This is a training matrix sample of knowledge and skills for a larger water system. The skills or training listed was created to help an entry-level operator in-training to gain the necessary knowledge and certifications to advance into a Water Technician 2 or Utility Worker 2 position.

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| **Certifications** | **Tasks** | **Estimated Time for CompletionFrom Date of Hire (DOH)** | **Date Completed** | **Approved By** |
| **CPR / First Aid Certification** | Take Class for Certification | 1 year  |   |   |
| **Washington State Flagger Card** | Take Class for Certification | 1 year  |   |   |
| **Class A CDL w / Air brakes & Tanker** | Take Class for Endorsement | 2 years |   |   |
| **Water Distribution Manager In-Training 1 and/or Water Treatment Plant Operator In-Training 1 (WDM-IT1/WTPO-IT 1)** | Take Class for Certification | 6 months  |   |   |
| **Cross-Connection Control Specialist (CCS)** | Take Class for Certification | 12 months |  |  |
| **Upgrade to WDM 1 and/or WTPO1** | Complete Waterworks upgrade application for supervisor’s signature | 12 months |  |  |
| **WDM2 and/or WTPO2** | Take Class for Certification  | 3.5 years |  |  |
| **Forklift Certification** | Take Class for Certification | 6 months |   |   |
| **Confined Space Certification** | Take Class for Certification | 6 months |   |   |
| **A/C Pipe Handling Certification** | Take Class for Certification | 2 years |   |   |
| **Competent Person (Shoring & Trenching)** | Take Class  | 1 year  |   |   |
| **Pump School** | Take Class | 2 years |   |   |
| **District Classroom Training** |  |  |  |  |
| Utility Locating Training | One-Call Notification system Login  | 3 years |   |   |
|  | Understand Color Markings | 3 years |   |   |
|  | Metal Detector | 3 years |   |   |
|  | Metro Tech | 3 years |   |   |
| **Standby (On-Call) Orientation** | Training of process | 3 years |   |   |
|  | Phone Protocol | 3 years |   |   |
|  | Laptop Operation | 3 years |   |   |
| **SCADA (Water)** | Wonderware―screens and process | 1 year  |   |   |

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| **As-Built Map System** | Blue prints | 1 year  |   |   |
|  | GIS Web Map Viewer | 1 year  |   |   |
| **District Information** | Employee Handbook | 1 month |   |   |
|  | Service Area Boundaries | 1 month |   |   |
|  | District Technical Standards | 1 month |   |   |
|  | Purchase Orders & Petty Cash | 1 month |   |   |
| **District Classroom Training** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **Customer Service Training** | Phone Call Protocol | 1 month |   |   |
|  | Radio Protocol | 1 month |   |   |
| **(Utility-specific software application)** | Full system comprehension | 6 months |   |   |
| **Intranet/Internet** | Able to Navigate  | 6 months |   |   |
| **Microsoft Outlook** | Able to Navigate  | 6 months |   |   |
| **Classroom Training** |   |   |   |   |
| **Lockout/Tag out** | Knowledge of process | 1 year |   |   |
| **Fall protection** | Understanding of safety measures | 6 months |   |   |
| **Defensive Driving** | Video | 6 months |   |   |
| **Hydraulic & System Operation Water**   |   |   |   |
| **Hydraulic & System Operation Water**  | Ability to describe or indicate boundaries of various pressure zones. | 3 years |   |   |
|  | Identify reservoirs or storage that exists within a zone. | 3 years |   |   |
|  | Ability to distinguish which PRV’s or feeds provide supply to / from a defined zone | 3 years |   |   |
|  | Ability to identify what pump station / Well exists within a pressure zone and what zone the station well pumps to. | 3 years |   |   |
|  | What critical customers are fed from certain zones | 3 years |   |   |

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| **Heavy Equipment Operations**  |   |   |   |   |
| **Commercial Drivers License (CDL)** |   |   |   |   |
| **Obtain CDL Permit & take CDL class** | Take class and pass test | 2 years |   |   |
| **Introduction to dump truck and trailer** | including fluid checks and safety equipment | 2 years |   |   |
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| **Backhoe Training** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **Maintenance and care of backhoe** | Grease Points | 2 years |   |   |
|  | Fluid Levels | 2 years |   |   |
|  | Brakes | 2 years |   |   |
|  | Tires | 2 years |   |   |
|  | Visual Inspection | 2 years |   |   |
| **Backhoe / unload training** | Loading | 3 years |   |   |
|  | Unloading | 3 years |   |   |
|  | Tie Downs | 3 years |   |   |
|  | Load Position | 3 years |   |   |
|  | Trailer Hook-up | 3 years |   |   |
|  | Jack | 3 years |   |   |
| **Supervised "Safe Zone" Training**  | 4-in1 Bucket Operations | 3 years |   |   |
|  | Posi-Tracion 4 wheel Drive | 3 years |   |   |
|  | Dual Brake Operations | 3 years |   |   |
|  | Trenching/Loading Techniques | 3 years |   |   |
|  | Procedure for excavating around utilities | 3 years |   |   |
| **Backhoe & Front Loader skills test** |  (determined by Supervisor) | 3 years |   |   |

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| **Hydro-Excavator Training & Operation**  |   |   |   |
| **Introduction & Operational Procedures** | Safety | 1 year  |   |   |
|  | Startup / Shutdown | 1 year  |   |   |
|  | Fluid Checks | 1 year  |   |   |
|  | Log Records | 1 year  |   |   |
|  | Daily Maintenance | 1 year |   |   |
| **Special Operations** | Hydraulic Controls | 1 year |   |   |
|  | Parking | 3 years |   |   |
| **Decant** | Procedures | 1 year |   |   |
|  | Dumping Locations | 1 year |   |   |
|  | Log water amount filled | 1 year |   |   |
|  | Log Records | 1 year |   |   |
| **Cleaning out Hydro-excavator** | Procedures | 1 year |   |   |
|  | Care of clean-out area | 1 year |   |   |
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| **Boom Truck** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **Introduction & Operations #69** | Class Time | 6 months |   |   |
|  | Hands on Operation | 6 months |   |   |
| **Introduction & Operations #86** | Class Time | 6 months |   |   |
|  | Hands on Operation | 6 months |   |   |
| **Portable Generator Operation** |   |   |   |   |
| **Cummins 100KW Unit #45** | Class Time | 2 years  |   |   |
|  | Hands on Operation | 2 years  |   |   |
|  | Towing portable generator | 2 years  |   |   |
| **Onan 125KW Unit #47** | Class Time | 2 years  |   |   |
|  | Hands on Operation | 2 years  |   |   |
|  | Towing portable generator | 2 years  |   |   |

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| **Facility Training―Water** |   |   |   |   |
| **Wells** | Operation | 1 year |   |   |
|  | Pump logs Inspecting & Reporting | 1 year |   |   |
|  | Motor / MCC | 3 years |   |   |
|  | Packing  | 2 years  |   |   |
|  | Control Valves | 3 years |   |   |
|  | Generators (if applicable) | 2 years  |   |   |
| **Boosters** | Operation | 1 year  |   |   |
|  | Pump logs Inspecting & Reporting | 1 year  |   |   |
|  | Motor / MCC | 3 years |   |   |
|  | Packing  | 2 years  |   |   |
|  | Control Valves | 3 years |   |   |
|  | Generators (if applicable) | 2 years  |   |   |
| **Tanks** | Climbing procedures | 2 years  |   |   |
|  | Entry | 2 years  |   |   |
|  | Inspection | 2 years  |   |   |
| **System Conveyance―Water** |   |   |   |   |
| **Drop-in installations 3/4" - 2"** | Standard meter drop only | 1 year |   |   |
| **Demonstrate competence in all phases**  | Saddle & corp installation | 2 years  |   |   |
| **of water installation & repair 3/4" - 2 "**  | 1" tap | 2 years  |   |   |
|  | 2" tap | 2 years  |   |   |
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| **System Conveyance―Water** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **11/23 Month Inspection** | Full understanding of process | 1 year |   |   |
| **Compressor/Hole Hog Operation** | Compressor fluid levels | 2 years  |   |   |
|  | Fluid use (tanner, gas, oil) | 2 years  |   |   |
|  | Level and directing hog | 2 years  |   |   |
|  | Forward/reverse features | 2 years  |   |   |
| **Fire Hydrant Installation & Repair** | Fully competent on install and repair | 2 years  |   |   |

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| **Installation** | Wet taps | 3 years |   |   |
|  | Restraint systems (i.e. mega lug, shackle) | 3 years |   |   |
| **Repair Maintenance** | Trouble shoot operation of hydrant | 2 years  |   |   |
|  | Maintenance, Repair & Installation | 2 years  |   |   |
| **Center Stem Hydrant**  | Complete Maintenance & Repair | 2 years  |   |   |
| **Scissor Hydrant** | Complete Maintenance & Repair | 2 years  |   |   |
| **Hydrant survey program** | Full understanding of process | 1 year |   |   |
| **Valve survey program** | Full understanding of process | 1 year |   |   |
| **Air Vac/Blow offs** | Complete knowledge | 1 year |   |   |
| **Blow-off maintenance & repair** | Flushing Procedures | 1 year |   |   |
|  | Standard detail knowledge | 1 year |   |   |
| **Air vac maintenance & repair** | Air Vacuum maintenance | 1 year |   |   |
| **Main shutdown & repair** | Competent in all aspects | 3 years |   |   |
| **Shut downs (procedure)** | Meters | 3 years |   |   |
|  | Valves (isolation) | 3 years |   |   |
|  | Restoring Water Procedures | 3 years |   |   |
| **Pipe & Services Repair** | Flex/Transition Couplings | 3 years |   |   |
|  | Stainless Steel Repair Band | 2 years |  |  |
|  | Service Line Repair Band | 2 years  |   |   |
|  | Pack Joints | 2 years  |   |   |
|  | Flare Fittings | 2 years  |   |   |
|  | Institites | 2 years  |   |   |
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| **System Conveyance―Water** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **PRV's** | Checking | 3 years |   |   |
|  | Setting | 3 years |   |   |
|  | PRV's (isolation) | 3 years |   |   |
|  | Rebuilding | 3 years |   |   |

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| **Hand & Power Tools** |  |  |  |  |
| **Air Compressor / Jack Hammer** | Competent in handling tool | 2 years  |   |   |
| **Air exchange blower** | Competent in handling tool | 1 year |   |   |
| **Air monitoring equipment** | Competent in handling tool | 1 year |   |   |
| **Battery charger** | Competent in handling tool | 2 years  |   |   |
| **Bench Grinder** | Competent in handling tool | 1 year |   |   |
| **Compaction Devices** | Competent in handling tool | 1 year |   |   |
|  **Jumping jack** | Competent in handling tool | 1 year |   |   |
|  **Sled Compactor** | Competent in handling tool | 1 year |   |   |
|  **Pogo Stick** | Competent in handling tool | 1 year |   |   |
| **Chain Saw**  | Competent in handling tool | 2 years  |   |   |
|  **Video** | Competent in handling tool | 2 years  |   |   |
|  **Hands On** | Competent in handling tool | 2 years  |   |   |
| **Chain snap pipe-cutter** | Competent in handling tool | 1 year |   |   |
| **Dewatering Trash Pump** | Competent in handling tool | 2 years  |   |   |
| **Cut off saw** | Competent in handling tool | 2 years  |   |   |
| **Cutting torch** | Competent in handling tool | 2 years  |   |   |
| **Welder** | Competent in handling tool | 2 years  |   |   |
| **Drill Press** | Competent in handling tool | 1 year |   |   |
| **Electrical Test Equipment** | Competent in handling tool | 2 years  |   |   |
|  **Multi-meter** | Competent in handling tool | 2 years  |   |   |
|  **Amp Meter** | Competent in handling tool | 2 years  |   |   |
|  **Capacitor Meter** | Competent in handling tool | 2 years  |   |   |
|  **Mega Meter** | Competent in handling tool | 2 years  |   |   |
| **Small Genset** | Competent in handling tool | 2 years  |   |   |
| **Grass trimmer** | Competent in handling tool | 1 year |   |   |
| **Light plant** | Competent in handling tool | 2 years  |   |   |
| **Pipe cutters**  | Competent in handling tool | 2 years  |   |   |
| **Pipe threader** | Competent in handling tool | 2 years  |   |   |

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| **Hand & Power Tools** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **Pneumatic tools - various** | Competent in handling tool | 1 year |   |   |
| **Portraband Saw** | Competent in handling tool | 2 years  |   |   |
| **Power Drill Motor** | Competent in handling tool | 2 years  |   |   |
| **Pressure washer** | Competent in handling tool | 1 year |   |   |
| **Reciprocating Saw** | Competent in handling tool | 1 year |   |   |
| **Reed pipe cutter** | Competent in handling tool | 1 year |   |   |
| **Reed wheel cutter** | Competent in handling tool | 1 year |   |   |
| **Retrieval equipment** | Competent in handling tool | 1 year |   |   |
| **Roto Hammer** | Competent in handling tool | 1 year |   |   |
| **Sand Blast Cabinet** | Competent in handling tool | 2 years  |   |   |
| **Skill Saw** | Competent in handling tool | 1 year |   |   |
| **Steam cleaning tools** | Competent in handling tool | 1 year |   |   |
| **Parts Identification/Inventory** |   |   |   |   |
| **Inventory parts identification** | Identify inventory correctly | 1 year |   |   |
| **Water Quality**  |   |   |   |   |
| **Chemical Pumps** |   |   |   |   |
| **Chlorine Injection pumps** | Operate | 1 year |   |   |
|  | Maintain | 2 years  |   |   |
|  | Rebuild & Replace diaphragm Kits | 2 years  |   |   |
| **Caustic Injection pumps** | Operate | 1 year |   |   |
|  | Maintain | 2 years  |   |   |
|  | Rebuild & Replace | 2 years  |   |   |
| **Fluoride Injection Pumps** | Operate | 1 year |   |   |
|  | Maintain | 2 years  |   |   |
|  | Rebuild & Replace | 2 years  |   |   |
| **Atec Filter Systems** | Operation  | 2 years  |   |   |
|  | Maintenance | 2 years  |   |   |
| **Analyzers** | Video | 1 year |   |   |
|  | Calibration | 3 years |   |   |
|  | Hands on | 2 years  |   |   |
| **Water Testing** | Use of Fluoride Test Kit | 1 year |   |   |
|  | Use of PH Test Kit | 1 year |   |   |
|  | Use of Chlorine Test Kit | 1 year |   |   |
| **Water Quality** | **Tasks** | **Est. Completion** | **Date Completed** | **Approved By** |
| **Water Sampling** | Bacterial | 3 years |   |   |
|  | Copper/Lead | 3 years |   |   |
|  | Inorganic Chemicals (IOC) | 3 years |   |   |
|  | Volatile Organic Chemicals (VOC) | 3 years |   |   |
|  | Synthetic Organic Chemicals (SOC) | 3 years |   |   |
|  | Radium | 3 years |   |   |
| **Water Main Flushing**  | Planning procedures includes preparing |   |   |   |
|  | maps, sensitive areas, and sensitive  | 3 years |   |   |
|  | customers consideration |   |   |   |
|  | Flushing Procedures | 3 years |   |   |
|  | Flushing Data | 3 years |   |   |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Record of Changes |  |  |  |
| Date of Revision |   |  |  |  |
| Reason for Revision |   |  |  |  |
| Revised By |   |  |  |  |
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