



## Wastewater Systems Operations Specialist



### **Vermont Rural Water Association**

### **Appendix A-2**

### **WORK PROCESS SCHEDULE**

**AND**

### **RELATED INSTRUCTION OUTLINE**



## Wastewater Systems Operations Specialist

### Appendix A-2

#### WORK PROCESS SCHEDULE

#### OCCUPATION TITLE: **Wastewater Systems Operation Specialist**

(Pollution Abatement Facility Operator, Wastewater Treatment Operator)

O\*NET-SOC CODE: **51-8031.00**

RAPIDS CODE : **0507R**

This schedule is attached to and a part of these Standards for the above identified occupation.

#### 1. TYPE OF OCCUPATION

Time-based                       Competency-based                       Hybrid

#### 2. TERM OF APPRENTICESHIP

The term of the occupation is two (2) years with an OJL attainment of approximately 4,000 hours, supplemented by a minimum recommended 288 hours of related instruction.

#### 3. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journeyworker ratio is: one (1) Apprentice to one (1) Journeyworker on the jobsite.

#### 4. APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages as identified by each participating employer outlined in Appendix E. At no period of the apprenticeship should the wage fall below the current Vermont Minimum Wage.

#### 5. WORK PROCESS SCHEDULE (See attached Work Process Schedule)

#### 6. RELATED INSTRUCTION OUTLINE (See attached Related Instruction Outline)



## Wastewater Systems Operations Specialist

### WORK PROCESS SCHEDULE

**OCCUPATION TITLE: Wastewater Systems Operation Specialist**  
(Pollution Abatement Facility Operator, Wastewater Treatment Operator)

**O\*NET-SOC CODE: 51-8031.00**

Apprentices shall receive on-the-job instruction and experience as is necessary to become a qualified Wastewater Systems Operations Specialist versed in the theory and practice of the occupation. The following is a condensed schedule of work experience, which every apprentice shall follow as closely as conditions will permit.

WORK PROCESSES	Approximate Hours
<b>A. Tools, Equipment and Work Place Safety</b> <ol style="list-style-type: none"> <li>1. Become familiar with tools, pipe and other materials used out on the job</li> <li>2. Understand and use personal protective equipment and safety procedures</li> <li>3. Demonstrate general plant safety and security operations</li> <li>4. Plan and set up work areas for safety of crew and public</li> <li>5. Confined spaces and traffic control zones</li> <li>6. Perform all work in conformance with OSHA regulations</li> </ol>	<b>240</b>
<b>B. Vehicles and Heavy Equipment</b> <ol style="list-style-type: none"> <li>1. Ensure vehicles and equipment are adequately stocked &amp; serviced</li> <li>2. Become familiar working with excavation and other heavy equipment</li> </ol>	<b>400</b>
<b>C. System Operations &amp; Maintenance</b> <ol style="list-style-type: none"> <li>1. Develop a working knowledge of the operation, methods and procedures of a wastewater treatment &amp; collection system</li> <li>2. Perform installation and inspection of new sewer lines and services</li> <li>3. Demonstrate ability to read and interpret maps and drawings of the wastewater system</li> <li>4. Assist with the installation, maintenance and repair of the wastewater treatment plant, collection system, pump stations and lift stations</li> <li>5. Develop a working knowledge of preventive maintenance, troubleshooting &amp; repair of mechanical equipment</li> </ol>	<b>1920</b>
<b>D. Quality Control</b> <ol style="list-style-type: none"> <li>1. Learn to perform all aspects of sampling, monitoring and testing required to maintain compliance with Federal State and Local regulations</li> <li>2. Identify normal/out-of-range values</li> <li>3. Maintain open communication &amp; report results to supervisors</li> <li>4. Learn emergency response procedures</li> </ol>	<b>960</b>
<b>E. Logistics, Reports and Supervision</b> <ol style="list-style-type: none"> <li>1. Complete work order forms</li> <li>2. Order equipment and supplies as needed</li> <li>3. Document routine maintenance</li> <li>4. Visit other facilities to learn about new technology</li> </ol>	<b>480</b>
<b>TOTAL HOURS</b>	<b>4000</b>



## Wastewater Systems Operations Specialist

**OCCUPATION TITLE: Wastewater Systems Operation Specialist**  
 (Pollution Abatement Facility Operator, Wastewater Treatment Operator)  
**O\*NET-SOC CODE: 51-8031.00**

A minimum of 288 hours of related instruction are required per apprentice. Courses may be assigned from any of the following offerings.

<b>Wastewater Year 1 Curriculum – 144 HOURS</b>		
Course Title	Hours	Instructor
REQUIRED COURSES (total of 131 training hours)		
Apprenticeship Program Orientation	6	VRWA
Basic Sacramento Wastewater Course	48	VRWA
3-Day Wastewater Math	18	VRWA
Basic Excel	3	VRWA
First Aid, CPR & AED	6	Red Cross
OSHA 10 Hour Industry	10	Earth Water or AGC
OSHA Trenching and Excavation	20	OSHA EDNE
Permit-Required Confined Space Entry	20	OSHA EDNE
	<b>131</b>	
ELECTIVE COURSES (to total at least 13 hours)		
Wastewater Sampling and Lab Procedures	12	VRWA
Flagger Training	4	VRWA or AGC
Introduction to GPS and GIS	16	VRWA or VCGI
Lockout Tagout	7	OSHA EDNE
Flagger Training	4	VRWA or AGC
<i>Total Elective Hours Available - Classroom</i>	43	
<b>Total Formal Training Hours - Year 1</b>	<b>144</b>	



## Wastewater Systems Operations Specialist

Wastewater Year 2 Curriculum – 144 HOURS		
Course Title	Hours	Instructor
<b>REQUIRED COURSES (total of 55 training hours)</b>		
Water and Wastewater Ethics	4	VRWA
Utility Management Certification	12	VRWA
Incident Command System Level 100	8	VRWA, FEMA or VEM
Incident Command System Level 200	12	FEMA or VEM
Basic Environmental Chemistry	10	Suncoast
Asset Management and Sustainability	6	VRWA
Regulatory Updates	3	VRWA and DEC
	<b>55</b>	
<b>CLASSROOM ELECTIVE COURSES (to total at least 89 hours)</b>		
Introduction to Utility Management	72	GMWEA and/or VRWA
Advanced Sacramento WW Course	48	VRWA
Incident Command System Level 300	14	FEMA or VEM
Discharges From Breweries and Similar Industries	4	VRWA
Affordable Control and Telemetry	4	VRWA
Blueprint Reading	6	VRWA
Identifying Illicit Discharges	3	VRWA
Metering	3	VRWA
Phosphorus and Nitrogen Optimization	9	VRWA
Budgets and Rates	4	VRWA
<i>Total Elective Hours Available - Classroom</i>	167	
<b>Total Formal Training Hours - Year 2</b>	<b>144</b>	



## Wastewater Systems Operations Specialist

<b>Suncoast Wastewater Classes - can be taken as Electives at any point</b>		
Chemical Feed Systems & Pump Calibrations	5	Suncoast
Chlorinator Systems and Chemical Handling	10	Suncoast
Pump and Motor Maintenance	10	Suncoast
Valve and Hydrant Maintenance	5	Suncoast
Water Utility Calculations	10	Suncoast
Water Utility Safety	10	Suncoast
Dissolved Air Flotation	10	Suncoast
Membrane Treatment of Wastewater	10	Suncoast
Primary Sludge Fermentation	10	Suncoast
<i>Total Online Elective Hours Available</i>	<i>80</i>	
<i>not to exceed 50% of total training hours for any given year</i>		