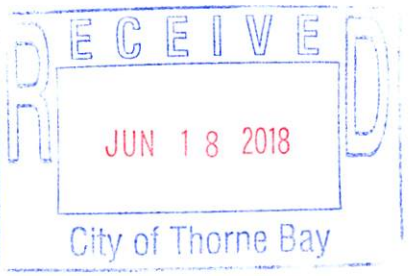


Water Treatment System Classification

System Owner: Thorne Bay, City of
System: Thorne Bay Water Treatment System
Classification: Class 2 Water Treatment System
PWSID: 120216
Report Date: 06/15/2018

Operators:

Name	Certificate Level	Expiration Date
Samuel H. Sawyer	WT 1	12/31/2019
Billy J. Phillips	Not Certified	

Water treatment systems are classified according to a point rating system. Point values are assigned for each component found in the treatment plant, and the point total determines the classification. The classification of this system is shown below with each component highlighted.

Classification:

Total Classification Points: 34 **Class 2 = 31 to 55 classification points**

Size (Peak day design capacity, gallons per day)

less than 10,000	1
10,000 - 50,000	2
50,001 - 100,000	**4 ←**
100,001 - 500,000	9
500,001 - 1,000,000	12
1,000,001 - 5,000,000	16
5,000,001 - 10,000,000	20
10,000,001 - 50,000,000	25
greater than 50,000,000	30

Water Supply Source

Groundwater	2
Groundwater under the direct influence of surface water	4
Surface water	**6 ←**
Surface water maintaining filtration avoidance criteria under 18 AAC 80.620	8

Seawater	10
Purchased treated water	0
Raw water storage tank	3
Pretreatment	
Presedimentation basin	4
Hydrocyclone or similar sand separator device	2
Microscreen	3
Roughing filter: Cartridge filter	2
Roughing filter: Non-backwashable strainer or filter	2
Roughing filter: Gravel or rock filter	4
Roughing filter: Backwashable granular media filter	8
Add-heat system to heat raw water	2
Adjustment and Corrosion Control	
pH adjustment	**3 ←**
Corrosion inhibitor	3
Limestone or calcite contactor	2
Sequestration	3
Aeration / Ion Exchange	
Aeration: In-line venturi-type	1
Aeration: Mechanical or diffused	3
Degasification	3
Ion exchange	4
Arsenic Treatment	
Non-regenerated sorption processes, including activated alumina, modified activated alumina, and iron based sorbents	3
On-site regeneration of sorption process media	10
Activated Carbon	
Cartridge or bag filter	2
Powdered activated carbon treatment	4
Granular activated carbon contactors	4
On-site regeneration of activated carbon	16

Oxidation	
Hypochlorite solution	3
Gas chlorine	12
Potassium permanganate	4
Hydrogen peroxide	5
Ozonation	
Ozonation without pure oxygen	3
Ozonation with pure liquefied oxygen	4
Ozonation with on-site generation of pure oxygen	5
Coagulation	
Primary coagulant	**5 ←**
Coagulant aid, flocculent, or filter aid (3 each up to 12)	3
Mixing	
Mechanical mixers	5
Injection mixers	3
In-line blender mixers	2
In-line static mixers	**0 ←**
Flocculation	
Hydraulic flocculator	4
Mechanical flocculator	8
Sedimentation	
Tube settlers	2
Inclined-plate, Lamella-type or equivalent	2
Horizontal flow conventional clarifier	4
Batch sedimentation	2
Adsorption clarifier	6
Up-flow solids contact	10
Dissolved air flotation	16
Combined rapid mix-coagulation-flocculation-sedimentation unit	20
Filtration	
Cartridge or bag filter - single unit	2

Cartridge or bag filters - staged, multiple units	4
Slow sand	4
Granular media	**8 ←**
Membrane filtration	8
Membrane filtration integrated system	12
Diatomaceous earth	12
Electro/Lime/Recarb	
Electrodyalysis, electrodialysis reversal, distillation	10
Lime softening	16
Recarbonation	8
Fluoride	
Sodium fluoride saturator	2
Sodium silicofluoride	3
Hydrofluorosilicic acid	5
Disinfection	
Liquid and powdered hypochlorites	**3 ←**
Additional points if hypochlorites are generated on-site	2
Gas chlorine	12
Chlorination using tablets	1
Ammonia addition for chloramination using liquid ammonia solution	3
Ammonia addition for chloramination using ammonia gas	12
Chlorine dioxide	8
Chlor-alkali on-site generation	12
Ozonation without pure oxygen	3
Ozonation with pure liquefied oxygen	4
Ozonation with on-site generation of pure oxygen	5
Ultraviolet light	2
Ultraviolet light, for meeting required inactivation	4
Sludge Treatment	
Discharge to sewer or other off-site treatment	0
Discharge to on-site pond, septic tank, or lagoon	**2 ←**
Mechanical dewatering	6

Filter backwash water or sludge supernatant recycling, groundwater source	2
Filter backwash water or sludge supernatant recycling, surface water source	3

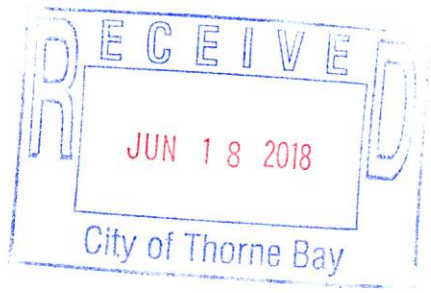
Other Treatment

Other water treatment	0

Storage

Water storage tank, for achieving CT	**3 ←**
Tank capacity 1,000,000 gallons or greater	3
Tank capacity between 50,000 and 999,999 gallons	2
Tank capacity less than 50,000 gallons	1
Pressure tanks	0

Water Distribution System Classification



System Owner: Thorne Bay, City of

System: Thorne Bay Water Distribution System

Classification: Class 1 Water Distribution System

Report Date: 06/15/2018

Operators:

Name	Certificate Level	Expiration Date
Samuel H. Sawyer	WD 1	12/31/2019
Billy J. Phillips	Not Certified	

Water distribution systems are classified according to the number of service connections, the number of pressure zones, and whether water is circulated or heated to prevent freezing. Initially, the classification is determined based on the number of service connections. The classification is then elevated one class if the system has five or more pressure zones or if water is circulated or heated to prevent freezing in the distribution system. A system that has five or more pressure zones and where water is circulated or heated is only elevated one class even when both conditions are met.

Classification:

This system is classified as follows:

Number of Service Connections in this System	Classification
203	**Class 1 = 15 to 500**
	Class 2 = 501 to 5,000
	Class 3 = 5,001 to 15,000
	Class 4 = more than 15,000

Number of Pressure Zones: 1 - Does not affect the classification.

Water is circulated or heated to prevent freezing in the distribution system: No - Does not affect the classification.