

# User's Guide



**Check Up Program for Small Systems**



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# 1 Introduction

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The U.S. Environmental Protection Agency (EPA) developed CUPSS as a user-friendly desktop application to promote the integration of asset management activities into utility practices. CUPSS leads users through a series of modules to collect information on the utility's assets, operation and maintenance activities, and financial status to produce a prioritized asset inventory, financial reports, and a customized asset management plan.

CUPSS is free software that will make managing assets easier. It's a desktop system, so no Internet connection is needed and the software requirements are minimal. CUPSS was designed and developed with input and suggestions from a diverse stakeholder group.

## 1.1 CUPSS and Asset Management

CUPSS is designed to help you establish a successful asset management program. Asset management is important for many reasons. Managing assets helps a utility run more efficiently, so you'll spend less time and energy tracking tasks and finances. Three important components of asset management are a comprehensive list of current assets, including information on their condition and useful life; an understanding of the daily/monthly/yearly tasks to maximize the useful life of the assets; and a clear organization system for financial records, which will help identify trends and determine the full cost of doing business. Successful asset management programs are characterized by a commitment to:

- Allocate people, time, and other resources to implement the program
- Focus on making cost-effective asset decisions
- Provide a sustainable level of service for the community

By choosing CUPSS, you are already on your way to using asset management!

## 1.2 Benefits of Using CUPSS

CUPSS is designed to help small water and wastewater utilities support budget discussions with solid facts and numbers, boost the efficiency of the utility, save your staff time, and improve customer service by ensuring continual service at competitive prices. CUPSS will help you make determinations about the current state of the assets in your utility, the level of service you are aiming to uphold, which of your assets are critically important, what the minimum life cycle cost is, and what your long-term funding strategy is. The CUPSS program will also help you to prepare work orders and an asset management plan. An asset management plan will provide valuable information that you can use when you make management decisions about your utility. CUPSS will provide a snapshot of your utility that will allow someone with little knowledge to jump in and understand the state of the utility. The generated work orders can be used to help keep operation and maintenance, as well as compliance tasks, on schedule.

CUPSS is a tool created for you. You are the best resource for the program. The quality of the output of the program will be determined by how much information you put in. The more information you input, the more accurate and descriptive your results will be!

## 1.3 About This Guide

This *CUPSS User's Guide* contains all the essential information for you, the user, to make full use of CUPSS. It includes a description of the functions and capabilities of CUPSS and step-by-step instructions for using the application to develop and implement an asset management plan. In addition, this guide contains information to help you install CUPSS onto your computer, as well as several worksheets that might help you personalize CUPSS for your utility.

## 1.4 How to Use This Guide

The *CUPSS User's Guide* is designed to help you work with CUPSS. Use it in conjunction with the other CUPSS support documentation available at the CUPSS Web site and on the CUPSS CD. The *Getting Started with CUPSS Workbook* is an especially useful tool that will help you get the maximum benefit out of the CUPSS application.

## 1.5 Structure

The *CUPSS User's Guide* is divided into chapters based on the CUPSS modules. An extra chapter describes the installation procedures. Each chapter contains instructions and helpful tips specific to a CUPSS module. Additional information is included in several appendices at the end of the document. Topics are cross-referenced within the document to provide a comprehensive understanding of how the various modules are integrated.

## 1.6 Points of Contact

For additional help with CUPSS, please send an email to [cupss@epa.gov](mailto:cupss@epa.gov) or visit the CUPSS Web site at <http://www.epa.gov/cupss>.

# 2 Installation Instructions

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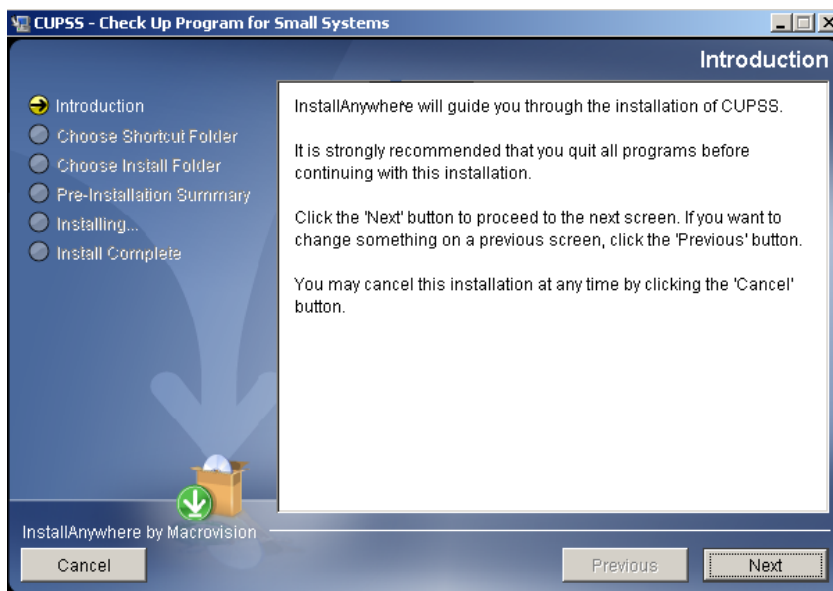
The following instructions walk you through the CUPSS installation process. The instructions assume you already have a copy of the CUPSS installation file saved to your computer (if you downloaded the software from the CUPSS Web site at <http://www.epa.gov/cupss>) or that you have a copy of the CUPSS installation CD.

**Take Note!** It is recommended that you close all other applications before running the CUPSS installation wizard.

## 2.1 Launch the CUPSS Installation Wizard

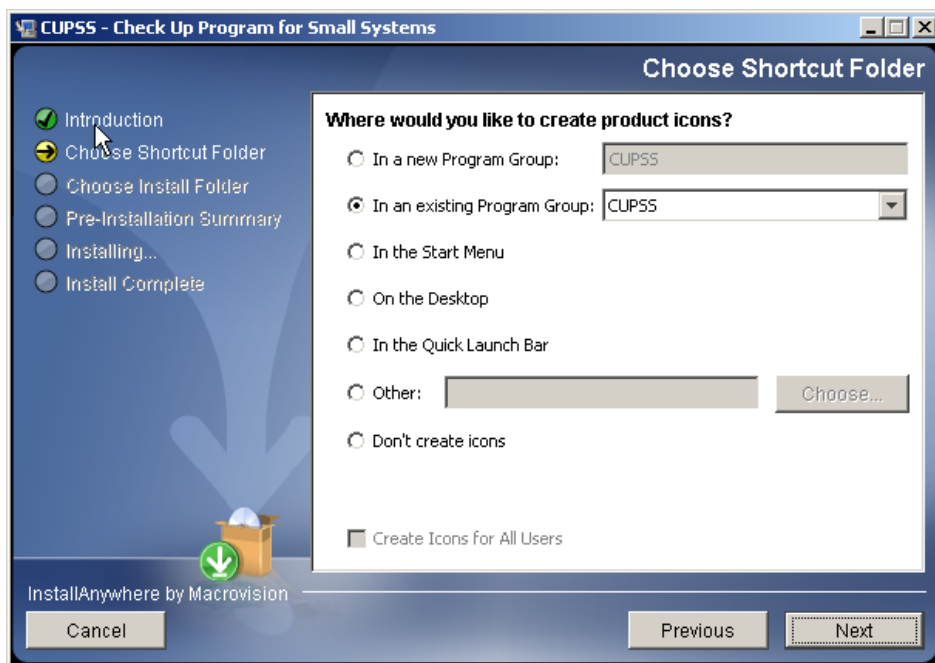
If you downloaded the CUPSS application from the CUPSS Web site, a copy of the installation is saved to a location on your computer. Navigate to that file and open (double-click or right-click and select “Open”) the **cupss\_install.exe** file. This launches the installation wizard (Figure 2.1).

If you are installing CUPSS from the CUPSS CD, the installation wizard should open automatically when the CD is loaded. If the wizard does not open automatically, open “My Computer” and navigate to the contents of the CUPSS CD. Open the **cupss\_install.exe** file to launch the installation wizard (Figure 2.1).



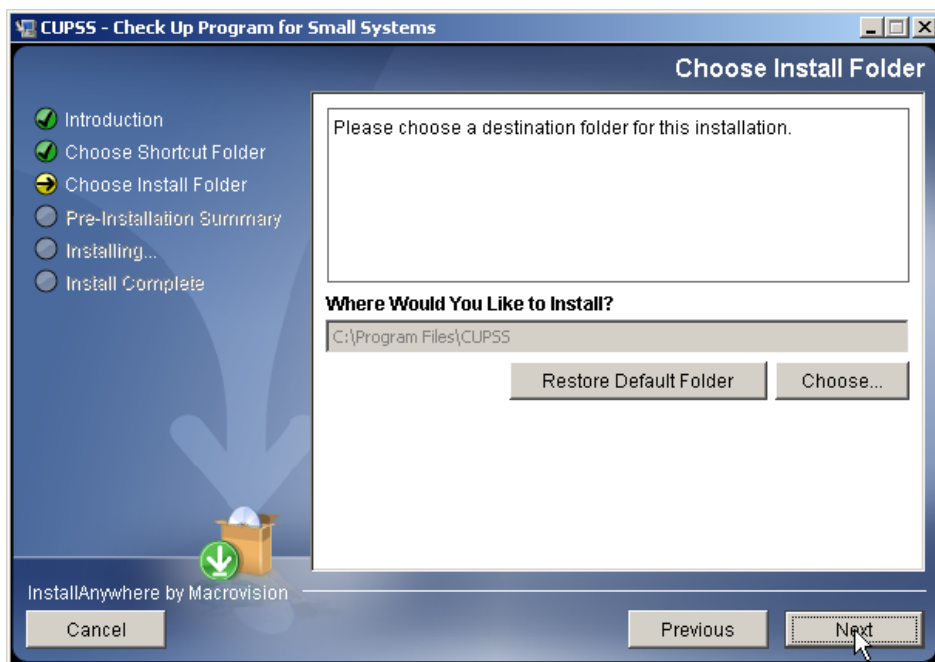
**Figure 2.1 Introduction**

The left side of the wizard shows the steps required for installation. The right side provides instructions for what to do next. Click “Next” to proceed to the next step: Choose a Shortcut Folder (Figure 2.2).



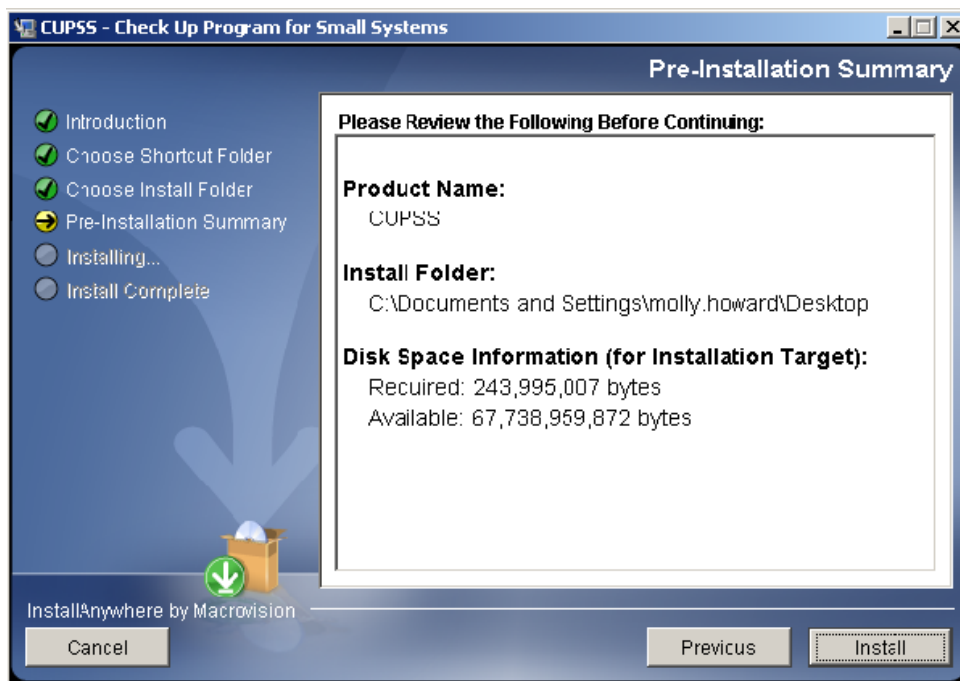
**Figure 2.2 Choose Shortcut Folder**

Use the radio buttons to indicate where you would like to add a shortcut button to the CUPSS application. Click “Next” when you are done to proceed to the next step: Choose Install Folder (Figure 2.3).



**Figure 2.3 Choose Install Folder**

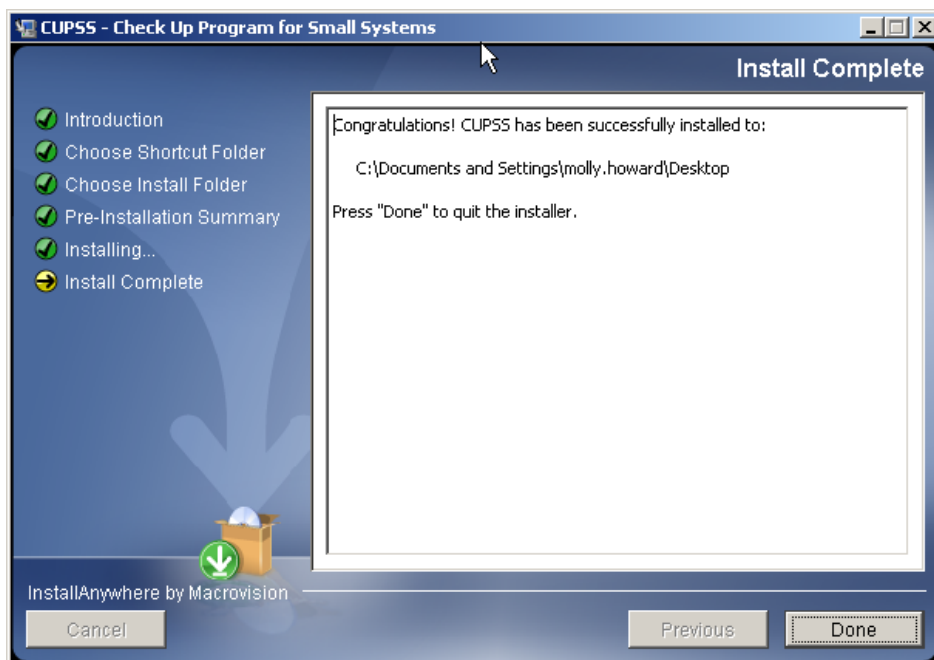
The installation wizard selects a default location for the CUPSS program files. If you would like to select a different location, click “Choose...” and navigate to the folder where you want the files to be saved. To reset the save location to the CUPSS default choice, click “Restore Default Folder.” When you are done, click “Next” to move to the next step: Pre-Installation Summary (Figure 2.4).



**Figure 2.4 Pre-Installation Summary**

Review the installation summary information to make sure it's correct. If there is something you wish to change, use the "Previous" button to navigate back to earlier screens, where you can make corrections. If you are satisfied with the selections, click "Install" to install CUPSS.

When the installation is done, you'll see a confirmation screen (Figure 2.5).



**Figure 2.5 Install Complete**

You can now navigate to the place you stored CUPSS to open and use the application. (You should also be able to find CUPSS in your computer's "Start" menu.)

## 2.2 Uninstall CUPSS

To uninstall CUPSS, navigate to the CUPSS link in the “Start” menu and select the “Uninstall” link (Figure 2.6).



Figure 2.6 Navigating to CUPSS program and selecting "Uninstall"

This will open the CUPSS uninstall wizard (Figure 2.7).

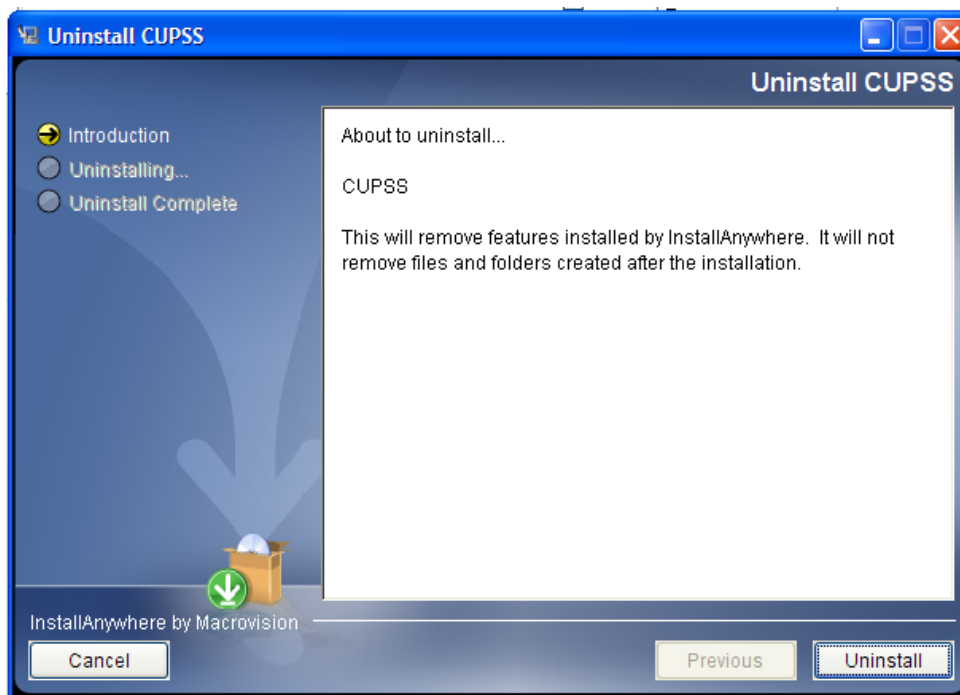
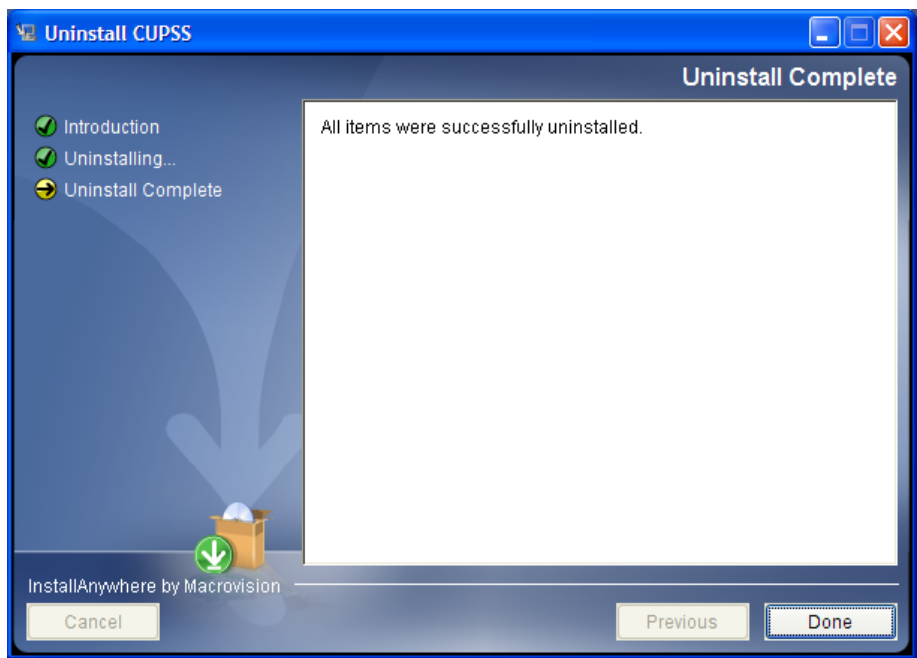


Figure 2.7 Uninstall CUPSS

Click “Uninstall” to continue or “Cancel” to quit the uninstall wizard.

CUPSS will automatically uninstall all files related to the application. You will see a confirmation screen once the uninstall is complete (Figure 2.8).



**Figure 2.8 Uninstall Complete**

Click “Done” to complete the uninstall.

# 3 Getting Started

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The first time you run CUPSS on your computer, it will run the *Getting Started* module. This module prompts you to enter some basic information about your utility, schedule standard operation and maintenance tasks, and add user information for your project team. You will need to go through the setup process only once. Later, you can use the tools available within the application to edit and update this information.

There are five steps in the *Getting Started* module:

1. Enter utility information
2. Enter user information
3. Schedule operation and maintenance tasks
4. Enter information about your project team
5. Review and save data

## 3.1 CUPSS Startup

If the CUPSS application is not already open, run CUPSS by selecting it from your program menu or by using the desktop icon. On the initial page (Figure 3.1), click the “Enter Your CUPSS” button to proceed to the startup page. If you would like to see an example of a completed CUPSS program, click the “Enter Example CUPSS” button. Information (including the username and password) is pre-populated in the example to show you what your CUPSS can and will look like.

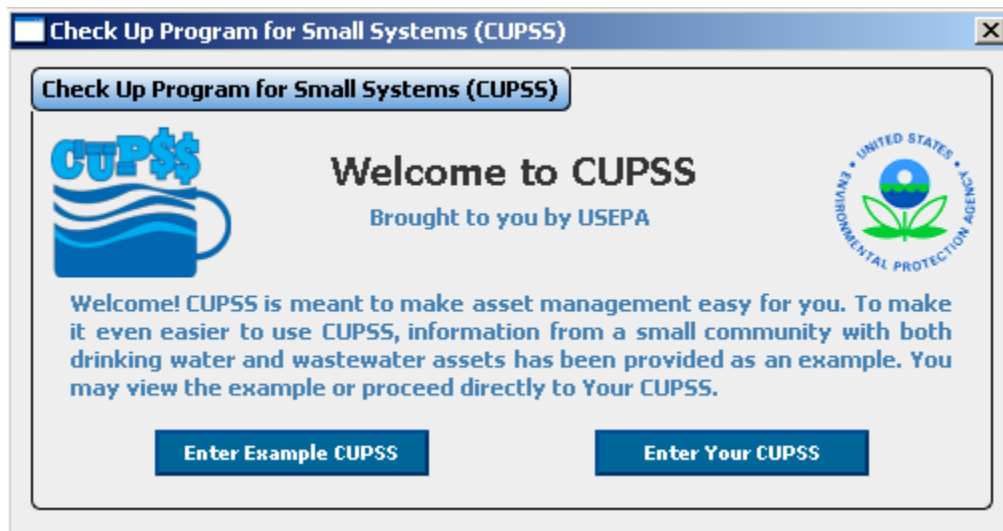


Figure 3.1 Welcome to CUPSS page

After you click “Enter Your CUPSS,” you will be taken to the startup page (Figure 3.2). Click on “Let’s Get Started” to enter the *Getting Started* module. Click on “Do Some Training” to learn more about CUPSS and how to set up your application.



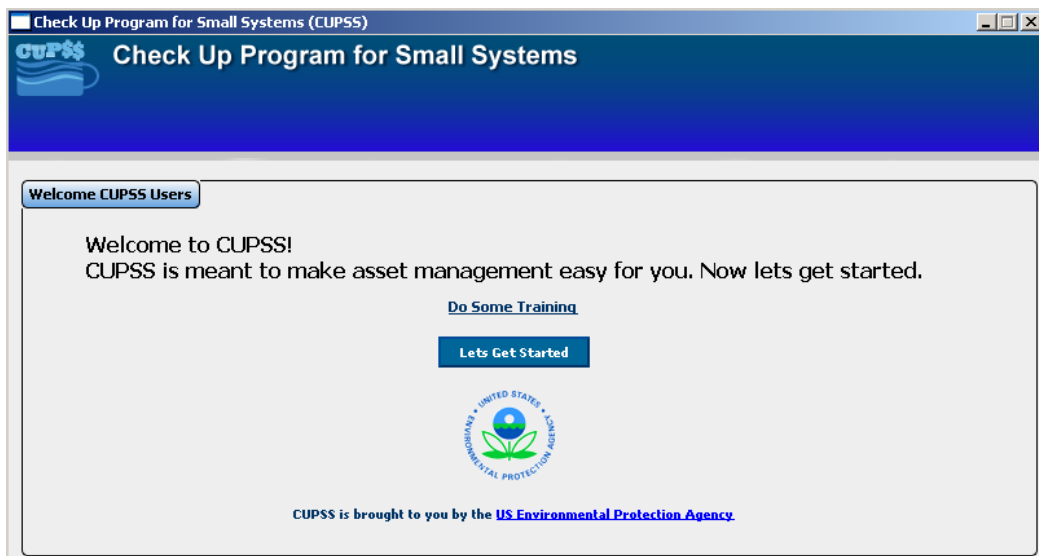


Figure 3.2 CUPSS startup page

**Take Note!** It's important to note that the data you enter in the *Getting Started* module will not be saved until you complete all five steps. If you close CUPSS before working through the entire *Getting Started* module, your data will be lost and you will need to go through the process again the next time you open CUPSS.

Your progress through the *Getting Started* module is shown using a tracking image at the top of each page (Figure 3.3).

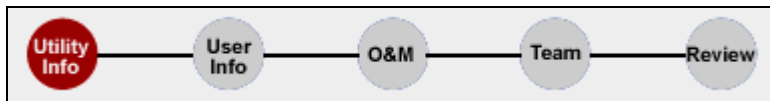


Figure 3.3 Tracking image

## 3.2 Utility Information

The first task in the setup process is to enter information about your utility. Figure 3.4 shows the *Utility Information* page. Here, you will set up the project and utility for which you will manage an inventory, enter operation and maintenance tasks, input financial information, and create an asset management plan. Table 3.1 provides additional information about the fields available on this page.

It's possible to store information for more than one project and more than one utility within CUPSS. After the initial setup, you can go back and add additional projects or utilities and manage the assets for each (see Section 4.5 for more information).

Please notice the “Do Some Training” button in the upper right of the *Utility Information* page. Every setup screen has this button, and clicking it will provide additional information on how to get started with CUPSS.

Figure 3.4 Utility Information page

Table 3.1 Fields available on the Utility Information page

Field Label	Description
Utility Name *	Enter the name of the utility. If you have multiple projects, add the project name beside the utility name (e.g., [Utility Name] - [Project Name]).
Type of Facility *	Use the radio buttons to indicate whether this is a drinking water or wastewater facility.
PWSID (Drinking water facilities only) *	This field is made available if you select “Drinking Water” as the facility type. Enter the Public Water System identification number.
Estimated Number of Connections (Drinking water facilities only) *	This field is made available if you select “Drinking Water” as the utility type. Enter the number of customers receiving drinking water from the utility.
NPDES NUMBER (Wastewater facilities only)*	This field is made available if you select “Wastewater” as the utility type. Enter your National Pollutant Discharge Elimination System number here.
Flow (mgd) (Wastewater facilities only)*	This field is made available if you select “Wastewater” as the utility type. Enter the number of millions of gallons per day processed through the utility.
Street Address *	Enter the street address of the utility.
City *	Enter the city where the utility is located.
State *	Select the state where the utility is located from the dropdown menu.
Zip *	Enter the ZIP Code of the utility.
Phone	Enter the phone number for the utility.
Fax	Enter the fax number for the utility.

\* Indicates a required field.

When you have completed the form, click “Continue” to move to the next step.

If you try to move to the next page without filling out all the required fields, you will see an error message (Figure 3.5) with a list of fields that require data before you can continue. This is true for all forms in the CUPSS application.

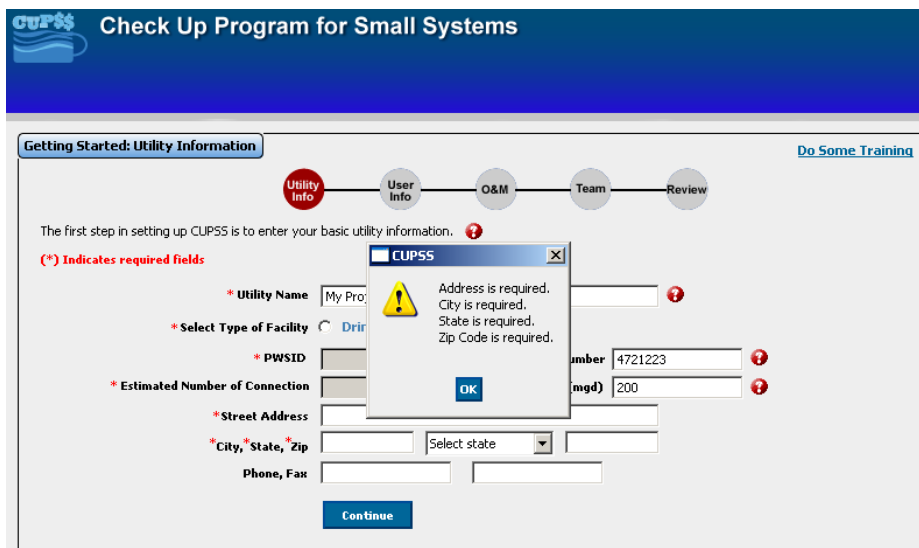


Figure 3.5 Error message

### 3.3 User Information

The second step in the *Getting Started* module is to enter your personal information to set up your user account. All users can add new project and utility information, determine who can access the various projects set up within CUPSS, and add additional project team members. Figure 3.6 shows the *User Information* page, and Table 3.2 provides additional information about the fields available on the page.

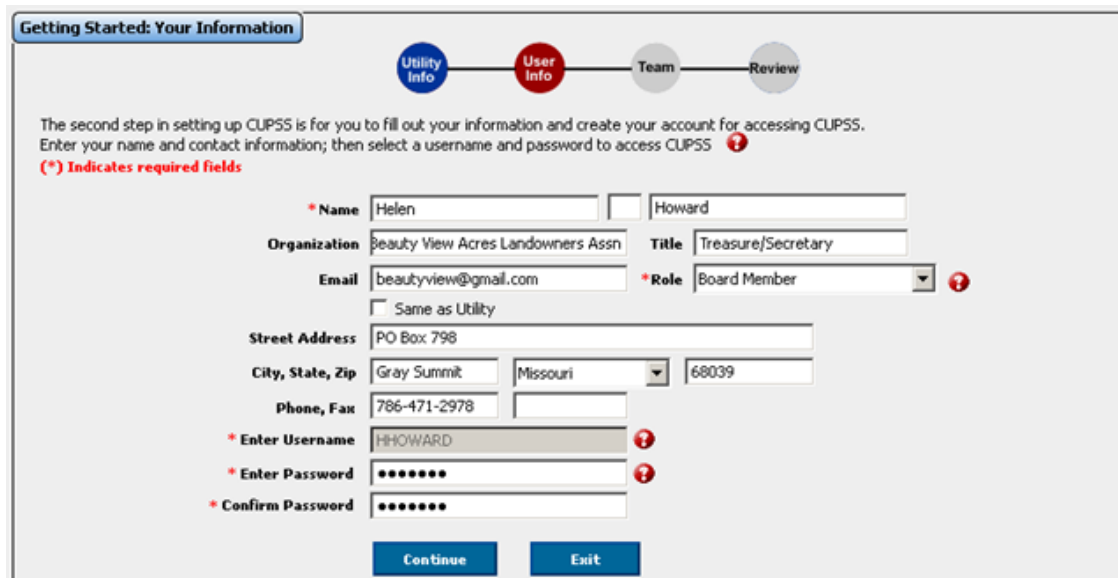


Figure 3.6 User Information page

Table 3.2 Fields available on User Information page

Field Label	Description
First Name *	Enter your first name.
Middle Initial	Enter your middle initial, if applicable.
Last Name *	Enter your last name.

Field Label	Description
Organization	Enter the name of your organization.
Title	Enter your job title.
Email	Enter your primary e-mail address.
Role*	Select your position within the organization from the dropdown menu.
Same as facility checkbox	Indicate whether your mailing address is the same as that of the facility you entered on the previous screen. If so, the address fields below this checkbox will automatically populate with the stored information.
Street Address	If your mailing address is different than that of the facility, enter your street address.
City	Enter your city.
State	Select your state from the dropdown menu.
Zip	Enter your ZIP Code.
Phone	Enter your phone number.
Fax	Enter your fax number.
Enter Username *	Enter a username. This is the name you will use the next time you log into CUPSS. DON'T FORGET THIS USERNAME!
Enter Password *	Enter a password. This is the password you will use the next time you log into CUPSS. DON'T FORGET THIS PASSWORD!
Confirm Password *	Reenter the password to confirm.

\* Indicates a required field.

When you have completed the form, click “Continue” to move to the next page.

## 3.4 Operation and Maintenance

The next step is to set up a preliminary set of operation and maintenance (O&M) tasks for the utility. This section of the *Getting Started* module is spread out over four pages. These tasks are important for successful maintenance and management of your utility. The default tasks identified in CUPSS are recommended to help you reach your Level of Service goals (explained in Section 9.3.2). Tasks are presented based on frequency of occurrence. On the first page, you are presented with a list of standard maintenance tasks common to many utilities that typically occur on a daily basis. The next three pages show weekly, monthly and annual tasks. If you are currently not performing these tasks you may consider reviewing and incorporating them into your operation and maintenance strategy.

**Benefits to My Utility**  
CUPSS can help you save time by setting up default tasks and helping you establish an operation and maintenance plan.

For all four pages, use the checkboxes next to the task name to select which tasks to add to your O&M schedule and use the fields to the right of each listed task to establish the frequency with which these tasks occur.

All tasks selected and scheduled in the *Getting Started* module are added to the CUPSS calendar. You will be able to modify, delete, and add tasks from within *My O&M* once you complete the initial setup process, however you will not be able to access these exact screens after completing the process.

The tasks presented in CUPSS come from EPA’s *Preventive Maintenance Card File for Small Public Water Systems Using Ground Water*. This publication is available on the “Resources” page of the CUPSS Web site at <http://www.epa.gov/cupss>.

### 3.4.1 Daily Tasks

The first page of the O&M section shows tasks that typically occur daily (Figure 3.7).

The standard list of daily tasks includes

- Check water meter readings and record water production.
- Check chemical solution tanks and record amounts used.
- Check and record water levels in storage tanks.
- Inspect chemical feed pumps.
- Check and record chlorine residual at the point of application.
- Check and record chlorine residual in the distribution system.
- Inspect booster pump stations.
- Check and record fluoride concentration in the distribution system.
- Record well pump running times and pump cycle starts.
- Check instrumentation for proper signal input/output.
- Investigate customer complaints. Use special “Telephone Threat” card to record threats or suspicious activity.
- Complete a daily security check.
- Inspect heater operation during winter months.
- Inspect well pumps, motors, and controls.

**Getting Started: Utility Operation and Maintenance Default Daily Tasks**

Utility Info — User Info — **O&M** — Team — Review

The third step in setting up CUPSS is for you to review basic preventive maintenance tasks recommended by US EPA. You can select or deselect all items and change the frequency of the tasks. ?

[Select All Tasks](#) | [Deselect All Tasks](#)

**Daily Tasks** | **Scheduled Day for Maintenance**

The following routine maintenance tasks are set to occur daily

<input checked="" type="checkbox"/> Check water meter readings and record water production.	Change tasks recurrence frequency to: <input type="text" value="Select Frequency"/>
	Weekly recurrence every <input type="text" value=""/> Week(s) on <input type="text" value="Select Day"/>
	Monthly recurrence on <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> every month
	Annual recurrence the <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> of <input type="text" value="Select Month"/>
<input checked="" type="checkbox"/> Check chemical solution tanks and record amounts used.	Change tasks recurrence frequency to: <input type="text" value="Select Frequency"/>
	Weekly recurrence every <input type="text" value=""/> Week(s) on <input type="text" value="Select Day"/>
	Monthly recurrence on <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> every month
	Annual recurrence the <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> of <input type="text" value="Select Month"/>
<input checked="" type="checkbox"/> Check and record water levels in storage tanks.	Change tasks recurrence frequency to: <input type="text" value="Select Frequency"/>
	Weekly recurrence every <input type="text" value=""/> Week(s) on <input type="text" value="Select Day"/>

Figure 3.7 Operations and Maintenance Daily Tasks page

By default, all tasks are selected when the *Daily Tasks* page is first opened. If there are tasks you do not perform at your utility, deselect the tasks (click the checkbox next to each task you do not wish to include in your calendar, and the check mark will disappear).

If you perform some of the tasks on the *Daily Tasks* page on a weekly, monthly, or annual basis, use the fields to the right of the task to change the frequency of occurrence. (There is no need to change anything if the task is performed daily.) Table 3.3 explains how to use these fields.

**Table 3.3 Fields available on the O&M pages**

Field Label	Description
Daily Task checkbox	Use the checkbox to add this task to your operation and maintenance calendar.
Task Frequency (“Change tasks recurrence frequency to:”)	If you do not want this task to occur daily, use the dropdown menu to select how often this task should occur. Your selection will control which of the remaining fields are available. If you select monthly, for example, only the fields related to monthly tasks are made available.
Weekly recurrence every Week(s) on	Indicate how many weeks should elapse between scheduled recurrences. Use the dropdown menu to indicate on which day of the week the task should be performed.
Monthly recurrence on	Use the dropdown menu to select the week within the month in which the task will be scheduled. Then use the second dropdown menu to indicate on which day of that week the task should be performed.
Annual recurrence the	Use the first dropdown menu to indicate the week within the month in which the task will be scheduled. Use the second dropdown menu to indicate on which day of that week the task should be performed. Finally, use the third dropdown menu to indicate the month in which the task should be performed.

When you have finished entering data, click “Continue” at the bottom of the page to proceed to the next page.

### 3.4.2 Weekly Tasks

The next page of the O&M section lists tasks commonly performed on a weekly basis (Figure 3.8).



## Getting Started: Utility Operation and Maintenance Default Weekly Tasks



The third step in setting up CUPSS is for you to review basic preventive maintenance tasks recommended by US EPA. You can select or deselect all items and change the frequency of the tasks. ?

[Select All Tasks](#) | [Deselect All Tasks](#)

Weekly Tasks	Scheduled Day for Maintenance
<b>The following routine maintenance tasks are set to occur weekly</b>	
<input checked="" type="checkbox"/> <b>Inspect chlorine and fluoride testing equipment.</b>	Change the default day for weekly recurrence every <input type="text" value="Monday"/> or Change this task's recurrence frequency to: <input type="text" value="Select Frequency"/> Monthly recurrence on <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> every month Annual recurrence the <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> of <input type="text" value="Select Month"/>
<input checked="" type="checkbox"/> <b>Clean pump house and grounds. Make sure fire hydrants are accessible.</b>	Change the default day for weekly recurrence every <input type="text" value="Monday"/> or Change this task's recurrence frequency to: <input type="text" value="Select Frequency"/> Monthly recurrence on <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> every month Annual recurrence the <input type="text" value="Select Week"/> <input type="text" value="Select Day"/> of <input type="text" value="Select Month"/>
<input checked="" type="checkbox"/> <b>Record pumping rate for each well or source water pump.</b>	Change the default day for weekly recurrence every <input type="text" value="Monday"/> or

Figure 3.8 Operations and Maintenance Weekly Tasks page

The standard list of weekly tasks includes:

- Inspect chlorine and fluoride testing equipment.
- Clean pump house and grounds. Make sure fire hydrants are accessible.
- Record pumping rate for each well or source water pump.
- Conduct weekly security check.

By default, all tasks are selected when the *Weekly Tasks* page is first opened. If there are tasks you do not perform at your utility, deselect the tasks (click the checkbox next to each task you do not wish to include to remove the check mark).

If you perform some of the tasks on the *Weekly Tasks* page on a daily, monthly, or annual basis, use the field to the right of the task to change the frequency of occurrence (there is no need to change anything if the task is performed weekly). Table 3.3 (above) explains how to use these fields.

When you have finished entering data, click “Continue” at the bottom of the page to proceed to the next page.

### 3.4.3 Monthly Tasks

The next page of the O&M section lists tasks commonly performed on a monthly basis (Figure 3.9).



**Getting Started: Utility Operation and Maintenance Default Monthly Tasks**

Utility Info — User Info — **O&M** — Team — Review

The third step in setting up CUPSS is for you to review basic preventive maintenance tasks recommended by US EPA. You can select or deselect all items and change the frequency of the tasks. ?

[Select All Tasks](#) | [Deselect All Tasks](#)

Monthly Tasks	Scheduled Day for Maintenance
The following routine maintenance tasks are set to occur monthly	
<input checked="" type="checkbox"/> Read electric meter at pump house and record.	Change the default monthly recurrence to First week of every month on Monday or Change this task's recurrence frequency to: Select Frequency Weekly recurrence every [ ] Week(s) on Select Day Annual recurrence the Select Week of Select Day of Select Month
<input checked="" type="checkbox"/> Take appropriate monthly water quality samples.	Change the default monthly recurrence to First week of every month on Monday or Change this task's recurrence frequency to: Select Frequency Weekly recurrence every [ ] Week(s) on Select Day Annual recurrence the Select Week of Select Day of Select Month
<input checked="" type="checkbox"/> Check and record static and pumping levels of each well.	Change the default monthly recurrence to First week of every month on Monday or Change this task's recurrence frequency to: Select Frequency

Figure 3.9 Operations and Maintenance Monthly Tasks page

The standard list of monthly tasks includes

- Read electric meter at pump house and record.
- Take appropriate monthly water quality samples.
- Check and record static and pumping levels of each well.
- Read all customer meters and compare against total water produced for the month.
- Inspect well heads.
- Lubricate locks.
- Check on-site readings against lab results.
- Confirm submittal of monthly reports.

By default, all tasks are selected when the *Monthly Tasks* page is first opened. If there are tasks you do not perform at your utility, deselect the tasks (click the checkbox next to each task you do not wish to include to remove the check mark).

If you perform some of the tasks on the *Monthly Tasks* page on a daily, weekly, or annual basis, use the fields to the right of the task to change the frequency of occurrence (there is no need to change anything if the task is performed monthly). Table 3.3 (above) explains how to use these fields.

When you have finished entering data, click “Continue” at the bottom of the page to proceed to the next page.

### 3.4.4 Annual Tasks

The next page of the O&M section lists tasks commonly performed on an annual basis (Figure 3.10).



**Getting Started: Utility Operation and Maintenance Annual Tasks**

Utility Info — User Info — **O&M** — Team — Review

The third step in setting up CUPSS is for you to review basic preventive maintenance tasks recommended by US EPA. You can select or deselect all items and change the frequency of the tasks. ?

Select All Tasks | Deselect All Tasks

Annual Tasks	Scheduled Day for Maintenance
The following routine maintenance tasks are set to occur annually	
<input checked="" type="checkbox"/> Overhaul chemical feed pumps (O rings, check valves, and diaphragms).	Change the default annual recurrence the First Monday of January or Change this task's recurrence frequency to: Select Frequency Weekly recurrence every [ ] Week(s) on [ ] Monthly recurrence on [ ] [ ] every month
<input checked="" type="checkbox"/> Inspect and clean chemical feed lines and solution tanks.	Change the default annual recurrence the First Monday of January or Change this task's recurrence frequency to: Select Frequency Weekly recurrence every [ ] Week(s) on [ ] Monthly recurrence on [ ] [ ] every month
<input checked="" type="checkbox"/> Calibrate chemical feed pumps after overhaul.	Change the default annual recurrence the First Monday of January or Change this task's recurrence frequency to: Select Frequency

Figure 3.10 Operations and Maintenance Annual Tasks page

The standard list of annual tasks includes (default recurrence frequency shown in parentheses):

- Overhaul chemical feed pumps (O-rings, check valves, and diaphragms). (first Monday in January)
- Inspect and clean chemical feed lines and solution tanks. (first Monday in January)
- Calibrate chemical feed pumps after overhaul. (first Monday in January)
- Begin Safety Equipment Repair Log. Maintain log continuously throughout the year. (first Monday in January)
- Operate all valves inside the treatment plant and pump house. Maintain log continuously throughout the year. (first Monday in January)
- Review emergency response plans. (first Monday in January)
- Inspect chemical safety equipment and repair or replace as needed. (first Monday in February)
- Operate all valves inside the treatment plant and pump house. (first Monday in February)
- Inspect, clean, and repair control panels in pump house and treatment plant. (first Monday in March)
- Exercise half of all mainline valves. (first Monday in March)
- Inspect and clean chemical feed lines and solution tanks. (first Monday in April)
- Calibrate chemical feed pumps. (first Monday in April)
- Inspect storage tanks for defects and sanitary deficiencies. (first Monday in May)
- Clean storage tanks if necessary. (first Monday in May)
- Flush the distribution system and exercise/check all fire hydrant valves. (first Monday in June)
- Perform preventive maintenance on treatment plant and pump house buildings. (first Monday in June)
- Inspect and clean chemical feed lines and solution tanks. (first Monday in July)
- Calibrate chemical feed pumps. (first Monday in July)

- Prepare a demand forecast. Identify and evaluate energy conservation measures (for your utility). Identify and evaluate distribution system leaks. Establish/update water loss mitigation program. Establish/update customer incentive program for water-efficient home devices. (first Monday in July)
- Operate all valves inside the treatment plant and pump house. (first Monday in August)
- Exercise mainline valves that were not exercised in March. (first Monday in September)
- Prepare system for winter operation. This task may be postponed until October or November, depending on local conditions. (first Monday in September)
- Make sure unnecessary equipment is properly decommissioned. (first Monday in September)
- Inspect and clean chemical feed lines and solution tanks. (first Monday in October)
- Calibrate chemical feed pumps. (first Monday in October)
- Prepare system for winter operation if not completed in September or October. (first Monday in November)
- Contact an electrician to check running amps on well pumps. (first Monday in December)

By default, all tasks are selected when the *Annual Tasks* page is first opened. If there are tasks you do not perform at your utility, deselect the tasks (click the checkbox next to each task you do not wish to include to remove the check mark).

If you perform some of the tasks on the *Annual Tasks* page on a daily, weekly, or monthly basis, use the fields to the right of the task to change the frequency of occurrence (there is no need to change anything if the task is performed annually). Table 3.3 (above) explains how to use these fields.

When you have finished entering data, click “Continue” at the bottom of the page to proceed to the next page.

## 3.5 Assemble Your Team

Next, it is time to enter information about the people associated with this project—your team members. Your team is a critical component of your day-to-day operations. It is important to coordinate with them as you work through the CUPSS application and implement your asset management plan. The team section can be revisited as you work through CUPSS.

Your team might include the following people:

- Water system operators and engineers (including upper management)
- Local and elected officials (e.g., mayor, council, town manager)
- Accounting staff
- Information technology staff
- Treasurer
- Other infrastructure managers and staff from other utilities (e.g., roads, sewers, and electric)
- Representatives from conservation and environmental groups
- Representatives from neighboring water districts
- Members of the community
- Anyone else you work with in your day-to-day operations

To help in successfully implementing your asset management plan, your team should be supported by political leaders who have the authority and willingness to commit public resources and personnel to your utility.

**Benefits to My Utility**  
CUPSS can help you save your team member contacts in one easy to find place. These team members will later help you prepare and implement your My CUPSS Asset Management Plan.

Moreover, the team should be composed of key decision makers who represent the departments involved with asset management. For more information on how to build a successful asset management team, see the EPA publication *Building an Asset Management Team* (December 2007, EPA 816-F-07-013).

CUPSS includes information about all the team members in your CUPSS Management Plan. (See Chapter 9 to learn more about the CUPSS Asset Management Plan.)

### 3.5.1 Add Team Members

Use the fields on the *Team* page to enter information about each team member (Figure 3.11). Table 3.4 provides additional information about the fields available on the *Team* page.

**Getting Started : Assemble Your Team (Optional)**

The fourth and final step in setting up CUPSS for your utility is to assemble your team. This is an optional, but highly recommended, step where you can indicate any contacts that may help you in assembling your information for CUPSS such as town staff, your utility staff or other stakeholders involved in the development of your asset management plan. They may or may not be actual CUPSS users.

(\*) Indicates required fields

Select Existing User: Select CUPSS User

Or Enter New User information

\* Name: Dan Daugherty  CUPSS User

Organization: Missouri Department of Natural Resources Title: Water Specialist

Email: Missouri@dnr.mo.gov \* Role: State Contact

Same as Utility

Street Address: 7545 S Main St

City, State, Zip: St. Louis Missouri 63125

Phone, Fax: 567-342-4800 713-523-9875

Enter Username: DDAUGHERTY

Enter Password: \*\*\*\*\*

Confirm Password: \*\*\*\*\*

Figure 3.11 Team page

Additional team members can be added later within the CUPSS application using the *Create User* feature. (See Section 4.3.1.3 for more information on adding additional team members.)

Team members can be set up as CUPSS users or as nonusers. Team members established as CUPSS users are given a username and password to access the application for the purposes of adding and editing project information. When you first set up a team member as a CUPSS user, you can give the team member a preliminary username and password. Then give this information to the team member so he or she can log into CUPSS. All users can change their user information at any time through the *Set Up* feature. (See Section 4.3.1.1 for more information about the *Set Up* feature.)

Table 3.4 Fields available on the Team page

Field Label	Description
First Name *	Enter the first name of the person you are adding to the team.
Middle Initial	Enter the middle initial of the person you are adding to the team,


	if applicable.
Last Name *	Enter the last name of the person you are adding to the team.
CUPSS User checkbox	Indicate whether this team member is also a CUPSS user. Team members designated as CUPSS users are given access to the project when they log in to their own user accounts. They also have the ability to add and edit information within CUPSS.
Organization	Enter the organization this team member belongs to.
Title	Enter the job title of the team member. This title may relate to a job within your utility or within another organization.
E-mail	Enter the primary e-mail address of the team member. This address is used only within CUPSS and will not be included in the Asset Management Plan.
Role *	Select the role the team member plays from the dropdown menu.
Same as facility checkbox	Indicate whether the address for this team member is the same as the address entered for the facility.
Street Address	If the mailing address is different than that of the facility, enter the street address for the team member.
City	Enter the name of the city.
State	Select a state from the dropdown menu.
Zip	Enter the ZIP Code.
Phone	Enter a phone number for the team member.
Fax	Enter a fax number for the team member.
Enter Username (required only if the CUPSS User checkbox is checked)	Enter a username for the team member (for CUPSS users only). Give this username to the team member so he or she can access CUPSS.
Enter Password (required only if the CUPSS User checkbox is checked)	Enter a password for the team member (for CUPSS users only). Give this password to the team member so he or she can access CUPSS.
Confirm Password (only required if the CUPSS User checkbox is checked)	Reenter the password to confirm it.

\* Indicates a required field.

Click “Add Another Team Member” to save the record and clear the data entry form. The names of the people you already entered are displayed in a table below the data entry fields (Figure 3.12).

Team members					
Name / Title	Organization	Email	Address	Role	CUPSS User
John Hoagland / Ad...	Missouri Rural Wat...	Ruralwater@morur...	15 West Wilson St ...	Technical Assistanc...	Yes
Robert Dunlevy / E...	USEPA	robert@epa.gov	901 N 5th Street K...	EPA Contact	Yes
Sam Bowman / SEE	USEPA	sam@epa.gov	901 N 5th Street K...	EPA Contact	Yes
Steve Wyatt / Engi...	Missouri Departmen...	MissouriNatural@e...	PO Box 176 Jeffers...	State Contact	Yes

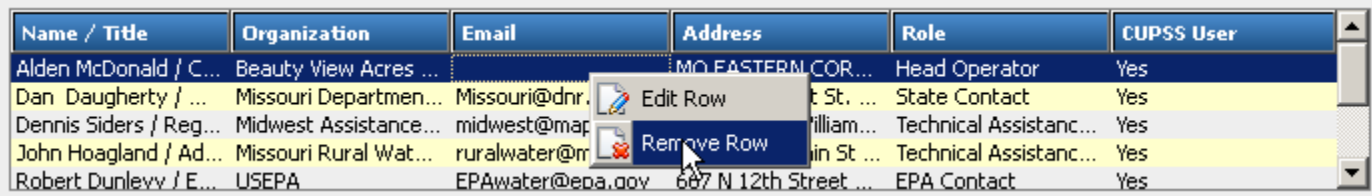
Figure 3.12 Table showing existing team members

It is possible to resize the column widths to view additional information in the row. Hold the cursor over the line between two columns until it changes to look like this: . Click and drag the line back and forth to resize the column width. The columns on all tables in CUPSS can be resized in this way.

To sort the data in the table, click on the column heading by which you wish to sort data. Click once to sort the data in ascending order. Click a second time to sort the data in descending order. A small arrow appears next to the column name to show whether the data are sorted in ascending (up arrow) or descending (down arrow) order.

### 3.5.2 Edit and Delete Team Member Information

Using the right mouse button to click the name of a team member in the table (“right-clicking”) offers you two more options: editing and deleting records. Select “Edit Row” to repopulate the form fields with the previously entered data for the selected team member. Select “Remove Row” to delete the team member from the list (Figure 3.13).



The screenshot shows a table with six columns: Name / Title, Organization, Email, Address, Role, and CUPSS User. A context menu is open over the second row, showing 'Edit Row' and 'Remove Row' options. The table data is as follows:

Name / Title	Organization	Email	Address	Role	CUPSS User
Alden McDonald / C...	Beauty View Acres ...		MO EASTERN COR...	Head Operator	Yes
Dan Daugherty / ...	Missouri Departmen...	Missouri@dnr.	t St. ...	State Contact	Yes
Dennis Siders / Reg...	Midwest Assistance...	midwest@map	William...	Technical Assistanc...	Yes
John Hoagland / Ad...	Missouri Rural Wat...	ruralwater@m	in St ...	Technical Assistanc...	Yes
Robert Dunlevy / E...	USEPA	EPAwater@epa.gov	607 N 12th Street ...	EPA Contact	Yes


Figure 3.13 Right-clicking on the name of a team member to edit or delete the record.

When you have finished entering data on the *Team* page, click “Continue” to move to the next page.

### 3.6 Review

The *Review* page is the last page in the *Getting Started* module (Figure 3.14). Here, you can see all the information you have entered for your utility, for yourself (or the person you entered as the primary user for the utility), and for each team member. This page does not show the information entered on the O&M pages. You can view and edit maintenance tasks in the *My O&M* module after exiting the *Getting Started* module. (See Section 5.8 for more information.)

If you are satisfied with the information shown on the *Review* page, click the “Save and Continue” button at the bottom of the page to proceed.

**Take Note!** Once you click the “Save and Continue” button, you will no longer be prompted to go through the *Getting Started* module when you start CUPSS. Clicking “Save and Continue” permanently establishes the primary user (the person in charge of managing the accounts of other team members). If you are not sure whether you have entered the correct primary user, you can close CUPSS by clicking the  button at the upper right corner of the application. This will prevent the database from saving the information you entered on the *Getting Started* pages and will allow you to access the *Getting Started* module the next time you open CUPSS. If you close CUPSS in this way, you will need to reenter all of your information because your data are not saved until you exit the *Getting Started* module.

To make changes to the data you entered in the *Getting Started* module, click “Back and Edit.” This will take you back to the *Utility* page (Section 3.2 above). You can view and edit the information you entered during the setup process as many times as needed before exiting the *Getting Started* module.

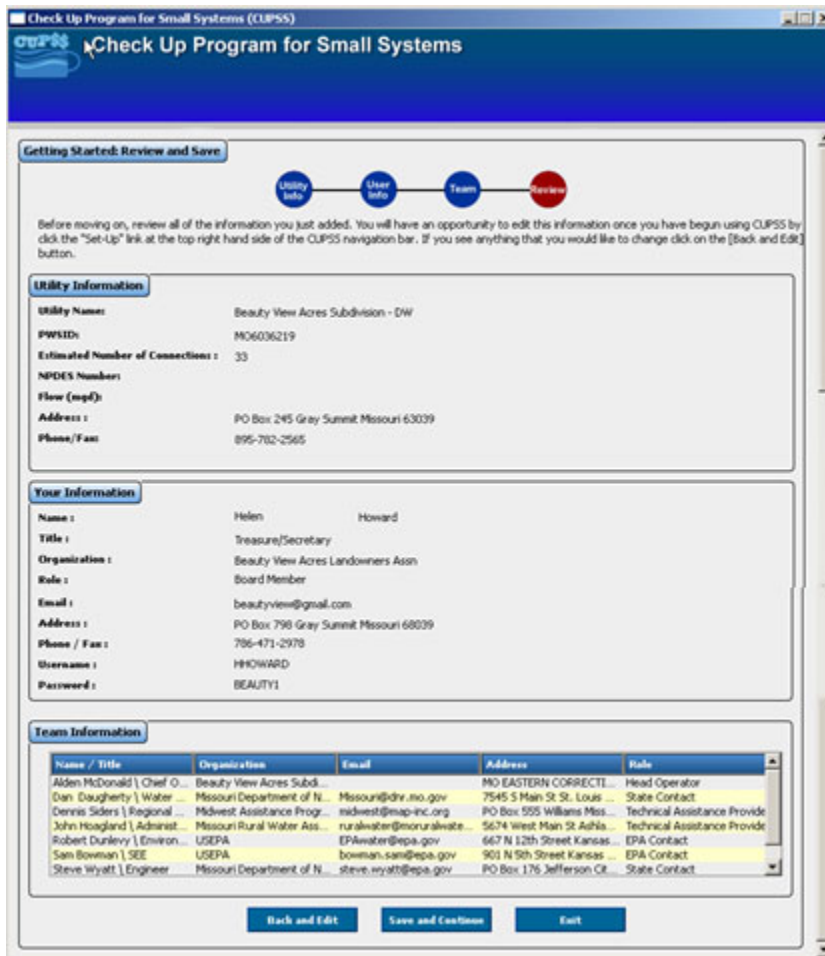
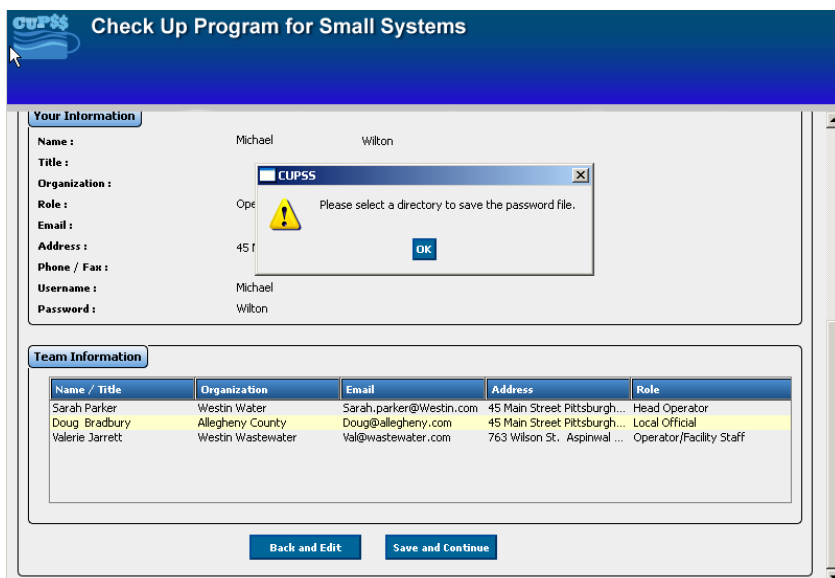


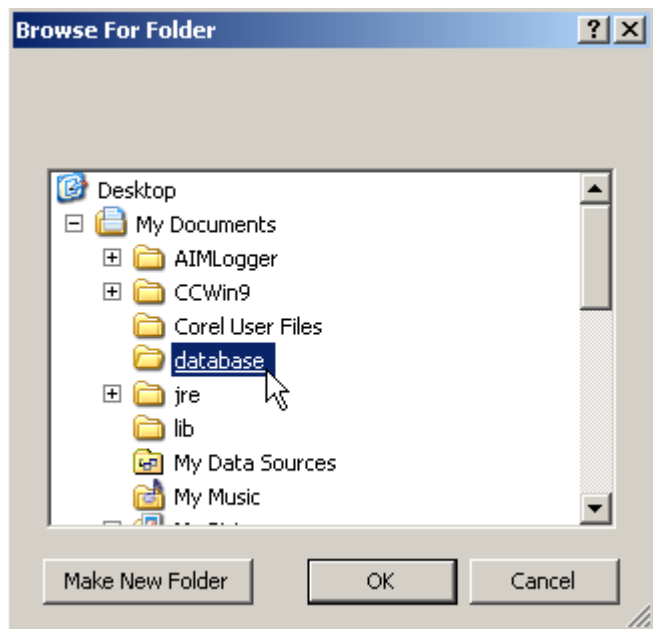
Figure 3.14 Review page

Once you click the “Save and Continue” button, you will be prompted to choose a directory to save the file to (Figure 3.15).



**Figure 3.15** Selecting a directory to save your password

Select a file in the “Browse For Folder” popup and click “OK” (Figure 3.16). If you forget your username and password, it will be stored in this directory.



**Figure 3.16** Choosing a directory to store your password

After completing the setup process, you are directed to the CUPSS home page. From the home page, you can access the CUPSS modules, which are described in the subsequent chapters.

**Congratulations on setting up your first project!**


**You are well on your way to establishing an asset management program. Don't forget to register your CUPSS program at <http://www.epa.gov/cupss>!**

# 4 Login and Navigation

---

## 4.1 Login

Once you have gone through the setup process, the next time you log into CUPSS you will be asked for login information (Figure 4.1). If you are the one who set up CUPSS initially (by working through the *Getting Started* module), this information is the username and password you entered on the *User Information* page (see Figure 3.6 above). If you are not the one who set up CUPSS, the person who established you as a CUPSS user can provide you with the username and password set up for you. Username and password information can be changed at any time from within the CUPSS application. (See Section 4.5 for more information on modifying user information.)



The screenshot shows the CUPSS login interface. At the top, a blue banner contains the CUPSS logo and the text "Check Up Program for Small Systems". Below this is a white rectangular area with a "Welcome CUPSS Users" header. The main content area contains a login form with two input fields: "User name:" and "Password:". Below the fields is a blue "Login" button and a link for "Forgot Password". A message below the form reads: "Please register your copy of CUPSS to receive critical patches and updated information on training". At the bottom of the white area is the EPA logo and the text "CUPSS is brought to you by the US Environmental Protection Agency".

Figure 4.1 CUPSS login page

Enter your username and password information in the available fields, and click “Login” to login.

If you don’t remember your username and password, don’t worry. The information has been stored in the directory you selected in Section 3.6. You will be prompted by a popup to check the directory (Figure 4.2). In the directory you selected during set up you’ll find a text document with your username and password.



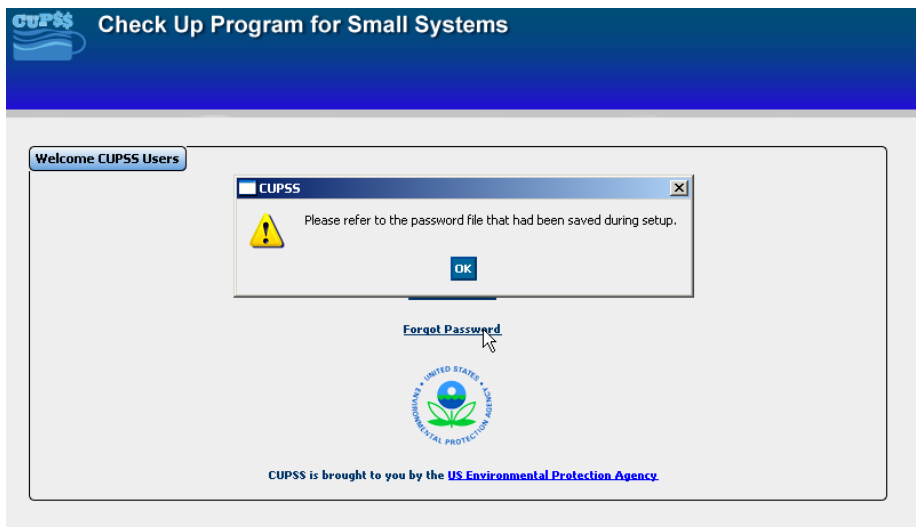


Figure 4.2 Password prompt

### 4.1.1 Select Utility

Once you have successfully logged in, you are prompted to select the utility you wish to work on (Figure 4.3).

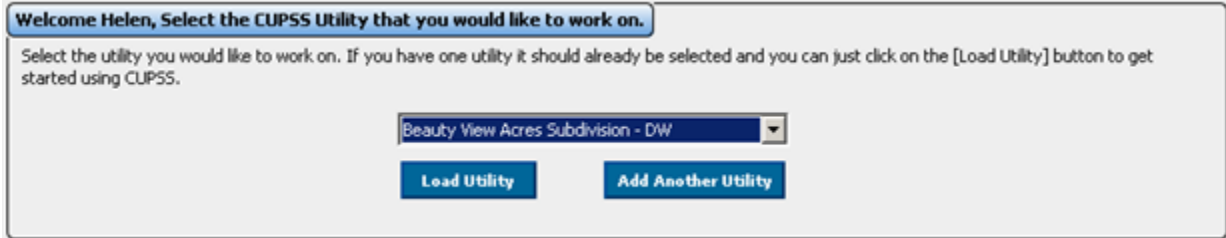


Figure 4.3 Select Utility

Use the dropdown menu to select the utility you wish to work with. Click "Load Utility" to work with the information for the selected utility. Only one utility can be selected at a time. This will take you to the CUPSS home page (Figure 4.4).

If the utility you wish to work on has not yet been entered into CUPSS, click "Add Another Utility" to go through a setup process to add information for another utility. (See Section 4.5 for more information about adding a utility.)

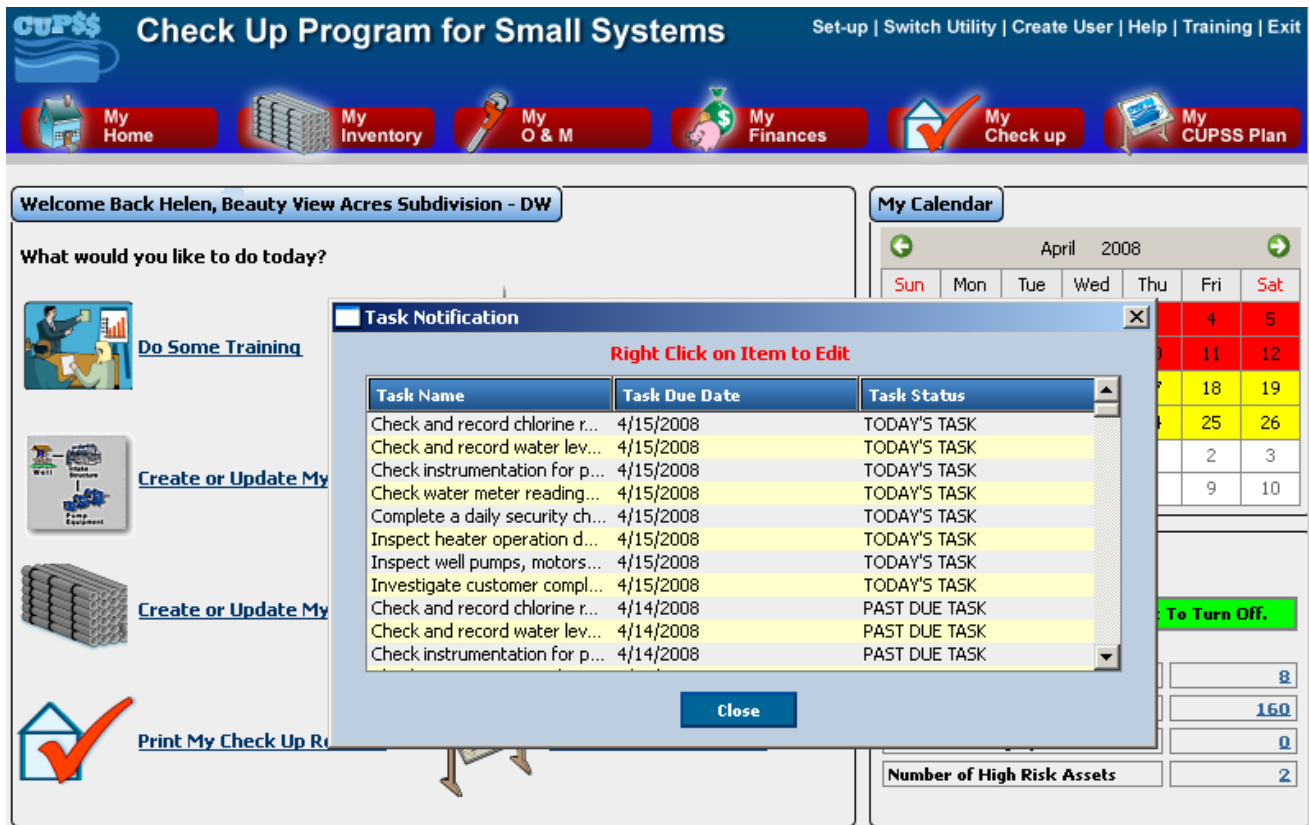


Figure 4.4 My Home page with Task Notification popup window

When the CUPSS *My Home* page first opens, you might see the *Task Notification* popup window (Figure 4.4). The *Task Notification* popup window shows all tasks that are currently due or past due. See Section 4.4.2 for more information about popup windows in CUPSS.

The CUPSS *My Home* page acts as a jumping-off point to all the CUPSS modules. It also provides some quick information about the status of your scheduled tasks and assets.

## 4.2 Navigating CUPSS

The *My Home* page is a good place to explore the standard navigation features of CUPSS. The CUPSS application window is divided into several sections:

- The navigation area, which includes the administration menu and the CUPSS module buttons
- The activity window, which is where you will view, edit, and manipulate data

## 4.3 Navigation Area

The navigation area (Figure 4.5) is available from almost any module. It allows you to jump between modules and change the settings for the utility.

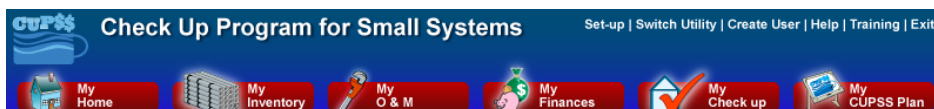


Figure 4.5 CUPSS Navigation Area

## 4.3.1 Administration menu

The administration menu (in the upper right of the navigation area) helps you manage your CUPSS account and project information (Figure 4.6). The options available in the administration menu include

- Set-up
- Switch Utility
- Create User
- Help
- Training
- Exit

A horizontal navigation bar with a dark blue background and white text. The text reads: "Set-up | Switch Utility | Create User | Help | Training | Exit".

Set-up | Switch Utility | Create User | Help | Training | Exit

Figure 4.6 Administration menu

### 4.3.1.1 Set-up

The “Set-up” menu option launches the *Set-up* module, where you can edit the information about the current project (Utility Info), information about the primary user (User Info), and information about the project team members (Team). This module is very similar to the module that allows you to add another utility from the *Select Utility* page (see Figure 4.3 above). Section 4.5 describes the steps required to change information for your utility using the *Set-up* module.

### 4.3.1.2 Switch Utility

Use the “Switch Utility” option to change the active project. Here, you are presented with the same page you see when first logging into CUPSS (see Figure 4.3 above). Select a project from the dropdown menu. Click the “Load Utility” button to load data for the selected project, or click “Add Another Utility” to enter data for a new project. See Section 4.6 for more information on adding another project to CUPSS.

### 4.3.1.3 Create User

Click on the “Create User” link to add another member of your project team. This link takes you directly to the *Team* page within the *Set-up* module. Section 3.5 describes how to work with the *Team* page. The only difference between the *Create User* page and the *Team* page is that you have the option to exit the *Create User* page instead of continuing through the rest of the setup process. Click “Exit” to return to the *My Home* page.

### 4.3.1.4 Help

The “Help” link takes you to the CUPSS *Help* module. This module allows you to search for information on specific help topics using a dynamic help interface. More information on the CUPSS *Help* module is available in Chapter 10.

### 4.3.1.5 Training

For help with the form fields, click the “Training” link at the top of the *My Inventory* module to view Flash Tutorials that provide a brief walk-through of this section (Figure 4.7). You may be asked to download a Flash plug-in if these tutorials do not play.



Figure 4.7 Do Some Training popup

#### 4.3.1.6 Exit

Use “Exit” to leave CUPSS.

**Take Note!** This is the preferred method for exiting the application, and it ensures that all data are saved correctly. Avoid using the close window button (the one with the small “X”) at the upper right corner of the application window.

### 4.3.2 CUPSS Module Buttons

As discussed in the introduction (Chapter 1), CUPSS is divided into modules, or areas of functionality. The CUPSS module buttons allow you to navigate to the various data entry and reporting modules that help you manage the assets, tasks, and finances of your utility (Figure 4.8).



Figure 4.8 CUPSS module buttons

#### 4.3.2.1 My Home

The *My Home* module provides quick access to specific tasks within the other modules. It also has a calendar showing past due and scheduled tasks and a status window that gives a snapshot of task and asset status. This page is described in further detail in Section 4.4.

#### 4.3.2.2 My Inventory

The *My Inventory* module allows you to identify and characterize your water system’s assets. You can add and edit information for each asset to prioritize maintenance activities and better manage revenue for repairing and replacing assets. The *My Inventory* module is described in greater detail in Chapter 5.

### 4.3.2.3 My O&M

The *My O&M* module allows you to create and track current, future, and past operation and maintenance activities as scheduled and logged tasks. You can add tasks to the schedule and mark scheduled items as “completed,” thus moving them to the log, and incorporate all routine tasks and logging activities from the “Preventive Maintenance Card File for Small Public Water Systems Using Ground Water” and standard drinking water or wastewater task list. This module records the status and history of each task. It displays an alert if the task status is past due or critically past due, or if you should reassess the condition of an asset because maintenance was not performed as scheduled. The *My O&M* module is described in greater detail in Chapter 5.8.

### 4.3.2.4 My Finances

The *My Finances* module helps you determine the full costs of doing business and helps calculate the resources needed. This knowledge gives you the ability to discuss your needs within the context of a community budget. You’ll be able to provide the current year’s budget (at a minimum), report what was actually spent (financial statement) from the previous year, and calculate the annual costs of asset rehabilitation and replacement. The *My Finances* module is described in greater detail in Chapter 7.

### 4.3.2.5 My Check up

CUPSS generates two customizable reports: “My Asset Check Up Report” and “My Financial Check Up Report.” You can enter information to create targeted reports that will help to manage assets and plan for the future. The *My Check up* module is described in greater detail in Chapter 8.

### 4.3.2.6 My CUPSS Plan

The *My CUPSS* module assembles, using a predefined template, an asset management plan that has been pre-populated with the information and calculations you entered. CUPSS allows you to export the developed plan for modification and review. The *My CUPSS Plan* module is described in greater detail in Chapter 9.

## 4.4 Activity Window

The activity window is divided into three smaller windows (Figure 4.9). The main window provides quick links to some of the CUPSS functions. Click the “Create or Update My Inventory” link, for example, to go directly to the inventory page instead of navigating through the *My Inventory* module. These links are provided to give you fast access to common tasks.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

My Messages and Alerts	
Popup Messages Are On. Click To Turn Off.	
Reminder - Today's Tasks	8
Tasks Currently Past Due	160
Assets Needing Update	0
Number of High Risk Assets	2

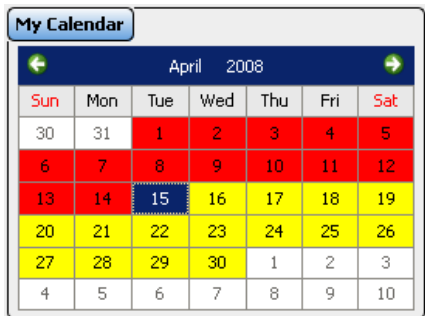
Figure 4.9 The CUPSS My Home activity window

## 4.4.1 My Calendar

The “My Calendar” window gives a snapshot of upcoming and overdue tasks for a particular month (Figure 4.10). The current day is shown in blue; days with overdue tasks are shown in red; and days with upcoming scheduled tasks are shown in yellow. Be sure to re-visit your overdue tasks and update the information.

Use the arrow buttons to the left and right of the date to move forward and backward one month at a time. To jump farther in time, click on the date or year to navigate to a different month/year combination. To change the calendar to show August 2006, for example, click on the month to open the “select month” dropdown menu. Select “August” from the list to refresh the calendar to show the month of August for the current year. Next, click on the year and use the down arrow until you reach 2006. Hit the ENTER key or click outside the year field to refresh the calendar to change the year.

To view the activities scheduled for a given day, simply double-click on that day to open the *My O&M* module. In the module you can view, edit, and add tasks and work orders. See Chapter 6 for more information on the *My O&M* module.

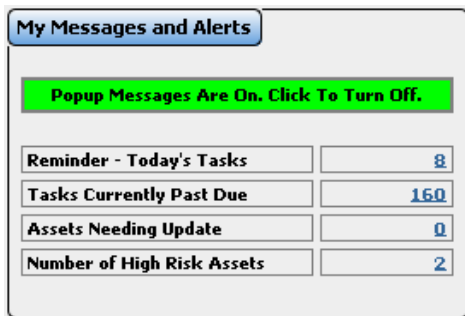


My Calendar						
April 2008						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

Figure 4.10 My Calendar window

## 4.4.2 My Messages and Alerts

Use the “My Messages and Alerts” window to control whether popup alerts are used and to see what assets and tasks require your attention (Figure 4.11).



My Messages and Alerts	
Popup Messages Are On. Click To Turn Off.	
Reminder - Today's Tasks	8
Tasks Currently Past Due	160
Assets Needing Update	0
Number of High Risk Assets	2

Figure 4.11 My Messages and Alerts window

### 4.4.2.1 Popup Messages

If you have popup messages turned on, you may see a popup window over the *My Home* page when you first log in (Figure 4.4). (“On” is the default setting.) This message box shows overdue tasks and a reminder of the current tasks for the day. To turn popup messages off, click the green box in the “My Messages and Alerts” window that reads “Popup Messages are On, Click To Turn Off” (Figure 4.11).

The message in the box will turn red and change to read “Popup Messages Are Off. Click to Turn On.” (Figure 4.12).

#### Benefits to My Utility

CUPSS reminders help you track and monitor tasks and high risk assets needing close monitoring in one easy to use tool, saving you time. So be sure to keep your CUPSS up-to-date!

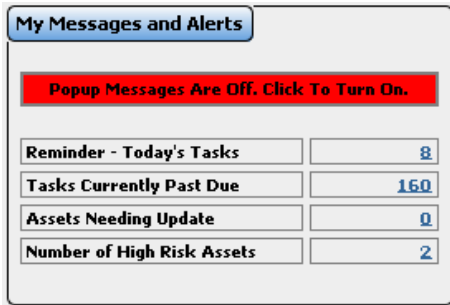


Figure 4.12 My Messages and Alerts window showing that popup messages are deactivated

#### 4.4.2.2 Status Table

The status table gives a picture of the current state of your assets and tasks (Figure 4.13).

##### Today's Tasks

The number of tasks and work orders scheduled for the current day appears in the first row of the status table. Click on the number to open a popup window that lists all tasks for the day (Figure 4.13).

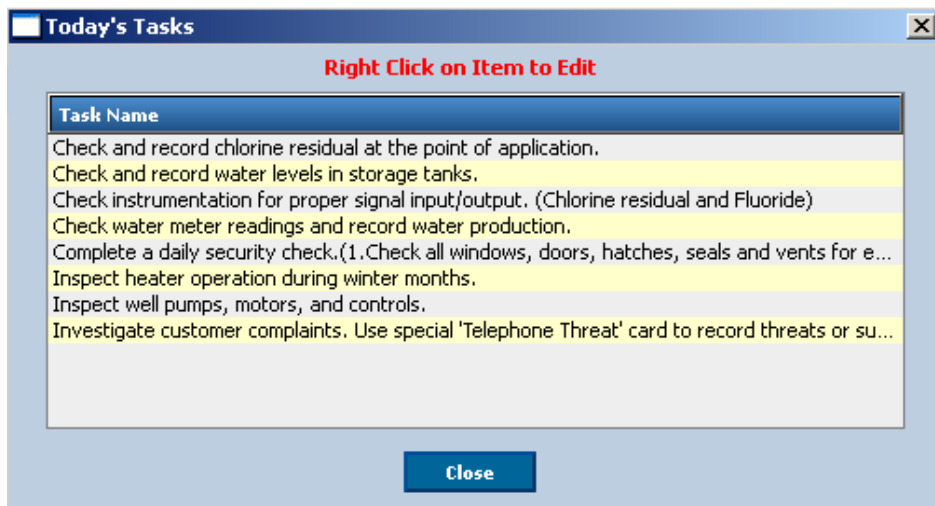


Figure 4.13 Popup window showing tasks for the day

Right-click on any of the tasks in the window and click “Edit Row” to open the corresponding task form in the *My O&M* module. In the module, you can view and edit the task details. (See Section 6.1 for more information on creating and editing tasks.)

Click “Close” to close the popup window and return to the *My Home* page.

##### Tasks Currently Past Due

Past due tasks are those with dates earlier than the current date without a specified completion date. Click the number listed next to the “Tasks Currently Past Due” label to open a popup window that shows all overdue tasks. The popup window shows the task names and due dates (Figure 4.14).

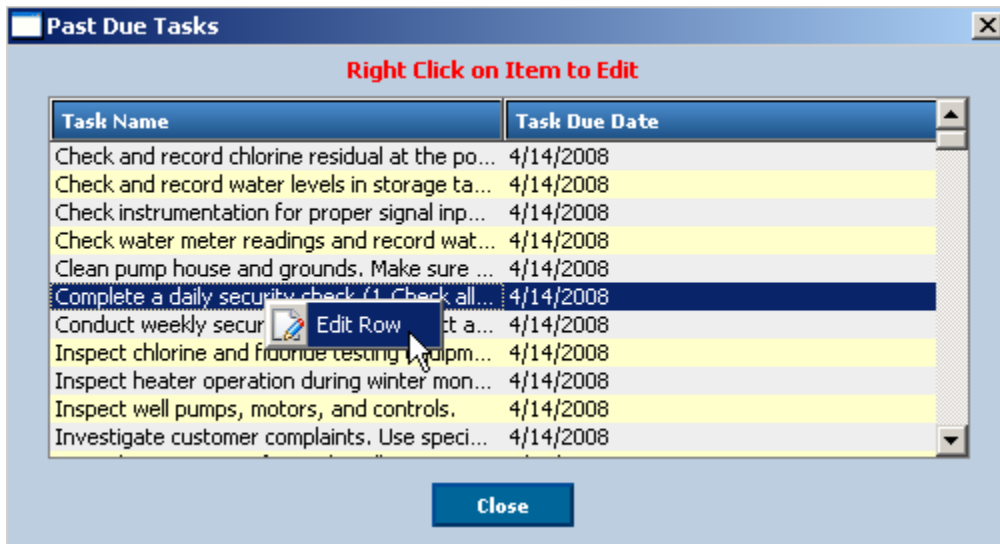


Figure 4.14 Popup window showing past due tasks

Right-click on any of the tasks in the window and click “Edit Row” to open the corresponding task form in the *My O&M* module. In the module, you can view and edit the task details. (See Section 6.1 for more information on creating and editing tasks.)

Click “Close” to close the popup window and return to the *My Home* page.

### Assets Needing Update

All assets that require updates are included in this window. Click the number listed next to the “Assets Needing Update” label to open a popup window that shows all of the assets needing update. Assets that need update are those assets that have associated tasks that are past due. It is important that as tasks are not completed on time that you update the condition of your asset based on the operation and maintenance tasks. The assets will require updating until the tasks associated with those assets are completed. This way you are able to better plan for assets that may fail earlier then expected due to improper maintenance. The popup window shows the task name and due date (Figure 4.15).

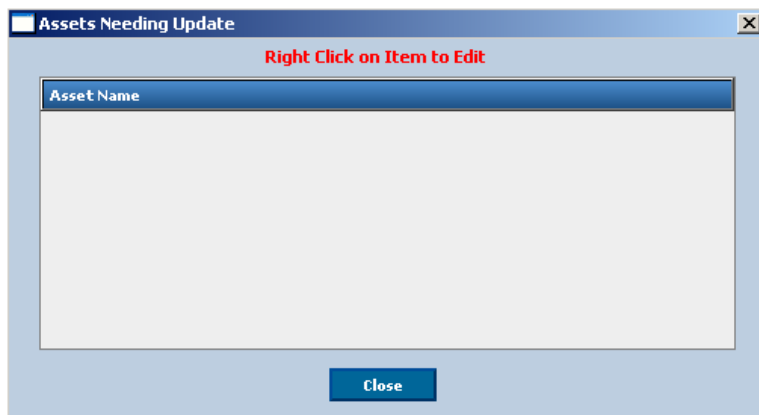


Figure 4.15 Popup window to show tasks requiring update

Right-click on any of the assets in the window and click “Edit Row” to open the corresponding asset in the *My Inventory* module. In the module, you can view and edit the asset details. (See Section 6.1 for more information on creating and editing assets.)

Click “Close” to close the popup window and return to the *My Home* page.



## High Risk Assets

This number shows all assets that could have a major impact on the functioning of the utility if they fail. Assets at high risk should be monitored and immediate action taken to address these assets. This may include plans for repair, rehab or replacement of these assets. This alert will allow you to easily and consistently monitor and update the asset. Click the number listed next to the “High Risk Assets” label to open a popup window that shows all high risk assets. The popup window shows the task name and due date (Figure 4.16).

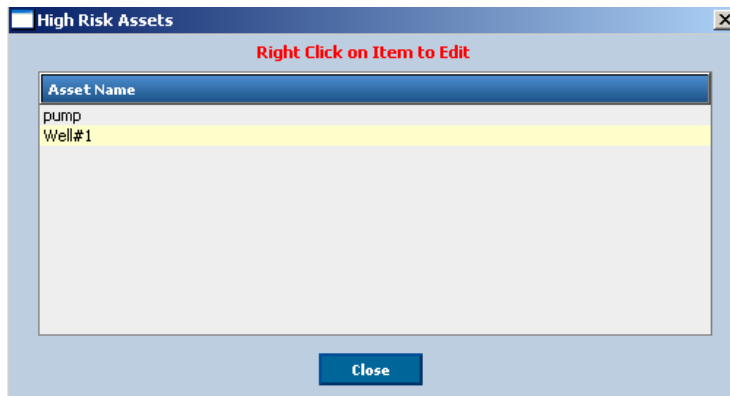


Figure 4.16 Popup window to show high risk assets.

Right-click on any of the assets in the window and click “Edit Row” to open the corresponding asset in the *My Inventory* module. In the module, you can view and edit the asset details. (See Section 6.1 for more information on creating and editing assets.)

Click “Close” to close the popup window and return to the *My Home* page.

## 4.5 Set-up Module

Use the “Set-up” link in the Administration menu to change information for the utility you are currently working on. The *Set-up* module allows you to modify information about the utility, your user information, and information about the project team members (Figure 4.17).

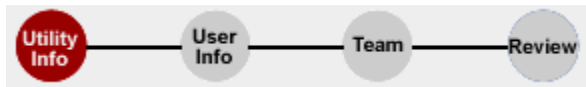


Figure 4.17 Tracking bar for the Set-up module

The *Set-up* module is very similar to the *Getting Started* module (see Chapter 3).

### 4.5.1 Utility Information

The first page of the *Set-up* module allows you to edit information about the current utility. Figure 4.18 shows the *Utility Information* page. See Section 3.2 for more information on how to complete and edit this page.

Figure 4.18 Utility Information page

When you have completed the form, click “Continue” to move to the next page. To exit the Set-up module, click “Exit” at the bottom of the page.

## 4.5.2 User Information

Next, you will be able to edit information for the current user (Figure 4.19). See Section 3.3 for more information on how to edit the information on this page.

Figure 4.19 Edit user information

When you have completed the form, click “Continue” to move to the next page. To exit the *Set-up* module, click “Exit” at the bottom of the page.

### 4.5.3 Team Information

On the next page you can add or edit team member information (Figure 4.20). You can select from the list of existing CUPSS users, as well as enter new team members specific to this project.

**CUPSS Check Up Program for Small Systems**

**Getting Started : Assemble Your Team (Optional)**

Utility Info — User Info — **Team** — Review

The fourth and final step in setting up CUPSS for your utility is to assemble your team. This is an optional, but highly recommended, step where you can indicate any contacts that may help you in assembling your information for CUPSS such as town staff, your utility staff or other stakeholders involved in the development of your asset management plan. They may or may not be actual CUPSS users.

(\*) Indicates required fields

Select Existing User: Select CUPSS User

Or Enter New User information:  CUPSS User

\* Name: [Text Field]

Organization: [Text Field] Title: [Text Field]

Email: [Text Field] \* Role: Select Role

Same as Utility

Street Address: [Text Field]

City, State, Zip: [Text Field] Select state: [Dropdown]

Phone, Fax: [Text Field]

Enter Username: [Text Field]

Enter Password: [Text Field]

Confirm Password: [Text Field]

Add Another Team Member | Continue | Exit

Figure 4.20 Enter information for project team members

To enter a new team member, select an existing user from the dropdown menu. Your username will not appear as an option. Section 3.5 gives more information on how to work with the fields on this form.

Right click on the team member and then click “Edit Row” to update a team member’s record. Click “Continue” to move to the *Review* page. Click “Exit” to return to the *My Home* page.

### 4.5.4 Review

The *Review* page is the last page in the *Set-up* module (Figure 4.21). You can see all the information you have entered for your utility, yourself, and each team member.

**Getting Started: Review and Save**

Utility Info — User Info — Team — **Review**

Before moving on, review all of the information you just added. You will have an opportunity to edit this information once you have begun using CUPSS by clicking the "Set-Up" link at the top right hand side of the CUPSS navigation bar. If you see anything that you would like to change click on the [Back and Edit] button.

**Utility Information**

Utility Name: Beauty View Acres Subdivision - DW  
 PWSID: MO6036219  
 Estimated Number of Connections: 33  
 NPDES Number:  
 Flow (mgd):  
 Address: PO Box 245 Gray Summit Missouri 63039  
 Phone/Fax: 636-451-2625

**Your Information**

Name: Helen Howard  
 Title: Treasure/Secretary  
 Organization: Beauty View Acres Landowners Assn  
 Role: Board Member  
 Email: Beautyview@gmail.com  
 Address: PO Box 779 Gray Summit Missouri 68039  
 Phone / Fax: 757-513-6000  
 Username: HHOWARD  
 Password: BEAUTY1

**Team Information**

Name / Title	Organization	Email	Address	Role
Dan Daugherty   Water ...	Missouri Department of N...	dan.daugherty@dnr.mo...	7545 S Lindbergh, Suite 2...	State Contact
Dennis Siders   Regional ...	Midwest Assistance Progr...	dsiders@map-inc.org	PO Box 149 Fredricktown...	Technical Assistance Provide
John Hoagland   Administ...	Missouri Rural Water Ass...	jhoagland@moruralwater...	6101 East Angel Lane As...	Technical Assistance Provide
Robert Durlin   Environ...	USEPA	robert@epa.gov	901 N 5th Street Kansas ...	EPA Contact
Sam Bowman   SEE	USEPA	sam@epa.gov	901 N 5th Street Kansas ...	EPA Contact
Steve Wyatt   Engineer	Missouri Department of N...	MissouriNatural@epa.gov	PO Box 176 Jefferson Cit...	State Contact

Buttons: Back and Edit, Save and Continue, Exit

Figure 4.21 Review your project information

If you are satisfied with the information shown on the *Review* page, click “Save and Continue” to save your edits and return to the *My Home* page.

To make changes, click “Back and Edit” to return to the *Utility* page. You can view and edit the information entered during the setup process as many times as needed before exiting the *Set-up* module. You will not lose any of the information you’ve already entered by going back to edit information.

Click “Exit” to exit the *Set-up* module without saving your information.

## 4.6 Add Another Utility

The *Add Utility* module allows you to add information for a new utility. You can add information for a new project and utility using the *Select* or *Switch Utility* page (see Figure 4.3 above). This is the screen that first appears when you log in to CUPSS. You can also get to this page in CUPSS by clicking the “Switch Utility” link in the Administration menu at the top of the CUPSS window. The “Add Another Utility” button on the *Select Utility* page opens the *Add Utility* module.

### Benefits to My Utility

CUPSS lets you add as many utilities as you like. If you manage a drinking and wastewater utility you can create a single My CUPSS Asset Management Plan for both utilities.

The *Add Utility* module allows you to add utility, operation and maintenance, and team information for a new project and utility (Figure 4.22). You are not prompted to add user information because CUPSS assumes that the current user should be added to the team for the new utility.

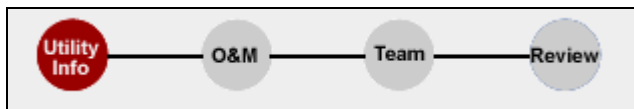


Figure 4.22 Tracking bar for the Add Utility module

## 4.6.1 Utility Information

The first task in the *Add Utility* module is to add information about the new utility. Figure 4.23 shows the *Project and Utility Information* page. Here, you will set up a project and utility for which you will manage an inventory, operation and maintenance tasks, financial information, and an asset management plan.

The screenshot shows the 'Getting Started: Utility Information' page. At the top, there is a blue header with the CUPSS logo and the text 'Check Up Program for Small Systems'. Below the header is a tracking bar with four nodes: 'Utility Info' (highlighted in red), 'O&M', 'Team', and 'Review'. Below the tracking bar, there is a text box stating 'The first step in setting up CUPSS is to enter your basic utility information.' followed by a red question mark icon. Below this is a red asterisk icon and the text '(\*) Indicates required fields'. The form contains several input fields: '\* Utility Name' (text box with red question mark), '\* Select Type of Facility' (radio buttons for 'Drinking Water' and 'Wastewater'), '\* PWSID' (text box with red question mark), '\* NPDES Number' (text box with red question mark), '\* Estimated Number of Connection' (text box with red question mark), '\* Flow (mgd)' (text box with red question mark), '\* Street Address' (text box), '\* City, \* State, \* Zip' (text box, dropdown menu for 'Select state', and text box), and 'Phone, Fax' (two text boxes). At the bottom of the form are two buttons: 'Continue' and 'Exit'. In the top right corner of the form area, there is a link that says 'Do Some Training'.

Figure 4.23 Utility Information page

See Section 3.2 for more information on how to complete and edit this page.

When you have completed the form, click “Continue” to move to the next page. To exit the *Add Utility* module, click “Exit” at the bottom of the page.

## 4.6.2 O&M Tasks

The next step in the *Add Utility* module is to set up a preliminary set of operation and maintenance tasks for the utility. This section of the module is spread out over four pages. Tasks are presented based on frequency of occurrence. On the first page, you are presented with a list of standard maintenance tasks common to many utilities that typically occur daily. The next three pages show weekly, monthly and annual tasks.

For all four pages, use the checkboxes next to the task name to select which tasks to add to your O&M schedule and use the fields to the right of each listed task to establish the frequency with which these tasks occur.

All tasks selected and scheduled in this module are added to the CUPSS calendar. You will be able to modify, delete, and add tasks from within CUPSS once you are done with the setup tasks.

See Section 3.4 for more information on how to complete the O&M pages.

### 4.6.3 Team Information

On the next page you can add or edit team member information (Figure 4.24). You are able to select from the list of existing CUPSS users, as well as enter new team members specific to this project.

Figure 4.24 Add and edit team member information

To enter a new team member, select an existing user from the dropdown menu. Your username will not appear as an option. (You are automatically part of the project team because you are the one who set up the project.) Selecting a user from the dropdown menu automatically adds his or her information to the form fields.

Section 3.5 gives more information on how to assemble your project team.

### 4.6.4 Review

The *Review* page is the last page in the *Add Utility* module (

Figure 4.25). Here, you can see all the information you have entered for your utility and for each team member. This page does not show the information entered on the O&M pages. You can view and edit maintenance tasks in the *My O&M* module after exiting the *Add Utility* module.

Name / Title	Organization	Email	Address	Role
Jackson Wilson				Facility Manager

Figure 4.25 Review your project information

If you are satisfied with the information shown on the *Review* page, click “Save and Continue” to proceed. To make changes, click “Back and Edit” to return to the *Utility* page. You can view and edit the information entered during the setup process as many times as needed before exiting the *Add Utility* module. You will not lose any of the information you’ve already entered by going back to edit information.

### 4.6.5 Select Utility

After CUPSS has saved the new project data, you again have the option to select the project you wish to work on from the *Select Utility* page. The project you just entered should be available in the dropdown menu (Figure 4.26).

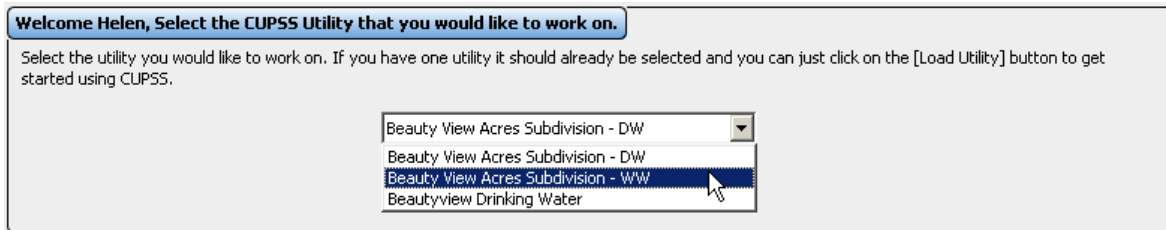


Figure 4.26 The new project available on the Select Utility page

# 5 My Inventory

## Why Use Asset Management?

The City of Portland writes of its experience with asset management:

*Evaluating the hydrants was our first attempt at applying asset management concepts to our assets. This evaluation generated interest in exploring other areas of our system. This highlighted for us that you can start small and 'cut your teeth' on smaller asset groups and still experience the benefits of asset management. It also allowed us to master the asset management concepts without becoming overwhelmed by the magnitude of our system needs.*

The *My Inventory* module helps you to manage the assets for the utility (Figure 5.1).

The screenshot shows the CUPSS web application interface. At the top, there is a navigation bar with the CUPSS logo and the title 'Check Up Program for Small Systems'. Below this are several menu items: 'My Home', 'My Inventory', 'My O & M', 'My Finances', 'My Check up', and 'My CUPSS Plan'. The main content area is divided into several sections. On the left, there is a section titled 'Beauty View Acres Subdivision - DW Asset Inventory' which contains a description of the My Inventory section and a list of links: 'Create or Edit My Schematic', 'View My Inventory List', 'Create or Edit My Inventory List', and 'View My Capital Improvement Projects'. Below this is a section titled 'Beauty View Acres Subdivision - DW Schematic' which displays a diagram of the water system components, including a well property, wellhouse, well #1, pump, main valve, chlorinator, water production meter, chlorine testing, tank, and distribution. On the right side, there is an 'Asset Risk Matrix' section showing a grid of colored squares representing different asset risk levels. Below that is an 'Inventoried Asset List' section which shows a hierarchical tree view of the assets, including Source (Well #1, pump, Wellhouse, well property), Pumping Facility (Main valve, Security, Chlorinator), Treatment (Chlorine testing), and Distribution (Water Production M..., Tank, Distribution).

Figure 5.1 My Inventory page

The *My Inventory* activity window is divided into four windows:

1. **Asset Inventory** allows you to select an action or task from a menu of options. Selecting an option from the list opens a new portion of the module in the activity window. The options available are
  - Create or Edit My Schematic
  - Create or Edit My Inventory List
  - View My Inventory List
  - View My Capital Improvement Project



- Search
2. **My Project Schematic** is a visual representation of all assets tracked for this utility. Edit the schematic by selecting “Create or Edit My Schematic” from the menu in the My Project Asset Inventory window.
  3. **Asset Risk Matrix** is a graph that shows the risk category of each tracked asset.
  4. **Inventoried Asset List** shows all tracked assets by asset category.

To add, edit, or view information about your assets, select one of the options from the Asset Inventory window.

## 5.1 Create or Edit My Schematic

In addition to creating an inventory of all utility assets, it is useful to develop a system map that documents the locations of and linkages between these assets. The *My Schematic* feature allows you to do this. Here, you can create a visual map of your system assets, which will help to ensure that you enter all of your important assets. It will also show the interconnectedness of your assets. The visual map of your systems assets will be included in the final *My CUPSS Plan* and will serve as a brief introduction for someone who is less familiar with your utility.

**Benefits to My Utility**  
 CUPSS includes a schematic of your utility in the My CUPSS Asset Inventory Report and My CUPSS Asset Management Plan. The schematic can be used to provide town officials an overview of your utility.

The schematic provides a visual overview of your system. It is an interactive feature with benefits for both the person creating the map and readers of your asset management plan. This process will challenge you to think of all the assets in your system from intake to output. It will ensure that, if desired, all assets will be available to monitor using the various CUPSS modules. The schematic feature allows persons not familiar with your facility to gain a comprehensive understanding of your utility through a picture alone. This general understanding of the utility will be invaluable as they consider management decisions that might affect the utility.

### 5.1.1 Accessing the Schematic

The schematic editing window can be accessed from the *My Home* page, as well as through the *My Inventory* module. From the *My Inventory* module, click the “Create or Edit My Schematic” link from the Asset Inventory window (Figure 5.2) to open the schematic editing window (Figure 5.3).



Figure 5.2 Asset Inventory window

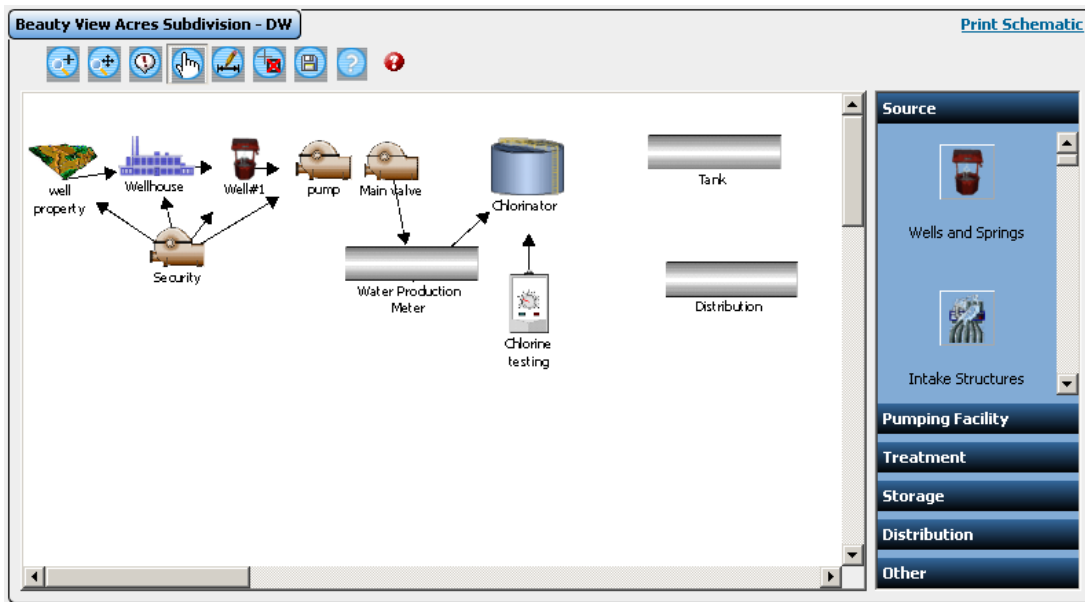


Figure 5.3 Editing window of the Create or Edit My Schematic page

## 5.1.2 Editing and Creating a Schematic

You can perform many activities within the editing window.

- Add an asset
- Delete an asset
- Learn more about the asset
- Move the asset
- Connect assets
- Zoom in and out

Tasks performed in the schematic editing window depend on the activation and deactivation of certain elements. As you work with the elements on the screen, be aware of which tools and assets are activated. Actions are performed based on which tool button is activated and which asset type is activated. Staying aware of what is activated will make the process move more smoothly.









### 5.1.2.1 Schematic Editing Toolbar

At the top left corner of the schematic editing area are a series of buttons (Figure 5.4). They allow you to manipulate the data on the schematic editing area, save data, and get help. Table 5.1 describes the function of each button. You can also determine what each button does by holding your cursor over the button. A tool tip will appear with a brief description of the button's function.



Figure 5.4 Schematic editing toolbar

**Table 5.1 Schematic editing buttons**

Button	Name	How this button is used
	Zoom	Click to activate the Zoom feature. This allows you to use either the middle scroll wheel on your mouse or the plus (+) or minus (-) buttons on your keyboard to zoom in and out on the editing window.
	Full Extent	Click to activate the Full Extent feature when you are finished with the Zoom feature. This enables the editing window to resize to the default view of the full schematic extent.
	Identify Asset	Click to activate the Identify Asset feature. This allows you to then click an asset in the editing window to see the category, type, and name of the asset.
	Move Asset	Click to activate the Move Asset feature. This allows you to then click and drag an asset in the editing window to move it to a new location.
	Link Assets	Click to activate the Link Assets feature. To show the linkages between different assets, click and drag a line from the source asset to the receiving asset. Release the mouse button to complete the link. The two assets are now linked by an arrow showing the direction of flow.
	Delete Asset	To activate the Delete Asset feature, click on the asset you wish to delete. Then click the Delete Asset button. A warning message will open to confirm your intention to delete. Click “Yes” to delete the asset or “No” to return to the editing window without deleting the asset.
	Save	Click to save the current layout of the schematic.
	Help	Click to open a help window displaying section 5.1, Create or Edit My Schematic, of the <i>CUPSS User’s Guide</i> .

### 5.1.2.2 Add an asset to the editing window

First, find the appropriate asset category image in the option boxes on the right side of the window. The available assets are grouped into asset categories:

- Source
- Pumping Facility
- Treatment
- Storage
- Collection
- Distribution
- Other

The Source category is open by default when you first view the *My Schematic* page. To view assets in other categories, click on the category title (Figure 5.5). Drinking water and wastewater water utilities have different associated asset categories and types (e.g., Drinking water utilities will see the “Source” category and the “Wells and Springs” type but wastewater utilities will not). The categories, however, each contain the same associated type (e.g., A drinking water utility will see the same asset types, such as “Wells and Springs”, under the “Source” category as they would under the “Distribution” category). A full list of assets is available in Appendix F.



Figure 5.5 Clicking on the category title to view assets

Use the scrollbars in the asset category window to find the correct asset type. Next, click the asset type you wish to add to the window; then click on the editing window (it does not matter where because you can move the asset later if necessary).

When you click in the editing area, a picture of the selected asset type appears and you are prompted to give the asset a name (Figure 5.6). Assets placed onto the schematic are automatically added to your asset inventory with basic information (including asset name and category).

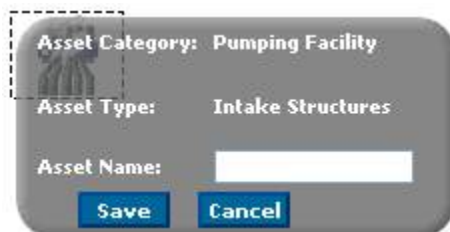


Figure 5.6 Asset name prompt

**Take Note!** To edit the asset name and other details, use the *My Inventory* module, where the asset can be edited from the *Inventoried Asset List*, on the *My Inventory* page or the *Asset Inventory* page, and from the *My Inventory List* page. Alternatively, you can delete the asset from the schematic and add it back with the correct name; however, you will lose asset details if you have specified them.


### 5.1.2.3 Working with assets in the editing window

Once you've added an asset to the editing window, you can manipulate the image to create a diagram that gives a better picture of how your assets are connected and distributed. Within the editing window you can

- Identify images
- Move images
- Link images
- Delete images

Just like the other aspects of CUPSS, you can add all of your assets at one time or create the schematic in stages.

## Identify an asset

Use the Identify button to determine the name and type of any asset in the editing window. Click the “Identify Asset” button  once to activate it; then click on any asset in the editing window. A small window opens showing the name and type of the selected asset (Figure 5.7).

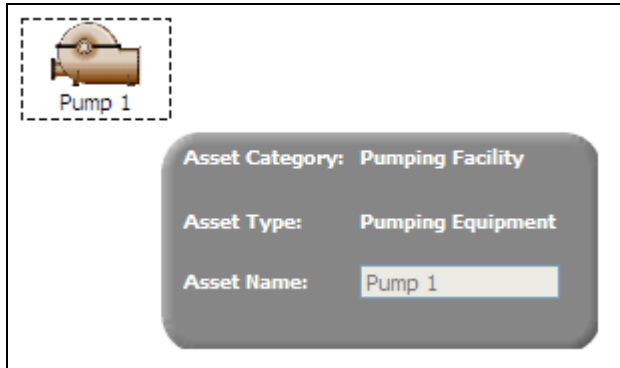




Figure 5.7 Clicking on an asset to identify it

## Move an asset

To move an asset within the editing window, click on the “Move Asset” button  and then click and drag an asset within the editing window. Release the mouse button to drop the asset in a new location.

## Link assets

It is possible to show directionality and connections between two or more assets by linking them. Linkages are shown in the form of an arrow pointing from a source asset to a target asset. To show these linkages in the schematic, first click the “Link Assets” button  to activate it. Next, click on the source asset (the place where water comes from) and drag a line to the target asset (the place to which water moves). Release the mouse button to complete the link. The line will become an arrow pointing in the direction of flow (Figure 5.8). It is important to keep in mind that an asset can connect to more than one asset.

Adding linkages between assets allows a better understanding of how the drinking water or wastewater is moving through your utility. This feature will be particularly useful when describing your utility to people who are less familiar with it than you are.

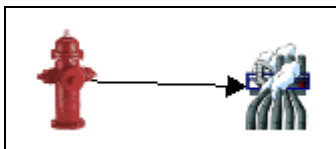



Figure 5.8 Creating links between assets


## Delete assets (and links)

To delete an asset, click once on the asset you wish to delete to activate it (activated assets are shown with a dashed line around them). Next, click the “Delete Asset” button . A warning message appears asking you if you are sure you wish to continue. Click “yes” to delete the asset or “no” to return to the editing window without deleting the asset.

**Take Note!** Deleting an asset from the schematic also deletes it from your inventory.


It is possible to delete a link in the same way. Click the link to activate it; then click the delete button.

### Save the schematic

When you are done, click the “Save” button . A message box will appear (“There are unsaved changes on assets or asset positions. Are you sure you want to proceed?”) to verify that your changes have been saved. Click “Ok” to continue.

**Take Note!** Be sure to save your work early and often. If you exit the schematic editing window without saving, all changes will be lost.

## 5.1.3 Getting Help

There are two places to get help on the schematic editing page. The first is the “Help” button in the schematic toolbar . Click this button to open a popup window that shows context-specific help. For more information about creating a schematic within the editing window, you can also click on the “Training” link in the upper right corner of the CUPSS navigation area.

## 5.1.4 Print Schematic

Click the “Print Schematic” link in the upper right corner of the activity window to print a copy of your schematic.

Click the “My Inventory” module button to return to the *My Inventory* module, or select another module to work in once you are done working with the schematic.

## 5.2 Create or Edit My Inventory List

Creating and maintaining a detailed list of all assets in your utility is critical to help you identify and prioritize critical assets and to improve practices used for routine operation and maintenance. Some assets are more important than others in making sure that customers receive safe drinking water or making sure that wastewater is treated effectively. Reviewing all assets and recording their condition (likelihood of failure), consequence of failure (the impact of the loss of the asset), and redundancy (the number of backup assets available to maintain consistent operations) will give you a better sense of upcoming projects that might need attention and funding. Having a prioritized list of critical assets will be useful when securing funding from decision makers, particularly given additional information like the consequence of failure. This list can be created by entering accurate data in the *My Inventory* module. If you do not have all of the information needed to complete the form you can come back at anytime to update the information.

All calculations used in the *My Inventory* module are described in Appendix D.

To get started, click on “Create or Edit My Inventory List” from the Asset Inventory window (Figure 5.9) to open the *Asset Inventory* page (Figure 5.10).

The *Asset Inventory* page has four parts:

1. Basic Information
2. Status and Condition

### Benefits to My Utility

CUPSS includes your asset information in the My CUPSS Asset Management Plan to help you discuss the critical assets and develop capital improvement plan.

3. Cost and Maintenance
4. Manufacturer and Supplier

**Beauty View Acres Subdivision - DW Asset Inventory**

The My Inventory section allows you to create/edit a schematic, create/edit an asset inventory list, view asset information and search your data. ?

[Create or Edit My Schematic](#)
[View My Inventory List](#)
[Search](#)

[Create or Edit My Inventory List](#)
[View My Capital Improvement Projects](#)

Figure 5.9 Asset Inventory window

The screenshot shows the 'Beauty View Acres Subdivision - DW' asset inventory form. The top navigation bar includes 'My Home', 'My Inventory', 'My O & M', 'My Finances', 'My Check up', and 'My CUPSS Plan'. The form is titled 'Beauty View Acres Subdivision - DW' and includes a 'Print Blank Worksheet' link. A note states: 'The asset inventory form allows you to enter information about your assets. This information will then be used in several of the CUPSS reports and to generate your prioritized asset list. (\*) Indicates required fields'. The form is organized into several sections:

- Basic Information:** Includes fields for Asset Name, Location, Asset Category, Asset Type, and Notes. There are also dropdown menus for 'Select Associated Asset' and 'Select Associated Location'.
- Status and Condition - Required to Calculate Priority:** Includes dropdowns for Condition, Redundancy, Asset Status, and Select Asset Being Replaced. It also has radio buttons for 'Can this asset be repaired?' and 'Can this asset be rehabilitated?', and a checkbox for 'Show asset in the schematic?'.
- Cost and Maintenance:** Includes fields for Installation Date, Expected Useful Life, Original Cost, Replacement Cost, and Routine Maintenance Cost. There is a checkbox for 'Maintained According to Factory Recommendation' and a 'Create a task' link.
- Manufacturer and Supplier - Optional:** Includes fields for Model Number, Supplier, Manufacturer, Address, City, State, Zip, and Phone, Fax.

On the right side, there are two panels: 'Asset Risk Matrix' showing a heatmap and 'Inventoried Asset List' showing a tree view of asset categories like Source, Pumping Facility, Treatment, and Distribution.

Figure 5.10 Asset Inventory page

## 5.2.1 Basic Information

Basic information about the asset (such as location, asset category, and type) will be entered into this section (Figure 5.11).

Figure 5.11 Basic Information fields

The available fields in the Basic Information section are described in Table 5.2.

Table 5.2 Fields available in the Basic Information section

Field Label	Description
Asset Name*	The name of the technology or equipment that is used for your system to properly function. If you have many assets of the same time, consider differentiating them with a letter or a number so that you can easily and quickly tell them apart.
Associated Asset	Select an associated asset from the dropdown menu, if applicable.
Location*	Where the asset is within your treatment train. For example, Pipe X is on Main Street ½ mile south of Franklin Boulevard.
Associated Location	Select an associated location from the dropdown menu, if applicable. <b>Add Location:</b> If none of the associated locations are appropriate, click the “Add” link next to the dropdown menu. A small window will open, where you can add the name of an associated location and a description of that location. Click “Save” to save the location and return to the Basic Information section. Click “Cancel” to close the window without saving any new information.
Asset Category*	Select an asset category from the dropdown menu. If none of the categories available in the dropdown menu are appropriate, select “Other” and enter a new asset category in the field below. Once you save the record for the asset, the new category will be available in the asset category dropdown menu. Asset categories are used to help organize asset types so that assets can be grouped in the <i>Inventoried Asset List</i> window.
Asset Type*	Select an asset type from the dropdown menu. If none of the types available in the dropdown menu are appropriate, select “Other” and enter a new asset category in the field below. Once you save the record for the asset, the new type will be available in the asset type dropdown menu.
Notes	Enter additional comments about the asset as needed. Consider entering information about the sizes or types of assets in your system, for example, lengths, volumes, pipe types, and tank types. This information is valuable for identifying the asset in the field.

\* Indicates a required field.



## 5.2.2 Status and Condition

The condition, CoF and redundancy fields are required to calculate the priority of the assets (Figure 5.12). In addition, the ability to repair or rehab an asset helps drive CUPSS decision on repair, rehab or replace. If you have an asset that is abandoned or is replaced you can identify that here for historical background. Information input into these fields will be entered into an equation (See Appendix D), which, along with information in the following sections, will output risk and a prioritized list of assets.

Available fields in the Status and Condition section are shown in Table 5.3.

**Benefits to My Utility**  
CUPSS provides you with recommendations on repair, rehab and replace decisions using the condition, EUL, redundancy and CoF. These decisions are used in developing your capital improvement plan section of the My CUPSS Asset Management Plan.

Figure 5.12 Status and Condition fields

Table 5.3 Fields available in the Status and Condition section

Field Label	Description
Condition*	Select the most appropriate value from the dropdown menu to indicate the current condition of the asset (based on age and physical functionality). The options are Excellent (35 years remaining), Good (20 years remaining), Fair (10 years remaining), Poor (5 years remaining), and Very Poor (1–5 years remaining).
CoF is Consequence of Failure*	Select the most appropriate value from the dropdown menu to indicate the consequence of asset failure, ranging from insignificant to catastrophic impacts.  Consequence of Failure (CoF) estimates the degree of impact on utility service should the asset fail. Consider the real or hypothetical results when selecting a value, including impacts on regulatory compliance, local government, customers, and the community. Ask yourself, “How bad would it be if this asset failed unexpectedly?”
Redundancy*	Select the value that best represents the functional redundancy of the asset. Values indicate what percentage of the asset’s functionality is duplicated by other assets.
Asset Status*	Indicate the current status of the asset.
Select Asset Replaced	If this asset has been replaced, indicate which asset will replace it.
Can this Asset be Repaired?	Use the radio buttons to indicate whether it is possible for the asset to be repaired in case of failure or disrepair.
Can this Asset be Rehabilitated?	Use the radio buttons to indicate whether the asset can be rehabilitated (i.e., can have its capabilities or condition restored) in case of failure.
Show asset in the schematic?	Use the radio buttons to indicate whether the asset should appear in the schematic diagram (see Figure 5.3).

\* Indicates a required field.

## 5.2.3 Cost and Maintenance

Figure 5.13 shows the fields for the Cost and Maintenance section. Cost and maintenance information is particularly important for prioritizing tasks. Through the use of several equations (See Appendix D) these data will be used to determine, for example, at what point an asset should be replaced, rehabbed or repaired, which is critical information for identifying upcoming expenses. In addition, information such as installation date and expected useful life (in conjunction with the condition and redundancy of the asset) is crucial for identifying the probability of failure (PoF). The available fields in the Cost and Maintenance section are shown below in Table 5.4.

The screenshot shows a form titled "Cost and Maintenance" with the following fields and controls:

- \* Installation Date**: Text input field with a red question mark icon.
- \* Expected Useful Life**: Text input field with a red question mark icon.
- Original Cost**: Text input field with a red question mark icon.
- \* Replacement Cost**: Text input field with a red question mark icon.
- Routine Maintenance Cost**: Text input field with a red question mark icon.
- Select Freque**: A dropdown menu with a red question mark icon.
- Maintained According to Factory Recommendation**: A checkbox with a red question mark icon.
- Create a task**: A blue link at the bottom right.

Figure 5.13 Cost and Maintenance fields

Table 5.4 Fields available in the Cost and Maintenance section

Field Label	Description
Installation Date*	Indicate the date when the asset was installed. NOTE: Use the following format to input this date: xx/xx/xxxx (If you know that the asset was installed in the year 2008 but are unsure of the month or day, enter the date in the following format: 01/01/2008.)
Original Cost	Indicate the amount paid for the asset (in U.S. dollars). NOTE: Do not add commas or dollar signs in the text box.
Expected Useful Life	Based on your asset type and asset name, CUPSS will pre-populate this field with information on the expected useful life of the asset. These numbers are based on information provided by EPA and the Rural Community Assistance Partnership (RCAP). You can override this pre-populated text and enter your estimate of the number of years (on average) that a system or component is estimated to function when installed new and properly maintained. NOTE: Do not add commas or the word "years" in the text box.
Replacement Cost*	Enter the amount (in U.S. dollars) it would cost to replace the asset (in a way that provides a similar or agreed-upon level of functionality). NOTE: Do not add commas or dollar signs in the text box.
Routine Maintenance Cost	Enter the cost of expenditures made for normally anticipated maintenance activities (in U.S. dollars). NOTE: Do not add commas or dollar signs in the text box.
Frequency of Routine Maintenance	Indicate the frequency with which these routine maintenance costs are incurred.
Maintained According to Factory Recommendation	Indicate whether the asset is maintained according to the manufacturer's or factory's recommendations

\* Indicates a required field.

Click the "Create a task" link to open the Task Details window. (See Section 6.2 for more information on how to fill out the *Task Details* form.)

## 5.2.4 Manufacturer and Supplier

The last section on the *Asset Inventory* page is the Manufacturer and Supplier section (Figure 5.14). Although none of the fields in this section are required, having detailed information on the manufacturer and supplier will aid in organization and provide an efficient way of reaching necessary parties. Keep in mind, however, that once you begin entering information into this section, you must complete entry for the Model Number, Manufacturer, and Supplier Name fields.

The screenshot shows a form titled "Manufacturer and Supplier - Optional". It contains the following fields:
 

- Model Number:** A text input field with a red question mark icon to its right.
- Supplier:** A dropdown menu with the text "Select Existing Supplier" and a red question mark icon to its right.
- Manufacturer:** A dropdown menu with the text "Select Existing Manufact" and a red question mark icon to its right.
- Address:** A text input field.
- City, State, Zip:** A text input field for the city, a dropdown menu for the state with the text "Select state", and a text input field for the zip code.
- Phone, Fax:** Two text input fields side-by-side.

Figure 5.14 Manufacturer and Supplier fields

Available fields in the Manufacturer and Supplier section are described in Table 5.5.

Table 5.5 Fields available in the Manufacturer and Supplier section

Field Label	Description
Model Number	Enter the model number of the asset.
Manufacturer	Select the name of a previously entered manufacturer from the dropdown menu. If the appropriate name is not available, select "Other." This activates the field below the dropdown menu, where you can enter a new name. Once you save the record for this asset, the new name will be available as a selection.
Supplier Name	Select the name of a previously entered supplier from the dropdown menu. If the appropriate name is not available, select "Other." This activates the field below the dropdown menu, where you can enter a new name. Once you save the record for this asset, the new name will be available as a selection.
Address	Enter a street address of the supplier's mailing address.
City	Enter the name of the city.
State	Select a state from the dropdown menu.
Zip	Enter the ZIP Code.
Phone	Enter the phone number for the supplier.
Fax	Enter the fax number for the supplier.

When you are done entering data, click the "Save and Add Another Asset" button to save the asset and clear the form or "Save" to save the asset.

**Take Note!** It is very important to save your data before you leave the form. If you close CUPSS without saving, the information you entered will be lost. In addition, you may come back later to add more information, but your reports will not be generated accurately without the required fields.

## 5.2.5 Print Blank Worksheet

If you find it easier to list assets using pen and paper, you can print out a hard copy of the Inventory List blank worksheet. A full-sized printable copy of the worksheet is available in the *Getting Started with CUPSS Workbook* and in Appendix B of this guide. Use the “Print Blank Worksheet” link at the top of the *My Inventory* module to open the form (see Figure 5.15).

## Inventory List (Drinking Water)

<b>Asset Name</b>		<b>Location</b>	
<b>Associated Asset</b>		<b>Associated Location</b>	
<b>Asset Category</b>			
<input type="checkbox"/> Source <input type="checkbox"/> Pumping Facility <input type="checkbox"/> Treatment <input type="checkbox"/> Storage <input type="checkbox"/> Distribution <input type="checkbox"/> Other			
<b>Asset Type</b>			
<input type="checkbox"/> Wells and Springs <input type="checkbox"/> Intake Structures <input type="checkbox"/> Pumping Equipment <input type="checkbox"/> Disinfection Equipment <input type="checkbox"/> Hydropneumatic Tanks <input type="checkbox"/> Concrete & Metal Storage Tanks <input type="checkbox"/> Transmission Mains <input type="checkbox"/> Distribution Pipes	<input type="checkbox"/> Valves <input type="checkbox"/> Computer Equipment/ Software <input type="checkbox"/> Transformers/ Switchgears/ Wiring <input type="checkbox"/> Motor Controls/Drives <input type="checkbox"/> Sensors <input type="checkbox"/> Buildings <input type="checkbox"/> Service Lines	<input type="checkbox"/> Hydrants <input type="checkbox"/> Treatment Equipment <input type="checkbox"/> Lab/Monitoring Equipment <input type="checkbox"/> Tools and Shop Equipment <input type="checkbox"/> Transportation Equipment <input type="checkbox"/> Security Equipment <input type="checkbox"/> Land	<input type="checkbox"/> Galleries and Tunnels <input type="checkbox"/> Meters <input type="checkbox"/> Raw Water Reservoirs <input type="checkbox"/> Generators <input type="checkbox"/> Liquid Waste Handling & Disposal <input type="checkbox"/> Solid Waste Handling & Disposal <input type="checkbox"/> Other
<b>Asset Status</b>			
<input type="checkbox"/> Active <input type="checkbox"/> Not in Use – Abandoned <input type="checkbox"/> Not in Use – Back Up <input type="checkbox"/> Future Investment			
Can this Asset be Repaired? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Can this Asset be Rehabilitated? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Condition</b>			
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor			
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Consequence of Failure</b>			
<input type="checkbox"/> Insignificant – CoF of 2 <input type="checkbox"/> Minor – CoF of 4 <input type="checkbox"/> Moderate – CoF of 6 <input type="checkbox"/> Major – CoF of 8 <input type="checkbox"/> Catastrophic – CoF of 10			
<b>Redundancy</b>			
<input type="checkbox"/> 0% Backup <input type="checkbox"/> 50% Backup <input type="checkbox"/> 100% Backup <input type="checkbox"/> 200% Secondary Backup			
<b>Installation Date</b>		<b>Original Cost</b>	
		\$	
<b>Expected Useful Life</b>		<b>Replacement Cost</b>	
		\$	
<b>Routine Maintenance Costs</b>		<b>Timeframe</b>	
\$		<input type="checkbox"/> per/day <input type="checkbox"/> per/week <input type="checkbox"/> per/month <input type="checkbox"/> per/year <input type="checkbox"/> lifetime	
<b>Optional Information</b>			
<b>Frequency of Routine Maintenance</b>		<b>Start Date</b>	
<b>Model Number</b>		<b>Manufacturer</b>	
<b>Supplier Name</b>			
<b>Address</b>		<b>City, State, Zip</b>	
<b>Phone Number</b>		<b>Fax Number</b>	
<b>Notes</b>			

Inventory List (Wastewater)			
Asset Name		Location	
Associated Asset		Associated Location	
<b>Asset Category</b>			
<input type="checkbox"/> Pumping Facility <input type="checkbox"/> Treatment <input type="checkbox"/> Storage <input type="checkbox"/> Collection <input type="checkbox"/> Other			
<b>Asset Type</b>			
<input type="checkbox"/> Pumping Equipment <input type="checkbox"/> Disinfection Equipment <input type="checkbox"/> Concrete & Metal Storage Tanks <input type="checkbox"/> Transmission Mains <input type="checkbox"/> Valves <input type="checkbox"/> Computer Equipment/ Software	<input type="checkbox"/> Transformers/ Switchgears/ Wiring <input type="checkbox"/> Motor Controls/Drives <input type="checkbox"/> Sensors <input type="checkbox"/> Buildings <input type="checkbox"/> Service Lines <input type="checkbox"/> Treatment Equipment	<input type="checkbox"/> Lab/Monitoring Equipment <input type="checkbox"/> Tools and Shop Equipment <input type="checkbox"/> Transportation Equipment <input type="checkbox"/> Security Equipment <input type="checkbox"/> Land <input type="checkbox"/> Sewers <input type="checkbox"/> Pressure Pipework	<input type="checkbox"/> Galleries and Tunnels <input type="checkbox"/> Meters <input type="checkbox"/> Generators <input type="checkbox"/> Liquid Waste Handling & Disposal <input type="checkbox"/> Solid Waste Handling & Disposal <input type="checkbox"/> Other
<b>Asset Status</b>			
<input type="checkbox"/> Active <input type="checkbox"/> Not in Use – Abandoned <input type="checkbox"/> Not in Use – Back Up <input type="checkbox"/> Future Investment			
Can this Asset be Repaired?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Can this Asset be Rehabilitated?		<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Condition</b>			
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor			
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Consequence of Failure</b>			
<input type="checkbox"/> Insignificant – CoF of 2 <input type="checkbox"/> Minor – CoF of 4 <input type="checkbox"/> Moderate – CoF of 6 <input type="checkbox"/> Major – CoF of 8 <input type="checkbox"/> Catastrophic – CoF of 10			
<b>Redundancy</b>			
<input type="checkbox"/> 0% Backup <input type="checkbox"/> 50% Backup <input type="checkbox"/> 100% Backup <input type="checkbox"/> 200% Secondary Backup			
<b>Installation Date</b>		<b>Original Cost</b>	
		\$	
<b>Expected Useful Life</b>		<b>Replacement Cost</b>	
		\$	
<b>Routine Maintenance Costs</b>		<b>Timeframe</b>	
\$		<input type="checkbox"/> per/day <input type="checkbox"/> per/week <input type="checkbox"/> per/month <input type="checkbox"/> per/year <input type="checkbox"/> lifetime	
<b>Optional Information</b>			
<b>Frequency of Routine Maintenance</b>		<b>Start Date</b>	
<b>Model Number</b>		<b>Manufacturer</b>	
<b>Supplier Name</b>			
<b>Address</b>		<b>City, State, Zip</b>	
<b>Phone Number</b>		<b>Fax Number</b>	
<b>Notes</b>			

Figure 5.15 Blank Inventory List forms

**Take Note!** The Inventory List form is available as a Rich Text Format (.rtf) file. When you click the “Print Worksheet” link, the file will open in the default word processing application on your computer (Microsoft Word, for example).

## 5.3 View My Inventory List

To view a list of all saved assets, click the “View My Inventory List” link in the Asset Inventory window (Figure 5.16).

**Beauty View Acres Subdivision - DW Asset Inventory**

The My Inventory section allows you to create/edit a schematic, create/edit an asset inventory list, view asset information and search your data.

[Create or Edit My Schematic](#)  
[View My Inventory List](#)  
[Search](#)

[Create or Edit My Inventory List](#)  
[View My Capital Improvement Projects](#)

Figure 5.16 Asset Inventory window

This opens the *Asset Inventory List* page (Figure 5.17).

**Beauty View Acres Subdivision - DW Inventory**

The following is a list of assets currently in your inventory. To sort the table click on the column headings. To edit the information, right click on the selected record and click "edit row".

Priority	Asset	Category	AssetType	Condition	CoF	Redundancy	Replacement Date
1	Well#1	Source	Wells and Springs	Poor	Catastrophic	0%	2008-02-01
2	pump	Source	Pumping Equip...	Fair (Average)	Catastrophic	0%	2011-02-01
3	Security	Pumping Facility	Pumping Equip...	Good	Minor	0%	2008-02-01
4	Wellhouse	Source	Buildings	Good	Minor	0%	2008-02-01
5	Main valve	Pumping Facility	Pumping Equip...	Fair (Average)	Major	50%	2008-02-01
6	Distribution	Distribution	Distribution Pipes	Good	Major	0%	2032-02-01
7	Tank	Distribution	Distribution Pipes	Fair (Average)	Catastrophic	0%	2035-02-01
8	Chlorine testing	Treatment	Lab / Monitorin...	Excellent	Insignificant	0%	2008-02-01
9	Chlorinator	Pumping Facility	Disinfection Equ...	Fair (Average)	Insignificant	0%	2008-02-01
10	Water Producti...	Distribution	Distribution Pipes	Fair (Average)	Minor	0%	2035-02-01
11	well property	Source	Land	Excellent	Insignificant	0%	2305-02-01

[<< Return](#)

**Figure 5.17 Asset Inventory list**

On this page, you can see a list of all saved assets. Assets with complete information (those with all the required fields on the *Asset Inventory* form filled in) will include values for consequence of failure, condition and redundancy. Additionally, through information you have entered in the *Asset Inventory* form, you will see a projected Replacement Date on the far right of the table. This date was determined through the use of several equations (see Appendix D).

Each asset is given a priority based on the information entered in the *Asset Inventory* form.

To change the sort order of the table, click the column heading (such as “Asset” or “Category”) so that an arrow appears next to the column name (Figure 5.18). Click the heading again to sort the list in ascending order numerically or alphabetically (depending on the type of information in the column). Click the heading a third time to sort the records in descending order.

Priority	Asset	Category	AssetType	Condition	CoF	Redundancy	Replacement Date
8	Chlorine testing	Treatment	Lab / Monitorin...	Excellent	Insignificant	0%	2008-02-01
1	Well#1	Source	Wells and Springs	Poor	Catastrophic	0%	2008-02-01
2	pump	Source	Pumping Equip...	Fair (Average)	Catastrophic	0%	2011-02-01
4	Wellhouse	Source	Buildings	Good	Minor	0%	2008-02-01
11	well property	Source	Land	Excellent	Insignificant	0%	2305-02-01
3	Security	Pumping Facility	Pumping Equip...	Good	Minor	0%	2008-02-01
5	Main valve	Pumping Facility	Pumping Equip...	Fair (Average)	Major	50%	2008-02-01
9	Chlorinator	Pumping Facility	Disinfection Equ...	Fair (Average)	Insignificant	0%	2008-02-01
6	Distribution	Distribution	Distribution Pipes	Good	Major	0%	2032-02-01
7	Tank	Distribution	Distribution Pipes	Fair (Average)	Catastrophic	0%	2035-02-01
10	Water Producti...	Distribution	Distribution Pipes	Fair (Average)	Minor	0%	2035-02-01

**Figure 5.18 Records shown sorted in descending order by category**

To edit information for a particular asset, right-click on the asset and click “Edit Row” to open the *Asset Inventory* form.

Click “Return” to return to the *My Inventory* page.

## 5.4 View My Capital Improvement Projects

Click on the “View My Capital Improvement Projects” link in the Asset Inventory window (Figure 5.19) to open the *Capital Improvement Projects* page (Figure 5.20).

**Beauty View Acres Subdivision - DW Asset Inventory**

The My Inventory section allows you to create/edit a schematic, create/edit an asset inventory list, view asset information and search your data.

[Create or Edit My Schematic](#)

[View My Inventory List](#)

[Search](#)

[Create or Edit My Inventory List](#)

[View My Capital Improvement Projects](#)

Figure 5.19 My Inventory window

This page lists all assets that will need to be repaired, rehabilitated or replaced. This information is useful to the utility for financial and resource planning for the upcoming years. Those assets that need to be replaced CUPSS provides a recommended replacement year. For those assets that you have indicated cannot be repaired or rehabbed in the asset inventory form or the recommended replacement date has passed CUPSS will recommend to replace those assets on or before the recommend replacement date. For assets that the operation and maintenance costs exceed 7% of the replacement costs, CUPSS will recommend to rehab those assets as long as you have indicated that the asset can be rehabbed. All other assets CUPSS will recommend to repaired as long as you have indicated the asset can be repaired.

**Benefits to My Utility**  
 CUPSS calculates financial reserve required for assets needing to be replaced. This will help you complete the Capital Improvement Plan section of the My CUPSS Asset Management and provide you with the necessary information in discussing your financial need with your community early to plan for these improvements.

To change the sort order of the table, click the column heading (such as "Asset" or "Category") so that an arrow appears next to the column name (Figure 5.18). Click the heading again to sort the list in ascending order numerically or alphabetically (depending on the type of information in the column). Click the heading a third time to sort the records in descending order.

Double-click on the recommended date to change the date on which the recommended action is to occur and edit the date. Changing the date can help you adjust the reserve needed for each year over a longer period of time so that appropriate reserves can be kept for these future improvements.

When you are finished viewing the data, click "Save" to save changes to recommended date or "Add Planned Asset" to open the *Asset Inventory* form.

**Beauty View Acres Subdivision - DW Capital Improvements**

The following is a list of Capital Improvement Projects. Double click or right click on the "Recommended Date" column to change the recommended date and year for the capital improvements. To plan a needed capital improvement, click the "Add Planned Asset" button to to be directed to the "Create or Edit My Inventory List" section to enter your asset information. When entering asset information in this section, select "Future Investment" under the "Asset Status" dropdown for the asset to be added to your Capital Improvement Projects.

Priority	Asset	Category	Asset Type	Condition	CoF	Recomm. Action	Recomm. Date
1	Well#1	Source	Wells and Springs	Poor	Catastrophic	Replace	2/1/2008
2	pump	Source	Pumping Equip...	Good	Catastrophic	Repair	2/1/2011
3	Main valve	Pumping Facility	Pumping Equip...	Fair (Average)	Major	Repair	2/1/2011
4	Security	Pumping Facility	Security Equipm...	Good	Minor	Replace	4/1/2012
5	Tank	Distribution	Distribution Pipes	Good	Catastrophic	Repair	2/1/2036
6	Chlorinator	Pumping Facility	Disinfection Equ...	Fair (Average)	Insignificant	Replace	2/1/2008
7	Distribution	Distribution	Distribution Pipes	Good	Major	Repair	2/1/2038
8	Water Producti...	Distribution	Distribution Pipes	Fair (Average)	Minor	Repair	2/1/2035
9	Wellhouse	Source	Buildings	Good	Minor	Repair	2/1/2036
10	Chlorine testing	Treatment	Lab / Monitorin...	Excellent	Insignificant	Replace	2/1/2008
11	well property	Source	Land	Excellent	Insignificant	Repair	2/1/2308
12	Storage Tank	Storage	Concrete & Met...	Good	Moderate	Repair	2/1/2055

Save

Add Planned Asset



Figure 5.20 Viewing your “Capital Improvement Projects” and editing the recommended date

## 5.5 Search

The search feature allows you to find tracked assets entered through the *My Inventory* module. This feature generates a report of your assets based on the selections made under the “Search and Report” heading. Click the “Search” link in the Asset Inventory window (Figure 5.21) to open the *Search and Report* page (

Figure 5.22).



Figure 5.21 Asset Inventory window

You will be able to filter your assets by asset category, asset type, asset, asset status, person assigned to, task type, task date range, and task status. As you enter more assets, this tool might become valuable when identifying assets that need attention or might need attention in the foreseeable future. The variety of filters will allow you to customize the asset search results to achieve the best fit with your needs.

When you have finished selecting your options, click “View Results” to generate a search report.

### Benefits to My Utility

CUPSS allows you to export and work with your data. This way you can customize and work with all of your utility data in one location saving you time. In addition, you can use common tools like MS Excel to do additional analysis.

**CUPSS** Check Up Program for Small Systems Set-up | Switch Utility | Create User | Help | Training | Exit

[My Home](#)
[My Inventory](#)
[My O & M](#)
[My Finances](#)
[My Check up](#)
[My CUPSS Plan](#)

---

**Beauty View Acres Subdivision - DW Search And Report**

This screen allows you to query your data for a particular utility and generate an Asset Service Report or a Work Order Report. The ? next to "Select Report Type" displays the type of information included in each report.

**Select Utility:** Beauty View Acres Subdivision - DW      **Select Report Type:** ? Asset Service Report

**Filter By:** ?

**Asset Category:** Source, Pumping Facility, Treatment, Storage  
**Asset Type:** Buildings, Computer Equipment / Software, Concrete & Metal Storage Tanks, Disinfection Equipment  
**Asset Status:** Active, Not in Use - Abandoned, Not in Use - Back Up, Future Investment

**Asset:** Chlorine testing, Well#1 pump, Water Production Meter

**Person Assigned to Tasks:** Helen Howard, Robert Dunlevy  
**Task Type:** Planned - Monitoring, Planned - Routine Maintenance, Planned - Repair, Planned - Rehabilitation  
**Task Status:** Active, Completed, Past Due

**Task Date Range:** [ ] - [ ] ?

[<< Return](#)      [View Results](#)

Figure 5.22 Search and Report page

You will be able to select from the choices described in Table 5.6.

Table 5.6 Options available on the Search and Report page

Select Utility	Select a utility to include assets for in the search.
Select Report Type	
Asset Service History	Select Asset Service History if you are interested in learning about operation and maintenance tasks that have been completed for the asset.
Work order/Task History	Select Work order/Task History if you are interested in learning about work and tasks that are or have been scheduled for the asset.
Filter By:	
Asset Category	Select one or more asset categories to include in the search.
Asset Type	Select one or more asset types to include in the search results.
Asset	Select one or more assets to include in the search results
Asset Status	Select one or more values for asset status to filter the results of the search.
Person Assigned to Tasks	Select one or more people (with assigned tasks) to filter the results of the search.
Task Type	Select one or more types of tasks to filter the results of the search.
Task Date Range	Indicate a date range to filter the results of the search. The results will include all tasks scheduled or completed between the indicated dates (inclusive).
Task Status	Select one or more task status values to filter the results of the search.

The results of your search are shown in a table (Figure 5.23).

**Beauty View Acres Subdivision - DW Search Results**

The following are the results of your search. Click the column headings to sort the information. A page of results is limited to 300 records. If necessary, click "Next" to see the additional sets of 300 records. Click "Print Report" to view the additional information associated with the tasks and/or assets.

Asset Service Report

Asset	Asset Type	Work Order/Tasks	Person	Risk	Condition	Replacement Date
Well#1	Wells and Springs	None	None	100.00000	Poor	2008-02-01
pump	Pumping Equipment	None	None	70.00000	Fair (Average)	2011-02-01
Main valve	Pumping Equipment	None	None	40.00000	Fair (Average)	2008-02-01
Wellhouse	Buildings	None	None	40.00000	Good	2008-02-01
Security	Pumping Equipment	None	None	40.00000	Good	2008-02-01
well property	Land	None	None	0.20000	Excellent	2305-02-01
Chlorinator	Disinfection Equip...	None	None	20.00000	Fair (Average)	2008-02-01

<<Return      Print Report

Figure 5.23 Search results page

To change the sort order of the data, click the column heading (such as "Asset" or "Condition") so that an arrow appears next to the column name. Click the heading again to sort the list in ascending order numerically or alphabetically (depending on the type of information in the column). Click the heading a third time to sort the records in descending order.

Click "Return" to return to the search page or "Print Report" to open a printable version of the results.

**Take Note!** The Search Results Report opens as a Rich Text File (.rtf) file. When you click the "Print Report" button, the file will open in the default word processing application on your computer (Microsoft Word, for example).

## 5.6 Inventoried Asset List

All saved assets can be viewed on the *My Inventory* page in the Inventoried Asset List window. This window, on the lower right of the page, provides you with easy access to information that you might like to reference about each asset (Figure 5.24).

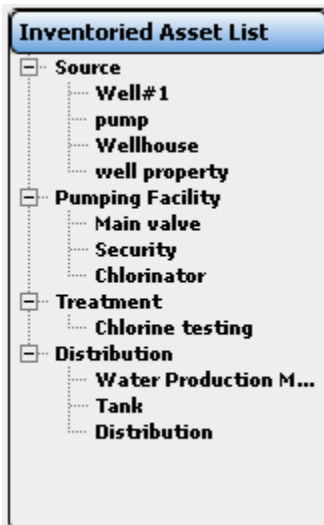


Figure 5.24 Inventoried Asset List

Right-click on the name of an asset. Select “Edit Asset” to open the *Asset Inventory* form to view and edit the record for the asset or click “Remove Asset” to delete it from the asset inventory (Figure 5.25).

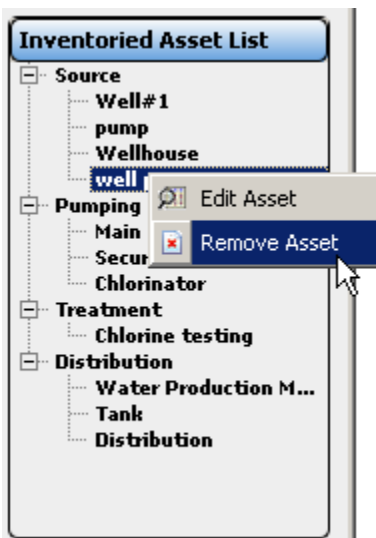


Figure 5.25 Edit or remove asset from inventory

## 5.7 Asset Risk Matrix

All assets with complete status and condition information (entered using the *Asset Inventory* form) are displayed on the *My Inventory* homepage in the Asset Risk Matrix window. Click on the “Asset Risk Matrix” graph in the upper right of the homepage to enlarge the image (Figure 5.26).

The Asset Risk Matrix provides a user-friendly chart that may help you to assess the risk associated with each asset. As you can see, the chart plots the probability of failure against the consequences of failure to determine risk. The asset’s location within the graph is determined by a series of equations (provided in Appendix D) based on information that you have entered about each asset.

### Benefits to My Utility

CUPSS provides you with critical assets in the My CUPSS Asset Management Plan based on the risk factors. So be sure to complete the asset inventory forms condition and cost section so you can get a complete picture of the health of your utility’s asset to plan for the future.

If the probability of failure (the chance that the asset will actual fail) is low and the consequence of failure (the damage that will be done to the utility if the asset does fail) is low, the asset is of little risk to the utility. If this is the case, the asset (represented as a dot) is placed in the lower left quadrant of the graph (“Low Risk”). If the probability of failure is high but the consequence of failure is low or if the consequence of failure is high but the probability of failure is low, the asset is placed in the upper left or lower right quadrant (“Medium Risk”). Finally, if the probability of failure is high and the consequence of failure is high, the asset is a high risk to the utility and is placed in the upper right quadrant of the graph.

The Asset Risk Matrix is a very valuable tool in understanding the risk associated with each asset. It can be used for internal purposes to understand areas of weakness, or it can be used to explain to decision makers the need for funding for certain projects.

To tell which dots on the Asset Risk Matrix represent which assets, simply place your cursor over the dot. A caption will appear with the asset’s name. If you are editing an asset from the *Asset Inventory* page (see Figure 5.10), the dot representing the currently selected asset is gold instead of black.

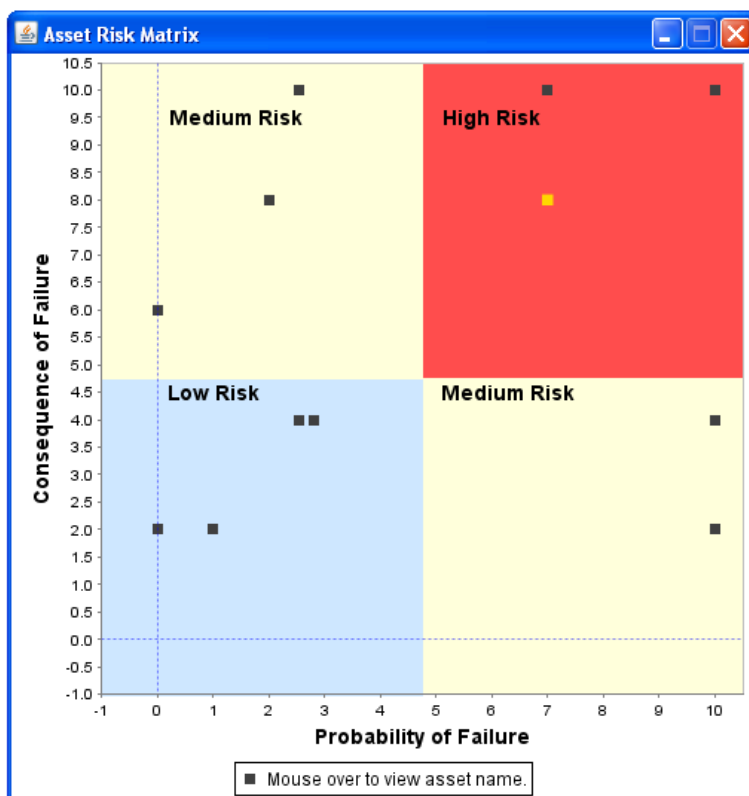


Figure 5.26 Asset Risk Matrix window

## 5.8 Training and Help

For help with the form fields, click the “Training” link at the top of the *My Inventory* module to view Flash Tutorials that provide a brief walk-through of this section. Click the “Help” link to display an indexed version of the *CUPSS User’s Guide*.

# 6 My O&M

## Why Use Asset Management?

The City of Milwaukie, Oregon, lists its achieved goals when using asset management:

- To achieve more financially and physically with less
- To minimize the total cost of ownership
- To maximize knowledge
- To optimize decision making
- To facilitate sustainability
- To aid in succession planning
- To facilitate transparency
- To improve Customer satisfaction and elicit their support

The *My O&M* (or *My Operations and Maintenance*) module is the place within CUPSS for tracking tasks and work orders to manage the day-to-day operations of the utility (Figure 6.1).

The screenshot shows the CUPSS interface for the 'My O&M' module. The header includes the CUPSS logo and the title 'Check Up Program for Small Systems'. Below the header is a navigation bar with icons for 'My Home', 'My Inventory', 'My O & M', 'My Finances', 'My Check up', and 'My CUPSS Plan'. The main content area is titled 'Beauty View Acres Subdivision - DW Operation and Maintenance' and includes links for 'Add A Task', 'Print Blank Worksheet', and 'Search/Print'. Below the title is a filter section with 'Filter Utility' set to 'Beauty View Acres Subdivision - DW', 'Month' set to 'April', and 'Year' set to '2008'. There is also a checkbox for 'Show Completed Tasks'. The tasks are displayed in a calendar grid for April 2008, with tasks listed for each day of the month. The tasks are categorized by day of the week and include various maintenance and operational tasks such as 'Past Due: Ch...', 'Check and re...', 'Check instru...', 'Check water ...', and 'Complete a d...'. The tasks are organized into a grid with columns for each day of the week and rows for each day of the month.

Figure 6.1 My O&M page

This tool is particularly useful to help keep all operation and maintenance tasks organized and properly managed. Remember that CUPSS is a tool just for you and your team; no one is receiving the information, so there is no problem or penalty associated with not completing tasks within the time frame suggested. *My O&M* is simply a way to organize and manage the variety of tasks that need to be completed in your utility.

The *My O&M* module allows you to create and track current, future, and past operation and maintenance activities. You can add tasks to the schedule and mark scheduled items as “completed.” The module then records the status and history of each task, alerts you if the task status is past due or critically past due, and alerts you when to reassess the asset condition if maintenance is not performed as scheduled.

The *My O&M* module stores a wealth of information that will aid in managing your utility—making it more efficient and easier to perform the many tasks that must be balanced. The more information you enter for your assets and routine tasks, the more information will be available to you in the *My O&M* module.

#### Benefits to My Utility

CUPSS allows you to track all of the tasks associated with each utility. Since CUPSS allows several users to use CUPSS everyone can manage their tasks in CUPSS. Using the search module in CUPSS you can then extract all of the task information to help develop the O&M section of the My CUPSS Asset Management Plan.

### Filter Tasks by Utility

If you have more than one utility entered into your CUPSS application, by default all tasks for all available utilities are shown when you first open the *My O&M* module. If you are interested in looking at just one utility or at several but not all utilities, select one or more utilities from the “Filter Utility” field at the upper left portion of the window. Hold down the **Ctrl** key while making your selections to select several utilities at once.

### Select Date

Use the month and year dropdown menus to select a different month to view, or use the arrow keys to move to the next (top arrow) or previous (bottom arrow) calendar month or year. To view the same month but different years, use the top and bottom arrows found under the calendar. These functions allow you to look at tasks you have completed, tasks that were scheduled to be completed but have not been completed, current tasks, and future tasks. Looking ahead at future tasks will help you better manage your time and resources. For example, perhaps if you know that in the next year you will need to replace several expensive items, you might delay purchasing an experimental technology for one more year.

### Select View

By default, all tasks are shown on a monthly calendar. To view individual days, click on the date within the calendar. A popup will appear showing current tasks for that date, as well as past due tasks. You can add additional tasks to this date by clicking the “Add a Task” link.

**Take Note!** The default calendar view is to show all future, current, and past due tasks. To view completed tasks for a selected day or month, check the “Show Completed Tasks” box.

## 6.1 View, Edit, and Add Tasks

### 6.1.1 Edit Tasks

All of your tasks will appear on the calendar. To open a task record to find out more information about it, double-click on a task in the calendar. This opens the *Task Details* form.

### 6.1.2 Add A Task

To add a new task to the schedule, click the “Add A Task” link at the upper right of the O&M window (Figure 6.2).

Beauty View Acres Subdivision - DW Operation and Maintenance [Add A Task](#) | [Print Blank Worksheet](#) | [Search/Print](#)

The O&M section allows you to filter tasks by a utility. 

Filter Utility:  Month:  Year:   Show Completed Tasks

Figure 6.2 Top of the My O&M activity window

This opens the *Task Details* form. This form is divided into four main sections (described below).


On the *Task Details* form, fields with a red asterisk (\*) are required. Fields marked with a blue asterisk (\*) are required if the task is marked as recurring.


## 6.2 Task Form

In this section, you will enter basic information about what tasks need to be done, such as the name, type, and staff names (Figure 6.3). This information will provide you with the very basic information you need to manage the task. The task name that you enter will be what appears on your calendar.


**Benefits to My Utility**  
 CUPSS allows you to complete and print your work orders. By keeping all of your work orders in one place you can track all task through completion easily and quickly.

**Task**

\* Task Name  

\* Task Type  

Task Details/Notes

Cost of the Task  


\* Staff Name  

Figure 6.3 Task section

Table 6.1 describes each of the fields in the Task section.

Table 6.1 Fields available in the Task section

Field	Description
Task Name*	Enter a descriptive name for the task.
Task Type*	Select the type of task from the dropdown menu. If no type is appropriate, select "Other" from the dropdown menu. This activates the field below the dropdown menu, where you can enter a new task type. Once you save the record for this task, the new task type will be available as an option.
Task Details/ Notes	Enter details and notes for the task if necessary.
Task Cost	Enter the cost of completing the task. NOTE: Do not add commas or dollar signs in the text box.
Staff Name*	Select the name of the employee who completed the task or who is responsible for completing the task. Select from the dropdown or add a new staff by clicking on the "Add New Staff" link below the dropdown menu. Clicking this link enters the <i>Create User</i> module See Section 4.3.1.3 for more information on entering information into this form.

\* Indicates a required field.



## 6.2.1 Asset Information

The Asset Information section associates an asset to the task (Figure 6.4).

Figure 6.4 Asset Information section

Table 6.2 describes the available fields in this section.

Table 6.2 Fields available in the Asset Information section

Field	Description
Select Existing Asset OR Enter New Asset	If the task is associated with an asset, select an asset from the dropdown menu. If the appropriate asset is not an option in the dropdown menu, select “Other.” This activates the field below the dropdown menu, where you can enter the name of a new asset. Entering a new asset here adds a new record in the asset inventory.
Select Asset Category	If you select an existing asset from the field above, you will not need to select an asset category. If you enter the name of a new asset, use the dropdown menu to select an asset category.
Select Asset Type	If you select an existing asset from the field above, you will not need to select an asset type. If you enter the name of a new asset, use the dropdown menu to select an asset type.

Click “Enter Asset Details” to open the *Asset Inventory* form and enter additional information about the asset.

**Take Note!** You can create a task that is associated with a group of assets, such as all utility valves. To do this, simply create a new asset in the asset inventory in the *My Inventory* section and name it, for example, “All valves.” Then, select the asset type as “Valve.” Next, click on the “Create a Task” link in the *Asset Inventory* form or go the *My O&M* section and click “Add a Task.” Find the “All valves” asset you just created and associate that asset with this task.

## 6.2.2 Monitoring or Chemical Added

This section indicates what monitoring has been done or what chemical has been added (

Figure 6.5). This can help you better track if you are meeting your regulatory requirements by creating monitoring tasks.

Figure 6.5 Monitoring or Chemical Added section

Table 6.3 describes the fields in this section.

Table 6.3 Fields available in the Monitoring or Chemical Added section

Field	Details
Select Chemical Added	Select a chemical from the dropdown menu. If no appropriate option is listed, select "Other." This activates the field below the dropdown menu, where you can enter the name of a new chemical. You also add the units to this section (e.g., [Chemical] – {Units}). Once you save this task, the new chemical will be available as an option in the dropdown menu.
Amount Added	Enter the amount of the chemical added.

Once you've entered information for a chemical, click the "Add" link to save the information and add the record to the table below the fields (Figure 6.6).

Figure 6.6 Click "Add" to save the data and add the record to the table.

### 6.2.3 Schedule

The Schedule section sets the start and end dates for a task (the duration of the particular task). If a task is to start and end on the same day, enter the same days in both fields. For tasks that take 2 days or longer to complete, enter the appropriate dates. The Schedule section will keep providing reminders at recurring intervals that you can set yourself (Figure 6.7). This is very useful so that you do not need to add tasks multiple times. For example, if you need to clean a valve every month, you need to enter the task only once

with information describing how often it should be repeated; the task will appear on your calendar once a month. After the initial setup and entry of tasks, the calendar will provide a complete picture of the operation and maintenance tasks.

Figure 6.7 Schedule section

Table 6.4 describes the fields for the Schedule section.

Table 6.4 Fields available in the Schedule section

Field	Description
Task Start Date*	Select a start date for the task duration from the dropdown menu.
Task End Date*	Select an end date for the task duration from the dropdown menu.
Target Completion Date	Indicate the day on which the task was completed from the dropdown menu.
Pop-up Reminder	Check the box if you want a popup reminder for this task.
Frequency	Indicate the frequency with which this task occurs.
Recurrence End Date*	Indicate the last date on which the task will occur for items that occur repeatedly. If you do not wish the task to end, pick a date far in the future. Use one such date for all “never-ending” tasks. As this date approaches, you can update the task field.
Select Recurrence*	The choice selected for task frequency determines which radio buttons are activated for the <i>Select Recurrence</i> field.
Daily Recurrence	Indicate how often the task should occur.
Weekly Recurrence	Indicate how often the task should occur.
Monthly Recurrence	Indicate how often the task should occur.
Annual recurrence	Indicate how often the task should occur.

\* Indicates a required field.

## 6.2.4 Optional Parts Information

This final section of the O&M task input popup allows you to keep track of information such as which parts came from which manufacturers and suppliers, at what cost (

Figure 6.8). This information will be useful to you when you want to get in touch with the manufacturers and suppliers with questions about their products or, if necessary, requests for replacement parts.

Figure 6.8 Optional Parts Information section

Table 6.5 shows the fields available in this section.

Table 6.5 Fields available in the Optional Parts Information section

Field	Description
Manufacturer or Supplier	Select the manufacturer or supplier from the dropdown menu. If the manufacturer is not an option in the dropdown menu, click the “Add New Manufacturer / Supplier” link to open the <i>Manufacturer and Supplier</i> form ( Figure 6.9).
Parts Name	Indicate the name of the part.
Parts Number	Indicate the part number.
Parts Costs	Indicate the cost of the part (in U.S. dollars). NOTE: Do not add commas or dollar signs in the text box.
Labor or Maintenance Cost	Indicate labor or maintenance cost for replacing the part. NOTE: Do not add commas or dollar signs in the text box.

When you finish entering data for a new manufacturer or supplier in the *Manufacturer and Supplier* form, click the “Save and Close” link at the bottom of the form to save the data and close the form. Or, click the “Cancel” link to exit the form without saving data (

Figure 6.9).

The screenshot shows a window titled "Task Details" with a close button in the top right corner. The main content area is titled "Manufacturer and Supplier" and contains the following fields:

- \* Manufacturer:** A dropdown menu with "Select Existing Manufacturer" and a red question mark icon to its right.
- OR:** A text input field with "Enter Other" in blue text.
- \* Supplier:** A dropdown menu with "Select Existing Supplier" and a red question mark icon to its right.
- OR:** A text input field with "Enter Other" in blue text.
- Address:** A text input field.
- City, State, Zip:** A text input field, a dropdown menu with "Select State", and another text input field.
- Phone, Fax:** Two text input fields.

At the bottom of the form, there is a legend: **(\*) Required Fields**. Below the legend are two buttons: [Save and Close](#) and [Cancel](#).

Figure 6.9 Manufacturer and Supplier form

When you finish entering data for a particular part, click the “Add” link to add the record to the table. Right-click on the added record to edit it.

When you have finished entering data into the task form, click “Save and Close” to save your data and close the form or click “Print Work Order” to save your data and print a copy of the task form or your records, if so desired. Click “Cancel” to close the *Task Details* form without saving your data. Click “Delete” to remove the task from your calendar (Figure 6.10).

[Save and Close](#) | [Cancel](#) | [Print Work Order](#)

Figure 6.10 Links at the bottom of the Task Details form

## 6.2.5 Print Work Order

Click “Print Work Order” at the bottom of the *Task Details* form to print a copy of the task form (work order) with your inputted records. This will open an .rtf document in your default word processor, which you will be able to print on your printer (see Figure 6.11).

## Work Order

Staff Name	Task Name	
Howard, Helen	Check water meter readings and record water production.	
Task Type		
<input type="checkbox"/> Monitoring <input type="checkbox"/> Routine Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Replacement <input type="checkbox"/> Other		
Is this planned task? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Task Details		
Task Notes		
Cost of the Task	50.0	
For Asset Related Tasks		
Asset Name		
Condition		
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor		
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No		
For Monitoring Tasks		
Chemicals	Amount	
Schedule		
Task Start - End Date	Completed Date	
04/16/2008 - 04/16/2008		
Frequency		
<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually		
Recurrence		
_____ (Day(s))	_____ week(s) on _____ (Day of week)	_____ day(s) every _____ (Month)
Recurrence End Date		03/28/2013
Optional Parts Information		
Manufacturer / Supplier		
Part Name		
Part Number		
Part Cost	\$	
Labor Maintenance Cost	\$	

Figure 6.11 Generated Work Order document

## 6.3 Additional Features

### 6.3.1 Print Blank Work Order

If you find it easier to list tasks using pen and paper, you can print out a hard copy of the *Blank Work Order*. A copy of this work order is also available in the *Getting Started with CUPSS Workbook* and Appendix B of this guide. Use the “Print Blank Work Order” link at the top of the *My O&M* module to open the form (Figure 6.12).

New Task	
Staff Name	Task Name
Task Type	
<input type="checkbox"/> Monitoring <input type="checkbox"/> Routine Maintenance <input type="checkbox"/> Repair <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Replacement <input type="checkbox"/> Other	
Is this task planned? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Task Details	
Task Notes	
Cost of the Task	\$
For Asset-related Tasks	
Asset Name	
Condition	
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor	
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No	
For Monitoring Tasks	
Chemicals	Amount
Schedule	
Task Start-End Date	Completed Date
Frequency	
<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually	
Recur every	
_____ days	_____ week on _____ (Day of week)   _____ day of every _____ (Month)
Recurrence End Date	
Optional Parts Information	
Manufacturer/Supplier	
Parts Name	
Parts Number	
Parts Cost	\$
Labor Maintenance Costs	\$

Figure 6.12 Blank Work Order form

**Take Note!** The *Blank Work Order* is available as a Rich Text File (.rtf). When you click the “Print Work Order” link, the file will open in the default word processing application on your computer (Microsoft Word, for example).

## 6.4 Search/Print

Click on “Search/Print” at the top of page to open the *Search and Report* window. Section 5.5 describes how to work with the search fields and results page.

## 6.5 Training and Help

For help with the form fields, click the “Training” link at the top of the *My O&M* module to view Flash Tutorials that provide a brief walk-through of this section. Click the “Help” link to display an indexed version of the *CUPSS User’s Guide*.

# 7 My Finances

## Why Use Asset Management?

Seattle Public Utilities describes the benefits of asset management: *“Asset management penetrates nearly every facet of our capital and operational resource allocation decision-making.”*

The *My Finances* module is designed to help you determine your yearly revenue and expenses and to provide data that will be used in the My Financial Check Up Report (see Section 8.2 for more information about Check Up Reports).

Using this module will help you shift from a reactionary management strategy to a more informed, considered approach. It will also provide critical information to help you set rates and develop a sound financial plan.

To enter the *My Finances* module, click the “My Finances” button in the navigation pane or click the “Enter My Finances” link from the *My Home* page. This opens the *My Finances* page (Figure 7.1).

### Benefits to My Utility

CUPSS includes your financial information in the My CUPSS Asset Management Plan and uses it in helping develop the 10 year projections. This information will also be useful in developing the Financial Strategy section of the My CUPSS Asset Management Plan.

**Check Up Program for Small Systems** Set-up | Switch Utility | Create User | Help | Training | Exit

My Home My Inventory My O & M My Finances My Check up My CUPSS Plan

**Beauty View Acres Subdivision - DW Finances** [Print Blank Worksheet](#)

The My Finances section allows you to enter expense and revenue information in multiple common categories. ?

(\*) Indicates required fields

Select Previous Year  Or \* Enter a new year  [Import Data From Previous Year](#) [Graph It](#)

\* Enter total cash-on-hand  and interest rate

\* Type of Cost  \* Budgeted Amount  \* Actual Amount  \* Inflation

Select a type of cost \$  \$   [Add another Line Item](#)

and Select Type of Cost

Expense	Budgeted	Actual	Inflation Rate	Revenue	Budgeted	Actual	Inflation Rate

Total Expenses:

Total Revenues:

[Save](#) [Save and Add Another Year](#)

Figure 7.1 My Finances page



## 7.1 Adding Data to the *My Finances* Page

There are three ways to work with information within the *My Finances* page. You can

1. Add new data for past, current, or future years
2. View and edit data for a year with existing data
3. Pass data from a previous year to the next year

### 7.1.1 Add New Data

To add new data, use the “Enter a new year” dropdown menu to select a year (Figure 7.2). This dropdown menu includes all years for which there are no existing data.

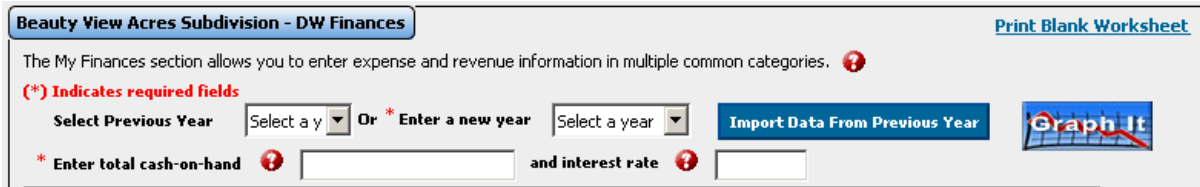


Figure 7.2 Using the dropdown menu to select a year

Once you have selected a year, all data entered in the form will apply to that year. When you are done entering data for a given year, click “Save and Return Home” to save your data and return to the *My Home* page, or click “Save and Add a New Year” to save your data and clear the form in preparation for selecting another year to work with.

**Take Note!** Be sure to save your data before switching years or exiting the *My Finances* module! If you do not use one of the save buttons at the bottom of the form, all new data will be lost.

### 7.1.2 View and Edit Data for a Year with Existing Data

If you have already entered data for a given year, you can view and edit these data by selecting the year from the “Select Previous Year” dropdown menu (Figure 7.2). This dropdown menu contains all years for which there are existing data. Once you select a year, the form will refresh to show all data that exist for that year. You can now view and edit the data for the selected year.

When you are done modifying data for this year, click “Save and Return Home” to save your data and return to the *My Home* page, or click “Save and Add a New Year” to save your data and clear the form in preparation for selecting another year to work with.

**Take Note!** Be sure to save your data before switching years or exiting the *My Finances* module! If you do not use one of the save buttons at the bottom of the form, all new data will be lost.

### 7.1.3 Import Data From a Previous Year

If you have already entered data for a given year, you can pass the data to the next year using the “Import Data From Previous Year” button (Figure 7.2). For example, if you entered data for 2004, you can pass all revenue and expense data from that year to 2005 (the next chronological year). Use this feature to save time when you start data entry for a new year.

To pass data from one year to the next, use the “Enter a New Year” dropdown menu to select a year. Next, click the “Import Data From Previous Year” button. The form will refresh to show the data available from the previous year. You will receive a message confirming that the data have been transferred. You can now edit or add data using the form fields.

**Take Note!** Be sure to save your data before switching years or exiting the *My Finances* module! If you do not use one of the save buttons at the bottom of the form, all new data will be lost.

Take note: Once you enter data for a given year, you can no longer use this feature to pass data into it. If, using the previous example, there are any data stored for 2005, the year will not be available to pass data into because it will no longer be listed in the “Enter a New Year” dropdown menu.

**The year you select must be the year after a year for which there are existing data. If you select 2005 and there are no preexisting data for 2004, you will receive an error message and no data will be transferred.**

Once you pass data using this method, you can edit and add data as needed to accurately show the financial status of the new year.

## 7.2 Data Entry Fields

Once you have selected a year to work with, it is time to edit and add new data to the form. In the upper section of the form, you are prompted to enter your available cash on hand at the end of the selected year and the interest rate you receive on that pool of money (Figure 7.2). The lower section of the form is where you enter information on revenue and expense line items (Figure 7.3). Table 7.1 describes the fields in this section and how to use them.

Figure 7.3 Lower half of the My Finances activity window

Table 7.1 Fields available on the My Finances page

Field Label	Description
Enter total cash-on-hand*	Enter a dollar figure to show how much cash is available to your utility. This number should include all liquid assets. NOTE: Do not add commas or dollar signs in the text box.
Interest rate	Enter the interest rate you receive on your total cash on hand (or an average, if different pools of money receive different interest rates). Enter the number in the form of a decimal (".03" for a 3% interest rate, for example). NOTE: Do not add commas or percentage signs in the text box.
Type of Cost*	Use the dropdown menu to indicate the type of expense or revenue for this line item. You must select one of the revenue or expense subcategories; you cannot select "Revenue" or "Expense" because these are only placeholder to indicate general categories. See Table 7.2 for a description of the options available here. If none of the options listed in the dropdown menu are

Field Label	Description
	appropriate, select "Other" and use the <i>Enter Other</i> and <i>Select Type of Cost</i> fields to add a new line item category.
Enter Other and Select Type of Cost	Enter an additional cost category in the text field and use the dropdown menu to select what type of cost it is. Once you save the data in the form, new cost categories are added as options to the <i>Type of Cost</i> dropdown menu.
Budgeted Amount	The amount of monies anticipated to complete a task. NOTE: Do not add commas or dollar signs in the text box.
Actual Amount	The actual amount of monies that accomplishing the task cost. NOTE: Do not add commas or dollar signs in the text box.
Inflation	The increase in the cost of completing a task due to inflation. NOTE: Do not add commas or percentage signs in the text box.

\* Indicates a required field.

Table 7.2 Options available in the Type of Cost dropdown menu

Type of Cost menu option	Description
<b>Revenue: Funds earned by the system through the sale of water or by other means</b>	
Revenue from user rates	Revenue collected from customers for providing water and wastewater services or other utilities provided.
Revenue from grants	Revenue from grants
Revenue from loans/bonds	Revenue from loans/bonds
Transfer from reserve fund	Money transferred from a reserve fund
Interest	Revenue provided to your utility from a fixed charge, usually a percentage of the total amount, you receive from any of your accounts.
Other Revenues	Select one of the following options:
One-time fees	Revenue from one-time fees
Bulk sales	Revenue from bulk sales
Contract sales	Revenue from contract sales
Product sales	Revenue from product sales
Other	Select "Other" if you wish to add a new revenue category using the field below the dropdown menu. New entries are added to the "Other Revenues" category once the data are saved.
<b>Expense: Money spent by a company or facility to continue its ongoing operations</b>	
Operating Expenses	Select one of the following options:
Maintenance	An expense incurred for all technical and associated administrative actions intended to retain an item in, or restore it to, a state in which it can perform its required function.
Equipment Costs	Cost of regular maintenance and repair of equipment. Also includes expenses on equipment leased to operate the system.
Salaries and Benefits	An expense incurred for personnel costs for administrative and maintenance staff and their operating functions as well as medical insurance, retirement, vacation, etc.
Supplies	Supplies
Chemical	Materials used for treatment necessary to make water safe to drink.
Contracts	Contracts
Utilities	An expense for services such as gas, electricity, telephone, water and sewer that are provided to your facility for normal use.

Monitoring and Testing	The process of assuring the water treatment process is effectively cleaning the water.
Emergency	Emergency expenses
Rent or Mortgage	Non-personnel cost for operating your office
Insurance	The money you set-aside for insurance for your utility
Services	An expense incurred to provide safe drinking water or wastewater treatment to customers by your facility
Training Costs	Costs associated with continued education, conferences, and certifications for supporting staff
Billing Costs	Costs associated with meter reading, mailing of bills, and processing of returns
Fees	Fees
Security	The money spent on establishing security for the utility to meet any regulatory or safety requirements
Capital Improvements	Capital improvements
Debt Payment	Debt payment
Capital Reserve Contribution	Capital reserve contribution
Emergency Reserve Contribution	Emergency reserve contribution
Other	Select "Other" if you wish to add a new expense category using the field below the dropdown menu. New entries are added to the "Other Revenues" category once the data are saved.

Click the "Add Another Line Item" button to add the current line item to the revenue or expense table and to clear the fields. Do this as many times as needed to enter each revenue and expense for your utility. You can select the line item's type of cost from the existing types. Or you can add other cost types as a revenue cost type (to represent income to your utility) or as an expense cost type (to represent costs incurred) to ensure that the cost is taken into consideration when calculating utilities revenue and expenses for the selected year.

When you are done entering revenue and expense line items for a given year, click "Save" to save your data or click "Save and Add a New Year" to save your data and clear the form in preparation for selecting another year to work with.

**Take Note!** Be sure to save your data before switching years or exiting the *My Finances* module! If you do not use one of the save buttons at the bottom of the form, all new data will be lost.

## 7.3 Additional Features

The *My Finances* page has several additional features to help you visualize the financial history of your utility and to get help with the data entry forms.

### 7.3.1 Graph Your Financial Data

Click the "Graph It" button to open a window that shows the financial record of the utility. This graph shows aggregated totals for actual and budgeted revenue and expenses for each year for which there are data (Figure 7.4).

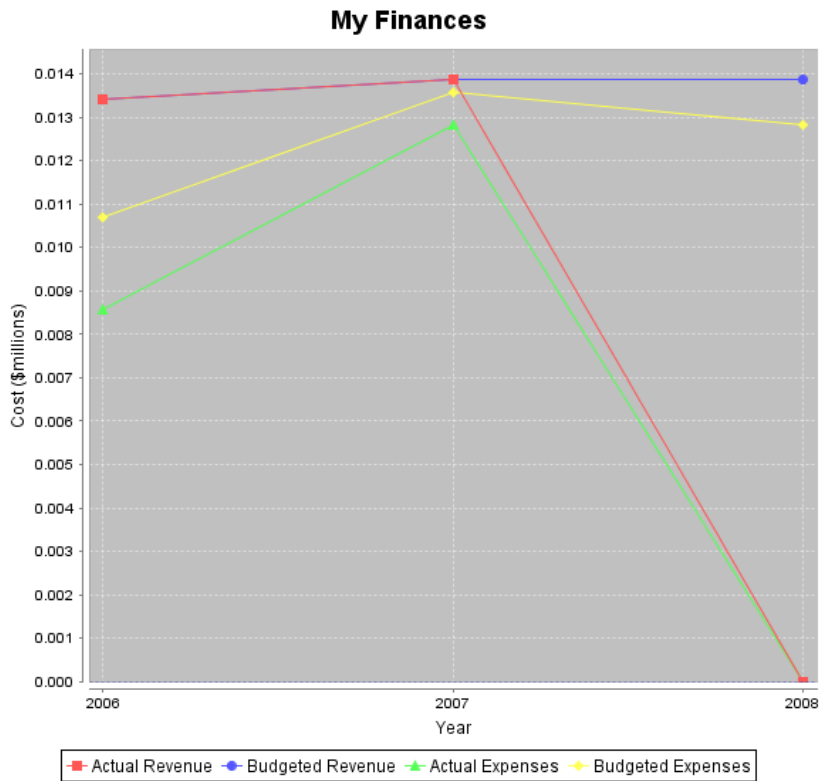


Figure 7.4 Graph of actual and budgeted revenue and expenses

**Take Note!** The y-axis on the My Finances graph is in millions of dollars; therefore, \$100,000, for example, will appear as \$0.1 million.

### 7.3.2 Print Worksheet

If you find it easier to list revenue and expense categories using pen and paper, you can print out a hard copy of the *Finances* worksheet (Figure 7.5). A copy of this worksheet is also available in the *Getting Started with CUPSS Workbook* and Appendix B of this guide. Use the “Print Worksheet” link at the top of the *My Finances* module to open the form.

Finances			
Year	Cash on Hand		Interest Rate
	\$		
<b>Revenue</b>			
Revenue from user rates			\$
Revenue from grants			\$
Revenue from loans/bonds			\$
Transfer from reserve fund			\$
Interest			\$
Other Revenues (Total)			\$
<input type="checkbox"/> One-time fees	\$	<input type="checkbox"/> Contract sales	\$
<input type="checkbox"/> Bulk sales	\$	<input type="checkbox"/> Product sales	\$
Other			\$
Total Revenue			\$
<b>Expenses</b>			
Operating Expenses (Total)			\$
<input type="checkbox"/> Maintenance	\$	<input type="checkbox"/> Equipment	\$
<input type="checkbox"/> Salaries, wages, benefits	\$	<input type="checkbox"/> Supplies	\$
<input type="checkbox"/> Chemicals	\$	<input type="checkbox"/> Contracts	\$
<input type="checkbox"/> Utilities	\$	<input type="checkbox"/> Monitoring & testing	\$
<input type="checkbox"/> Emergency	\$	<input type="checkbox"/> Rent or mortgage	\$
<input type="checkbox"/> Insurance	\$	<input type="checkbox"/> Services	\$
<input type="checkbox"/> Training Costs	\$	<input type="checkbox"/> Billing Costs	\$
<input type="checkbox"/> Fees	\$	<input type="checkbox"/> Security	\$
Capital Improvements			\$
Debt Payment			\$
Capital Reserve Contribution			\$
Emergency Reserve Contribution			\$
Other			\$
Total Expenses			\$

Figure 7.5 Finances worksheet

**Take Note!** The *Finances* worksheet is available as an .rtf file. When you click the “Print Worksheet” link, the file will open in the default word processing application on your computer (Microsoft Word, for example).

## 7.4 Training and Help

For help with the form fields, click the “Training” link at the top of the *My Finances* module to view Flash Tutorials that provide a brief walk-through of this section. Click the “Help” link to display an indexed version of the *CUPSS User’s Guide*.

# 8 My Check Up

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## Why Use Asset Management?

The City of Portland has recently started using asset management to analyze the life of its assets. The City describes how asset management vastly altered its long-term plans:

*“We have more than 400 miles of cast iron pipe installed before 1915. If we assume a standard engineering life of 100 years, we would have to plan for a huge replacement investment. We used failure curve analysis and historic leak and break data to estimate the useful life of old cast iron pipe. We concluded that the useful life was at least 250 years; while there are many assets that require attention, most of our old cast iron pipe should serve our needs far into the future.”*

Determining an asset’s remaining life is a complex process. CUPSS uses a simple approach and doesn’t make a lot of assumptions. The information that CUPSS uses to help estimate the remaining useful life includes the estimated useful life value, the installation year, and the condition rating. See Appendices C and D for descriptions of the calculations used in the *My Finances* and *My Inventory* modules.

CUPSS generates two customizable reports: *My Asset Check Up Report* and *My Financial Check Up Report*. The *My Asset Check Up Report* allows you to generate a targeted report showing assets for a specific utility that have a particular status. The *My Financial Check Up Report* provides a comprehensive look at the financial status of your utility and helps you see future needs for annual revenue and reserve funds. These reports provide a great foundation for your utility and are extremely customizable for your personal needs.

### Benefits to My Utility

CUPSS reports can be used to present the information found in CUPSS in an organized fashion to your community decision makers and stakeholders.

To work with these reports, click the “My Check Up” button. This opens the *My Check Up* module (Figure 8.1).

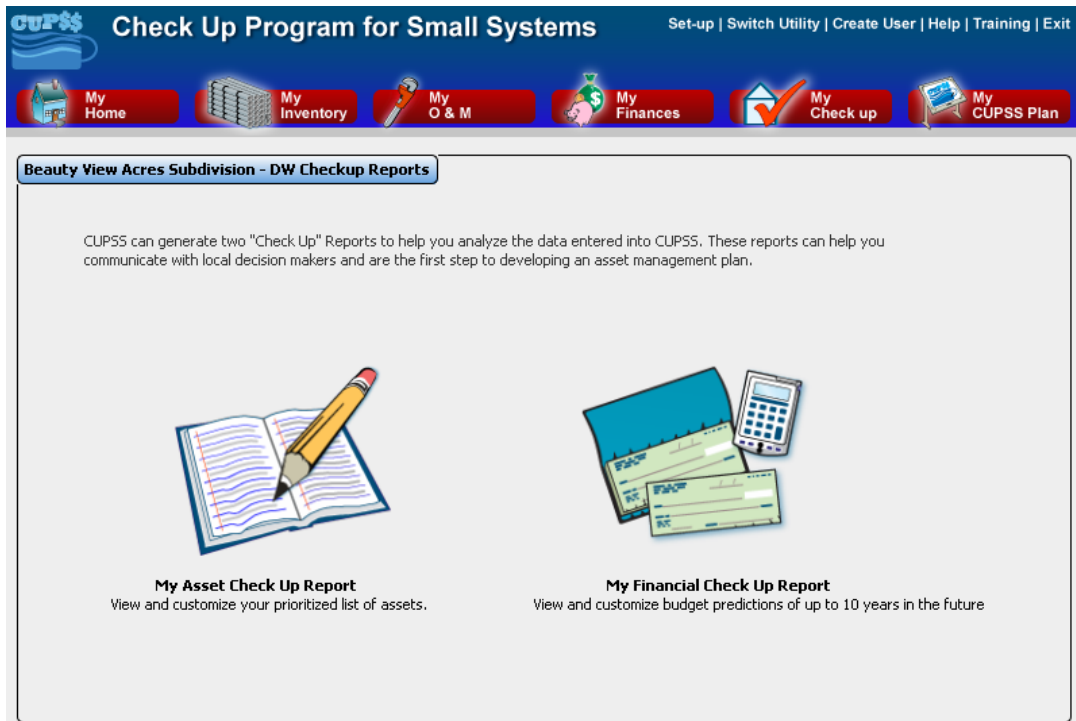


Figure 8.1 My Check Up options

## 8.1 My Asset Check Up Report

Click on the notepad and pencil icon (on the left) to open the *My Asset Check Up Report* page (Figure 8.2).

From this page, select the options you wish to include in your *My Asset Check Up Report*. Table 8.1 describes the fields available on the *My Asset Check Up Report* page.

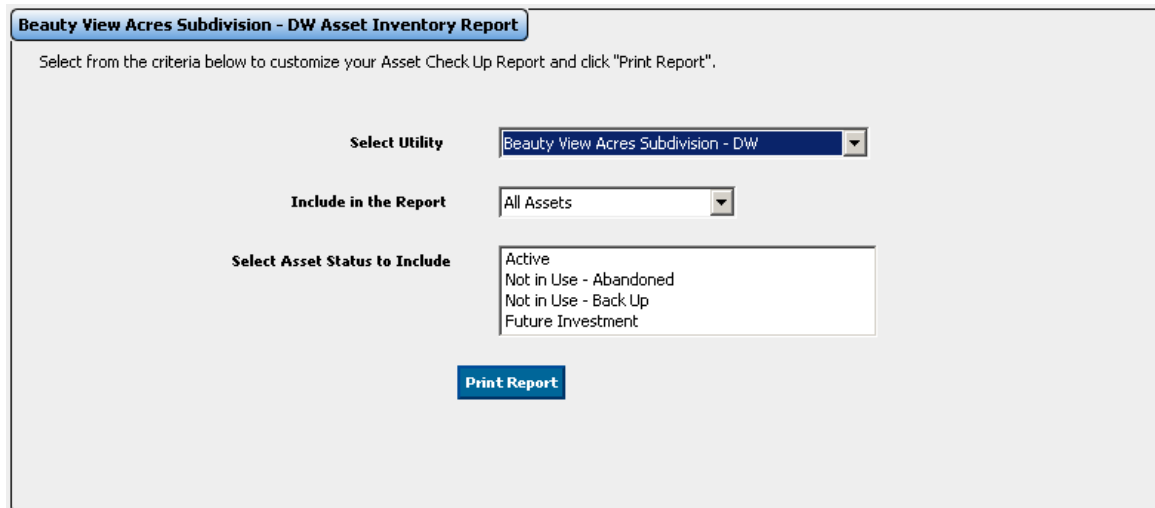


Figure 8.2 My Asset Check Up Report options



Table 8.1 Fields on the My Asset Check Up Report page

Field	Description
Select Utility	Select the utility you wish to add to the report.
Include in the Report	Use the dropdown menu to indicate whether to include only the high-risk assets (based on consequence of failure) or all assets in the report.
Select Asset Status to Include	Select one or more asset status categories to include on the report. Hold down the <b>Ctrl</b> key to make multiple selections.

When you have finished making your selections, click “Print Report” to generate the report.

**Take Note!** The *My Asset Check Up Report* opens as a Rich Text Format (.rtf) document in your default word processor, which you will be able to print on your printer. To make the charts shown in the reports larger, use your mouse to drag the top, bottom, left or right image borders. You can also change the page layout from portrait to landscape to view different sections of the report in a wider format.

## 8.2 My Financial Check Up Report

Click on the checkbook and calculator icon to open the first page of the *My Financial Check Up Report* form (Figure 8.3).

**Check Up Program for Small Systems** Set-up | Switch Utility | Create User | Help | Training | Exit

My Home My Inventory My O & M My Finances My Check up My CUPSS Plan

**Beauty View Acres Subdivision - DW, Financial Checkup Report**

Select from the criteria below to begin customizing your Financial Check Up Report. Then click "Save and Continue".

(\*) Indicates required fields

**\*Step 1.** CUPSS allows you to select the year that you would like the My Financial Check Up Report to use as the starting point to provide a 10 year projection on the planned finances of your utility:

Select Year   Use Actual Costs  Use Budgeted Costs

**\*Step 2.** CUPSS allows you to enter an average growth based on how your community is expected to grow over the next 10 years. Please select one of the following:

Use CUPSS average growth of 5% to be applied to all years.

Enter an average annual growth for all years predicted.  %

Enter annual growth for each of the years.

2009  % 2010  % 2011  % 2012  % 2013  %  
 2014  % 2015  % 2016  % 2017  % 2018  %

**\*Step 3.** CUPSS allows you to enter an inflation rate in order to make this model more accurate. Please select one of the following:

Use CUPSS average inflation of 3% to be applied to all years.

Enter an average inflation to be applied to all years.  %

Enter an average inflation for each year.

2009  % 2010  % 2011  % 2012  % 2013  %  
 2014  % 2015  % 2016  % 2017  % 2018  %

Enter an inflation value for each expense within the My Finances.

**Save and Continue >>**

Figure 8.3 First page of the My Financial Check Up form

The purpose of the *My Financial Check Up Report* is to help you with long-term financial planning. CUPSS does this by accounting for all revenues and expenses entered into the *My Finances* module, all capital

improvement needs based on asset consequence and probability of failure (from the *My Inventory* module), and some additional information entered here, in the *My Financial Check Up Report* pages. Information collected on the first page accounts for the year that you determine as your starting point (Step 1), the anticipated growth of your system (Step 2), and anticipated cost increases due to inflation (Step 3). The second page brings all of these pieces together to help you understand the current and future financial situation of your utility.

## 8.2.1 Future Growth and Inflation

On the first page of the *My Financial Check Up Report*, you will determine your starting point, which values to use for growth (how much your customer base will increase or decrease in a given year), and inflation.

### 8.2.1.1 Step 1: Starting Point

The first step is to determine a starting point that you would like the *My Financial Check Up Report* to use to provide a 10-year projection of your utility's planned finances.

1. Select the year you would like to use as your starting point.
2. Select whether you would like to use Actual Costs for that year or Budgeted Costs.

Figure 8.4 Step 1 of My Financial Check Up Report

### 8.2.1.2 Step 2: Growth

Determining a rate of growth for your customer base helps you predict future operating costs for your utility. Step 2 has three options for selecting or determining future growth (Figure 8.5):

1. Use an average annual growth of 5% to be applied to all years (based on the census average for the entire United States)
2. Enter an average annual growth for all years predicted
3. Enter an annual growth for each of the years (year 1 through year 10).

**Take Note!** If you select the second or third option, you must enter a value in the available fields (even if you anticipate zero or negative growth).

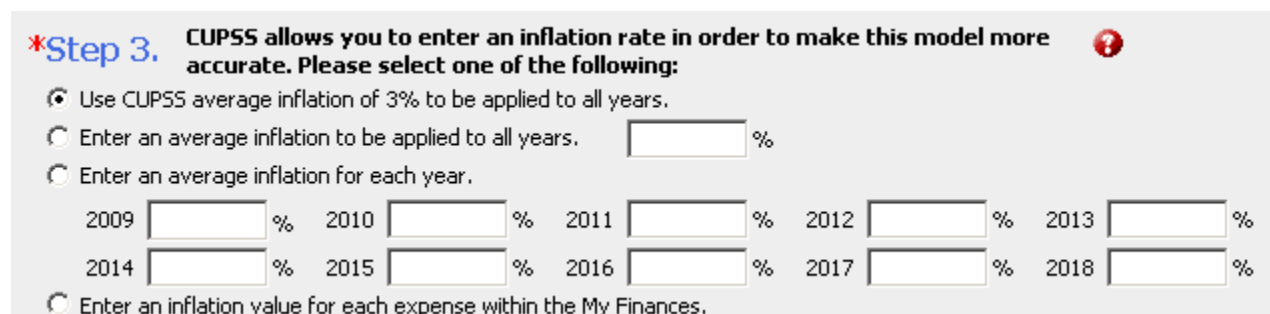
Figure 8.5 Step 2 of My Financial Check Up Report


### 8.2.1.3 Step 3: Inflation

In Step 3, you can enter an inflation rate to increase the accuracy of the model. There are four options for selecting future inflation rates (Figure 8.9):

1. Use an average inflation of 3% to be applied to all years
2. Enter an average inflation to be applied to all years
3. Enter an average inflation for each year (year 1 through year 10)
4. Use the inflation values entered for each expense entered in the *My Finances* module. (You can use this option only if you included inflation rates for the expense line items in the *My Finances* module.)

**Take Note!** Do not add commas or percentage signs in the text boxes.



\*Step 3. CUPSS allows you to enter an inflation rate in order to make this model more accurate. Please select one of the following: 

Use CUPSS average inflation of 3% to be applied to all years.

Enter an average inflation to be applied to all years.  %

Enter an average inflation for each year.

2009	<input type="text"/>	%	2010	<input type="text"/>	%	2011	<input type="text"/>	%	2012	<input type="text"/>	%	2013	<input type="text"/>	%
2014	<input type="text"/>	%	2015	<input type="text"/>	%	2016	<input type="text"/>	%	2017	<input type="text"/>	%	2018	<input type="text"/>	%

Enter an inflation value for each expense within the My Finances.

Figure 8.6 Step 3 of My Financial Check Up Report

If you select “Enter an Inflation value for each expense within the My Finance” option under Step 3, you will see all the CUPSS expenses entered for a particular year that was selected under Step 1. Enter the inflation rate by double- or right-clicking on the Inflation Rate column of a particular expense item. If inflation rates already exist, review what you have entered and click the “Save and Continue” button. CUPSS will use the average inflation rate for all expenses for all 10 years in the *My Financial Statement* on the next screen.

**CUPSS** Check Up Program for Small Systems Set-up | Switch Utility | Create User | Help | Training | Exit

My Home   My Inventory   My O & M   My Finances   My Check up   My CUPSS Plan

**Beauty View Acres Subdivision - DW, Financial Check Up Report**

Type of Expense	Budgeted	Actual	Inflation Rate
Revenue from user rates	13860.00	0.00	3.00
Other Revenues	20000.00	20000.00	0.00
Maintenance	600.00	0.00	3.00
Salaries, wages, benefits	3600.00	0.00	3.00
Supplies	0.00	0.00	3.00
Utilities	703.11	0.00	3.00
Insurance	250.00	0.00	3.00
Billing Costs	1300.00	0.00	3.00
Fees	307.96	0.00	3.00
Capital Improvements	1000.00	0.00	3.00
Capital Reserve Contribution	5000.00	0.00	3.00
Taxes	62.72	0.00	3.00
storage tank	50000.00	0.00	0.00

<< Previous
Save and Continue

Figure 8.7 Step 3 of My Financial Check Up Report

When you are finished making selections for growth and inflation, click “Save and Continue” to continue to the next page (Figure 8.8).



Figure 8.8 “Save and Continue” button

## 8.2.2 My Financial Statement

The second page of the *My Financial Check Up Report* pulls together all the financial data entered in CUPSS to present a comprehensive financial picture for your utility. This page is divided into three windows:

1. My Financial Projections
2. Ratios
3. Financial Projection Summary Graph

Once you have edited the data on this form to your satisfaction, click the “Generate Report” button at the bottom of the form to generate the *My Financial Check Up Report*.

**Take Note!**    **The *My Financial Check Up Report* opens as an .rtf document in your default word processor, which you will be able to print on your printer. To make the charts shown in the reports larger, use your mouse to drag the top, bottom, left or right image borders. You can also change the page layout from portrait to landscape to view different sections of the report in a wider format.**

The following sections describe how to work with and interpret each window of the form.

### 8.2.2.1 Financial Projections Window

The Financial Projections window shows predicted values of both revenue and expenses for your utility, using the numbers provided on the previous page and the information entered in the other CUPSS modules (Figure 8.9). CUPSS provides the ideal, most aggressive suggestions for you to follow. To use a more realistic, conservative approach, you have the ability to override the recommended replacement dates and adjust expected revenues and expenses to find the perfect balance for your utility by editing some of the fields directly. Table 8.2 describes each of the fields on the form and explains how to work with the numbers (where possible).

**Take Note!** All equations used in the *My Financial Check Up Report* are described in Appendix C.

Beauty View Acres Subdivision - DW, Financial Checkup Report						
This screen allows you to fine-tune your budget projections. ?						
	2007	2008	2009	2010	2011	2012
Inflation ?	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Growth ?	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Cash on Hand & Reserve Fund ?	12707.26	74077.87	136045.24	146599.76	157392.62	1684
Annual Operating Expenses ?	6823.79	7369.69	7959.27	8596.01	9283.69	1002
Capital Improvements ?	0.00	104050.00	0.00	0.00	3500.00	0.00
Annual Debt Payment ?	0.00	0.00	0.00	0.00	0.00	0.00
Capital Reserve ?	59569.36	59569.36	7544.36	7544.36	7544.36	6844
CUPSS Recommends	59569.36	59569.36	7544.36	7544.36	7544.36	6844
Emergency Reserve ?	1705.95	1842.42	1989.82	2149.00	2320.92	2506
Total Annual Cost of Doing Business ?	68099.10	172831.48	17493.45	18289.37	22648.97	1937
Revenue from Fees ?	13860.00	14553.00	15280.65	16044.68	16846.92	1768
Revenue from Grants ?	0.00	0.00	0.00	0.00	0.00	0.00
Revenue from Loans ?	0.00	Amount	Amount	Amount	Amount	Amount
		0.00	0.00	0.00	0.00	0.00
		Term / Rate	Term / Rate	Term / Rate	Term / Rate	Term /
		0.00   0.00	0.00   0.00	0.00   0.00	0.00   0.00	0.00
Savings Withdrawal ?	0.00	0.00	0.00	0.00	0.00	0.00
Other Revenues ?	0.00	0.00	0.00	0.00	0.00	0.00
Revenue Surplus / Deficit ?	-54239.10	-158278.48	-2212.80	-2244.69	-5802.06	-1688

Figure 8.9 Financial Projections window

**Take Note!** When you are finished editing the information within the Financial Projections window, be sure to click the “Save and Continue” button at the bottom of the form to save the changes. If you don’t, all changes will be lost when you leave the *My Check Up* module.

Table 8.2 Fields available on the Financial Projections form

Field	Description
Inflation	The inflation rate shown for each year is based on the selection from Step 3 of the previous page (see Section 0 for more information about selecting an inflation rate).
Growth	The growth rate shown for each year is based on the selection from Step 2 of the

	previous page (see Section 8.2.1.2 for more information about setting a rate of growth).
Cash on Hand	This number comes from the <i>My Finances</i> module. Numbers from subsequent years are based on the interest rate indicated in the <i>My Finances</i> module.
Annual Operating Expenses	This is a sum of all line items from the <i>My Finances</i> module categorized as expenses. Click the linked numeric value to open the <i>My Finances</i> module. Here, you can edit line items to change the number displayed in the Financial Projections window. When you have finished modifying the data, click “Save Report” to return to the My Financial Projections window.
Capital Improvements	This is a sum of the costs required to replace assets that have reached the end of their life-expectancy. These costs are allocated to the year in which the asset is due to be replaced. Click the linked numeric value to open the <i>Capital Improvements</i> page within the <i>My Inventory</i> module. When you have finished modifying the data, click “Save and Return” to return to the Financial Projections window.
Debt Payment	This is a sum of all line items in the <i>My Finances</i> module categorized as debt payments plus any loan expenses.
Capital Reserve	Use this field to indicate the amount of money needed each year to account for future asset replacement costs. See Appendix C for more information on how to calculate this value. NOTE: Do not add commas or dollar signs in the text boxes.
Emergency Reserve	Use this field to indicate how much money is available in your emergency reserve fund. CUPSS recommends that 25% of annual operation expenses be set aside in an emergency reserve fund. NOTE: Do not add commas or dollar signs in the text boxes.
Total Annual Cost of Doing Business	This field shows the estimated operation costs for each year.
Revenue from Fees	<b>For the current year:</b> This is the sum of all line items in the <i>My Finances</i> module categorized as “Revenue from User Rates.” <b>For future years:</b> Estimate the amount of revenue expected from fees.  NOTE: Do not add commas or dollar signs in the text boxes.
Revenue from Grants	<b>For the current year:</b> This is the sum of all line items in the <i>My Finances</i> module categorized as “Revenue from Grants.” <b>For future years:</b> Estimate the amount of revenue expected from grants.  NOTE: Do not add commas or dollar signs in the text boxes.
Revenue from Loans	<b>For the current year:</b> This is the sum of all line items in the <i>My Finances</i> module categorized as “Revenue from User Rates.” <b>For future years:</b> Use the “Amount,” “Term,” and “Rate” fields to estimate the total amount of revenue expected from loans.  NOTE: Do not add commas or dollar signs in the text boxes.
Revenue from Loans: Amount	Enter the total amount of all outstanding loans. NOTE: Do not add commas or dollar signs in the text boxes.
Revenue from Loans: Year Term	Enter the term for all outstanding loans. NOTE: Do not add commas or percentage signs in the text boxes.
Revenue from Loans: Rate	Enter the rate expected for all outstanding loans. NOTE: Do not add commas or dollar signs in the text boxes.
Savings Withdrawal	Indicate the amount of money you expect to withdraw from savings for each year. NOTE: Do not add commas or percentage signs in the text boxes.

Other Revenue	<p><b>For the current year:</b> This is the sum of all line items in the <i>My Finances</i> module categorized as “Other Revenue.”</p> <p><b>For future years:</b> Indicate any additional revenue expected for each year.</p> <p>NOTE: Do not add commas or dollar signs in the text boxes.</p>
Revenues Surplus/Deficit	This field shows the annual expected surplus or deficit based on the values entered in the fields above.

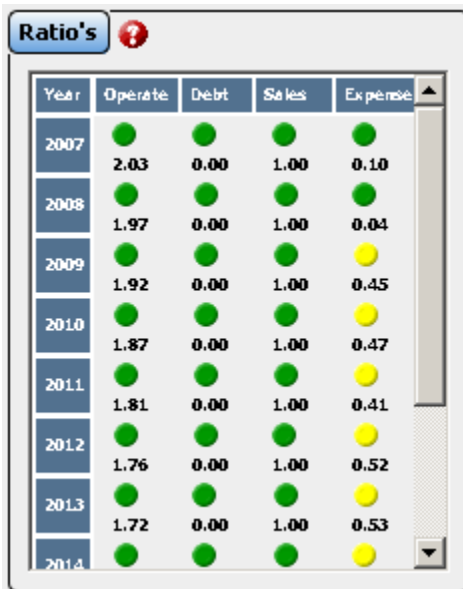
As with all CUPSS modules, the more complete your data are, the better the predictions of the financial status of your utility will be. Take some time to research and enter relevant information to get the most comprehensive picture of your current and future monetary situation.

Again, remember to save the information entered in the Financial Statements window by clicking “Save Report” at the bottom of the form.

### 8.2.2.2 Ratios

The Ratios window provides a visual representation of the Operating, Debt, Sales, and Expense ratios (Figure 8.10).

**Benefits to My Utility**  
CUPSS ratios provide you with a quick summary of the financial health of your utility.



#### Operating Ratio (Operating Revenue/Operating Expense)

The operating ratio demonstrates the relationship between operating revenues and operating expenses. A high ratio indicates that the organization has achieved operating efficiency by keeping expenses low relative to revenue.

#### Debt Ratio (Total Liabilities/Total Assets)

The debt ratio measures the amount of debt being used by the organization. A ratio of 0.6 means that 60% of operations have been financed with debt and the remaining 40% have been financed by equity.

#### Sales Ratio (Sales/Total Revenue)

The sales ratio measures the percentage of total revenue that is made up of sales from operations. A low ratio indicates that the

organization is overly reliant on outside funding.

Figure 8.10 Ratios window

#### Expense Ratio (Operating Expense/Total Expense)

The expense ratio measures the amount of operating expenses compared to total expenses. A high ratio indicates that most expenditures are for operations, leaving the remaining balance for non-operating costs (such as debt service and capital improvements). If the non-operating balance is small, the utility is not likely to meet all of its capital-related expenses, which might cause the system to deteriorate more rapidly.

Green circles indicate a healthy ratio and yellow a moderately healthy ratio; red circles might indicate underlying concerns. This window is another way to visualize the financial health of your utility. See Appendix C for more information about how these ratios are calculated.

### 8.2.2.3 Financial Projection Summary

The third window on the Financial Statement page shows an image of the Financial Projection Summary graph. Click on the graph to open a larger version (Figure 8.11).

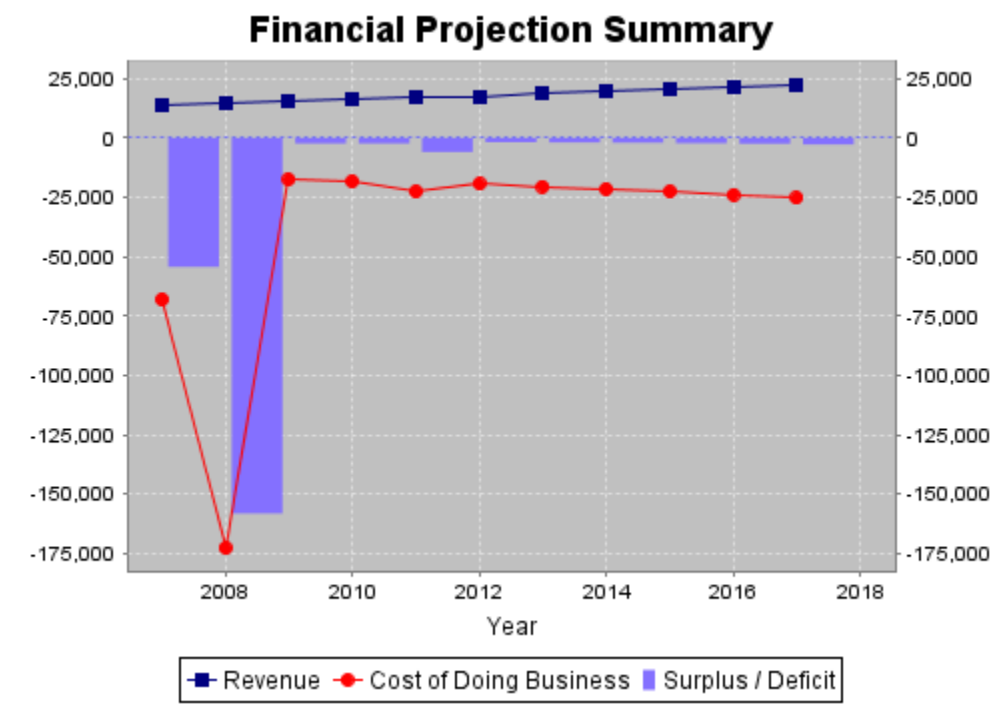


Figure 8.11 Financial Projection Summary graph

This graph shows the projected revenue, cost of doing business and surplus/deficit ratio for the next 10 years. The graph is just another way to visualize the financial status of your utility.

**Take Note!** To make the *Financial Projection Summary Graph* popup larger (and show a shorter year sequence), use your mouse to drag the top, bottom, left or right image borders.

### Training and Help

As mentioned above, the buttons at the bottom of the screen are important to the functions of the module (Figure 8.12). Click “Previous” to return to the first page of the form to change the starting year, growth rate and/or inflation rate. Click “Save Report” to save information you have entered in the report; do this often. Click “Generate Report” to open the Rich Text Format file containing the report.



Figure 8.12 My Financial Check Up Report buttons

## 8.3 Training and Help

For help with the form fields, click the “Training” link at the top of the *My Check Up* module to view Flash Tutorials that provide a brief walk-through of this section. Click the “Help” link to display an indexed version of the *CUPSS User’s Guide*.



# 9 My CUPSS Plan

## Why Use Asset Management?

The Autumn Acres Mobile Home Subdivision in Delaware County, Indiana, is a small (34-residence) community that used a basic two-well drinking water system. Because no Certified Operator was working with the utility, the utility was out of compliance with state regulations. In addition, no water sampling was being completed and the system was unable to afford the testing. The Indiana Department of Environmental Management identified several problems with the utility, which eventually led to an asset management review of the system.

Through the evaluation, the “system’s owners/personnel realized that they could not afford to do the sampling as well as the replacement cost of its infrastructure. Working very closely with the system and a nearby town, Autumn Acres remains a public water system, except now they are a purchased water system. By Autumn Acres connecting to the Town of Yorktown water system using a single meter and by becoming a purchased water system, their cost of running the water system are reduced to an affordable level for all residents.”

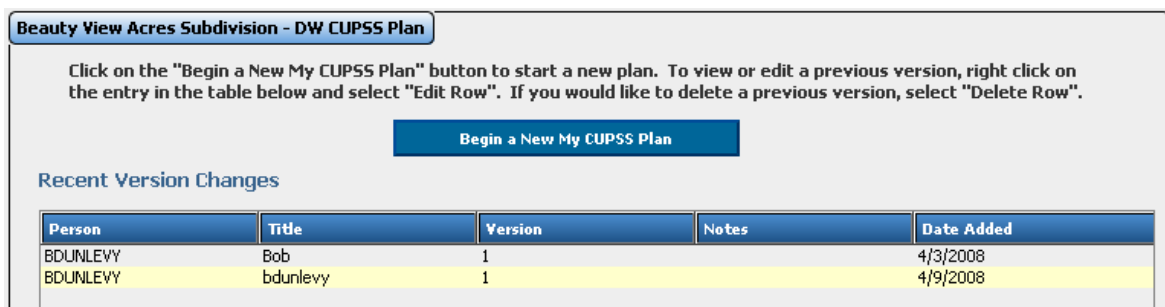
My CUPSS Plan is a tool created to help you create a customized asset management plan. This comprehensive feature draws information you have entered throughout CUPSS and formats the information into a user-friendly report. This tool is very useful because the final output is a clean, easy-to-read report about the state of your specific utility. The finalized report will provide an array of information both for you (to use internally to help better manage your plan) and for decision makers who might not be familiar with your utility.

### Benefits to My Utility

CUPSS provides you with the ability to create a single asset management for up to 2 utilities. CUPSS step by step wizard provides boiler plate text to help develop the Asset Management Plan saving you time while providing you with the flexibility to create a customized plan. All of the information previously entered in CUPSS is referenced in the plan.

## 9.1 Begin a New My CUPSS Plan

On the *My Home* page, click the “My CUPSS Plan” button to see the list of My CUPSS Plans already saved (Figure 9.). Click on “Begin a New My CUPSS Plan” to start a new plan. Right-click on a previous version and select “Edit Row” to make edits to the report (Figure 9.12).



The screenshot shows the 'Beauty View Acres Subdivision - DW CUPSS Plan' page. It includes a blue button labeled 'Begin a New My CUPSS Plan' and a table titled 'Recent Version Changes' with the following data:

Person	Title	Version	Notes	Date Added
BDUNLEVY	Bob	1		4/3/2008
BDUNLEVY	bdunlevy	1		4/9/2008

Figure 9.1 My CUPSS Plan page

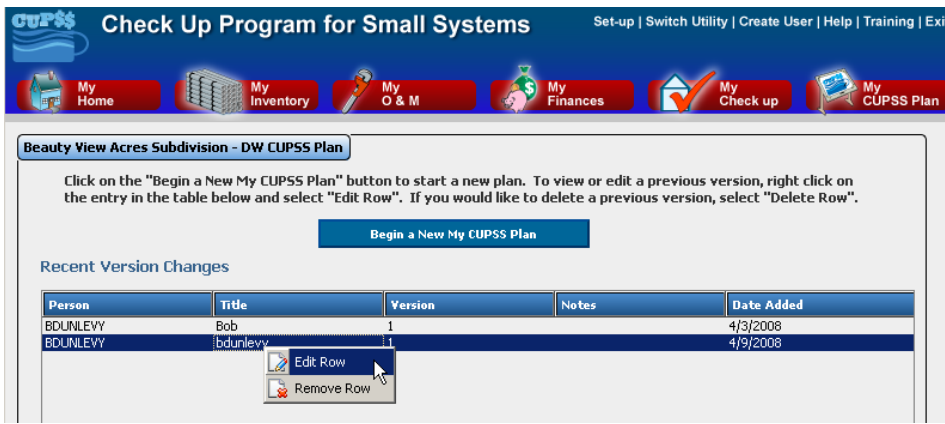


Figure 9.1 Edit previously created My CUPSS Plans

**Take Note!** When beginning a new plan, you can select as many or as few utilities as desired to be included in your comprehensive plan. Hold down the Ctrl key to select multiple utilities.

## 9.2 Plan Information

The next step is to enter CUPSS specific information about this plan (Figure 9.2). When you have finished entering data, click “Begin a New My CUPSS Plan” to continue.

Figure 9.2 Plan Information page

Table 9.1 shows the fields available on the *Plan Information* page.

Table 9.1 Fields available on the Plan Information page

Field Label	Description
Select Utility(s) you would like to generated the plan for	Select one or more utilities to add to the report. Hold down the <b>Ctrl</b> key to make multiple selections.
Name	Enter your name (format: “First Name” “Middle Initial” “Last Name”) You can also enter your job title (e.g., Name – Job

	Title).
Version number	If multiple versions of MY CUPSS Plans have been or will be created, indicate which version number this plan is.
Notes	Enter notes if desired and/or necessary.

## 9.3 My CUPSS Plan Wizard

There are seven items to fill out in “My CUPSS Plan Wizard” (Figure 9.3). Although this may seem daunting, much of the information is pre-populated and the wizard will not require a large amount of effort on your part. The seven steps are

1. Step 1 – Utility Profile
2. Step 2 – Mission and Level of Service (LOS) Agreement
3. Step 3 – Critical Assets
4. Step 4 – O&M Strategy
5. Step 5 – Capital Improvement Plan (CIP)
6. Step 6 – Financial Management Strategy
7. Step 7 – Finalize Plan

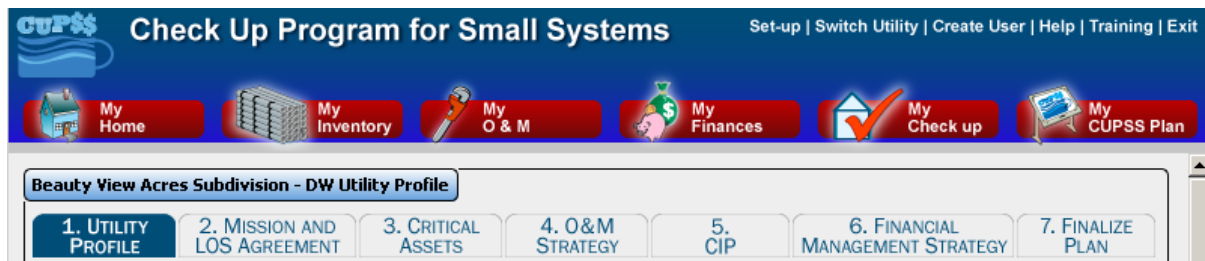


Figure 9.3 My CUPSS Plan Wizard page

**Take Note!** It is important to remember to save the contents of your report after each step. To complete the plan, click on “Save and Generate Plan.” To continue working on the plan, click on “Save and Continue” at the bottom of the page to move to the next step (Figure 9.4).



Figure 9.4 Saving My CUPSS Plan Wizard

### 9.3.1 Step 1 – Utility Profile

Three fields can be filled out in Step 1 (Figure 9.5). As you can see, CUPSS has already loaded some text into your system. Where there are [brackets], the CUPSS program will replace the text you see below with information specific to your utility. Read through the text and add anything that you think would be valuable.

1. **Introduction**
2. **Utility Overview.** Note that you are asked to list your customer categories. The schematic that you create in *My Inventory* will also appear below the text.

3. **Asset Management Team.** Note that you are asked to enter the number of staff working on your utility and to list active and support staff. Also enter each team member and his or her responsibility on your team. This information is important because it will demonstrate authority and identify key contact people.

**Beauty View Acres Subdivision - DW Utility Profile**

1. UTILITY PROFILE | 2. MISSION AND LOS AGREEMENT | 3. CRITICAL ASSETS | 4. O&M STRATEGY | 5. CIP | 6. FINANCIAL MANAGEMENT STRATEGY | 7. FINALIZE PLAN

**1.0 Introduction**

This Asset Management Plan is for the Beauty View Acres Subdivision - DW and describes how the utility(ies) will manage the infrastructure assets. Customer service demands and regulations require drinking water and/or wastewater assets to be actively managed through careful maintenance, repair and replacement decisions. This plan is an effective tool for combining technical, management and financial practices to ensure that the level of service required by the community is provided at the appropriate cost. The plan has the following purposes:

**2.0 Utility Overview**

The Beauty View Acres Subdivision - DW consists of Source, Pumping Facility, Treatment, Storage, Distribution, Other assets serving [insert community names]. The utility delivers [100] million gallons per day of water to 33 of connections. The utility [is/is not] interconnected or shared with other drinking utilities. [if interconnected, indicate name of utilities interconnected with, points of interconnection, average and peak flows, and legal arrangements]. Maps of the utility are maintained by the utility at [insert location]. The following is a breakdown of customer categories:

**Figure 1.1. Beauty View Acres Subdivision - DW Utility Schematic**

**2.1 Asset Management Team**

Management Plan: For example, the training coordinator and town mayor are involved with this or other projects, the asset management team is responsible for coordinating such involvement in the developing and implementing this plan. More specific roles and responsibilities are listed in Table 2-1 and Table 2-2. The following describes the role and responsibilities of each asset management team member listed in Table 2-1 and Table 2-2.

1. [Enter Team Member - Responsibility]

**Table 2.1. Beauty View Acres Subdivision - DW Asset Management Team**

Name	Title/Organization	Role
Helen Howard	Treasurer/Secretary/Beauty View Acres Landowners Assn	Board Member
Robert Dunlevy	Environmental Engineer/USEPA	EPA Contact
Steve Wyatt	Engineer/Missouri Department of Natural	State Contact
Dan Daugherty	Water Specialist/Missouri Department of Natural Resources	State Contact
John Woodland	Administrator/Missouri Dual Water Association	Technical Assistance Provider

<< Previous | Save and Generate Plan | Save and Continue >>

Figure 9.5 Utility Profile page

Be sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the fields.

### 9.3.2 Step 2 – Mission and LOS Agreement

Level of service (LOS) is the foundation of an asset management program. By meeting or exceeding customer expectations, your utility greatly improves its ability to recover the full cost of doing business.

It is worth taking the time to carefully consider short- and long-term goals in conjunction with your My CUPSS Plan. This will help you establish best practices, as well as prioritize and optimize everyday activities.

#### Benefits to My Utility

CUPSS allows you to define and track your LOS goals so that you can improve the service of your utility and keep your community happy.

It is important to consider multiple service areas, including regulatory compliance, when considering how the utility will approach LOS. These areas include

- Number of breaks per mile that are acceptable
- Length of time from report of a leak or break until repair
- Amount of notification (and method) prior to a scheduled shutdown
- Amount of notification (and method) prior to a nonscheduled but nonemergency shutdown
- Quantity of unplanned interruptions in service versus planned interruptions
- Number of hours to fix the pipe break once on-site
- System losses maintained at less than X% overall
- Maximum system flow will be X gpd
- Water pressure will be maintained throughout the system at X psi
- Rates will be raised annually to avoid rate shock in the system
- Rates will be reviewed annually
- Storage capacity will be maintained at X gallons total
- No water outage will be longer than X hours total
- Customers will be notified of planned system outages at least X hours or X days before the interruption
- Customers will be notified at least X minutes prior to shutdown for an emergency condition, unless life-threatening conditions cause a need for immediate shutdown
- Water conservation will be instituted to reduce average daily use by X percent in Y years

The way the goals are stated is also important. Goals should be SMART—Specific, Measurable, Attainable, Realistic and Time-based. By using the SMART approach, a utility can not only set goals but also achieve them. Use these concepts to implement SMART goals:

**Specific**

- Well defined
- Clear to anyone who has a basic knowledge of the utility

**Measurable**

- Know if the goal is obtainable and how far away completion is
- Know when it has been achieved

**Attainable**

- Capable of being reached

**Realistic**

- Within the availability of resources, knowledge and time

**Time Based**

- Enough time to achieve the goal
- Not too much time, which can affect utility performance

The table below lists examples of well-written, achievable LOS goals.

**Table 9.2 Example Level of Service Goals**

Example LOS Goals
System will meet all state and federal regulatory standards.
Water losses will be maintained below 12%.
Under normal conditions, pressures will be maintained between 30 and 70 psi.
No adverse event, not related to electrical failure or severe weather condition, will cause the customer to be without water for more than 8 hours at a time.
Unscheduled water supply interruptions will be reduced 5% per year until a 25% reduction has been achieved.
All customer complaints will be investigated within 2 business days of reporting the complaint.
Customer will be notified of how well the system meets the LOS criteria on an annual basis.

Three fields can be filled out in Step 2 (Figure 9.6).

**Figure 9.6 Mission and LOS Agreement page**

1. **Mission Statement** – The pre-populated text for the Mission Statement is shown below. If you have a mission statement, replace the pre-populated mission statement with your own statement.

2. **Level of Service Agreement** – This section of the asset management plan provides information on the obligations of the utility, as well as future performance goals. This information is important because it identifies the utility's goals and how often those goals are achieved, an important measure that the utility is being managed effectively. You need to input data as prompted, including information regarding how often goal performance will be met and which aspects of the utility have Level of Service Agreements. Additionally, as discussed above, you need to input your Level of Service goals and the level at which that the goals will be met.
3. **System Growth** – The pre-populated text for System Growth is shown below. This section of the asset management plan provides you with information on the expected growth of the utility. This will help the plan reader gain a better understanding of future challenges. The asset management team should enter information on expected growth. This information should discuss how the expected growth would influence system requirements and how growth will be addressed in the capital improvement plan (CIP) and in the utility's financial strategy.

Make sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the fields.

### 9.3.3 Step 3 – Critical Assets

There is one field to be filled out for Step 3 (Figure 9.7).

Beauty View Acres Subdivision - DW Critical Assets

1. UTILITY PROFILE | 2. MISSION AND LOS AGREEMENT | **3. CRITICAL ASSETS** | 4. O&M STRATEGY | 5. CIP | 6. FINANCIAL MANAGEMENT STRATEGY | 7. FINALIZE PLAN

5.0 Critical Assets ⓘ

Some assets are more important than others in making sure that customers receive safe drinking water and/or making sure that wastewater is treated effectively. Therefore, the utility(ies) used the CUPSS software (developed by the U.S. Environmental Protection Agency) to identify and prioritize critical assets and to improve practices used for routine operation and maintenance. This process includes reviewing all assets and recording the conditions (likelihood of failure), criticality to the utility (consequence of failure) and redundancy (the number of back-up assets to help support each asset) of each. This will ensure that the utility(ies) delivers the level of service described in the previous section. The Beauty View Acres Subdivision - DW asset management team [has completed / is in the process of completing] the critical asset assessment.

Table 5-1 and 5-2 lists assets critical to maintain the performance of the utility. [Refer to the My Check-up Asset Inventory Report for additional information on assets.]

**Table 5.1. Beauty View Acres Subdivision - DW Critical Asset Inventory**

Asset	Asset Type	Condition	CoF	Risk	Replacement Date
Well#1	Wells and Springs	Poor	Catastrophic	High Risk – Immediate Attention	2008-02-01
pump	Pumping Equipment	Fair (Average)	Catastrophic	High Risk – Immediate Attention	2011-02-01
Main valve	Pumping Equipment	Fair (Average)	Major	Medium Risk – Aggressive Monitoring	2008-02-01
Wellhouse	Buildings	Good	Minor	Medium Risk – Aggressive Monitoring	2008-02-01
Security	Pumping Equipment	Good	Minor	Medium Risk – Aggressive Monitoring	2008-02-01
Distribution	Distribution Pipes	Good	Major	Medium Risk – Aggressive Monitoring	2032-02-01
Tank	Distribution Pipes	Fair (Average)	Catastrophic	Medium Risk – Aggressive Monitoring	2035-02-01

<< Previous | Save and Generate Plan | Save and Continue >>

Figure 9.7 Critical Assets page

This section of the asset management plan provides information on the priority of distinctive assets within the utility. This information is crucial because it provides the reader with a concise overview of the state of each

of the utility's critical assets, including information on the condition of the asset, the asset's consequence of failure, the risk associated with the asset and the asset's targeted replacement date. The critical asset assessment should be conducted using the parameters in the *My Inventory* section of CUPSS. Assessment procedures are presented in the Appendix D. Enter information about what stage you have reached in the asset management process (complete/in the process).

Table 5.1 in the Asset Management Plan lists assets critical to the sustained performance of the system. These assets were ranked using the probability of failure (as a function of condition and redundancy) and the consequence of failure. The diagram in Appendix A of your My CUPSS Plan considers these factors and plots each asset on a diagram. In addition, Appendix A contains the details of each of the assets in the utility.

Make sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the Critical Assets field.

### 9.3.4 Step 4 – O&M Strategy

There are two fields in the “O&M Strategy” page (Figure 9.8).

Figure 9.8 O&M Strategy page

1. **Operation and Maintenance** –This section of the asset management plan provides information on the operation and maintenance plan for the utility. This information is important because it will inform the reader about the methodology used in determining when the utility needs to be repaired, replaced, etc. Use this section to describe the rationale and features for the maintenance program, including any routine or preventive practices and specific O&M challenges. In addition, you might want to describe how you are using CUPSS to improve your O&M practices and indicate how often the maintenance strategy will be revised and updated.



2. **Operation and Maintenance Strategy** – This section of the asset management plan provides information on the strategy used to better manage routine, preventive and emergency maintenance and provides a summary of maintenance operations performed. Complete the bullets under each category with information about completed maintenance, the methods used to complete the maintenance and the rationale for using the methods. This information is important because it provides the reader with a comprehensive overview of the operation and maintenance strategy and past completed tasks.

Make sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the O&M fields.

### 9.3.5 Step 5 – Capital Improvement Plan (CIP)

This section of the Asset Management Plan provides information on the scope and cost of future projects. This information is important because it allows the reader to gain an understanding of upcoming obligations and resource needs. You will need to enter data on additional criteria that might be important to the Capital Improvement Plan (CIP) where prompted by the “Enter Additional Criteria” text in the top field (Figure 9.9). Note that there are several “Enter Additional Criteria” texts in the field.

Table 7.1 in the asset management plan provides the reader with an overview of upcoming capital improvement projects and the financial resources that will be necessary to complete the projects.

The Beauty View Acres Subdivision - DW capital improvement program (CIP) plan is the description of future capital projects. Capital improvement projects generally create a new asset that previously did not exist or they upgrade and improve an existing capacity. These projects can result from growth or environmental needs, such as the following:

1. Expenditure that purchases or creates a new asset or in any way improves an asset beyond its original design capacity
2. Upgrades that increase the capacity of the asset
3. Construction designed to produce an improvement in the standard operation of the asset beyond its present capacity
4. [Enter Additional Criteria]

In addition to capital improvement projects, the utility has reviewed and is establishing a renewal (or rehabilitation) strategy. Renewal expenditure is anything that does not increase the asset's design capacity but restores an existing asset to its original capacity. Any improvement projects that require more than simply restoring an asset to its original capacity are deemed to be a renewal project, such as the following:

Capital Improvements	Cost										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Well#1	80000	-	-	-	-	-	-	-	-	-	-
pump	875	875	875	875	-	-	-	-	-	-	-
Security	400	-	-	-	-	-	-	-	-	-	-
Wellhouse	20000	-	-	-	-	-	-	-	-	-	-

Figure 9.9 CIP Program page

Make sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the CIP field.

### 9.3.6 Step 6 – Financial Management Strategy

This section of the asset management plan describes the financial condition of the utility and the utility's strategy for future financing (Figure 9.10). As prompted, you will enter information specific to your utility, including the expense over which it is capitalized, revenue sources, expenses and specific means for financing large expenses. This information is crucial to the reader because it provides an overview of the state of the utility's revenues and expenses and financial stability. The table below the text (Table 6.1 in the asset management plan) provides a brief summary of the utility's finances.

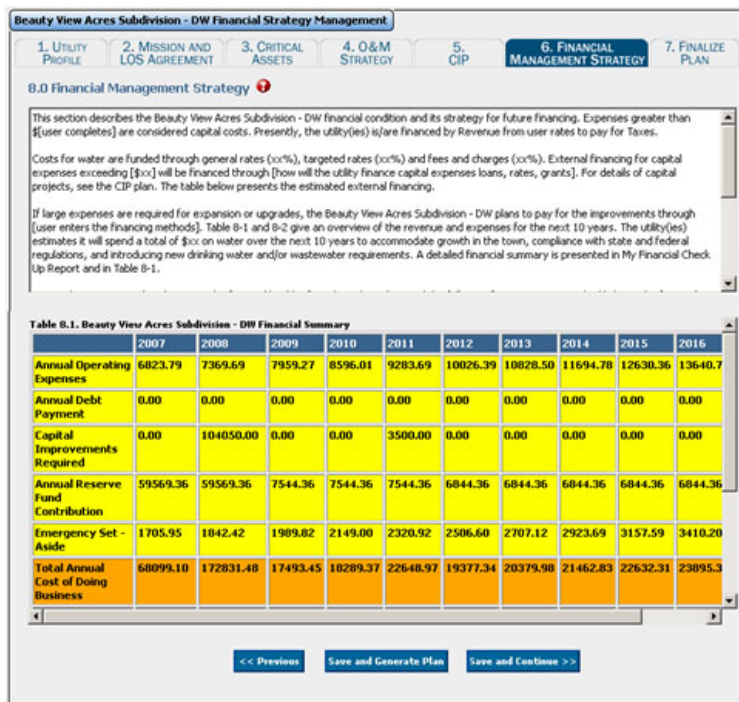


Figure 9.10 Financial Management Strategy page

Make sure to click “Save and Continue” or “Save and Generate Plan” when you are finished filling out the field.

### 9.3.7 Step 7 – Finalize Plan

There are two fields to be filled out in the *Finalize Plan* page (

Figure 9.11).

1. **Action Plan** – This section of the asset management plan compiles all the aspects of your utility that require action, including objectives, targets, maintenance operations and improvements for successful implementation of the asset management plan. No action is required in this section.
2. **Review Schedule** – This section of the asset management plan provides the reader with information as to when the plan will be reviewed and updated. A regular review of the utility’s information is important, and having a set date for that review will increase the probability that the evaluation will be completed. You should enter a date projecting when the next review of your utility’s asset management plan will occur (CUPSS suggests one year).

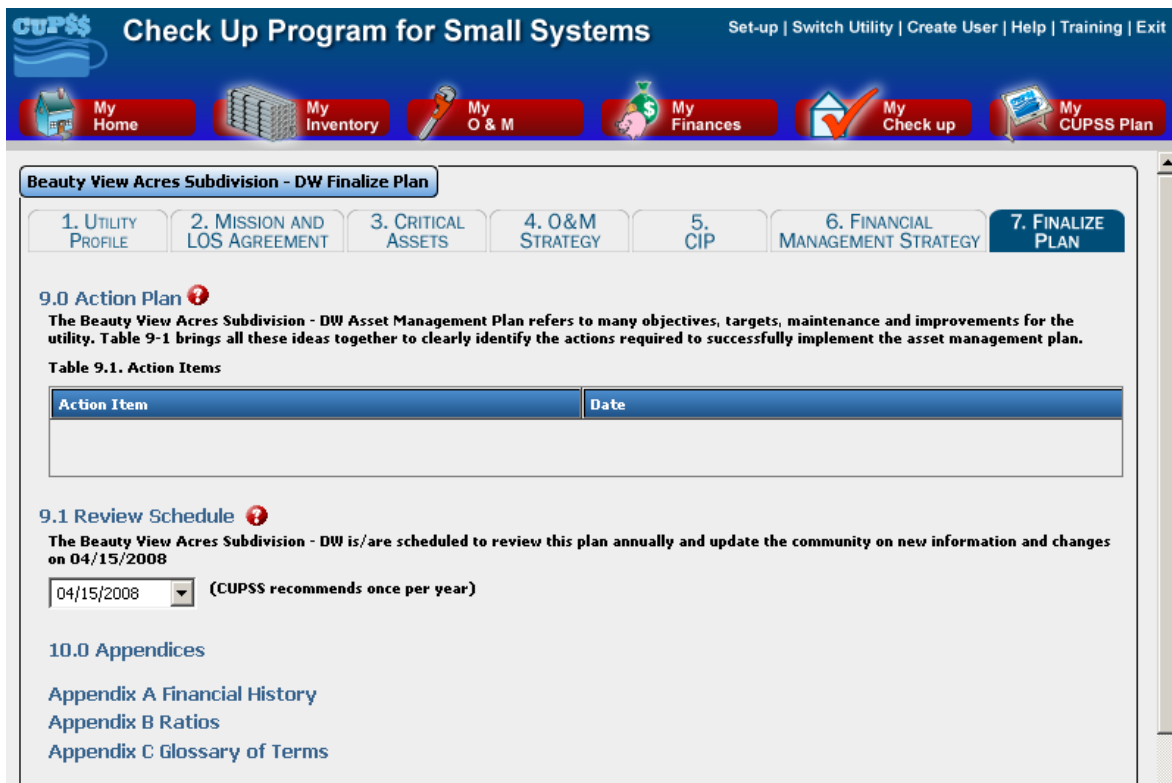


Figure 9.11 Finalize Plan page

When you are done filling out all information in the *My CUPSS Plan* module, click “Save and Generate Plan” to open an .rtf file of your customized asset management plan in your default word processor (Figure 9.12). Clicking the “Save and Continue” button when on the Finalize Plan step saves your report and take you back to the *My CUPSS Plan* page (Figure 9.). Clicking the “Previous” button takes you to the previous page.

**Take Note!** Information changed on a page before clicking “Previous” will not be saved; a popup will notify you of this.



Figure 9.12 My CUPSS Plan final buttons

## 9.4 Training and Help

For help with the form fields, click the “Training” link at the top of the *My CUPSS Plan* module to view Flash Tutorials that provide a brief walk-through of this section. Click the “Help” link to display an indexed version of the *CUPSS User’s Guide*.

# 10 CUPSS Help and Training

## 10.1 Help

The contents of this printed *CUPSS User's Guide* are available in the form of a searchable, indexed *Help* module within CUPSS. CUPSS *Help* module is accessible from the Administration menu at the upper right corner of the application window. Click the “Help” link to open the *Help* module (Figure 10.1).

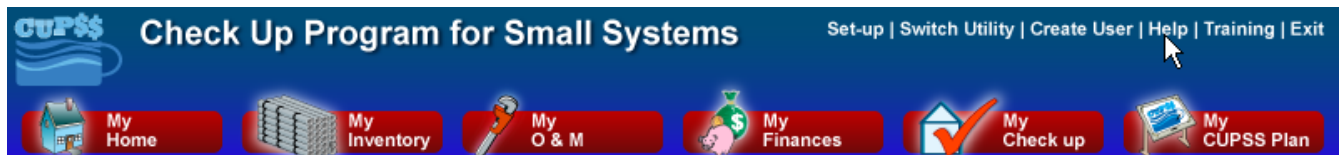


Figure 10.1 Navigation area showing the Help link in the upper right corner

### 10.1.1 Navigating Help

The Help window is divided into two halves: The Help Navigator (left side) provides most of the navigation and helps you find content, while the Help Topic Window (right side) shows the selected content (Figure 10.2).

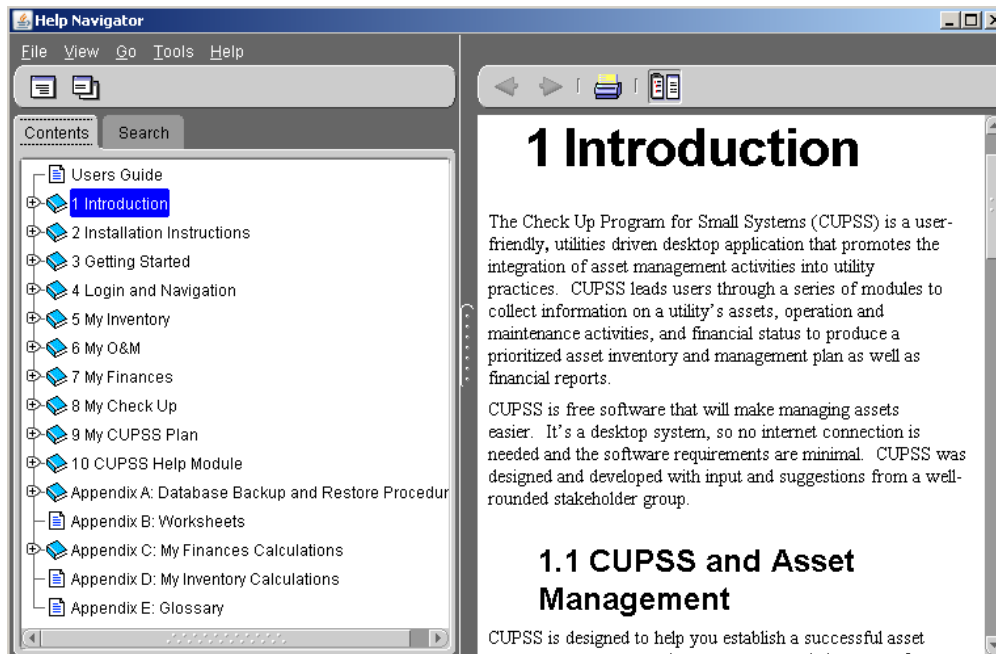



Figure 10.2 Table of Contents Page

By default, the Help Navigator and Help Topic Window are shown in a single window. Click the “Undock” button (  ), to view each as a separate window (Figure 10.3).

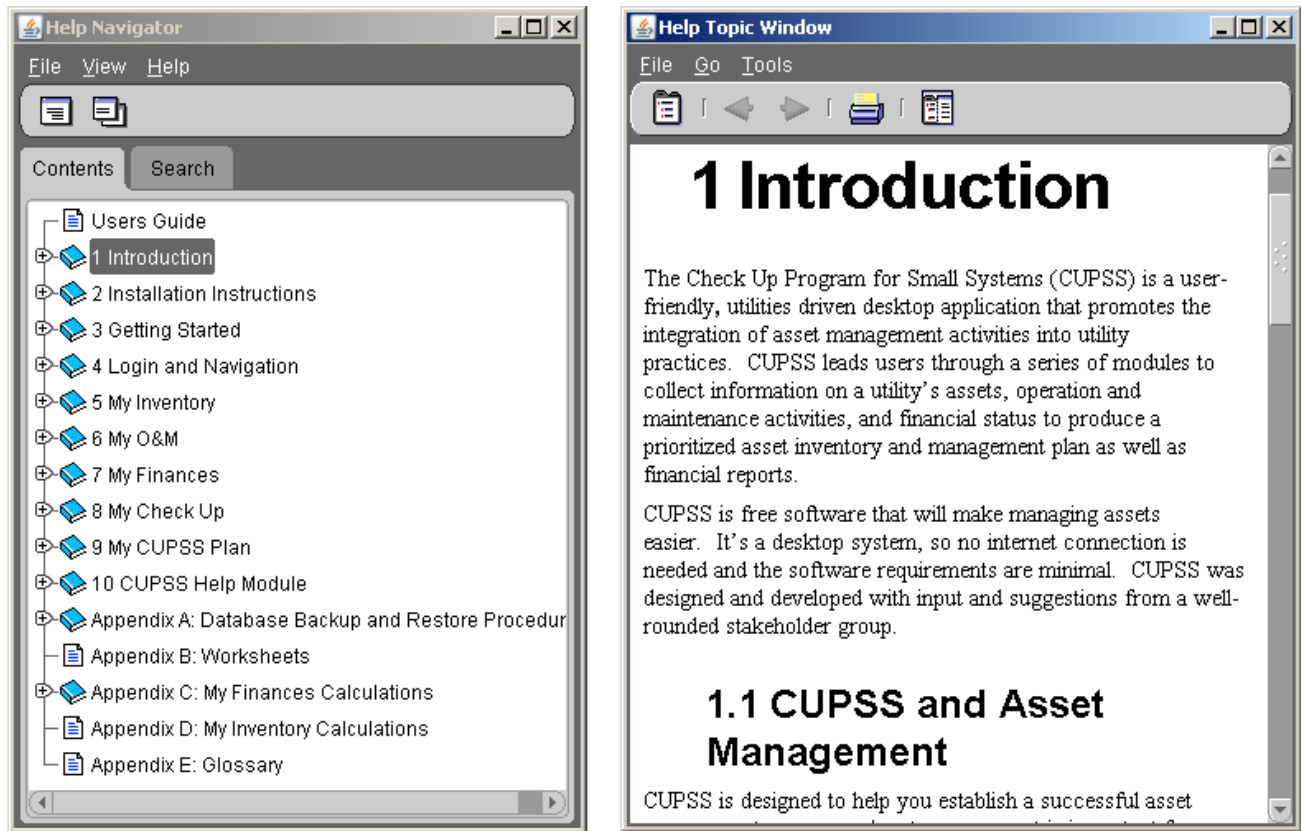


Figure 10.3 Viewing each pane separately.

This changes the structure of the toolbars and allows each side to be manipulated separately. Click the button again to reconnect the two windows. When the two screens are attached, they are referred to as being “docked.”

## 10.1.2 Finding Information using the Help Navigator

The two primary methods for finding information using the Help Navigator are browsing the help contents and searching for specific help topics. Each task is performed using the tabs in the Help Navigator window (Figure 10.4).

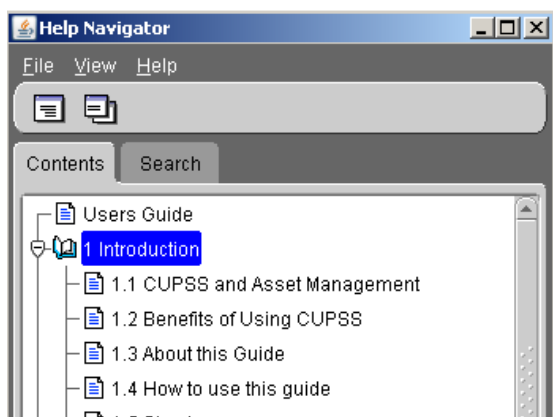


Figure 10.4 Tabs in the Help Navigator window

### 10.1.2.1 Browse Help Contents

Each chapter and subheading in the *CUPSS User's Guide* is shown in the *Contents* tab of the Help Navigator window (Figure 10.5).

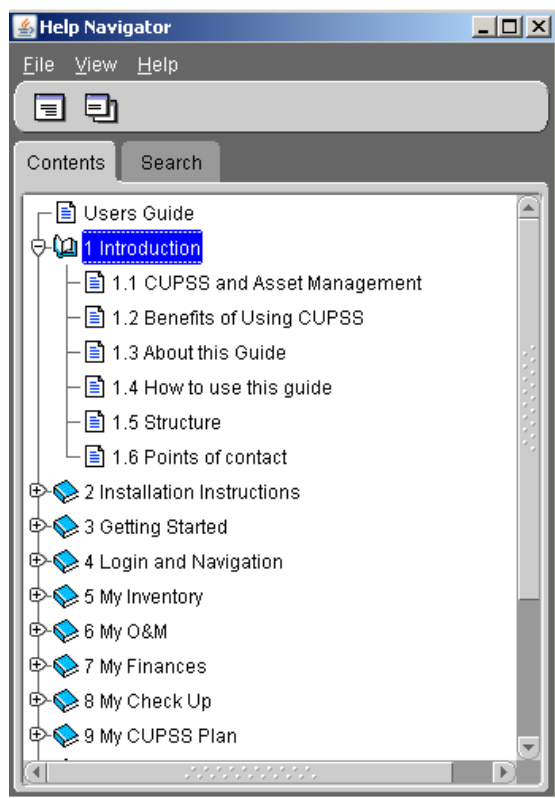


Figure 10.5 Help Navigator window showing the Contents tab

To view chapter subheadings, click the “+” (plus) icon next to the chapter name, which expands the entry to show all subheadings. Figure 10.5 Shows that Chapter 1, Introduction, has been expanded to show all subheadings. To view the text for a chapter or subheading, double-click its name within the *Contents* tab or select File>>Display, from the File menu at the top of the Help Navigator window. This will open the topic text in the Help Topic window on the right.

### 10.1.2.2 Search for Help

To search for a specific word or phrase within the *Help* guide, click on the *Search* tab to view the search options. Type the term you wish to search for into the search field, or use the arrow to view recently used search terms (Figure 10.6).

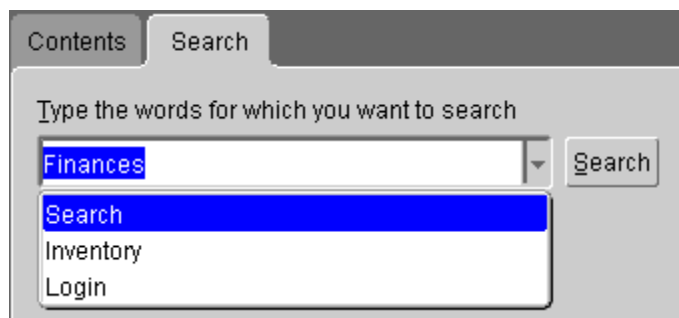
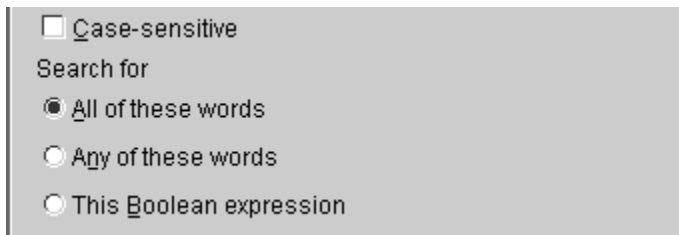


Figure 10.6 Typing in a search term or picking one from the dropdown menu.

Use the fields below the search field to modify your search (Figure 10.7). Select the *Case-sensitive* checkbox to indicate that the search should return only results that match both the words and the case (combination of uppercase and lowercase letters).



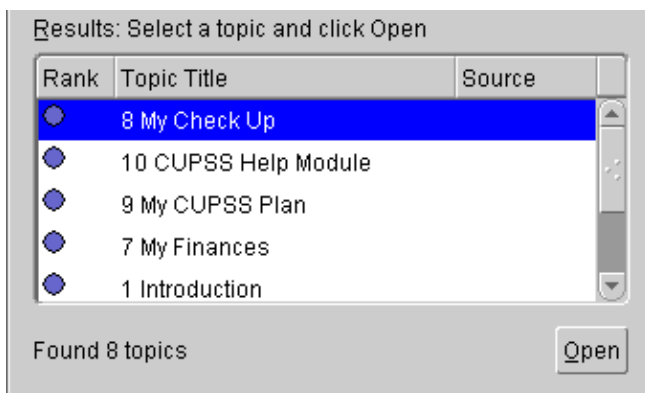
**Figure 10.7 Additional fields for modifying the search**

The *Search for* radio buttons allow you to search for one of the following:

- All the words in the search field (an AND search)
- Any of the words in the search field (an OR search)
- A search string in the form of a Boolean expression

If you are not sure which to pick, use the default option (“All of these words”).

When you have made your selections, click the *Search* button to initiate the search. The search results are displayed in the results window at the bottom of the *Search* tab (Figure 10.8). To view one of the returned topics, double-click on the name of the topic or chapter or click once on the topic or chapter and click the “Open” button to view the text in the Help Topic window.



**Figure 10.8 Search results**

### 10.1.3 Additional Features

Both the Help Navigator and Help Topic window include several additional features, located in toolbars, to help you view, print and manipulate the help topics.

**Take Note!** The toolbars in each window change depending on whether the windows are docked or undocked.

#### 10.1.3.1 Help Navigator Menus

When docked, the Help Navigator menu includes the following categories (Figure 10.9):

- File
- View
- Go

- Tools
- Help

Table 10.1 describes the options available for each category.

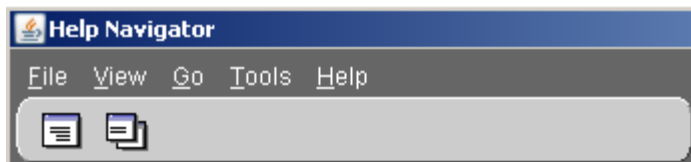




Figure 10.9 Help Navigator window when windows are docked (together)

Table 10.1 Help Navigator menu options (when docked)

Menu option	Description
<b>File Menu</b>	
Display	Click to show selected help topic in Help Topic window. This feature is also available using the  button below the file menu.
Display in New Window	Click to show selected help topic in a new Help Topic window. This feature is also available using the  button below the file menu.
Print Tree	Click to print the help topic tree structure (chapters and subheadings only, no content).
Print Topic	Click to open the Print window. This option allows you to print the topic currently selected in the Help Navigator window.
Print Topics	Click to open the Print window. This option allows you to print.
Close	Click to close the window.
Exit	Click to exit the <i>Help</i> module.
<b>View</b>	
Contents	Select to view the <i>Contents</i> tab.
Search	Select to view the <i>Search</i> tab.
<b>Go</b>	
Back	Click to go back to a previously viewed topic.
Forward	Click to go forward to the topic viewed just after the current topic.
<b>Tools</b>	
Undock	Click to undock the Help Navigation window from the Help Topic window.
Copy	Click to copy selected text.
Select All	Click to select all text viewed in Help Topic window.
Find	Click to open a Find window. This feature allows you to find a word or phrase within the text displayed in the Help Topic window.
Font Size	Use the “Increase” or “Decrease” options to make the font size larger or smaller.
<b>Help</b>	
About	Click to learn more about the <i>Help</i> module.

Fewer features are available from the Help Navigator menu when the two windows are undocked (Figure 10.10). The remaining features are described in Table 10.1.



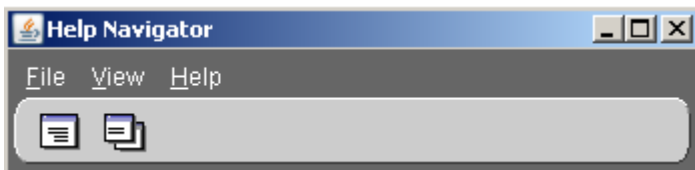


Figure 10.10 Help Navigator window when windows are undocked (separated)

### 10.1.3.2 Help Topic Window Menus

The Help Topic window, on the other hand, shows more menu options when the two windows are undocked (Figure 10.11) than when the windows are docked (Figure 10.12). Table 10.2 describes each menu option.

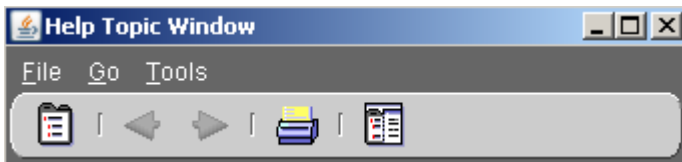






Figure 10.11 Help Topic Window when windows are undocked (separated)



Figure 10.12 Help Topic Window when windows are docked (together)

Table 10.2 Menu options available in the Help Topic window

Menu option	Description
<b>File Menu</b>	
Print Topic	Click to open the Print window. This option allows you to print the topic currently selected in the Help Navigator window. This feature is also available using the  button below the file menu.
Close	Click to close the window.
Exit	Click to exit the <i>Help</i> module.
<b>Go</b>	
Back	Click to go back to a previously viewed topic.
Forward	Click to go forward to the topic viewed just after the current topic.
<b>Tools</b>	
Navigator	Click to open the Help Navigator window (if it was closed) and make it the active window. This feature is also available using the  button below the tools menu.
Copy	Click to copy selected text.
Select All	Click to select all text viewed in Help Topic window.
Find	Click to open a Find window. This feature allows you to find a word or phrase within the text displayed in the Help Topic Window.
Font Size	Use the “Increase” or “Decrease” options to make the font size larger or smaller.
Dock	Click to reconnect the Help Navigation window with the Help Topic window. This feature is also available using the  button below the file menu.
<b>Buttons</b>	
	Click to go back to a previously viewed topic

## 10.2 Training

Flash Tutorials are provided to show a brief walk-through of the different modules within CUPSS. CUPSS Training is accessible from the Administration menu at the upper right corner of the application window. Click the “Training” link to open the *Training* module (Figure 10.13)

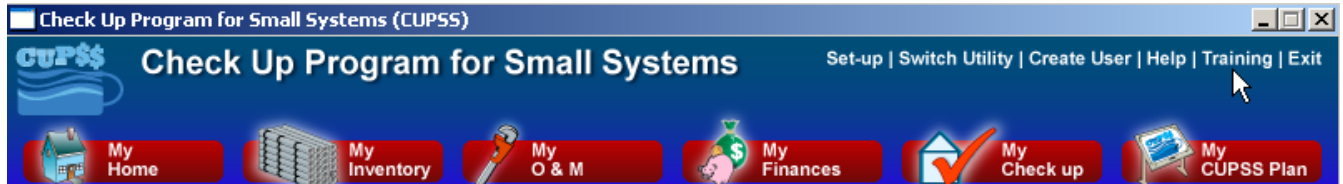


Figure 10.13 Navigation area showing the Training link in the upper right corner

### 10.2.1 Navigating Training

Flash tutorials have been provided for the following modules (Figure 10.14)

- Introduction
- Overview and My Home
- My Inventory
- My O&M
- My Finances
- My Check Up
- My CUPSS Plan



Figure 10.14 Do Some Training Popup

# Appendix A : Database Backup and Restore Procedures

This section describes how to back up and restore the data in your CUPSS database.

**Take Note!** This procedure will not work if there is a database change in an upgraded version!

## Backup

The following steps outline how to back up the CUPSS database that stores your asset management data.

### Step 1

Close the application and wait approximately 60 seconds to make sure the application was properly closed.

**Take Note!** Verify that the application has been closed properly before proceeding further. Backing up the database while the application is still running might lead to data inconsistencies.

To verify that the application has been properly closed, open the Windows Task Manager (Figure A.1), go to the Processes tab, and check whether the following three processes are still running:

- cupss.exe
- javaw.exe
- mysqld-nt.exe

In case any of them are still running, use the “End Process” button in the Task Manager to manually stop them, in the order listed above.

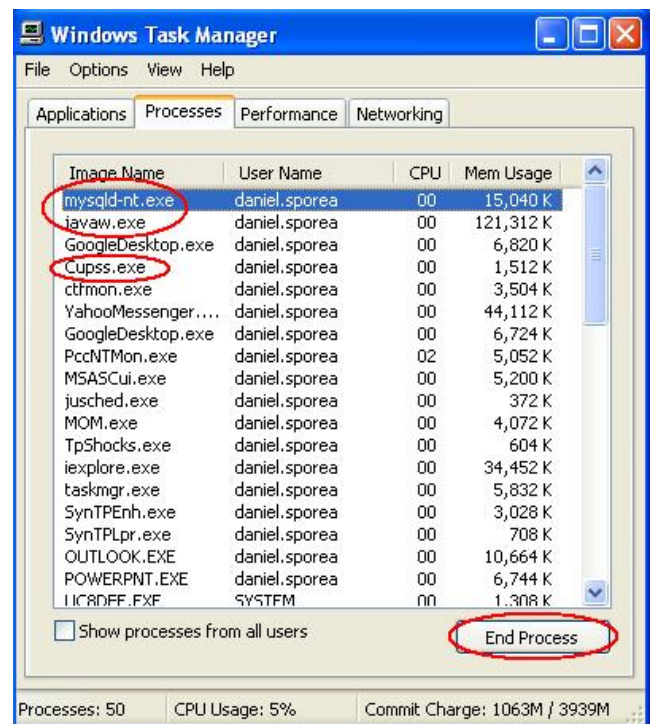


Figure A.1 Task Manager window

## Step 2

Go to the application folder (default **C:\Program Files\CUPSS**), enter the **database** folder, and copy the **cupss** folder to a backup location of your choice (Figure A.2).

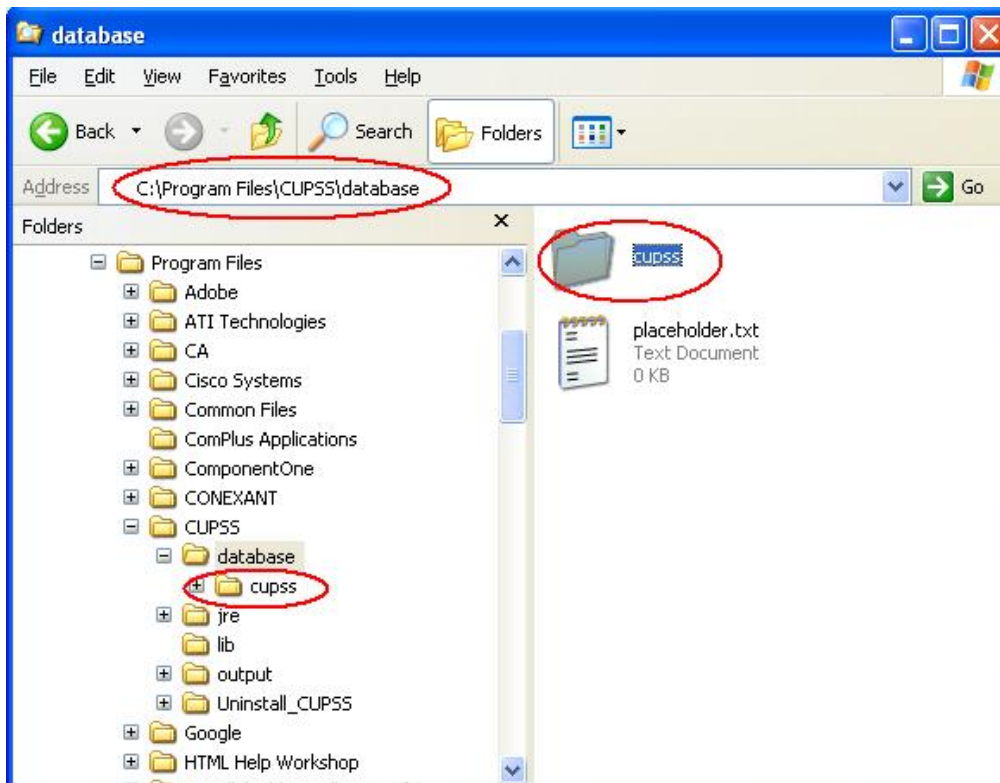


Figure A.2 Copying the cupss folder to a backup location

## Step 3

Restart the application.

## Restore

The following steps outline how to restore the CUPSS database using the backup database file.

### Step 1

Close the application and wait approximately 60 seconds to make sure the application was properly closed.

**Take Note!** Verify that the application has been closed properly before proceeding further. Backing up the database while the application is still running might lead to data inconsistencies.

To verify that the application has been properly closed, open the Windows Task Manager, go to the Processes tab (Figure A.3), and check whether the following three processes are still running:

- **cupss.exe**
- **javaw.exe**

- **mysqld-nt.exe**

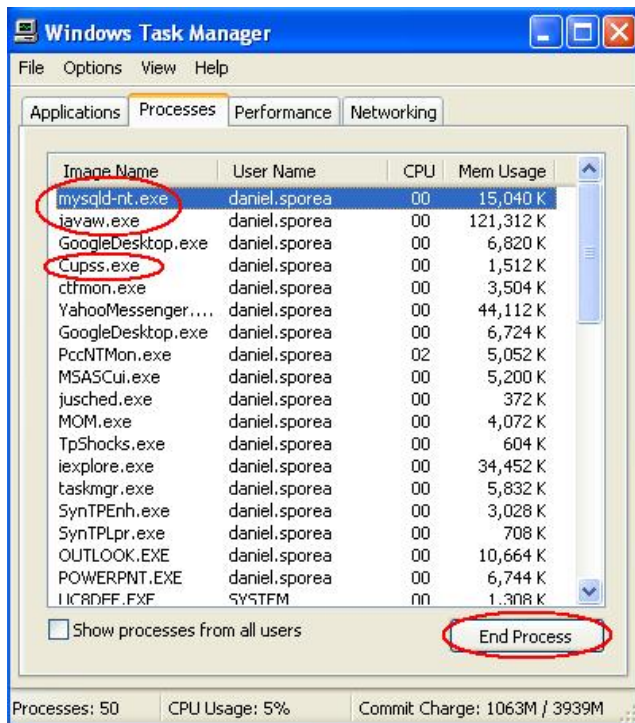


Figure A.3 Task Manager window

In case any of them are still running, use the “End Process” button in the Task Manager window to manually stop them, in the order listed above.

## Step 2

Go to the folder where you saved a backup copy of the CUPSS folder (see the Backup section above). Copy the entire CUPSS folder back into the application database folder (default **C:\Program Files\Cupss\database**); overwriting all the existing files (Figure A.4).

**Take Note!** If you are a trainer and would like to provide a demonstration of your own example data (and not the example data provided by EPA), copy your database folder and rename it “cupss\_example” to overwrite the example data provided by EPA. Because the example database that EPA provided has the username and password hard-coded, make sure that you add a user with the username “example” and password “example” to the database containing your example data.

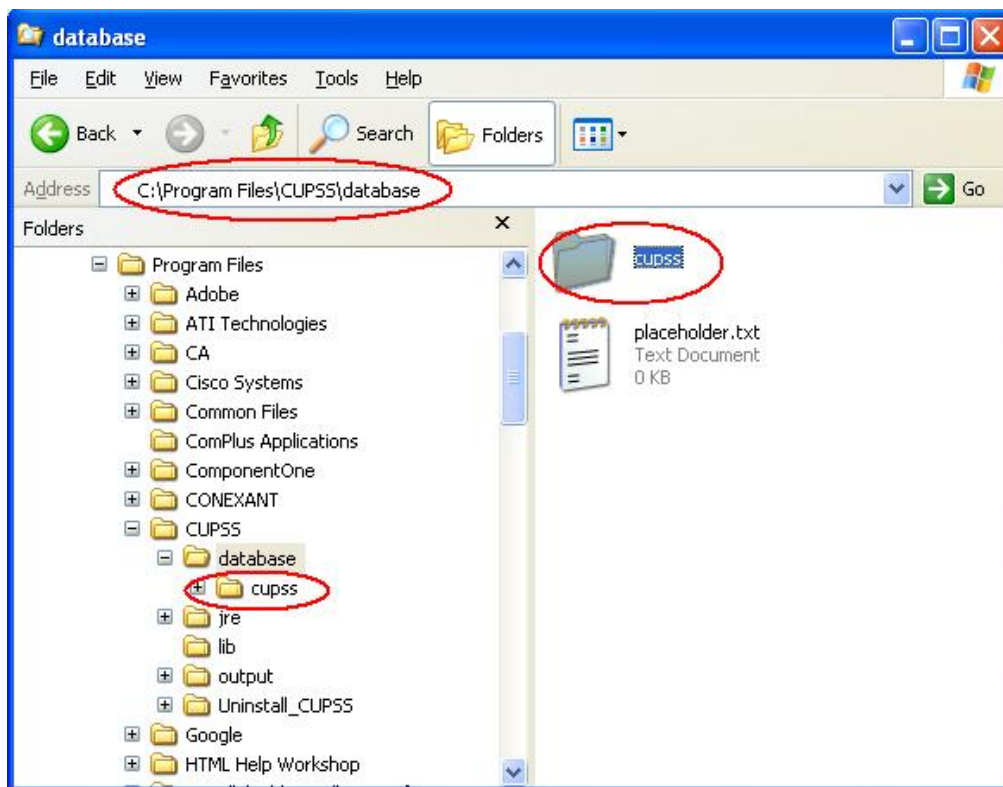


Figure A.4 Copy the CUPSS folder back into the local application folder.

### Step 3

Restart the application.

# Appendix B : Worksheets

---

Several worksheets can aid in completing CUPSS. These worksheets gather the information that is necessary to input into the CUPSS program. They can serve to guide the user through the process.

The worksheets include:

- Inventory List (Drinking Water)
- Inventory List (Wastewater)
- New Task
- Finances



# Inventory List (Drinking Water)

Asset Name		Location	
Associated Asset		Associated Location	
Asset Category			
<input type="checkbox"/> Source <input type="checkbox"/> Pumping Facility <input type="checkbox"/> Treatment <input type="checkbox"/> Storage <input type="checkbox"/> Distribution <input type="checkbox"/> Other			
Asset Type			
<input type="checkbox"/> Wells and Springs <input type="checkbox"/> Intake Structures <input type="checkbox"/> Pumping Equipment <input type="checkbox"/> Disinfection Equipment <input type="checkbox"/> Hydropneumatic Tanks <input type="checkbox"/> Concrete & Metal Storage Tanks <input type="checkbox"/> Transmission Mains <input type="checkbox"/> Distribution Pipes	<input type="checkbox"/> Valves <input type="checkbox"/> Computer Equipment/ Software <input type="checkbox"/> Transformers/ Switchgears/ Wiring <input type="checkbox"/> Motor Controls/Drives <input type="checkbox"/> Sensors <input type="checkbox"/> Buildings <input type="checkbox"/> Service Lines	<input type="checkbox"/> Hydrants <input type="checkbox"/> Treatment Equipment <input type="checkbox"/> Lab/Monitoring Equipment <input type="checkbox"/> Tools and Shop Equipment <input type="checkbox"/> Transportation Equipment <input type="checkbox"/> Security Equipment <input type="checkbox"/> Land	<input type="checkbox"/> Galleries and Tunnels <input type="checkbox"/> Meters <input type="checkbox"/> Raw Water Reservoirs <input type="checkbox"/> Generators <input type="checkbox"/> Liquid Waste Handling & Disposal <input type="checkbox"/> Solid Waste Handling & Disposal <input type="checkbox"/> Other
Asset Status			
<input type="checkbox"/> Active <input type="checkbox"/> Not in Use – Abandoned <input type="checkbox"/> Not in Use – Back Up <input type="checkbox"/> Future Investment			
Can this Asset be Repaired?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Can this Asset be Rehabilitated?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
Condition			
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor			
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Consequence of Failure			
<input type="checkbox"/> Insignificant – CoF of 2 <input type="checkbox"/> Minor – CoF of 4 <input type="checkbox"/> Moderate – CoF of 6 <input type="checkbox"/> Major – CoF of 8 <input type="checkbox"/> Catastrophic – CoF of 10			
Redundancy			
<input type="checkbox"/> 0% Backup <input type="checkbox"/> 50% Backup <input type="checkbox"/> 100% Backup <input type="checkbox"/> 200% Secondary Backup			
Installation Date		Original Cost	
		\$	
Expected Useful Life		Replacement Cost	
		\$	
Routine Maintenance Costs		Timeframe	
\$		<input type="checkbox"/> per/day <input type="checkbox"/> per/week <input type="checkbox"/> per/month <input type="checkbox"/> per/year <input type="checkbox"/> lifetime	
Optional Information			
Frequency of Routine Maintenance		Start Date	
Model Number		Manufacturer	
Supplier Name			
Address		City, State, Zip	
Phone Number		Fax Number	
Notes			

# Inventory List (Wastewater)

<b>Asset Name</b>		<b>Location</b>	
<b>Associated Asset</b>		<b>Associated Location</b>	
<b>Asset Category</b>			
<input type="checkbox"/> Pumping Facility <input type="checkbox"/> Treatment <input type="checkbox"/> Storage <input type="checkbox"/> Collection <input type="checkbox"/> Other			
<b>Asset Type</b>			
<input type="checkbox"/> Pumping Equipment <input type="checkbox"/> Disinfection Equipment <input type="checkbox"/> Concrete & Metal Storage Tanks <input type="checkbox"/> Transmission Mains <input type="checkbox"/> Valves <input type="checkbox"/> Computer Equipment/ Software	<input type="checkbox"/> Transformers/ Switchgears/ Wiring <input type="checkbox"/> Motor Controls/Drives <input type="checkbox"/> Sensors <input type="checkbox"/> Buildings <input type="checkbox"/> Service Lines <input type="checkbox"/> Treatment Equipment	<input type="checkbox"/> Lab/Monitoring Equipment <input type="checkbox"/> Tools and Shop Equipment <input type="checkbox"/> Transportation Equipment <input type="checkbox"/> Security Equipment <input type="checkbox"/> Land <input type="checkbox"/> Sewers <input type="checkbox"/> Pressure Pipework	<input type="checkbox"/> Galleries and Tunnels <input type="checkbox"/> Meters <input type="checkbox"/> Generators <input type="checkbox"/> Liquid Waste Handling & Disposal <input type="checkbox"/> Solid Waste Handling & Disposal <input type="checkbox"/> Other
<b>Asset Status</b>			
<input type="checkbox"/> Active <input type="checkbox"/> Not in Use – Abandoned <input type="checkbox"/> Not in Use – Back Up <input type="checkbox"/> Future Investment			
Can this Asset be Repaired? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Can this Asset be Rehabilitated? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Condition</b>			
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor			
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Consequence of Failure</b>			
<input type="checkbox"/> Insignificant – CoF of 2 <input type="checkbox"/> Minor – CoF of 4 <input type="checkbox"/> Moderate – CoF of 6 <input type="checkbox"/> Major – CoF of 8 <input type="checkbox"/> Catastrophic – CoF of 10			
<b>Redundancy</b>			
<input type="checkbox"/> 0% Backup <input type="checkbox"/> 50% Backup <input type="checkbox"/> 100% Backup <input type="checkbox"/> 200% Secondary Backup			
<b>Installation Date</b>		<b>Original Cost</b>	
		\$	
<b>Expected Useful Life</b>		<b>Replacement Cost</b>	
		\$	
<b>Routine Maintenance Costs</b>		<b>Timeframe</b>	
\$		<input type="checkbox"/> per/day <input type="checkbox"/> per/week <input type="checkbox"/> per/month <input type="checkbox"/> per/year <input type="checkbox"/> lifetime	
<b>Optional Information</b>			
<b>Frequency of Routine Maintenance</b>		<b>Start Date</b>	
<b>Model Number</b>		<b>Manufacturer</b>	
<b>Supplier Name</b>			
<b>Address</b>		<b>City, State, Zip</b>	
<b>Phone Number</b>		<b>Fax Number</b>	
<b>Notes</b>			

# New Task

<b>Staff Name</b>		<b>Task Name</b>	
<b>Task Type</b>			
<input type="checkbox"/> Monitoring <input type="checkbox"/> Routine Monitoring <input type="checkbox"/> Repair <input type="checkbox"/> Rehabilitation <input type="checkbox"/> Replacement <input type="checkbox"/> Other			
Is this task planned? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Task Details</b>			
<b>Task Notes</b>			
<b>Cost of the Task</b>		\$	
<b>Asset Tasks</b>			
<b>Asset Name</b>			
<b>Condition</b>			
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor			
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No			
<b>Monitoring Tasks</b>			
<b>Chemicals</b>		<b>Amount</b>	
<b>Schedule</b>			
<b>Task Start-End Date</b>		<b>Completed Date</b>	
<b>Frequency</b>			
<input type="checkbox"/> Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Annually			
<b>Rekurs every</b>			
_____ days	_____ week on _____ (Day of week)	_____ day of every _____ (Month)	
<b>Recurrence End Date</b>			
<b>Optional Parts Information</b>			
<b>Manufacturer/Supplier</b>			
<b>Parts Name</b>			
<b>Parts Number</b>			
<b>Parts Cost</b>		\$	
<b>Labor Maintenance Costs</b>		\$	

# Finances

Year	Cash on Hand	Interest Rate	
	\$		
Types of Costs			
Revenue			
Revenue from user rates		\$	
Revenue from grants		\$	
Revenue from loans/bonds		\$	
Transfer from reserve fund		\$	
Interest		\$	
Other Revenues (Total)		\$	
<input type="checkbox"/> One-time fees	\$	<input type="checkbox"/> Contract sales	\$
<input type="checkbox"/> Bulk sales	\$	<input type="checkbox"/> Product sales	\$
Other		\$	
<b>Total Revenue</b>		<b>\$</b>	
Expenses			
Operating Expenses (Total)		\$	
<input type="checkbox"/> Maintenance	\$	<input type="checkbox"/> Equipment	\$
<input type="checkbox"/> Salaries, wages, benefits	\$	<input type="checkbox"/> Supplies	\$
<input type="checkbox"/> Chemicals	\$	<input type="checkbox"/> Contracts	\$
<input type="checkbox"/> Utilities	\$	<input type="checkbox"/> Monitoring & testing	\$
<input type="checkbox"/> Emergency	\$	<input type="checkbox"/> Rent or mortgage	\$
<input type="checkbox"/> Insurance	\$	<input type="checkbox"/> Services	\$
<input type="checkbox"/> Training Costs	\$	<input type="checkbox"/> Billing Costs	\$
<input type="checkbox"/> Fees	\$	<input type="checkbox"/> Security	\$
Capital Improvements		\$	
Debt Payment		\$	
Capital Reserve Contribution		\$	
Emergency Reserve Contribution		\$	
Other		\$	
<b>Total Expenses</b>		<b>\$</b>	

# Appendix C : My Finances Calculations

---

This Appendix describes the origins of the equations in the *My Financial Check Up Report*.

## My Financial Projections Form

### Inflation

The inflation rate shown for each year comes from the values input in Step 2 of the *My Financial Check Up Report* (see Section 8.2.1.2 for more information).

### Growth

The growth rate shown for each year comes from the values input in Step 3 of the *My Financial Check Up Report* (see Section 8.2.1.3 for more information).

### Cash on Hand

The value for the current year comes from the value for total cash-on-hand entered in the *My Finances* module (see Section 7.2 for more information). The value for subsequent years is derived using the following equation:

$$\text{Cash on Hand} = (\text{Previous Year Cash on Hand} * \text{Interest}) + \text{Previous Year Cash on Hand} + \text{Capital Reserve for Previous Year} + \text{Emergency Reserve for Previous Year}.$$

## Expenses

### Annual Operating Expenses

The value for this field represents the sum of all line items from the *My Finances* module categorized as expenses. The equation used to derive the final total is as follows:

$$\text{Annual Operating Expenses} = (\text{Previous Year Operating Expenses} * \text{Interest}) + (\text{Previous Year Operation Expenses} * \text{Growth}) + \text{Previous Year Operation Expenses}$$

### Capital Improvement

This is a sum of all costs required to replace assets that have reached the end of their life expectancy in a given year. This number is calculated based on the assets included in the capital improvement plan. See Appendix D for more information on how assets are scheduled for capital improvement.

### Debt Payment

This value is a sum of all line items in the *My Finances* module categorized as debt payments plus any loan expenses calculated in the *Financial Projections* form. The equation used to determine the full amount is as follows:

$$\text{Monthly Debt Payment} = m = p * ((i/(12))/(1 - (1 + (i/(12))) ^ -(n * 12))))$$

$$\text{Annual Debt Payment} = (p * ((i / (12)) / (1 - (1 + (i / (12))) ^ -(n * 12)))) * 12$$

Where m = monthly payment; i = interest; n = number of periods (years); and p = principal.

### Capital Reserve

This value represents the amount of money needed each year to account for future asset replacement costs. It is calculated based on the projected replacement date for all inventoried assets and the estimated replacement cost of each.

$$\text{Capital Reserve} = \text{Sum (Per Asset Replacement Cost/Total Years until Replaced)}$$

Example: If estimated capital improvements =

$$Y2 = \$10, \$5, \$30$$

$$Y3 = \$15, \$2$$

$$Y4 = \$7, \$9$$

then the annual reserve contribution for each year (to make sure there is enough money in the budget to account for all anticipated capital improvement costs) should be as follows:

$$Y1 = \$10/1 + \$5/1 + \$30/1 + \$15/2 + \$2/2 + \$7/3 + \$9/3$$

$$Y2 = \$15/2 + \$2/2 + \$7/3 + \$9/3$$

$$Y3 = \$7/3 + \$9/3$$

### Emergency Reserve

CUPSS recommends that 25% of annual operation expenses be set aside in an emergency reserve fund.

$$\text{Emergency Reserve} = \text{Annual Operating Expenses} * 0.25$$

### Total Annual Cost of Doing Business

This is a sum of all expected costs for a given year.

$$\begin{aligned} \text{Total Annual Cost of Doing Business} = & \text{Annual Operating Expenses} + \\ & \text{Capital Improvements} + \\ & \text{Annual Debt Payment} + \\ & \text{Capital Reserve} + \\ & \text{Emergency Reserve} \end{aligned}$$

## Revenue

### Revenue from Grants

The value for the current year represents the sum of all line items from the *My Finances* module categorized as “Revenue from Grants.” Future revenue is estimated and can be entered manually.

### Revenue from Fees

The value for the current year represents the sum of all line items from the *My Finances* module categorized as “Revenue from Fees.” Future revenue from fee is estimated by taking Previous Revenue from Fees + (Previous Revenue from Fees \* the inflation \* Growth).

### Revenue from Loans

The value for the current year represents the sum of all line items from the *My Finances* module categorized as “Revenue from Loans.” For future years, revenue is estimated based on manual entry of values for loan amount, loan term, and loan rate.

### Revenue from Savings Withdrawal

No calculation is used to generate this value; it is entered manually. The value entered in this field is subtracted from the Cash on Hand field, above.

### Other Revenue

The value for the current year represents the sum of all line items from the *My Finances* module categorized as “Other Revenue.”

### Revenue Surplus/Deficit

This value shows the annual expected surplus or deficit based on the values entered in the fields above.

Revenue Surplus/Deficit = Sum of all Revenue – Annual Operating Expenses

## Ratio Wizard

### Debt Ratio (DR)

The total current debt divided by the value of all assets. This ratio is used to express to what degree the utility is *mortgaged*. A lower number indicates better financial health. Values range from 0-1.0.

DR = Total Liabilities / Total Assets

Liability = Revenue from Loans

Assets = Savings Withdrawal + Revenue from Grants + Revenue from Fees

If the value is between 0 and 0.33, the circle is green.

If the value is between 0.34 and 0.66, the circle is yellow.

If the value is between 0.66 and 1.0, the circle is red.

### **Expense Ratio (ER)**

A ratio of operating expenses divided by total expenses. A high ratio indicates that most expenditures are for operations, leaving the remaining balance for non-operating costs (such as debt service, capital improvements, and similar.). If the non-operating balance is small, the utility is not likely to meet all of its capital-related expenses, which could cause the system to deteriorate more rapidly. A lower number indicates better financial health. Values range from 0 to 1.0.

$$\text{ER} = \text{Operating Expense} / \text{Total Expense}$$

$$\text{Operating Expense} = \text{Annual Operating Expense}$$

$$\text{Total Expense} = \text{Total Annual Cost of Doing Business}$$

If the value is between 0 and 0.33, the circle is green.

If the value is between 0.34 and 0.66, the circle is yellow.

If the value is between 0.66 and 1.0, the circle is red.

### **Operating Ratio (OR)**

A ratio of operating revenue divided by operating expense. It demonstrates the relationship between operating revenues and operating expenses. A ratio of 1.0 shows that revenues equals expenses and indicates that an organization has operating efficiency by keeping expenses low relative to revenue. A larger value here indicates better financial health. The goal is to have a value that is greater than one.

$$\text{OR} = \text{Operating Revenue} / \text{Operating Expenses}$$

$$\text{Operating Revenue} = \text{Sum of (Revenue from Fees + Revenue from Grants + Revenue from Loans + Other Revenues)}$$

$$\text{Operating Expense} = \text{Annual Operating Expense}$$

If the value is 0.75 or lower, the circle is red.

If the value is between 0.75 and 1.0, the circle is yellow.

If the value is 1.0 or greater, the circle is green.

### **Sales Ratio (SR)**

A ratio of sales divided by total revenue. It measures the percent of total revenue that is made up of sales from operations. A ratio of less than 1.0 can indicate that the organization is reliant on outside funding. A ratio of more than 1.0 can indicate that revenues are being drawn to non-utility purposes or generally mismanaged. Generally, a larger ratio indicates better financial health. Values range from 0 to 1.

$$\text{SR} = \text{Sales} / \text{Total Revenue}$$

$$\text{Sales} = \text{Revenue from Fees} + \text{Other Revenue}$$

$$\text{Total Revenue} = \text{Sum of (Revenue from Fees + Revenue from Grants + Revenue from Loans + Savings Withdrawn + Other Revenues)}$$

If the ratio is 0, the circle is red.

If the ratio is between 0.1 and 0.5, the circle is yellow.

If the ratio is 0.5 or greater, the circle is green.



# Appendix D : My Inventory Calculations

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This appendix describes the origins of the equations used in the *My Inventory* module.

## Estimated Useful Life

If a number is not entered manually into this field, CUPSS uses a number from a default list based on asset type.

## Estimated Remaining Useful Life

Remaining useful life can be estimated based on the Estimated Useful Life value and the installation year.

Estimated Remaining Useful Life = Estimated Useful Life – (Install Year-Current Year)

## Remaining Useful Life (RUL)

Remaining useful life is calculated from the estimated remaining useful life and the condition rating.

Remaining Useful Life = Estimated Remaining Useful Life \* Condition

Condition ratings are shown in the format: [Rating] – [Estimated % of Estimated Useful Life Remaining]

Rating	% Estimated RUL Remaining	
	If asset is maintained according to manufacturer's recommendations	If asset is NOT maintained according to manufacturer's recommendations
Excellent	120	110
Good	110	105
Fair (Average)	100	100
Poor	95	90
Very Poor	90	80

## Replacement Year

The year the asset should be replaced. The utility may choose to override estimated replacement year.

Replacement Year = Current Year + Remaining Useful Life

The Risk Factor will prioritize asset replacement within a given replacement year.

## Redundancy

The value selected for Redundancy provides one of the values required to determine Probability of Failure (PoF).

Redundancy	Value used in equation
0%	0
50%	0.5
100%	0.90
200%	0.98

### Probability of Failure (PoF)

Probability that the asset will fail (no longer perform its function) in a given year. Values for PoF range from 1 to 10. A value of 10 would indicate certain failure.

$$\text{Probability of Failure} = \frac{((\text{Estimated Useful Life} - \text{Remaining Useful Life}) / \text{Estimated Useful Life}) * (1 - \text{Redundancy})}{10}$$

### Consequence of Failure (CoF)

A descriptive CoF is selected manually on the Asset Inventory form. CoF estimates the degree of impact on utility service should the asset fail. You should consider the real or hypothetical results when selecting a value, including impacts on regulatory compliance, local government, customers and the community. Ask yourself, “How bad would it be if this asset failed unexpectedly?” The following are example of items you should consider when calculating your CoF if an asset;

1. Spill, Flood, Odor – Think about the duration (short, substantial, or sustained), the quantity (small, medium or large) and number of complaints (none, few or many). The larger the spill or number of complaints, the higher the CoF.
2. Water or Effluent Quality – Think about the impact on the water or effluent quality from no impact to loss of full control and effect on human health. The large the impact on water or effluent quality, the higher the CoF.
3. Regulatory Compliance – Think about the permit violations from no impact to violation of the daily, weekly or monthly standards that jeopardize the ability to meet the permit requirements. The greater impact on standards (i.e., monthly greater than weekly), the higher the CoF.
4. Loss of Service to Customers – Think about whether the asset can be down for a day, a month, a week or an hour and its impact on the overall service provide to customers. The shorter the asset can remain off line with severe impact on the service, the higher the CoF.
5. Equipment and Safety – Think about if the failure of the asset would affect the utility at the asset, function, system or plant level. The greater the impact on the utility (i.e., affects the plant’s ability to function), the higher the CoF.
6. Economic Impact – Think about the cost of repairing the asset and the associated system parts and whether emergency funds can cover the costs of the asset failure and any associated costs with that failure; or if increases in rates and additional or new staff are needed to help manage the economic impact of the asset failing. The higher the cost, the greater the CoF.

CoF	Value
Insignificant	2

Minor	4
Moderate	6
Major	8
Catastrophic	10

### Risk Factor

This is a risk-based priority ranking using probability and consequence of failure. The asset risk matrix uses risk factor to plot inventoried assets.

$$\text{Risk Factor} = \text{PoF} \times \text{CoF}$$

Risk factor values fall into “high”, “medium” and “low” categories. These bins provide recommended actions and will be listed in the asset tables and graphically represented on the risk chart (matrix).

Category	Value	Action
High	If CoF > 5 and PoF > 5	Immediate Attention
Medium	If CoF < 5 and PoF > 5 Or If CoF > 5 and PoF < 5	Aggressive Monitoring
Low	If CoF < 5 and PoF < 5	Routine Maintenance

## Appendix E : Glossary

Term	Definition
Annual Debt Payment	The dollar amount that must be paid each year toward retiring existing debt.
Annual Operating Expenses	Total annual cost of operating and maintaining the water or wastewater utility service. This does not include savings or future draws from capital savings accounts.
Asset	A component of a facility with an independent physical and functional identity and age (e.g. pump, motor, sedimentation tank, main).
Asset Category	Where the asset best fits within your system (e.g., source water, distribution or collection), for organizational purposes.
Asset Inventory	A list of assets with details about each one (installation date, original cost, condition, and such). Also known as an <i>asset register</i> .
Asset Management	A process for maintaining a desired level of customer service at the best appropriate cost.
Asset Name	The name of the technology or equipment that is used for your system to properly function (for example, “5 <sup>th</sup> Street Pumping Station”). <i>See</i> Asset.
Asset Status	This is how your utilities view an asset. Assets can be active (most assets), not in use or a future investment. You would designate an asset a "future investment" if you would like it added to your capital improvement plan.
Asset Type	The asset’s functional purpose for a specific asset category (for example, intake structure, pumping station, transmission main, storage tank, and the like).
Associated Asset	Assets that are directly related to a primary asset’s function.
Associated Location	A location that complements an associated asset.
Capital Improvement (Expense)	Funds required for the future purchase, repair and/or alteration to or for an asset, structure, or major pieces of equipment.
Capital Improvement Program (CIP) Plan	A plan that projects and assesses which projects (including asset improvements, repairs, replacements, and such) need to be completed in the future.
Capital Reserve Contribution	Funds set aside to fund capital improvements (i.e. future purchase, repair and/or alteration to or for an asset, structure, or major pieces of equipment).
Cash on Hand	The amount of cash that is available to the system within a 24 hour period.
Condition	The current condition, in your opinion, of an asset based on age and

Term	Definition
	physical functionality (ranging from poor to excellent).
Consequence of Failure	The real or hypothetical results associated with the failure of an asset.
Debt Payment	The dollar amount that must be paid each year toward paying down or retiring existing debt.
Debt Ratio	<p>Debt Ratio = Total Liabilities / Total Assets</p> <p>The debt ratio measures the amount of debt being used by the organization. A ratio of 0.6 means that 60% of operations have been financed with debt and the remaining 40% has been financed by equity.</p>
Emergency Reserve Contribution	Funds set aside for unexpected repairs and replacements. CUPSS recommends that utilities work towards an emergency reserve balance of 25% of its annual operating expenses.
Expected Useful Life	The average amount of time, in years, that a system or component is estimated to function when installed new.
Expense	Money spent by the utility to continue its ongoing operations.
Expense Ratio	<p>Expense Ratio = Operating Expense / Total Expense</p> <p>The expense ratio measures the amount of operating expenses compared to total expenses. A high ratio indicates that most expenditures are for operations – leaving the remaining balance for non-operating costs (such as debt service, capital improvements, etc.). If the non-operating balance is small, then the utility is not likely to meet all of its capital-related expenses, which may cause the system to deteriorate more rapidly.</p>
Financial Assets	Intangible assets such as cash and bank balances.
Growth	The amount, as a percent, a community's demand for water or wastewater treatment has increased or decreased. This value will be used to adjust future revenues and expenses.
Inflation	The anticipated rate of increase in the price level of goods and services.
Interest Rate	A rate which is charged or paid for the use of money. Note: Do not include a percentage sign.
Level of Service	The characteristics of system performance such as <i>how much, of what nature, and how frequently</i> , with regard to the system's service.
Liabilities	The financial obligations for which the utility is responsible.
Maintained According to Factory Recommendation	The frequency of routine maintenance as recommended by the manufacturer.
Operating Expenses	Total annual cost of operating and maintaining the water or wastewater utility service. This does not include savings or future funds withdrawal from capital savings accounts. Operating expenses include maintenance, equipment, salaries, wages, benefits, supplies, chemicals, contracts, utilities, monitoring, testing, emergency, rent, mortgage, insurance, services, training costs, billing costs, fees, and security costs.

Term	Definition
Operating Ratio	<p>Operating Ratio = Operating Revenue / Operating Expense</p> <p>The operating ratio demonstrates the relationship between operating revenues and operating expenses. A high ratio indicates that the organization has operating efficiency by keeping expenses low relative to revenue.</p>
Original Cost	The amount paid for the initial purchase of an asset.
Probability of Failure	The chance an asset will fail based on the percent of effective life consumed and redundancy.
Redundancy	Spare assets that have the ability to do the same job, if a failure of the primary asset were to occur.
Replacement Cost	How much will it cost to replace the asset, if required today?
Revenue	Funds earned by the system through the sale of water or by other means.
Revenue Surplus/Deficit	The difference between the total cost of doing business and the funds received from fees, loans and grants, and interest earned from any accounts. If the result is zero or greater, the utility is taking in enough money to fully recover its costs and have a surplus. If the result is less than zero, the utility will not cover all costs and therefore will have a deficit.
Risk	The potential for realization of unwanted adverse consequences or events.
Routine Maintenance Cost	How much does it cost for a single routine maintenance activity to be performed on the asset?
Sales Ratio	<p>Sales Ratio = Sales / Total Revenue</p> <p>The sales ratio measures the percentage of total revenue that is made up of sales from operations. A low ratio indicates that the organization is overly reliant on outside funding.</p>
Savings Withdrawal	A fixed amount of money removed from the savings account of the utility to help pay for capital improvement items or other planned or unplanned maintenance.
Total Annual Cost of Doing Business	The total annual operating expenses plus the required total annual reserve contributions to reserve funds.

# Appendix F : Available Assets

The following table shows all asset types available within the *My Inventory* module.

	Wells and Springs		Intake Structures		Pumping Equipment
	Disinfection Equipment		Hydropneumatic Tanks		Concrete and Metal Storage Tanks
	Transmission Mains		Distribution Pipes		Valves
	Computer Equipment/ Software		Transformers/ Switchgears/ Wiring		Motor Controls/ Drives
	Sensors		Buildings		Service Lines
	Hydrants		Treatment Equipment		Lab/ Monitoring Equipment
	Tools and Shop Equipment		Transportation Equipment		Security Equipment
	Land		Galleries and Tunnels		Meters
	Raw Water Reservoirs		Generators		Liquid Waste Handling & Disposal

# Appendix G: Troubleshooting Guide

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## Who do I contact to ask technical questions?

If you are having technical issues please contact information email [cupss@epa.gov](mailto:cupss@epa.gov) with the subject technical question or visit <http://www.epa.gov/cupss>

## Is the information able to be sent electronically?

No. CUPSS is a desktop application and does not require an Internet connection to run nor can it guarantee that the user has set up an outgoing mail server on their system. You can, however, backup your CUPSS database that can then be compressed and sent as an attachment to an email. See Appendix A for details on how to backup and restore the CUPSS database.

## Why am I being asked to install Flash?

The training videos require Macromedia Flash to be played and if your Internet browser does not have the flash plug-in they require then you will be asked to install it. If your browser does not install it automatically download Flash from [http://www.adobe.com/shockwave/download/download.cgi?P1\\_Prod\\_Version=ShockwaveFlash](http://www.adobe.com/shockwave/download/download.cgi?P1_Prod_Version=ShockwaveFlash).

## Why can't I open the training videos?

The training videos require Macromedia Flash to be played and if your Internet browser does not have the flash plug-in then you will need to install it. You can download Flash from [http://www.adobe.com/shockwave/download/download.cgi?P1\\_Prod\\_Version=ShockwaveFlash](http://www.adobe.com/shockwave/download/download.cgi?P1_Prod_Version=ShockwaveFlash).

## Why was the example database overwritten when updating the CUPSS application to the latest version?

When you update CUPSS by installing the latest version from the web site the Example Database is replaced and not migrated like your own CUPSS database is.

## Why does CUPSS take a long time to open?

Sometimes CUPSS can take longer to open than normal. This could be due to other applications running on your system but if not and you recently closed CUPSS you may need to end all CUPSS processes before opening the CUPSS application again.

To end all CUPSS processes on a computer running Windows:

1. Hit **Ctrl+Alt+Del**
2. Click **Task Manager**
3. Select the **Processes** tab
4. Select the process with the Image Name "cupss.exe"
5. Click **End Process**



6. Click **Yes** and wait for the process to be removed from the list of processes
7. Select the process with the Image Name "javaw.exe"
8. Click **End Process**
9. Click **Yes** and wait for the process to be removed from the list of processes
10. Select the process with the Image Name "mysqld-nt.exe"
11. Click **End Process**
12. Click **Yes** and wait for the process to be removed from the list of processes
13. Open the CUPSS application

### **Why is CUPSS running so slowly?**

CUPSS System Requirements:

- 1 GHz Processor - 2 GB Recommended
- Minimum 512 MB RAM - 1 GB Recommended
- Hard Drive Disk Free Space: Minimum 1.5 GB - 2 GB Recommended
- At least 800x600 capable video card

Sometimes CUPSS can run very slowly if the application had not fully shutdown therefore you may need to end all CUPSS processes before opening the CUPSS application again.

To end all CUPSS processes on a computer running Windows:

1. Hit Ctrl+Alt+Del
2. Click **Task Manager**
3. Select the **Processes** tab
4. Select the process with the Image Name "cupss.exe"
5. Click **End Process**
6. Click **Yes** and wait for the process to be removed from the list of processes
7. Select the process with the Image Name "javaw.exe"
8. Click **End Process**
9. Click **Yes** and wait for the process to be removed from the list of processes
10. Select the process with the Image Name "mysqld-nt.exe"
11. Click **End Process**
12. Click **Yes** and wait for the process to be removed from the list of processes
13. Open the CUPSS application

### **How do I backup my CUPSS database?**

See Appendix A for details on how to backup the CUPSS database.

### **How do I restore a backup database?**

See Appendix A for details on how to restore the CUPSS database.

### **How do I replace the CUPSS database with a different database?**

To replace a CUPSS database with a database from another installation of CUPSS you can backup the database from both versions and then select the other installation of CUPSS backed up database to be restored to See Appendix A for details on how to backup and restore the CUPSS database.

### **Why do I need to turn on pop-up?**

The CUPSS website opens the training videos in a new window therefore you will need to enable pop-ups for the CUPSS website in your Internet browser.

### **Why is the progress bar not progressing when I start CUPSS?**

You may encounter this problem for a number of reasons. If the progress bar % complete does not increase after several minutes then you will need to end all the CUPSS processes before opening the CUPSS application again.

To end all CUPSS processes on a computer running Windows:

1. Hit Ctrl+Alt+Del
2. Click **Task Manager**
3. Select the **Processes** tab
4. Select the process with the Image Name "cupss.exe"
5. Click **End Process**
6. Click **Yes** and wait for the process to be removed from the list of processes
7. Select the process with the Image Name "javaw.exe"
8. Click **End Process**
9. Click **Yes** and wait for the process to be removed from the list of processes
10. Select the process with the Image Name "mysqld-nt.exe"
11. Click **End Process**
12. Click **Yes** and wait for the process to be removed from the list of processes
13. Open the CUPSS application

### **Why do I get an error when I restart CUPSS?**

You encounter this problem if you close the CUPSS application and restart it without giving it time to properly shut down this will cause an error because the connection to the database wasn't given time to shutdown. You will need to end all the CUPSS processes before opening the CUPSS application again.

To end all CUPSS processes on a computer running Windows:

1. Hit Ctrl+Alt+Del
2. Click **Task Manager**
3. Select the **Processes** tab

4. Select the process with the Image Name "cupss.exe"
5. Click **End Process**
6. Click **Yes** and wait for the process to be removed from the list of processes
7. Select the process with the Image Name "javaw.exe"
8. Click **End Process**
9. Click **Yes** and wait for the process to be removed from the list of processes
10. Select the process with the Image Name "mysqld-nt.exe"
11. Click **End Process**
12. Click **Yes** and wait for the process to be removed from the list of processes
13. Open the CUPSS application

### **How do I register CUPSS?**

Visit <http://yosemite.epa.gov/ow/cupssreg.nsf?opendatabase> to register your copy of CUPSS.

### **How do I maximize or enlarge the CUPSS window?**

The CUPSS screen can not be enlarged and has been designed to work with systems that have a screen resolution of 800x600 or higher.

### **Why do I get an error when my computer is idle and activates the screensaver or hibernate mode?**

When Windows enters power saving mode it closes the connection to CUPSS database and the system generates an exception. You will need to end all the CUPSS processes before opening the CUPSS application again.

To end all CUPSS processes on a computer running Windows:

1. Hit Ctrl+Alt+Del
2. Click **Task Manager**
3. Select the **Processes** tab
4. Select the process with the Image Name "cupss.exe"
5. Click **End Process**
6. Click **Yes** and wait for the process to be removed from the list of processes
7. Select the process with the Image Name "javaw.exe"
8. Click **End Process**
9. Click **Yes** and wait for the process to be removed from the list of processes
10. Select the process with the Image Name "mysqld-nt.exe"
11. Click **End Process**
12. Click **Yes** and wait for the process to be removed from the list of processes
13. Open the CUPSS application

To prevent this from happening you are advised to close CUPSS if you do not plan to use it for a while and to set your computers power options to "Never" for:

- Turn off monitor
- Turn off hard disks
- System standby
- System hibernates

To set your computer's power options:

1. Select **Start->Control Panel**
2. Double-click **Power Options**
3. Select "Always On" from the Power schemes drop-down or "Never" from the Turn off monitor, Turn off hard disks, System standby and System hibernates drop-downs
4. Click **OK**

# Appendix H : Cheat Sheet

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## Why can't I enter currency signs, commas or percent signs to certain text fields?

Some text fields expect information formatted in a certain way for it to be used by the application. For example, if a number is required then only numbers (0-9) can be entered, dates must be entered in the format MM/DD/YYYY, and currencies expect a number with up to 2 decimal places therefore only numbers and the period (".") is allowed in currency controls.

## How do I enter dollar amounts?

When entering dollar amounts please do not use dollar signs or commas. For example, \$1,234,600.00 should be entered as 1234600, not as 1,234,600, \$1234600 or \$1,234,600.


## How do I enter dates?

Dates should be entered in the form MM/DD/YYYY. For example, December 20, 1999 should be entered as 12/20/1999.

## How do I enter incomplete dates?

If you don't know a specific date, consider entering it in the form 01/01/YYYY if you only know the year or MM/01/YYYY if you only know the year and month.

## What are the icons for?

The  icon displays additional information about the page, section or screen control it is next to. To view the help text hover the mouse cursor over the icon and the help text will appear.

## How do I create custom values for drop-downs?

Many drop-downs allow you to enter additional values by selecting "Other" and then entering the new value. When you need to use this value again it will be available as an option that you can select from the drop-down.

## Where can I learn more about asset management?

Visit [www.epa.gov/cupss](http://www.epa.gov/cupss) to learn more about asset management.

## Are their training events near me?

Visit [www.epa.gov/cupss](http://www.epa.gov/cupss) to find training events near you.

## Where can I find training material for CUPSS?

Visit [www.epa.gov/cupss](http://www.epa.gov/cupss) to find training material, such as the Trainer's Guide, to help train users of CUPSS.

### **Where do you look for guidance on the useful life of an asset?**

EPA, about two years ago, distributed a step guide. This step guide included a couple of documents; one of them specifically was about taking stock of your water system. In this guide there are some examples of recommended life expectancies, a worksheet, and a few suggestions on how to estimate the useful life of an asset.

[http://www.epa.gov/safewater/smallsystems/pdfs/guide\\_smallsystems\\_asset\\_mgmnt.pdf](http://www.epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_asset_mgmnt.pdf)

### **What does CIP mean?**

Capital Improvement Plan, Project or Program.

### **What are the other pillars of the sustainable infrastructure initiative?**

1. Better Management
2. Full Cost Pricing
3. Water Efficiency and Waster conservation
4. The Watershed Approach

### **Does EPA recommend yearly rate evaluations?**

Yes, in the rate setting guide.

[http://www.epa.gov/safewater/smallsystems/pdfs/guide\\_smallsystems\\_final\\_ratesetting\\_guide.pdf](http://www.epa.gov/safewater/smallsystems/pdfs/guide_smallsystems_final_ratesetting_guide.pdf)

### **How does EPA define “small” systems?**

3,300 and below. This is the number of people served.

### **Is there a website where you can download the program?**

Visit [www.epa.gov/cupss](http://www.epa.gov/cupss) to download the program for free.