smyrna, TN  
U.S. Army Reserve Center,  
Oak Ridge, TN

### **Municipal**

Fire Station #2, Franklin, TN  
Fire Station #4, Brentwood, TN  
Fire Station #6, Franklin, TN  
Senior Citizens Center,  
Ashland City, TN

### **Governmental**

Gaylord Entertainment Center,  
Nashville, TN  
Stones River Water Treatment  
Plant, Murfreesboro, TN  
TEMA Renovations,  
Nashville, TN  
Tennessee Army National  
Guard Headquarters,  
Nashville, TN  
Readiness Center Addition  
Phase I & II  
Tennessee Fire Services and  
Codes Enforcement Academy  
Bell Buckle, TN

### **Advance Planning Reports**

City of Gallatin, S.R. 25 (Red  
River Road)  
City of Franklin, I-65 McEwen  
Drive Interchange  
Justification Study  
City of Lawrenceburg, Traffic  
Mitigation Plan  
(13 Intersections)  
Construction Cost Estimates  
Environmental Assessment  
Functional Design  
Historical Review  
Preliminary Engineering Cost  
R.O.W. Acquisition and Cost  
Traffic Capacity Analysis  
Utility Relocation Cost

### **Drainage**

7<sup>th</sup> Street Flooding Review,  
Nashville, TN

Fountain Head Subdivision,  
Brentwood, TN  
Granny White Park,  
Brentwood, TN  
Lipscomb Detention Pond,  
Brentwood, TN  
Robins Street,  
Lawrenceburg, TN  
Shenandoah Drive,  
Brentwood, TN  
South Fork Forked Deer River  
Bridge Analysis at Westoner  
Road, Jackson, TN  
St. Thomas Hospital Bank  
Stabilization, Nashville, TN  
Wildwood Subdivision,  
Brentwood, TN

### **Highways**

City of Brentwood, TN  
Edmondson Pike  
(Phase I and II)  
Franklin Road/Maryland Way  
Church Street, 5-Lane Urban  
Highway  
Murray Lane, West Bound, 2-  
Lane Urban Roadway  
City of Franklin, TN  
Acton Street, 2-Lane Urban  
Renewal  
Carothers Road at Hwy 96  
Intersection Improvements  
Liberty Pike, Phase III, 3 Lane  
Urban Highway  
Mallory Lane, 4-Lane Divided  
Median Urban Highway  
Sycamore Drive, 2-Lane  
Urban Roadway  
City of Gallatin, TN  
West Eastland Avenue,  
2-Lane Urban Roadway  
City of Jackson, TN  
Campbell Street  
Improvements - 5 Lane  
Urban Roadway  
Old Humbolt Road –  
2 Lane Roadway  
City of Lawrenceburg, TN  
State Route 6/Murray Ohio  
Intersection Improvements  
Metropolitan Nashville/Davidson  
County, TN  
Shute Lane, 5-Lane Urban  
Highway  
Stewarts Ferry Pike/  
Lebanon Road, 5-Lane  
Urban Hwy.  
St. Thomas Hospital, North  
Service Drive, Nashville, TN  
Tennessee Department of  
Transportation  
Carothers Parkway, 4-  
Lane Urban  
SR-840, 4-Lane Interstate

(16 miles)  
Moores Lane, 5-Lane  
Urban Highway  
SR-109, 4-Lane Divided  
Median Highway  
SR-320, 5-Lane Urban  
Highway  
SR-243, Bridge  
Replacement and  
Approaches  
SR-247, Bridge  
Replacement and  
Approaches  
Gimlet Road, Bridge  
Replacement and  
Approaches

### **Local Plans Review**

City of Brentwood, TN  
City of Gallatin, TN  
City of Greenbrier, TN  
City of Lawrenceburg, TN  
(Acting City Engineer )  
Sumner County, TN (Gallatin)

### **Street Scope**

12<sup>th</sup> Avenue, Nashville, TN  
Eighth Avenue South,  
Nashville, TN  
Neeley's Bend Road,  
Madison, TN



# S. Bruce Byrd

*Mr. Byrd has over 36 years of experience in production and coordination for water and wastewater treatment plants, and distribution and collection systems. He is trained in the use of the latest version of AutoCad allowing for quick yet thorough designs.*

**Associate/  
Senior Project  
Coordinator**

## **Wastewater Treatment Plants**

Centerville, TN  
College Grove, TN  
East Elementary School,  
Hickman County, TN  
Fairview, TN  
Genesco, Scotts Hill, TN  
Giles County, TN  
Hurricane Creek, Nashville, TN  
Magic Valley Industrial Park,  
Henderson, TN  
Ripley, TN  
TN Department of Corrections  
Carter County, TN  
Pikeville, TN,  
Whiteville, TN  
W.P. Scales Elementary,  
Williamson County, TN

## **Wastewater Treatment Plant & Collection System**

**Expansions**  
Brentwood, TN  
Camden, TN  
Dyersburg, TN  
Fairview, TN  
Henderson, TN  
Huntingdon, TN  
Monteagle, TN  
Smith Springs WWTP,  
Nashville, TN

## **Major Sanitary Sewer Interceptors & Collector Lines**

Brentwood, TN  
Centerville, TN  
Henderson, TN  
Huntingdon, TN  
Nashville, TN

## **Water Tanks - Elevated**

Camden, TN  
Deanburg, TN  
Henderson, TN  
Interchange City, Nashville, TN  
Jasper, TN  
Magic Valley Industrial Park,  
Henderson, TN  
St. Joseph, TN  
TN Department of Corrections  
Lake County, TN  
Nashville, TN  
Pikeville, TN

## **Water Standpipes**

Iron City, TN  
Raintree Subdivision,  
Brentwood, TN  
Robert E. Lee Drive,  
Brentwood, TN  
Willowick Subdivision,  
Brentwood, TN

## **Water System Expansions**

Ashland City, TN  
Brentwood, TN  
Camden, TN  
Dyersburg, TN  
Fayetteville, TN  
Henderson, TN  
LaVergne, TN  
Lake County, TN  
Loretto, TN  
Manchester, TN  
Monteagle, TN  
Nashville, TN  
Wartburg, TN

## **Water Treatment Plants**

Ashland City, TN  
Camden, TN  
Hardin County, TN  
Henderson, TN  
Lawrenceburg, TN  
Leoma, TN  
Loretto, TN  
Manchester, TN  
Monteagle, TN  
St. Joseph, TN

## **Sewer System Improvements & Rehabilitations**

Brentwood, TN  
Bruceton, TN  
Camden, TN  
Centerville, TN  
Dyersburg, TN  
Fayetteville, TN  
Hardeman County Prison,  
Whiteville, TN  
Henderson, TN  
Hohenwald, TN  
Huntington, TN  
Lake County, TN  
LaVergne, TN  
Lawrenceburg, TN  
Lynchburg, TN  
Manchester, TN  
Nashville, TN  
Ripley, TN  
TN Dept. of Corrections,  
Morgan County, TN  
Unicoi County, TN  
Wartburg, TN  
Whiteville, TN

## **Water Tanks - Ground Storage**

Birdsong Road, Camden, TN  
Brentwood Hills Subdivision,  
Brentwood, TN  
Carriage Hills Subdivision,  
Brentwood, TN  
Chenoweth Subdivision,  
Brentwood, TN  
Fayetteville, TN  
Skyline Drive, Brentwood, TN  
TN Department of Corrections  
Morgan County, TN  
Pikeville, TN  
Wayne County, TN

**Career Experience**  
*Hart Freeland Roberts, Inc.*  
1972 – Present



# Glen Dodson

*Dodson has 22 years experience in civil engineering design/drafting.*

## Water Systems

Ashland City WTP Expansion  
Ashland City, TN  
Camden Water Study,  
Camden, TN  
Murray Lane Pump Station,  
Brentwood, TN  
Old Smyrna Road Pump Station,  
Brentwood, TN  
Macon County Water Line Ext.  
Macon County, TN  
Loretto Water Line Extension  
Loretto, TN  
Hamlet Street Water Line  
Henderson, TN

## Water Storage Systems

Camden, TN  
Birdsong Tank  
Improvements  
Northside Water Tank

## Sewer Systems

City of Greenbrier, TN  
Distillery Road Pump Station  
Trunk Line Replacement  
Wastewater Treatment Plant  
Improvements  
Long Hollow Pointe Sewers,  
White House, TN  
Sewer System, Ethridge, TN  
Henderson, TN  
Simmons Road Sewer Line  
Extension  
Magic Valley Sewer Line  
Quail Run Subdivision  
Sewers  
Milan, TN  
Milan APP Pump Station  
Milan Sewer Extensions  
2004 CDBG Sewer  
Extensions  
Hohenwald Hwy. 412 Sewer  
Hohenwald, TN  
Bruceton Sewer Rehab  
Bruceton, TN

## Roadway Design

State Route 109, Sumner  
County, TN  
Sycamore Drive, Phase II,  
Franklin, TN  
West Eastland Avenue,  
Gallatin, TN  
Murray Lane Improvements  
Brentwood, TN  
I-840 Williamson County  
Phase I & II  
Williamson County, TN  
Acton Street Improvements  
Franklin, TN

## Utility Relocation

I-65 North Sewer Relocation,  
Nashville, TN

Liberty Pike, Franklin, TN  
Panorama Pump Station,  
Nashville, TN  
Wilson Pike Relocation,  
Brentwood, TN  
SR-100 Utility Relocation  
Henderson, TN  
SR 76 Utility Relocations  
Milan, TN

## Site Utilities

Alcoa Landfill Leachate  
Collection Pump Station  
Alcoa, TN  
Algood School, Putnam  
County, TN  
Beech Grove Force Main  
Greenleaf Subdivision,  
Springfield, TN  
Greenview Estates Subdivision,  
Greenbrier, TN  
Maury Regional Hospital Ph  
Control Station  
Columbia, TN  
Milan American Ammunitions  
Plans Pump Station,  
Milan, TN  
MTSU Horse Arena,  
Murfreesboro, TN  
Rutherford County Stadiums,  
Rutherford Co., TN  
Stewart County High School,  
Stewart Co., TN  
Tennessee State Fairgrounds  
Utility Improvements  
Nashville, TN  
Williams Ferry Pointe  
Lenior City, TN

## Civil Site Design

### Assisted Living Facilities

### Morningside Facilities

5 in Alabama (Montgomery,  
Decatur, Madison,  
Anniston & Albany)  
4 in Georgia (Albany,  
Columbus, Stockbridge  
& Cumming)  
3 in Indiana (Vincennes,  
Franklin & Terre Haute)  
6 in Kentucky (Pikeville,  
Frankfort, Henderson,  
Mayfield, Hopkinsville  
& Bowling Green)  
13 in South Carolina  
(Lexington, Camden,  
Hopkinsville, Greenwood,  
Rockhill, Seneca, George-  
town, Sumter, Beaufort,  
Lancaster, Hartsville,  
Orangeburg & Anderson)  
4 in Tennessee (Jackson,  
Goodlettsville, Oak Ridge  
& Greenville)

Bellewood Apartments,

Nashville, TN  
Brentwood Fire Hall,  
Brentwood, TN  
Centennial High School Athletic  
Facilities  
Williamson County, TN  
Dickson Renaissance Center,  
Dickson, TN  
E.A. Cox Middle School Athletic  
Fields, Columbia, TN  
Fairview High School  
Multipurpose Sports Complex  
Williamson County, TN  
Franklin High School  
Multipurpose Sports Complex  
Franklin, TN  
Greenview Estates Subdivision  
I-81 Welcome Center,  
TN and VA  
Irongate Shopping Center,  
Murfreesboro, TN  
MTSU Horse Arena,  
Murfreesboro, TN  
Page High School Athletic  
Facilities, Williamson Co., TN  
Stewart County Health Clinic,  
Stewart Co., TN  
Stewart County High School,  
Stewart Co., TN  
Tennessee Fire Training &  
Codes Enforcement  
Academy, Bedford County,  
TN  
Manchester Recreation Center  
Manchester, TN  
National Guard Headquarters  
Nashville, TN  
Williams Ferry Pointe  
Lenior City, TN  
Tenn. Farm Bureau Site  
Columbia, TN  
Pope Air Force Base Storm  
Drainage Improvements  
North Carolina

## Landfill Projects

Alcoa Landfill Class III/IV  
Conversion, Alcoa, TN  
Alcoa Phase III Construction,  
Alcoa, TN  
Brinkley Landfill Engineering  
Services, Bradley Co., TN  
Perdido Landfill,  
Escambia County, FL  
Robertson County Closure  
Modification  
Robertson County, TN

## CAD Technician

### Education

*Associate Degree, Civil  
Engineering Technology  
Nashville State Technological  
Nashville, TN - 1992*

### Career Experience

*Hart Freeland Roberts, Inc.  
1997 - Present*

*EMPE, Inc.  
1986 - 1997*

*Vanderbilt University  
January 1986 - November 1986*

# RÉSUMÉ

## RITCHIE D. TAYLOR

Western Kentucky University  
Department of Public Health  
Environmental Health Science Program  
1906 College Heights Blvd.  
Bowling Green, KY 42101  
Wk. (270)745-8975  
E-mail: [ritchie.taylor@wku.edu](mailto:ritchie.taylor@wku.edu)

### EDUCATION

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- 2002**                      **University of North Texas**                      **Denton, TX**
- Ph.D., Environmental Science
  - Dissertation – Water quality aspects of an intermittent stream and backwaters in an urban North Texas watershed: Pecan Creek, Denton County, Texas
- 1994**                      **Tennessee Technological University**                      **Cookeville, TN**
- M.S., Biology (Environmental Biology Emphasis)
  - Thesis – The use of a remote, satellite-linked water quality station for the detection of Rainbow Trout ventilation responses to water quality perturbations.
- 1989**                      **Belmont University**                      **Nashville, TN**
- B.S., Biology and Chemistry minor
  - Research Project and Paper – Radionuclide uptake by Mallard Ducks inhabiting a reservoir on the Savannah River Nuclear Plant site (Aiken, SC).

### EXPERIENCE

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- 2003 – Present**   **Western Kentucky University**      **Bowling Green, KY**
- Associate Professor of Environmental Science – WKU Department of Public Health
  - Director - Environmental Health Science Program
  - Director – International Environmental Health Service Learning Program
  - Member of Graduate Faculty
  - Environmental Research and Service Learning:
    - Co-Principal Investigator – Assessment of Atrazine in Agricultural Watersheds in Kentucky: Understanding Use, Drinking Water Impacts, Stakeholder Involvement, and Rural Family Exposures
    - Principal Investigator – Environmental Service Learning in Belize, Development of a Water Management Program for Public Health Protection in a Rural Belize Community, Cooperation with the Belize Ministry of Health
    - Principal Investigator – Water Quality Impacts of Storm Events in an Agricultural Karst Basin in South Central Kentucky
  - University Service:
    - Dept. of Public Health committees: Chair – Environmental Health Science Committee and CHHS Space and Facilities; Member - Public Health, MPH, CHHS Space and Facilities, CHHS Graduate Curriculum and Environmental Health Science Research

- Member of WKU Graduate Council
- Student Environmental Health Science Association - faculty advisor
- Courses: PH 510 - Watershed Management and Science, PH 577 - Environmental Toxicology, PH 580 – Solid and Hazardous Waste Management, PH 560 - Environmental Management and Risk Assessment, ENV 280 – Introduction to Environmental Science, ENV 410 – Water Treatment Processes, ENV 375 – Introduction to Water Resources, and ENV 480 – Hazardous and Solid Waste Management.
- Research focus: Water Quality and Watershed Research for Human Health and Environmental Protection

**2000 - 2003      Western Kentucky University      Bowling Green, KY**

- Director – Center for Water Resource Studies, Ogden College of Science and Engineering
  - Components of the Center for Water Resource Studies included the WKU Technical Assistance Center for Small Water Systems, Ogden Environmental Water Quality Laboratory, Kentucky Center for Wastewater Research, and the Hoffmann Environmental Research Institute.
- Adjunct Faculty – WKU, Department of Geography and Geology, Geosciences Program
- Adjunct Faculty – WKU, Department of Public Health, Environmental Health Science Program

**1997 - 2000      University of North Texas      Denton, TX**

- Environmental Research Assistant – Institute of Applied Sciences (1997 – 2000) – City of Denton – Investigating and modeling water quality impacts of the Pecan Creek Water Reclamation Plant and urban runoff from the Denton, TX
- GIS Instructor – Advanced Geographic Information Systems (Spring Semester 1999)
- Field Instructor – Aquatic Bioassessment Techniques in Teaching Environmental Sciences (Summer 1999)

**1997 – 2000      Ecologic      Denton, TX**

- Environmental Consulting in the fields of water resources, water utilities management, solid waste management, biological assessments, wetland delineations, GIS, and environmental planning and compliance.

**1992 - 1997      AquAeTer, Inc.      Brentwood, TN**

- *Water Resources Scientist/Project Manager (1992-1997)*

**1991 – 1992      The ADVENT Group, Inc.      Brentwood, TN**

- Water Resources Scientist (1991 – 1992)
- Aquatic Biology and Toxicology Laboratory Manager (1992)

**Additional Experience**

- Environmental Consulting – City of Denton, TX (1998 – 2000)
- Environmental Consulting – Dickson & Associates (1997)
- ERM Southeast – Aquatic Biologist (1990 – 1991)

- Tennessee Tech University – Environmental Research Assistant (1991)
- Tennessee Tech University – Teaching Assistant - Ecology (1989 – 1991)
- Striper Fishing Magazine – Staff Biologist and Database Technician (1988-1989)
- Savannah River Ecology Lab, University of Georgia – Ecological Research Intern (1988)

## **ENVIRONMENTAL EXPERIENCE**

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- Water Quality Research and Modeling
- Remote Water Quality Monitoring
- Water Quality and Source Water Protection for Public Health
- Evaluation of Safe Drinking Water and Clean Water Act Standard Attainment
- Watershed Management
- Water Pollution Inventories
- Environmental Health Permitting
- Wastewater and In situ Environmental Toxicity Evaluations
- GIS Development and Analysis
- Stakeholder Development for Public Health Protection
- Environmental Monitoring for Public Health Protection

## **SKILLS**

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- Computer Modeling (Water Quality and Environmental Programs)
- Geographic Information Systems, ARC GIS, Geosync, FM Waterworks
- Statistical Analyses – S-Plus and SPSS
- Leadership, Public Relations and Marketing
- Research and Project Management
- Web Page Design and Management
- Online Course Development and Instruction
- Technical Writing
- Environmental Management, Monitoring, and Analyses
- Communications with Regulatory Agencies

## **PUBLICATIONS AND REVIEWS**

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### **Peer Reviewed**

Taylor, R.D. and K.L. Dickson. Submitted 2009. Detection of Water Quality Changes in a Reservoir Backwater as Influenced by Storm Events and Urban Runoff. Submitted to: *Water Environment Research*.

Taylor, R.D. and V. Golla, and J. Willcox. In Preparation 2009. Distribution and Occurrence of Atrazine in an Agricultural Karst Watershed and a Community Water Supply Reservoir.

Golla, V., Taylor, R.D., Mishra, S. and Nelms, J. In Review by *Science of the Total Environment*. 2009. Exposure of Rural Farm Families in Kentucky to the Herbicide Atrazine in Well Water.

- Brooks, B.W., J.T. Scott, M.G. Forbes, T.W. Valenti Jr., J.K. Stanley, R.D. Doyle, K.E. Dean, J. Patek, R.M. Palachek, R.D. Taylor, and L. Koenig. 2008. Reservoir Zonation and Water Quality. *Lakeline*. North American Lake Management Society. Vol. 28 (4):39-43.
- Taylor, R.D., K.L. Dickson, and V. Golla. 2006. Drought induced dissolved oxygen dynamics of an effluent dominated stream entering a reservoir backwater and implications for environmental compliance. *Environmental Informatics Archives*. Vol. 4 (2006).
- Brooks, B.W., T.M. Riley, and R.D. Taylor. 2006. Water Quality of effluent-dominated ecosystems: ecotoxicological, hydrological, and management considerations. *Hydrobiologia*. Special Issue, Water Quality: from Assessments and Ecotoxicology to Remediation. 556:365-379.
- Taylor, R.D., E. Collins, J. Burns, and J. Willcox. 2005. Kentucky Pesticide Workgroup: An Integrated Approach to Source Water Protection in Kentucky's Agricultural Basins. *AWWA 2005 Source Water Protection Symposium Proceedings*. Palm Beach Gardens, FL. Edition: 2006 - CD-ROM ISBN 1583214135; Catalog No. 20610.
- Corn, M.R., S.T. McCormick, B. Firth, and R.D. Taylor. 1997. Algal Influences on the Assimilative Capacity of the Red River. *Biological Sciences Symposium Proceedings*. Tappi Press. Session number 7-3.

#### **Professional Articles – Peer Reviewed**

- Lyon, J.B., B. Tanner, and R.D. Taylor. 2004. Utilization of GIS Technology in Rural Water and Wastewater Systems: A Case Study of West McCracken Water District. *Waterproof*. Spring edition. pp. 10-11.
- Taylor, R.D. and J. Lyons. 2003. GIS and GPS Applications for Small Water Utilities. *Waterproof*. Summer edition. p 13.
- Taylor, R.D. 2001. Partnerships to Assist Water Utilities: WKU and KRWA. *Waterproof*. Fall edition.
- Taylor, R.D. 2001. Developing Capacity: The Western Kentucky University Technical Assistance Center for Water Quality. *Waterproof*. Spring 2001. pp. 13-14.

#### **Digital Media**

- Taylor, R.D. 2003. Agricultural Partnerships for Source Water Protection. *2003 AWWA Source Water Protection Symposium Workshop*. CD Volume I, Materials for the Design of Best Management Practices for the Source Water Protection Workshop. U.S. EPA, Office of Ground Water and Drinking Water, Drinking Water Protection Division.
- Taylor, R.D. 2004. Partnerships for Source Water Protection. *Pesticide and Nutrient BMP's from the Classroom to the Field*. Kentucky Department of Agriculture. Educational CD.

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#### **RECENT PRESENTATIONS**

### **Accepted Presentations**

- Golla, V., S. Mishra, R.D. Taylor, and J. Nelms. 2008. Exposure of Rural Farm Families in Kentucky to the Herbicide Atrazine in Well Water. American Public Health Association. *APHA 2008 Annual Meeting and Exposition*. San Diego, CA.
- Taylor, R.D., V. Golla, J. Willcox, J. Nelms, and S. Melky. 2007. An Integrated Approach to Source Water Protection and Awareness in Rural Agricultural Watersheds. American Public Health Association. *APHA 2007 Annual Meeting and Exposition*. Washington, D.C.
- Kinkead, G., R. Grigsby, B. Vickous, and R.D. Taylor. 2007. A Hazardous Chemical Release Analysis and GIS for Environmental Protection and Emergency Management in Bowling Green and Warren County, Kentucky. *Southeast Regional Environmental Science and Health Symposium*. Centers for Disease Control, Atlanta, GA.
- Nelms, J., Taylor, R.D., and V. Golla. 2007. Sourcewater protection in rural agricultural watersheds in Kentucky and implications of atrazine monitoring. American Water Resources Association. AWRA Annual Water Resources Conference. Albuquerque, NM.
- Taylor, R.D., K.L. Dickson, and V. Golla. 2006. Drought induced dissolved oxygen dynamics of an effluent dominated stream entering a reservoir backwater and implications for environmental compliance. *5th International Conference on Environmental Informatics*. Vol. 4 (2006). Presentation of paper # 94. <http://www.iseis.org/Events/ISEIS2006/confPapers.htm#wwt>
- Taylor, R.D., E. Collins, and J. Burns. January 2005. Kentucky Pesticide Workgroup: An Integrated Approach to Source Water Protection in Kentucky's Agricultural Basins. *AWWA 2005 Source Water Protection Symposium*. Session T6 – Effective Partnerships for Protecting Source Water Part II. Palm Beach Gardens, FL.
- Taylor, R.D. and J. Willcox. November 2004. Partnerships for Source Water Protection in Agricultural Watersheds within Kentucky. *Public Health and the Environment*. APHA 132<sup>nd</sup> Annual Meeting and Exposition. Washington, D.C.

### **Invited Presentations**

- Taylor, R.D. 2008. International Environmental Service Learning: The Belize Experience. International
- Taylor, R.D. 2007. Communicating with students through online course content. WKU Online Teacher's Summer Workshop. Western Kentucky University. Online Teaching Panel Discussion.
- Golla, V., R.D. Taylor, and J. Nelms. 2007. Farm Families' Potential Exposures to Pesticides through Drinking Water. Kentucky Pesticide Workgroup, Spring Meeting. Frankfort, KY.
- Taylor, R.D. 2006. Reducing the Risks of Waterborne Illnesses and Improving Public Health in Gales Point, Belize. Rotary International Water Summit. Louisville, KY.
- Taylor, R.D. January – April 2005 – April 2006  
. Kentucky Pesticide Workgroup: Assisting Farmers and Rural Communities in the Protection of Drinking Water Supplies. In Cooperation with Kentucky Department of Agriculture. Five

Regional Best Management Practices Workshops in Kentucky.

Taylor, R.D. January 2005. Implementing Source Water Protection Programs in Rural Agricultural Communities. *AWWA 2005 Source Water Protection Symposium*. Best Management Practices Workshop. Palm Beach Gardens, FL.

Taylor, R.D. 2004. Partnerships for Source Water Protection: Kentucky Case Studies. *AWWA Sources of Water Conference*. BMPs for Source Water Protection Workshop. Austin, Texas.

Taylor, R.D. 2003. Developing Partnerships for Source Water Protection in Agricultural Basins. *USEPA National Source Water Protection Conference*. Leveraging Rural Partnerships, Session C4. Washington, D.C.

<http://www.epa.gov/safewater/protect/conference/presentations.html#c4>

Brooks, B., T. Riley, and R.D. Taylor. 2003. Water Quality of Effluent Dominated Ecosystems: Ecotoxicological, Hydrological, and Management Considerations. *North American Benthological Society, 5th International Poster Session Conference, Aquatic Ecosystems and Organisms*. Invited distant participants. Moscow, Russia.

Taylor, R.D., P. East, and A. Lange. October 2002. The Utility Management Institute: Providing Opportunities for Capacity Development of Small Water Systems. Association of State Drinking Water Administrators, Annual Conference. Invited speaker. Salt Lake City, Utah.

Taylor, R.D. April 2002. Assisting Small Systems in Capacity Development: the Technical Assistance Center for Water Quality at Western Kentucky University. EPA Region 4, State Water Administrators Workshop. Atlanta, GA.

Taylor, R.D. April 2002. The Utility Management Institute and On-line Courses for Water Utility Managers. EPA Region 4 and 6, Capacity Development Workshop. Dallas, TX.

Taylor, R.D. January 2002. Storm Water Management in Warren County, Kentucky. Warren County Planning and Zoning Commission, Training Session. Warren County Planning and Zoning, Bowling Green, KY.

#### **REPRESENTATIVE TECHNICAL DOCUMENTS**

---

Taylor, R.D., J. White and T. Nicholson. 2004-2007. Radon GIS and Zone Maps for Kentucky. Western Kentucky University, Department of Public Health. Completed for Kentucky Department for Public Health.

Taylor, R.D. and M. Hunt. 2007. Final Report: Kentucky Nonpoint Source Education Program for Land Use Development. Western Kentucky University, Department of Public Health. Report for Kentucky Division of Water, Kentucky Public Health and Environmental Health Protection Cabinet. Final report for grant funded 319 U.S. EPA project.

Taylor, R.D., J. Burns, J. Nelms., and J. Brown. 2006. Source Water Protection Program in the North Fork of the Kentucky River Basin. Western Kentucky University, Department of Public Health and Kentucky Rural Water Association. Report for Kentucky River Authority.

Taylor, R.D., J. Burns, G. Larimore, and A. Lange. 2004. Assessment Report of Kentucky River Authority Assistance Survey. Western Kentucky University, Department of Public Health and

Kentucky Rural Water Association. Report for Kentucky River Authority.

Taylor, R.D, K. Banks, and P.S. Aurora. 2003. Water Quality Assessment and Wasteload Allocation for the Proposed Clear Creek Water Reclamation Plant, City of Denton, Denton County, Texas. Western Kentucky University, Center for Water Resource Studies and City of Denton Water Resources Program. Report for NPDES permitting to TCEQ. WKUCWRS2003-001.

Taylor, R.D., J. Burns, J. Willcox, and T. Lyons. 2003. Source Water Assessment for the McCreary County Water District. Western Kentucky University, Center for Water Resource Studies and Kentucky Rural Water Association.

O. Meier, C. Groves, Taylor, R.D., S. Wallace, A. Lange, P. East, J. Jack, and S. Grubbs. 2003. Western Kentucky University Technical Assistance Center for Water Quality: Quarterly Reports. Western Kentucky University, Center for Water Resource Studies. Bowling Green, KY (for EPA Drinking Water Branch, Small Systems).

O. Meier, C. Groves, Taylor, R.D., S. Wallace, A. Lange, P. East, J. Jack, and S. Grubbs. 2002. Western Kentucky University Technical Assistance Center for Water Quality: Annual Report. Western Kentucky University, Center for Water Resource Studies. Bowling Green, KY (for EPA Drinking Water Branch, Small Systems).

Taylor, R.D. and K.L. Dickson. 2001. Water Quality Modeling and Characterization of Pecan Creek, Denton County Texas. University of North Texas, Institute of Applied Sciences. Denton, TX (for Trinity River Authority and Texas Natural Resource Conservation Commission).

## **RECENT RESEARCH GRANTS AND REPRESENTATIVE PROJECTS**

---

USEPA. 2005-2007. Kentucky Nonpoint Source Education for Land Use Development. Water Education Program for Kentucky. Grant administered through Kentucky Division of Water. \$196,000 (including WKU match)

ACVPM Exam Prep Course. Developed through WKU DELO support. Distance education project with University of Maryland and ACVPM. \$3,250

Belize International Service Learning Program. 2005. Environmental Health Science, Research, and Service Learning. Belize, Gales Point Village. Joint Project with University of Louisville. Internal Grant. \$3,000

USEPA. 2005-2007. Assessment of Atrazine in Agricultural Watersheds in Kentucky: Understanding Use, Drinking Water Impacts, and Stakeholder Involvement. Co-Principal Investigator. \$75,000.

Kentucky River Authority. 2005. Comprehensive Source Water Protection Program. Grant with Western Kentucky University. \$65,000

Baylor University. 2004-2008. Reservoir Transition Zone Index Project. Research with Baylor University and Parsons, Inc. for Texas Department of Environment.

Kentucky River Authority. 2004. Comprehensive Source Water Protection Program. Grant with Western Kentucky University. \$25,000

City of Denton, TX. 2002 - 2003. Water Quality Modeling and Assessment of Clear Creek. City of Denton Water and Wastewater Utilities. Contract with Western Kentucky University. \$9,500.

USEPA, Drinking Water Branch, Washington, D.C. 2002. Technical Assistance Center for Water Quality. Grant with Western Kentucky University, CWRS. \$498,000.

USEPA, Region 4, Wastewater Management, Atlanta GA. 2001. Center for Wastewater Research. Grant with Western Kentucky University, CWRS. \$498,000.

USEPA, Drinking Water Branch, Washington, D.C. 2001. Technical Assistance Center for Water Quality. Grant with Western Kentucky University, CWRS. \$498,000.

Kentucky Department of Agriculture. 2001. Atrazine Sampling of Spa Lake. Grant with Western Kentucky University, CWRS. \$3,500.

#### **PROFESSIONAL SERVICE AND AWARDS**

---

- Project Director, Student Service Learning and Research, Bowling Green/Warren County Emergency Management, Assessment of Chemical Risks in Warren County, KY – 2006-2007
- Project Director, Student Service Learning and Research, Bowling Green Public Works, Stormwater Division, Assessment and Detection of Illicit Wastewater Discharges in the Jennings Creek, Lost River, and Drakes Creek Watersheds. 2007 – 2008.
- Moderator – AWWA 2005 Source Water Protection Symposium – Session T7 – Land Use Issues on the Protection of Source Water
- Award for Grant Funding at Western Kentucky University – 1.0 M Level - 2001
- Board of Directors, Kentucky Health and Safety Network
- Member of the Kentucky Pesticide Workgroup
- Member of the Watershed Trainers Group, Kentucky Division of Water
- Scientific Advisor, Rough River Source Water Protection Council – 2003 – 2004
- Scientific Advisor, Lake Linville Watershed Protection Advisory Group – 2005 - 2006
- Member of the KY Dept. of Agriculture's Pesticide and Nutrient BMP's Training Group

## **UNIVERSITY SERVICE**

---

- Public Health Committee – Development review of Dept. of Public Health policies and procedures, curriculum review, and assessment of student and alumni data
- Master of Public Health Committee - Preparation of materials for accreditation of MPH program, graduate comprehensive exam, policies and procedures, and evaluation of program goals and objectives
- Director, Dept. of Public Health, Environmental Health Science Program, undergraduate program and graduate MPH concentration, direct academic programs, advise students, manage internship program, market program to extended campuses, assess program, and develop business plans for future growth
- Chair, Environmental Health Science Committee, curriculum development and review, policies and procedures, space and facilities needs, develop growth plans, and provide recommendations to head of PH Dept.
- College of Health and Human Services, Space and Facilities Committee, review space and facilities needs for CHHS, develop recommendations for space and facilities, and report findings to CHHS Dean
- College of Health and Human Services, Graduate Curriculum Committee, Alternate Member, review graduate curriculum changes and make recommendations for graduate curriculum
- Environmental Health Science Student Association, Faculty Advisor, advise students on actions to attain the goals of the EHSSC Student Association, and direct service learning and research
- WKU Hilltopper Bass Club, Faculty Advisor, advise on operation of the Hilltopper Bass Club, make recommendations for tournament competitions, support club leadership at meetings, and represent WKU at regional events

## **PUBLIC AND COMMUNITY SERVICE**

---

- Technical Assistance to City of Bowling Green, Public Works Department, Stormwater Management Program, Illicit Discharge Detection, Directed Student Research and Service Learning Project, Fall 2007
- Technical Assistance to City of Bowling Green and Warren County, Emergency Management Program, Analysis of Hazardous Chemical Use and Transportation in Bowling Green and Warran County, Directed Student Research and Service Learning Project, Spring 2006
- Volunteer, Science Lab Volunteer Lecturer and Classroom Volunteer, McNeill Elementary School, 2001-2007
- Deacon, Teacher, and Volunteer, Eastwood Baptist Church, Bowling Green, KY, 2002 – 2008; Denton First Baptist Church, Denton, TX – 2000
- Scientific Advisor and Technical Assistance to water systems and communities in rural Kentucky for Source Water Protection and Water Quality Issues

- Youth Baseball, Softball, Basketball, and Football Coach, Warren County Parks and Recreation and City of Bowling Green, 2001-2008
- Children's Ministry Volunteer, Adult and Youth Sunday School Teacher, and TeamKID Coach, Eastwood Baptist Church, 2001-2008

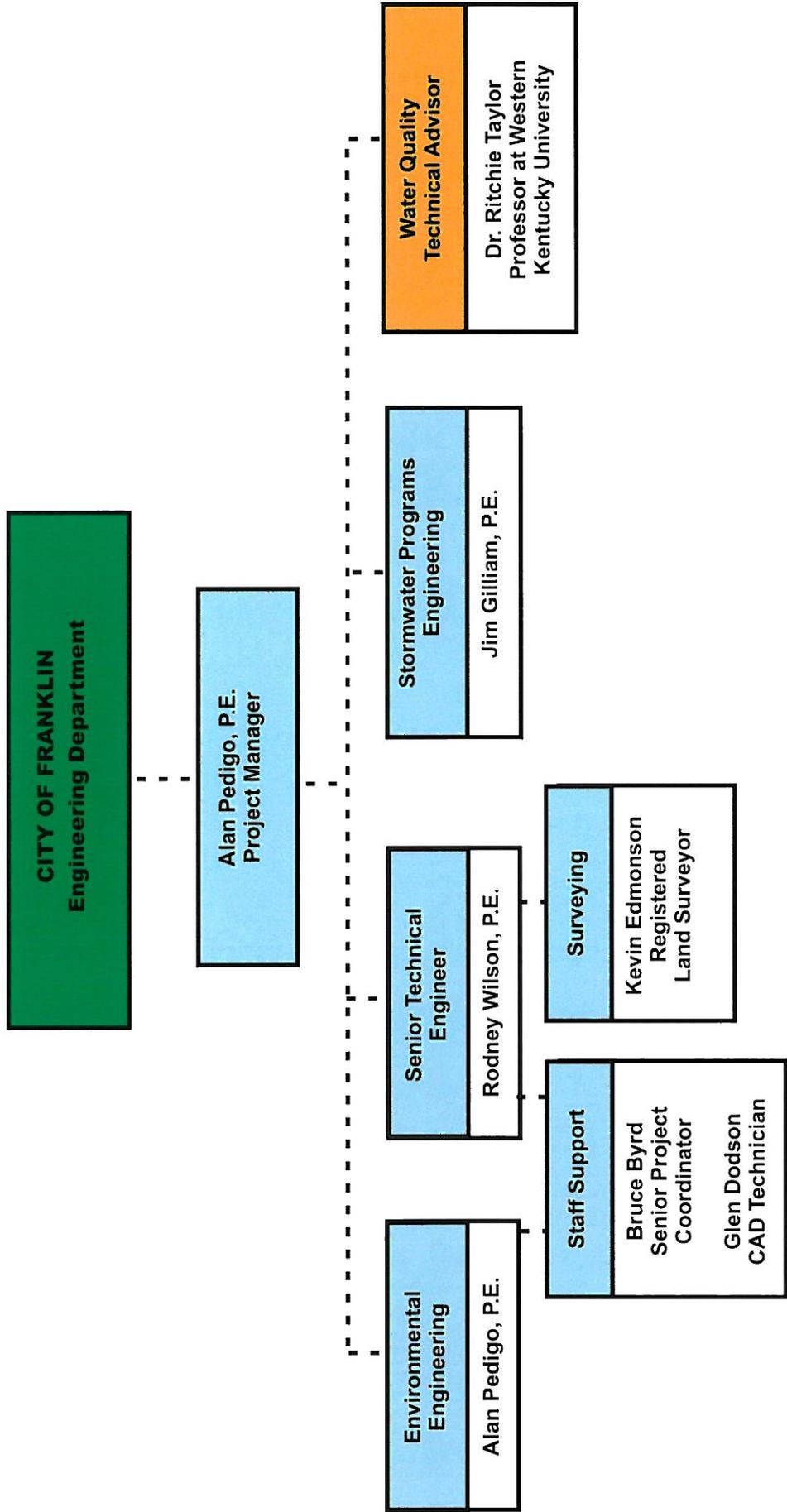
#### **THESES AND STUDENT RESEARCH DIRECTED**

---

- Golla, Vijay. 2003. Study of the distribution and variation of the herbicide atrazine in finished drinking water at a small community water system in Kentucky. Western Kentucky University, Department of Public Health, MPH Thesis. 98 pp.
- Gubari, Najla. 2005. Exposure assessment of mercury in fish from Kentucky surface waters. Western Kentucky University, Department of Public Health, MPH Thesis.
- Melky, Shaden. 2007. Assessment of foliar ozone injury at Mammoth Cave National Park in the Cumberland–Piedmont Network of National Parks in the United States. Western Kentucky University, Department of Public Health, MPH Research Project.

# ORGANIZATIONAL CHART

## CITY OF FRANKLIN, TENNESSEE DEVELOPMENT OF REGIONAL INTEGRATED WATER RESOURCES PLAN



# *Estimated Man Hours*

Based upon our understanding of the Scope of Work, following are the employee classifications, their estimated man hours, and the applicable hourly rates, including overhead.

<u>Personnel</u>	<u>Task</u>	<u>Billing Hours</u>	<u>Rate</u>
Alan Pedigo, PE	Project Manager / Environmental Engineer	250	\$150
Rodney Wilson, PE	Structural Engineer	25	\$165
Bruce Byrd	Senior Project Coordinator	200	\$125
Glen Dodson	CAD Technician / Construction Inspector	40	\$100
Kevin Edmondson	Surveyor	120	\$ 95
Dr. Ritchie Taylor	Water Quality Technical Advisor	280	\$130

## Overview

The Harpeth River which passes through the City of Franklin is an important local resource to the community, the Board of Mayor and Aldermen, and the city staff. The City of Franklin desires to develop and implement a Regional Integrated Water Resources Plan (RIWRP) for the purpose of formalizing a commitment to long-term planning and protection of water resources in the region. The plan will provide for sustainable management of water, wastewater, reclaimed water, and stormwater programs in a responsible and technically sound manner.

Water is the most critical resource for a city of any size therefore, it is of critical importance to manage the water resources within a region with careful, deliberate measures for sustainability and water quality improvement. An RIWRP is an important tool in that it does the following:

- Establishes what is currently known regarding water resources in a region,
- Provides a means for predicting anticipated trends; and
- Assists with planning for contingencies

This Statement of Qualifications presents HFR's vision for formulating a workable, effective Regional Integrated Water Resources Plan for the City of Franklin.

## Background

The Harpeth River watershed covers 6 counties (Williamson, Davidson, Rutherford, Cheatham, and Dickson, and Hickman) and passes through the City of Franklin and eventually empties into the Cumberland River at Cheatham Lake (See Figure 1). Approximately 53 percent of the watershed is within Williamson County.



Figure 1 - Harpeth River Watershed

The Harpeth River system extends approximately 1,314 river miles through the basin and is comprised of several tributaries, the principal ones being the West Harpeth River and the South Harpeth River. The Harpeth River watershed is approximately 863 square miles and has about 655 acres of lakes. The land use in the region is generally rural mixed with residential, some urban, and some commercial.

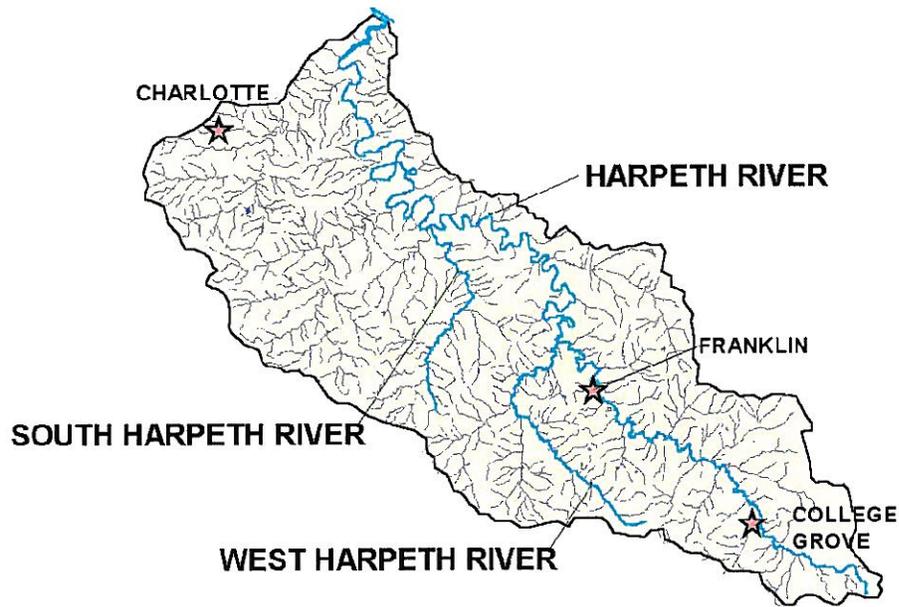


Figure 2 – Harpeth River and Tributaries

### Water usage

The City of Franklin uses approximately 5.8 million gallons per day (MGD) and withdraws approximately 2.18 MGD from the Harpeth River. Since the capacity of the City of Franklin's water treatment plant is only 2.18 MGD, the city must purchase additional water from the Harpeth Valley Utility District in Davidson County. The Harpeth Valley Utility District provides the City of Franklin with approximately 3.62 MGD of treated water. The relative percentages of water supply sources are indicated in Figure 3.

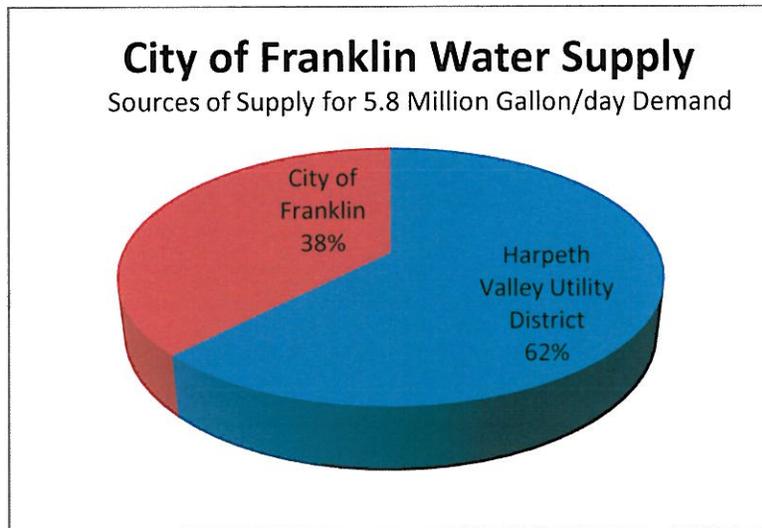


Figure 3 – Franklin Water Sources

The U.S. Census Bureau's 2006 estimate for the population of the City of Franklin is 55,870. By the year 2010, the population is projected to be 57,741<sup>1</sup>. With the current water usage at 5.8 MGD, the estimated consumption in the year 2020, when the associated population is projected to be 74,533, will be approximately 8.96 MGD, a 54 percent increase.

Some of the tasks involved in the preparation of the IRP will be to address the degree of anticipated growth in the City of Franklin and how to mitigate the effects of the increase in daily water demand. Possible alternatives include water reuse, conservation measures, new sources of supply, and agreements for additional purchases of water, among others.

## Sewer

The City of Franklin treats its wastewater at the City of Franklin Wastewater Treatment Plant (WWTP) which is located at 135 Claude Yates Drive, Franklin, Tennessee. Approximately 7 to 8 MGD of treated wastewater is discharged into the Harpeth at the plant outfall. The total amount of wastewater requiring treatment is expected to increase at a rate consistent with the increasing water demand, therefore, the anticipated daily discharge of the Franklin WWTP in the year 2020 is approximately 11 to 12 MGD. Treatment options, possible plant expansions, and overall management of wastewater will be an integral part of the IRP.

## Stormwater

The City of Franklin has an active stormwater program that is overseen by the city engineering department. Stormwater collection has required a larger share of attention in many cities due to

<sup>1</sup> Population Projections for the State of Tennessee 2005 to 2025. Tennessee Advisory Commission on Intergovernmental Relations, and the UT Center for Business and Economic Research, December 2003.

an increasingly stringent regulatory framework and Franklin is no exception. Stormwater management and controls will be an integral part of the IRP to be developed for the City of Franklin.

## Reclaimed Water

Reclaimed water, sometimes called recycled water, is former wastewater that has been treated to remove solids and certain impurities, and then allowed to recharge an aquifer rather than being discharged to surface water. This recharging is often done by using the treated wastewater for irrigation. In the proposed IRP, the City of Franklin intends to address reclaimed water as a possible alternative to direct discharge of treated effluent. In view of recent findings on compounds of emerging concern (CECs) and the presence of endocrine disrupting compounds (EDCs), and antibiotics and other trace levels of medications in treated effluents, HFR will take into consideration these compounds within the context of the IRP and will assist the City of Franklin in making reasoned choices with respect to utilization of effluent.

# *Proposed Scope of Services*

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## Proposed Scope of Services

As stated in the Request for Qualifications memorandum, the proposed Scope of Services for the City of Franklin Regional Integrated Water Resources Plan (RIWRP) will be developed by the City of Franklin staff and the selected consultant. As a general guideline, HFR believes that an effective Integrated Water Resources Plan should include the following elements:

- The RIWRP is Focused on Long-term needs
- Encourages Significant Public Input
- Adaptable to Changing Conditions
- Founded on Sound Technical Principles
- Balances Growth and Environment Protection
- Is Equitable and Fair

It is assumed that HFR will be assisted by the City of Franklin staff in the collection and review of relevant information in the form of reports, studies, as-built drawings, land-use planning information, maps, master plans, etc. Using this information, HFR and City of Franklin staff will determine a baseline of measurable factors that identifies where the city stands at present with respect to management of its water resources. Then, based largely upon City staff experience and following the conclusions of the planning studies (with appropriate insight where needed provided by HFR), HFR and City staff will draw up a plan of action for achieving the stated goals of the IRP.

HFR will then begin to incorporate the items that are to be included in the RIWRP and review them with an eye toward practicality and achievability. If a stated goal within the proposed RIWRP appears to need revision based on new information or because it is unlikely to be achieved, HFR will indicate this to City staff. It is assumed that there will be regular progress meetings during the development of the RIWRP and that the City staff will have ample time and opportunity for review of and comment on the draft plan. If additional water quality or quantity studies are required at some point to fill in data gaps, HFR has the capability to initiate field or modeling studies to obtain the required information. A small amount of time within the proposed hourly project effort has been reserved for completion of such smaller studies if required. However, if an intensive effort of additional sampling, laboratory analysis, field work, or modeling is requested, HFR will be willing to negotiate the additional cost for such studies on an hourly basis.



# *Proposed Scope of Services*

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Once a draft RIWRP has been completed, HFR and the City will conduct a round of public meetings in a couple of different venues within the city for the purpose of eliciting and recording comments on the draft RIWRP from the citizenry. Following the public meetings, HFR and City staff will review the comments and will make appropriate revisions to the draft RIWRP.

After this set of revisions, a draft final RIWRP document will be made available to elected officials for review and approval, with the understanding that there may be comments and revisions stemming from their review. Once their comments have been addressed and revisions, if any, made to the Regional Integrated Water Resources Plan, a final version will be forwarded to the City of Franklin and recommended for approval and implementation.

# Project Schedule

Based upon the Scope of Work, HFR Design proposes to complete the work on the Regional Integrated Water Resources Plan and submit the final document within 230 days.

We acknowledge that our proposed completion schedule of 230 days is somewhat aggressive. However, by teaming with Franklin personnel to retrieve the pertinent data from their files, and given a high level of communication between HFR and Franklin, this completion date can be achieved.

The proposed schedule is shown below:

<u>MILESTONE</u>	<u>DURATION (Calendar Days from Previous Milestone)</u>
Notice to Proceed	0
Draft RIWRP	60
Revisions to Draft RIWRP	30
Public Meetings	60
Revisions	20
Approvals	60
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Total	230 Days

# *Prior Relevant Experience*

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Hart Freeland Roberts began its expertise in the design of environmental facilities as consultants to the City of Brentwood, Tennessee, in 1969.

Since that first environmental project, ***HFR has designed over 1,000 projects for government agencies at the federal, state and local levels.***

On most of the projects in which we are involved, we become facilitators of public input-type meetings between the government department heads and staff and the most important entity—the local stakeholder. We are confident of the importance that City Staff places on understanding the needs and expectations of their constituents, the stakeholder, and the importance of receiving that input.

Attached are several Project Experience sheets which describe our relevant experience as requested in the Request for Qualifications.

## PROJECT EXPERIENCE

**Project Name/Location:** Ethridge Sanitary System, Ethridge, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Ethridge, TN

**Project Description:** Funding assistance, planning, design, construction administration, and inspection services for 18,000 LF of 8-inch PVC pipe, 4 pump stations and 5,000 LF of force main. This project was done to provide a sanitary sewer system to an unserved population. This project was dual-funded by a 1998 Community Development Block Grant, and a State Revolving Fund (SRF) loan.

**Dates of Project:** Tentative Completion May 2009

**Contact Person:** Julie Yokley, City Recorder, Ethridge, TN  
931-829-2150

**Dollar Value of A/E Contract:** \$238,000

**Dollar Value of Total Construction:** \$1,185,613



## PROJECT EXPERIENCE

**Project Name/Location:** Water Line Rehabilitation, Camden, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Camden, TN

**Project Description:** Planning, design, construction administration and inspection of approximately 23,000 linear feet of 6" PVC water main to replace undersized, aging, and leaking lines in the city water system. This project was primarily funded by a Community Development Block Grant.

**Dates of Project:** 2007

**Contact Person:** Mayor Allen Webb, City of Camden, TN  
731-584-4656

**Dollar Value of A/E Contract:** \$39,900

**Dollar Value of Total Construction:** \$480,000

PROJECT EXPERIENCE

**Project Name/Location:** **Bruceton Wastewater Treatment Plant Upgrades, Phase II, Bruceton, TN**

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Town of Bruceton, TN

**Project Description:** Planning, sizing, design, and construction inspection services for upgrades to wastewater treatment plant. Items included two 300 gpm sewage pumps, influent grinder, sump pumps, and associated controls.

**Dates of Project:** February 2007

**Contact Person:** Brian Edwards, Public Works Director, Bruceton, TN  
731-586-2401

**Dollar Value of A/E Contract:** \$10,100

**Dollar Value of Total Construction:** \$92,000

PROJECT EXPERIENCE

**Project Name/Location:** River Road Area Sewers, Hendersonville, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Hendersonville, TN Utility District

**Project Description:** Funding assistance, design, construction administration, and inspection of approximately 4,950 LF of 8" gravity sewer, approximately 1,400 LF of 4" force main, two lift stations, and approximately 1,000 LF of 1 ½" force main with 10 grinder stations.

**Dates of Project:** 2006

**Contact Person:** Tom Atchley, Hendersonville Utility District, Hendersonville, TN  
615-824-3717

**Dollar Value of A/E Contract:** \$108,900

**Dollar Value of Total Construction:** \$800,000

PROJECT EXPERIENCE

**Project Name/Location:** Ashland City Water Treatment Plant, Ashland City, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Town of Ashland City, TN

**Project Description:** Planning, design, and construction administration and inspection for the expansion of the existing water treatment plant from 1.24 MGD to 2.33 MGD.

**Dates of Project:** 2004 - 2007

**Contact Person:** Chris Cherry, Public Works Director, Ashland City, TN  
615-792-7553

**Dollar Value of A/E Contract:** \$373,000

**Dollar Value of Total Construction:** \$4,000,000

## PROJECT EXPERIENCE

**Project Name/Location:** Water Line Extension, Macon County, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Macon County, TN

**Project Description:** Funding assistance, design, construction administration, and inspection of approximately 41,000 linear feet of 6" PVC water main serving 5 different roads in Macon County. This project also includes a booster station and 45,000 gallon tank. This project was partially funded by a Community Development Block Grant.

**Dates of Project:** 2006

**Contact Person:** Mayor Shelvy Linville, Macon County, TN  
615-666-2363

**Dollar Value of A/E Contract:** \$43,000

**Dollar Value of Total Construction:** \$521,316

## PROJECT EXPERIENCE

**Project Name/Location:** Water Line Rehabilitation, Loretto, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Loretto, TN

**Project Description:** Funding assistance, design, construction administration, and inspection of approximately 26,000 linear feet of 6" PVC water main to replace aging and leaking lines within the city. This project was primarily funded by a Community Development Block Grant.

**Dates of Project:** 2006

**Contact Person:** Keith Smith, City of Loretto, TN  
931-853-6797

**Dollar Value of A/E Contract:** \$37,988

**Dollar Value of Total Construction:** \$457,000

## PROJECT EXPERIENCE

**Project Name/Location:** **Bruceton Sewer System Rehabilitation, Bruceton, TN**

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Town of Bruceton, TN

**Project Description:** Funding assistance, planning, design, construction administration, and inspection services for 7,500 LF of 8, 10 and 12-inch PVC pipe done to rehabilitate aging vitrified clay pipe (VCP) within the city limits. This project was primarily funded by a 2003 Community Development Block Grant.

**Dates of Project:** November 15, 2005

**Contact Person:** Brian Edwards, Public Works Director, Bruceton, TN  
731-586-2401

**Dollar Value of A/E Contract:** \$76,000

**Dollar Value of Total Construction:** \$454,775

## PROJECT EXPERIENCE

**Project Name/Location:** Milan Sewer Extensions, Milan, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Milan, TN

**Project Description:** Funding assistance, planning, design, construction administration, and inspection services were provided for a sewer extension project consisting of approximately 3,000 LF of 6" force main, a lift station, and approximately 3,500 LF of 8" gravity sewer lines. This project was primarily funded by a 2004 Community Development Block Grant.

**Dates of Project:** March 3, 2004

**Contact Person:** David Scarbrough, Utilities Systems Manager,  
City of Milan, TN  
731-686-3285

**Dollar Value of A/E Contract:** \$45,000

**Dollar Value of Total Construction:** \$498,378.10



## PROJECT EXPERIENCE

**Project Name/Location:** Murray Lane Water Main and Pump Station  
Brentwood, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Brentwood, TN

**Project Description:** Design, bidding, and construction administration services of approximately 17,000 feet of 24" water main and 5 MGD associated pumping station. This project includes crossings of I-65, CSX railroad and the Harpeth River.

**Dates of Project:** 2002

**Contact Person:** Chris Milton, Director, Brentwood Water and Sewer Services,  
Brentwood, TN  
615-371-0080

**Dollar Value of A/E Contract:** \$31,000

**Dollar Value of Total Construction:** \$2,700,000

PROJECT EXPERIENCE

**Project Name/Location:** Water Treatment Plant Improvements, Parsons, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Parsons, TN

**Project Description:** Funding assistance, design, construction administration, and inspection for upgrading the water treatment plant. This project was primarily funded by a Community Development Block Grant.

**Dates of Project:** 2002

**Contact Person:** Judy Daugherty, City of Parsons, TN  
731-847-6358

**Dollar Value of A/E Contract:** \$41,700

**Dollar Value of Total Construction:** \$675,475.00

## PROJECT EXPERIENCE

**Project Name/Location:** Drakes Creek Transfer Station and Sewer,  
White House, TN

**Prime Architect/Engineer:** Hart Freeland Roberts, Inc., Brentwood, TN

**Project Description:** Performed planning, design, and construction administration and inspection for:

1. New built in place 2.0 MGD wastewater transfer station (expandable to 3.0 MGD). Station exterior was designed to blend into the surrounding residential area.
2. Approximately 7,100 LF of new 10, 12, and 24 inch gravity trunk sewer and fiberglass manholes.
3. Approximately 20,000 LF of 12, 14, and 16 inch force main.

**Agency/Department:** White House Utility District, White House, TN

**Dates of Project:** 2000

**Contact Person:** Bill Thompson, White House UD Manager  
615-672-1038

**Dollar Value of A/E Contract:** \$161,835

**Dollar Value of Total Construction:** \$3,200,000

## PROJECT EXPERIENCE

**Project Name/Location:** Waverly/Belmont Booster Station, Nashville, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** Metro Water Services, Nashville, TN

**Project Description:** Planning, design, and construction of a 9 MGD water pumping station to serve Waverly Belmont, portions of West End Avenue, and Vanderbilt University areas. This station provides service through a 24" suction and 24" discharge line and is equipped with four 3 MGD pumps.

**Dates of Project:** 1997

**Contact Person:** Hal Balthrop, Metro Water Services, Nashville, TN  
615-862-4847

**Dollar Value of A/E Contract:** \$78,000

**Dollar Value of Total Construction:** \$1,300,000

## PROJECT EXPERIENCE

**Project Name/Location:** Upper Owl Creek Sewer Extension Design, Brentwood, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Brentwood, TN

**Project Description:** Design of the Owl Creek drainage basin sewer and gravity interceptor service was commissioned and construction management was performed through completion. This provided sewer service connecting to Metro Nashville.

**Dates of Project:** Construction completed in 1997.

**Contact Person:** Chris Milton, Director of Water and Sewerage Services,  
Brentwood, TN  
615-371-0080

**Dollar Value of A/E Contract:** \$11,750

**Dollar Value of Total Construction:** \$210,234.50

PROJECT EXPERIENCE

**Project Name/Location:** Upper Owl Creek Sewer Extension, Planning Study, Brentwood, TN

**Prime A/E:** Hart Freeland Roberts, Inc., Brentwood, TN

**Agency/Department:** City of Brentwood, TN

**Project Description:** Planning study for the entire Owl Creek drainage basin, and design of 3,418 LF of 21", 18", and 15" gravity interceptor sewer and sewers to serve a proposed subdivision in the Owl Creek drainage basin. Study involved connecting with Metro Nashville for sewer service.

**Dates of Project:** Study design completed in Mid-1990's with construction following. HFR provided construction management

**Contact Person:** Chris Milton, Director of Water and Sewerage Services, Brentwood, TN  
615-371-0080

**Dollar Value of A/E Contract:** \$90,000

**Dollar Value of Total Construction:** \$1,553,000

## PROJECT EXPERIENCE

**Project Name/Location:** Browns Creek Force Main, Nashville, TN

**Prime A/E:** Consoer Townsend & Associates, Nashville, TN  
**Subconsultants:** Hart Freeland Roberts, Inc., Brentwood, TN  
Ragan Smith Murphy, Nashville, TN

**Agency/Department:** Metro Water Services, Nashville, TN

**Project Description:** Planning, design, construction, construction administration, and inspection services were provided for 20,000 LF of 66" diameter sanitary sewer force main as part of Nashville's Overflow Abatement Program. This proved to be a most challenging project involving the hydraulics of a duplex 66" force main in design and construction while maintaining existing service of other utilities and business activities through a heavily industrial area of Nashville.

**Dates of Project:** 1995

**Contact Person:** Hal Balthrop, Metro Water Services, Nashville, TN  
615-862-4847

**Dollar Value of A/E Contract:** \$582,000

**Dollar Value of Total Construction:** \$9,700,000

# On-Site Sewage Disposal Projects

## **METRO NASHVILLE/DAVIDSON COUNTY, TENNESSEE**

### Lewis Mart

Planning, design, and construction administration of an on-site Low-Pressure Pipe (LPP) sewage disposal system serving a convenience store/restaurant. Installed equipment consists of approximately 1,754 LF of 1-1/4-inch PVC pipe in 4 zones, a 3,000 gallon septic tank, a 3,500 gallon dosing tank, and 180 gpm dosing pump. A reserve field was also staked out.

### Bell's Bend Nature Center

Planning, design, and construction administration of an on-site conventional septic disposal system consisting of approximately 1,214 LF of 4-inch Schedule 40 PVC pipe and a 2,000 gallon septic tank. A reserve field was also staked out.

### Beaman Park Nature Center

Planning, design, and construction administration of an on-site conventional septic disposal system consisting of approximately 809 LF of 4-inch Schedule 40 PVC pipe, a 1,500 gallon septic tank, a 3,000 gallon dosing tank, and 21 gpm dosing pump. A reserve field was also staked out.

## **MAURY COUNTY, TENNESSEE**

### Culleoka School

Design and construction administration of an on-site Low-Pressure Pipe (LPP) sewage disposal system for a daily flow of 26,400 gallons per day. Equipment consists of approximately 26,000 LF bioline drip line with 2,775 emitters in 5 cells, a 50,000 gallon septic tank, a recirculating sand filter, a 3,000 gallon pump tank, a 5,000 gallon drip disposal dosing tank, and three 27 gpm STEP dosing pumps. A reserve field was also staked out.

## **SUMNER COUNTY, TENNESSEE**

### Oakmont School

Design of a mound disposal system to augment and eventually replace the existing septic system having a design flow of 1,040 gpd. Design consists of new 2,000 gallon septic tank, 50 gpm STEP pump, 400 LF of 2-inch force main, and an 80' X 50' sewage disposal mound, with reserve area. Project has been bid and is pending start of construction.

## **TROUSDALE COUNTY, TENNESSEE**

### Do Re Mi Gospel Music Academy

Planning and preliminary design of a Low-Pressure Pipe system to serve a music school/convention facility with an estimated flow of 6,000 gallons per day. Soil analysis and survey work has been completed and project is in the preliminary design stage.