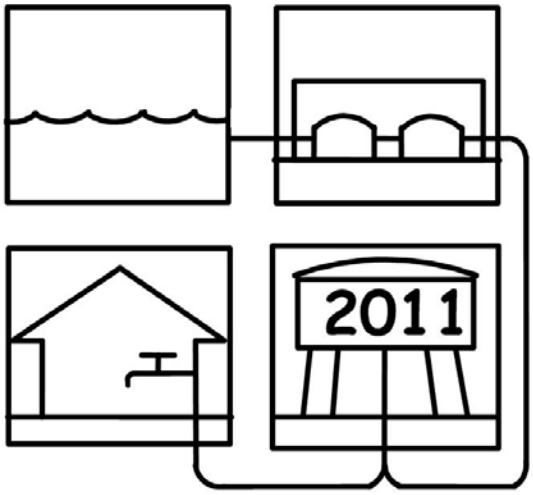
REFERENCE MANUAL



Drinking Water Infrastructure Needs Survey and Assessment

U.S. Environmental Protection Agency
Office of Ground Water and Drinking Water

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Reference Manual Contents

1.0 Purpose of the Reference Manual

The purpose of this manual is to provide guidance to states, EPA Regions, and the Navajo Nation on the policies and procedures of the 2011 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA or Assessment)[1]. Because states, EPA Regions, and the Navajo Nation play a significant role in the Assessment, it is critical that each person involved in data collection and review have a clear understanding of the survey instrument, policies, and process. The U.S. Environmental Protection Agency (EPA or Agency) hopes that participating staff will attend training, review the content of this manual periodically, and keep abreast of other Assessment correspondence to maximize the effectiveness of their participation.

This Reference Manual has been developed as a desktop aid for persons involved in the implementation of the 2011 Assessment. The 2011 Assessment will include a state survey for those systems that serve more than 3,300 people and a survey of American Indian and Alaskan Native Village water systems. State systems serving 3,300 or fewer persons and state systems classified as not-for-profit non-community water systems will not be surveyed in the 2011 Assessment. Therefore, this document does not address data collection for those systems.

The manual includes a summary of the Assessment method including how systems were selected to be in the Assessment; what projects should be included and how to complete the survey instrument; project documentation requirements; state, EPA Regions, and Navajo Nation responsibilities; the data-flow and schedule for the Assessment, use of the interactive website; and how systems serving more than 100,000 people can submit the questionnaire electronically to the website.

Additional information will be available on an ongoing basis at the 2011 DWINSA Website: www.DWNeeds.com, and from the toll-free helpline: (TBD).

[1] EPA's previous assessments of infrastructure need in 1995 and 1999 were referred to as "Needs Surveys" because the assessment relied primarily on survey methods. In 2003 and 2007, EPA relied in part on surveys but also on analysis of previous survey data. Accordingly, the term "assessment" is more appropriate. Thus, these studies are referred to as the "Drinking Water Infrastructure Needs Survey and Assessment" (DWINSA or Assessment).

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2.0 Relationship Between the DWSRF and the DWINSA

In the1996 Amendments to the Safe Drinking Water Act (SDWA or Act), Congress established the Drinking Water State Revolving Fund (DWSRF). In the amendments, Congress directed EPA to conduct an assessment of the nation's drinking water infrastructure needs every four years and to base the states' and tribes' allocation of DWSRF capitalization funds on the findings of the most recent assessment.

Since FY 1997, Congress has appropriated funds for the DWSRF each year. American Indian Tribes and Alaskan Native Villages have received at least 1.5 percent of the total annually appropriated funds. Each state, the District of Columbia, and Puerto Rico receive a minimum of 1 percent of the funds remaining after the American Indian and Alaskan Native Village funds have been deducted. In addition, the U.S. Territories (U.S. Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and Guam) together received at least 0.33 percent of the remaining funds. The remainder of the annual appropriation is distributed to the states based on the results of the most recent DWINSA.

The SDWA also requires EPA to report to Congress the findings of the Agency's assessments. EPA views the assessment as more than just the basis of the states and tribal SRF allotments. The assessment provides the Agency the opportunity to inform Congress and other stakeholders of the critical issues and trends regarding the infrastructure needs of the nation's drinking water industry.

With these objectives in mind, the Agency, working with stakeholders, has established the following mission statement for the 2011 Assessment as follows:

> *To assess the capital improvement needs of DWSRF eligible public water systems in the United States for drinking water infrastructure construction, rehabilitation, and replacement for the 20-year period 2011-2030. Needs are limited to those documented at the individual project level as necessary to facilitate compliance with national primary drinking water regulations or otherwise significantly further the public health protection objectives of the Safe Drinking Water Act based on sound drinking water engineering practices.*

The information collected in the Assessment is summarized in a Report to Congress. Reports for the 1995, 1999, 2003, and 2007 Assessments are available on EPA's website at http://water.epa.gov/infrastructure/drinkingwater/dwns/index.cfm.

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3.0 DWINSA Methods

Through the DWINSA, EPA estimates the total 20-year need of systems eligible to receive DWSRF monies. These include large medium and small community water systems in each state; the District of Columbia; Puerto Rico; the U.S. Territories; American Indian systems; Alaskan Native Village systems; and not-for-profit non-community systems. The need associated with proposed or recently promulgated regulations, which are taken from the Economic Analysis for each rule, are added to the needs reported by water systems to obtain the total estimated national need.

For the 2011 Assessment, EPA will not collect new data for small state systems (those serving 3,300 or fewer persons) or not-for-profit non-community state system needs. Instead, the findings of the 1999 Assessment for not-for-profit non-community water systems in the state survey and the findings of the 2007 Assessment for small state systems will be adjusted to January 2011 dollars and used to estimate the needs of these systems.

To assess the needs of states, the District of Columbia, Puerto Rico, and the U.S. Territories (referred to as "states" for the remainder of this manual); American Indian systems; and Alaskan Native Village systems, EPA will collect data from a stratified random sample of water systems using a questionnaire.

For the 2011 Assessment, many states that received a minimum 1-percent of the most recent allotment will not be participating in the state-specific statistical (medium system) portion of the state survey. The needs of systems in these states that serve from 3,301 to 100,000 persons will be estimated based on the inventory of systems in each state and data from participating states. Because this method does not meet the assessment's stringent data quality objectives at a state level, the needs of the non-participating states will contribute to the estimate of the total national need but will not be reported individually by state.

3.1 Strata

To determine state, American Indian, and Alaskan Native Village need, water systems are grouped (stratified) by size (population served including consecutive populations) and by source (surface or ground water) for reporting purposes and statistical precision. As shown in Exhibits 1 and 2, there are 12 possible strata for each state and 10 possible strata for the American Indian and Alaskan Native Village systems.

The population reported for each system is determined by the state, EPA Region, and Navajo Nation representatives. Consecutive populations are included in the system population because of the belief that, in general, critical infrastructure of the selling-system would need to be sized to accommodate the demand of the population directly served by the system and the consecutive population.

Systems are categorized as surface water if they have at least one source that is surface water or ground water under the direct influence of surface water (GWUDI). Systems are categorized as ground water if they do not have a surface water or GWUDI source and include ground water systems and systems that purchase treated water. The decision to categorize purchased water systems with groundwater systems was based on the belief that, in general, their needs more closely resemble those of ground water systems than of surface water systems with source water treatment.

Exhibit 1: State Community Water System Stratification				
	Population		Surface Water	Groundwater
LARGE	>100,000		Census -All systems receive questionnaire	
MEDIUM	50,001-100,000			
	25,001-50,000	or 10,001-50,000*	State-specific samples for participating states	
	10,001-25,000			
	3,301-10,000			

* In some states, systems serving 10,000-50,000 can be considered one stratum and precision targets can be met. The most efficient sample is drawn for each state.

Exhibit 2: American Indian and Alaskan Native Village System Stratification			
Population		Surface Water	Groundwater
MEDIUM	> 10,000	Census -All systems receive questionnaire	
	3,301 to 10,000		
SMALL	1,001 to 3,300	Random sample	
	501 to 1,000		
	< 501		

3.2 Sampling Large State Community Water Systems

For the 2011 Assessment, systems serving populations of more than 100,000 persons (including consecutive populations) are classified as large. This is the same classification as the 2007 DWINSA. Because of the unique nature of systems in this size category and because they represent the majority of the nation's need, these systems are sampled by census – all systems receive a questionnaire.

Because all large systems are sampled, each system is given a weight of 1 (*i.e.* they represent only their system in the total need calculations). When calculating the need contributed by large systems, if a system does not respond to the survey it is assumed that they have no 20-year needs. Therefore, there is no weight adjustment for non-response.

One-percent states that are not participating in the survey of medium systems will still collect data for large systems.

3.3 Sampling Medium State Community Water Systems

For the 2011 Assessment, systems serving populations of 3,301-100,000 are classified as medium-sized. The 20-year needs are collected from a random sample of systems in each state, unless the state is not participating in the medium system survey.

In order to produce an estimate of need for each state, EPA set a confidence level of 95% with a precision target of ± 10% for the needs of medium and large systems. An adequate number of systems in the medium strata are drawn for each state to achieve this precision.

Each system in the medium system sample is given an initial weight. The initial weight is equal to the total number of systems in the strata divided by the number of systems in the sample. These weights are adjusted for non-response after data collection is complete so that all systems in the medium stratum are statistically represented.

3.4 Sampling American Indian and Alaskan Native Village Systems

The 2011 Assessment will collect needs for American Indian and Alaskan Native Village water systems for the first time since the 1999 Needs Survey.

A sample of 220 American Indian and 86 Alaskan Native Village systems will represent the national need of all American Indian and Alaskan Native Village systems. The American Indian and Alaskan Native Village system sample design for the 2011 Assessment sets a confidence level of 95 percent that the true need is within a range of ± 10 percent of the estimated need overall.

For this data collection effort, the EPA Regional or Navajo Nation representatives will assist the water systems with completion of the survey.

American Indian and Alaskan Native Village systems serving more than 10,000 persons will be sampled by census – all systems receive a questionnaire. Systems serving 10,000 persons and less are randomly sampled. Each system serving 10,000 persons and less in the sample is given an initial weight. The initial weight is equal to the total number of systems in the strata divided by the number of systems in the sample. These weights are adjusted for non-response after data collection is complete so that all systems in the stratum are statistically represented.

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Exhibit 3: Data Collection Method and Precision Targets							
	State Systems				**American Indian Systems**		**Alaskan Native Village Systems**
	Large Systems	**Medium Systems**	**Small Systems**	**Not-for-profit Non-Community Systems**	**Community and Not-For-Profit Non-Community Systems**		**Community and Not-For-Profit Non-Community Systems**
Population Definition	>100,000	3,301-100,000	Need from 2007 DWINSA will be adjusted to 2011 dollars.	Need from 1999 DWINSA will be adjusted to 2011 dollars.	>10,000	25-10,000	> 25
Data Collection	Questionnaires Mailed	Questionnaires Mailed			Questionnaires Mailed	Questionnaires Mailed	Questionnaires Mailed
Sample	Census (sampled with certainty)	State Sample in Participating States			Census	Random Samples	Random Samples
Precision Target	For Each Participating State 95% Confidence +/- 10% Overall*				95% Confidence +/- 10% Overall*		95% Confidence +/- 10% Overall*
Systems Sampled	610 (of 610 systems)	2,241 (of 8,919 systems)			14 (of 14 systems)	206 (of 770 systems)	88 (of 188 systems)

*The sample design provides a confidence level of 95 percent that the true need is within a range of plus or minus 10 percent of the estimated need. For example, if the total need for a state is estimated to be $2.0 billion, EPA will be 95 percent confident that the actual total need is between $1.8 billion and $2.2 billion.

4.0 Project Allowability

The goal of the survey is to collect data regarding water systems' 20-year infrastructure needs. To be included in the survey, projects must be SRF eligible capital improvement needs that are in furtherance of the public health protection objectives of the SDWA. A project must also fall within the prescribed timeframe and be adequately documented.

EPA has worked closely with a workgroup of representatives from states, EPA Regions, and the Navajo Nation to develop policies to support the survey goals. The policies for 2011 are minor clarifications of the 2007 Assessment which had been through a peer input and peer review process. Project allowability policies are described in this section of the manual. Because it is easier to list projects that are *not* included in the Assessment, unallowable projects are discussed in more detail than allowable projects. EPA anticipates additional policies and clarifications may be developed as the 2011 Assessment progresses.

4.1 Allowable Projects

As noted above, allowable projects must be SRF eligible capital improvement needs that are in furtherance of the public health objectives of the SDWA. Allowable projects are needed to construct new infrastructure or to replace, rehabilitate, or expand/upgrade existing infrastructure to allow the water system to continue to provide existing customers with safe drinking water. Projects generally fall in to one of five categories of need: source, treatment, storage, transmission and distribution, and other items such as emergency generators.

> ***"Eligible"*** *refers to projects that may be funded under DWSRF.*
>
> ***"Allowable"*** *refers to projects that can be included in the 2011 DWINSA.*

Timeframe

All projects must be needed during the 20-year period of January 1, 2011 through December 31, 2030. Systems can include projects, even if funding has already been obtained, as long as construction on the project has not started before January 1, 2011. If the project is planned in phases, any phase of the project initiated after January 1, 2011 and planned for the 20-year survey period, could be included as long as it is an allowable project.

4.2 Unallowable Projects

The needs associated with the following types of projects are considered unallowable. If they are submitted as projects they will be deleted from the questionnaire by EPA.

Projects not eligible for State Revolving Fund (SRF) funding:

- Projects with a substantial portion to accommodate future growth - Due to the speculative nature of growth predictions, projects with a substantial portion for future growth are not eligible for SRF funding and are therefore not allowed for the survey. This includes projects

to entice development, encourage growth, or accommodate a projected expansion of the service area or population served.

However, projects to connect existing households with inadequate water quality or quantity are allowable. Also, if a need exists or will exist within the 20-year period to accommodate the needs of current customers, then the project can be reasonably sized to accommodate future growth.

- Projects with a substantial portion for fire protection - The SRF program funds projects related to public health protection. Although water systems often also provide fire suppression, these needs are not related to public health objectives. Projects for increasing pipe diameter, providing additional storage or pump capacity, looping water mains, or installing or replacing fire hydrants substantially to meet fire suppression needs are not allowed.

  Projects that meet multiple needs may be allowable. For instance, if a system needs a new tank to meet minimum required pressure, and this tank will also provide fire suppression, this need can be allowed. Projects for installation of hydrants can be allowable if they are needed to allow flushing of water mains to maintain water quality in the distribution system.

- Projects for source water protection - Projects for protecting source water, such as fencing or land purchases to increase buffer zones, are not allowed. These types of projects are funded through SRF set-asides.

- Raw water reservoir or dam-related need - Projects related to raw water reservoirs or dams are not allowed as they are ineligible for SRF funding.

*Projects not for capital need*s

The purpose of the Assessment is to collect data on capital projects only. Projects that are not for a specific, tangible capital infrastructure need are not allowed. Although these types of needs are often essential factors of a successful water system they are not capital needs and therefore not allowable for the Assessment.

- Operation and maintenance costs - Costs associated with system operation and maintenance (O&M) are not allowable. Typical O&M projects include water main flushing; painting of equipment as part of routine maintenance (water storage tanks and projects to remove lead-based paints are exceptions); and repair of infrastructure such as fencing, pumps, pipe, or other infrastructure repair that is not considered a major rehabilitation.

- Projects solely for conducting studies - Projects solely for conducting studies are not allowed. Some examples include studies for possible development of new well fields, studies related to changes to or addition of treatment technology, studies to determine the advantages and disadvantages of consolidation with another system, and distribution system hydraulic analyses. Although studies cannot be included as projects, they often serve as documentation for other infrastructure projects.

- Water rights or fee payments - Monies used for water rights or fee payments are non-capital infrastructure uses of funds, and are therefore not allowable for the Assessment.

- Computer software for routine operations - Software is allowable only when it is part of a project for a new supervisory control and data acquisition (SCADA) system or telemetry system. Projects such as off-the-shelf billing software, GPS software, or maintenance schedule programs are not allowable.

- Employee wages and salaries and other administrative costs - These are on-going operational expenses, but are not capital needs.

- Sample collection or analysis fees - The costs of water quality testing, though regularly required, are not capital improvement needs.

Projects not in furtherance of public health goals of SDWA:

- Projects solely for improving appearances - Projects solely for cosmetic improvements are not allowed, as they are not necessary to providing safe drinking water. Some examples of unallowable projects include landscaping, painting, remodeling, and decorative structures. These costs may be deducted from a project's cost estimate if the rest of the project is allowable.

- Infrastructure demolition - Demolition of infrastructure in and of itself is not allowable. Cost of demolition is allowable only if it is integral to an allowable project (e.g., tearing down an old storage tank to accommodate construction of a new tank at the same site).

- Buildings and parking facilities not essential to providing safe drinking water - Aesthetic, convenience-related, or other non-essential projects are not allowable for the Assessment, nor are parking and garage facilities intended solely for use by employees or the public. New buildings and building improvements are allowable when they are a necessary part of providing safe drinking water. Examples of allowable building needs include: new or improved housing facilities for treatment equipment, including garages for vehicles; buildings used to store maintenance equipment or chemicals used in the treatment process; or office buildings that are necessary for the continued operation of the water system.

- Acquisition of land not required for an allowable project - Project costs to purchase land are not allowable unless the land is an integral component of another allowable project, such as for siting a new storage tank or treatment plant. Land purchases for source water protection or wellhead protection are not allowable. Cost models for projects without costs are assumed to include a land component where applicable to the type of project.

- Projects to connect existing homes that currently have an adequate drinking water supply - Connecting homes that currently have an adequate supply of drinking water at the time of the Assessment are not allowed.

Other unallowable project types:

- Projects for which construction has begun by January 1, 2011 - Projects for which construction has begun by January 1, 2011 fall outside the time frame of the 2011 Assessment and are not allowed. Construction of new infrastructure must be needed between January 1, 2011 and December 31, 2030. If a project is planned in multiple phases, early phases that have already begun construction by January 1, 2011 are not allowed, but later phases that are planned to begin construction after January 1, 2011 and before December 31, 2030 can be included as long as the project is an allowable project.

- Recurring infrastructure needs within the 20-year survey period - The Assessment allows each need to be addressed only once for the 20-year survey period.

  Elevated storage tanks may routinely be rehabilitated (sand blasted and painted) multiple times over a given 20-year period; however, only one rehabilitation project per tank is allowable for the Assessment.

  Projects to construct new infrastructure (e.g., installation of a new pump) may not be accompanied by additional projects to rehabilitate or replace the same infrastructure within the 20-year survey period.

- Multiple projects meeting the same need - Two or more projects can not be included to meet one given need. For instance, if a system provides documentation that a well is contaminated, they could record a project to treat the water or projects to abandon the well and drill a new well.

- Projects for compliance with proposed or recently promulgated regulations - Most systems will not have assessed their needs to comply with proposed or new regulations at the time of the survey. Therefore, EPA uses the cost estimates of each rule's Economic Analysis to include these needs. Because these needs can not be included twice, system-specific needs are not allowed. Refer to List 3 in the *Lists of Codes* for proposed or recently promulgated regulations.

- Projects driven solely by a non-water-related issue - Projects proposed for a reason other than a direct water system need are not allowed. Common types of projects that are not accepted for this reason include the relocation of water mains required by widening of a highway, the installation of a water canal for environmental protection reasons, or the rerouting of a water main from under a deteriorating bridge.

- Acquisition of existing infrastructure - Acquisition of existing infrastructure is not allowable. Examples of unallowable projects for acquisition of existing infrastructure include the purchase of an existing water system, in whole or in part, or the purchase and relocation of existing infrastructure such as a water storage tank.

- Acquisition of most vehicles and tools - In most cases, vehicles and tools are not allowable. The exception is for large specialized vehicles or tools used directly for treatment or waste disposal. For example, vehicles used to haul waste or sludge are allowable.

- A project that is not the responsibility of the public water system - Projects for which the water system may be doing the actual work, but not ultimately incurring the cost, are not allowed. For example, a homeowner-funded replacement of their service line from the house to the curb stop is not allowed even if the water system may perform the actual replacement and reconnection of the piping.

*Unallowable cost*s

- Interest payments and origination fees associated with a loan - Although the project itself may be allowed, the origination fee and interest payments associated with a loan are not allowable and will be deleted from project costs. If the documentation includes itemized costs with interest listed, it will be subtracted from the cost. If the documentation implies interest payments are included, but the amount cannot be identified, the cost for the project will be deleted and the cost will be estimated using a cost model.

- Shared projects - If two or more water systems intend to share the costs (and benefits) of a project, each system can only include their portion of the cost as a need. This is true even if only one system is selected for the Assessment. If the full cost is included on one questionnaire, the cost will be amended to reflect the system's portion (if the documentation is detailed enough to do this), or the cost will be proportioned by population.

- Costs shared by multiple projects - Project costs unrelated to the provision of safe drinking water are not allowable. For instance, if a community is planning concurrent water and sewer improvements, costs that are shared by both projects (e.g., mobilization) will either be adjusted so that only the portion associated with the water project is included in the cost or the project will be deleted if the appropriate portion cannot be identified.

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5.0 Documentation of Need and Cost

Each project must be accompanied by documentation of need and adequate information to assign a cost to the project. Ensuring that system responses contain adequate documentation is one of the most important steps in completing and reviewing questionnaires. In addition to making the Report to Congress more credible, good documentation ensures fairness for determining the allotment of the state and the American Indian and Alaskan Native Village total need. For the Assessment, there are two different categories of documentation:

- **Independent** – Independent documentation is generated through a process independent of the Assessment. Because of this, there is no intentional bias introduced by inclusion of projects with this type of documentation. Examples include a Master Plan, a Capital Improvement Plan (CIP), or Facilities Plan. Independent documentation may be used to justify project need or cost (or both).

- **Survey-generated** – Survey-generated documentation is written documentation generated specifically for the Assessment by the system, the state, or the American Indian and Alaskan Native Village representative (including the EPA Regions and the Navajo Nation). This type of documentation relies heavily on the best professional judgment of the person completing the questionnaire. Documentation written by the system is typically based on the system's general knowledge of the condition and history of the system's infrastructure. Documentation provided by the state or other representative may be based on interviews conducted with the system or may be based on the representatives' general knowledge of the system. Survey-generated documentation may only be used to justify project need (cost estimates cannot be survey-generated).

Independent and survey-generated documentation can be combined to justify project need. Independent documentation often does not directly address the allowability of the need; therefore, the survey-generated documentation may be added to clarify the need for the project. For example, independent documentation such as a CIP may include a brief project description with detailed system-specific and project-specific information and cost but may not provide a specific reason for need. In this case, survey-generated documentation could be used to provide the reason for need.

5.1 Documentation of Need

Documentation of need is project-specific documentation that describes the project, provides the scope of the project, and indicates why the project is needed. The documentation must:

- Provide sufficient information for EPA to review the allowability of the project.
- Provide adequate data to check the accuracy of the data entered on the questionnaire.
- Be dated and be less than 4 years old (No older than January 1, 2007).

Two levels of documentation requirements have been set as policy for the Assessment. They are: projects that are reviewed based on a weight of evidence that the need meets policies and projects accepted with all forms of documentation. Certain types of projects must include independent documentation in the information submitted for weight of evidence review. The required level of documentation is dependent on the type of need and whether the project is for new infrastructure,

replacement of existing infrastructure, expansion/upgrade of an existing complete plant, or rehabilitation of existing infrastructure. Projects without adequate documentation of need will not count toward the system's need unless adequate information is provided.

The following sections provide a list of the types of projects that fall under each category of documentation requirement. Exhibit 4 provides a table of acceptable documentation of need by type of need code. Additional details are provided in the Type of Need Dictionary (available in the Assessment Training Binder and as a downloadable link at www.dwneeds.com.

5.1.1 Projects For Which Weight Of Evidence Review Is Applied

- Wells, springs, and well houses (documentation must address allowability criteria)
- New surface water intakes and new aquifer storage and recovery wells (independent documentation required)
- Replacement or rehabilitation of any ground or surface water source (documentation must provide specific information such as age and condition)
- New well pumps or new raw water pumps
- New off-stream raw water storage (independent documentation required)
- New, replacement or expansion/upgrade of a complete treatment plant (independent documentation required)
- New disinfection equipment or treatment plant component (independent documentation required)
- New ground or elevated storage tanks (independent documentation required)
- Replacement of ground or elevated storage tanks (documentation must provide specific information such as age and condition)
- New hydropneumatic storage (documentation must indicate project-specific need)
- New pipe (independent documentation required)
- Rehabilitation and replacement of pipe at a rate in excess of 10% total (independent documentation required)
- Flushing hydrants and valves (documentation must indicate these appurtenances are not included in pipe projects)
- New pump stations (independent documentation required)
- New finished water pumps (address allowability criteria)
- Replacement of pump stations (documentation must provide specific information such as age and condition)
- New emergency power (address allowability criteria)
- Security (documentation must indicate project-specific need)

Weight of evidence

Reviewers will weigh the evidence provided to determine if the submitted project will be accepted.

Documentation must include sufficient information about the project to verify that the project meets the allowability criteria and is necessary, is feasible, and that there is sufficient implied or stated commitment to implementing the project.

5.1.2 Projects For Which All Forms Of Documentation Are Accepted

- Replacement or rehabilitation of well pumps, raw water pumps, and off-stream raw water storage

- Abandon well, elimination of well pit, and de-stratification
- Rehabilitation of a complete treatment plant
- Replacement or rehabilitation of treatment system components and disinfection equipment
- Rehabilitation of ground-level and elevated storage tank
- Tank covers and cisterns
- Replacement or rehabilitation of hydropneumatic tanks
- Replacement or rehabilitation of finished water pumps and rehabilitation of pump stations
- Pipe rehabilitation and replacement within policy limits
- Other projects including service lines, lead service line replacements, control valves, backflow prevention, meters, controls, and laboratory capital needs
- Replacement of emergency power

5.1.3 Guidelines For Submitting Documentation

The following are guidelines for submitting documentation:

- Mark the project number on the documentation to facilitate further review by EPA.

- If a system provides an existing plan or study document, they may provide the entire document or the relevant pages that describe the projects and any options that were considered. If the latter method is used, include the title page that identifies the document and its date.

- Documentation generated expressly for the Assessment must include a description of the project and justification for the need. It should be signed and dated by the water system, or state, EPA Region, or Navajo Nation representative. Adequate information (e.g., actual age, condition, date of last rehabilitation), must be included for the reviewer to assess whether the project is allowable and meets the Assessment policies.

- Projects for which documentation of need is more than 4 years old (earlier than January 2007) can be allowed if additional documentation is submitted and indicates that the project is still necessary, the scope has not changed, and construction did not begin before January 1, 2011. This additional documentation must have a current signature and date.

Exhibit 4: Acceptable Documentation of Need by Type of Need Code

Code	Need Type	New	Replacement	Rehabilitation
SOURCE				
R1	Well	Weight of evidence − Substantial portion not for growth − Specific deficiency discussed	Weight of evidence − Age, condition, history − Specific deficiency discussed	Weight of evidence − Age, condition, history
R10	Spring Collector			
R2	Well Pump	Weight of evidence − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted	
R8	Raw Water Pump			
R3	Well House	Weight of evidence − Clear indication of need	Weight of evidence − Age, condition, history of well house	
R4	Eliminate Well Pit	All forms of documentation acceptable	N/A	
R5	Abandon Well			
R6	Aquifer Storage and Recovery Well	Weight of evidence − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed	Weight of evidence − Age, condition, history − Specific deficiency discussed	Weight of evidence − Age, condition, history
R7	Surface Water Intake			
R9	Off-Stream Raw Water Storage	Weight of evidence − **Independent Documentation Required** − Specific deficiency discussed − Not for new/recent regulation	All forms of documentation accepted	
R11	De-stratification	All forms of documentation accepted (cost estimate required)		
TREATMENT COMPONENTS				
T1 – T9	Disinfection	Weight of evidence − **Independent Documentation Required** − Specific deficiency discussed − Not for new/recent regulation	All forms of documentation accepted	
T30 – T44	Treatment components			
T45	Treatment Unknown		N/A	
T46	Other		All forms of documentation accepted (cost estimate required)	

Code	Need type	New	Expansion or Upgrade	Replacement	Rehabilitation
COMPLETE TREATMENT PLANTS					
T10 – T24	Complete Treatment Plants	Weight of evidence − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed			All forms of documentation accepted

Code	Need Type	New	Replacement	Rehabilitation
PUMPING				
P1	Finished Water Pump	Weight of evidence − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted	
P2	Pump Station	Weight of evidence − **Independent Documentation Required** − Substantial portion not for growth or fire − Specific deficiency discussed	Weight of evidence − Age, condition, history of pump station or system	All forms of documentation acceptable

Exhibit 4: Acceptable Documentation of Need by Type of Need Code

Code	Need Type	New	Replacement	Rehabilitation
		PIPE		
X1	Raw Water Transmission	Weight of evidence − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted within 10% limit Independent documentation required over 10% limit If any project relies on survey-generated documentation, the total system-wide rehab and replacement rate may not exceed 0.5% annually or 10% for the 20-year period.	
X2	Finished Water Transmission			
M1	Distribution Mains			
M2	Lead Service Lines	N/A	All forms of documentation acceptable	N/A
M3	Service Lines	All forms of documentation acceptable		(Rehabilitation not allowed – considered O&M)
M7	Backflow Prevention			
M8	Water Meters			
M4	Hydrants	Weight of evidence − Clear indication not included in pipe		(Rehabilitation not allowed – considered O&M)
M5	Valves			
M6	Control Valves	All forms of documentation acceptable		
		FINISHED / TREATED WATER STORAGE		
S1	Elevated Storage	Weight of evidence − **Independent Documentation Required** − Substantial portion not for growth/fire − Specific deficiency discussed	Weight of evidence − Age, condition, history of tank − Specific deficiency discussed	All forms of documentation acceptable
S2	Ground-level Storage			
S3	Hydropneumatic Storage	Weight of evidence − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation acceptable	
S4	Cisterns (AI/ANV Only)	All forms of documentation acceptable		
S5	Cover for Existing Finished / Treated Water Storage	All forms of documentation acceptable (includes rehab of the tank)		N/A
		OTHER		
W1	Laboratory	All forms of documentation acceptable (system-specific cost estimate required for laboratory)		(Rehabilitation not allowed – considered O&M)
W2	SCADA			
W3	Pump Controls / Telemetry			
W4	Emergency Power	Weight of evidence − Clear indication of need (necessary to operate critical infrastructure to maintain pressure and provide water)	All forms of documentation acceptable	(Rehabilitation not allowed – considered O&M)
W5	Fencing	Weight of evidence − Specific deficiency discussed − Reasonable lengths	Weight of evidence − Specific deficiency discussed	(Rehabilitation not allowed – considered O&M)
W6-W9	Security	Weight of evidence − System-specific cost estimate required		(Rehabilitation not allowed – considered O&M)
W10	Other			

5.2 Documentation of Cost

There are two primary methods for assigning costs to a project:

1) An independent cost estimate, or
2) Adequate information for EPA to estimate a cost using a cost model.

5.2.1 Independent Cost Estimate

The first and most accurate option for assigning a cost to a project is for the system to provide an independent cost estimate. These are typically in the form of an excerpt from a CIP or Master Plan, bid tabulation, or an engineer's estimate. Cost estimates should include all aspects necessary for construction of the project including design, engineering, labor, materials, and contingencies.

Some cost components are not allowable and will be deleted from the cost. These include loan origination fees, legal fees, finance charges, bond issuance fees or costs, and interest payments on a loan. In addition, inflationary multipliers for future projects are not accepted. Cost estimates must include the date they were prepared. EPA will use this to adjust the cost to January 2011 dollars.

If a cost estimate is given as a range, the lower end of the range is used.

Documentation of cost that is more than 10 years old (earlier than January 1, 2001) will not be accepted because it is assumed construction techniques and treatment technologies may have significantly changed within the last 10 years.

Projects that have adequately documented costs are the basis of the cost models. EPA requests that systems provide both cost and modeling parameters for as many projects as possible so that the data can be used to build new cost models.

5.2.2 EPA Models Cost

The second option for assigning a cost to a project is to provide adequate information for EPA to model the cost. Information that is used for modeling includes the type of need, whether the project is for new, replacement, rehabilitation or expansion/upgrade, and the appropriate modeling parameter. The required modeling parameter(s) for each project is dependent on the type of need. For example, finished water storage tanks are modeled based on the storage volume while distribution pipe is modeled based on pipe diameter and length. Refer to the Type of Need Dictionary in the Assessment Training Binder (also available at www.dwneeds.com) for complete information on required modeling parameters.

EPA is not able to model all possible types of infrastructure projects. Some projects are too site-specific for cost models to be applied; others are too unique for a cost model to be developed. Infrastructure projects that require documented costs be provided are identified in the Type of Need Dictionary.

6.0 Survey Instrument

6.1 Questionnaire

The 2011 Assessment questionnaire is the data collection instrument for reporting all needs. A copy of the questionnaire is included as Appendix B. Survey data are obtained in a coded format for entry into a computer database. Codes are provided in a separate document refered to as the *Lists of Codes* (see Appendix A). Although data collection occurs using the questionnaire, documentation of all projects must be submitted along with every questionnaire.

6.1.1 Cover Page, System Information

Cover pages for mailed questionnaires are printed using information from the Safe Drinking Water Information System (SDWIS) database, as verified by the states, EPA Regions, or American Indian and Alaskan Native Village representatives. The water system indicates if the information is correct by checking the appropriate box. If inaccurate, the system should provide the correct information in the right hand column. Any changes are maintained in a database for the Assessment. Changes are *not* made to SDWIS.

While most cover page information is self-explanatory, some information is described in Exhibit 5.

Exhibit 5: Information Requested on Cover Page

Contact Information	Physical address to allow Federal Express delivery of the questionnaire. U.S. Mail is used if a street address is unavailable if they are to be sent by EPA. States, EPA Regions, and Navajo Nation representatives assist EPA by reviewing the contact information and addresses before the questionnaires are distributed.
Ownership Type	Ownership type options include: Public, Investor Owned or Private Non-Profit, Native American and Federal Government. The system should check all that apply. This information is used to help ensure federal government entities are not included.
Population Served	The total population served directly by the system and by consecutive systems purchasing water from the system. By using total population served, systems are more appropriately stratified. *Example: A wholesaler may be recorded in SDWIS with a population of 25 people that sells water to another system that serves 100,000 people. If the population was not changed to 100,000, this wholesaler would be inappropriately part of the small system survey.*
Number of Connections	Total number of connections for the system - all residential and industrial connections are included. A connection to a consecutive system counts as one connection. *Example: A wholesale water system that sells to five consecutive systems may serve a population of 35,000 through only five connections.*
Total Design Capacity	The flow in million gallons per day (MGD) the system can produce with all sources and treatment on-line. The flow must be recorded in MGD. This information is not available through SDWIS and is not preprinted on the questionnaires. If the system, state, EPA Region, or Navajo Nation representative does not report a design capacity, the field is left blank in the final data set.
Source	This field is printed with "Ground," "Purchased Ground," "Surface/GWUDI," or "Purchased Surface/GWUDI." Ground water systems include systems that use only ground water. Surface water systems are systems that use surface water or ground water under the direct influence of surface water (GWUDI) in whole or in part. Purchased systems buy either treated ground water or treated surface/GWUDI, but does not include systems that buy raw water. Systems are to check all of the boxes that apply to their type of source water.

6.1.2 Project Tables

The questionnaire is designed with three separate project tables. The project tables address the following project types:

- Source, Treatment, Storage, and Pumping Projects
- Transmission and Distribution Projects
- Meters, Service Lines, Backflow Prevention Devices/Assemblies, Hydrants, Valves, etc.

Exhibit 6: Information Requested on Project Tables

Column	Required	Single or Multiple Entry	
Project Number	Yes	Unique entry needed	This field is used to record a unique project number for each project. Project numbers should be numbered in sequence (e.g., 1000, 1001, 1002, etc. for source, treatment, storage and pumping projects). Project numbers should also be recorded on project documentation.
Project Name	Yes	Descriptive name	This field is used to record a descriptive project name for each project. The project name and number are used to track the project and facilitate communication about the project.
Type of Need	Yes	Multiple codes acceptable if cost provided	This field is used to record a code from List 1-Type of Need (in the *Lists of Codes*) and identifies the type of project. The type of need is required to assign the project to a category of need, define documentation requirements, and to model cost estimates.
Reason for Need	Yes	Multiple codes acceptable	This field is used to record a code from List 2-Reason for Need that indicates the reason(s) a system needs the listed project. This code is not a substitute for written documentation of need.
New, Replace, Rehab, or Expand/ Upgrade	Yes	Single entry	This code is used to record whether the project is to: • Install entirely new ("N") infrastructure (e.g., install a new storage tank); • Replace ("R") existing infrastructure (e.g., replace pump, abandon existing water mains and install new); • Rehabilitate ("H") existing infrastructure (e.g., clean and line water mains, sand blast and paint storage tank); or • Expand or upgrade ("E") an existing complete treatment plant (e.g., add a treatment train for more capacity, add membrane filtration, or other unit process). This information is used when modeling costs.
Current or Future	Yes	Single entry	This column is used to identify whether the project is a current ("C") or future ("F") need. A current need is one that is needed now, even if funding is not currently available. A future need is not needed at the present time, but the system anticipates needing to address the issue within the 20-year timeframe of the survey.
Reg or Secondary Purpose	No	Multiple codes acceptable	This column is used to identify projects related to a regulatory requirement or secondary purpose. Codes are in List 3-Regulation or Secondary Purpose. If no code applies the entry can be left blank or the 4A code can be used.
Design Para-meters	Yes, if cost not provided	Single entry	The design parameters are dependent on project type: • *Source/Treatment/Storage/Pumping* – Design capacity in MG, MGD, or kW. • *Transmission/Distribution* – Diameter of pipe in inches and length of pipe in feet. • *Meters/Service Lines/Backflow Prevention Devices/Hydrants/ /Valves* – Number and size (i.e., diameter in inches) of new devices Although parameters are not required, if a documented cost is provided, when available, provide parameters for input into the cost model.
Cost Estimate	No	Single entry	This field is used to record an existing documented independent cost estimate, if available. Systems are not expected to develop costs specifically for the Assessment. If no cost is available, EPA will model the cost where possible.
Date of Cost Estimate	Yes, if cost estimate provided	Single entry	This is the month and year on which the cost estimate is derived. It is not the date the project is expected or planned. This information is needed so that all costs can be standardized to January 2011 dollars.
Documen-tation	Yes	Multiple codes acceptable	A code from List 4-Documentation indicates the type(s) of documentation used to justify the need and cost (if provided) of the project. Copies of the documentation must be submitted with the questionnaire.

6.1.3 Inventory Tables

Inventory tables accompany each project table. These are intended to be used as a tool to help systems identify all potential projects. Completion of the inventory tables is not a required part of the questionnaire. However, one of the policies of the 2011 Assessment is that if a project table includes one or more pipe projects that relies solely on survey-generated documentation to support the need, at a minimum the system must complete the "total feet or miles of pipe" entry of the transmission and distribution inventory table.

Exhibit 7 describes the information requested in each inventory table.

Exhibit 7: Summary of Information Requested by Inventory Tables

	Inventory	Needing Replacement	Needing Rehabilitation (or Expansion/Upgrade)	Needing New
Source, Treatment, Storage, and Pumping Projects	Total inventory of wells, springs, or intakes; the number of locations where treatment is applied; and the total number of storage tanks	Number that need to be replaced (based on inventory)	Number that need to be rehabilitated (based on inventory); number of complete plants that need to be expanded/upgraded	Additional sources, treatment, or storage/booster pumping capacity needed to address a deficiency facing existing customers.
Transmission and Distribution Projects	Total length (in feet or miles) of transmission and distribution mains by type and percentage of total pipe	Length or percentage of the mains that are in poor condition or beyond their useful life (by size and type of pipe)		
Meters, Service Lines, Backflow Prevention Devices/Assemblies, Hydrants, Valves, etc.	Water meters, lead service lines, backflow prevention devices/assemblies, flushing hydrants, and valves	Number that need to be replaced (based on inventory)	N/A – rehabilitation of these items is considered O&M	Additional valves, hydrants, water meters, and backflow prevention devices/assemblies needed to address a deficiency facing existing customers.

6.1.4 Respondent Information

The last page of the questionnaire is completed to identify the person who can provide additional information regarding the submittal and how they can be reached. States, EPA Regions, and Navajo Nation representatives may also contact the systems by using this information.

6.2 Lists of Codes

The green *Lists of Codes* booklet (included in Appendix A) contains descriptions of information requested on the questionnaire and four subject specific tables with codes to be entered on the questionnaire. The codes indicate pertinent details of each project and are listed by: (1) type of need; (2) reason for need; (3) regulation or secondary purpose; and (4) documentation.

List 1 – Type of Need

The types of need associated with a project are grouped into seven major categories. Under each category are several types of projects, each with a specific code. Exhibit 8 describes the various projects that fall under each type of need.

Exhibit 8: Descriptions of Types of Need Codes

Raw/Untreated Water Source (Codes R1–R11)	This category includes needs for ground and surface water sources.
Treatment: Disinfection (Codes T1–T9)	This category includes disinfection that may be at the source, treatment plant, or within the distribution system.
Treatment: Complete Plants (Codes T10–T24)	This category includes complete treatment plants which includes all components from raw water pumps through finished water pumps.
Treatment: Other Components/Equipment/ Processes (Codes T30–T46)	This category includes components of the treatment process, such as corrosion control, aeration, and waste handling. Note that a system cannot include a project for a complete treatment plant and then also a project for one of the components of the plant.
Transmission (Codes X1–X2)	This category includes needs for raw or finished water transmission pipes. Finished water transmission mains are considered to be piping up to the point at which a distribution grid is encountered.
Distribution (Codes M1–M8)	This category includes needs for water mains, hydrants, flow control valves, pressure reducing valves, backflow prevention devices, service lines, and meters.
Finished/Treated Water Storage (Codes S1–S5)	This category includes elevated, ground level, hydropneumatic water storage tanks, and cisterns (for Native American and Alaskan Native Village water systems only). It also includes covering uncovered finished/treated water storage.
Pumping Station and Finished Water Pump (Codes P1–P2)	This category includes finished water pumps and booster pump stations. *Note the code for a well pump and raw water pump are in the source category as R2 and R8 codes, respectively.*
Other Infrastructure Needs (Codes W1–W10)	Some capital infrastructure needs such as laboratory costs, pump control/telemetry, emergency power, and infrastructure improvements for natural disaster protection cannot be classified in the above categories. These are counted as "other needs." It is often difficult for cost models to be developed for these types of needs. Therefore, a documented cost estimate is needed for most of these projects.

List 2 - Reason for Need

The Reason for Need List provides 11 options describing why a project is necessary. More than one code may apply to a single project. A description of each reason for need code is provided in Exhibit 9.

Exhibit 9: Descriptions of Reason for Need Codes

Code	Description	Example
A1	Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2030.	An elevated storage tank is expected to reach the end of its useful life and require sand blasting, repainting and minor structural rehabilitation within the next 10 years.
A2	Project is to correct a deficiency in source water quantity caused by current user demand.	Existing sources are currently unable to meet max day demand based on 200 gallons per day per capita. An additional well is planned to meet demand.
A3	Project is to correct a deficiency in storage capacity caused by current user demand.	The system does not have adequate storage to meet peak demand during summertime. The system has implemented a water conservation program but additional storage is needed to correct this problem.
A4	Project is to correct existing pressure problems (not related to fire flow).	Part of town experiences loss of pressure during peak flows on a regular basis.
A5	Project needed as a result of, but not in preparation for, a natural disaster.	A storage reservoir has sustained major structural damage as a result of flooding caused by a hurricane.
A6	Project is to obtain or maintain compliance with an existing regulation (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire).	Lead service lines must be replaced for the system to be in compliance with the Lead and Copper Rule.
A7	Project is to obtain or maintain compliance with a secondary standard (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire).	Customers regularly complain to the system about taste and odor problems with their water and the system has a treatment plant planned (independent documentation must be provided for all complete treatment plants).
A8	Project is for consolidation with and/or connection to an existing public water system.	The system's water supply has become contaminated and they must connect to a neighboring water system to provide safe drinking water to their customers.
A9	Project is for extending service to existing homes without adequate water quantity or quality.	Existing homes that currently use private wells have experienced contamination problems. The system will install transmission and distribution pipe to the homes.
A10	Project is to prevent, detect, or respond to a security event (e.g., fence, locks, protective structures, gates, on-line sensors, motion sensors, alarm systems, generators, communications equipment)	The system must install fencing around its storage reservoir to protect the infrastructure from vandalism and possible water quality impacts.
A11	This code should be used if codes A1-A10 do not apply.	A description of the project including the reason it is needed must be provided and clearly identified by project number.

List 3 – Regulation or Secondary Purpose

If a project is necessary to obtain or maintain compliance with a regulation or is for a secondary purpose, codes are provided to tie the project to that regulation or secondary purpose. Codes 1A through 1H are for specific drinking water regulations and codes 2A through 2G are for secondary contaminants, state regulations, green infrastructure, and climate readiness projects (Exhibit 10).

Projects for compliance with proposed and recently promulgated regulations should not be included on the questionnaire. Because systems cannot be expected to know what their needs will be for compliance with these regulations, EPA estimates the need associated with these rules based on data from Economic Analyses.

Not all projects that are necessary for the continued supply of an adequate quantity and quality of water will be associated with one of the regulations or secondary purposes on the list. If no code applies (but the project is in furtherance of other objectives of the Safe Drinking Water Act), the 4A code can be used or the entry can be left blank.

Exhibit 10: Regulation Codes

EXISTING SDWA REGULATIONS			
1A	Surface Water Treatment Regulations (SWTR, IESWTR, FBRR, LT1ESWTR, and LT2ESWTR)	1E	Arsenic Rule (10 µg/L Arsenic Standard)
		1F	Stage 1 Disinfectants/Disinfection Byproducts Rule (for compliance with the running annual average)
1B	Total Coliform Rule		
1C	Nitrate or Nitrite Standard	1G	Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
1D	Lead and Copper Rule	1H	Ground Water Rule
OTHER REQUIREMENTS OR SECONDARY PURPOSES			
2A	Secondary Contaminants (e.g., iron, taste and odor, and color)	2E	Green – Energy Efficiency
2B	State Requirement	2F	Green – Environmentally Innovative
2C	Green – Green Infrastructure	2G	Climate Readiness
2D	Green – Water Efficiency		
PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS			
Needs associated **solely** with the following proposed or recently promulgated regulations are not allowable. These regulations include:	• Stage 2 Disinfectants/Disinfection Byproducts Rule (for compliance with the locational running annual average)		
	• Proposed Revisions to the 1989 Total Coliform Rule		
	• Proposed Radon Rule		
If None of the Above Applies Use Code 4A or leave column blank (project is in furtherance of other objectives of the Safe Drinking Water Act)			

List 4 – Documentation

List 4 provides codes for the types of acceptable documentation used to justify the need and/or estimate of cost. The main types of documentation acceptable for the 2011 Assessment are described in Exhibit 11.

Exhibit 11: Types of Acceptable Documentation

	Justification	Code	Documentation
INDEPENDENT	For Need and/or Cost Documentation	1	Capital Improvements Plan
		1	Master Plan
		2	Facilities Plan or Preliminary Engineering Report
		3	Grant or Loan Application Form
		4	Engineer's Estimate
		4	Bid Tabulation
	For Need Documentation Only	5	Intended Use Plan/State Priority List
		6	Sanitary Survey
		6	Comprehensive Performance Evaluation Results
		7	Monitoring Results
		8	Other Independent Documentation
	For Cost Documentation Only	9	Cost of Previous Comparable Construction
SURVEY-GENERATED	For Need Documentation Only	10	Written by State
		11	Written by System
		12	Written by EPA Region/Navajo Nation

Other forms of documentation will be considered on a case-by-case basis. For instance, customer complaint reports or violation notices can be useful as independent documentation to support other survey-generated documentation.

6.3 Applying Codes to a Project

Exhibit 12 provides an example of how to apply the codes to a project. In this example, a system intends to construct a new treatment plant within the next year because they are exceeding the maximum contaminant level for arsenic. Their intention is to install Activated Alumina. The project is documented in their Capital Improvement Plan.

Exhibit 12: Examples of Applying Codes		
Type of Need Code	T19	**The appropriate type of need is T19 – Activated Alumina complete plant.**
Reason for Need Code	A6	Because the system is providing this treatment to comply with a regulation, t**he appropriate reason for need code is A6 – Project is to obtain or maintain compliance with an existing regulation.**
New, Replace Rehabilitate, or Expand/Upgrade	N	Since the system is installing new infrastructure, **the appropriate description is N for new.**
Current or Future	C	The systems needs the treatment plant and will be installing it within a year. **The appropriate code is C for current.**
Regulation or Secondary Purpose Code	1E	In this situation, a regulation directly applies so **the appropriate regulation code is 1E – Arsenic Rule.** If no regulatory code had applied, the 4A code can be used.
Documentation Code	1	The project is included in the system's CIP so **the appropriate documentation code is 1.**

6.4 Climate Readiness

If a system's preparedness for climate change was a consideration during the planning process for any project included in the survey, use code 2G in the "Regulation and Secondary Purpose" column and answer the questions on Page 7 of the questionnaire.

Climate readiness is not adequate documentation of need for a project. The project documentation must meet the documentation requirements for that type of need as provided in Exhibit 4 and the Type of Needs Dictionary included in the Assessment Training Binder.

The data collected from the climate readiness questions will be use to report, in very general terms, the extent to which climate readiness is being incorporated into systems' 20-year infrastructure needs that are DWINSA allowable.

7.0 Encouraging System Participation

Water systems face many competing priorities, and it is often difficult for completion of the questionnaire to rise to the top of the priority list. In addition, systems that do not intend to apply for DWSRF monies may lack the incentive to complete a questionnaire. This may be a significant problem for privately-owned systems, even in states that lend money to such systems. Systems may also be disinclined to participate because of concerns about public reaction to the data, or because they lack the time and expertise to complete the survey.

It is in the state's, EPA Region's, and Navajo Nation's best interest to encourage systems to participate as each response reflects on the total national need as well as the state and American Indian and Alaskan Native Village need. EPA has solicited comments on ways to motivate water systems that do not want to participate in the Assessment. The following are some suggested ways to encourage water system participation:

- Initiate frequent communication about the Assessment with water systems.
- Conduct site visits to assist systems that do not respond.
- Emphasize the importance of the fund and the set asides to the overall success of drinking water programs.
- Examine options for coordinating the Assessment with capacity development, source water protection, or consumer awareness initiatives.
- Encourage positive reinforcement from other water systems in the area.
- Discuss the relationship between the Assessment and public availability of information. Systems may want to notify their customers of their participation in the Assessment to show their commitment to quality drinking water.
- Work with local chambers of commerce or other municipal organizations to encourage system participation.
- Work with public utility commissions to encourage responses from systems they regulate.
- Ensure that the surveys reach the right person at the water system (i.e., someone with the ability to complete the questionnaire).

EPA will also engage in some activities to encourage water system participation:

- EPA will work with trade associations to help motivate systems, including the American Water Works Association (AWWA), the Association of Metropolitan Water Agencies (AMWA), and the National Association of Water Companies (NAWC).
- EPA will publish articles in trade newsletters about the importance of the 2011 Assessment.

7.1 Conducting Follow-Up Site Visits

This section contains information that may help state, EPA Region, and Navajo Nation representatives plan and conduct site visits, if needed. A 1997 study, as follow-up to the 1995 survey, showed that systems did not always report all of their needs on the questionnaire. The follow-up survey also discovered several reasons why water systems did not identify needs:

- Belief that the needs were not allowable.
- Lack of existing documentation to support the needs (e.g., CIPs).
- Lack of time to complete the questionnaire.
- Lack of involvement by all necessary personnel.

Site visits or phone interviews are effective ways to encourage response and ensure that water systems have identified all their infrastructure needs. The ability to review files and system drawings and discuss needs with the appropriate staff make site visits the most valuable communication tool available. Time and cost, however, are substantial. Phone interviews will be less costly and can be a useful tool for improving questionnaire response.

7.2 Suggestions for Targeting Site Visits

EPA estimates that 8 to16 hours may be necessary to conduct a site visit and complete the questionnaire (excluding travel time). This includes 2 to 3 hours of preparation and logistics, 3 to 5 hours at the system, and 3 to 8 hours to complete the questionnaire and compile the documentation.

In order to use time most efficiently, systems to received site visits should be prioritized. Some of the issues discussed below can help determine which sites would be beneficial to visit.

Target high need systems

The goal should be to collect the best data available from all systems in the sample. However, if time and resource limitations allow for conducting only a few site visits, the systems with known substantial needs or less robust records may be high on the list.

The Potential for Underreporting

Another consideration in choosing which systems would benefit from a site visit is to target systems suspected to underreport needs. To help identify where underreported needs are likely, consider previous knowledge of the system, the system's CIP (if it exists), the overall condition of the water system, its age, and whether the system is rural or urban. Underreporting of needs is often a more pronounced issue with rural systems.

Combine Efforts

States, EPA Regions, and the Navajo Nation should consider whether systems in the survey list are also due for a sanitary survey. If so, efforts can be combined and both tasks completed at the same time.

7.3 Procedures for Conducting Site Visits

It may be beneficial to conduct site visits to follow up on data provided by systems or to collect the data. The section below describes the procedures that have been used to conduct site visits to small systems in previous Assessments. The general approach also may be useful when organizing site visits to larger systems.

Assistance with Generating Documentation of Need

EPA has developed a Needs Evaluation Guide (included in the Assessment Training Binder) to help assess needs through site visits or telephone interviews. The guide will assist in identifying all of the system's components and needs, starting with the source and ending with the distribution system. The guide is divided into different categories of need and can be used to develop survey-generated documentation of needs. The guide itself, when completed and signed, can be submitted as survey-generated documentation of need.

Steps for Conducting a Site Visit

Site visits should be conducted by engineers or other professionals with extensive experience working with water systems. The various steps to conducting a site visit are summarized in Exhibit 13.

Exhibit 13: Steps for Conducting a Site Visit	
Preparation and Final Scheduling for the Site Visit	
Step 1	**Contact.** Contact the system to explain the purpose of the site visit and provide general information on the 2011 Assessment and DWSRF. A typical procedure for the preliminary contact follows: • Identify the person with whom the site visitor should meet. • Provide an estimate of how long the visit will take. • Schedule the site visit within the time frame provided, and consider the location and complexity of the system. • Explain to the contact person what kind of documentation should be made available.
Step 2	**Gather Information.** Ask the system to gather information from their central files. In addition, refer to your files. Typically, sanitary surveys, plans, specifications, and master plans (when available) contain the most useful information.
Conducting the Site Visit	
Step 3	**Explain Purpose.** Arrive at the system and explain the purpose of the visit and the typical procedures used, and provide information on DWSRF and the Assessment.
Step 4	**Explain Assessment Policies.** Explain the 20-year planning horizon and some important rules (e.g., only address a piece of infrastructure once for the 20-year period). Also mention that some projects typically thought of as "maintenance" such as rehabilitation of a storage tank should be included in the Assessment.
Step 5	**Interview the System Contact and Review Planning Documents.** Begin assessing the system's needs by talking the contact through their inventory of infrastructure assets and any additional or overlapping projects in their planning documents or sanitary survey reports. You may want to use the *Needs Evaluation Guide*.
Step 6	**Tour System.** After completing the *Needs Evaluation Guide*, tour the system and view the major components. Then make an independent assessment of condition and needs.
Step 7	**Review Projects.** Review the list of projects that were identified with the system. In the documentation explain the basis for including and excluding projects—a discussion that typically works best if the representative participates. Together modify, add, or delete projects as appropriate.
Preparing the Report	
Step 8	**Prepare Documentation.** Obtain as much independent documentation as possible. If costs are available, take copies of these. Prepare survey-generated documentation for each project that still needs documentation. The system's written documentation should be referenced when available. This is usually done with the system representative.
Step 9	**Prepare Schematic.** A schematic drawing showing key system components should be included with the survey form. Prepare the drawing if it is not available from the system contact(s). This is helpful when back in the office for remembering the specific details of different systems that may have been visited.

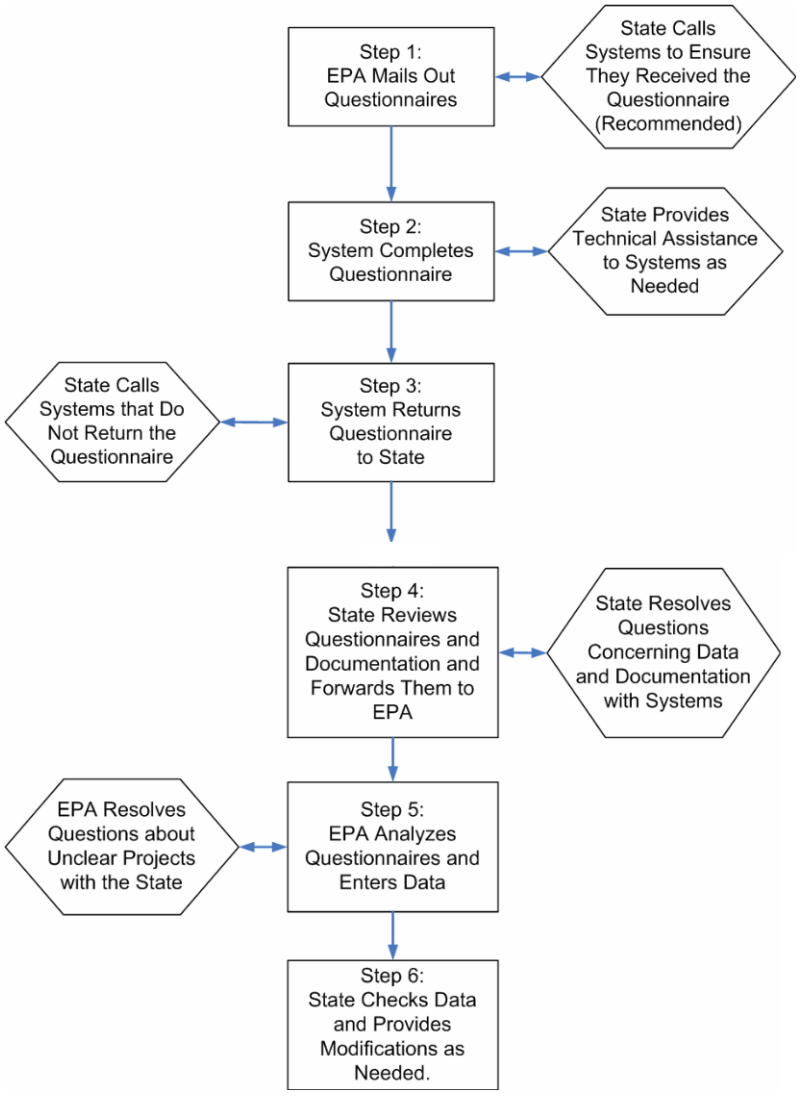
8.0 Data Flow and Schedules

The data flow involves mailing the 2011 DWINSA questionnaires, collecting data, and reviewing survey responses.

8.1 Data Flow for 2011 DWINSA

The data flow for the 2011 DWINSA is outlined in Exhibit 14 and applies to all water systems selected to participate in the DWINSA. The six steps outlined in the flow chart are described below. In this diagram, "state" refers to states, EPA Regions, and Navajo Nation representatives.

Exhibit 14: 2011 DWINSA Data Flow for Participating Systems



Step 1: Mail the Questionnaire

The questionnaire packages will be assembled and mailed by the EPA contractor. States, EPA Regions, and the Navajo Nation will decide if the questionnaire package should include an EPA cover letter, a state cover letter, a Native American cover letter, an Alaskan Native Village cover letter, or letters from EPA and the appropriate entity. The workgroup believes that systems may be more responsive to cover letters that are in addition to the EPA letters. States, EPA Regions, and the Navajo Nation also have the option of sending the questionnaires to systems directly. The 2011 DWINSA will use Federal Express to send the questionnaires to the water systems. An alternative delivery process will be used to send the questionnaires to the Alaskan Native Village water systems.

Step 2: System Completes Questionnaire

Each system is asked to complete the questionnaire and return the results to the state, EPA Region, or Navajo Nation within 30 days. Technical assistance will be available from state, EPA Region, and Navajo Nation representatives and through a toll-free Helpline. States, EPA Regions, and the Navajo Nation can have a contact name and phone number (and/or the toll-free helpline number) preprinted on the questionnaire. Alternatively, the survey may be completed by a site visitor, as previously discussed.

Step 3: System Returns Questionnaire

EPA will provide a pre-addressed, prepaid Federal Express envelope for systems to use in returning the questionnaire and documentation to the state, EPA Region, or the Navajo Nation. If a water system does not return the questionnaire, the state, EPA Region, or Navajo Nation is encouraged to work with the system to complete the questionnaire or complete the questionnaire and documentation for the system.

Step 4: State, EPA Region, or Navajo Nation Reviews Questionnaire and Documentation

State, EPA Region, or Navajo Nation personnel will review all questionnaires and documentation to ensure that projects are allowable, documented appropriately, and coded correctly. The reviewer can contact the EPA contractor with any questions. Reviewers should contact the systems to obtain missing information. Reviewers can generate documentation of need for projects that do not have adequate documentation. Examples of documentation of need for projects are included in the Assessment Training Binder. See Appendix B for a sample questionnaire. States, EPA Regions, and the Navajo Nation send completed questionnaires and documentation to the EPA contractor.

Step 5: EPA Analyzes Questionnaires and Enters Data

The EPA contractor will perform a second level of quality assurance by checking to see that all needs are documented and allowable, and that all costs are documented. Project coding will be verified and the questionnaire will be prepared for data entry. Data entry of project information will occur after EPA contractor review. Projects with inadequate documentation will be deleted, leaving only the project number, name, and type of need for reference. All changes to the questionnaires by the EPA contractor will be identified through the use of comment codes. The list of comment codes is included Appendix C of this guide.

Step 6: State, EPA Region, and Navajo Nation Representatives Check System and Project Status

Each state, EPA Region, and the Navajo Nation will have access to its own data through the www.DWNeeds.com website (see Section 9.0). If questions arise, representatives can contact the EPA contractor. States, EPA Regions, and the Navajo Nation can also provide additional project information (modifications) for the EPA contractor review through the website.

8.2 Project and Data Collection Schedules

The schedule for completing the 2011 DWINSA is shown in Exhibit 15. To improve the efficiency of the questionnaire review, EPA will ask that states, EPA Regions, and the Navajo Nation return the questionnaires in a series of shipments, beginning in March 2011. This schedule will allow the EPA contractor to balance the workload, provide analysts sufficient time to review each questionnaire, help the states, EPA Regions, and the Navajo Nation identify overarching problems early, and ensure that the Report to Congress is completed on time.

Exhibit 15: Schedule for Completing the 2011 DWINSA

Task	Date
Survey Design	January – April 2010
States/EPA Regions/Navajo Nation Review and Correct Inventories	April – July 2010
Information Collection Request Submitted to OMB	September 2010
States/EPA Regions/Navajo Nation Submit to EPA Contact Information to be Included on Return FedEx Labels and system Federal Express Addresses	September 2010
Training Sessions for States, EPA Regions, and Navajo Nation	September – December 2010
Mail Out of Data Collection Instruments to Selected Systems	January 2011
Deadline Given to Systems to Return the Data Collection Instrument to States	March 2011
States/EPA Regions/Navajo Nation Return 5 Questionnaires to EPA for Review and Comment	March - May 2011
1/3 of Sent Data Collection Instruments Returned to EPA contractor	July 2011
2/3 of Sent Data Collection Instruments Returned to EPA contractor	September 2011
All Sent Data Collection Instruments Returned to EPA contractor	November 2011
No New Projects Will Be Accepted by EPA	November 2011
No Modifications of Submitted Projects Will Be Accepted by EPA	January 2012
All Information in the Data System Finalized	April 2012

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9.0 Questionnaire Analysis

9.1 Coordination of Efforts Between States, EPA Regions, Navajo Nation, and EPA Headquarters

Based on experience from past assessments, EPA has found that good communication with the EPA contractor results in the most accurate questionnaire completion and the best project acceptance rate. In an effort to facilitate good communication and realize the best possible data collection results, the following procedures will be implemented.

- **State/EPA Region/Navajo Nation Coordinator.** EPA will ask each state, EPA Region, and the Navajo Nation to assign a lead person to serve as the coordinator. In some cases, other staff (e.g., those from state area offices or counties) may be more appropriate to provide certain information and review surveys, but EPA has found that a central contact aids communication.
- **Lead Analyst.** The EPA contractor will assign a lead analyst for each state, EPA Region, and the Navajo Nation. While other analysts will review some of the questionnaires for that entity, the lead analyst will be the point of contact and will be available to answer questions via phone or e-mail.
- **Senior Contact.** The EPA contractor will provide each coordinator with the name of a more senior contact as well. The coordinator may contact this person if the lead analyst is unavailable, or if the coordinator feels the need to raise its concerns to a higher level. In addition, EPA Headquarters staff will be available to address state, American Indian, or Alaskan Native Village concerns.
- **Communication Procedures.** The coordinator and EPA contractor will establish procedures for communications at the beginning of the data collection period.
- **First Few Questionnaires.** States, EPA Regions, and the Navajo Nation are asked to return to EPA the first few (up to five) questionnaires they have reviewed within the first few months of the data collection period. The EPA contractor will provide a detailed written comment on each of the surveys' contents, completeness, and coordinator analysis. This will allow the EPA contractor to provide feedback to the coordinator early in the process. EPA will host a workgroup meeting in May 2011 to discuss the status of the project and the issues that became evident during the first-few review process.
- **Website.** The EPA contractor will provide the state, EPA Regions, and the Navajo Nation with regular updates on the status of questionnaire analysis through the website (see Section 9.0). States, EPA Regions, and Navajo Nation representatives will be able to identify which questionnaires have been received, if changes were made (e.g., changes to codes or costs), and which projects were deleted and why. If a representative cannot access the data system (e.g., because it lacks Internet access), the EPA contractor will provide the information through other means.
- **EPA Regions.** The EPA Regional coordinator will be contacted periodically by the EPA contractor regarding state, EPA Region, and Navajo Nation response rates and participation, and will be involved with resolving response rate issues as necessary.

9.2 State, EPA Region, and Navajo Nation Review of Survey Responses

State, EPA Region, and the Navajo Nation participation in questionnaire analysis is critical to obtaining a full and accurate measure of the total need reported for each state and EPA Region. Questionnaire analysis includes reviewing the questionnaire for completeness (e.g., to see if any categories or types of needs were overlooked), ensuring that the coding is accurate, and most importantly, reviewing the adequacy of documentation. If the reviewer finds that documentation is inadequate, they should obtain or generate additional documentation if appropriate. The key is to provide a reasonable, logical explanation of why the project is needed with sufficient project-specific information to describe the extent of the project.

As the documentation is reviewed, highlight key information and mark-up the document with comments and information such as project number. This will facilitate the subsequent review by EPA and make it more likely that the documentation will be identified and the project will be understood.

9.2.1 Review Considerations

The review should consider the following issues.

- ☑ **Ensure that needs are documented and allowable.** Documentation of need explains why the project is needed and gives enough detail to ensure that the size and type of project are accurately recorded. The documentation must demonstrate that the project is allowable and meets the Assessment policies. If the documentation provided by the system is not completely clear, the reviewer may add additional project-specific documentation to clarify allowability or the scope of a project. However, the reviewer should supplement, not override, the system's assessment of their infrastructure needs.

- ☑ **Ensure that projects cover all areas of need.** Systems are generally able to assess their near-term needs. Many have short term planning documents and most have a good grasp on what infrastructure needs they are facing in the near term. Systems are often limited to these shorter term planning documents, however, and may not have a complete grasp of longer term needs. Reviewers should ensure that all infrastructure areas have been considered and obtain or provide additional documentation for projects that have been missed. Inventory tables located in the questionnaire may be helpful in identifying projects that may not have been considered.

- ☑ **Ensure that documentation of need is less than 4 years old.** If documentation is dated before January 1, 2007, provide a signed and dated statement or other certification (from the system, state, EPA Region, or Navajo Nation) indicating that the project is still necessary, is within its original scope, and that construction has not started by January 1, 2011. Phases of a multi-phase project that have not yet begun may be included.

- ☑ **If costs are provided, ensure that they are adequately documented.** Documentation of project costs provides an accurate basis for cost estimates. The cost estimate should include all aspects of the infrastructure project including design, engineering, materials, construction, and contingency costs. However, if a documented cost estimate for an allowable project is

more than 10 years old it cannot be used. Please delete the cost and provide modeling parameters so the cost can be modeled.

☑ **If costs are not provided, include modeling parameters that allow EPA to assign modeled costs.** If a project does not have a documented cost estimate, make sure the system has provided modeling parameters that allow EPA to estimate costs. If modeling parameters are not included, the reviewer should contact the water system to obtain the necessary information.

☑ **"Unlump" combined projects if necessary.** In some situations, projects may combine more than one type of need on a single line (e.g. booster pump station and tank). Consider the following when deciding if these should be separated into multiple projects or "unlumped":

- If the project does not have a cost estimate:
  - The project must be unlumped so that the cost models can be applied. EPA can apply models for individual types of need only.
- If the project has a cost estimate:
  - Projects should be unlumped when costs are provided and can be separated into the project components. This will allow EPA to use the costs to build the new cost models.
  - Projects should be unlumped when there are multiple categories of need (categories are source, treatment, storage, transmission and distribution, and other) and the costs separated by category of need. This assists data reporting. EPA reports the amount of need in each general category in the Report to Congress.
  - It is not necessary to unlump projects whose components are closely related (such as filter media and sedimentation basin upgrades).

Reviewers should also note the following special circumstances:

- **Multiple responses from the same system.** In some systems, more than one department is involved with the water system (e.g., one group deals with treatment while another is responsible for distribution). In these cases the system may submit more than one questionnaire. The reviewer does not have to combine these onto one questionnaire, but should submit the survey as one package. Also, review the submittals to ensure that no needs were reported more than once and all projects have unique project numbers.

- **Multiple systems that combine their responses on one questionnaire.** In some cases one entity owns or manages multiple systems, or water systems may have consolidated after the review of the SDWIS inventory data was completed. If two or more systems wish to submit a combined questionnaire, and all of the system are in the census portion of the survey (large state CWSs and American Indian systems serving more than 10,000 persons), the needs can be reported on one questionnaire. If only one system is included in the survey, then only the needs for that system can be included.

- **Shared projects.** If a water system lists a project that is planned in cooperation with another system, the recorded cost or modeling parameters should represent the portion of the project for which the system in the survey is responsible.

9.2.2 Survey Submittal

Once review is complete, the state, EPA Region, and Navajo Nation is responsible for submitting the questionnaire and all appurtenant documentation to the EPA contractor. This can be done electronically via the upload process on the DWINSA website or e-mail, or hard copy documents can be mailed.

The address for e-mail, mail, or other delivery is:

The Cadmus Group, Inc.
2620 Colonial Drive
Suite A
Helena, MT 59601

Attention: Linda Hills
Linda.Hills@cadmusgroup.com
(406) 443-9194

States, EPA Regions, and the Navajo Nation should aim to submit the first few submittals to EPA within the first month. These first submittals will be reviewed and an in-depth response will be provided to the coordinator to ensure that policies are understood and coding is appropriate. Then the state, EPA Region, and Navajo Nation should continue to send submittals with approximately one-third submitted by July 2011, two-thirds submitted by September 2011, and the full set submitted by November 2011.

9.3 EPA Review of Survey Responses

When submittals are sent to EPA, the contractor will conduct a review similar to the state, EPA Region, or Navajo Nation review discussed above. In general, the steps below outline this process (although systems serving more than 100,000 people may have uploaded their own data).

9.3.1 Initial Analysis

Each state, EPA Region, and the Navajo Nation is assigned an analyst who will be the primary contact for the coordinator and is likely to review most of their questionnaires. Coordinators are encouraged to contact their assigned analyst as needed to answer questions and clarify policies.

As questionnaires are submitted, each will be reviewed in detail by the analyst to ensure that each project is allowable, need is appropriately documented, costs can be assigned, and coding is accurate.

9.3.2 Senior Review

After the initial analysis, each questionnaire receives a senior-level review to help ensure consistency in the data analysis. This analysis is conducted by personnel with a background in water supply and treatment as well as extensive knowledge of the Needs Assessment policies and procedures.

9.3.3 Changes and Comment Codes

Analysts and senior reviewers will edit the questionnaire as necessary based on his or her review. Every change applied to a project is given a comment code so that states, EPA Regions, and Navajo

Nation representatives can see what changes have been made and how the change impacts the project. Appendix C has a complete list of the comment codes used. The general categories of comments include:

- Comments pertaining to the submittal as a whole
- Comments addressing the allowability of a project
- Comments addressing adequacy of documentation of need
- Comments indicating that a project or portion of a project is included in another project
- Comments indicating that a project has been disaggregated ("unlumped") to model the cost or to capture cost data
- Comments indicating that two or more projects have been aggregated ("lumped") for modeling or other purposes
- Comment that address the cost or modeling parameters for a project
- Comments that indicate other changes have been made based on the submitted documentation
- Comments in response to modifications submitted by the state

9.3.4 Upload to Database

Reviewed submittals received by mail, Federal Express, or e-mail are sent to a data entry house that provides "dual data entry" for each submittal. Data is then uploaded to the database and website for review by the state.

9.3.5 Project Status

When the review and upload is complete, each project is assigned one of the following status categories based on the changes it received. Coordinators can use this information to determine which projects need follow-up modifications or additional documentation.

- Project allowed as submitted
  Displayed as a green check 

- Project allowed with changes that do not impact cost
  Displayed as a green check 
  Edits or comments may include:
  - Change of project description from current to future or visa versa
  - Change from new to replace or visa versa
  - Change of modeling parameter when a cost is provided

- Project allowed with changes that do impact cost
  Displayed as a yellow exclamation mark 
  Edits or comments may include:
  - Change or deletion of cost estimate
  - Change of modeling parameters when no cost is provided
  - Change of new, replace, rehabilitate, or expand/upgrade

- Project allowed but EPA is unable to apply a cost
  Displayed as a red dollar sign 

Edits or comments may include:
- No cost or design parameters provided
- Costs or design parameters deleted for lack of documentation
- No cost provided and project cannot be modeled

- Project deleted
  Displayed as a red "x" 
  Edits or comments may include:
  - Project does not meet allowability criteria
  - Project not accompanied by sufficient documentation of need

9.4 Modifications

The final step in the process is for the reviewer to view the data after it has been reviewed by EPA and is available on-line. If projects have been deleted or amended and the reviewer is not in agreement with the changes, they may submit modification requests along with supporting documentation.

Modification requests and supporting documentation may be sent in as hard copies, emails, or through the web site, depending on the type of modification and the preference of the state. Modifications for projects requiring independent documentation must be sent as hard copies or scanned email attachments, as these documents must be received in their original form to be included. Survey-generated documentation may be submitted in any form, including directly through the web site (see Section 12.0 for details).

Representatives may find it most efficient to discuss any modifications with their assigned EPA contractor analyst prior to submitting modifications in order to clarify the reason a project was deleted or amended, documents needed, and the submission process.

Submitted modifications will be reviewed by either the analyst that performed the initial review, or another analyst dedicated to reviewing modifications. The entire questionnaire along with all documentation submitted will be reviewed along with the modification request and documentation. The decision to accept or deny the request will be made based on all the information submitted and the assessment policies. If a modification request is accepted, changes will be made directly to the online database. If the modification request is denied, the appropriate comment code will be given to the project in the online database. Notes, if necessary, will also be made online by the analyst explaining their decision.

Modifications may be submitted for a questionnaire over a period of time or all at once, whichever is preferred. Multiple modifications may be submitted for a single project, if more information is still required. For example, a project requiring only weight of evidence documentation was deleted because no documentation was provided. The acceptability issue may be addressed with a modification stating an acceptable reason for need, but not providing modeling parameters or a cost. The modification would be accepted, but would require yet another modification to provide the missing information. Modifications that are simply a comment (e.g., Agree with deletion) are discouraged as they must be addressed by an analyst and no change will result.

10.0 DWINSA Website

To provide an efficient way of tracking and monitoring questionnaire responses for states, EPA Regions, and the Navajo Nation, EPA developed a 2011 DWINSA website. As the states, EPA Regions, and Navajo Nation return survey questionnaires to EPA, the responses will be entered into the 2011 Assessment database. In addition, some systems will be able to enter or upload their questionnaires and electronic documentation to the website. Access to the Web site is secured by a password.

Systems in the census will have access to their own data. States will have access to all data for their state. EPA Regional offices will have access to the data of states, American Indian, and Alaskan Native Village systems within their region. The Navajo Nation will have access to the American Indian systems in their charge.

10.1 Accessing the Website

To access the 2011 Assessment website, users need a computer with Netscape Navigator, Firefox, or Microsoft Internet Explorer web browser. The website home page is located at www.DWNeeds.com.

There are a number of important documents available on this page, which can be downloaded without logging into the website. These documents include:

- *Project Table for Data Upload* (XLS) – Microsoft Excel
- *Instructions for Upload of Data (PDF)* – Adobe Acrobat Reader
- *2011 DWINSA Questionnaire* (PDF) – Adobe Acrobat Reader
- *2011 DWINSA Questionnaire* (XLS) – Microsoft Excel
- *Additional Project Tables* (PDF) – Adobe Acrobat Reader
- *Lists of Codes* (PDF) – Adobe Acrobat Reader
- *2011 DWINSA Schedule* (PDF) – Adobe Acrobat Reader
- *2011 DWINSA Type of Need Dictionary with Documentation Policies* (PDF) – Adobe Acrobat Reader
- *Comment Codes Handout* (PDF) – Adobe Acrobat Reader
- *Frequently Asked Questions and Answers* (PDF)

A link to the Adobe Acrobat Reader website is also provided for users that need to download the reader to view files.

When users initially open the page, they will be taken to a login page, where they should enter the user name and password provided by EPA. If you do not have a user ID and password, contact the webmaster at webmaster@dwneeds.com. Systems that serve over 100,000 people can also obtain access to the website upon request by the state.

10.2 Home Page

After logging in, users will be taken to the 2011 Assessment Home Page. The home page contains various features to help users navigate their data on the website:

- Filters by project status.
  -  = Deleted projects
  -  = Accepted projects without cost
  -  = Accepted projects with adjusted cost
  -  = Accepted projects with cost

> ***Note:*** *Filters apply to every page throughout the website.*

- Filters by system size (small, medium, large).

- A "quick find" option that allows users to search the database for a particular PWSID number and project number.

- Tabs at the top of the screen that users can click to browse the website.
  - Projects Page
  - System Stats
  - Progress Meter
  - Contacts
  - Hot List
  - Unread Messages
  - Log Out

Users can log out of the website by clicking on the "Log Out" tab. The following sections describe information that is provided on the remaining website pages.

10.3 Projects Page

The Projects Page shows all of the projects a user has access to and can be filtered by system size and project status (deleted, accepted without cost, accepted with adjusted cost, and accepted with cost). Note that users with access to multiple PWSIDs may have many screens of projects. If the user wants to limit the quantity of data viewed, the user can apply a filter. The projects can be sorted by the following categories by clicking on the appropriate column header:

- PWSID
- Project number (and project status)
- Date of last update
- Who last updated the project
- Unresolved messages (represented by a numerical code)
- EPA's response to the last modification (represented by a numerical code)
- State notes

Users can obtain details on specific projects from this page by clicking on specific PWSID numbers, project numbers, or other fields.

10.3.1 System View

By clicking on a specific PWSID number, the user can see all the projects submitted for that PWSID under System View. From this view, users with editor access can add new projects one at a time by clicking on the "Add" button under the Projects Table tab or the "Add New Project" link under the Projects tab.. There are five sub-tabs provided in this view, which are summarized in Exhibit 16. Note that this view is available from any page that provides PWSID links.

Exhibit 16: Information Provided by Sub-tabs in System View

Projects Tab	Provides same information as the general Projects Page, but is limited to a specific PWSID number. Clicking on a project number will take users to the Details tab under Project View. Clicking on any other number will take users to the Message tab under Project View.
Details Tab	Provides information on the system's preliminary weight, survey received date, source, population, respondent information, state contact, and other basic data.
Messages Tab	Provides all comments on a given system. Each comment opens a dialog between the EPA contractor and the state. The state can respond to comments and request project modifications from this page.
Tracking Tab	Lists important dates, such as date survey was received, ready for QA, and ready for data entry.
Projects Table Tab	Shows all information provided on the questionnaire, including type of need code, reason for need code, modeling parameters, cost estimate, and documentation code.
Upload Tab	Provides user with options for uploading data from an Excel spreadsheet and displays uploaded data and validation errors. Users can modify project data in the web-based data grid.

10.3.2 Project View

By clicking on a specific project number, unresolved message, or last EPA response, the user can obtain details about a project under Project View. There are two sub-tabs provided in this view, which are summarized in Exhibit 17. Note that this view is available from any page that provides links for project information.

Exhibit 17: Information Provided by Sub-tabs in Project View	
Messages Tab	Provides all comments on a given project. Each comment opens a dialog between the EPA contractor and the state, EPA Region, or Navajo Nation representatives. The representatives can respond to comments and request project modifications from this page.
Details Tab	Provides details on the project including project name, when it was last updated, unresolved comments, type of need code, reason for need code, modeling parameters, cost estimate, documentation code, and threads (i.e., messages from EPA contractor or representatives). Users can browse through other projects and PWSID numbers using the function the bottom of the screen. User's may also edit this data given the appropriate user permissions.

10.4 System Stats Page

The System Stats Page shows the status of the survey in the review process, status of projects by PWSID number, and can be filtered by system size. The list shows the preliminary weight of each system as well as the number of projects in each status category (deleted, accepted without cost, accepted with adjusted cost, and accepted with cost). The projects can be sorted by the following categories by clicking on the appropriate column header:

- Status
- PWSID
- System Name
- Date received by EPA
- Initial weight
- Date of last update
- Stratum
- Number of projects in each project status category
- State notes

The page also contains links to detailed information and the message board for each system listed. Clicking on a specific PWSID number brings the user to System View, described in Section 9.3.1. By clicking on a project status icon ( ,  ,  ,or ), users can view all projects (in System View) that fall under that category (accepted, accepted with an adjusted cost, accepted without a cost, and deleted).

10.5 Progress Meter Page

The Progress Meter shows how the state's, EPA Region's, and Navajo Nation's response rate is progressing in comparison with the national average and can be filtered by system size. Three meters are presented on this page to summarize an entity's status both numerically and as a percentage:

1) **Response Meter –** Shows the number and percentage of surveys returned as compared to the expected progress.
2) **Accepted Projects Meter** – Shows the number and percentage of Accepted with Cost projects and Accepted with Adjusted Cost projects compared to the national average.
3) **Adjusted Accepted Projects Meter** – Shows the number and percentage of Accepted with Cost projects and Accepted with Adjusted Cost projects compared to the national average, but excludes duplicate projects.

10.6 Contacts Page

The Contacts section provides names, mailing addresses, phone numbers and e-mails for the following types of questions:

- How to use the website
- General survey questions
- Statistics, system lists, and logistics
- Problems with the website

The site also provides a link to a complete list of EPA contacts and state, American Indian, and Alaskan Native Village coordinators (in PDF format).

10.7 Hot List Page

The Hot List is a tool that allows users to flag projects that they are currently working on. When viewing the details of a project in project view, users have the option to add the project to the Hot List by clicking on the plus-sign icon, available on the Projects View and on the Hot List page. To remove items from the Hot List, click on the minus-sign icon, available on the Hot List page.

10.8 Unread Messages Page

The Unread Messages section is used to alert users of comments or modifications that have been posted to projects that have not been read. Messages can be filtered by system size. To open an unread message, users should click on the envelope icon. To mark an unread message as read, users should click on the clipboard icon.

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11.0 Direct Data Entry

Systems serving more than 100,000 people, states, EPA Regions, and the Navajo Nation have the option of inputting data directly onto the website, if they choose. There are three options for completing the 2011 Assessment questionnaire electronically:

1) Upload an Excel spreadsheet (.xls or .xlsx format) into a web-grid, edit any project data values, and merge into the database using a 'wizard' approach.
2) Enter information on the website in the Projects Table in a data grid (similar to an Excel spreadsheet) where multiple projects may be entered separately.
3) Enter information on the website project by project using a single page project data entry model described above (section 9.3.1) in the Projects tab.

11.1 Excel Spreadsheet

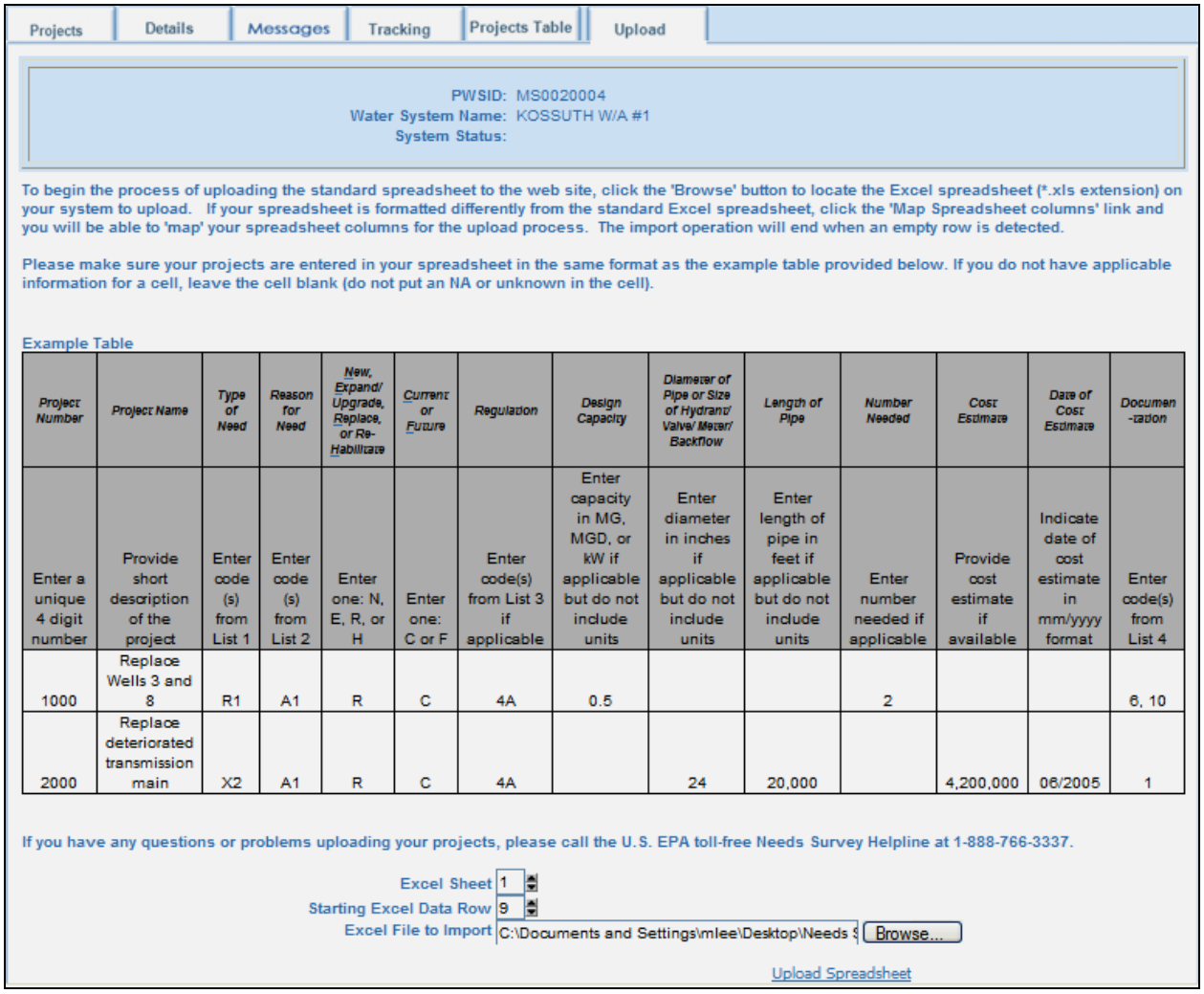
Project data may be entered into an Excel spreadsheet and then uploaded to the website. This is the most efficient way to upload a full survey with multiple projects. The user must use the formatted Excel spreadsheet titled "*Combined Project Table for Upload*" provided on the login page of the website at www.dwneeds.com. Do not add any columns to the spreadsheet or the upload process will not work properly. A password is not required to access the home page of the website.

11.1.1 Using EPA's Combined Project Table Spreadsheet

Once data has been entered onto the spreadsheet, the user will save it to a location on their computer. They must then log onto the website and go to the "Upload" tab under System View for the respective system. The uploading procedure for the Excel spreadsheet uses a wizard concept, where the first screen asks the user to browse to the location of the file on their computer.

The standard spreadsheet contains data on the first spreadsheet in the file and the data begins in row #2. If this has been amended by the user, they can indicate which sheet and which row are appropriate on this screen (see Exhibit 18). If the Excel spreadsheet has more than one header row (e.g., the first row of data begins in the third or fourth row rather than the second row), or if the file has more than one sheet, the user can define which row has the first row with actual data (i.e., change number of header rows to 2 or 3) and which sheet contains the data.

Exhibit 18: Excel Upload Wizard



Projects | Details | Messages | Tracking | Projects Table | Upload

PWSID: MS0020004
Water System Name: KOSSUTH W/A #1
System Status:

To begin the process of uploading the standard spreadsheet to the web site, click the 'Browse' button to locate the Excel spreadsheet (*.xls extension) on your system to upload. If your spreadsheet is formatted differently from the standard Excel spreadsheet, click the 'Map Spreadsheet columns' link and you will be able to 'map' your spreadsheet columns for the upload process. The import operation will end when an empty row is detected.

Please make sure your projects are entered in your spreadsheet in the same format as the example table provided below. If you do not have applicable information for a cell, leave the cell blank (do not put an NA or unknown in the cell).

Example Table

Project Number	Project Name	Type of Need	Reason for Need	New, Expand/ Upgrade, Replace, or Re-Habilitate	Current or Future	Regulation	Design Capacity	Diameter of Pipe or Size of Hydrant/ Valve/ Meter/ Backflow	Length of Pipe	Number Needed	Cost Estimate	Date of Cost Estimate	Documen -tation
Enter a unique 4 digit number	Provide short description of the project	Enter code (s) from List 1	Enter code (s) from List 2	Enter one: N, E, R, or H	Enter one: C or F	Enter code(s) from List 3 if applicable	Enter capacity in MG, MGD, or kW if applicable but do not include units	Enter diameter in inches if applicable but do not include units	Enter length of pipe in feet if applicable but do not include units	Enter number needed if applicable	Provide cost estimate if available	Indicate date of cost estimate in mm/yyyy format	Enter code(s) from List 4
1000	Replace Wells 3 and 8	R1	A1	R	C	4A	0.5			2			6, 10
2000	Replace deteriorated transmission main	X2	A1	R	C	4A		24	20,000		4,200,000	06/2005	1

If you have any questions or problems uploading your projects, please call the U.S. EPA toll-free Needs Survey Helpline at 1-888-766-3337.

Excel Sheet 1
Starting Excel Data Row 9
Excel File to Import C:\Documents and Settings\mlee\Desktop\Needs S Browse...

Upload Spreadsheet

After uploading the spreadsheet, the data are automatically checked, and any errors detected during the automatic validation process will be highlighted in red (as shown in Exhibit 19). Projects with errors will not be imported to the online database until the errors are corrected. Yellow highlighted cells indicate issues that might need consideration (e.g., a design capacity cell was left blank because cost estimate was provided) but does not block the projects from being imported into the online database.

Exhibit 19: Uploaded Sample Spreadsheet

Active Import File:	CombinedProjectTable 8-24-10 version 2.xls	
Excel Sheet Name:	combined project table	
Import Data Status	Pending Upload Project Rows:	12
	Error Rows:	4
	Current Projects	0
	Project rows without errors:	8

		Project Number	Project Name	Type of Need	Reasons for Need	New, Replace, Rehabilitate or Expand	Current or Future	Regulation	Design Capacity	Diameter	Length	Number Needed	Cost Estimate	Date of Cost	Documentation
✎	✗	1001	Tank 19 Rehabilitation	S1	A1	H	C	4A	1.265 MG			1			11
✎	✗	1002	Tank 5 Rehabilitation	S2	A1	H	F	4A	5.0 MG			1			11
✎	✗	1003	New Iron Removal Plants	T46	A7	N	F	2A				4			7
✎	✗	1004	Well Pump and Well Screen Replacements	R1	A1	R	F	4A				20			11
✎	✗	1005	Finished Water Pump Replacements	P1	A1	R	F	4A				21			11
✎	✗	1006	Well House Rehabilitations	R3	A1	H	F	4A				22			11
✎	✗	2000	Main Replacement (8-inch)	M1	A1	R	F	4A		8 in diam.	31855 ft				11
✎	✗	2001	Main Replacement (12-inch)	X2	A11	R	F	4A		12 in diam.	12700 ft				11
✎	✗	3000	Replacement of 6-inch Valves	M5	A1	N	F	4A		6 in diam.		500			11
✎	✗	3001	Meter Replacements	M8	A1	R	F	4A		0.75 in diam.		15200			11
✎	✗	3002	Security Fencing	W5	A10	R	F	4A				10000			11
✎	✗	3003	Emergency Generators	W4	A11	N	F	4A	250 kW			2			11

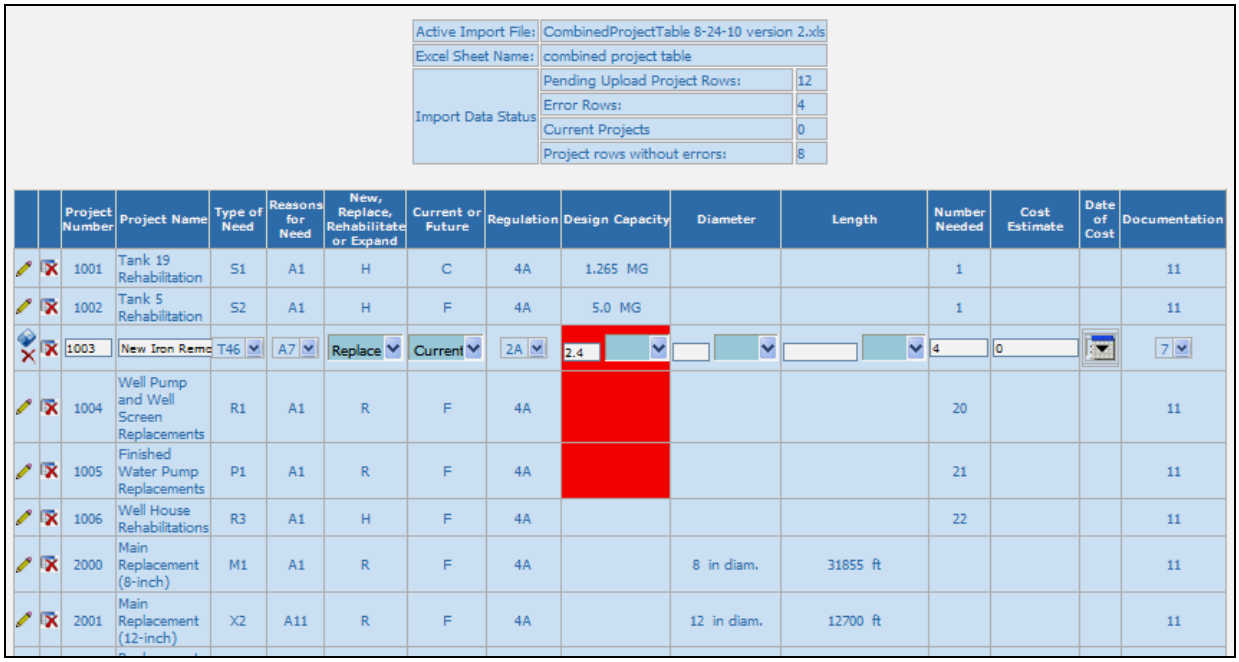
View Errors Start Over Import

The users can then:

- "View Errors," which will display only those rows with data errors.
- "Start Over," which will remove the pending data from the database and return the user back to the starting screen to identify an upload spreadsheet.

- "Import," which will merge to the database ONLY those rows that do not have errors and remove those rows from the pending upload table. Any error rows will continue to be displayed in the grid until corrected, or the user "Starts Over."
- Click on the "pencil" icon to put the row into Edit Mode (Exhibit 20) and allow the user to correct errors and change various data fields in the grid. When finished, clicking on the green button will re-validate the row and refresh the grid.
- Exit the site and return at a later time to this screen. Note that the data on the "Upload" tab is only temporary and must be imported to be included in the "Projects Table" tab.

Exhibit 20: Uploaded Data in Edit



Active Import File:	CombinedProjectTable 8-24-10 version 2.xls
Excel Sheet Name:	combined project table
Import Data Status	Pending Upload Project Rows: 12
	Error Rows: 4
	Current Projects 0
	Project rows without errors: 8

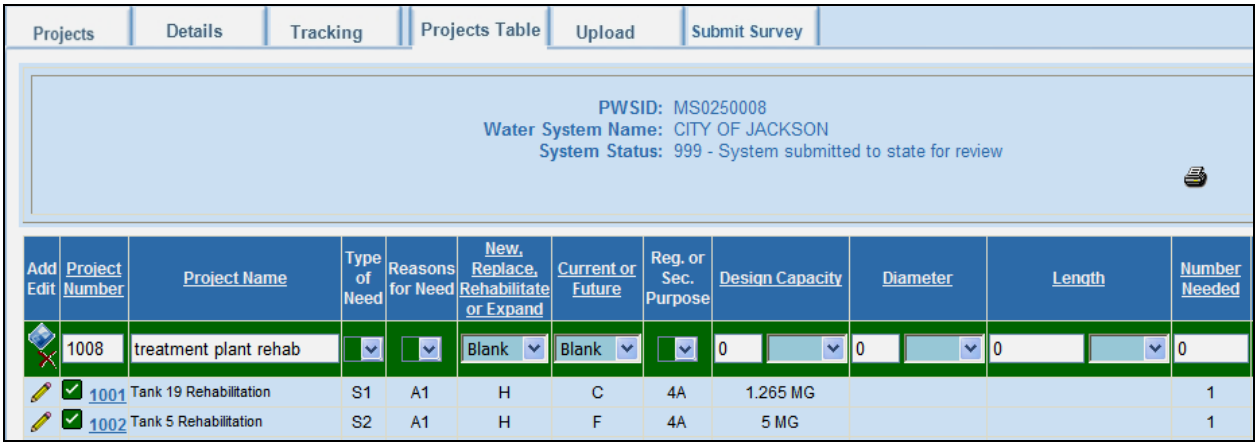
		Project Number	Project Name	Type of Need	Reasons for Need	New, Replace, Rehabilitate or Expand	Current or Future	Regulation	Design Capacity	Diameter	Length	Number Needed	Cost Estimate	Date of Cost	Documentation
		1001	Tank 19 Rehabilitation	S1	A1	H	C	4A	1.265 MG			1			11
		1002	Tank 5 Rehabilitation	S2	A1	H	F	4A	5.0 MG			1			11
		1003	New Iron Remo	T46	A7	Replace	Current	2A	2.4			4	0		7
		1004	Well Pump and Well Screen Replacements	R1	A1	R	F	4A				20			11
		1005	Finished Water Pump Replacements	P1	A1	R	F	4A				21			11
		1006	Well House Rehabilitations	R3	A1	H	F	4A				22			11
		2000	Main Replacement (8-inch)	M1	A1	R	F	4A		8 in diam.	31855 ft				11
		2001	Main Replacement (12-inch)	X2	A11	R	F	4A		12 in diam.	12700 ft				11

11.2 Project Grid Data Entry

The second option for entering project data is through a data grid (Exhibit 21). The grid is found under the "Projects Table" tab in Systems View. This is a useful approach to amend an existing entry or add a few additional projects. Users can add new rows for additional projects by clicking on the "Add" button in the first row of the grid. The user enters a Project Number and Name. From there the user enters data through text entry and selection from a dropdown list as shown in Exhibit 21.

When the project is complete, the user completes the project by clicking the check box save icon at the beginning of the row. The project will undergo an automatic validation check.

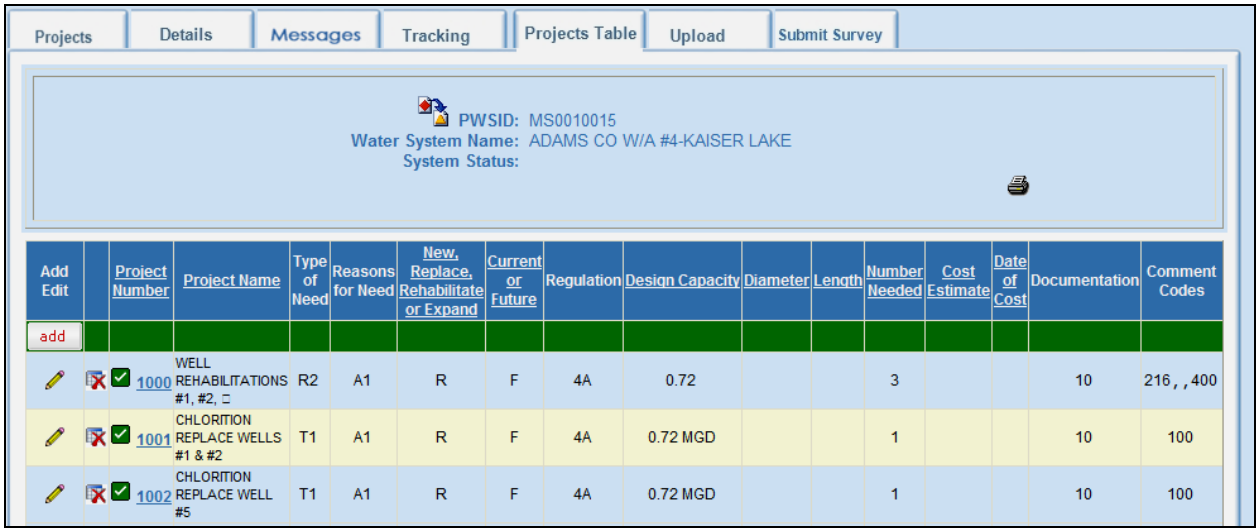
Exhibit 21: Add new project function (grid option)



Add Edit	Project Number	Project Name	Type of Need	Reasons for Need	New, Replace, Rehabilitate or Expand	Current or Future	Reg. or Sec. Purpose	Design Capacity	Diameter	Length	Number Needed
	1008	treatment plant rehab			Blank	Blank		0	0	0	0
	1001	Tank 19 Rehabilitation	S1	A1	H	C	4A	1.265 MG			1
	1002	Tank 5 Rehabilitation	S2	A1	H	F	4A	5 MG			1

This is also a very helpful view for editing previously entered data as shown in Exhibit 22. For this function, the user clicks on the pencil at the beginning of the row and the data in that row are opened for editing.

Exhibit 22: Data Grid Project Entry Screen Edit Function



Add Edit		Project Number	Project Name	Type of Need	Reasons for Need	New, Replace, Rehabilitate or Expand	Current or Future	Regulation	Design Capacity	Diameter	Length	Number Needed	Cost Estimate	Date of Cost	Documentation	Comment Codes
add																
		1000	WELL REHABILITATIONS #1, #2, □	R2	A1	R	F	4A	0.72			3			10	216, , 400
		1001	CHLORITION REPLACE WELLS #1 & #2	T1	A1	R	F	4A	0.72 MGD			1			10	100
		1002	CHLORITION REPLACE WELL #5	T1	A1	R	F	4A	0.72 MGD			1			10	100

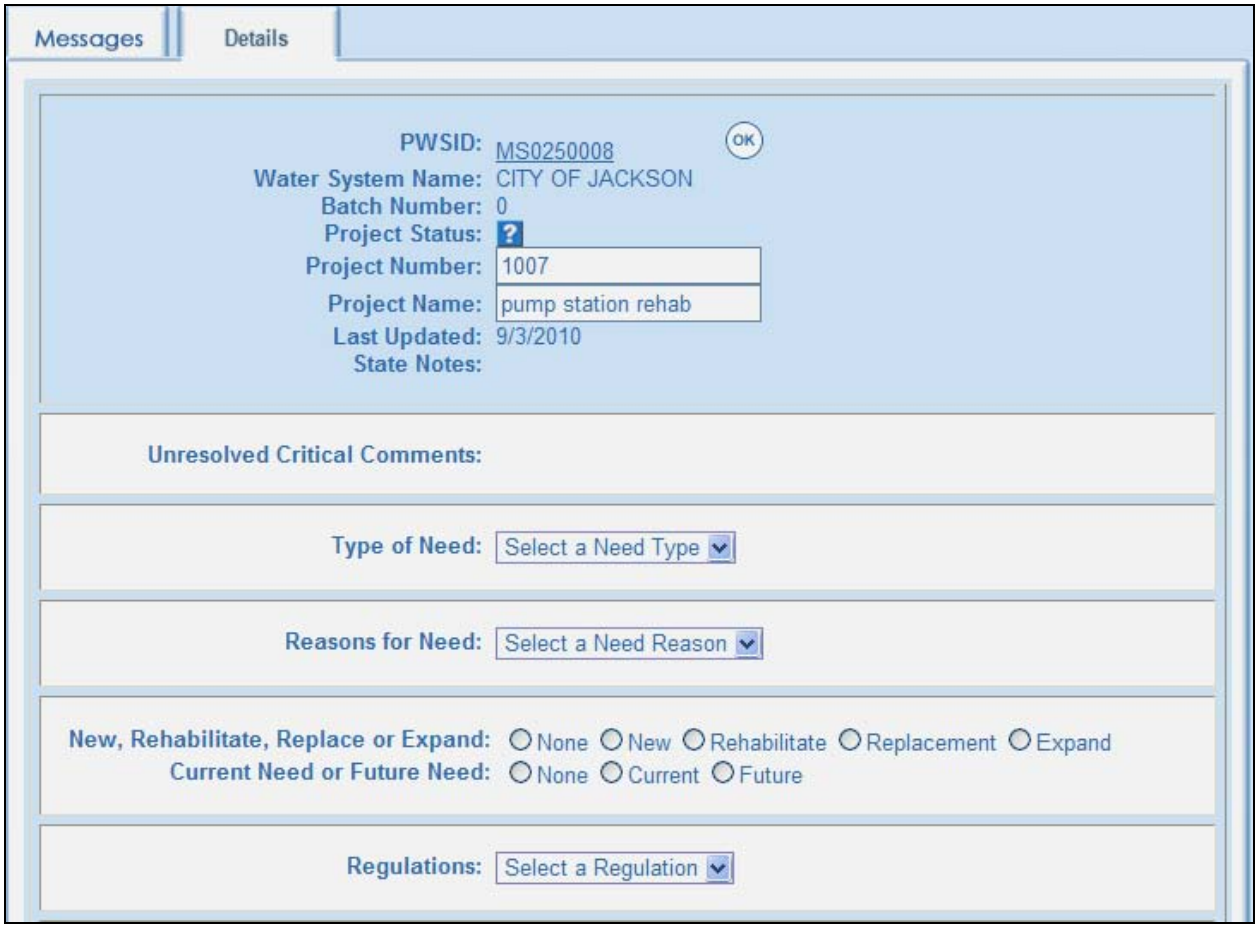
11.3 Single Page Project Data Entry

After the water system, state, EPA Region, or Navajo Nation user logs into the website, the user may enter their projects one at a time through the single page project data entry option. To choose this option, the user must click on the "Add New Project" link under System View as shown in Exhibit 23. This is the most time consuming data entry option and should be used primarily to add a few additional projects to an already uploaded spreadsheet. It is helpful in that it provides the appropriate data entry options for each field through a dropdown menu.

Exhibit 23: Add new project function (page detail format)

The user enters a Project Number and Name and then clicks "Go." This will take the user to the Project Details view where the user enters data through text entry and selection from a dropdown list as shown in Exhibit 24. Once complete, the user clicks on an upload button under the data entry section to submit the project. The data will undergo an automatic validation check and be added to the "Projects Table" tab under System view. Users can later edit the project data by clicking on the pencil icon located at the beginning of the project row.

Exhibit 24: Single Page Project Entry

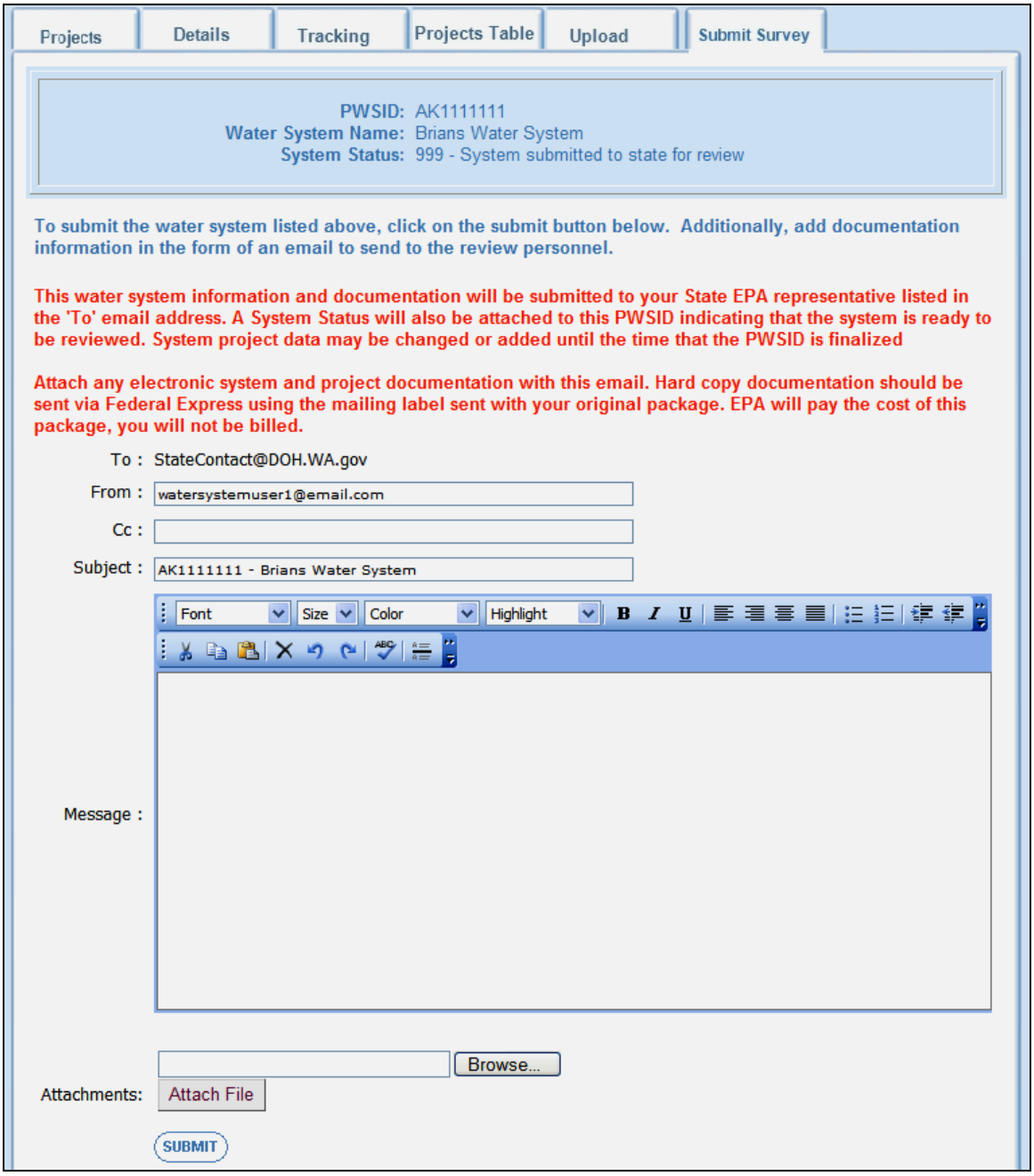


11.4 Upload of Data

11.4.1 Submittal from System to State

Only systems serving more than 100,000 persons can upload their data to the website. When logged in as a Water System user, a survey will be submitted to the state contact when the water system user clicks on the 'Submit Survey' tab. The submission form for a Water System user will display an email layout that allows the user to attach system and project documentation and message text to be passed on to the state contact (Exhibit 25).

Exhibit 25: Submitting a Survey and Documentation to the State

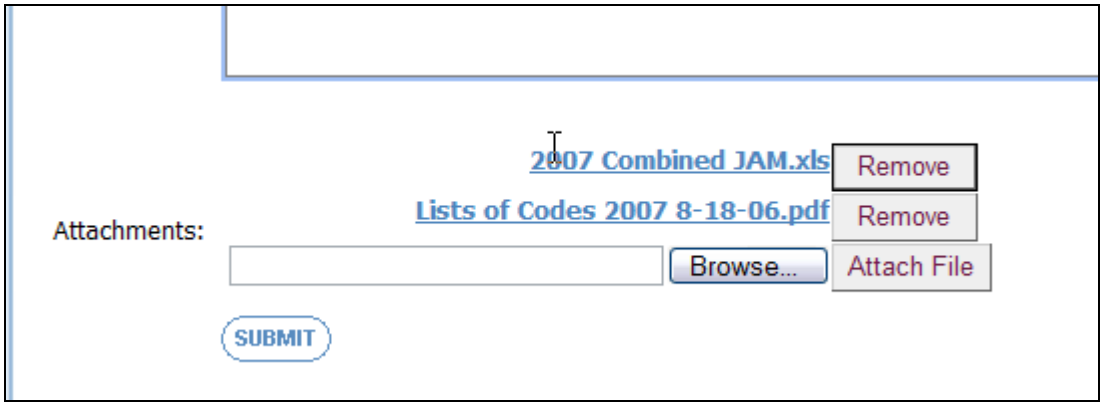


The email survey submission also allows multiple file attachments (and selected removal) to be sent to the state coordinator (Exhibit 26). Note the attachments must be able to traverse destination email firewalls. For example, if you attach a file with an .EXE extension, the destination email system will most likely remove that attachment as a security violation.

You may wish to combine multiple files into a single Zip file (http://www.winzip.com/) to reduce size and ensure delivery through email firewalls.

Similar rules apply to emailing information and attachments via the DWNeeds.com website as in most any email system. The user must be cognizant of 'large' file attachments that may be rejected by the destination email system.

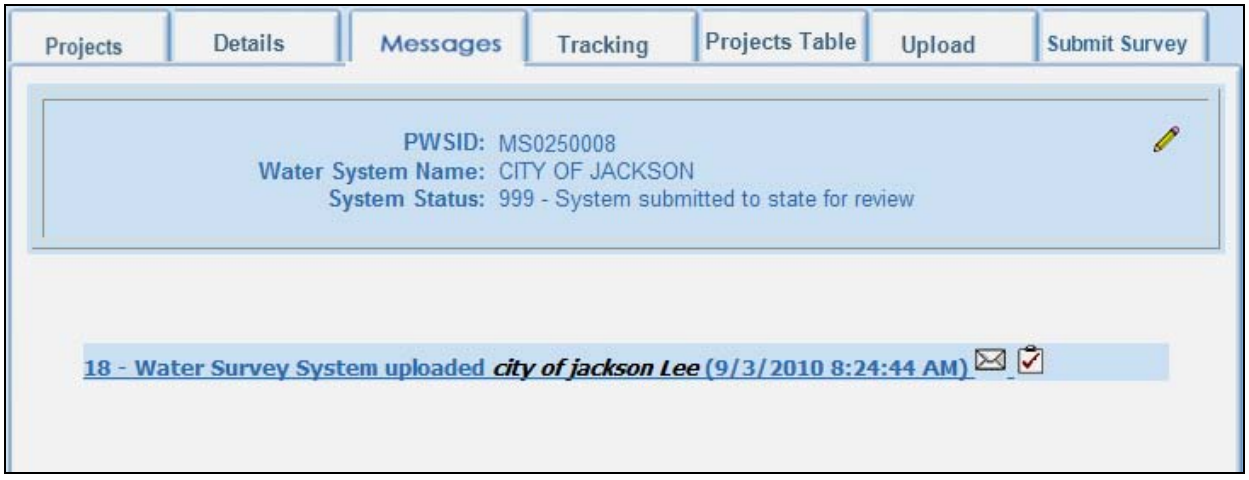
Exhibit 26: Email attachments



Once submitted, a message is created for the project and is viewable under the Messages tab (See Exhibit 27 below) for a state user.

Any hard copy documentation should be sent via Federal Express using the mailing label included in the Water System user's original package.

Exhibit 27: System messages available to State user



Additionally, the System Stats tab, which shows a list of systems, will the date submitted displayed under the Last Updated column.

11.4.2 Submittal from State, EPA Regions, and the Navajo Nation to the EPA Contractor

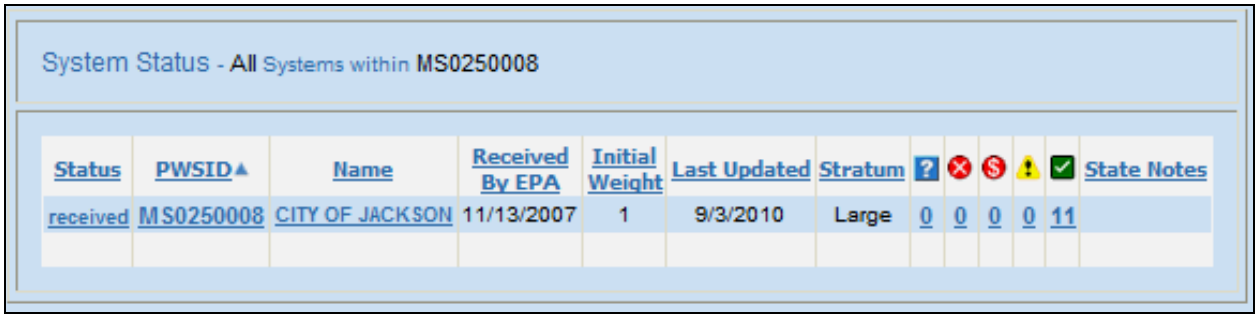
States, EPA Regions, and Navajo Nation coordinators will be considered state users on the DWINSA website. When logged in as a state user, the action of clicking on the 'Submit Survey' tab will submit the data to the EPA contractor. The submission form for a state user will display an email layout that allows the user to attach system and project documentation and message text to be passed on to the EPA contractor.

For a state user, any hard copy documentation should be sent to:

The Cadmus Group
2620 Colonial Drive
Suite A
Helena, MT 59601
Attn: Linda Hills
(406) 443-9194

When a state user "submits" a submittal, the EPA contractor will be notified that the data has been uploaded and documentation has been submitted or will be sent via hard copy. IMPORTANT: The action of a state user submitting data will result in the PWSID and project information being set to Read-Only status. From this point on, any changes must be made through the modification process.

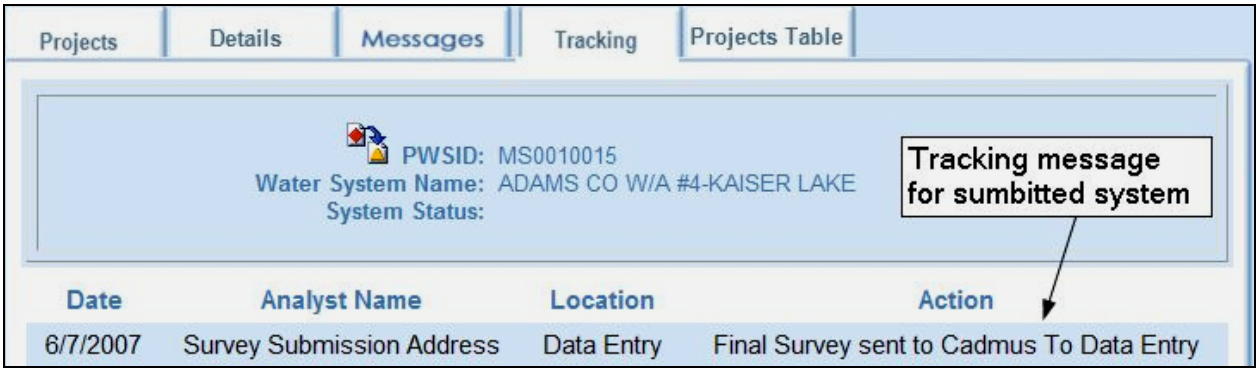
Exhibit 28: System Stats view of a 'Finalized' PWSID



When viewing the list of PWSIDs in the System Stats tab, the first column of the list will list the status of the corresponding system as 'received' as shown in Exhibit 28.

Subsequent display of the finalized system will display this indication with a 'finalized' icon (Exhibit 29).

Exhibit 29: Tacking view of a 'Finalized' PWSID



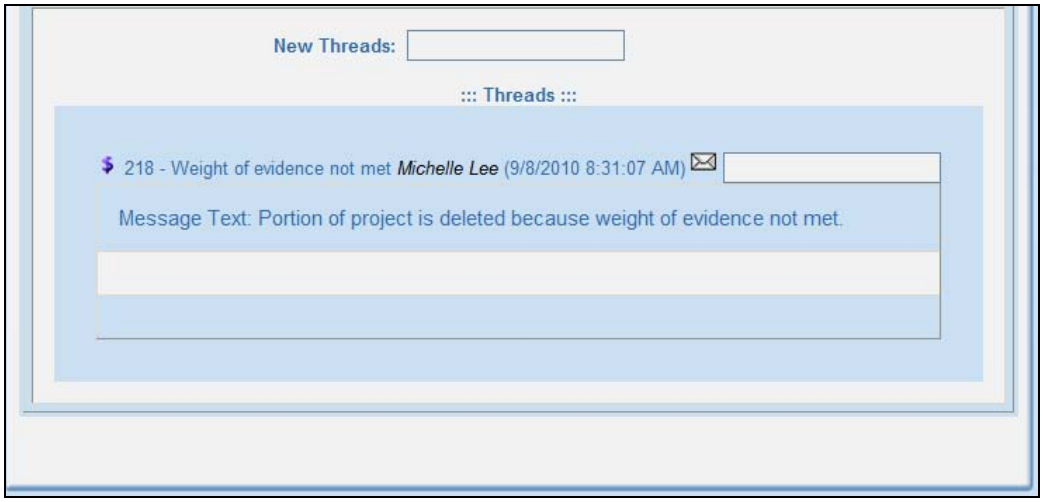
11.5 2007 DWINSA Data

Upon request by the states, to help systems that participated in the 2007 DWINSA save time completing their 2011 surveys, EPA will export the information submitted for the 2007 DWINSA into the Combined Project Table Excel spreadsheet. However, systems must ensure that these projects are still valid and provide up-to-date documentation for each project. Systems will need to submit the data to the state. This information will also be provided in an Excel workbook to each state. The workbook will have one worksheet per water system that was included in the 2007 database and is also selected for the 2011 DWINSA.

12.0 Submitting Modifications on the Website

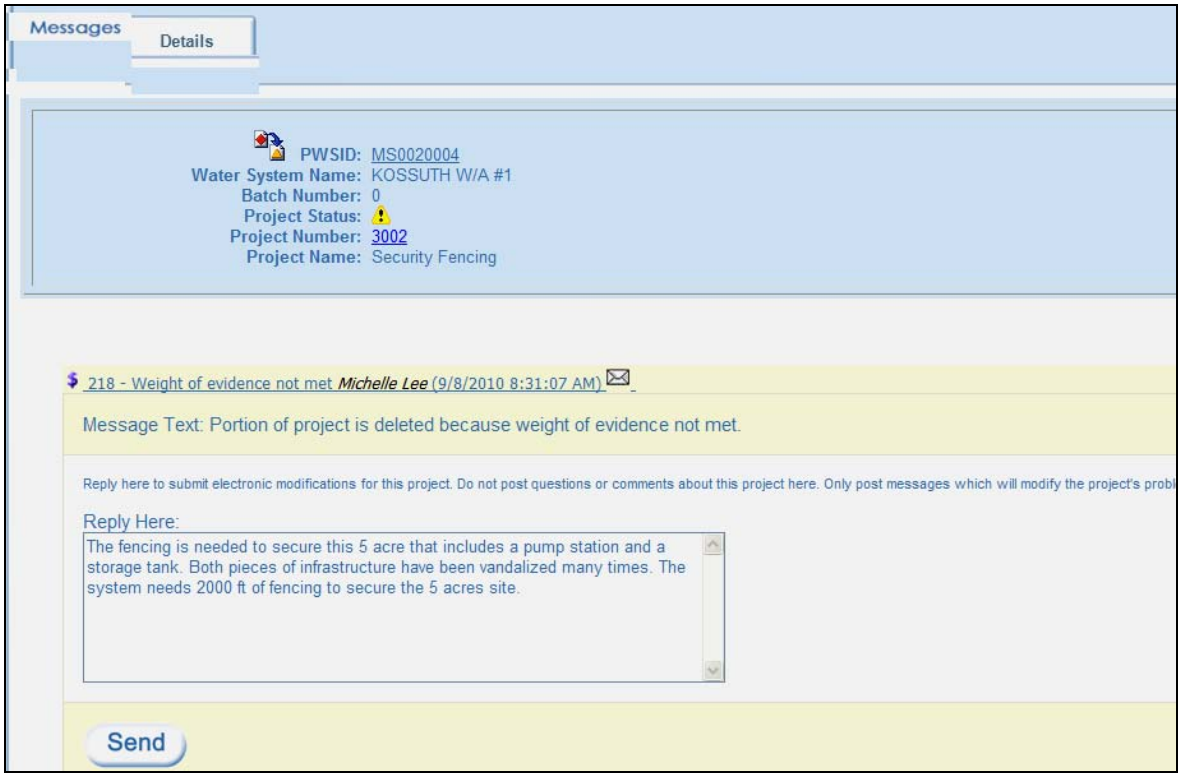
Modifications to a project can be submitted via the DWINSA website. Submitting a modification via the web site requires the user to log in to the web site and locate the system and project that has been deleted or amended. Once in the Project View, the user can access the messages tab to view the project's comments (Exhibit 30).

Exhibit 30: Project Specific Messages for Modification



Clicking on the envelope icon associated with the comment code to be addressed will open a reply box that will enable the user to type in a response to the comment. The user may write a request for modification by providing additional information to address the project's allowability. Users are not able to submit independent documentation via the website modification process. Independent documentation can be sent to the EPA contractor in hard copy or submitted electronically via e-mail.

Exhibit 31: Modifications Reply Box



The modification message submitted is then reviewed by an analyst along with the original questionnaire, documentation, and initial reviewer's notes. Once the modification has been reviewed, a comment code is added to the project indicating whether the project has been accepted or continues to be deleted and any necessary changes to the project are made on the website.

When possible, the same EPA analyst that reviewed the initial questionnaire will also review the modification requests. Otherwise, modifications will be reviewed by another analyst dedicated to reviewing modifications.

As previously stated, there is no limit to the number of modification requests that can be submitted for a project. For instance, the first modification request may not have included all the information necessary to change a project's status to accepted. EPA can communicate this via comments codes applied to the project. A follow-up modification request should provide the additional information. However, EPA may reject repeated attempts to modify a project for which a decision has already been made.

Appendix A. Lists of Codes

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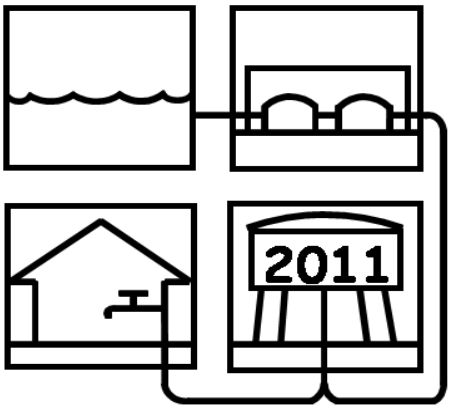
Lists of Codes



Drinking Water Infrastructure Needs Survey and Assessment

Use these instructions and lists of codes when you fill out the Needs Survey and Assessment questionnaire. In your documentation please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

Instructions for Each Column on the 2011 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

The following instructions apply to columns on all tables in the questionnaire.

Column Title	*Instructions*
Project Number	Number the projects in each category in sequence, using the range of numbers specified for each category of need.
Project Name	Provide a name that briefly describes and identifies the project.
Type of Need	Refer to List 1 in the Lists of Codes and enter the code(s) that best identifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available.
Reason for Need	Refer to List 2 in the Lists of Codes and enter the code(s) that best justifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available.
New, Replace, Expand/Upgrade, or ReHabilitate	Identify whether the project is for: **-New** infrastructure installation where none exists, enter '**N**' Resulting infrastructure is entirely new. **-Replacement** of existing infrastructure, enter '**R**' Existing infrastructure is replaced with new infrastructure. **-Expansion or Upgrade** of a complete treatment plant, enter '**E'** Major improvements to an existing complete plant. May add or change unit processes. May result in an increase in capacity. Use for complete treatment plants only. **-Rehabilitation** of existing infrastructure, enter '**H**' Restore existing infrastructure to near new condition.
Current or Future	Identify whether the project is: -Needed now, enter >**C**= (even if you cannot start construction now) -Not needed now, enter >**F**= (but will be necessary before 12/31/2030)
Regulation or Secondary Purpose	If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or if one or more of the secondary purpose codes (green or climate readiness) apply, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies.
Cost Estimate	If available, enter the documented cost estimate for this project. Use only existing cost estimates. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost.
Date of Cost Estimate	Enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust cost estimates to current-year dollars.
Documentation	Refer to List 4 in the Lists of Codes and enter the code(s) that applies to the type of documentation provided that explains why the project is needed. If a cost estimate is provided, also enter the code that applies to the type of cost documentation. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. ***Please enclose the appropriate pages of need and cost documentation, identified by project number.***

The following instructions apply to columns on specific tables in the questionnaire.

Column Title	*Instructions*
Design Capacity	On the *Source*, *Treatment*, *Storage, and Pumping* project table enter the design capacity when applicable C million gallons per day (MGD) for source, treatment, and pumping; million gallons (MG) for storage; and kilowatts (kW) for emergency power. For this survey, "design capacity" is the total volume or the flow that can be produced when all components of the project are operating.
Diameter of Pipe	On the *Transmission and Distribution* project table enter the diameter of pipe (in inches) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe.
Length of Pipe	On the *Transmission and Distribution* project table enter the length of pipe (in feet) that must be upgraded, replaced, or installed as new for each diameter identified in the previous column.
Size	On the *Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter, and Other* project table enter the diameter (in inches) for infrastructure that must be upgraded, replaced, or installed as new. Use a separate project number and line for different diameters of the same type of need. Diameter is not needed for service line projects.
Number Needed	On the *Source*, *Treatment*, *Storage, and Pumping* project table indicate the total number of components if you have multiple identical projects at the same capacity (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity). On the *Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter and Other* project table indicate the total number of components. For example, a future project to install four 8" diameter valves would include the size (diameter in inches) of the valves and the number "4" would be entered as the number needed. If you use this column and provide a project cost, the cost should reflect the entire project (i.e., *all* 10 wells or *all* 400 meters, **not** the cost of an individual well or meter).

- **What is a "need?"** – Installation or rehabilitation of capital infrastructure needed over the next 20 years.
- **What is "independent documentation?"** – Documents generated through a process independent of the survey (e.g., CIP, master plan, sanitary survey report, etc.).
- **What is "survey-generated documentation?"** – Documents generated specifically for the survey written by the system or the state.

LIST 1 - TYPE OF NEED

Code	*Type of Need*
RAW/UNTREATED WATER SOURCE	
R1	Well (including pump and appurtenances, not including a well house)
R2	Well Pump
R3	Well House (may include a chemical feed room)
R4	Eliminate Well Pit
R5	Abandon Well
R6	Aquifer Storage and Recovery Well
R7	Surface Water Intake
R8	Raw Water Pump
R9	*Off-Stream Raw Water Storage*[1]
R10	Spring Collector
R11	*De-stratification*[1]
TREATMENT: *Disinfection*	
T1	Chlorination
T2	Chloramination
T3	Chlorine Dioxide
T4	Ozonation
T5	Mixed Oxidant Type Equipment
T6	Ultraviolet Disinfection
T7	Contact Basin for CT
T8	Dechlorination of Treated Water
T9	Chlorine Gas Scrubber
TREATMENT: *Complete Plants (N/R/E require independent documentation)*	
T10	Conventional Filter Plant (includes CAC technologies)
T11	Direct or In-line Filter Plant
T12	Slow Sand Filter Plant
T13	Diatomaceous Earth Filter Plant
T14	Membrane Technology for Particulate Removal
T15	Cartridge or Bag Filtration Plant
T16	Lime Softening
T17	Reverse Osmosis
T18	Electrodialysis
T19	Activated Alumina
T20	Manganese Green Sand (or other oxidation/filtration technology)
T21	Ion Exchange
T22	Groundwater Chemical-feed
T23	Iron Adsorption
T24	Aeration (complete plant)
TREATMENT: *Other Components / Equipment / Processes*	
T30	Zebra Mussel Control
T31	Corrosion Control (chemical addition)
T32	Powdered Activated Carbon
T33	Aeration (component)
T34	Sequestering for Iron and/or Manganese

LIST 1 - TYPE OF NEED (cont.)

Code	*Type of Need*
T35	Chemical Feed
T36	Chemical Storage Tank
T37	Fluoride Addition
T38	Presedimentation Basin
T39	Sedimentation/Flocculation
T40	Granular Activated Carbon
T41	Membrane Filtration (not complete plant)
T42	Media Filters
T43	Waste Handling/Treatment: Mechanical (not included in another project)
T44	Waste Handling/Treatment: Nonmechanical or Connection to a Sanitary Sewer (not included in another project)
T45	Type of Treatment Unknown
T46	*Other (Please include an explanation)* [1]
TRANSMISSION:	***(Any mains that transport raw water to the treatment plant, or treated water from the plant to the distribution system grid)***
X1	Raw Water Transmission
X2	Finished Water Transmission
DISTRIBUTION	
M1	Distribution Mains (Any mains that transport water through a piping grid serving customers - see "transmission" above)
M2	Lead (Pb) Service Line Replacement
M3	Service Lines (other than lead service lines)
M4	Hydrants Used for Flushing (not included in another pipe project)
M5	Valves (gate, butterfly, etc.) (not included in another pipe project)
M6	Control Valves (PRVs, altitude, etc.)
M7	Backflow Prevention Devices/Assemblies
M8	Water Meters
FINISHED/TREATED WATER STORAGE	
S1	Elevated Finished/Treated Water Storage
S2	Ground-level Finished/Treated Water Storage
S3	Hydropneumatic Storage
S5	Cover for Existing Finished/Treated Water Storage
PUMP STATION AND FINISHED WATER PUMP	
P1	Finished Water Pump
P2	Pump Station (booster or raw water pump station-may include clearwell, pumps, housing)
OTHER INFRASTRUCTURE NEEDS	
W1	*Laboratory Capital Costs for Labs Owned by the System*[1]
W2	Computer and Automation Costs (SCADA)
W3	Pump Controls/Telemetry
W4	Emergency Power (enter design capacity as kilowatts)
W5	Security: Fencing
W6	*Security: Other Physical (lights, wall, manhole locks, other locks)* [1]
W7	*Security: Electronic/Cyber (computer firewall, SCADA, closed circuit TV)* [1]
W8	*Security: Monitoring Tools (used to identify anomalies in process streams or finished water)* [1]
W9	*Security: Other Security (describe in documentation)* [1]
W10	*Other (Please include an explanation)* [1]

LIST 2 - REASON FOR NEED

Code	*Reason the Project is Needed*
A1	Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2030.
A2	Project is to correct a deficiency in source water quantity caused by current user demand.
A3	Project is to correct a deficiency in storage capacity caused by current user demand.
A4	Project is to correct existing pressure problems (not related to fire flow).
A5	Project needed as a result of, but not in preparation for, a natural disaster.
A6	Project is to obtain or maintain compliance with an **existing regulation** (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire).
A7	Project is to obtain or maintain compliance with a **secondary standard** (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire).
A8	Project is for consolidation with and/or connection to an existing public water system.
A9	Project is for extending service to existing homes without adequate water quantity or quality.
A10	Project is to prevent, detect, or respond to a security event (e.g., fence, locks, protective structures, gates, on-line sensors, motion sensors, alarm systems, generators, communications equipment, analytical equipment)
A11	Use this code if codes A1-A10 do not apply.

Important Notes:

A description of each project or a copy of the documentation must also be clearly identified by project number and submitted with the completed questionnaire.

Projects **primarily** for meeting expected future population growth or for fire flow are unallowable.

LIST 3 - REGULATION OR SECONDARY PURPOSE

Code	*Regulation or Secondary Purpose*

EXISTING SDWA REGULATIONS

1A Surface Water Treatment Regulations (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Filter Backwash Recycling Rule, Long Term 1 Enhanced Surface Water Treatment Rule, or Long Term 2 Enhanced Surface Water Treatment Rule)

1B Total Coliform Rule (published June 1989)

1C Nitrate or Nitrite Standard

1D Lead and Copper Rule

1E Arsenic Rule (10 µg/L Arsenic Standard)

1F Stage 1 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a running annual average)

1G Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)

1H Ground Water Rule

OTHER REQUIREMENTS OR SECONDARY PURPOSES

2A Secondary Contaminants (e.g., iron, taste and odor, and color)

2B State Requirements

2C Green – Green Infrastructure (e.g., porous pavement, green roofs, etc.)

2D Green – Water Efficiency (e.g., meters, pressure reducing valves, etc.)

2E Green – Energy Efficiency (e.g., pump rehab, VFDs, SCADA, etc.)

2F Green – Environmentally Innovative (e.g., LEED buildings, etc.)

2G Climate Readiness (e.g., source quality degradation, source quantity availability, or infrastructure vulnerability)

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the following proposed or recently promulgated regulations are not allowable and should not be included. The costs for these needs, estimated for each rule's Economic Analysis, will be added to the total national need. These regulations include:

- Stage 2 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a locational running annual average)
- Proposed Revisions to the 1989 Total Coliform Rule
- Proposed Radon Rule

If None of the Above Codes Applies

4A Use this code if none of the codes above apply

LIST 4 - DOCUMENTATION

Code	*Independent Documentation of Need and/or Cost*
1	**Capital Improvement Plan or Master Plan**: The plan must address why the project is needed and/or provide a cost.
2	**Facilities Plan or Preliminary Engineering Report**: Excerpts justifying need and/or cost from the plan or report are acceptable if project-specific.
3	**Grant or Loan Application Form**: An application form is acceptable if it specifically describes a problem requiring capital expenditures.
4	**Engineer's Estimate or Bid Tabulation**: These must be project specific and independently generated. They must also be accompanied by an explanation of why the project is needed.
Code	*Independent Documentation of Need Only*
5	**Intended Use Plan/State Priority List**: The excerpts must include a description of why the project is needed. Costs from IUPs will not be used - modeling parameters or other cost documentation must be provided.
6	**Comprehensive Performance Evaluation (CPE) or Sanitary Survey Results**: The results or recommendations may be used to justify need if the state concurs.
7	**Monitoring Results**: Monitoring results indicating an MCL exceedance or a trending towards an exceedance can demonstrate a need for a project if accompanied by a written statement explaining how the results demonstrate the need.
8	**Other Independent Document**: Use this code if documentation is independent but none of the codes listed above apply. Examples include: state enforcement order/notice of violation, engineering studies, watermain break report, repair reports, and distribution system studies.
Code	*Independent Documentation of Cost Only*
9	**Cost of Previous Comparable Construction**: This may be used to justify costs if the costs are project-specific. It must include documentation of how the costs were derived.
Code	*Survey-generated Documentation of Need Only*
10	**Written by State:** Brief description and statement of need written by state.
11	**Written by System:** Brief description and statement of need written by system.

Appendix B. DWINSA Questionnaire

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2011 Drinking Water Infrastructure Needs Survey and Assessment

U.S. Environmental Protection Agency
Washington, DC 20460

OMB No.:
Approval Expires:
Federal PWSID No.: _____

Please verify or correct the following information:

	Check if Correct as Printed	Corrected Information *(Fill in only if preprinted information is missing or incorrect)*
Name of System (Community):	☐	
Name of Contact for Water System: (Record name of person completing survey on page 8; may be same person) Street Address: City, State, and Zip:	☐	
Population Served (if wholesale seller, include population of systems sold to):	☐	
Number of Connections (not including those in consecutive systems):	☐	

Total System Design Capacity: _____ MGD

Source Water Type (Ground, Surface/GWUDI, etc.):	Check All That Apply:	☐ Ground	☐ Surface/GWUDI	
		☐ Purchased Ground	☐ Purchased Surface/GWUDI	
Ownership Type:	Check All That Apply:	☐ Public	☐ Federal Government	
		☐ Native American	☐ Investor-Owned or Private Non-Profit	

State Use Only
State Reviewer: _____ **Telephone Number:** _____

Information provided for this survey can be requested by the public. It is our experience that survey information is rarely requested.

Source, Treatment, Storage, and Pumping Inventory

To ensure all potential source, treatment, storage, and pumping projects are considered, it may be helpful to complete some or all of this inventory table. However, completion of this table is not required.

- **Source Projects** are all projects related to collecting and pumping raw water. This includes wells, surface water intakes, springs, off-stream raw water storage, pumps, and well houses.
- **Treatment Projects** are all projects related to disinfection, filtration, or other treatment processes for ground or surface water sources, or for treatment applied in the distribution system.
- **Storage and Pumping Projects** are related to finished or treated water storage, and booster pump stations.

Source Water			
Inventory	**Needing Replacement**	**Needing Rehabilitation**	**New Infrastructure Needs**
Total Number and Capacity of Existing Wells or Springs:	Wells (pumps included) or Springs:	Wells (pumps included) or Springs:	Does your system have additional source water capacity needs to meet the needs of current users? (check one) Yes ___ No _____
Total Number and Capacity of Existing Surface Water Sources:	Existing Surface Water Intakes (excluding pumps):	Existing Surface Water Intakes (excluding pumps):	If yes, how many additional sources are necessary? And what are the design capacities?
Total Number and Capacity of Existing Pumps (excluding booster pump stations):	Existing Groundwater Pumps (if wells not listed):	Existing Groundwater Pumps (if wells not listed):	
	Existing Raw Surface Water Pumps:	Existing Raw Surface Water Pumps:	
Treatment			
Inventory	**Needing Replacement**	**Needing Expansion/Upgrading or Rehabilitation**	**New Infrastructure Needs**
For the sources identified above, enter the number of locations where the following treatment is applied:			
Disinfection (including booster disinfection):	Disinfection:	Disinfection:	Does your system have additional treatment needs for provision of additional public health protection or for aesthetic concerns? (check one) Yes ___ No ___ If yes, what additional treatment is necessary?
Filtration:	Filtration:	Filtration:	
Chemical removal or addition:	Chemical treatment:	Chemical treatment:	
Storage and Pump Stations			
Inventory	**Needing Replacement**	**Needing Rehabilitation**	**New Infrastructure Needs**
Total Number and Capacity of Existing Storage Tanks:	Number of Existing Storage Tanks:	Number of Existing Elevated or Ground-Level Storage Tanks:	Does your system have additional storage capacity and/or booster pumping needs to meet the needs of current users? (check one) Yes ____ No ____ If yes, how much additional finished water storage or booster pumping capacity is necessary?
Total Number and Capacity of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	

Source, Treatment, Storage, and Pumping Projects

Project Number	Project Name	Type of Need (List 1)	Reason for Need (List 2)	New, Replace, ReHab, Expand/ upgrade	Current or Future	Reg or Secondary Purpose (List 3)	Design Capacity (MG, MGD, kW)	Number Needed (if applicable)	Cost Estimate (if available)	Date of Cost Estimate (Month/ Year)	Documen-tation (List 4)
Ex. 1	*Replace Wells 3 and 8 at 0.5 MGD each*	*R1*	*A1*	*R*	*C*	*4A*	*0.5*	*2*	-	-	*6, 10*
Ex. 2	*Rehab Treatment Plant and Booster Station*	*T10, P2*	*A1,A6*	*H*	*F*	*1A*	*5.0*	*1*	*$6,027,000*	*12/2009*	*4*
1000											
1001											
1002											
1003											
1004											
1005											
1006											
1007											

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more source, treatment, storage, or pumping projects check this box ☐ and continue on a supplemental sheet (included in this package or downloadable at www.DWNeeds.com). Project numbers for these types of projects are 1000-1999, and should be numbered in sequence.

EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

Transmission and Distribution Inventory

Transmission and distribution projects are the piping needs of a water system. **Projects for valves, backflow prevention devices and assemblies, hydrants, and meters** that are not part of a transmission or distribution project listed in this table should be recorded in the table on page 6.

On the table below, please provide an estimate of the total feet or miles of pipe in your system, if possible. Completion of this table is not required, but it may be helpful to ensure all potential transmission and distribution pipe projects are considered.

Note: The total feet or miles of pipe in your system is required information if any pipe projects are submitted based solely on survey-generated documentation (documentation codes 10 or 11).

_____ **Total feet or miles of pipe in system** *(Circle or underline feet or miles)*

Total Pipe in System *(Circle or underline feet or miles)*		<=6 inch	8-12 inch	15-42 inch	>=48 inch
Plastic	_____ Feet or miles	Amount of PVC by pipe size	_____ feet or miles	_____ feet or miles	_____ feet or miles	_____ feet or miles
	_____ % of total pipe	% of this category/size pipe currently in poor condition or beyond useful life	_____ %	_____ %	_____ %	_____ %
Ductile Iron	_____ Feet or miles	Amount of ductile iron by pipe size	_____ feet or miles	_____ feet or miles	_____ feet or miles	_____ feet or miles
	_____ % of total pipe	% of this category/size pipe currently in poor condition or beyond useful life	_____ %	_____ %	_____ %	_____ %
Cast Iron	_____ Feet or miles	Amount of cast iron by pipe size	_____ feet or miles	_____ feet or miles	_____ feet or miles	_____ feet or miles
	_____ % of total pipe	% of this category/size pipe currently in poor condition or beyond useful life	_____ %	_____ %	_____ %	_____ %
Asbestos Cement	_____ Feet or miles	Amount of asbestos cement by pipe size	_____ feet or miles	_____ feet or miles	_____ feet or miles	_____ feet or miles
	_____ % of total pipe	% of this category/size pipe currently in poor condition or beyond useful life	_____ %	_____ %	_____ %	_____ %
Other	_____ Feet or miles	Amount of other by pipe size	_____ feet or miles	_____ feet or miles	_____ feet or miles	_____ feet or miles
	_____ % of total pipe	% of other currently in poor condition or beyond useful life	_____ %	_____ %	_____ %	_____ %

Transmission and Distribution Projects

Project Number	Project Name	Type of Need (List 1)	Reason for Need (List 2)	New, Replace, or ReHab	Current or Future	Reg or Secondary Purpose (List 3)	Diameter of Pipe (Inches)	Length of Pipe (Feet)	Cost Estimate (if available)	Date of Cost Estimate (Month/Year)	Documen-tation (List 4)
Ex. 1	*Cleaning and Lining Old Cast Iron Mains*	*M1*	*A1*	*H*	*C*	*4A*	*12*	*18,000*	-	-	*11*
Ex 2	*Replace Deteriorated Transmission Main*	*X2*	*A1*	*R*	*C*	*4A*	*24*	*20,000*	*$4,200,000*	*06/2008*	*1*
2000											
2001											
2002											
2003											
2004											
2005											
2006											
2007											

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more transmission or distribution projects check this box ☐ and continue on a supplemental sheet (included in this package or downloadable at www.DWNeeds.com). Project numbers for transmission or distribution projects are 2000-2999, and should be numbered in sequence.

EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

Meters, Service Lines, Backflow Prevention Devices/Assemblies, Hydrants, Valves, etc

Projects for meters, service lines, backflow prevention devices and assemblies, valves, hydrants and other miscellaneous projects are recorded in this section to accommodate entries of multiple identical items on one line in the project table. **Record only projects that are not a part of another project (e.g., water main replacement projects will already include valves, hydrants, and other appurtenances).** EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

Inventory	Needing Replacement	New Infrastructure Needs
Total Number of Existing Water Meters:	Number of Water Meters:	Number of Water Meters:
Total Number of Existing Backflow Prevention Devices/Assemblies:	Number of Backflow Prevention Devices/Assemblies:	Number of Backflow Prevention Devices/Assemblies:
Total Number of Existing Valves:	Number of Valves:	Number of Valves:
Total Number of Existing Hydrants:	Number of Hydrants:	Number of Hydrants:
Total Number of Lead Service Lines:		

Project Number	Project Name	Type of Need (List 1)	Reason for Need (List 2)	New, Replace, or ReHab	Current or Future	Reg or Secondary Purpose (List 3)	Size (Diameter in Inches)	Number Needed	Cost Estimate (if available)	Date of Cost Estimate (Month/Year)	Documen-tation (List 4)
Ex.1	*Replace Lead Service Lines*	*M2*	*A6*	*R*	*C*	*1D*	*-*	*100*	*$100,000*	*05/2010*	*9, 11*
3000											
3001											
3002											
3003											
3004											

Project Number	Project Name	Type of Need (List 1)	Reason for Need (List 2)	New, Replace, or ReHab	Current or Future	Reg or Secondary Purpose (List 3)	Size (Diameter in Inches)	Number Needed	Cost Estimate (if available)	Date of Cost Estimate (Month/Year)	Documen-tation (List 4)
3005											
3006											
3006											
3008											

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more of these types of projects check this box ☐ and continue on a supplemental sheet (included in this package or downloadable at www.DWNeeds.com). Project numbers for these types of projects are 3000-3999, and should be numbered in sequence.

Climate Readiness Supplemental Questions

If you used code 2G from List 3, in the "Regulation or Secondary Purpose" column of the survey, indicating that you have one or more projects that are related to climate readiness, please answer the following questions. Only one response is requested; do not provide a response for each project.

Projects that included a climate ready component [Project #(s)]: _____

Which of the following secondary consequences of climate change have contributed to your system's need for climate readiness projects? (check all that apply)

- o Source water quality (e.g., water quality degradation affecting treatment processes, alternate sources, etc.)
- o Source water quantity (e.g., availability affected by snowmelt or weather patterns, or hydraulic patterns)
- o Infrastructure Vulnerability (e.g., facility locations affected by sea level rise, increased precipitation intensity)
- o Other (please explain)_____

Please describe the data you are relying on to determine climate change consequences and implications.

- o Model developed from state-specific data.
- o Model developed from region-specific data.
- o Other (please describe)_____

Respondent Information

Please provide the following information in case we need to contact you for clarification or additional explanation of any of your responses.

Contact Person (Person who completed this questionnaire):

Signature: _____

Name (please print): _____

Title: _____

Mailing Address: _____
(Street Address)

_____

_____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

Best Time to Reach You: _____

If you have any questions, contact your state coordinator (contact information can be found at www.dwneeds.com) or call the U.S. EPA toll-free Needs Survey Helpline at X-XXX-XXX-XXXX.

CLOSING: Thank you for your help. Did you remember to:

☐ Attach all additional project tables to the questionnaire?

☐ Identify, by project number, available documentation for all needs and costs reported above?

☐ Put the questionnaire and the documentation in the pre-paid, pre-addressed Federal Express Pak provided and return this questionnaire and the documentation to the address below? (See the pink enclosure for further return instructions.)

Jane Q. Official
Division of Water
One Capital Street
Capital, XX 99999

Appendix C. Comment Codes

Comments for States			2011
Code		Printed Comments	Website Status Code
Overall Questionnaire	80	System reported as inactive.	Info
	82	System reported as a federal facility. It will not be included in the 2007 Needs Survey.	Info
	84	System reported as inactive due to consolidation with another system.	Info
	86	System reported as a noncommunity water system.	Info
	88	System consolidating with another system after Jan. 1, 2011	Info
	90	System reported no needs.	Info
	92	System not participating.	Info
	94	System needs reported with another system.	Info
	96	System should not have been selected - will be removed from database.	Info
	98	Correction made to system information (name, address, ownership, pipulation, connections, capacity or s	Info
		Allowability	
Allowability	100	Project accepted as submitted with no changes.	ACC
	110	Project is recorded as unallowable (general).	Del
	112	*Portion* of project is recorded as unallowable (general).	Acost
	114	Project is recorded as unallowable because it appears that a substantial portion is for future growth.	Del
	116	*Portion* of project is recorded as unallowable because it appears that a substantial portion is for future growth.	Acost
	118	Project is recorded as unallowable because it appears that a substantial portion is for fire protection.	Del
	120	*Portion* of project is recorded as unallowable because it appears that a substantial portion is for fire protection.	Acost
	122	Project is recorded as unallowable because it appears that construction had begun or funds were expended by 1/1/11.	Del
	124	*Portion* of project is recorded as unallowable because it appears that construction had begun or funds were expended by 1/1/11.	Acost
	126	Project is recorded as unallowable because it appears to be solely for O&M.	Del
	128	*Portion* of project is recorded as unallowable because it appears to be solely for O&M.	Acost
	130	Project is recorded as unallowable because it appears to be solely for obtaining water rights.	Del
	132	*Portion* of project is recorded as unallowable because it appears to be solely for obtaining water rights.	Acost
	134	Project is recorded as unallowable because it appears to be solely for land acquisition.	Del
	136	*Portion* of project is recorded as unallowable because it appears to be solely for land acquisition.	Acost
	138	Project is recorded as unallowable because it appears to be solely for conducting studies.	Del
	140	*Portion* of project is recorded as unallowable because it appears to be solely for conducting studies.	Acost
	142	Project is recorded as unallowable because it appears to be solely for demolition of abandoned facilities.	Del
	144	*Portion* of project is recorded as unallowable because it appears to be solely for demolition of abandoned facilities.	Acost
	146	Project is recorded as unallowable because it appears to be solely for improving appearances.	Del
	148	*Portion* of project is recorded as unallowable because it appears to be solely for improving appearances.	Acost
	150	Project is recorded as unallowable because it appears to be solely for interest payments or legal fees.	Del
	152	*Portion* of project is recorded as unallowable because it appears to be solely for interest payments or legal fees.	Acost
	154	Project is recorded as unallowable because it appears that more than one project meets the same need.	Del
	156	*Portion* of project is recorded as unallowable because it appears that more than one project meets the same need.	Acost
	158	Project is recorded as unallowable because it appears to be solely for acquisition of infrastructure.	Del
	160	*Portion* of project is recorded as unallowable because it appears to be solely for acquisition of infrastructure.	Acost
	162	Project is recorded as unallowable because infrastructure can only be addressed once in the 20-year survey period.	Del
	164	*Portion* of project is recorded as unallowable because infrastructure can only be addressed once in the 20-year survey period.	Acost

Allowability	166	Project is recorded as unallowable because it appears to be a non-capital infrastructure need.	Del
	168	*Portion* of project is recorded as unallowable because it appears to be a non-capital infrastructure need.	Acost
	170	Project is recorded as unallowable because documentation did not indicate that existing homes to be connected currently have an inadequate supply.	Del
	172	*Portion* of project is recorded as unallowable because documentation did not indicate that existing homes to be connected currently have an inadequate supply.	Acost
	174	Project appears to be a need for source water protection.	Del
	176	Project is recorded as a raw water reservoir or dam-related need.	Del
	180	Project is recorded as unallowable because it appears to not be the responsibility of the PWS.	Del
	182	*Portion* of Project is recorded as unallowable because it appears to not be the responsibility of the PWS.	Acost
	184	Project is deleted because it is driven solely by a non-water-related issue such as highway relocation	Del
	186	*Portion of* project is deleted because it is driven solely by a non-water-related issue such as highway relocation	ACost
	188	Project is deleted because all pipe projects exceed 0.5% per year. Documented only with survey-generated documentation.	Del
	190	Portion of project is deleted because all pipe projects exceed 0.5% per year. Documented only with survey-generated documentation.	ACost
	192	Project deleted because no total pipe amount reported for system. Documented only with survey-generated documentation. Cannot determine if pipe project exceeds 10% of pipe in the system over 20 years.	Del
	194	Portion of Project deleted because no total pipe amount reported for system. Documented only with survey-generated documentation. Cannot determine if pipe project exceeds 10% of pipe in the system over 20 years.	ACost
		Documentation	
Documentation	200	Project is deleted because of inadequate documentation of need (general).	Del
	202	*Portion* of project is deleted because of inadequate documentation of need (general).	Acost
	204	Project is deleted because of inadequate documentation of need (documentation is over 4 years old).	Del
	206	*Portion* of project is deleted because of inadequate documentation of need (documentation is over 4 years old).	Acost
	208	Project is deleted because of inadequate documentation of need (no signature or date).	Del
	210	*Portion* of project is deleted because of inadequate documentation of need (no signature or date).	Acost
	212	Project is deleted because independent documentation required, but none submitted.	Del
	214	Portion of Project is deleted because independent documentation required, but none submitted.	Acost
	216	Project is deleted because weight of evidence not met.	Del
	218	Portion of Project is deleted because weight of evidence not met.	Acost
	220	Project is deleted because of inadequate documentation of feasibility	Del
	222	Portion of project is deleted because of inadequate documentation of feasibility	Acost
	224	Project is deleted because of inadequate documentation of commitment	Del
	226	Portion of project is deleted because of inadequate documentation of commitment	Acost
	228	Project is deleted because of inadequate documentation of commitment (early planning stages)	Del
	230	Portion of project is deleted because of inadequate documentation of commitment (early planning stages	Acost
	232	Project is deleted because of inadequate documentation of commitment (drought/dlimate)	Del
	234	Portion of project is deleted because of inadequate documentation of commitment (drought /climate)	Acost
	236	Project is deleted because of inadequate documentation of commitment (redundancy)	Del
	238	Portion of project is deleted because of inadequate documentation of commitment (redundancy)	Acost
	240	Project is deleted because of inadequate documentation of commitment (green project)	Del
	242	Portion of project is deleted because of inadequate documentation of commitment (green project)	Acost
		Included Elsewhere	
Included Elsewhere	246	Project is deleted because it is reported on another system's questionnaire.	Del
	248	*Portion* of project is deleted because it is reported on another system's questionnaire.	Acost
	250	Project is deleted because it appears to be included in another project based on the documentation.	Del
	252	*Portion* of project is deleted because it appears to be included in another project based on the documentation.	Acost
	254	Project is deleted because it is now lumped with another project.	Del
	256	*Portion* of project is deleted because it is now lumped with another project.	Acost

Included Elsewhere	258	Project is deleted because this type of need is allocated to another system due to the consolidation of systems.	Del
	260	*Portion* of project is deleted because this type of need is allocated to another system due to the consolidation of systems.	Acost
	262	Project was deleted because it will be included in the cost modeling of another type of need.	Del
	264	*Portion* of project was deleted because it will be included in the cost modeling of another type of need.	Acost
	266	Project is deleted because it appears the interconnection will be a shared cost with the other system(s).	Del
	268	*Portion* of project is deleted because it appears the interconnection will be a shared cost with the other system(s).	Acost
		Unlumping	
Unlumping	272	Project was unlumped to capture cost information for modeling parameters.	Info
	274	Project was unlumped to allocate costs to type of need (T&D, Storage, etc.).	Info
	276	Project was unlumped to allocate costs by regulation.	Info
	278	Project was unlumped so project costs can be modeled.	Info
	280	Project was created by unlumping another project so costs can be modeled.	Info
	282	Project was unlumped to separate components (general).	Info
	284	Project is deleted because it is now unlumped into other projects.	Del
		Lumping	
Lump-ing	288	Project was lumped (now includes other projects) (general).	Info
	290	Project was lumped (now includes other projects) to allow use of cost data.	Info
	292	When modeling costs, this project will include other projects.	Info
		Project Cost	
Project Cost	296	Cost will be included as documented or modeled as documented.	Cost
	298	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (no cost or design capacity).	Ncost
	300	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (no date for cost estimate and no modeling parameters).	Ncost
	302	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (cost estimate is over 10 years old and no modeling parameters).	Ncost
	304	Project cost will not be included unless additional documentation of total cost is provided (EPA cannot model this cost).	Ncost
	306	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided. Project is unlumped to list components.	Ncost
	308	Reported project cost will not be used because of lack of documentation or date of documentation, but costs can be modeled. No additional documentation is needed.	Acost
	310	Project costs for future regulations are modeled based on data from Regulatory Impact Analyses and applied to all community water systems.	Del
	312	*Portion* of project cost will not be included because cost documentation does not support reported cost.	Acost
	314	Project cost will not be included unless additional documentation of total cost is provided (costs deleted and EPA cannot model cost.)	Ncost
	316	Project cost will not be included unless additional documentation of total cost or modeling param.are provided (costs deleted and no parameters were provided.)	Ncost
		Changes to Match Documentation	
Changes to Match Documentation	320	Information changed to match documentation may also affect modeled costs.	Acost
	322	Information changed to match documentation (general).	Info
	324	Documentation type changed to match documentation.	Info
	326	Type of need changed to match documentation.	Info
	328	Description of project (new or rehab) changed to match documentation.	Info
	330	Description of project (current or future need) changed to match documentation.	Info
	332	Regulation or secondary purpose changed to match documentation.	Info
	334	Reason for Need changed to match documentation.	Info
	336	Cost estimate changed to match documentation.	Acost
	338	Date of cost estimate changed to match documentation.	Info
	340	Design Capacity or Modeling parameter data changed to match documentation.	Acost

Changes to Match Doc.	342	No documented cost or modeling parameters given; modeling parameters estimated based on documentation.	Acost
	344	Modeling parameters given as a range; the lower number was recorded.	Acost
	346	Changes made to the project impact the project's cost. (use only if no more specific code applies)	Acost
	348	Modeling parameters changed or deleted; EPA will use cost provided. (use only if cost impacted)	Cost
	350	Project moved to appropriate table - project number changed. (generally not used unless project number had to change)	Info
	352	Type of Need Changed - Treatment technology changed to the Best Available Technology for the contaminant of concern.	Acost
		Revised Documentation	
Revised Documentation/Modification	400	Project is now included based on additional/revised documentation.	ACC
	402	*Portion* of project is now included based on additional/revised documentation.	Acost
	404	Project cost or modeling information is now included based on additional/revised documentation.	Cost
	406	Information changed to match additional/revised documentation.	Info
	408	Cost estimate changed to match additional/revised documentation.	Acost
	410	This project was added based on additional/revised documentation provided with this water system survey.	Info
	412	Additional/revised documentation did not clarify that project is allowable.	Info
	414	Additional/revised documentation did not provide acceptable cost data or modeling parameters.	Info
	416	Review of additional/revised documentation did not seem to support a revision to data.	Info
	420	This issue which was affecting the allowability of this project has now been corrected and cleared. However there may be other issues affecting the allowability of this project. (Pair w/ another delete code - not a lump code)	ACC
	430	This issue which was affecting the cost or modeling of this project has now been corrected and cleared. However there may be other issues affect the cost or modeling of this project. (Pair w/ a Ncost or Acost code.)	Cost
	444	The disallowed portion of this project has now been allowed based on revised documentaion.	Cost
	500	Modification message constituted a question, no reply available.	Info
	502	Modification message constituted a comment, no reply needed.	Info
	510	The modification to this project included additional information that constituted a new project. The new project information will not be added because the deadline for new projects has passed.	Info
	512	The modification submitted for this project was submitted past the deadline for new modificaions. As a result, no changes will be made to this project.	Info
	514	Modification has already been considered for this project. No further modifications will be accepted.	Info
	604	Project cost or modeling parameters now changed based on modification of another project (will be paired with accompanying)	Info
	606	Project information now changed based on modification of another project (will probably be paired with accompanying)	Info
	608	Cost estimate now deleted based on modification of another project (will probably be paired with accompanying code)	Info
	612	Project is now deleted based on modification of another project (will be paired with a delete code)	Info
	700	A correction was made to the project after the data entry period closed. See accompanying code for more details.	Info