

Public Works Tier 2 Resources

- a) Chainsaw
- b) Forklift
- c) Wastewater Collection Manager
- d) Wastewater Plant Operator – Manager
- e) Wastewater System Manager
- f) Water Distribution Manager
- g) Water System Manager
- h) Water Treatment Plant Manager Operator DWTP

RESOURCE: CHAINSAW						
CATEGORY:			Public Works		KIND:	Equipment
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
Bar Length	Inches	55"	45"	25"	12"	
Fuel Type		Gas-powered	Gas-powered	Gas-powered	Gas-powered	
COMMENTS:	FEMA Equipment Rate Numbers: 8192, 8191, 8190, 8188, 8187 http://www.fema.gov/schedule-equipment-rates					

RESOURCE: FORKLIFT						
CATEGORY: Public Works				KIND: Equipment		
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
Fuel		Gas or Diesel	Gas or Diesel	Electric	Electric	
Tires		Pneumatic	Cushion	Pneumatic	Cushion	
Operator Certification		OSHA Certified (29 CFR 1910.178 (I)(6))				
COMMENTS:	<p>When ordering, the requestor MUST include any attachments needed and weight capacity needed.</p> <p>FEMA Equipment Rate Numbers: 2300, 8301, 8302, 8303, 8304, 8305, 8306, 8307, 8308, 8309</p> <p>http://www.fema.gov/schedule-equipment-rates</p>					

RESOURCE: FORKLIFT						
CATEGORY: Public Works				KIND:	Equipment	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
Fuel		Gas or Diesel	Gas or Diesel	Electric	Electric	
Tires		Pneumatic	Cushion	Pneumatic	Cushion	
Operator Certification		OSHA Certified (29 CFR 1910.178 (I)(6))				
COMMENTS:	<p>When ordering, the requestor MUST include any attachments needed and weight capacity needed.</p> <p>FEMA Equipment Rate Numbers: 2300, 8301, 8302, 8303, 8304, 8305, 8306, 8307, 8308, 8309, 8821</p> <p>http://www.fema.gov/schedule-equipment-rates</p>					

RESOURCE: WASTEWATER COLLECTION MANAGER						
CATEGORY:		Public Works		KIND:	Other	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
	Type of Certification	Class E Cert w/ Subclass 4				
	Qualification Standards	1. ICS-100, IS-200, IS-700 2. Class E, Subclass 4 Certification 3. BS Civil Engineering or Equivalent				
COMMENTS:	<p><u>WWTP Manager/Operator Classification Class (Sewage):</u></p> <p>Class A: Greater than 5MGD Class B: Greater than 1 MGD, but less than or equal to 5 MGD Class C: Greater than 100,000gpd but less than or equal to 1 MGD Class D: Less than or equal to 100,000gpd Class E: Satellite collection system with a pump station (is combined with wastewater subclassification4)</p> <p><u>Wastewater Treatment Plant Operator Subclass (Sewage)</u></p> <p>Subclassification 1 – Activated Sludge – Treatment technology such as extended aeration, sequential batch reactors, contact stabilization, conventional, step fed, or oxidation ditch.</p> <p>Subclassification 2 – Fixed film treatment – Treatment technology such as trickling filters and rotating biological contactors</p> <p>Subclassification 3 – Treatment ponds and lagoons – Treatment technology that uses aerated, anaerobic, facultative process, or wetlands to treat wastewater</p> <p>Subclassification 4 – Single entity collection system – A wastewater collection system where the collection system relies on treatment from a wastewater treatment system owned by the owner of the collection system.</p>					

RESOURCE: WASTEWATER TREATMENT PLANT MANAGER/ OPERATOR						
CATEGORY: Public Works			KIND: Other			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
	Treatment Plant Size	>5M GPD	≤ 5M GPD ~ ≥ 1M GPD	≤ 1M GPD ~ ≥ 100K GPD	≤ 100K GPD	
	Type of Certification	Class A Subclasses 1, 2, 3, 4	Class B Subclasses 1, 2, 3, 4	Class C Subclasses 1, 2, 3, 4	Class D Subclasses 1, 2, 3, 4	
	Qualification Standards	1. ICS-100, IS-700 2. Class A Certification 3. Sewage Treatment Plant Operator's License	1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License	1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License	1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License	

RESOURCE: WASTEWATER TREATMENT PLANT MANAGER/ OPERATOR

COMMENTS:

WWTP Manager/Operator Classification Class (Sewage):

Class A: Greater than 5MGD

Class B: Greater than 1 MGD, but less than or equal to 5 MGD

Class C: Greater than 100,000gpd but less than or equal to 1 MGD

Class D: Less than or equal to 100,000gpd

Class E: Satellite collection system with a pump station (is combined with wastewater subclassification4)

Wastewater Treatment Plant Operator Subclass (Sewage)

Subclassification 1 – Activated Sludge – Treatment technology such as extended aeration, sequential batch reactors, contact stabilization, conventional, step fed, or oxidation ditch.

Subclassification 2 – Fixed film treatment – Treatment technology such as trickling filters and rotating biological contactors

Subclassification 3 – Treatment ponds and lagoons – Treatment technology that uses aerated, anaerobic, facultative process, or wetlands to treat wastewater

Subclassification 4 – Single entity collection system – A wastewater collection system where the collection system relies on treatment from a wastewater treatment system owned by the owner of the collection system.

RESOURCE: WASTEWATER SYSTEMS MANAGER

CATEGORY:		Public Works		KIND:		Other	
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER	
Component	Metric						
	Type of Certification	BS Civil Engineering or Class A Cert, with Subclass 1,2,3, and 4					
	Qualification Standards	1. ICS-100, IS-200, IS-700 2. Class A, Subclass 1,2,3, and 4 Certification or BS Civil Engineering or Equivalent					
COMMENTS:	<p><u>WWTP Manager/Operator Classification Class (Sewage):</u> Class A: Greater than 5MGD Class B: Greater than 1 MGD, but less than or equal to 5 MGD Class C: Greater than 100,000gpd but less than or equal to 1 MGD Class D: Less than or equal to 100,000gpd Class E: Satellite collection system with a pump station (is combined with wastewater subclassification4)</p> <p><u>Wastewater Treatment Plant Operator Subclass (Sewage)</u></p> <p>Subclassification 1 – Activated Sludge – Treatment technology such as extended aeration, sequential batch reactors, contact stabilization, conventional, step fed, or oxidation ditch.</p> <p>Subclassification 2 – Fixed film treatment – Treatment technology such as trickling filters and rotating biological contactors</p> <p>Subclassification 3 – Treatment ponds and lagoons – Treatment technology that uses aerated, anaerobic, facultative process, or wetlands to treat wastewater</p> <p>Subclassification 4 – Single entity collection system – A wastewater collection system where the collection system relies on treatment from a wastewater treatment system owned by the owner of the collection system.</p>						

RESOURCE: WATER DISTRIBUTION MANGER						
CATEGORY: Public Works			KIND: Other			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
	Type of Certification	BS Civil Engineering Or Class E Certification				
	Qualification Standards	1. ICS-100, IS-200, IS-700 2. BS Civil Engineering or Class E Certification 3. 10 years experience in water distribution 4. Appropriate Subclass Certifications for mission				

RESOURCE: WATER DISTRIBUTION MANGER

COMMENTS:

Drinking Water Treatment Plant Operator Certification Class

Class A – Greater than 5 MGD

Class B – Greater than 1 MGD but less than or equal to 5 MGD

Class C – Greater than 100,000 gpd but less than or equal to 1 MGD

Class D – Less than or equal to 100,000 gpd

Class E – Distribution and Consecutive Water Systems with no treatment

Class Dc – must meet all of the following conditions:

- system serves less than 500 individuals or has no more than 150 connections, whichever is less;
- the source of water for the system is exclusively groundwater,
- Requires only disinfection, and is not in violation of DEP rules and regulations.

Class Dn – meets all the conditions of Dc and does not have any disinfection.

Drinking Water Treatment Plant Operator Certification Subclass

Subclassification 1 – Conventional filtration – For drinking water, a series of processes for the purpose of substantial particulate removal consisting of coagulation, flocculation, sedimentation, and filtration

Subclassification 2.– Direct filtration – For drinking water, a series of processes for the purpose of substantial particulate removal consisting of coagulation and filtration. The term normally includes flocculation after coagulation, but does not include sedimentation.

Subclassification 3 – Diatomaceous earth filtration – For drinking water, a process for the purpose of substantial particulate removal, in which a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane (septum) and, while the water is filtered by passing through the cake on the septum, additional filter media, known as body feed, is continuously added to the feed water, to maintain the permeability of the filter cake

Subclassification 4 – Slow sand filtration – For drinking water, a process for the purpose of substantial particulate removal by physical and biological mechanisms during the passage of raw water through a bed of sand at low velocity, generally less than 0.4 meters per hour.

Subclassification 5 – Cartridge or bag filtration – For drinking water, a process for the purpose of substantial particulate removal by straining with bag or cartridge filters manufactured of various materials and pore sizes.

Subclassification 6 – Membrane filtration – For drinking water, a process that uses a thin film that acts as a selective barrier (semi-permeable) to the transport of matter to remove contaminants from water and includes such processes as electrodialysis, reverse osmosis, nanofiltration, ultrafiltration, microfiltration, or other similar technologies.

Subclassification 7 – Corrosion control and sequestering – A water treatment process designed to mitigate the adverse effects of corrosion in drinking water.

Subclassification 8 – Chemical addition – A water treatment process designed to improve the quality of the water being treated through the addition of chemicals such as lime, soda ash, caustic soda, and permanganate.

Subclassification 9 – Ion exchange and green sand – A water treatment process such as greensand filtration, ion exchange, or activated alumina designed to improve the quality of water being treated by the removal of inorganic constituents.

RESOURCE: WATER DISTRIBUTION MANGER

Subclassification 10 – Aeration and Activated Carbon Adsorption:

Activated carbon – A water treatment process designed to improve the quality of water being treated by using activated granular or powdered carbon to remove specific organic chemical compounds by adsorption.

Aeration – A water treatment process designed to improve the quality of water being treated by introducing air or oxygen into water to remove undesirable dissolved gases, to remove volatile organic compounds or to oxidize inorganic compounds so they can be removed as particulates.

Subclassification 11 – Gaseous chlorination disinfection – A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing gaseous chlorine.

Subclassification 12 – Non-gaseous chemical disinfection - A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing non-gaseous chemical elements or compounds.

Subclassification 13 – Ultraviolet disinfection – A water treatment process that inactivates pathogenic organisms using light with a wavelength range of 4000 to 40 angstroms.

Subclassification 14 – Ozonation – The water treatment process designed to inactivate pathogenic organisms from water being treated utilizing ozone.

RESOURCE: WATER SYSTEM MANGER						
CATEGORY: Public Works			KIND: Other			
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
	Type of Certification	BS Civil Engineering Or Class A Certification, w/ subclass 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14				
	Qualification Standards	1. ICS-100, IS-200, IS-700 2. BS Civil Engineering or Class A Certification, w/ subclass 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 3. 5 years experience in water system operations or regulation				

RESOURCE: WATER SYSTEM MANGER

COMMENTS:

Drinking Water Treatment Plant Operator Certification Class

Class A – Greater than 5 MGD

Class B – Greater than 1 MGD but less than or equal to 5 MGD

Class C – Greater than 100,000 gpd but less than or equal to 1 MGD

Class D – Less than or equal to 100,000 gpd

Class E – Distribution and Consecutive Water Systems with no treatment

Class Dc – must meet all of the following conditions:

- system serves less than 500 individuals or has no more than 150 connections, whichever is less;
- the source of water for the system is exclusively groundwater,
- Requires only disinfection, and is not in violation of DEP rules and regulations.

Class Dn – meets all the conditions of Dc and does not have any disinfection.

Drinking Water Treatment Plant Operator Certification Subclass

Subclassification 1 – Conventional filtration – For drinking water, a series of processes for the purpose of substantial particulate removal consisting of coagulation, flocculation, sedimentation, and filtration

Subclassification 2 – Direct filtration – For drinking water, a series of processes for the purpose of substantial particulate removal consisting of coagulation and filtration. The term normally includes flocculation after coagulation, but does not include sedimentation.

Subclassification 3 – Diatomaceous earth filtration – For drinking water, a process for the purpose of substantial particulate removal, in which a pre-coat cake of diatomaceous earth filter media is deposited on a support membrane (septum) and, while the water is filtered by passing through the cake on the septum, additional filter media, known as body feed, is continuously added to the feed water, to maintain the permeability of the filter cake

Subclassification 4 – Slow sand filtration – For drinking water, a process for the purpose of substantial particulate removal by physical and biological mechanisms during the passage of raw water through a bed of sand at low velocity, generally less than 0.4 meters per hour.

Subclassification 5 – Cartridge or bag filtration – For drinking water, a process for the purpose of substantial particulate removal by straining with bag or cartridge filters manufactured of various materials and pore sizes.

Subclassification 6 – Membrane filtration – For drinking water, a process that uses a thin film that acts as a selective barrier (semi-permeable) to the transport of matter to remove contaminants from water and includes such processes as electrodialysis, reverse osmosis, nanofiltration, ultrafiltration, microfiltration, or other similar technologies.

Subclassification 7 – Corrosion control and sequestering – A water treatment process designed to mitigate the adverse effects of corrosion in drinking water.

Subclassification 8 – Chemical addition – A water treatment process designed to improve the quality of the water being treated through the addition of chemicals such as lime, soda ash, caustic soda, and permanganate.

Subclassification 9 – Ion exchange and green sand – A water treatment process such as greensand filtration, ion exchange, or activated alumina designed to improve the quality of water being treated by the removal of inorganic constituents.

RESOURCE: WATER SYSTEM MANGER

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Activated carbon – A water treatment process designed to improve the quality of water being treated by using activated granular or powdered carbon to remove specific organic chemical compounds by adsorption.

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Subclassification 11 – Gaseous chlorination disinfection – A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing gaseous chlorine.

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Subclassification 13 – Ultraviolet disinfection – A water treatment process that inactivates pathogenic organisms using light with a wavelength range of 4000 to 40 angstroms.

Subclassification 14 – Ozonation – The water treatment process designed to inactivate pathogenic organisms from water being treated utilizing ozone.

RESOURCE: WATER TREATMENT PLANT MANAGER/ OPERATOR (DWTP)

CATEGORY: Public Works		KIND: Other				
MINIMUM CAPABILITIES:		TYPE I	TYPE II	TYPE III	TYPE IV	OTHER
Component	Metric					
	Treatment Plant Size	>5M GPD	≤ 5M GPD ~ ≥ 1M GPD	≤ 1M GPD ~ ≥ 100K GPD	≤ 100K GPD	
	Type of Certification	Class A Subclasses 1, 2, 3, 4	Class B Subclasses 1, 2, 3, 4	Class C Subclasses 1, 2, 3, 4	Class D Subclasses 1, 2, 3, 4	

RESOURCE: WATER TREATMENT PLANT MANAGER/ OPERATOR (DWTP)

	<p>Qualification Standards</p>	<ol style="list-style-type: none"> 1. ICS-100, IS-700 2. Class A Certification 3. Sewage Treatment Plant Operator's License 	<ol style="list-style-type: none"> 1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License 	<ol style="list-style-type: none"> 1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License 	<ol style="list-style-type: none"> 1. ICS-100, IS-700 2. Class B Certification 3. Sewage Treatment Plant Operator's License 	
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COMMENTS:

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