Watermaster Well Database System Improvements - WWDIM

Business Requirements Specification

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Version V2.0

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09/30/2010	V2.0	Baseline version • Adding 'Unknown' status in section 5.1.1 • Moving item 'Groundwater Level Monitoring Data Report' to section 5.1.7 from 5.1.8 • Corrected numbering on document	Kalani Tennakoon

Reviewers

Name	Version	Designation	Date
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Document Approvals

Name	Date
Joe Oliver	10/08/2010

1 Introduction

1.1 Purpose

The purpose of this document is to capture the business requirements of enhancements to MPWMD Water Master Database System.

1.2 Scope

Scope of this document is to specify the business requirements related to the enhancements to MPWMD Water Master Database System. The target audience would be all the stakeholders of the project.

1.3 Definitions, Acronyms and Abbreviations

1.3.1 Definitions

N/A

1.3.2 Acronyms and Abbreviations

BRS	Business Requirement Specification
DB	Data Base
WWDIM	Watermaster Well Database System Improvements
MPWMD	Monterey Peninsula Water Management District
ESRI	Environmental Systems Research Institute

1.4 References and Supporting Documentations

Document	Version	Author	Document Name/Location
WWDIM-SOW		Zone24x7	Zone24x7 SOW - MPWMD Watermaster Well Database System - Improvements V1.0
Change List		MPWMD	COMPILATION OF ENHANCEMENTS TO BE MADE TO THE WATERMASTER

2 Project Summary

2.1 Project Objectives

Enhance the existing MPWMD Water Master Database System in terms of the identified areas of improvement.

2.2 Project Scope and Boundary

Project covers requirement analysis, design, development and testing required in-order to incorporate identified areas of improvement.

2.3 Assumptions

N/A

2.4 Constraints and Dependencies

WWDIM project will be implemented on top of the existing code base of the MPWMD Water Master Database System (Seaside Basin Watermaster Database).

3 Business Scenario

3.1 Current Business Context

The existing WWDIM system is mainly associated with "Well" production capturing and reporting for seaside basin area. System was initially built by RBF consulting. Later Zone24x7 incorporated new changes to the user access permissions and web application default page.

3.2 Current Business Problems

Some reports do not exactly cater in format and content with the requirements of staff. These were identified by MPWMD and are being catered in this project. Also some of the data input screens were lacking the functionality of being able to input certain fields.

3.3 Business Risks

N/A

3.4 Business Rules

3.4.1 User access level protection

The enhancements should adhere to the currently existing behaviour of exposing functionality according to user access levels. Currently the system is defined with user accessing levels as 1, 2, 3 and 4 where level 4 is granted with highest privileges of accessing the system.

4 Current System

4.1 Overview

The system mainly contains the following functionalities;

- Web application to list and view/edit "Well" related information, with action to add new "Wells" to the system.
- Reports for administration purposes.

4.2 Current System Architecture

The current system is a .NET based web application and SQL server reporting is used for Reporting functionality. The backend database is in SQL 2005 Server Express Edition.

4.3 Current System Limitations and Issues

The current system lacks some of the reporting facilities required during board meetings and data analysis. These are identified in 4.4.7 and 4.4.8 sections of this document.

5 Business Requirements

5.1 Business Functional Requirements

5.1.1 Ability to list Wells by Well status

System should have the ability to view the Well List screen filtered by the "well status" (Active/Inactive/Destroyed/Unknown). This would require the ability to specify the "well status" in Well Details screen.

Note: User access level 1 – 4 for specifying the "well status" in Well Details screen

5.1.2 Ability to choose the Well List view

System should allow to customize the whether the following columns are viewable or not in the Well List screen.

- Company Name, Common Name, Address, City, State, Zip, Contact Person, Telephone, Email, Owner Type, Assessor's Parcel Number, Subarea, Northing, Easting, Reference Point Elevation, Well Casing Diameter, Total Depth of Completed Well, Date Well Completed, DWR Well Completion Report No. (Construction), Date Well Destroyed, DWR Well Completion Report No. (Destruction), Geologic Unit, Meter Unit.

Note: User access level 3 and 4

5.1.3 Production Screen format improvement

The Production screen should be modified accordingly to match the monthly production reporting template that Producers use currently to report their "Well" production.

Note: User access level 3 and 4

5.1.4 Ability to enter additional water quality related data

Following two data entries need to be added through the Water Quality screen.

- Bicarbonate
- Carbonate

5.1.5 Ability to enter the common name for company name

The Contacts screen needs the ability to view, edit, add a "Common Name" for the Company Name. This needs to be placed after "Company Name" column.

For example, in the database there is a Company called "King Venture", but the Common Name for this Company is "Calabrese". The modification will allow cross-referencing of Company Name with Common Name.

Note: User Access level 3 and 4

5.1.6 Map Functionality

Display all the "Well" locations on the map of the Basin on loading and ability to click on a specific "Well" on the map, and have data about that "Well" appear in a pop-up box on the map.

5.1.7 Enhancements to existing Reports

- Detailed Production Report – Addressing issues on :
    - In the production report currently generated, the "Report Date" (to be changed to "Report Month"), "Begin Date", and "End Date" columns do not show accurately with respect to the information entered at the data entry screen. Discussing this issue scenario with an example can be found at Section 7 of this document.
    - Currently the report cannot identify the "Well" information for the records displayed.
- Groundwater Level Monitoring Data Report - enhancements to existing "Depth" report.
- Reports need to be added with "Well Master ID" and "Well Name" columns where relevant.

5.1.8 New Reports

- Compliance Report
- Summary Production Report
- Contacts Report

5.2 Client specific requirements

5.2.1 Performance Requirements

The current performance of the system will be maintained throughout the new enhancements as well.

5.2.2 Security Requirements

Different level of employees will be granted different level of accessibilities, by following the role based permissions in the current system through user levels.

5.2.3 Usability Requirements

The enhanced features will be consistent with current usability related features.

5.2.4 Capacity and Volume Requirements

N/A

5.2.5 Technology Requirements

- Windows 2003 server with IIS service and .NET framework 2.0
- SQL 2005 Server Express Edition

5.2.6 Other Requirements

N/A

5.3 External System Requirements

5.3.1 ESRI Maps

The "Well" locations will be marked using ESRI services.

5.4 Future Proofing Requirements

N/A

6 Support and Maintenance Requirements

6.1 Archiving and Backup Requirements

N/A

6.2 User Training Requirements

Training to the new enhancements will be delivered through System Demos as necessary.

7 Appendices

Issue scenario of the Detailed Production Report related to section 4.4.7.

Production data entry screen for York School well, Well ID No. 212 is shown below.

Home
Well Database
Contacts
Report
Constituent Values
User Admin

Production

General Information | Secondary Information | Water Quality | Depth | Production | Docs

Well Name	Reading Date	Report Date	Meter Reading	Units	Comments	
York School 01-349	9/30/2007	9/30/2007	44389225	Gallons	JO (9/10)	Edit Delete
York School 01-349	10/31/2007	10/31/2007	44825028	Gallons	JO (9/10)	Edit Delete
York School 01-349	11/30/2007	11/30/2007	45260831	Gallons	JO (9/10)	Edit Delete
York School 01-349	12/31/2007	12/31/2007	45696635	Gallons	JO (9/10)	Edit Delete
York School 01-349	1/31/2008	1/31/2008	45927100	Gallons	JO (9/10)	Edit Delete
York School 01-349	2/29/2008	2/29/2008	46092486	Gallons	JO (9/10)	Edit Delete
York School 01-349	3/31/2008	3/31/2008	46652288	Gallons	JO (9/10)	Edit Delete
York School 01-349	4/30/2008	4/30/2008	47318548	Gallons	JO (9/10)	Edit Delete

Detailed Production Report for Water Year 2008; currently generated related to above data is shown below.

Sub Area: LSS

Producer Name: York School

Report Date	Begin Date	Begin Reading	End Date	End Reading	Total	Units	Total Acre-Feet
Sep-2007	9/01/2007	44,389,225.00	10/01/2007	44,825,028.00	435,803.00	Gallons	1.34
Oct-2007	10/01/2007	44,825,028.00	11/01/2007	45,260,831.00	435,803.00	Gallons	1.34
Nov-2007	11/01/2007	45,260,831.00	12/01/2007	45,696,635.00	435,804.00	Gallons	1.34
Dec-2008	12/01/2007	45,696,635.00	1/01/2008	45,927,100.00	230,465.00	Gallons	.71
Jan-2008	1/01/2008	45,927,100.00	2/01/2008	46,092,486.00	165,386.00	Gallons	.51
Feb-2008	2/01/2008	46,092,486.00	3/01/2008	46,652,288.00	559,802.00	Gallons	1.72
Mar-2008	3/01/2008	46,652,288.00	4/01/2008	47,318,548.00	666,260.00	Gallons	2.04
Apr-2008	4/01/2008	47,318,548.00	5/01/2008	48,180,320.00	861,772.00	Gallons	2.64
May-2008	5/01/2008	48,180,320.00	6/01/2008	48,929,651.00	749,331.00	Gallons	2.30
Jun-2008	6/01/2008	48,929,651.00	7/01/2008	49,875,940.00	946,289.00	Gallons	2.90
Jul-2008	7/01/2008	49,875,940.00	8/01/2008	50,745,378.00	869,438.00	Gallons	2.67
Aug-2008	8/01/2008	50,745,378.00	9/01/2008	51,563,236.00	817,858.00	Gallons	2.51
					Total:		22.02

As displayed the dates does not show accurately (the colored boxes around data depicts the same). This should be corrected for the dates to be accurate. The corrected report should be as follows.

Sub Area: LSS

Pr Name: York School

Report Date	Begin Date	Begin Reading	End Date	End Reading	Total	Units	Total Acre-Feet
Oct-2007	9/30/2007	44,389,225.00	10/31/2007	44,825,028.00	435,803.00	Gallons	1.34
Nov-2007	10/31/2007	44,825,028.00	11/30/2007	45,260,831.00	435,803.00	Gallons	1.34
Dec-2007	11/30/2007	45,260,831.00	12/31/2007	45,696,635.00	435,804.00	Gallons	1.34
Jan-2008	12/31/2007	45,696,635.00	1/31/2008	45,927,100.00	230,465.00	Gallons	.71
Feb-2008	1/31/2008	45,927,100.00	2/29/2008	46,092,486.00	165,386.00	Gallons	.51
Mar-2008	2/29/2008	46,092,486.00	3/31/2008	46,652,288.00	559,802.00	Gallons	1.72
Apr-2008	3/31/2008	46,652,288.00	4/30/2008	47,318,548.00	666,260.00	Gallons	2.04
May-2008	4/30/2008	47,318,548.00	5/31/2008	48,180,320.00	861,772.00	Gallons	2.64
Jun-2008	5/31/2008	48,180,320.00	6/30/2008	48,929,651.00	749,331.00	Gallons	2.30
Jul-2008	6/30/2008	48,929,651.00	7/31/2008	49,875,940.00	946,289.00	Gallons	2.90
Aug-2008	7/31/2008	49,875,940.00	8/31/2008	50,745,378.00	869,438.00	Gallons	2.67
Sep-2008	8/31/2008	50,745,378.00	9/30/2008	51,563,236.00	817,858.00	Gallons	2.51
					Total:		22.02