

A G E N D A
PIQUA CITY COMMISSION
MONDAY, MAY 4, 2009
7:30 P.M.
201 WEST WATER STREET
PIQUA, OHIO 45356

CALL TO ORDER

ROLL CALL

PLEDGE OF ALLEGIANCE

Residence Pride Awards – May 2009

- | | |
|---|---------------------|
| ➤ Don & Norma Emery | 726 Caldwell Street |
| ➤ Hartzell Propeller / Jim & Connie Brown | 1 Propeller Place |
| ➤ Salon Marchi / Charles & Tecla Powell | 1115 Park Avenue |
| ➤ James & Sharon Lyons | 105 Clifton Drive |
| ➤ Robert & Virginia Potter | 200 Levering Drive |

Proclamation: Peace Officers Memorial Day-May 2009

REGULAR CITY COMMISSION MEETING

- | | | |
|----|---|--|
| 1. | <u>APPROVAL OF MINUTES</u> | Approval of the minutes from the April 20, 2009
Regular City Commission Meeting |
| 2. | <u>ORD. NO. 3-09</u>
<u>(2nd Reading)</u> | An Ordinance enacting and adopting a supplement to
the Code of Ordinances for the City of Piqua |
| 3. | <u>RES. NO. R-36-09</u> | A Resolution of Appreciation for the Public Service of
William J. Sommer as a City Employee |
| 4. | <u>RES. NO. R-37-09</u> | A Resolution requesting authorization to issue a
purchase order to Camp Dresser & McKee, Inc. for;
Engineering and Services for the West Interceptor
Sewer and Siphon Inspection and Rehabilitation |
| 5. | <u>RES. NO. R-38-09</u> | A Resolution nominating Ed Krieger to the Governing
Board of the Piqua Improvement Corporation |
| 6. | <u>RES. NO. R-39-09</u> | A Resolution authorizing the City Manager to enter
into an agreement with Tritium Inc. to provide
professional hydrogeological services for the
Piqua Wellfield Exploration project |

OTHER:

- Monthly Reports – March 2009

ADJOURN

**MINUTES
PIQUA CITY COMMISSION
APRIL 20, 2009
7:30 P.M.**

Piqua City Commission met at 7:30 P.M. in the Municipal Government Complex Commission Chambers located at 201 W. Water Street. Mayor Hudson called the meeting to order. Also present were Commissioners Martin, Vogt, Fess, and Terry. Absent: None.

REGULAR CITY COMMISSION MEETING

City Manager Enderle was not in attendance at the April 20, 2009 Piqua City Commission Meeting due to illness. Finance Director Cynthia Holtzapple presided over the Piqua Commission Meeting in the absence of City Manager Enderle.

APPROVAL OF MINUTES

Moved by Commissioner Fess, seconded by Commissioner Martin, that the minutes of the April 6, 2009 Regular City Commission Meeting be approved. Voice vote, Aye: Terry, Vogt, Martin, Hudson, and Fess. Nay: None. Motion carried unanimously.

ORD. NO. 2-09
(3rd Reading)

An Ordinance amending Section 94.20 of the Piqua Code, relating to Community Swimming Pool Fees

Public Comment

Roy Howard, Spiker Road, came forward to voice his opinion on the swimming pool fees for the children and adults.

Moved by Commissioner Terry, seconded by Commissioner Martin, that Ordinance No. 2-09 be adopted. Voice vote, Aye: Terry, Vogt, Hudson, Fess, and Martin. Nay: None. Motion carried unanimously. Mayor Hudson then declared Ordinance No. 2-09 adopted.

ORD. NO. 3-09
(1st Reading)

An Ordinance enacting and adopting a supplement to the Code of Ordinances for the City of Piqua

Public Comment

Chuck Starrett, Demming Road, came forward to voice his opinion on Chapter 38 of the Piqua Code.

Moved by Commissioner Fess, seconded by Commissioner Terry, to give Ordinance No. 3-09 a first reading. Mayor Hudson then declared Ordinance No. 3-09 be given a first reading.

ORD. NO. 4-09
(1st Reading)

An Emergency Ordinance amending Sections 51.02, 51.18, 51.54 and 51.57 of Chapter 51: Sewers of the Piqua Municipal Code.

Mayor Hudson stated this is an emergency ordinance and asked Law Director Stacy Wall to give a brief overview of the Ordinance and the reason for the emergency passage at this time.

Public Comment

Joe Drapp, Park Avenue, came forward to inquire if Ordinance No 4-09 was for storm sewer or sanitary sewer changes to the Piqua Municipal Code.

Law Director Stacy Wall explained each section of the Piqua Municipal Code section and the amendments.

Moved by Commissioner Vogt, seconded by Commissioner Martin, that the rule requiring Ordinance No. 4-09 be read fully and distinctly on three separate days be suspended. Voice vote, Aye: Hudson, Martin, Fess, Vogt, and Terry. Nay: None. Motion carried unanimously.

Moved by Commissioner Vogt, seconded by Commissioner Martin, that Ordinance No. 4-09 be adopted. Voice vote, Aye: Terry, Martin, Fess, Vogt, and Hudson. Nay: None. Motion carried unanimously. Mayor Hudson then declared Ordinance No. 4-09 adopted.

RES. NO. R-34-09

A Resolution retaining the services of McGohan Brabender to provide health insurance consulting services for the City of Piqua

Mike Suttman, Vice President and Partner with McGohan Brabender came forward to explain the brokerage fees, and what services they perform for the City of Piqua.

Commissioner Vogt voiced his concern over the expense for the services of McGohan Brabender, and asked if this was something that could be done in house versus having McGohan Brabender perform the services.

There was discussion among the Commissioners and Mr. Suttman on the various services his company provides, the reason for the need for his type of services, and if any local insurance companies could provide the same type of services for less.

Mr. Suttman answered questions and concerns the commissioners had with his services. McGohan Barbender performs the same type of services for several of the surrounding cities including Troy, Sidney, Covington, West Milton, Tipp City, and Vandalia, said Mr. Suttman.

Public Comment

No one came forward to speak for or against Resolution No. 34-09.

Moved by Commissioner Terry, seconded by Commissioner Fess, that Resolution No. R-34-09 be adopted. Roll Call Aye: Martin, Terry, Hudson, and Fess. Nay: Vogt. Motion carried on 4-1 roll call vote. Mayor Hudson then declared Resolution No. R-34-09 adopted on a 4-1 roll call vote.

RES. NO. 35-09

A Resolution authorizing application to the United States Department of Justice, Office of Justice Programs for funding through the Recovery Act: Edward Byrne Memorial Justice Assistance Grant (JAG) Formula Program: Local Solicitation

There was discussion of the type of programs and materials this grant would cover for the Police Department. Police Chief Jamieson gave a brief overview of what the grant funds would be used for.

Public Comment

No one came forward to speak for or against Resolution No. R-35-09.

Moved by Commissioner Fess, seconded by Commissioner Terry, that Resolution No. R-35-09 be adopted. Voice vote, Aye: Hudson, Martin, Fess, Vogt, and Terry. Nay: None. Motion carried unanimously. Mayor Hudson then declared Resolution No. R-35-09 adopted.

Proclamation

Proclaiming the month of April 2009 as Poppy Days in the City of Piqua

Mayor Hudson read the proclamation.

Public Comment

Joe Drapp, Park Avenue came forward to voice his opinion on the Commissioner Martin's abstaining from the vote on the Piqua Plaza Resolution to fund the additional money for the completion of the project including Toon P. Wiggins Restaurant at the April 6, 2009 Piqua City Commission Meeting.

Mike Perando, Third Street, voiced his concern over the youth baseball league controlling the baseball diamonds in the Shawnee area, citing that all baseball fields should be open for all residents to play on them when they are in a neighborhood park area. Mr. Perando would like to see at least one or two of the baseball diamonds open for the public to play on without a fee.

Chain link fence has been offered to the Shawnee Neighborhood Association to be put around a small garden area and around a culvert area that has been a danger to the area, and wanted to know if it would be a problem to install the fence, said Mr. Perando. Mayor Hudson stated he would have the City Manager check into it for him. Law Director Wall asked that Mr. Perando contact her regarding the fence after the meeting.

Commissioner Martin inquired as to the status of the Historical Sign in Shawnee that was damaged recently, would it be replaced, and by whom. Police Chief Bruce Jamison stated he would look into it and get back to him. Law Director Wall explained the process in replacing the sign.

Commissioner Martin inquired about grass on Nicklin Avenue in the boulevards where the trees have been taken out. Commissioner Terry stated the plan is to replace the trees this summer, and there is still work to be done yet on the area first.

Commissioner Martin also inquired about the status of the Bike Path Bridge over the river. Law Director Wall stated they have received bids on the repairs and bids will be awarded soon. Commissioner Martin asked if it would be possible to have steps on the south side of the embankment for residents to access the bike path.

Commissioner Fess wished City Manager Enderle get-well wishes.

Commissioner Terry stated the North Parks Neighborhood Association held a very successful mulch sale at Wilder School, and the next meeting of the North Parks Neighborhood Association will be held on May 14, 2009 at 7:00 P.M. at Wilder School and it is open to the public.

Mayor Hudson voiced his concern about children playing under the Shawnee Bridge and asked if someone would check on it for safety reasons. Mayor Hudson also stated there seems to be a deer problem in the Maplewood-Park Avenue area and asked residents not to feed them.

Law Director Wall stated the Charter Review Committee will hold their first meeting on April 30, 2009 at 10:00 A.M. in the City Commission Chambers.

Moved by Commissioner Vogt, seconded by Commissioner Martin, to adjourn from the Piqua City Commission Meeting at 8:30 P.M. Voice vote, Aye: Vogt, Martin, Hudson, Terry, and Fess. Nay: None. Motion carried unanimously.

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION

ORDINANCE NO. 3-09

**AN ORDINANCE ENACTING AND ADOPTING A
SUPPLEMENT TO THE CODE OF ORDINANCES
FOR THE CITY OF PIQUA**

WHEREAS, American Legal Publishing Corporation of Cincinnati, Ohio, has completed the 2008 supplement to the Code of Ordinances of the City of Piqua, which supplement contains all ordinances of a general and permanent nature enacted since the prior supplement to the Code of Ordinances of this City of Piqua; and

WHEREAS, American Legal Publishing Corporation has recommended the revision or addition of certain sections of the Code of Ordinances which are based on or make reference to the Ohio Code; and

WHEREAS, it is the intent of the Piqua City Commission to accept these updated sections in accordance with the changes of the law of the State of Ohio; and

WHEREAS, it is necessary to provide for the usual daily operation of the City of Piqua and for the immediate preservation of the public peace, health, safety and general welfare of the City of Piqua that this ordinance take effect at an early date.

NOW, THEREFORE, BE IT ORDAINED by the Commission of the City of Piqua, Miami County, Ohio, the majority of all members elected thereto concurring, that:

SEC 1: That the 2008 supplement to the Code of Ordinances of the City of Piqua as submitted by American Legal Publishing Corporation of Cincinnati, Ohio, is hereby adopted by reference as if set out in its entirety.

SEC. 2: Such supplement shall be deemed published as of the day of its adoption and approval by the Piqua City Commission and the Clerk of Commission is hereby authorized and ordered to insert such supplement into the copy of the Code of Ordinances kept on file in the Office of the Clerk of Commission.

SEC. 3: This Ordinance shall take effect and be in force from and after the earliest period allowed by law.

1st Reading 4-20-2009

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION

RESOLUTION NO. R-36-09

**A RESOLUTION OF APPRECIATION FOR
THE PUBLIC SERVICE OF WILLIAM J. SOMMER
AS A CITY EMPLOYEE**

WHEREAS, William J. Sommer has retired as Power Systems Director in the Power Distribution Department; and

WHEREAS, his retirement follows 22 years of faithful and dedicated service to the City and its citizens;

NOW, THEREFORE, BE IT RESOLVED by the Commission of the City of Piqua, Miami County, Ohio, all members elected thereto concurring, that:

SEC. 1: In recognition and appreciation of the service of William J. Sommer as Power Systems Director, this Commission tenders its unanimous and respectful tribute by this Resolution, which shall be a matter of public and permanent record;

SEC. 2: This Resolution shall take effect and be in force from and after the earliest period allowed by law.

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION

RESOLUTION NO. R-37-09

**A RESOLUTION REQUESTING AUTHORIZATION
TO ISSUE A PURCHASE ORDER TO CAMP DRESSER & McKEE,
INC. FOR; ENGINEERING AND SERVICES FOR THE WEST
INTERCEPTOR SEWER AND SIPHON INSPECTION AND
REHABILITATION.**

WHEREAS, the present operations of the City is to upgrade the Sanitary Sewer System; and

WHEREAS, the West Interceptor Sewer and Siphon Lines have been identified as possible large contributors of Inflow & Infiltration to the Sanitary Sewer System; and

WHEREAS, the City requested from three capable engineering groups to perform the services provided in the RFQ for this project; and

WHEREAS, Camp Dresser and McKee, Inc. was the only firm to return qualifications for providing said services efficiently and competently;

NOW, THEREFORE, BE IT RESOLVED by the Commission of the City of Piqua, Miami County, Ohio, the majority of all members elected thereto concurring, that:

SEC. 1: A contract for said services is hereby authorized and approved for \$124,100.00 and a not to exceed amount of \$135,000.00 is hereby authorized and approved for said services;

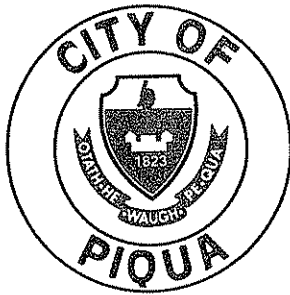
SEC. 2: The Finance Director is hereby authorized to draw her warrants from time to time on the appropriate account of the City treasury in payment according to this Resolution;

SEC. 3: This Resolution shall take effect and be in force from and after the earliest period allowed by law.

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION



CITY OF PIQUA, OHIO

201 West Water Street • Piqua, Ohio 45356
www.piquaoh.org

April 17, 2009

MEMORANDUM

TO: Frederick E. Enderle, City Manager

RE: **REQUEST FOR CITY COMMISSION AUTHORIZATION TO ISSUE A PURCHASE ORDER TO CAMP DRESSER & McKEE INC. FOR ENGINEERING PRELIMINARY & DETAILED DESIGN, CONDITION ASSESSMENT, BIDDING AND CONSTRUCTION ADMINISTRATION SERVICES FOR THE WEST INTERCEPTOR SANITARY SEWER AND SIPHON REHABILITATION. TOTAL COST NOT TO EXCEED \$135,000**

This request is to authorize a purchase order to CDM, Inc. in the amount of \$124,100 for the engineering design services as referenced above (see attached proposal). A total of \$125,000 was budgeted for the engineering design services in the 2009 WWTP annual budget and an 8.7% contingency for this project is part of the not to exceed amount.

The proposal per the RFQ fully assesses the west interceptor and siphon condition in order to develop the most cost effective means of improvements.

THE WEST INTERCEPTOR SANITARY SEWER AND SIPHON REHABILITATION – is scheduled for construction in 2010.

The proposal includes the following phases of the project:

- Preliminary Design
- Condition Assessment
- Discuss Potential Alternatives
- Detailed Design of Chosen Option
- Bidding
- Review Bid documents
- Recommend Contractor(s)
- Construction Administration

CDM, Inc. is currently the design engineer for the City of Piqua on the EQ Basin and Back-up Generator Project, currently under construction at this time. The City of Piqua is very confident in the abilities of CDM, Inc. to provide us with a quality set of options in a timely manner.



The following is a breakdown of the companies that submitted proposals and their associated costs:

CONSULTANT	PROPOSAL PRICE
	PROJECT TOTAL
CDM, Inc.	\$124,100.00
CH2MHill	Did not submit
Hazen & Sawyer	Did not submit

Please let me know if you have any questions pertaining to this matter.

Respectfully submitted,

David T. Burtner
WW Systems Superintendant

DTB/dad

c: Amy Havenar, City Engineer

RESOLUTION NO. R-38-09

**A RESOLUTION NOMINATING ED KRIEGER TO
THE GOVERNING BOARD OF THE PIQUA IMPROVEMENT
CORPORATION**

WHEREAS, by Resolution No. C-6538, passed September 5, 1979, this Commission nominated the elected or appointed officials of the City to sit on the Governing Board of the Piqua Improvement Corporation; and

WHEREAS, one vacancy now exists on said Governing Board.

SEC. 1: Ed Krieger is hereby nominated as a City Official authorized for appointment to the Governing Board of the Piqua Improvement Corporation;

SEC. 2: This Resolution shall take effect and be in force from and the earliest period allowed by law.

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION

RESOLUTION NO. R-39-09

**A RESOLUTION AUTHORIZING THE CITY MANAGER TO
ENTER INTO AN AGREEMENT WITH TRITIUM INC. TO
PROVIDE PROFESSIONAL HYDROGEOLOGICAL SERVICES
FOR THE PIQUA WELLFIELD EXPLORATION PROJECT**

WHEREAS, At the City Commission Work Session on March 17, 2009, Piqua City Commissioners gave direction for the City Manager to pursue potential groundwater resources, thus the need for professional hydrogeological services; and

WHEREAS, five professional firms were given an initial interview and upon completion of the meetings, two firms were requested to provide proposals. Tritium Inc. and Terran Corporation presented proposals and they were reviewed by City Staff; and

WHEREAS, after reviewing the (2) proposals, it was decided to interview both firms; and

WHEREAS, after the second set of meetings, a unanimous decision was made to recommend Tritium Inc. as the professional services of choice for the Piqua Wellfield Exploration Project.

NOW, THEREFORE, BE IT RESOLVED by the Commission of the City of Piqua, Miami County, Ohio, the majority of all members elected thereto concurring, that:

SEC. 1: The City Manager is hereby authorized to enter into an agreement with Tritium Inc. for professional services for the Piqua Wellfield Exploration Project; and

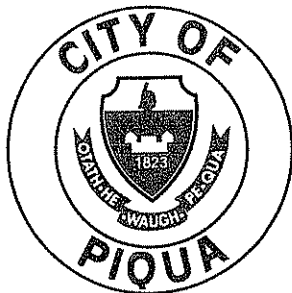
SEC. 2: The Finance Director is hereby authorized to draw her warrants from time to time on the appropriate account of the City treasury in payment according to agreement terms, in the amount not to exceed \$95,130;

SEC. 3: This Resolution shall take effect and be in force from and after the earliest period allowed by law.

THOMAS D. HUDSON, MAYOR

PASSED: _____

ATTEST: _____
REBECCA J. COOL
CLERK OF COMMISSION



WATER SYSTEM

Ronald T. Klima – Water System Superintendent
9300 North State Route 66 • Piqua, Ohio 45356
(937) 778-2090 • FAX (937) 778-2089
E-Mail: rklima@piquaoh.org

April 23, 2009

MEMORANDUM

TO: Frederick E. Enderle, City Manager

**RE: REQUEST FOR CITY COMMISSION AUTHORIZATION TO
ENTER INTO AN AGREEMENT WITH TRITIUM INC. TO
PROVIDE PROFESSIONAL HYDROGEOLOGICAL SERVICES
FOR THE PIQUA WELLFIELD EXPLORATION PROJECT.
TOTAL COST NOT TO EXCEED \$95,130**

We request authorization to enter into an agreement with Tritium Inc. not to exceed the amount of \$95,130 (includes 5% contingency) to provide professional hydrogeological services for the above referenced project (see attached proposal).

Following the March 17, 2009, City Commission work session where city staff was given direction to pursue potential groundwater resources, five professional hydrogeological firms were solicited to provide a statement of qualifications as related to wellfield exploration. All five firms were given an initial interview where they shared similar projects, research, and qualifications. City staff also discussed the nature of this project and the desired project outcomes.

Upon completion of the initial meetings, two firms were requested to provide proposals which included detailed project approaches. Proposals were requested and received from Tritium Inc. and Terran Corporation with two differing approaches. Both proposals were carefully reviewed by city staff and a decision was made to interview both firms a second time to provide clarification of recommended project approaches. The second set of meetings concluded with a unanimous decision to recommend Tritium Inc. to provide professional services for the Piqua Wellfield Exploration Project.

Although Tritium's proposal was approximately \$8,000 higher than their competitor, it was agreed upon by the interview panel that the suggested approach would be beneficial to the City of Piqua and prove to be more feasible than any other for the following reasons:

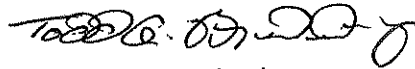
- With the exploration being divided into five tasks the City of Piqua would be able to use data gained from the previous task to determine whether to perform the next task or discontinue the project without incurring additional expenses.
- Tritium's suggested approach includes construction of a minimum 12" diameter test production well. This well will be constructed to current OEPA well standards giving Piqua the ability to convert this to a regular production well with reduced expense.
- Tritium has also assured the city that although they will be using a subcontractor for the actual drilling and well construction, a geologist will be onsite during all work activities.
- Tritium's subcontractor selection process is based on qualifications and past experience.

Although this particular project was not included in the 2009 Water Department budget request funds are available from other projects presently delayed. Also, efforts have been made to secure funding for this project through the American Recovery and Reinvestment Act of 2009 (aka Economic Stimulus Package) and an application is currently being prepared for the Miami Conservancy District Protect the Source 2009 Grant Program. Upon application approval or denial of any of the above funding sources, if needed, legislation will be presented to reappropriate funds covering this expense.

Tritium Inc. has completed various wellfield explorations and development projects in Ohio, Indiana, and Michigan. Tritium has proven to city staff that they are qualified to perform the project and that they understand the urgency in a timely completion of the wellfield exploration.

Please let me know if you have any questions pertaining to this matter.

Respectfully submitted,



Todd A. Brandenburg
Assistant Water System Superintendent

Attachment

c: Amy Havenar, P.E., City Engineer
Cynthia Holtzapple, Finance Director
Ron Klima, Water System Superintendent

April 10, 2009

Mr. Ronald Klima
City of Piqua – Water Department
9300 North State Route 66
Piqua, Ohio 45356

RE: Wellfield Development Project

Dear Mr. Klima,

Per our most recent conversation the City is anticipating a water treatment plant production capacity of at least 6 MGD. The current water supply is exclusively surface water and the intent of this project is to convert, at least in part, to groundwater resources. A previous study was performed in Section 31 of Washington Township which included test drilling and an aquifer performance test. A test production well and three observation wells were installed along the western bank of the Great Miami River.

The City has arranged for additional properties to be optioned in Section 32 of Spring Creek Township. This area lies within the river valley of the Great Miami River. The geologic maps for this area indicate the presence of buried river deposits that directly overlie a carbonate bedrock aquifer.

The available well logs directly to the north and east of the properties reveal that the unconsolidated sediments are approximately 80 feet thick. The sediments can be divided into three general intervals. The uppermost interval is a sand and gravel layer within which the local gravel pits are cut. The middle layer is a significant clay layer that appears to be at least 25 feet thick. The lowermost layer is a confined sand and gravel aquifer that lies directly on the bedrock surface.

Based on our previous conversations and our understanding of the regional geology, we propose the following scope of work:

- Task 1. Background research and submission of a work plan to OEPA
- Task 2. Construct, and test pump a small-diameter well (Ow-1).
- Task 3. Construct a test production well (Tw-1) and additional observation well(s)
- Task 4. Conduct a 72-hour aquifer performance test using Tw-1
- Task 5. Complete and submit a summary report.

The tasks are described in detail below with recommendations.

Task 1. Background Research and Work Plan

A thorough review of the regional and local geology should be conducted. This review will provide insight into the expected geology and hydrogeology and assist in the exploratory drilling, well construction, pumping test planning and development of the wellfield. The review would also provide a solid basis for the proposed scope of work and project planning for the work plan that will be required by OEPA.

The research work would include construction of geologic cross-sections, based on identification of the area wells with available well logs. These cross-sections would depict the lateral and vertical extent, as well as, the interconnections between the existing aquifer systems. The various aquifer systems would also be described in hydrogeologic terms to anticipate pumping capacity, hydraulic conductivity, and potential drawdown effects. The wells and cross-section location will be imported into our GIS-based documents and can then be readily compared with the OEPA and ODNr databases and pollution potential studies.

The work plan will be based on the information acquired during the background research and include the planning portion of the project already completed by the City. We will prepare the work plan in accordance with the OEPA detailed outline and requirements. We will submit the necessary copies to the OEPA and provide additional copies for the City records.

Task 2. Observation Well Construction and Testing

The exploratory drilling and construction of the first observation well will begin immediately after approval of the work plan. The local well logs indicate that the bedrock surface is approximately 85 feet below grade at the site. We recommend conducting the first borehole in the northeast corner of the property. The land surface is the highest at that location which would maximize the available feet of drawdown and minimize the potential for a flowing well. Also, there are nearby private wells to the north which indicate that the aquifer thickness and the pumping capacity of the aquifer at that location are favorable.

The drilling should be done using mud-rotary techniques and should be supervised by a professional geologist. Sediment samples will be collected and bagged from each formation during the drilling in accordance with the OEPA regulations. The samples from the potential aquifer will be submitted to Johnson Screens for sieve analysis to properly design the Test Production Well screen.

The well should be constructed with 5 feet of stainless steel, wire-wound screen and 5-inch diameter solvent-welded PVC casing. The screen should be gravel-packed with silica gravel from the bottom of the well screen to a level no greater than 10 feet above the top of the screen. The remainder of the borehole annulus should be pressure-grouted using the tremmie method with bentonite slurry. The well casing should extend a minimum of 2 feet above grade and be sealed with a lockable cover. Should it be deemed necessary we would also provide a lockable steel box to enclose the well casing.

Immediately following well construction the well screen will be thoroughly developed using air lift techniques until the discharge is clear. Proper development of the well screen is critical to provide an elevated well efficiency and improve the accuracy of the pumping test data and subsequent analysis.

Once the well is thoroughly developed we will conduct a 12-hour pumping test using the observation well as the pumping center. We recommend performing the test as a means to verify that the remainder of the project should continue. Should the test results prove unfavorable the project can be halted and a new direction chosen. In addition, this answer can be derived with a minimal impact on the property.

Favorable test results would be used for three purposes. First, the water temperature of the groundwater within the well, the nearby river, and the gravel pit to the north will be monitored throughout the pumping to determine if the well is under the influence of surface water. Second, the drawdown data will be used to determine the specific capacity of the well, obtain a preliminary estimate of the aquifer transmissivity, determine if a hydraulic boundary is present, determine if the aquifer can sustain operation of a high-capacity well, and begin to anticipate the interference effects of a high-capacity well. Third, at the end of the test a groundwater sample will be collected and a number of basic parameters will be analyzed to obtain initial estimates of the water quality.

A 5-horsepower pump will be installed within the observation well to conduct the 12-hour pumping test will be conducted. This pump is the largest pump that can be installed within a 5-inch diameter well and is capable of pumping more than 125 gpm at the expected pressure. The discharge will be directed into the nearby river via either fire hose or irrigation pipe.

The discharge rate will be measured throughout the pumping test using an orifice plate. A pressure transducer will be installed within the well to measure the induced drawdown. The transducer is accurate to 0.01 feet and will record the water level change and the water temperature every 30 seconds for the duration of the test. A handheld meter will be used to measure the water temperature in the river and the nearby gravel pit (if accessible) throughout the test. We will also attempt to obtain home-owner permission to measure any potential drawdown effects in the nearby private well during the test as well. These measurements will be taken with a sanitized, hand-held water level meter with reading accurate to 0.01 feet.

We will produce a summary letter report that includes a thorough description of the drilling and well construction, the pumping test and the field methods used for data collection, plots and analysis of the drawdown data, a determination of groundwater under the influence of surface water, and the results of the groundwater chemistry analyses. The report will also provide clear recommendations regarding the feasibility of installing high-capacity wells at the site along with detailed plans for construction of the high-capacity wells. Finally, the report will recommend locations for the installation of the additional observation well(s) and the test production well.

Task 3. Test Production Well and Additional Observation Well Construction

Upon approval of the summary letter report, we will arrange for a driller to construct the additional observation well(s) and the test production well. The wells should be constructed using mud-rotary techniques. Cable-tool drilling would require much more time and financial resources and reverse circulation drilling would not be feasible given the elevated water table at the site. Again, we highly recommend supervision of the drilling, well construction, and well screen development by a professional geologist.

The test production well will be constructed of welded steel casing and stainless-steel, wire-wound screen. The minimum casing size would be 12-inch diameter. Well screen development is crucial to ensure a highly efficient well that will maximize the available drawdown and the highest sustainable pumping rate. The development will be conducted using air lift techniques combined with approved chemicals to break down the drilling fluids.

Given the nature of the geology in the area, the size of the optioned properties, and the historical interference effects due to pumping, we recommend installation of at least three additional observation wells. The location of the wells will provide the ability to measure the interference effects across the property during the subsequent pumping test. Additionally, the drilling will ensure that the potential aquifer is present beneath the entire proposed wellfield in a sufficient thickness.

The second observation well (Ow-2) must be installed relatively near the test production well in order to produce quality drawdown data for the subsequent aquifer performance test. The third and fourth observation wells should be installed near the river (Ow-3) and in the southeastern portion of the property (Ow-4). Each of these wells will be constructed with 5-inch diameter PVC casing and slotted PVC screens. The screens will be gravel-packed and the casings will be grouted using bentonite slurry. The wellheads will extend at least 2 feet above grade and will be sealed with lockable well covers. Should it be deemed necessary we would also provide lockable steel boxes to enclose the well casings.

Task 4. 72-hour Aquifer Performance Test

To determine the maximum production capacity of the aquifer and the existing production wells an aquifer performance test is necessary. The purpose of the test is to measure the hydraulic characteristics of the aquifer system, including the transmissivity, the hydraulic conductivity, and the storage coefficient. These characteristics would then be used to:

1. predict drawdown during extended pumping periods
2. predict interference effects due to groundwater production
3. establish a maximum production capacity for both the wells and the aquifer system
4. design the layout of an expanded wellfield with multiple production wells
5. provide a sound basis for delineation of the wellhead protection area(s)

Due to the unconfined nature of the aquifer under pumping conditions and the proximity of the Great Miami River, a 72-hour aquifer performance test will be required. The test will consist of a 24-hour rest period, 72 hours of continuous pumping, and a 24-hour rest period. The test should be conducted at the maximum sustainable pumping rate. Costs for a large generator to operate the pumping equipment and fuel surcharges are included in the project pricing.

The discharged groundwater will be directed through fire hose or irrigation pipe into the Great Miami River. The rate of discharge will be regulated using a valve and measured with a flow meter (or orifice plate). A sample tap will be installed on the discharge line for groundwater sample collection.

Water level measurements will be taken and recorded throughout the duration of the test using pressure transducers and a water level meter. A pressure transducer, accurate to 0.01 feet and equipped with dataloggers, will be installed within each available well at the wellfield. The transducers will record the water level within the well, the drawdown, and the groundwater temperature at least every minute throughout the duration of the test.

We will also contact the nearby home owners with registered well logs to obtain permission for monitoring the water level within their well(s) during the test. This measured data will enable a more accurate analysis without additional cost and provide physical measurements of the interference effects at distance from the proposed wellfield.

We will provide on-site personnel to supervise the test during the entirety of the pumping period. Our personnel will periodically collect water level measurements with a hand-held water level meter (accurate to 0.01 feet) to back up the electronically-collected data from the transducers. Our personnel will also periodically collect measurements of the pH, conductivity, and total dissolved solid concentration from the discharge and the river throughout the pumping period. Near the end of the pumping period, we will collect a groundwater sample from the discharge and submit the sample to a state-certified laboratory for full scan in accordance with the OEPA requirements.

We will provide a full analysis of the drawdown data with industry-standard type-curve matching techniques using the software AQTESOLV or AquiferWin. At a minimum, the analysis methods will include a Nueman type-curve match and a Cooper-Jacob Straight-Line analysis. The analysis results will then be used to establish a defensible, maximum safe pumping rate for long-term groundwater production from the municipal wells. The results will also be used to design a preliminary wellfield layout with the necessary additional production wells. The preliminary design should be verified later with a groundwater model prior to beginning any wellfield expansion.

Task 5. Summary Report

All of the project work, analyses, and results will be summarized and discussed in a bound report. The report will include generalized geologic cross-sections, GIS-based

figures, plots of the drawdown and water temperature data, analysis plots, a map of the theoretical interference contours, and the results of the laboratory analyses. A minimum of two geologic cross-sections will be generated to show the vertical distribution of the aquifers and confining layers across the area.

The GIS figures will demonstrate the site location, the location of the private wells in the area, the new observation wells and the test production well, and the local interference effects of pumping at the wellfield. The figures will incorporate aerial photography of the area and the region's USGS 7.5-minute quadrangle topographic map(s).

We will provide the City of Piqua with five copies of the report, and will submit the necessary copies to the OEPA for their review. Additional copies can be provided on a per copy basis to be determined later. In addition, as part of the project costs we would also present the results of the study at a public meeting upon your request.

Disclaimer

The proposed pricing is based on recent quotations from the driller we anticipate utilizing for this project. We vetted their pricing against recent quotes from other drilling companies and found that they are reasonable when compared to other good quality drillers.

The scope of work has been defined based on conversations between Tritium, Inc. and the City of Piqua. Any changes to the scope of work outlined in this proposal must be provided in writing and approved prior to ordering of materials and/or construction.

The prices reflect the current scope of work at the current market prices (April 10, 2009) for the required materials. Over the past year we have experienced material costs increases on some materials of more than 30 percent. Any material cost increases will be documented in writing prior to the purchase of said materials, and the increased costs will be the responsibility of the client.

The labor costs for the drilling subcontractor and the hydrogeologic consultant have been based on Tritium's current pricing as well as that of the well drilling company. Should there be a need to provide the prevailing wage for this work the current labor costs would need to be adjusted.

Project Schedule and Costs

We are prepared to begin work with a two week notice and have already contacted the drilling firm we anticipate using for this project. The background research and submission of the work plan would require one week. Installation of the first observation well and the subsequent test pumping would be completed within one week from the start of construction. The letter report summarizing the initial drilling and the pumping test would require one week.

Drilling of the test production well and three additional observation wells would require two weeks at most. The 72-hour pumping test would be conducted the

following week. Finally, the analysis and the summary report would require two weeks to perform, assemble, and distribute. The groundwater chemistry results would be submitted upon receipt from the laboratory.

The project would be billed progressively with invoices submitted as the work is completed. Each invoice will clearly detail the completed work and costs and will be accompanied by a progress report letter.

If you have any questions, or need clarification of the above information please do not hesitate to call me at our office (574) 266-5300. I am available by e-mail at Todd@tritiuminc.net.

Sincerely,

Todd Feenstra
President, LPG
Tritium, Inc.

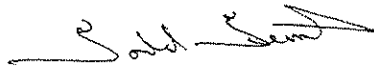


Table 1. Project Costs

DESCRIPTION	COST
BACKGROUND RESEARCH AND WORK PLAN	\$4,800
OBSERVATION WELL 1 CONSTRUCTION AND 12-HOUR PUMPING TEST	
Contractor (construct well to 85 feet, set/remove pump, generator/fuel)	\$7,000
Tritium, Inc. (drilling supervision, conduct pumping test, lab costs, and letter report)	\$5,900
TEST PRODUCTION WELL	
Contractor (construct 12-inch well to 85 feet and screen development)	\$27,600
Tritium, Inc. (drilling and screen development supervision)	\$1,800
ADDITIONAL OBSERVATION WELLS	
Contractor (construct wells to 85 feet - \$3,000 each)	\$9,000
Tritium, Inc. (drilling supervision - \$900 each)	\$2,700
72-HOUR AQUIFER PERFORMANCE TEST	
Contractor (set/remove pumping equipment, generator, fuel)	\$17,000*
Tritium, Inc. (conduct test, monitoring, laboratory costs)	\$8,300
SUMMARY REPORT AND ANALYSIS	\$6,500
TOTAL COST	\$90,600

**assumes a pump rental fee for a 1,200 gpm pump.*

Proposal Acceptance and Notice to Proceed

The undersigned is authorized to execute this agreement and concurs with the project elements, costs, and schedule presented above. The total project costs are estimated as \$90,600, and represent a not-to-exceed estimate for the work detailed above. The proposed project schedule is 8 weeks upon a 2 week notice, barring any site access issues or other uncontrollable hindrances.

Changes to the scope of work, required tasks, and/or costs are to be agreed upon in writing prior to work performed. The City contact will be immediately notified upon any change in schedule. A finance charge of 1.5 percent interest will apply on all invoices more than 30 days past-due.

Accepted by: _____

Title: _____

Date: _____

Project Start Date: _____

STATEMENT OF QUALIFICATIONS

HYDROGEOLOGIC CONSULTING SERVICES

2009

Prepared for: City of Piqua, Ohio



1789 East Bristol Street, Suite B, Elkhart, Indiana 46514

telephone 574.266.5300 facsimile 574.266.1795

email todd@tritiuminc.net

web address www.tritiuminc.net

AN INTRODUCTION TO OUR FIRM

Tritium, Inc. is a professional hydrogeologic consulting firm located in northern central Indiana between South Bend and Elkhart. Our location is central to the territory our staff has developed over the past 10 years, which includes northwest Ohio, all of Michigan's Lower Peninsula, and the northern half of Indiana. The company is owned and managed by two individuals with a group of six established small business owners forming an advisory council. Our staff consists of two full-time and three part-time employees including a licensed professional geologist (Indiana), a business administrator, two part-time field technicians, and one part-time college intern.

VISION STATEMENT

The primary purpose of Tritium, Inc. is to provide sound, professional consulting which exceeds the industry standard and embodies the values of honesty, integrity, and quality.



Tritium, Inc. owners:
Todd and Jennifer Feenstra

The company was established in the fall of 2006 in response to a recognized need in the Midwest for a consulting firm that specializes in hydrogeology. We provide expert advice regarding the development, operation, maintenance, and protection of public water supplies derived from groundwater resources across the Midwest. Our firm has been specifically structured to ensure that professional geologists direct groundwater-related projects and are responsible for the design, drilling, and construction of wells and wellfields.

AN INTRODUCTION TO OUR FIRM

The company vision is met by applying realistic and practical consulting solutions from an expert geologic perspective combined with extensive knowledge of drilling methods and techniques. Due to the highly variable nature of groundwater resources there is no set of general design principles that can be applied to every project. Rather, the owner's ten years of experience in the development and management of groundwater resources and intimate knowledge of Midwestern geology provide insight into a wide range of solutions. Additionally, the Tritium, Inc. professionals will insulate clients from drilling related errors and the associated costs that have traditionally been passed along to clients due to a lack of knowledge and unrealistic expectations of both clients and engineers.

VALUES STATEMENT

The owners of Tritium, Inc. highly value moral standards that reflect Christian, faith-based beliefs. "The Higher Standard" is reflected in the business' management and operation, finances, and vision. The Tritium, Inc. employees are strong client advocates who treat their clients with respect and are dedicated to providing outstanding service. Each project is managed by balancing project costs, efficient project time lines, and high quality consulting work.

SERVICES AND RELATED EXPERIENCE

SERVICES

- Local Groundwater Resource Evaluations
- Regional Groundwater Resource Evaluations
- Public Water Supply System Design and Installation
- Groundwater Modeling
- Well Profiling
- Lake Augmentation Well Projects
- Wellhead Protection Programs
- Rapid Infiltration Basin Studies

LOCAL GROUNDWATER RESOURCE EVALUATIONS

We have developed groundwater resources for more than 50 municipalities in Michigan, Indiana, and Ohio. We planned and executed the project work for installation of new production wells at both existing and proposed well fields. The project work included well design, observation well location, field supervision of drilling contractors during well installation and development, stepped rate testing to determine production well efficiency and verify well development, and management of aquifer performance testing to collect the required drawdown data. Data analysis was performed using the latest analytical software to determine the transmissivity and storage coefficient of the aquifers. The hydraulic characteristics were used to determine the maximum production rate for the production wells after 100 days of continuous pumping with no recharge. The field work and analyses were compiled and presented in summary reports complete with analyses plots and GIS-based figures.

SERVICES AND RELATED EXPERIENCE

REGIONAL GROUNDWATER RESOURCE EVALUATIONS

City of Bryan, Ohio.

We completed a petition to the U.S. EPA requesting a sole source aquifer designation for a portion of the MICHINDOH Glacial Aquifer system. The project consisted of two main tasks. The first task was to define and provide a detailed description of a groundwater basin that spans portions of three states. Information regarding the geology, hydrogeology, surface water, public water use, soils, and numerous other related data was compiled from IDEM, IDNR, MDEQ, U.S. EPA, OEPA, ODNR, NAQWA, USGS, and previous reports. The information was imported into a highly detailed GIS database to provide seamless mapping across state and county lines. The second task was to conduct a feasibility study to develop alternative drinking water supplies. Regional and local hydrogeologic evaluations were used to identify alternative sources of drinking water. Preliminary civil engineering designs were created and used to estimate the development costs related to the alternative supplies. The most recent U.S. Census statistics for population and income were compared to the estimated project costs to determine the feasibility of implementing the alternative drinking water supplies.

Wellhead Delineation, Jackson County, Michigan.

Mr. Feenstra coordinated a regional wellhead protection area delineation project. The project area included all of Jackson County and extended at least two miles into the adjacent counties for a total area of 1,330 square

SERVICES AND RELATED EXPERIENCE

area is also at the head of five major river systems, each of which strongly influenced the regional groundwater system. Extensive background research was conducted and the previous hydrogeologic work was compiled and integrated into the project. The data was supplemented with additional field work including: static water level survey consisting of 53 static water levels collected across the region, installation and logging of 9 observation wells, and aquifer performance tests and analyses conducted at 5 well fields. A numerical groundwater flow model was designed, constructed, and calibrated. The model effectively simulated the region's complex hydrogeology. Reverse particle tracking was used in conjunction with the model to successfully delineate wellhead protection areas for 12 communities within Jackson County. The delineations have since formed the basis for wellhead protection programs and abandoned well management programs.

PUBLIC WATER SUPPLY SYSTEM DESIGN AND INSTALLATION

Sacred Heart Apostolic School, Rolling Prairie, Indiana.

The project consisted of a hydrogeologic evaluation of the potential aquifers; analysis and improvement of the drinking water quality; design, permitting, and construction of high capacity production wells, water main, and pumping

SERVICES AND RELATED EXPERIENCE

infrastructure; and abandonment of the existing wellfield. The current wellfield was nearly 60 years old and exhibited poor water quality characteristics. The new water system is capable of greater groundwater production and the water quality is improved with lower concentrations of both iron and hardness.

Village of Capac, Michigan

Coordinated background research, drilling activities, and aquifer performance testing to define the regional aquifers in an effort to develop a new wellfield. Groundwater production from the Village's existing high-capacity wells had diminished and additional groundwater production was needed. The glacial drift and bedrock aquifers identified in the area were very limited in extent and potential groundwater production. After extensive background research and construction of geologic cross-sections, test drilling and borehole logging was conducted at three sites. In light of the geology of the area and the limited Village resources, the bedrock aquifer demonstrated the greatest potential for development. Pumping tests and well profiling using one of the bedrock test wells indicated that two new bedrock production wells were feasible and would provide the Village with the needed additional production capacity. The well profiling was also used to identify the bedrock fracture zones and to design cost-effective large-diameter production wells. The project was successful. Two new production wells were installed and now supplement the Village potable water supply.

SERVICES AND RELATED EXPERIENCE

GROUNDWATER MODELING

City of Plainfield, Indiana

The project was to expand an existing wellfield. Increased public water supply demand required the City of Plainfield to expand an existing wellfield. The aquifer system consists of one sand and gravel aquifer overlying impermeable bedrock, and is utilized by both the residential and high-capacity wells in the area. Aquifer performance testing was conducted using the existing production and observation wells to determine the aquifer's transmissivity and storage coefficient. A numerical groundwater flow model was constructed to simulate the mapped regional groundwater flow through the aquifer system. The calibrated model was used to design multiple wellfield configurations that would produce the maximum amount of groundwater with the least amount of interfering drawdown between the production wells and the other residential and high-capacity groundwater production wells in the area. The project was successful and two additional production wells have been installed in the wellfield.

WELL PROFILING

Independence Township, Michigan

Conducted flow and chemical profiling across the 40-foot long well screen of a 12-inch diameter production well. The field work included measuring the

SERVICES AND RELATED EXPERIENCE

screen entrance flow velocity across specific intervals of the well screen using geophysical tools and collecting groundwater samples from specific depths based on the measured flow velocity profile. The data analysis indicated that no flow was contributed by the bottom 4 feet of the screen, but that 78 percent of the flow was contributed by 12 feet of the screen. Groundwater chemistry profiling indicated that the arsenic concentration was evenly distributed across the aquifer, but that the concentrations of manganese and sulfate varied with the highest concentrations in the lowermost screened portions of the aquifer. Recommended the bottom 6 feet of the well to be sealed with neat cement, which improved the water quality observed in the production well discharge and eliminated the septic conditions in the bottom of the well.

LAKE AUGMENTATION WELL PROJECTS

Crooked Lake, Van Buren County, Michigan

Prepared an initial regional study with recommendations for future site-specific work. The site-specific work then commenced with test drilling and installation of observation wells and conducting a 72-hour aquifer performance test using the new augmentation well as the pumping center. Additionally, the interfering drawdown during the 72-hour test was measured in a number of the nearby residential wells due to local concerns of dewatering the aquifer. Analysis of the data was performed using the latest

SERVICES AND RELATED EXPERIENCE

analytical software to determine the aquifer transmissivity and storage coefficient. The hydraulic characteristics were used to model the interference effects of constantly pumping the augmentation well for extended periods of time. Additional components of the study included demonstrating that the groundwater chemistry was similar to the lake water chemistry and proving that pumping groundwater from the new augmentation well would not in effect "recycle" water from the lake. The augmentation well was approved by the MDEQ and construction of the outflow system is in progress.

WELLHEAD PROTECTION PROGRAMS

City of Bryan and Village of Edgerton, Ohio

Responsible for writing and implementing wellhead protection program documents for the communities. The reports were divided into seven components including: contaminant source inventory of the wellhead delineation area, roles and responsibilities, contingency planning, wellhead protection area management, public education and participation, monitoring well network, and new well/ wellfield planning. The previously delineated wellhead areas were reviewed. A list of potential contamination sources within the wellhead area were compiled from a windshield survey and an exhaustive state and federal database search. The roles and responsibilities of the local, state, and federal governments was described and a local planning

SERVICES AND RELATED EXPERIENCE

team with members representing a cross-section of the municipal residents was established to implement the proposed wellhead protection program. A comprehensive contingency plan was written which described specific roles, methods, personnel, and contacts to respond to a wide variety of water supply emergencies. The wellhead management portion of the reports provided example documents, resolutions, and ordinances to implement inspection of existing businesses, and municipal planning for future business and residential development within the wellhead protection area. A critical portion of every wellhead protection program is the education of the residents and businesses, and implementation of activities specifically designed to promote public participation in protecting the wellhead protection area. The reports provide numerous educational materials and a schedule for implementing the educational training and participation programs. The report also provides a complete analysis of areas to target for future wellfield development if expansion, or replacement, of the existing water supplies should be necessary. The final section of the report outlines a plan for installing and sampling an array of monitoring wells designed to detect possible contaminant migration at the one-year and five-year time of travel limits. The underlying purpose of the monitoring well network is to allow enough time to protect the municipal water supply through implementation of remediation solutions or installation of a new wellfield should a contamination threat be detected. Both the City of Bryan and the Village of Edgerton have their wellhead protection programs in place and are implementing the various sections of their respective programs.

SERVICES AND RELATED EXPERIENCE

RAPID INFILTRATION BASIN STUDIES

THREE RIVERS, MICHIGAN

Conducted hydrogeologic and infiltration rate studies to meet compliance with groundwater discharge permitting for a proposed rapid infiltration basin system. Five hollow-stem auger boreholes were drilled to determine the gradient of the water table surface and describe the aquifer and the uppermost confining layer. The borehole locations were designed to take advantage of the local groundwater flow direction and used to construct monitoring wells for future groundwater sampling points. The sediments beneath the proposed basins were sampled with continuous split-spoon and Shelby-tube techniques. Slug testing and was conducted using each monitoring well and constant head permeability tests were conducted on the Shelby-tube samples to determine the horizontal and vertical conductivity of the aquifer. The Shelby-tube samples were also used to establish the basin infiltration rate. Groundwater samples were collected from the monitoring wells to establish the baseline groundwater chemistry and define the future compliance sampling program. The end result of the study was a basis of design and approval of the proposed site for the rapid infiltration basins.

PROFESSIONAL STAFF

➤ **TODD FEENSTRA, PRESIDENT, LPG**

Mr. Feenstra is a licensed professional geologist with over ten years of experience in hydrogeology and surveying. His extensive technical knowledge in a number of areas related to groundwater resources has been applied across the Midwest. As a Senior Hydrogeologist, his expertise includes numerical modeling and analysis, well and wellfield design, hydrogeology, geology, and geophysics. He is responsible for applying his expertise to the planning, organization, and completion of a variety of groundwater-related projects.

Mr. Feenstra has established a reputation for quality work and a mutual respect with regulators and clients in Indiana, Michigan, and Ohio. He is also recognized for implementing practical and cost-effective solutions as a strong client advocate in a variety of projects including groundwater resource development, wellhead protection delineations and programs, and groundwater discharge studies. Additional areas of expertise include water system management plans, well profiling, and lake augmentation well studies.

➤ **JENNIFER FEENSTRA, VICE-PRESIDENT**

Mrs. Feenstra holds a bachelors of science degree in nursing from Trinity College. She is a partner in the company. She currently is responsible for marketing and promotions, maintaining the company financial records and business transactions, and oversight of the office facilities and staff.

PROFESSIONAL STAFF

➤ **JACK FEENSTRA, FIELD TECHNICIAN**

Mr. Feenstra holds a bachelor degree of business from Grand Valley State University and a master degree of business management from Western Michigan University. He has been well-trained in a wide variety of tasks and equipment. He routinely performs and manages aquifer performance tests, collects groundwater samples, and supervises drilling and well construction. His other tasks have included static water level surveys, background hydrogeologic research, and small-diameter pump installation.

➤ **JOSEPH DREGITS, FIELD TECHNICIAN**

Mr. Dregits specialized training has equipped him to perform and manage aquifer performance tests, collect groundwater samples, and conduct field tests for a variety of water quality parameters. He is well-versed in the use of our specialized equipment and a wide variety of software packages.

➤ **NICHOLAS BIGLER, INTERN**

Mr. Bigler currently serves as a college intern while he pursues a bachelor degree at Cedarville University. He complements both our office staff and field staff with an array of tasks. His assigned tasks include hydrogeologic background research, construction of geologic cross-sections, data entry, and analysis of field data from pumping tests and water level surveys. He also assists with the writing and compilation of our bound reports. He is cross-trained for field work. He frequently conducts and manages aquifer performance tests, performs static water level surveys, supervises drilling and well construction, collects groundwater samples, and performs field testing for groundwater and surface water quality.

SELECTED LIST OF CLIENTS

TRITIUM, INC.

- Gas City, Indiana
- Frankenmuth, Michigan
- City of Bryan, Ohio
- Northwest Township, Ohio
- VeraSun – Reynolds, Indiana
- Van Buren County Drain Commission
- ECO USA (Catholic Construction Services)
- Cecil, Ohio
- Signature Development, Michigan
- Fireside Homes, Inc.
- Minnewaukon Lake Association

PREVIOUS CONSULTING POSITIONS

GROUNDWATER MODELING

- City of Elkhart, Indiana
- Harvest Corners Development, Michigan
- Hunt Development, Michigan
- Jackson County, Michigan
- Plainfield, Indiana
- Wynstone Development, Michigan

DRILLING AND WELL CONSTRUCTION SERVICES

- Alcok Drilling, Michigan
- Algoma Township, Michigan
- Amberton Village, Michigan
- Barron Lake, Michigan
- Camp Waterloo, Michigan
- Capac, Michigan
- Cedar Lake, Indiana
- City of Wayland, Michigan

DRILLING AND WELL CONSTRUCTION SERVICES, CONT.

- Clarkston Lakes MHC, Michigan
- Coopersville, Michigan
- Courtland Township, Michigan
- Dorr, Michigan
- Eagle Township, Michigan
- Elkhart, Indiana
- Gaylord, Michigan
- Grand Valley Estates, Ada, Michigan
- Hidden Creek, Holland, Michigan
- Holy Cross (St.Mary's College), IN
- Imlay City, Michigan
- Kankakee Valley, Indiana
- Leoni Township, Michigan
- Middlebury, Indiana
- New Energy Methanol Plant, Indiana
- River Ridge, Michigan
- South Bend, Indiana
- Tyrone Township, Michigan
- Valparaiso, Indiana
- Village of Armada, Michigan
- Village of Concord, Michigan
- Village of Freeport, Michigan
- Village of Middleville, Michigan
- Village of Springport, Michigan
- Walgreens, Highland, Michigan
- Watkins Lake, Michigan

AQUIFER TESTING AND ANALYSIS

- Algoma Township, MI
- Amberton Village, MI
- Barron Lake, MI
- Camp Waterloo, MI
- Capac, MI
- Cedar Lake, IN
- City of Wayland, MI
- Cheboygan, MI
- Chelsea, MI
- City of Manistee, MI
- City of Montague, MI
- City of Wayland, MI
- Clare, MI

AQUIFER TESTING AND ANALYSIS, CONT.

- Clarkston Lakes MHC, MI
- Coopersville, MI
- Copper Hills Development, MI
- Courtland Township, MI
- Dorr, MI
- Eagle Township, MI
- Eaton Rapids, MI
- Elkhart, IN
- Grand Valley Estates, Ada, MI
- Hidden Creek, Holland, MI
- Imlay City, MI
- Independence Township, MI
- Leoni Township, MI
- Lowell, MI
- Merrill, MI
- MHOG, MI
- Middlebury, IN
- New Lothrop, MI
- Oxford, MI
- Plainfield, IN
- River Ridge, MI
- St. John's, MI
- Tyrone Township, MI
- Valparaiso, IN
- Village of Armada, MI
- Village of Concord, MI
- Village of Dexter, MI
- Village of Freeport, MI
- Village of Howard City, MI
- Village of Middleville, MI
- Village of Springport, MI
- Wynstone Estates, MI

WELLHEAD AREA DELINEATION / WELLHEAD PROTECTION PROGRAM

- Amberton Village, Michigan
- Bryan, Ohio
- City of Jackson, Michigan
- City of Wayland, MI
- Edgerton, Ohio
- Harvest Corners Development, Oakland Co.
- Hunt Development, Oakland Co., MI

WELLHEAD AREA DELINEATION / WELLHEAD PROTECTION PROGRAM, CONT.

- Lake Bella Vista Association, MI
- Leoni Township, Michigan
- Southern Michigan State Prison
- Summit Township, Michigan
- Village of Concord, Michigan
- Village of Grass Lake, Michigan
- Village of Napoleon, Michigan
- Village of Parma, Michigan
- Village of Springport, Michigan
- Wynstone Development, Oakland Co.

HYDROGEOLOGIC STUDY

- Alcock Drilling, MI
- Barron Lake, MI
- City of Rockford, MI
- Hidden Creek, Holland, MI
- Leighton Township, MI
- New Lothrop, MI
- Peninsula Township, MI
- River Ridge, MI
- Round Lake, MI
- Village of Edmore, MI
- Village of Freeport, MI

WELL PROFILING

- Baldwin, MI
- Capac, MI
- Independence Twp, MI
- Lawton, MI
- Mattawan, MI
- Plainfield, IN
- Reading, MI
- Watervliet, MI
- Yorktown, IN

RAPID INFILTRATION BASIN STUDY

- Tyrone Township, MI
- Village of Middleville, MI
- Wal-mart, Cadillac, MI
- Wal-mart, Three Rivers, MI
- White Lake Township, MI

SPEECHES AND PUBLICATIONS

OCTOBER 2004

“Aquifers and Production Wells”

FYI – Small Systems

American Water Works Association – Indiana Section

FALL 2005

“Well Profiling – A General Overview”

Michigan Rural Water Association Conference

SPRING 2006

“Well Profiling – Does It Work?”

15th Annual Groundwater Conference

American Water Works Association - Michigan Section

SPRING 2008

“Encouraging Regional Education and Cooperation for
Groundwater Resources Across State, County, and
Township Boundaries”

17th Annual Groundwater Conference

American Water Works Association - Michigan Section

REFERENCES

In addition to the initial reference given by Pat Turnbull, we are pleased the additional references listed below. Each of these references relates to a recent project that is either in progress or that Tritium, Inc. has completed.

City of Frankenmuth, Michigan

(Regional hydrogeologic investigation, fracture trace analysis, wellfield development)

Mr. Charles Graham

989.652.9901

Van Buren County Drain Commission

(Big Crooked Lake – regional and local hydrogeologic studies)

Mr. Joe Parman

269.317.2487

City of Bryan, Ohio

(Sole Source Aquifer Petition, wellfield investigation, wellhead protection program)

Mr. Stephen (Steve) Casebere

419.633.6101

Gas City, Indiana

(Local hydrogeologic study, wellhead delineation, wellhead protection program)

Mr. Ray Smith

765.674.6995

Eco USA

(Wellfield replacement)

Mr. Alex Restaino

914.495.9115