OKI GROUNDWATER COMMITTEE
DECEMBER 1, 2004 - 10:00 A.M.
OKI Board Room
720 East Pete Rose Way (at the corner of Eggleston Avenue)*

AGENDA

1. Welcome/Introductions

2. Announcements

3. Update on Local Groundwater Management Efforts
   Gary Dursch, Todd Kehr, Tim McLelland, Tom Yeager

4. OKI Staff Update

5. Funding Sources for Water Suppliers
   Julie Ward, Rural Community Assistance Program

6. One-Stop Shopping: A Free Interactive Training Tool for Water Suppliers
   Craig Smith, Ohio EPA Division of Drinking and Ground Waters

7. Gravel Mining and Groundwater Supplies
   Bruce Whitteberry, Greater Cincinnati Water Works

ADJOURNMENT

* SEE the MAP and DIRECTIONS on the REVERSE HARD COPY
  (or in separate attachment to email)
Project Planning Funds

- Ohio Water Development Authority (OWDA)
- Village Capital Improvement Fund (VCIF)
- WSOS Safe Water Fund
- EPA Water Pollution Control Loan Fund (WPCLF)
- EPA Water Supply Revolving Loan Account (WSRLA)
- Governor’s Office of Appalachia State Planning Grant
OWDA

- Open Cycle
- Water & Sewer Projects
- No $ Limit
- Easy
- Public Bodies
- Market Interest Rate (5.10%)
- 5-Year Payback

- Rolled Into Construction Financing
- Loans Made Monthly
- Payoff Early
- Villages/Cities Must Levy Fees Or Be Sponsored By Co.
- (614) 466-5822
EPA VCIF

- Villages Eligible
- Open Cycle
- Monthly
- 0% Interest for 3 Years Then 2.2%
- Planning - <$25,000
- Design - <$50,000

- Water Projects; MHI<$40,000
- Sewer Projects;
  0-500 pop: MHI<$40,000
  501-5,000 pop: MHI<$25,375

- Sharon Williamson
  (614) 644-2832
EPA WPCLF

- Wastewater
- Open Cycle
- Nomination Form
- Criteria: Readiness To Proceed Priority

- Loan Made Monthly
- 3.2% Planning & Design
- 2.2% Small Communities With High Economic Need
- 5 Year Term
- Public Bodies
- (614) 644-2832
EPA WSRLA

- Water Projects
- Pre-Application
- Rated
- Priority List

- Construction Within 2 Years
- 3.2% for 5 Years (Planning & Design)
- CAP
- Private & Public
- (614) 644-2752
RCAP WSOS- Safe Water Fund

- Limit $100,000
- 3 years, 4-6%
- Must Benefit LMI
- Available To Public Organizations, Private And Public Non-Profits, & Private For Profits

- Service Area Population Of 25,000 Or Less
- 1-2% Origination Fee
- No Prepayment Fees
- Open Cycle
- John Rauch (740) 989-0596
GOA State Planning Grant

- Must Be 1 Of 29 Appalachian Counties
- Up To $30,000
- 20% Match For Distressed Counties
- 50% Match For Non-Distressed Counties
- Open Cycle
- GOA (614) 644-9228
## Construction Funding

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### OWDA

- Water & Waste
- Loan
- 5.10% Market Rate
- Up To 30 Year Term
- Interest Rate Discounts
- Public Bodies
  - (614) 466-5822

### Community Assist. Fund

- SDWA Non-Compliant Systems
- 2%- 5,000 Or Less
- Criteria: Rates, MHI
- Interest Rate Discounts
- Public Bodies
  - (614) 466-5822
EPA WPCLF

- Wastewater
- 20 Year Term
- Standard Rate 3.35%
- 1 Page Nomination Form
- Open Cycle

- Public Bodies
- Small Community Rate 2.85%
- Hardship Rate 0% population < 2,500 & MHI < $45,500 or 1% pop. 2,500 & 10,000 MHI < $38,000.
- (614) 644-2832
USDA/Rural Development
Water & Waste Disposal

- Loans & Grants
- To Be Eligible For Grant MHI<$37,723
- Loans 40 Year Term
- Reasonable User Rates Required
- Can Get Both Loan And Grant (75% Loan and 25% Grant), % Based On Need

- Interest Rates:
  - Poverty (4.5%)
    MHI<$30,177
  - Intermediate (4.5%)
    MHI $30,178-$37,723
  - Market Rate (4.75%)
- Open Cycle
- Detailed Process
- Timing Issue
- Public & Private
- (740) 373-7113
OPWC Issue II

- Grants, 2% loans, low-interest loans, credit enhancement
- Applications Due Annually To County Subcommittee
- 20 Year Term
- Small Governments
- Very Competitive
- Public Bodies
- More Points For Readiness To Proceed
- (614) 644-1823
EPA WSRLA

- Water Projects
- Pre-Application
- 6 Criteria Basis
- Project Priority List
- 20 Year Term

- Standard Rate 3.35%
- Small System 2.85%
- Disadvantaged 2.0%
- Capacity Assurance Plan
- Private & Public
- (614) 644-2752
ARC

- Promote Econ. Dev.
- 29 Counties Eligible & Any Entity Within
- $300,000 Limit
- 3 Local Development Districts Administer

- Non-Distressed Counties
  50% of total cost
- Distressed Counties
  80% of total cost

(614) 644-9228
ODOD CDBG Water & Sewer Grant

- Open Cycle
- Water & Sewer
- At Least 51% Low-Moderate Income
- Health Or Safety Threat
- $500,000 Plus $100,000 For Onsite

- Minimum 1:1 match
- Existing Rates at least $60 combined
- Local CDBG
- Political Subdivisions
- Must Serve 60% Residential Users
- (614) 466-9105
RCAP WSOS- Safe Water Fund

- Rates & Terms negotiated, 3-6% Up To 10 Years
- Service Area Population – 25,000 Or Less
- LMI Requirements

- Loans Must Be Secured
- Open Cycle
- 1-2% Origination Fee
- No Prepayment Fees
- (740) 989-0596
EDA

- Industrial/Commercial Users
- Water & Wastewater Complex
- Alleviate Unemployment
- 50% Of Project Cost ($500k-$1mill)

EDA Designated Area/ED District
- Local Govt. & Political Subdivisions Eligible
- Criteria: Degree of Distress
- (614) 469-7314
Business Development (412)

- Expediting creation, location or expansion of industrial, distribution, or research facilities
- $1,000 per job created

- Political subdivisions & businesses
- (614) 644-9228
Rural Community Assistance Program (RCAP)

“RCAP’s mission is to assist people in rural America to improve the quality of life in their communities”
Water Quality = Quality of Life

Protect

Public

Health
RCAP Delivery Network

- National Office – RCAP, Inc.

- Six Regional Affiliates
  - SERCAP: Southeast RCAP
  - RHI: Northeast RCAP
  - WSOS: Great Lakes RCAP
  - MAP: Midwest RCAP
  - CRG: Southwest RCAP
  - RCAC: Western RCAP
Background

- Began in 1969 as the National Demonstration Water Project (NDWP)
- Early 1970s expanded to 15 demonstration projects nation wide
- 1979 RCAP, Inc. created with six regional affiliates
Funding and Programs

- **USDA: Rural Utilities Service T & TA**
  - Technitrain
  - Solid Waste Management

- **Environmental Protection Agency**
  - Small Community Wastewater Assistance
  - Safe Drinking Water Assistance
Customers

Elected and Appointed Officials

Utility Owners and Operators

Community Members, Volunteers and Leaders
RCAP’s Strength

Network has over 200 Technical Assistance Providers
- Rural Development Specialist
- Engineers
- Trainers
- Facilitators and Organizational Development Specialists
Building Capacity

RCAP uses water quality issues for public health, community development, and resource protection to build local capacity.

Helps stimulate in local community members the knowledge, skills and motivational attitudes to successfully undertake projects.
Types of Services

- Project Planning
- Facility Development
- Publications
- Management and Finance
- Training
Project Planning

- Identifying
  - Needs
  - Options
  - Costs

- Outlining Project Schedule

- Procuring Professional Services
Facility Development

- Preparing Financing Options
- Determining Rate Impacts
- Writing Grant/Loan Applications
- Meeting Cross Cutting Requirements
Operations & Maintenance

- Inspecting Systems
- Preparing Corrective Action Plans
- Detecting Leaks
- Replacing Equipment
- Installing/Replacing Meters
- Taking Samples
Management & Finance

- Developing Bookkeeping Systems
- Completing Monthly Financial Reports
- Preparing Budgets
- Developing Billing Systems
- Completing Rate Studies
Training

- Developing Curriculum
- Developing Materials
- Conducting Public Outreach
- Identifying Speakers
- Training Board
Publications

- Small System Guide:
  - Rate Setting
  - Safe Drinking Water Act
  - Group & Conflict Management
- How to Select An Engineer
- Newsletters
Impacts 1999

- Assisted 1,904 communities
  - 90% with populations under 2,500

- Total population impacted = 2,668,812

- Total low income households 343,812 or 34% of total 1,002,663
RCAP is About Rural America
About Water Resources
About Rural People
Working Together
To Improve This Source
And This Storage/Treatment
Into Safe Water for the Community
Welcome to Ohio Drinking Water Source Protection

DEVELOPING A
DRINKING WATER
SOURCE PROTECTION
PLAN

Online and CD-ROM Interactive Training Tool

OKI
December 1, 2004
UNIT 3: THE PLAN

3.1 - Drinking Water Source Assessment

3.2 - How to Organize a Local Committee

3.3 - Getting Started

3.4 - Develop an Education and Outreach Plan

3.5 - Addressing Specific Potential Contaminant Sources

3.6 - Ground Water Monitoring

3.7 - Planning For the Unexpected

3.8 - Making The Plan Work
Activity 2.1.4 Identify effects of well pumping

Activity 3.1.3 Surface water delineation
5 Contact Hours !!!!
For More Information

Craig Smith
(614) 644-2752
Craig.Smith@epa.state.oh.us

Allison Reed
(937) 285-6357
Allison.Reed@epa.state.oh.us
Gravel Mining and Ground Water Supplies: Ideas for Discussion

OKI Groundwater Committee
Meeting December 1, 2004
Bruce Whitteberry, P.G.
Hydrogeologist
Greater Cincinnati Water Works
Sand and Gravel Trivia

• Ohio is 4th in the production of construction sand and gravel and 9th for industrial sand and gravel.

• Butler County Ranks #1 for sand and gravel production in State, Hamilton County Ranks #2.

• Value of sand and gravel sold in Ohio was $248,375,368 (2002).

Source: ODNR 2002 Report on Ohio Mineral Industries
Competitive Uses

A good aquifer is often the same area which can be used for sand and gravel production.

As undeveloped land becomes more and more scarce, S&G mining and well fields will compete for the same land.
Dry Mining – Unconsolidated material is above the water table. Water may also be pumped so that mining can take place below the water table.

Wet Mining – All mining is conducted without dewatering the pit. Draglines, clamshells, and vacuum dredges are commonly used to remove the material.
Risks To Drinking Water

• Water Quantity

  – Dewatering (pumped pits)

  – Loss of quantity from re-introduction of fines into the pit. The extent of this risk is unknown.

  – Increased Evaporation (a concern in dry climates)
Risks To Drinking Water cont.

• Water Quality
  – Loss of topsoil and aquifer media – no mechanism for natural water purification
  – Contamination from machinery or subsidiary on-site manufacturing (fuel, lubricants, solvents, cement batch plants, asphalt plants)
  – Avenue for contamination to enter the aquifer (accidental or illegal dumping, runoff, flooding, air transport)
Ohio Surface Mining Law
(ORC 1514)

- Regulated by Ohio Dept. of Natural Resources
- 2002 Updates provide additional permit requirements for in-stream mining
- Required reclamation is limited to grading, re-vegetation, and removal of equipment and debris.
- Reclamation bond of $1,000/acre. This cannot be increased or decreased by local authorities.
- GW modeling requirements for dewatering operations (cone of depression only)
- Water quality and proximity to public water supplies is not addressed.
Guidance to reduce water quality risk from a 2-inch hole in the ground
How a River Differs from a Gravel Pit

Pumping Well

River

Water filtered through riverbed

Less Resistance to Flow

Gravel Pit

What happens here?
But…

To date, we are not aware of a single case of a gravel pit directly causing water quality harm to a public water supply.

So what’s the worry??
Increased Risk (and Responsibility)

- Greatest Risk is increased vulnerability to peripheral contamination – not from the act of mining itself.
- We know historically that misuse of gravel pits have resulted in ground water contamination (e.g. landfills)
- Short-Term Management (during mining)
- Long-Term Management (indefinitely)
Some Things We Don’t Know (but probably should)

• What is the effect of dilution?
• What are the flow dynamics in the pit?
  - Water filtered through riverbed
  - Less Resistance to Flow
• How does the ambient water quality of the pit compare to the aquifer?
• What happens at the aquifer/pit interface?

What Is A Safe Separation Distance Between a Gravel Pit and a Production Well?
Avenues For Risk Reduction
Implementation

State Regulation

Local Regulation (County/Township Zoning)

Negotiation

Political/Public Pressure
Risk Reduction Options

• Education (land owners and mining operations)
• Local ordinances (chemical storage and operation)
• Proactive Property Purchase
• Setback Distances
  – Property purchase
  – Negotiated or required setbacks
• Berms
  – Reduces potential for contamination
  – May violate FEMA regulations
  – May be problematic in areas of poor drainage
Risk Reduction Options cont.

- Specific Placement of Fines Back into the Pit
  - We don’t know if this really works
  - May reduce recharge to the well field
- Water Quality/Quantity Monitoring
  - Early warning system
  - Measure degradation to water supply
- Contamination Bond
- Deed Restrictions (long-term management)
- First-Right-of-Refusal
- Conservation Easements
Questions for Consideration

• How can water suppliers work with other agencies and organizations to minimize risk from surface mining?

• What other risk reduction options could be utilized?

• What are the most pressing technical questions to be answered?
OKI GROUNDWATER COMMITTEE MEETING SUMMARY
Wednesday, December 1, 2004
OKI Board Room

Attendees:

Jim Fox, Chair          Village of Indian Hill
Mary Moore, Vice Chair  Butler Co. Dept. of Environmental Services
Peg Collins             League of Women Voters
Dan Cloyd              Ohio EPA - Southwest District
Barry Conway           City of Springboro
J. Dwight Culbertson   City of Fairfield
Gary Dursch            City of Middletown
Mike Ekberg            Miami Conservancy District
Carl Gatton            Warren County Water Service
Brian Gibson           Clermont County General Health District
Mariano Haensel        Ohio EPA – Southwest District
Todd Kehr              City of Trenton
Scott Kirk             Western Water Company
Jim Koch               Clermont County Water
Tim McLelland          Hamilton to New Baltimore Groundwater Consortium
Robert Marsh           Southwest Regional Water District
Bruce Pletsch          Miami Conservancy District
Allison Reed           Ohio EPA – Southwest District
Dick Renneker          Warren County
K.D. Rex               Hamilton Co. Regional Planning Commission
Ken Shearwood          Village of New Richmond
Craig Smith            Ohio EPA, Central Office
Ray Snider             Village of Felicity
Dean Walden            Village of Lockland
Julie Ward             Rural Community Assistance Program
David Weihrauch        City of Oxford
Bruce Whitteberry      Greater Cincinnati Water Works
Scott Wilson           Butler County Health District
Tom Yeager             Clermont Co. Water & Sewer

OKI STAFF
Bruce Koehler, Fran Malone, Bill Miller, Jane Wittke

Welcome and Introductions
Jim Fox called the meeting to order at 10:00 a.m. Everyone introduced themselves.
Announcements
The next Groundwater Committee meeting is scheduled for March 2, 2005 at the OKI offices.

*K.D. Rex of the Hamilton County Regional Planning Commission* announced the availability of *State of the County* reports on CD. These reports contain all kinds of demographic and analytical information for Hamilton County, including population trends, and are available upon request as part of the recently completed Community Compass study. KD made several copies of the CD available at the meeting. She can be reached at 513-946-4467 or kd.rex@hamilton-co.org.

**Ohio EPA Southwest District staff** announced that their office will be providing free training on the new arsenic regulations and complying with them. While the date has not been finalized, the training will probably be scheduled for February 16 or 23, 2005. The training will provide at least 2 contact hours. In addition, the district anticipates offering free training on backflow prevention sometime in March, April, or May.

**Updates on Local Groundwater Management Efforts**
*Gary Dursch, City of Middletown*, reported on the city’s work with wellhead protection and remediation. Middletown is attempting to get passage of an overlay zoning ordinance similar to the City of Dayton’s for wellhead protection. The City is also dealing with two groundwater pollution plumes. One is a plume of Tetrachloroethene (PCE) south of the wells and heading away from them. The other is a plume of Trichloroethene (TCE) north of the wells and heading toward them. Through securing a $3 million Clean Ohio grant, work will begin in 2005 on bio-remediation of the TCE problem. A material called CL-OUT will be injected in slurry form into more than 100 wells, and remediation below the Maximum Contaminant Level (MCL) is expected within a year. If this process works as well as expected, Middletown will consider using it to clean up the PCE in the southern part of the aquifer.

*Tim McLelland, Hamilton to New Baltimore Groundwater Consortium*, announced that the Consortium is planning a Great Miami River Clean Up from Middletown to Colerain Township for July 22-23 next year. He also announced that the Consortium had been nationally recognized for the eighth consecutive year with a Groundwater Guardian award, and that Bruce Whitteberry’s monitoring work had been nationally recognized as well. In addition, the Butler County Water Festival in mid-October was attended by more than 900 students, and was the most highly rated ever.

He commented that the housing development proposed in St. Clair Township in Butler County over a sensitive part of the aquifer is still under study by the County Engineer’s office, in an attempt to identify potential groundwater impacts. A report on perchlorate is also in the works from a consultant to the Consortium. Since May Fairfield has detected levels no greater than 2 parts per billion (ppb) in its wellfield. The National Academy of Sciences report with a recommended maximum contaminant level (MCL)
for perchlorate is due in January, though U.S. EPA has the authority to set the MCL. The Consortium has heard some preliminary indications that the MCL for perchlorate could be as high as 10 ppb.

**Tom Yeager, Clermont County Water and Sewer**, described some recent County initiatives. The Pierce-Union-Batavia (PUB) wellfield is the largest in Clermont County. The County will soon be testing to see if expansion of this wellfield is possible, and the installation of test wells should begin sometime in January.

In another case, the County has been trying to expand wastewater treatment capacity in the vicinity of Miamiville, so that centralized wastewater treatment can replace the dry well septic systems in that area, which present a potential pollution risk for residential and public water supply wells. Local residents have been very resistant, however, even though both drinking water and wastewater personnel from Ohio EPA have been involved with siting and public communication issues. Because of local resistance to a Miamiville wastewater treatment plant, the County is now proposing a greatly expanded wastewater treatment plant at Wards Corner, which would increase treatment capacity from 135,000 gallons per day to 2 million gallons per day. A hearing on the discharge permit for the proposed Wards Corner expansion is scheduled for January 5.

**Todd Kehr, City of Trenton**, described plans underway to keep up with water demand from the City’s rapid growth. Currently the City has a 1 million gallon storage tank dating back to 1977, wells dating back to 1957 and 1977 that were rehabbed in 2000, other wells installed in 1975 and 1997, and approximately 3800 connections with a pumping capacity of 1.7 MGD. The consulting firm URS has prepared a master plan for a 3 MGD water plant that could be expanded to 6 MGD with the possibility of nitrate removal, which will be constructed in February 2005 and will draw from the upper aquifer. Plans also call for system expansion to 42 miles of water main, and a contract for system expansion is already out, that would involve ion exchange and softening.

**OKI Staff Updates**

**Bruce Koehler** reminded the group that OKI is working on a Great Miami Runoff Reduction Project with $65,000 in federal Watershed Initiatives funding passed through by the Miami Conservancy District (MCD). The project will involve installing and evaluating the effectiveness of a pervious parking area and rain garden at Heritage Park, a Colerain Township recreation area along the Big Bend of the Great Miami River.

Lysimeters for monitoring have been installed, but additional project work is pending federal approval of a Quality Assurance Project Plan (QAPP) for the monitoring and evaluation component of the project. U.S. EPA has raised questions at a level of detail that might be expected for a much larger project, so OKI and project partners, working through MCD, have revised the QAPP and supplemented it with an addendum on Data Quality Objectives.
In addition, Bruce thanked committee members who have already provided or verified information on their water service areas and intakes. He said that with continuing cooperation from the remaining water suppliers, he expected to finalize an updated water service areas map for southwest Ohio in the next few months.

*Jane Wittke* said that on October 14, the OKI Board approved the Groundwater Committee’s September 8th request to pursue state funding for regional water quality management, such as the work of the Groundwater Committee. She noted that both Jim Fox and Mary Moore had given excellent presentations to the OKI Board about the committee and its work, and that the Board’s vote for support had been unanimous.

She also updated the committee on the work of OKI’s Land Use Commission and their efforts to bring about more consistency between land use planning, a local function, and transportation planning, a primarily regional function where major federal dollars are concerned. In January of 2005 the Land Use Commission will review draft policies for six categories of issues. These six categories include public facilities and services such as water and sewer, and natural systems in the environment. If the OKI Board agrees, draft policies for these and other categories will be taken out for broader review in the winter and early spring, by the public and potentially affected groups such as the Groundwater Committee.

**Funding Sources for Water Suppliers**
*Julie Ward, Rural Community Assistance Program (RCAP)* gave an in-depth presentation on sources of funding for water suppliers in Ohio, summarizing types, amounts available, eligibility and criteria for a variety of resources. She also described the work of RCAP in assisting rural communities with water project planning, facility development, management and finance, training and publications. A copy of her PowerPoint presentation is attached, along with several handouts she provided.

**One-Stop Shopping: A Free Interactive Training Tool for Water Suppliers**
*Craig Smith, Ohio EPA Division of Drinking and Ground Waters,* walked through highlights of a free interactive training CD on developing a Drinking Water Source Protection Plan. He explained that for those who score 70% or better on the test at the end of the CD, Ohio EPA will award 5 contact hours of credit. He noted that the CD also includes operator basics for groundwater systems for Class A operators. Craig made copies of the CD available at the meeting, and announced that copies could be requested through him (Craig Smith, 614- 644-2752) or through Allison Reed (937-285-6357). It is also available through the Ohio EPA website at [www.epa.state.oh.us/ddagw/pdu/SWAP-html](http://www.epa.state.oh.us/ddagw/pdu/SWAP-html). A copy of Craig’s Power Point presentation is attached.

**Gravel Mining and Water Supplies**
*Bruce Whittleberry, Greater Cincinnati Water Works,* described some of the issues associated with gravel mining near water supplies, a frequent occurrence in
southwest Ohio, where buried valley sand and gravel aquifers are prominent. He touched on some of the potential risks to drinking water quantity and quality presented by mining operations and the increased risk of peripheral contamination rather than through the act of mining itself. He also mentioned some aspects of Ohio Surface Mining Law as they relate to water quantity, and the fact that it is difficult to know a safe separation distance between a gravel pit and a production water well. In conclusion, Bruce presented some information on potential risk reduction options and raised some general questions for consideration:

--How can water suppliers work with other agencies and organizations to minimize risk from surface water?
--What other risk reduction options could be utilized?
--What are the most pressing technical questions to be answered?

A copy of his Power Point presentation is attached.

Following Bruce Whitteberry’s presentation, Jane Wittke commented that a presentation to explore such issues further would be given at the next Groundwater Committee meeting on March 2, 2005, by Tom Hines, Manager of Permitting, Hydrology and Bonding from the Ohio Department of Natural Resources (ODNR), Division of Mineral Resource Management, who would clarify current state law and regulation of gravel mining. She said that if committee members had questions they would like her to take to Mr. Hines before his presentation, so that he could attempt to address them on March 2, she would be happy to do so.

The following questions were raised in response to her invitation:

--How can local governments do effective planning with industry for the beneficial reuse of abandoned gravel pits?
--Have there been any large-scale studies of micro-organic contamination affecting public wells near gravel mining, considering different hydrological regimes?
--Does Mr. Hines have any insight into the dynamics of the 2002 state update of gravel mining regulations, especially the $1,000/per acre cost limit for reclamation, and when the next update might occur?
--Are there any resource projections, any modeling or attempted tracking of an end point for sand and gravel mining in southwest Ohio? I.e. when sand and gravel mining will no longer be viable but its aftermath will exist?
--Does ODNR work with Ohio EPA in approving permits for mineral mining?

**Adjournment**

After a reminder that March 2, 2005 is the next meeting date, the meeting was adjourned at noon.