



National Ground-Water Monitoring Network

Advisory Committee on Water Information—Subcommittee on Ground Water

National Ground-Water Monitoring Network Cooperative funding opportunity

2024 NGWMN Funding Opportunity

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Outline

- Brief background on NGWMN
- Information on FY2024 Funding Opportunity
- Review of FY2024 Program Announcement Application
 - Format
 - Objectives
 - Examples of funded work under each objective
- New Proposal Checklist
 - Review sections
 - Examples
 - Additional reminders

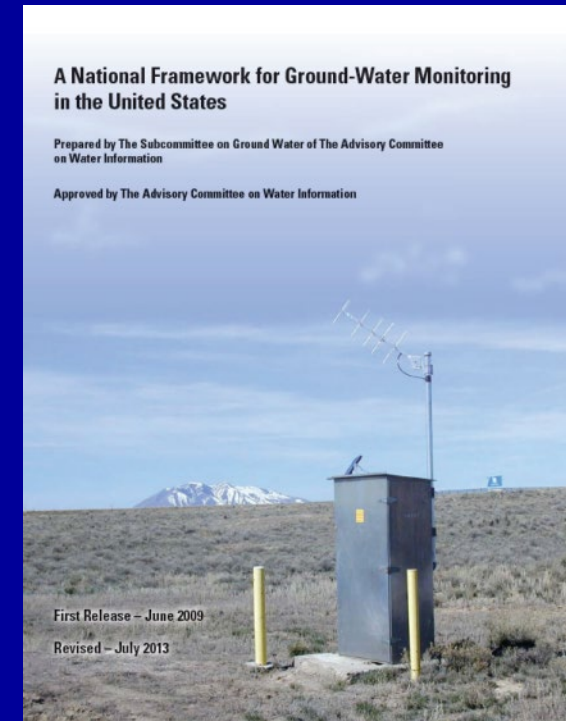


National Ground-Water Monitoring Network

- The Subcommittee on Ground Water (SOGW) of the Advisory Committee on Water Information (ACWI) worked to establish the National Ground-Water Monitoring Network (NGWMN)
- Recognized need for data to assess groundwater conditions nationally and regionally
- Network currently serves data from over 40 contributing agencies
 - Nearly 18,000 water-level sites
 - 4,000 water-quality sites

Framework Document

- Design for a collaborative National GW Monitoring Network
- Subnetworks
- Guidance for Field Methods
- Guidance for Minimum Data Elements, Standards, & Management
- Implementation Plan and Recommendations
- Initial version in 2009. Revised in 2013 after pilot phase completed





NGWMN Design Elements

- Principal and major aquifer scale
- GW levels and quality, focus on availability
- Willing data providers: State, Federal, Tribes, others
- Priority on sites with long-term data
- Network, not a Warehouse or Master Database
- Sites selected and classified by local experts/data providers
- Sites stored in NGWMN Well Registry
- Data provider is the authoritative data source



Cooperative funding agreements to support NGWMN data providers

- Authorized as part of Secure Water Act of 2009
P.L. 111-11 SECURE Water Act 2009
- Established under CFDA 15.980
- Funding opportunity available to State or Local groundwater resource agencies
 - Federal agencies, Tribes, institutions, and companies may contribute data, but are not eligible for funding
- Funded annually through Congressional appropriations

More Information

- NGWMN [Cooperative Agreements page](#) on Portal
 - Summaries of past projects
 - Link to application package
 - Links to Informational Sessions
 - October 19th
 - November 17th
 - December 14th
 - Resources for Proposals
 - Spreadsheet with budget template
 - Spreadsheet with example budgets
 - Shapefile current NGWMN sites
 - Shapefiles of Principal Aquifers and Glacial aquifers
 - Proposal Checklist

National Ground-Water Monitoring Network

The National Ground-Water Monitoring Network (NGWMN) started as a product of the Subcommittee on Ground Water of the Federal Advisory Committee on Water Information (ACWI). The NGWMN is a compilation of selected groundwater monitoring wells from Federal, State, and local groundwater monitoring networks across the nation. The design for the National Ground-Water Monitoring Network is presented in the document ["A National Framework for Ground-Water Monitoring in the United States"](#).

The [NGWMN Data Portal](#) provides access to groundwater data from multiple, dispersed databases in a web-based mapping application. The portal contains current and historical data including water levels, water quality, lithology, and well construction. The NGWMN is currently in the process of adding new data providers to the Network. Agencies or organizations collecting groundwater data can [find out more about becoming a data provider for the Network](#).

Funding to support data providers to the National Ground-Water Monitoring Network is provided through USGS Cooperative Agreements. Agencies can also find information about the status of the [USGS cooperative agreements](#).

New (10/6/2023): The 2024 NGWMN Funding Opportunity is currently open. Interested agencies may apply online at [Grants.gov](#) under funding opportunity number [G24AS00405](#). More information about the cooperative agreements is available on the [NGWMN Cooperative Agreements](#) page. Applications will be accepted from October 2, 2023, through January 18, 2024.

Three information sessions are scheduled to answer questions about the funding opportunity. The sessions will be held in Teams meetings. You can access the sessions using the links below.

[October 12, 2023, at 3 pm ET](#)

[November 15, 2023, at 1 pm ET](#)

[December 13, 2023, at 12 pm ET](#)

For questions about the funding opportunity, please contact: Jason Fine at jjfine@usgs.gov, (919) 817-5395

CURRENT NETWORK:

| |
|--------------------------|
| 17667 water-level wells |
| 4071 water-quality wells |
| 10 subnetworks |
| 37 contributing agencies |
| 54 administrative units |
| 65 principal aquifers |



Funding Opportunity for 2024

- Application period is open from October 2, 2023 through January 18, 2024
- Six objectives are supported
 1. Support to become a new data provider
 2. Support persistent data service from existing data providers
 3. Filling gaps in information at NGWMN sites
 4. Well Maintenance
 5. Well Drilling
 6. Purchase equipment for continuous water-level data collection
- The last three objectives are only available to current data providers

Major changes

Objectives

- Applicants for enhancement funding are encouraged to have an active Persistent Data Services project or apply for one as part of the current proposal.
- Data must be flowing to receive/apply for funding under Objectives 3-6.
- Objective 2
 - Updated funding limits for Objective 2a for agencies serving more than 500 sites. This funding may be up to \$40,000 per year and must be explained and justified in the work plan
- Objective 5
 - Clarified that purchase and installation of continuous water-level monitoring equipment under this Objective can only be for new wells constructed under this Objective

Proposal Evaluation

- Clarified items that will result in an objective or proposal being ineligible
- Equipment with a single item cost of \$5,000 or more will need a quote submitted with the proposal
- Removed four-page limit for Data Management Plans

Grants.gov Application Package

[Grants.gov 2024 page](#)

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 **G24AS00405**
Groundwater and Streamflow Information Program, National Ground-Water Monitoring Network
Department of the Interior
Geological Survey

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SYNOPSIS | VERSION HISTORY | RELATED DOCUMENTS | PACKAGE

[Print Synopsis Details](#) ?

General Information

| | |
|--|--|
| Document Type: Grants Notice | Version: Synopsis 1 |
| Funding Opportunity Number: G24AS00405 | Posted Date: Sep 29, 2023 |
| Funding Opportunity Title: Groundwater and Streamflow Information Program, National Ground-Water Monitoring Network | Last Updated Date: Sep 29, 2023 |
| Opportunity Category: Discretionary | Original Closing Date for Applications: Jan 18, 2024 Electronically submitted applications must be submitted no later than 4:00 p.m., ET, on the listed application due date. |
| Opportunity Category Explanation: | Current Closing Date for Applications: Jan 18, 2024 Electronically submitted applications must be submitted no later than 4:00 p.m., ET, on the listed application due date. |
| Funding Instrument Type: Cooperative Agreement | Archive Date: |
| Category of Funding Activity: Natural Resources | Estimated Total Program Funding: \$1,700,000 |
| Category Explanation: | Award Ceiling: \$300,000 |
| Expected Number of Awards: | Award Floor: \$5,000 |
| CFDA Number(s): 15.980 -- National Ground-Water Monitoring Network | |
| Cost Sharing or Matching Requirement: No | |

Eligibility

Eligible Applicants: State governments
County governments
City or township governments
Others (see text field entitled "Additional Information on Eligibility" for clarification)

Additional Information on Eligibility: Applicants can be state or local water-resource agencies which collect groundwater data.

VIEW GRANT OPPORTUNITY



G24AS00405

Groundwater and Streamflow Information Program, National Ground-Water Monitoring Network
Department of the Interior
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SYNOPSIS

VERSION HISTORY

RELATED DOCUMENTS

PACKAGE

Print Related Documents List 

Click on the following file link(s) to download the related document(s):

| File Description | File Name | Last Updated Date/Time | File Size |
|---|--|------------------------------|-----------|
| Folder: Full Announcement - Full Announcement | G24AS00405-Full Announcement - Full Announcement.zip | Sep 29, 2023 07:22:08 AM EDT | 1.0 MB |
| NGWMN_FY2024_Program_Announcement.pdf | NGWMN_FY2024_Program_Announcement.pdf | Sep 29, 2023 07:22:08 AM EDT | 1.1 MB |
| Folder: Other Supporting Documents - Other Supporting Documents | G24AS00405-Other Supporting Documents - Other Supporting Documents.zip | Sep 29, 2023 07:24:16 AM EDT | 970.3 KB |
| NGWMN_FY24_Attachment_A_Proposal_Information_Summary.pdf | NGWMN_FY24_Attachment_A_Proposal_Information_Summary.pdf | Sep 29, 2023 07:23:05 AM EDT | 93.6 KB |
| NGWMN_FY24_Attachment_B_Example_Budgets.pdf | NGWMN_FY24_Attachment_B_Example_Budgets.pdf | Sep 29, 2023 07:23:21 AM EDT | 438.4 KB |
| NGWMN_FY24_Attachment_C_Proposal Checklist.pdf | NGWMN_FY24_Attachment_C_Proposal Checklist.pdf | Sep 29, 2023 07:23:39 AM EDT | 96.4 KB |
| NGWMN_FY24_Attachment_C_Proposal Checklist.xlsx | NGWMN_FY24_Attachment_C_Proposal Checklist.xlsx | Sep 29, 2023 07:23:57 AM EDT | 25.0 KB |
| NGWMN_FY24_Attachment_C_Proposal Checklist_header.pdf | NGWMN_FY24_Attachment_C_Proposal Checklist_header.pdf | Sep 29, 2023 07:23:29 AM EDT | 78.0 KB |
| NGWMN_FY24_Attachment_D_Terms_and_Conditions.pdf | NGWMN_FY24_Attachment_D_Terms_and_Conditions.pdf | Sep 29, 2023 07:24:16 AM EDT | 306.3 KB |



Application Process

- Applications need to be submitted electronically on Grants.gov under funding opportunity number [G24AS00405](#)
- Application needs to be submitted by someone with appropriate authority
- Need to be registered with Grants.gov
- Note that registration of new users can take up to three weeks. Suggest starting this process as soon as possible
- Program Announcement contains details on the Electronic Application Requirement



Application package components

- Proposal Information Summary
 - Be sure to use the format shown in Attachment A of Program Announcement.
 - Project title should be same as that used in Form SF-424
 - Only list one Principal Investigator
 - **New DOI grants system requires very specific information. If you change the Proposal Information Summary format, you may not be providing the information we require which could slow down or disqualify your proposal**
 - Make sure proposed start and end dates match those in Program Announcement
 - **A table that shows funding, match, and total funding for each objective in the proposal**



Application package components

- Proposal
 - Background information
 - Description of Agency and purpose of monitoring
 - Description of the Agency's existing monitoring networks
 - Describe previous projects with the NGWMN. Include a table of funds awarded by Objective
 - Describe your IT Infrastructure
 - Project Summary
 - Statement of overall purpose of the project. List objectives.
 - Brief description of the work proposed under each objective (1-2 sentences per objective)
 - Briefly describe the project deliverables and expected outcomes (one paragraph)
 - Describe any work that will be done by contractors or performed by another agency
 - Workplan for work under each proposed objective
 - Detailed requirements for the workplan for each objective are described below



Project Description

- For each objective:
 - Work plan
 - Describe the need for the work
 - State the benefits of the work to the NGWMN
 - Provide a detailed list of tasks
 - Should include details on staffing, travel, contracts, etc. to support items in the detailed budget
 - List of tasks should be the same as that in the detailed budget and timeline
 - Include table of sites for which the work will be done
 - Other requirements for the work plan are specific to the objective and are described below



Application package components

- Overall Project Budget
 - Use format shown in Attachment B of Program Announcement
- Detailed Budget for each objective
 - Make sure to use formats shown in Attachment B of the Program Announcement.
- Timeline for each objective
- Data Management Plan
 - Describe data collection and data management for routine data collection
 - If data is collected as part of the workplan of any objective, the data collection and data management of that data should also be included in the Data Management Plan
- Staff Qualifications
- Supporting Letters
 - USGS Cooperative Projects
 - Projects working with other agencies
 - Other letters of support to show need (not required)
- NGWMN Proposal Checklist



Objective 1: Support to become a new data provider

- Perform work necessary to become a data provider to the NGWMN. Costs typically range from \$30,000 to \$60,000 of USGS funds
- Specific workplan elements
 - Select and classify sites for the NGWMN
 - Provide required data elements for selected sites.
 - Populate the NGWMN Well Registry with site Network information
 - Identify gaps in required data elements for selected sites
 - Connect databases to portal using web services
 - Water Level, Water Quality, Lithology, Well Construction
 - Document field and data management practices
 - Prepare a brief report documenting project. This report will be used to populate the data provider page elements.



Examples of Funded Objective 1 work

- Setting up new web services
 - Can include software or licenses to help facilitate serving data
- Selecting sites for network
- Classifying sites for network
- Entering sites in to NGWMN Registry
- Documenting field and data management practices
- Documenting work in project final report
 - All objectives



Objective 2: Support persistent data service from existing data providers

- Part A
 - Perform activities necessary to maintain persistent data services from agency databases to the NGWMN Portal
 - Generally, from \$5,000 to \$20,000, but can be a maximum of \$40,000 if you have more than 500 sites in the Network and you justify the need.
- Part B
 - Occasional work needed to upgrade services or add new services or large number of new sites
- Specific workplan elements
 - Maintain list of sites in Well Registry (Part A)
 - Keep site information updated (Part A)
 - Populate data elements for new sites (Part A)
 - Maintain web services connection to Portal (Part A)
 - Routine updates to metadata (Part A)
 - Describe additional work (Part B)
 - Example: update web services because of database changes
 - Document work in report

Examples of Funded Objective 2 work

- Persistent data services to keep sites up to data and data flowing to NGWMN
- Adding new sites to fill NGWMN gaps
- Adding new web services
- Updating web services
 - New databases
 - Update services to use established XML data standards (WaterML2, GWML2, WQX)



Objective 3: Filling gaps in information at NGWMN sites

- Perform work necessary to fill metadata gaps in the required data elements listed in the NGWMN Framework Document.
- Allowable work includes
 - Data collection to fill metadata gaps (logging, GPS, sounding)
 - Data entry to fill metadata gaps (entry of lithology from logs)
 - Data entry to fill NGWMN data gaps (entry of historic data)
- Specific workplan elements
 - Description of the information gap
 - Planned approach to fill the gap
 - Description of field techniques, provide references
 - Include a table of sites
 - Include a map of sites
 - Describe plan to quality assure any new data
 - Document gap filling activities in the final report for the project

Examples of Funded Objective 3 work

- Data entry to fill gaps
 - Entry of historic data
 - Lithologic log data entry
 - Metadata updates
 - Well construction details
- Data collection to fill gaps
 - Lithology
 - Borehole camera logging
 - Well Construction details
 - Borehole camera logging
 - GPS updates
 - well location
 - land surface elevation



Objective 4: Well Maintenance

- Perform maintenance of wells in the NGWMN to ensure that data are of high quality.
- Specific workplan elements
 - Describe the need for the maintenance
 - List the proposed activity at each well, describe approach
 - Include a table of sites
 - Include a map of sites
 - Include paragraph for each well describing need for work and planned approach
 - Document activities in the final report for the project

Examples of Funded Objective 4 work

- Well integrity testing
 - Costs of software to analyze data
- Periodic pumping
- Borehole video investigation of well issues
- Well redevelopment
- Site repairs
 - Reconstruction
 - Rehabilitation
 - Well head repairs
- Secure site
 - Surface casing installation or repair
 - Fencing to secure site

Objective 5: Well Drilling

- **Install wells to enhance or maintain the NGWMN.**
- **Specific workplan elements**
 - Provide justification for each well. Include paragraph for each well describing need for well and how it fills a gap
 - Describe proposed drilling methods. Include references
 - Include drilling cost for each proposed well. Justify expensive methods
 - Provide a table of proposed wells
 - If the well is to be a replacement well for an existing NGWMN site, please list the existing site name and NGWMN number
 - Describe who will be drilling the well and that you will meet state guidelines
 - Document well drilling activities in the final report for the project
 - Suggest including a well construction diagram for proposed wells
 - Continuous water-level data collection is required at all wells that will be added to the Water-Level network

Examples of Funded Objective 5 work

- Drill new wells to fill gaps in NGWMN water-level or water-quality monitoring networks
- Drill replacement wells for current NGWMN sites
- Collection of minimum data elements at new wells
 - Geophysical logging
 - GPS surveys
 - Well Integrity testing
- Installation of continuous monitoring equipment at new wells

Objective 6: Equipment Purchase

- Purchase equipment to support continuous water-level monitoring at NGWMN sites.
- Allowable work includes
 - Cost to purchase equipment for continuous water-level monitoring. Pressure transducers, data loggers, cables, etc. Can also be used to purchase barologgers to support non-vented cables.
 - Can include costs to install equipment and travel for installation
 - Subject to per well limit that includes equipment, salary, and travel
 - For non-telemetry sites, the limit is \$2,000 per well
 - For Telemetry sites, the limit is \$4,000 per well
 - Costs above the limits above can be used as in-kind services match
- Specific workplan elements
 - Description of need for equipment purchase
 - Description of how equipment fills gaps
 - Include table of equipment that will be purchased
 - Include table showing each well for which equipment would be purchased
 - Document equipment purchase work in final report

Examples of Funded Objective 6 work

- Upgrade sites to continuous monitoring
 - Upgrade periodic wells to continuous monitoring
 - Add continuous water-level monitoring to water-quality network sites
- Replace continuous monitoring equipment at current NGWMN sites
 - Replace wells using shaft encoders to use pressure transducers
 - Upgrade to current DCP standards
 - Replace aging equipment

Project Report Requirements

- Described in Attachment C, Section 5 of Program Announcement
- New data provider projects
 - Summarize work done for the Project
 - Describe networks
 - Site selection approach
 - Site classification approach
 - Describe data collection techniques
 - Describe methods for quality assurance of data
 - Description of web services
- Existing data provider projects
 - Describe work to provide persistent data service
 - Web service status
 - Planned upgrades in databases that could affect portal
 - Document any work done under Part B
 - Describe any work done for the last 3 objectives
 - Site information gap filling
 - Well Maintenance
 - Well Drilling

Project reporting deadlines

- Described in PA and in Attachment C (Terms and Conditions)
 - Final reports are due 120 days after end date of project
 - Financial reports are due 120 days after end date of project
 - For multi-year projects, a project update report is required each year (60 days after first year of project)
 - Requests for project extensions must be submitted 30 days prior to end date of project



Proposal Evaluation

- Each objective proposed will be evaluated and ranked by the NGWMN Program Board using the following criteria
 1. Proposal quality
 - Considers the overall quality of the proposal.
 2. Relevance
 - Considers relevance and importance of the activity as it relates to the USGS NGWMN Program goals.
 3. Technical quality
 - Considers the merit of the proposed approach, chance of success, attentions to NGWMN requirements, and completion of previous project.
 4. Budget
 - This factor considers whether the proposed budget reflects the level of effort required to accomplish the work. Also considers whether the budget use the prescribed formats and contain adequate detail on tasks.

Section E1 of the Program Announcement lists the criteria and specific considerations for review. **These have been revised to match up with items in the new NGWMN Proposal Checklist**

Proposal Checklist

- A proposal checklist must be submitted along with the proposal. This checklist contains items that should be verified prior to submission of the proposal. The checklist must be completed by the Principal Investigator listed for the proposal.
- Categories
 - General Requirements
 - Maps and Tables
 - Budgets
 - New Data Provider Project Requirements
 - Objective requirements
 - Requirements for specific objectives

Will show the checklist for each of these categories

Review bulleted list of checklist items (with details)

Will show examples for each category

Additional reminders for some sections

Checklist header

- Header includes state, agency, and principal investigator name
- Gives instructions for checklist
- Submission deadlines
- Review eligibility guidelines
- Objectives that do not have a detailed budget will not be reviewed

| NGWMN Proposal Checklist | | | | | | | |
|--|----------|---------------------------------|----|----|---|---|---|
| State | | | | | | | |
| Agency | | | | | | | |
| Principal Investigator Name | | | | | | | |
| Checklist items (Enter 'Y' or 'NA' in each green box) | Overall | Objectives included in Proposal | | | | | |
| | Proposal | 1 | 2A | 2B | 3 | 4 | 5 |
| Reminders | | | | | | | |
| Proposal must be submitted by 4 pm EST on the proposal due date. Late proposals will not be considered for funding | | | | | | | |
| Check applicant eligibility requirements in section C1 of the Program Announcement to be sure you are eligible for funding | | | | | | | |
| Proposals that do not include a detailed budget for each Objective applied for will not be reviewed | | | | | | | |

General Requirements

| Checklist items (Enter 'Y' or 'NA' in each light grey box) | Overall Proposal | Objectives included in Proposal | | | | | |
|--|---------------------|---------------------------------|----|----|---|---|---|
| | | 1 | 2A | 2B | 3 | 4 | 5 |
| Reminders | | | | | | | |
| Proposal must be submitted by 4 pm EST on the proposal due date. Late proposals will not be considered for funding | | | | | | | |
| Check applicant eligibility requirements in section C1 of the Program Announcement to be sure you are eligible for funding | | | | | | | |
| Proposals that do not include a detailed budget for each Objective applied for will not be reviewed | | | | | | | |
| General Requirements | | | | | | | |
| Proposal has been proofread | | | | | | | |
| Budgets have been checked for accuracy and use of the suggested format | | | | | | | |
| Proposed project start and end dates are within range | | | | | | | |
| Federal funding is less than \$150,000 per year | | | | | | | |
| Proposal is less than 20 pages excluding figures and tables. Font size is at least 12 pt (even on tables) | | | | | | | |
| Proposal is in PDF Format and includes all tables, figures, budgets, the Data Management Plan, and letters of support. | | | | | | | |
| Adequate background information is provided | | | | | | | |
| Agencies that provide data to the NGWMN through another agencies database must describe the delivery in the Background Information section | | | | | | | |
| Includes table of recent NGWMN projects | | | | | | | |
| Framework document or Tip Sheets are referenced | | | | | | | |
| References NGWMN Well Density guidelines when proposing gap filling activities | | | | | | | |
| Letter of support from local USGS WSC if monitoring is part of a USGS Cooperative Matching Funds project | | | | | | | |
| Letter of support from other agencies that will be participating in the project | | | | | | | |
| Staff qualifications are shown for staff listed in budgets | | | | | | | |
| Data Management plan is included | | | | | | | |
| If indirect costs exceed 10%, a current Negotiated Rate Agreement is included | | | | | | | |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

General Requirements

- Make sure to proofread your proposal
- Carefully check over your detailed budgets
- Proposed start and end dates are within range
- Federal funding less than \$150,000 per year
- Proposal is less than 20 pages at 12 pt font. Excludes figures, tables, budgets, timelines, and data management plan
- Adequate background information is provided
 - We have new members to the Program Board each year who need this background information
 - Returning Board members do not have access to previous proposals
- Includes table of active projects

General Requirements

- Reference well density guidelines when proposing gap filling activities
- Includes letter of support from USGS if monitoring is part of a USGS Cooperative Matching Funds project
- Includes letter of support from any other agency that will be working on the project
- Staff qualifications are included for all staff shown in budgets
- Data Management plan is included
 - Documents data collection and quality assurance for routine work
 - Also documents work done to support objectives
- If indirect costs exceed 10%, a current Negotiated Rate Agreement is required

Maps and Tables

| Maps and Tables | | | | | | | | |
|---|----------|------------|----|----|---|---|---|---|
| Includes a table of sites for which work is proposed | | | | | | | | |
| Tables of sites include the NGWMN ID, the Principal Aquifer, and the well depth | | | | | | | | |
| Includes a map of all sites for which work is proposed | | | | | | | | |
| Maps have a scale bar, north arrow, and explanation | | | | | | | | |
| Maps include the Principal Aquifer | | | | | | | | |
| Zoomed in maps include an inset map | | | | | | | | |
| Checklist items | Overall | Objectives | | | | | | |
| | Proposal | 1 | 2A | 2B | 3 | 4 | 5 | 6 |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

Maps and Tables

- Include a table of sites for which work is proposed under Objectives 3-6
 - Example below
- Tables include the NGWMN-ID, the Principal aquifer, and the well depth
 - Example below
- Includes a map of all sites for which work is proposed
 - Example below
- All maps should:
 - Have a scale bar
 - Have a north arrow
 - Have an explanation
- Maps should show the principal aquifers
- If a map is zoomed in, make sure there is an inset box shown on a map of the state

Includes a table of sites for which work is proposed

| Site Name | NGWMN ID | Aquifer | Estimated cost to pump to maintain aquifer connection | Estimated cost of conducting slug test |
|------------------|----------|---------------|---|--|
| Briggs Woods #2 | 54285 | Mississippian | | |
| Briggs Woods #3 | 50000 | Mississippian | | |
| FM1-2 | 56978 | Devonian | | |
| FM1-3 | 56979 | Devonian | | |
| FM1-4 | 56980 | Devonian | | |
| FM2-2 | 56983 | Devonian | | |
| FM2-3 | 56984 | Devonian | | |
| FM2-4 | 56985 | Devonian | | |
| FM3-2 | 56988 | Devonian | | |
| FM3-3 | 56989 | Devonian | | |
| FM3-4 | 56990 | Devonian | | |
| Rutland Marsh #3 | 55575 | Mississippian | | |
| Rutland Marsh #5 | 54830 | Mississippian | | |

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Table courtesy of the Iowa Geological Survey

Map for Objective 4 work

- Explanation
- Scale bar
- Principal aquifers
- Proposed sites
- Past and ongoing sites

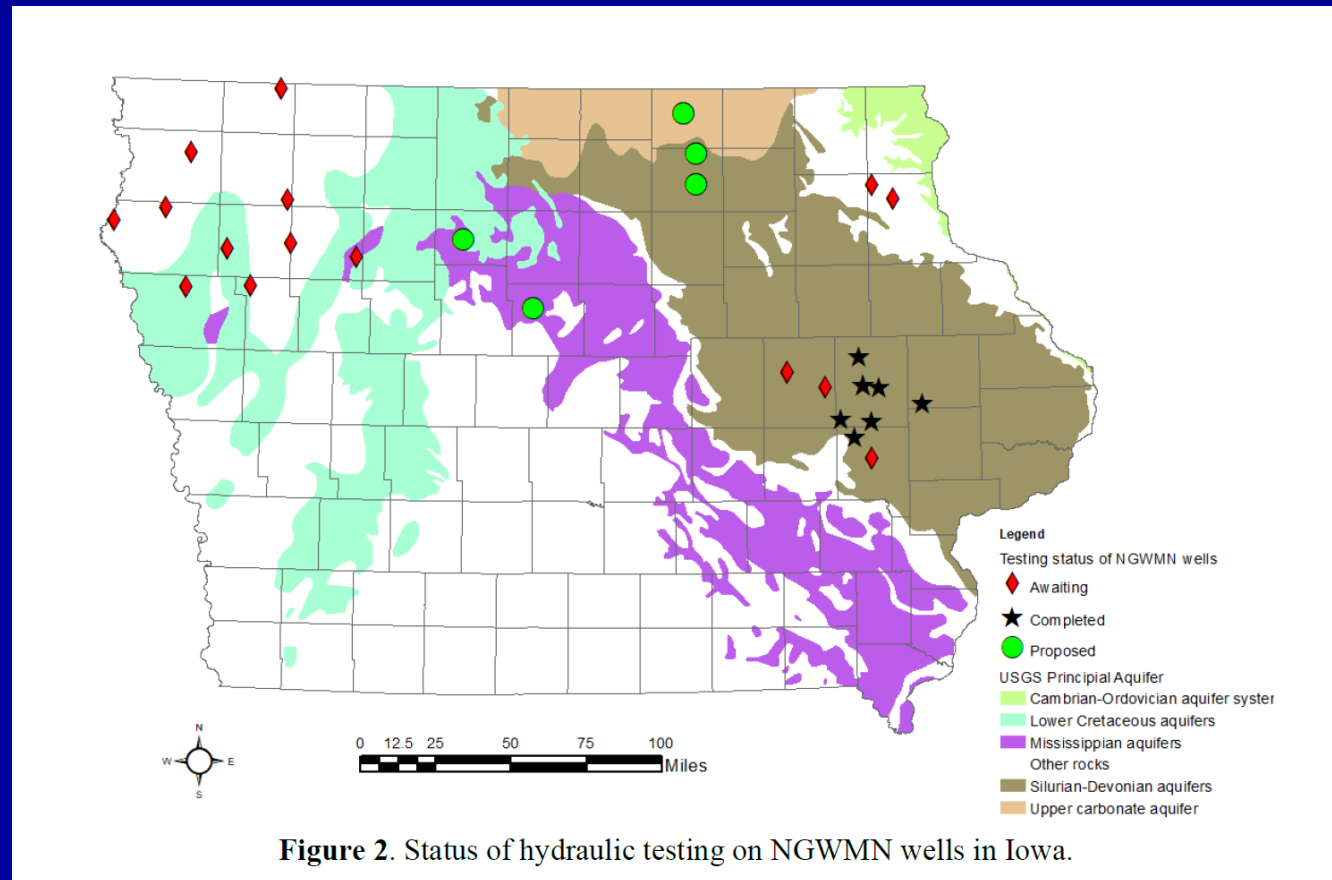


Figure 2. Status of hydraulic testing on NGWMN wells in Iowa.

Map courtesy of the Iowa Geological Survey

GIS Resources for Maps

- We have recently added some GIS data to the 'Data Providers' tab on the NGWMN Data Portal
 - <https://cida.usgs.gov/ngwmn/learnmore.jsp#dataProviders>
- You can now download a zip file that contains Shapefiles of the 'Principal Aquifers of the United States' and 'Aquifers of Alluvial and Glacial Origin'
- You can also download a zip file that contains a Shapefile of the sites in the NGWMN as of September 2022
- These will be helpful in putting maps together for the funding opportunity.

Budgets

| Checklist items | Overall Proposal | Objectives | | | | | | |
|---|------------------|------------|----|----|---|---|---|---|
| | | 1 | 2A | 2B | 3 | 4 | 5 | 6 |
| Budgets | | | | | | | | |
| Includes overall project budget | | | | | | | | |
| Includes detailed budget for each objective | | | | | | | | |
| Uses budget formats in the Program Announcement | | | | | | | | |
| Detailed budgets include the Objective summary table | | | | | | | | |
| Costs and hours for the work are reasonable | | | | | | | | |
| Tasks in workplan are listed in detailed budget | | | | | | | | |
| Budgets are separated out by individual task and by staff member (not lumped for each staff member) | | | | | | | | |
| In-kind services work tasks are itemized | | | | | | | | |
| Costs for tasks done by contractors are itemized | | | | | | | | |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

Budgets

- Include an overall budget for the project
 - Example below
- Include a detailed budget for each objective
- Use budget formats shown in Program Announcement
 - These have the information we need to review the proposal
- Include the Objective summary for the detailed budgets
 - Example below
- Make sure costs and hours are reasonable
- Tasks in workplan are shown in detailed budget
- Budgets are separated out by individual task and staff member
- In-kind services work is itemized
- Costs for tasks done by contractors is itemized
 - Example below

Overall project budget

| Category | Federal Funding | Agency In-Kind Funding | Total Funding |
|------------------------------------|--------------------|------------------------|---------------------|
| 1a. Salary | \$29,400.00 | \$19,530.00 | \$48,930.00 |
| 1b. Fringe | \$9,800.00 | \$6,510.00 | \$16,310.00 |
| 2. Supplies | \$3,470.00 | \$525.00 | \$3,995.00 |
| 3. Equipment | \$16,319.69 | \$1,630.31 | \$17,950.00 |
| 4. Travel | \$5,118.75 | \$11,398.50 | \$16,517.25 |
| 5. Contracts | \$10,981.00 | \$7,900.00 | \$18,881.00 |
| 6. Total Direct (sum of items 1-5) | \$75,089.44 | \$47,493.81 | \$122,583.25 |
| 7. Indirect cost | \$20,065.94 | \$12,392.86 | \$32,458.80 |
| 8. Total Cost (sum of 6 and 7) | \$95,155.38 | \$59,886.68 | \$155,042.05 |

Objective summary

Example Budget 2

Objective 2A. Persistent Data Services Overhead/indirect rate: 31.3%

USGS funding Total: \$16,596.32

In-kind services Total: \$0.00

Objective Total: \$16,596.32

| a) Salary | | | | | | | | | | |
|---------------|---------------------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------|-----------------------|------------------------------------|----------------------|-----------------|----------------|
| 1) | 2) | 3) | 4) | 5) | 6) | 7) | 8) | 9) | Source of funds | |
| Employee name | Task | Hourly rate of compensation | Hourly rate of fringe benefit | Total hourly rate (a3 + a4) | Number of hours | Salary cost (a5 x a6) | Indirect cost (a7 x indirect rate) | Total cost (a7 + a8) | 10) | 11) |
| | | | | | | | | | Federal | Agency in-kind |
| Employee 1 | Oversee persistent data services work | \$30.00 | \$10.00 | \$40.00 | 120 | \$4,800.00 | \$1,502.40 | \$6,302.40 | \$6,302.40 | \$0.00 |
| Employee 2 | Database programming support | \$30.00 | \$10.00 | \$40.00 | 120 | \$4,800.00 | \$1,502.40 | \$6,302.40 | \$6,302.40 | \$0.00 |

Example detailed budget for contracted portion of work

| Contracts- Salary | | | | | | | |
|---|-----------------------------|-------------------------------|-----------------------------------|--------------------|-----------------------------|----------------------|---------------------|
| 1) | 2) | 3) | 4) | 5) | 6) | Source of funds | |
| Description of work | Hourly rate of compensation | Hourly rate of fringe benefit | Total hourly rate (col 2 + col 3) | Number of hours | Salary cost (col 4 x col 5) | 7) | 8) |
| | | | | | | Federal | Agency in-kind |
| Well 1– Driller, Permits | \$30.00 | \$10.00 | \$40.00 | 4 | \$160.00 | \$160.00 | \$0.00 |
| Well 1- Driller, planning and prep | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$0.00 | \$320.00 |
| Well 1- Driller, Well development | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$160.00 | \$160.00 |
| Well 1- Driller Assistant, Well development | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$0.00 | \$320.00 |
| Well 2– Driller, Permits | \$30.00 | \$10.00 | \$40.00 | 4 | \$160.00 | \$160.00 | \$0.00 |
| Well 2- Driller, planning and prep | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$0.00 | \$320.00 |
| Well 2- Driller, Well development | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$160.00 | \$160.00 |
| Well 2- Driller Assistant, Well development | \$30.00 | \$10.00 | \$40.00 | 8 | \$320.00 | \$0.00 | \$320.00 |
| 10 % contingency for salary contract costs | N/A | N/A | N/A | N/A | \$224.00 | \$224.00 | \$0.00 |
| Totals | | | | Total hours | Salary total | Federal total | Agency total |
| | | | | 56 | \$2,464.00 | \$864.00 | \$1,600.00 |

| Contract- Supplies | | | | | | |
|--|---|--------------------------|---------------|---|--------------------------|----------------------------|
| 1) | 2) | 3) | 4) | 5) | Source of funds | |
| Type | Unit Type (per foot or each) | Cost per unit | Number | Cost of supplies (col 3 x col 4) | 6) | 7) |
| | | | | | Federal | Agency in- kind |
| Well 1- PVC casing | per foot | \$2.00 | 200 | \$400.00 | \$0.00 | \$400.00 |
| Well 1- PVC screen | per foot | \$2.00 | 200 | \$400.00 | \$0.00 | \$400.00 |
| Well 1- grout | each | \$100.00 | 1 | \$100.00 | \$0.00 | \$100.00 |
| Well 1- sand pack | each | \$100.00 | 1 | \$100.00 | \$0.00 | \$100.00 |
| Well 1- Cap and protective top | each | \$50.00 | 1 | \$50.00 | \$0.00 | \$50.00 |
| Well 2- PVC casing | per foot | \$2.00 | 200 | \$400.00 | \$400.00 | \$0.00 |
| Well 2- PVC screen | per foot | \$2.00 | 200 | \$400.00 | \$400.00 | \$0.00 |
| Well 2- Grout | each | \$100.00 | 1 | \$100.00 | \$100.00 | \$0.00 |
| Well 2- Sand pack | each | \$100.00 | 1 | \$100.00 | \$100.00 | \$0.00 |
| Well 2- Cap and protective top | each | \$50.00 | 1 | \$50.00 | \$50.00 | \$0.00 |
| 10 % contingency for supplies contract costs | N/A | N/A | N/A | \$210.00 | \$210.00 | \$0.00 |
| Totals | | | | Supplies total | Federal total | Agency total |
| | | | | \$2,310.00 | \$1,260.00 | \$1,050.00 |

| Contract- Travel | | | | | | | | | | | |
|-----------------------------------|-----------------------------|----------------------|-------------------------|-------------------|--|----------------|---------------|------------------------------|-----------------------------|----------------------|---------------------|
| 1) | 2) | 3) | 4) | 5) | 6) | 7) | 8) | 9) | 10) | Source of funds | |
| | | | | | | | | | | 13) | 14) |
| Traveler name / reason for travel | Number of nights of lodging | Lodging cost per day | Number of days of meals | Meal cost per day | Meal and lodging ((col 2 x col 3) + (col 4 x col 5)) | Miles traveled | Cost per mile | Mileage cost (col 7 x col 8) | Travel cost (col 6 + col 9) | Federal | Agency in-kind |
| Driller | 6 | \$93.00 | 8 | \$51.00 | \$966.00 | 500 | \$0.625 | \$312.50 | \$1,278.50 | \$1,278.50 | \$0.00 |
| Driller assistant | 6 | \$93.00 | 8 | \$51.00 | \$966.00 | 500 | \$0.625 | \$312.50 | \$1,278.50 | \$1,278.50 | \$0.00 |
| Totals | | | | | | | | | Travel total | Federal total | Agency total |
| | | | | | | | | | \$2,557.00 | \$2,557.00 | \$0.00 |

| Contract- Well Drilling | | | | | | |
|---|------------------------------|---------------|--------|----------------------------------|----------------------|---------------------|
| 1) | 2) | 3) | 4) | 5) | Source of funds | |
| | | | | | 6) | 7) |
| Type | Unit Type (per foot or each) | Cost per unit | Number | Cost of supplies (col 3 x col 4) | Federal | Agency in-kind |
| Well Drilling- Well 1 | per foot | \$30.00 | 75 | \$2,250.00 | \$1,125.00 | \$1,125.00 |
| Well Drilling- Well 2 | per foot | \$30.00 | 125 | \$3,750.00 | \$1,875.00 | \$1,875.00 |
| Mobilization | each | \$1,000.00 | 2 | \$2,000.00 | \$1,000.00 | \$1,000.00 |
| Site Cleanup | each | \$750.00 | 2 | \$1,500.00 | \$750.00 | \$750.00 |
| Well development waste disposal | each | \$500.00 | 2 | \$1,000.00 | \$500.00 | \$500.00 |
| 10 % contingency for Well drilling contract costs | N/A | N/A | N/A | \$1,050.00 | \$1,050.00 | \$0.00 |
| Totals | | | | Supplies total | Federal total | Agency total |
| | | | | \$11,550.00 | \$6,300.00 | \$5,250.00 |

Contracts

- Need to provide specific costs for contract work
- Contract budgets should be similar to budgets for work proposed for your agency staff
- **Cannot provide a lump sum for contract work**
 - Will score lower in Budget category
 - This may delay your award
- Allow time in your objective timeline for establishing contracts
 - This always takes longer than expected.
 - We want to minimize requests for no-cost extensions.
 - These are often related to delays in the contracting process

New Data Provider Project Requirements

| Checklist items | Overall Proposal | Objectives | | | | | |
|---|------------------|------------|----|----|---|---|---|
| | | 1 | 2A | 2B | 3 | 4 | 5 |
| New Data Provider Project Requirements | | | | | | | |
| Describes existing monitoring networks | | | | | | | |
| Describes data storage and IT infrastructure | | | | | | | |
| Describes approach for developing web services | | | | | | | |
| Discusses how new sites will help fill gaps in NGWMN (references well density guidelines) | | | | | | | |
| Includes map of potential sites that includes existing NGWMN sites | | | | | | | |
| References site selection and classification tip sheets | | | | | | | |
| No work is proposed under Objectives 4, 5, or 6 | | | | | | | |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

New Data Provider Project requirement

- Describes existing monitoring networks
- Describes data storage and IT infrastructure
- Describes approach for developing web services
- Discusses how new sites will fill gaps in the NGWMN (considers well density guidelines)
- Includes map of potential sites. Includes sites already in the NGWMN from other agencies
 - Example below
- References site selection and classification tip sheets
 - Example below
- No work is proposed under Objectives 4, 5, or 6

Map for new data provider project

- Explanation
- Scale bar
- Principal aquifers
- Potential sites
- Current NGWMN sites (CRN)

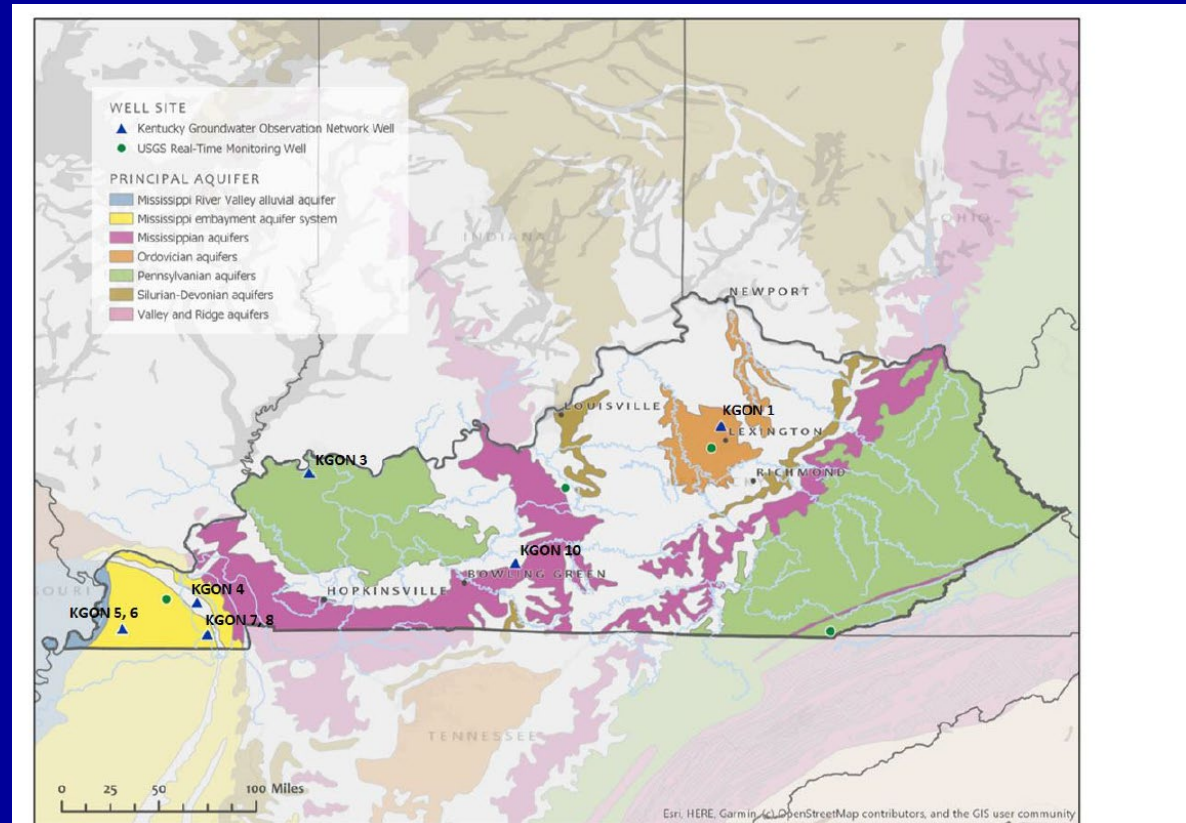


Fig. 2. Map showing locations of eight KGON well sites proposed for inclusion in the NGWMN in relation to nationally identified principal aquifer systems (U.S. Geological Survey, 2003), and locations of presently active USGS climate-response network wells.

Map courtesy of the Kentucky Geological Survey

Tip Sheets

- Created to help data providers with common tasks related primarily to New Data Provider projects or Objective 2 work to upgrade services or add sites
- Current tip sheets
 - NGWMN Subnetwork
 - NGWMN Monitoring Categories
 - NGWMN WL Criteria
 - NGWMN WQ Criteria
 - NGWMN Well Registry
 - NGWMN Minimum Data Elements
 - NGWMN Web services
 - Standard Elements for Water-Quality Web Services

<https://cida.usgs.gov/ngwmn/learnmore.jsp#dataProviders>

Objective Requirements

| Checklist items | Overall Proposal | Objectives | | | | | | |
|---|------------------|------------|----|----|---|---|---|---|
| | | 1 | 2A | 2B | 3 | 4 | 5 | 6 |
| Objective requirements | | | | | | | | |
| No Federal funds are requested for data collection, data entry, or data management for routine data | | | | | | | | |
| The need for the work is justified | | | | | | | | |
| All sites for which work is proposed are in NGWMN Registry | | | | | | | | |
| Includes a table of sites for which work will be done under the objective | | | | | | | | |
| Includes a map of sites for which work will be done under the objective | | | | | | | | |
| States the benefits of the work to the NGWMN | | | | | | | | |
| Workplan for objective includes detailed tasks | | | | | | | | |
| Tasks in workplan are in detailed budgets | | | | | | | | |
| Includes timeline for each objective. | | | | | | | | |
| Timelines include annual progress report (for multi-year projects) and the final project report | | | | | | | | |
| Equipment with a single item cost of more than \$5,000 has a quote included in the proposal | | | | | | | | |
| Data collection methods are described in the Data Management Plan | | | | | | | | |
| Data collection quality assurance is described in the Data Management Plan | | | | | | | | |
| Workplan includes task for final report | | | | | | | | |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

Objective Requirements

- No funds requested for routine data collection
- Need for work is justified (NGWMN perspective)
- Sites are in the NGWMN well registry
- Includes table of sites where work will be done
- Includes map of sites where work will be done
- Benefits of work to NGWMN is stated
- Workplan includes detailed tasks
- Detailed tasks in workplan are shown in budgets
- Includes timeline for each objective (except 2A)
- Data collection methods are described in the Data Management Plan (DMP)
- Data collection quality assurance is described in DMP
- Workplan includes task to prepare final report

NGWMN Perspective

- The main goal of the funding opportunity is to develop and enhance the NGWMN. This means a principal or regional aquifer approach
- We do want the work that we fund to be beneficial to your agency. In most cases, proposed work can benefit the NGWMN and still meet your agency goals too
- Keep the NGWMN perspective and goals in mind when proposing work
- Always make sure that the benefits of the work **to the NGWMN** are clear in your proposal
 - Tie work to the NGWMN Framework Document
 - Refer to Tip Sheets
 - Keep well density in mind
 - Focus on Principal and Major aquifer scale

Requirements for specific objectives

| Checklist items | Overall Proposal | Objectives | | | | | | |
|--|------------------|------------|----|----|---|---|---|---|
| | | 1 | 2A | 2B | 3 | 4 | 5 | 6 |
| Requirements for specific objectives | | | | | | | | |
| No match is required for Objectives 1, 2A, 2B, or 3 | | | | | | | | |
| Provides at least 25% in-kind services match for Objectives 4, 5, or 6 | | | | | | | | |
| No funding for travel under Objectives 1, 2A, or 2B | | | | | | | | |
| 2A: Includes task to verify that data is flowing to the NGWMN | | | | | | | | |
| 2A: Funding is less than \$20,000 per year for agencies serving less than 500 sites | | | | | | | | |
| 2A: Agencies with more than 500 sites that are requesting more than \$20,000 under Objective 2A must justify the additional costs | | | | | | | | |
| 3-6: Data from agency is flowing to the NGWMN. | | | | | | | | |
| 4: A paragraph is included for each well for which well rehabilitation, redevelopment, or repair is proposed | | | | | | | | |
| 4-5: Equipment rental fees are reasonable and justified | | | | | | | | |
| 5: Includes a table of proposed wells to be drilled with the cost per well shown | | | | | | | | |
| 5: Map shows proposed new sites and all existing NGWMN sites | | | | | | | | |
| 5: A paragraph is included for each well for for which drilling is proposed | | | | | | | | |
| 5: Drilling costs are split out in budget table (mobilization, per foot cost, travel, casing, grout, 5: Construction Assurances Form (SF-424D) is attached | | | | | | | | |
| 5: Newly drilled wells that will be added to the Water-level Network are to be equiped with water-level monitoring equipment | | | | | | | | |
| 6: Make, model, and cost of proposed equipment is provided | | | | | | | | |
| 6: Per well limits are not exceeded | | | | | | | | |
| 6: Costs of cable are listed separately in budget | | | | | | | | |

Boxes in light gray should be completed. 'Y' or 'NA' are allowed responses

Requirements for specific objectives

- No match required for objectives 1, 2A, 2B, or 3
- 25% match required for objectives 4, 5, or 6
- No travel under objectives 1 or 2
- Objective 2A
 - Federal funds requested less than \$20,000 per year
- Objective 4
 - Includes paragraph for each well for which rehabilitation, redevelopment, or repair is proposed
 - Example below
 - Not required for well pumping or well integrity testing

Match

- No match is required for Objectives 1, 2, and 3
- For Objectives 4-6, You will get a reduced score if you fail to provide 25% agency match **FOR EACH OBJECTIVE** (can be in-kind services)
- Include the match in your detailed budgets
- Include details on the match, not just a lump sum as match. Describe match tasks in the same way as you describe USGS funded work

Drilling and Well Maintenance descriptive paragraphs

- For each site for which any well maintenance or well drilling work is proposed, you need to have a paragraph describing: The well identifier, the need for the work, the approach you are taking to do the work, and benefits of doing the work (to the NGWMN)
- Is helpful to include cost estimates for each well so that funding decisions can be made on a per well basis if needed
- Still need a table showing all sites for which you will do work
- Not needed for slug testing or well pumping work.

Example well maintenance paragraph

Objective 4 – Item A

Well 02000380 (Ashland County – WI)

Site Number: 463635090481101

Site Name: AS-48/20E/24-0380

WGNHS Well ID: 2000380 (aka: **AS-380**)

Principal Aquifer: S300CAMORD

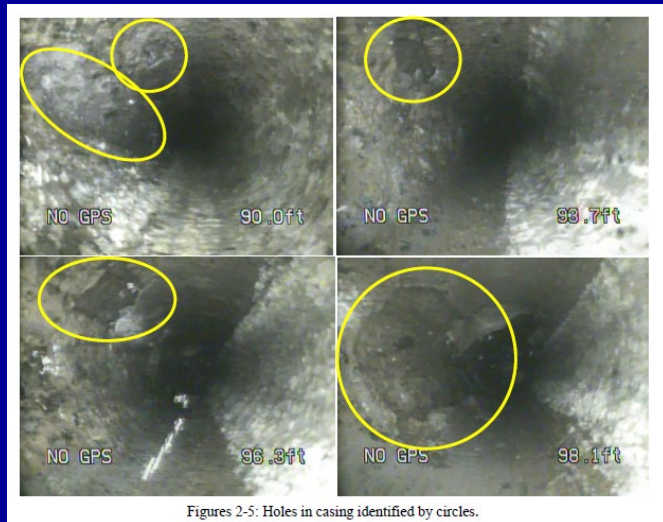
Description: This well was drilled to 217 feet below land surface (ft-bls), is located on the Bad River Indian Reservation, and has been monitored since 2011. The Well Construction Report (WCR) information is unknown. The recommended maintenance needs include a thorough review of all relevant historical well records, and a complete well evaluation. A full suite of borehole video and geophysical logs will be performed to fully characterize the well. A slug test will be performed to ensure proper well-aquifer response.

Party responsible for maintenance: The WGNHS will supervise all activities working in close coordination with the USGS-WIWSC.

Example courtesy of the Wisconsin
Geological and Natural History Survey

Well Maintenance considerations

- Make sure you explain the need for the work, your proposed approach, and how the approach will meet the needs for the work
- Include references for methods you will be using (can be links). This should be for data collection, data analysis, well rehabilitation, etc.
- Pictures can be very helpful for well maintenance work



Figures 2-5: Holes in casing identified by circles.



Montana Bureau of
Mines and Geology



Maryland Geological Survey

Requirements for specific objectives

- Objective 5
 - Includes table of proposed wells with per well cost
 - Map showing proposed wells and existing NGWMN sites
 - Includes paragraph for each well for which well drilling is proposed
 - Example below
 - Drilling costs are itemized in budget
 - Mobilization, per foot cost, travel, casing, grout, etc.
 - See examples in 'Budget' section above
 - Construction Assurances form (SF-425D) is attached
 - New wells that will be used for water-level monitoring are equipped with continuous water-level monitoring equipment

Example well drilling paragraph

Objective 5 – Item A

Well 41000118 (Milwaukee County – WI)

Site Number: 430706087583601

Site Name: ML-08/21E/35-0118

WGNHS Well ID: 41000118 (aka: **ML-118**)

Principal Aquifer: N400SLRDVN

Description: This well was drilled in 1941 to a depth of 135 ft-bls with a casing depth of 124 ft-bls and monitored since 1946. This well is located on private property in a difficult-to-access area that does not allow for regular maintenance and repairs. Recent site visits have identified an obstruction at 77 ft-bls. Recommended maintenance needs include a thorough review of all relevant historical well records, a complete borehole evaluation including borehole video and geophysical logging followed by abandonment and replacement with a new well nearby in the same aquifer. The replacement well (see sketch below) will be drilled and operated concurrently with ML-118, before abandonment, to establish an overlapping water-level record between the two wells. A complete well characterization of the newly drilled well will be performed including borehole video and geophysical logs and slug testing to establish the hydraulic connection to the surrounding aquifer. A geologic log will also be produced and the WGNHS will process and archive drillers' cuttings from the new well at our Research Collections and Education Center (Core Repository) in Mt. Horeb Wisconsin. Considering the current condition of ML-118, assistance by a well service company will be needed to remove the well blockage prior to abandonment.

Party responsible for maintenance: The WGNHS will supervise all activities working in close coordination with the USGS-WIWSC and contractors selected to drill the new well and abandon the existing well.

Example courtesy of the Wisconsin
Geological and Natural History Survey

Drilling considerations

- Well construction diagrams are very helpful and encouraged. Can use a generic one instead of needing one for each well
- Make sure you mention that you will meet your states well drilling requirements
- Specify that new wells and wells drilled as in-kind services will be added to the NGWMN
- Describe wells drilled as in-kind services using same paragraph format as for funded wells
- Justify any special drilling techniques proposed. Make sure additional cost benefits the NGWMN

Example well construction diagrams

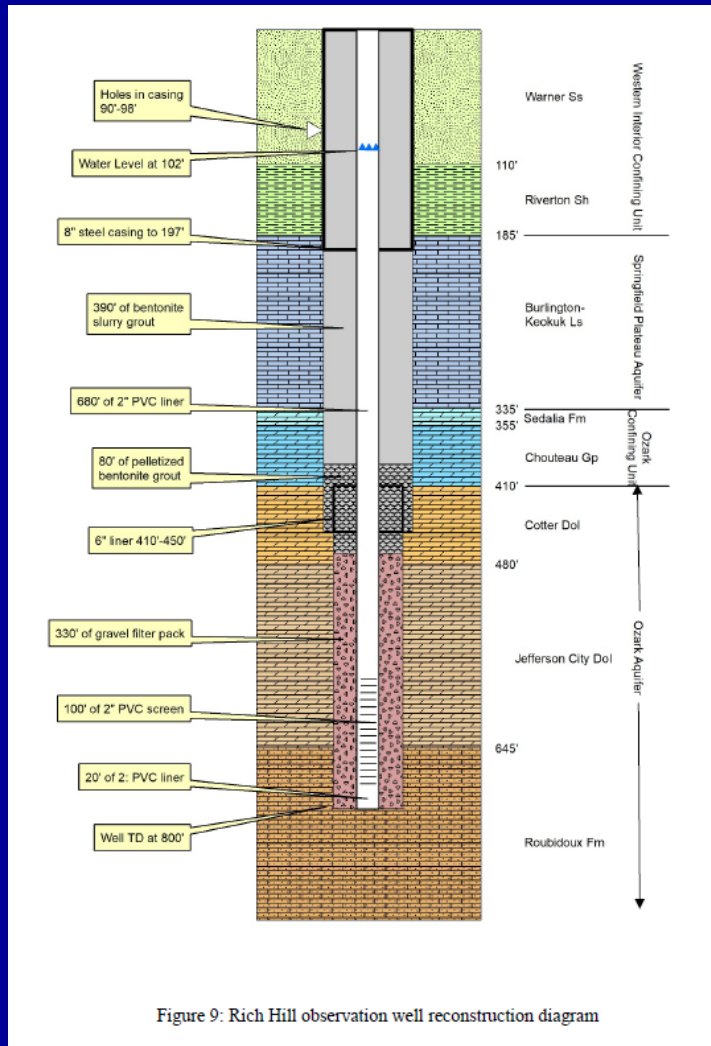


Diagram courtesy of the Missouri Department of Natural Resources

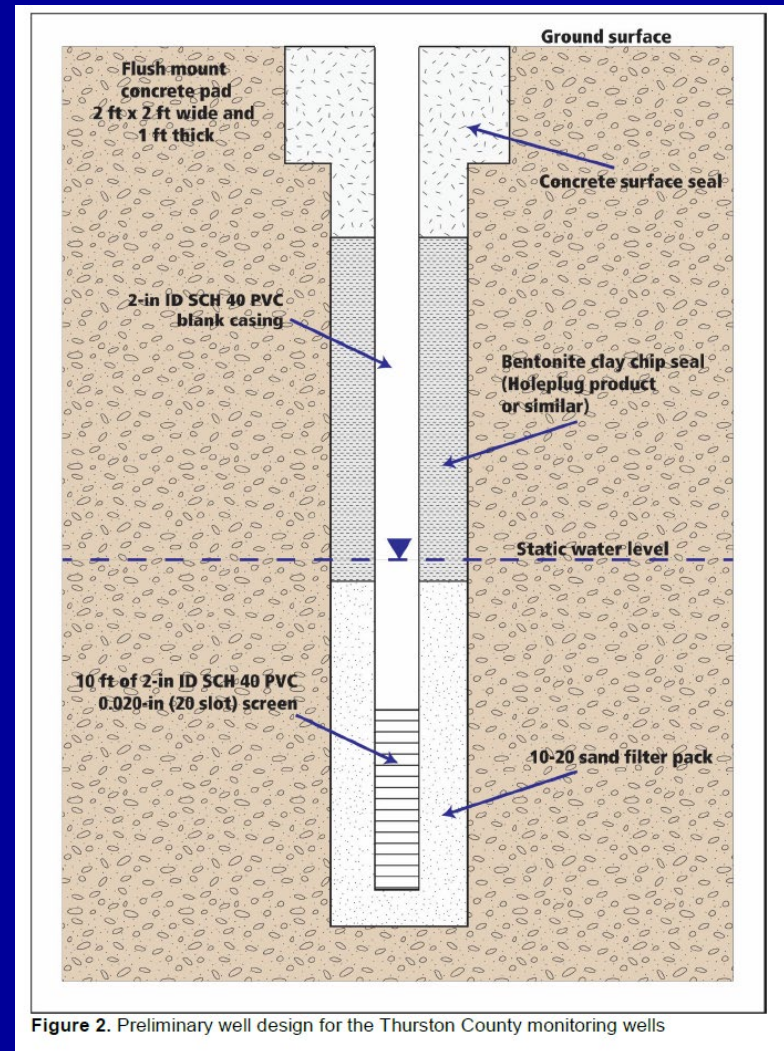


Diagram courtesy of the Washington Department of Natural Resources

Requirements for specific objectives

- Objective 6
 - Make, model, and cost of proposed equipment is provided
 - Example below
 - Funding is subject to per well limits that includes the cost of equipment, installation, and travel
 - For non-telemetry sites, the limit is \$2,000 per well
 - For Telemetry sites, the limit is \$4,000 per well
 - Limits do not include the costs for cable
 - Costs above limits can be used as in-kind services
 - Costs for cable are listed separately in budget

Objective 6– Equipment Site List

| A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|--------------------------------|---|------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|--------------------|-------------------|----------------------|---------------------------|---------------------------|----------------|---------------------------------|
| Site Number | Principal Aquifer | Current monitoring frequency | Equipment purchase type | Equipment | Expected range of water-level depth | Expected transducer placement depth | Transducer base | Cable length (ft) | Transducer base cost | Cable cost (length x \$5) | Base Cost/Federal funding | Telemetry base | Telemetry cost/in-kind services |
| HCOVA-1234 PT | Piedmont and Blue Ridge crystalline rock aquifers | Continuous | replace existing transducer | transducer /datalogger | 105-140 | 150 ft | PT/DL base | 150 | \$1,675.00 | \$750.00 | \$2,425.00 | none | \$0.00 |
| HCOVA-5678 PT | Piedmont and Blue Ridge crystalline rock aquifers | Quarterly | upgrade quarterly site to continuous | Pressure transducer /datalogger | 7-14 ft | 20 ft | PT/DL base | 20 | \$1,675.00 | \$100.00 | \$1,775.00 | none | \$0.00 |
| HCOVA-2685 PT | Piedmont and Blue Ridge crystalline rock aquifers | Quarterly | upgrade quarterly site to continuous | Pressure transducer /datalogger | 5-15 ft | 20 ft | PT/DL base | 20 | \$1,675.00 | \$100.00 | \$1,775.00 | see below | \$0.00 |
| HCOVA-2685 cell telemetry | | | Add on cell telemetry | cell telemetry | | | | | | | | Cell add on | \$1,000.00 |
| HCOVA-9101 PT | Northern Atlantic Coastal Plain | Annually | Upgrade to continuous | transducer /datalogger for satellite | 30-45 | 50 ft | Base for Satellite | 50 | \$1,075.00 | \$250.00 | \$1,325.00 | see below | \$0.00 |
| HCOVA-9101 satellite telemetry | | | add on satellite telemetry | satellite telemetry | | | | | | | | Satellite | \$4,140.00 |

Contact us

- Please contact us with any questions you have about your proposal
- We cannot see or review your proposal before it is submitted, however we can answer questions like:
 - We want to do ____, is this allowed?
 - What Objective would ____ best fit it?
 - Is ____ allowed under Objective ____?

• Jason Fine

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