

Standard Operating Guideline - Asset ID and Documentation

Standard Operating Guideline (SOG)

Title: **ASSET IDENTIFICATION AND DOCUMENTATION**

District Name: _____

Date Prepared: _____ Date Revised: _____

OBJECTIVE:

Asset identification and documentation is the foundation of a system maintenance and management system known as asset management. The objective of this standard operating guideline is to outline key areas that should be identified, in order to establish a comprehensive Asset Management Program. If you do not know where an asset is, you cannot maintain it, shut it down in an emergency, or know if it works.

RATIONALE / PURPOSE:

The purpose of this standard operating guideline is to promote the implementation of preventive and predictive maintenance programs, and to provide members with information and a methodology used by other water agencies. As statistics show, asset management and preventive and predictive maintenance programs are essential when reducing overall operating costs, liability, and property losses. An accurate account of water distribution system assets is essential to:

- Improving customer service
- Ensure mission capability
- Improve emergency response actions
- Ensure firefighting capability
- Reduce liability and property losses
- Determine capital improvement budgeting
- Development of agency master plans
- Facilitate dig locations (USA DigAlert)
- Development of material standards
- Development of preventive and predictive maintenance programs
- Development of loss trend analysis
- Facilitate water loss calculations

METHODS / PROCEDURES:

The following methods and procedures are recommendations, and illustrate methods used by other member agencies to collect and document system assets. Documentation is essential, and procedures need to be developed to ensure asset information is collected in a consistent manner. This may require the development of new communications channels between departments (for example: Engineering and Distribution Maintenance).

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- GPS surveys to pinpoint resources
- GIS computerized system data logging and information access
- Periodic inspections/documentation during scheduled maintenance
- Condition inspection and documentation following repairs

Procedures:

The following asset identification and documentation best practices would apply for both normal operations and following a loss:

1. Identify assets related to water operations and maintenance (distribution pipelines, pumps, valves, wells, treatment systems, reservoirs, emergency generators, electrical control systems, tanks, etc.).

- What is it?
 - o Nameplate Data
 - o Manufacture
 - o Model
 - o Type (Example: butterfly or gate valve)
 - o Size
- Where is it?
 - o Physical location
 - o Soil concerns
 - o Easement (Encroachments)
 - o Confined space
 - o Traffic concerns
 - o Trenching requirements
- When?
 - o Was it installed (methods used)
 - o Was it operated (if applicable)
 - o Was it inspected
 - o Was it maintained
 - o Was it replaced or removed
- Why was it installed?
 - o Safety device (Example: pressure relief valve)
 - o System protection (Example: air/ vacuum breaker)
 - o Isolation
 - o Regulation
 - o Required by standards
 - o Ensure mission capability (critical resource)

2. Develop record drawing/mapping procedures.

Establish standards:

- o Symbology (size, horsepower, etc.)

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- Markings
- Color codes
- Abbreviations

- Include details of assets
 - Top of pipe
 - Pipe material/ outside diameter
 - Fittings used
 - Valves

- 3. Update asset information from reactive and scheduled work order/ repair order procedures.**
- 4.**
 - Identify the asset information that should be collected on a work order
 - Detailed description of problem
 - Detailed log of corrective action
 - Materials used
 - Field observations
 - Tie-marks

- 5. Identify where asset information is kept and who needs a copy.**
 - Who needs the work order
 - Maintenance
 - Customer Service
 - Engineering
 - Information Systems
 - Accounting
 - Risk Manager

- 6. Develop a usable record repository.**
 - Asset data base
 - Map posting
 - Asset management budgeting
 - Material review committee

- 7. Establish an asset loss trend analysis process.**
 - What is failing
 - Why is it failing
 - Do we have other similar assets
 - Are there new methods
 - Identification of physical trouble areas

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SAFETY CONSIDERATIONS:

Precise asset locations can help to prevent damage to property, the environment, injury to the public, and employees by:

- Precluding dig damage (USA)
- Facilitating emergency response actions
- Facilitating operations & maintenance personnel safety
 - o Identify safe work practices
 - Job Hazard Analysis
 - Lockout/Tagout
 - ACP Procedures
 - Traffic control
 - Trenching & shoring
 - Confined spaces
 - Adjacent underground services

COST BENEFIT:

- Reduce adverse mission impact from inaccurate underground line location
- System failure prediction would reduce water loss system degradation
- Avoid costly liability and property losses
- Create a manageable capital improvement budget

INSPECTION FORMS / CHECKLISTS / DOCUMENTATION:

- **WATER OPERATIONS & MAINTENANCE SELF-AUDIT CHECKLIST**
- **LEAK/BREAK/DAMAGE CHECKLIST**
- **VALVE MAINTENANCE REPORT**
 - o *District: Mission Springs WD*
- **DAMAGE INFORMATION REPORTING TOOL (DIRT) – Field Form**
- **SWEETWATER AUTHORITY WATER LEAK REPORT**
 - o *District: Sweetwater Authority; POC: Mark Molsberry; (619) 409-6880*
- **SWEETWATER AUTHORITY – WORK ORDER**
 - o *District: Sweetwater Authority; POC: Mark Molsberry; (619) 409-6880*
- **SWEETWATER AUTHORITY – STANDARDS FOR RECORD DRAWINGS**
 - o *District: Sweetwater Authority; POC: Mark Molsberry; (619) 409-6880*
- **SWEETWATER AUTHORITY –RECORD DRAWINGS**

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- *District: Sweetwater Authority; POC: Mark Molsberry; (619) 409-6880)*
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- **SWEETWATER AUTHORITY – RECORD DRAWINGS, APPENDIX B**
 - *District: Sweetwater Authority; POC: Mark Molsberry; (619) 409-6880)*
- **BELLA VISTA WATER DISTRICT JOB CHECKLIST –**
- **WATER LINE REPAIR/REPLACEMENT**
 - *District: Bella Vista Water District*
- **BELLA VISTA WATER DISTRICT – PERMANENT VALVE RECORD**
 - *District: Bella Vista Water District*
- **BELLA VISTA WATER DISTRICT – PERMANENT HYDRANT MASTER RECORD**
 - *District: Bella Vista Water District*

TESTIMONIALS:

The following benefits were experienced when a detailed Asset Identification and Documentation Program had been established:

Some time ago, a certain worker experienced a leak on a 12-inch diameter PVC water transmission main. The leak was severe enough to merit an emergency repair. Using available technology, maps were generated identifying the area to isolate which valves to turn off, and the main was excavated. This leak happened to be right next to a creek, and a sediment basin was constructed to allow dewatering turbidity to settle. Workmen started to cut the pipe to speed up dewatering, and as he was cutting the pipe, it shattered filling the excavation with water in a matter of seconds. The water was still under pressure because the valve on the main feeder line was still open. The person that shut off the valve did not look at the map and verify the proper location and measurements. No one was hurt, there was no property damage; however, the sediment retention area was overrun and a large quantity of muddy water entered the creek, which could have resulted in a fine.

Jeff Tuchalski, Bella Vista Water District