



DESIGN SPECIFICATIONS

SECTION 7 - DRAWING REQUIREMENTS (GIS SYMBOLOGY)

SECTION 7.5.2
FEB 2019

WATER SYSTEM

	GIS Revision Tracking Point
	Pressure Tank
	Unknown FCODE
	Air and Vacuum Valve
	Air Release Valve
	Altitude Valve
	Ball Valve
	Butterfly Valve
	Butterfly Valve Operator Side
	Check Valve
	Corporation Stop
	Curb Stop
	Drain Valve
	Gate Valve
	Globe Valve
	Hydrant Valve
	Pressure Reducing Valve
	Service Valve
	Surge Relief Valve
	Private Air Release Valve
	Private Air and Vacuum Valve
	Private Altitude Valve
	Private Ball Valve
	Private Butterfly Valve
	Private Butterfly Valve Operator Side
	Private Check Valve
	Private Corporation Stop
	Private Curb Stop
	Private Drain Valve
	Private Gate Valve
	Private Globe Valve
	Private Hydrant Valve
	Private Pressure Reducing Valve
	Private Service Valve
	Private Surge Relief Valve
	Closed Valve
	Isolation Valve
	Private Isolation Valve
	Backflow Preventer

	Flowmeter
	Water Quality Station
	Water Quality Instrument
Hydrants	
	Hydrant
	Private Hydrant
Water Fittings	
	Adaptor
	Bend
	Blind Flange
	Cap
	Chamber Flow Arrow
	Chamber Vent
	Coupling
	Cross
	Denso Tape
	Link Seal on a Pipe Sleeve
	M.J. Restraint Device
	Non-shrink Fill on a Pipe Sleeve
	Plug
	Reducer
	Sleeve
	Strainer
	Tapping Sleeve
	Tee
	Test Meter Pit
	Victaulic Coupling
	Wye
	Wye Left
	Wye Right

Structure Points	
	Air Release Chamber
	Booster Station
	Control Chamber
	Meter Chamber
	Production Well
	PRV Chamber
	Reservoir Chamber
	Water Treatment Plant

Other Water Service Features

- Water Service Point
- Leaks and Breaks

Water Pumps

- Domestic Pump
- Fire Pump

Water Pipes

- Unknown Pipe
- Drain
- Distribution Main
- Transmission Main
- Private Drain
- Private Distribution Main
- Private Transmission Main
- Unknown Lateral
- Service Lateral
- Hydrant Lead
- Private Service Lateral
- Private Hydrant Lead
- Pipe Mask

Water Pipe Insulation

- Concrete Slab
- Pipe Wrapped Insulation
- Protective Piping Encasement
- Styrofoam Insulation

Water Pipe Cleaning and Lining

- Cleaning and Lining
- Cleaned Pipe

Structure Polygons





WASTEWATER COLLECTION SYSTEM



GIS Revision Tracking Point



Collection System Spot Repair

Wastewater Manholes and Outfalls



Public Manhole



Private Manhole

Wastewater Chambers



Diversion Chamber



Diversion Point



Force Main Valve Chamber



Junction Chamber



Pre-Treatment Unit



Pump Chamber



Regulating Chamber



Tide Chamber



Outfall

Wastewater Fittings



Bend



Cap



Cleanout



Coupling



Eccentric Reducer



Flexible Coupling



Flex Joint



Grouted Connection



Long Radius Bend



Mechanical Joint Restraint



Reducer



Saddle



Tap



Tee



Wye



Vent



Service Point



Legacy Service Point



Cathodic Protection Test Station



Control Structure



Identified Deficiency (Pipes/Laterals)



Tracewire Access Point



Force Main Flow Meter



Gravity Flow Meter



Gravity Flow Meter - Removed

Wastewater Pumping Stations



Public Pumping Station



Private Pumping Station

Wastewater Holding Tanks



Heat Recovery Tank



Holding Tank



Overflow Tank

Wastewater Valves



Air Release Valve



Altitude Valve



Butterfly Valve



Ball Valve



Cone Valve



Check Valve



Drain Valve



Gate Valve



Plug Valve



Pressure Release Valve



Surge Relief Valve



Valve



Sewer Pump



Treatment Facility



Casing



CCTV Line



Lining



Tracewire



Vent Line

Wastewater Insulation



Concrete Slab



Pre-Insulated Pipe



Styrofoam Sheet

Wastewater Pipes



Public Force Main



Public Gravity Pressure Pipe



Public Pressure Pipe



Public Inverted Siphon



Public Pipe



Private Force Main



Private Gravity Pressure Pipe



Private Pressure Pipe



Private Inverted Siphon



Private Pipe



Public Lateral



Private Lateral



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FEB 2019

STORMWATER COLLECTION SYSTEM

Stormwater Manholes

- Public Manhole
- Private Manhole

Stormwater Inlets

- Public Catchbasin
- Public Double Catchbasin
- Public Triple Catchbasin
- Private Catchbasin
- Private Double Catchbasin
- Private Triple Catchbasin

Stormwater Headwalls and Outfalls

- Headwall
- Outfall

Stormwater Fittings

- Bend
- Cap
- Cleanout
- Coupling
- Eccentric Reducer
- Flexible Coupling
- Flex Joint
- Grouted Connection
- Long Radius Bend
- Mechanical Joint Restraint
- Reducer
- Saddle
- Tap
- Tee
- Wye

Stormwater Chambers

- Diversion Chamber
- Diversion Point
- Force Main Valve Chamber
- Junction Chamber
- Pump Chamber
- Regulating Chamber
- Tide Chamber
- Treatment Unit

- Service Point
- Control Structure
- Identified Deficiency (Pipes/Laterals)
- Force Main Flow Meter
- Gravity Flow Meter
- Gravity Flow Meter - Removed

Stormwater Pumping Stations

- Public Pumping Station
- Private Pumping Station

Stormwater Valves

- Air Release Valve
- Altitude Valve
- Butterfly Valve
- Ball Valve
- Cone Valve
- Check Valve
- Drain Valve
- Gate Valve
- Plug Valve
- Pressure Release Valve
- Surge Relief Valve
- Valve

Stormwater Management Structures

- Other (No Remarks)
- Berm
- Constructed Wetland
- Lake
- Oversize Pipe
- Underground Storage
- Wet Pond
- Dry Pond
- Unknown
- Other (See Remarks)

- Casing
- CCTV Line
- Lining
- Ditch

Stormwater Insulation





- Concrete Slab
- Pre-Insulated Pipe
- Styrofoam Sheet

Stormwater Pipes
















- Public Catchbasin Lead
- Public Culvert
- Public Drain
- Public Force Main
- Public Gravity Pressure Pipe
- Public Pressure Pipe
- Public Inverted Siphon
- Public Pipe
- Private Catchbasin Lead
- Private Culvert
- Private Drain
- Private Force Main
- Private Gravity Pressure Pipe
- Private Pressure Pipe
- Private Inverted Siphon
- Private Pipe
- Public Lateral
- Private Lateral

COMBINED COLLECTION SYSTEM




Combined Manholes and Outfalls

-  Public Manhole
-  Private Manhole
-  Outfall
-  Combined Sewer Overflow (CSO) Structure



Combined Fitting

-  Bend
-  Cap
-  Cleanout
-  Coupling
-  Eccentric Reducer
-  Flexible Coupling
-  Flex Joint
-  Grouted Connection
-  Long Radius Bend
-  Mechanical Joint Restraint
-  Reducer
-  Saddle
-  Tap
-  Tee
-  Wye

Combined Holding Tanks

-  Heat Recovery Tank
-  Holding Tank
-  Overflow Tank

Combined Pumping Stations

-  Public Pumping Station
-  Private Pumping Station



Control Structure



Identified Deficiency (Pipes/Laterals)



Force Main Flow Meter



Gravity Flow Meter



Gravity Flow Meter - Removed

Combined Chambers



Diversion Chamber



Diversion Point



Force Main Valve Chamber



Junction Chamber



Pump Chamber



Regulating Chamber



Tide Chamber

Combined Valves



Air Release Valve



Altitude Valve



Butterfly Valve



Ball Valve



Cone Valve



Check Valve



Drain Valve



Gate Valve



Plug Valve



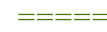
Pressure Release Valve



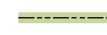
Surge Relief Valve



Valve



Casing



CCTV Line



Lining

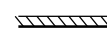
Insulation



Concrete Slab



Pre-Insulated Pipe



Styrofoam Sheet

Combined Pipes



Public Force Main



Public Gravity Pressure Pipe



Public Pressure Pipe



Public Inverted Siphon



Public Pipe



Private Force Main



Private Gravity Pressure Pipe



Private Pressure Pipe



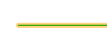
Private Inverted Siphon



Private Pipe



Public Lateral



Private Lateral



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SECTION 7 - DRAWING REQUIREMENTS (GIS SYMBOLOGY)

SECTION 7.5.2
FEB 2019

UNKNOWN COLLECTION SYSTEM

Unknown Manholes

- Public Manhole
- Private Manhole

Unknown Headwalls and Outfalls

- Headwall
- Outfall

Unknown Fittings

- Bend
- Cap
- Cleanout
- Coupling
- Eccentric Reducer
- Flexible Coupling
- Flex Joint
- Grouted Connection
- Long Radius Bend
- Mechanical Joint Restraint
- Reducer
- Saddle
- Tap
- Tee
- Wye

Unknown Holding Tanks

- Heat Recovery Tank
- Holding Tank
- Overflow Tank

Unknown Pumping Stations

- Public Pumping Station
- Private Pumping Station

- Service Point
- Cathodic Protection Test Station
- Control Structure
- Identified Deficiency (Pipes/Laterals)
- Force Main Flow Meter
- Gravity Flow Meter
- Gravity Flow Meter - Removed

Unknown Chambers

- Diversion Chamber
- Diversion Point
- Force Main Valve Chamber
- Junction Chamber
- Pump Chamber
- Regulating Chamber
- Tide Chamber

Unknown Valves

- Air Release Valve
- Altitude Valve
- Butterfly Valve
- Ball Valve
- Cone Valve
- Check Valve
- Drain Valve
- Gate Valve
- Plug Valve
- Pressure Release Valve
- Surge Relief Valve
- Valve

- Casing
- CCTV Line
- Lining

Unknown Insulation

- Concrete Slab
- Pre-Insulated Pipe
- Styrofoam Sheet

Unknown Pipes

- Public Force Main
- Public Gravity Pressure Pipe
- Public Pressure Pipe
- Public Inverted Siphon
- Public Pipe
- Private Force Main
- Private Gravity Pressure Pipe
- Private Pressure Pipe
- Private Inverted Siphon
- Private Pipe
- Public Lateral
- Private Lateral



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SECTION 7 - DRAWING REQUIREMENTS (GIS SYMBOLOGY)

SECTION 7.5.2
FEB 2019


















































ABANDONED WATER SYSTEM

Abandoned Valves	Abandoned Flowmeters	M.J. Restraint Device
Abandoned Hydrants	Abandoned Fittings	Non-shrink Fill on a Pipe Sleeve
Abandoned Water Pipe	Unknown FCODE	Plug
Abandoned Water Drain	Adaptor	Reducer
Abandoned Service Point	Bend	Sleeve
Abandoned Service Lateral	Blind Flange	Strainer
Abandoned Structure Points	Cap	Tapping Sleeve
Unknown Structure Subtype	Chamber Flow Arrow	Tee
ARV Air Release Chamber	Chamber Vent	Test Meter Pit
Booster Station	Coupling	Victaulic Coupling
CTR Control Chamber	Cross	Wye
MTR Meter Chamber	Denso Tape	Wye Left
PW Production Well	Link Seal on a Pipe Sleeve	Wye Right
PRV PRV Chamber		Abandoned Structure Polygons
RSV Reservoir Chamber		Pink polygon
Water Treatment Plant		Grey polygon




















ABANDONED COLLECTION SYSTEM

Abandoned Manholes	Abandoned Cathodic Protection Test Station	Abandoned Treatment Facility
Combined Manhole	Abandoned Control Structure	Abandoned Pumping Station
Wastewater Manhole	Abandoned Stormwater Management Structure	Abandoned Casing
Stormwater Manhole	Abandoned Tracewire Access Point	Abandoned Lining
Unknown Manhole	Abandoned Sewer Pump	Abandoned Ditch
Abandoned CSO Structure		Abandoned Insulation
Abandoned Inlets and Outfalls	Abandoned Chambers	Abandoned Tracewire
Catchbasin	Diversion Chamber	Abandoned Vent Line
Double Catchbasin	Diversion Point	Abandoned Pipes
Triple Catchbasin	Force Main Valve Chamber	Combined Force Main
Abandoned Headwall	Junction Chamber	Combined Gravity Pressure Pipe
Abandoned Outfall	Pump Chamber	Combined Pressure Pipe
Abandoned Fittings	Regulating Chamber	Combined Inverted Siphon
Bend	Stormwater Treatment Unit	Combined Pipe
Cap	Tide Chamber	Catchbasin Lead
Cleanout	Wastewater Pre-Treatment Unit	Culvert
Coupling	Abandoned Valves	Drain
Eccentric Reducer	Air Release Valve	Stormwater Force Main
Flex Joint	Altitude Valve	Stormwater Gravity Pressure Pipe
Flexible Coupling	Butterfly Valve	Stormwater Pressure Pipe
Grouted Connection	Ball Valve	Stormwater Inverted Siphon
Long Radius Bend	Cone Valve	Stormwater Pipe
Mechanical Joint Restraint	Check Valve	Unknown Force Main
Reducer	Drain Valve	Unknown Gravity Pressure Pipe
Saddle	Gate Valve	Unknown Pressure Pipe
Tap	Plug Valve	Unknown Inverted Siphon
Tee	Pressure Relief Valve	Unknown Pipe
Wye	Surge Relief Valve	Wastewater Force Main
Vent	Valve	Wastewater Gravity Pressure Pipe
Abandoned Holding Tanks		Wastewater Pressure Pipe
Heat Recovery Tank		Wastewater Inverted Siphon
Holding Tank		Wastewater Pipe
Overflow Tank		Lateral
Abandoned Service Points		
Unknown		
Stormwater		
Wastewater		







LAND FEATURES

	Traffic Pole						
	Utility Pole		Bennery Lake		BED		HPSBB
	Survey Monument		Bomont		CHEB		LEPL
	Natural Gas Lateral		Chain Lakes		CHW		LTWN
	Natural Gas Pipeline		Collin's Park		DART		MVDS
	Property Boundary		Five Islands		DHFX		NPLM
	Road Feature		Lake Lamont		DRTDO		PROS
	Halifax Water Collection System Structure		Lake Major		EPCW		SACK
	Land Owned by Halifax Water		Middle Musquodoboit		ESE		SCKDR
	Community Boundary		Miller Lake		ESW		SHUB
	Halifax Water Sewershed Boundary		Pockwock Lake		HMAIN		SMB
	Halifax Water Stormwater Service Boundary		Silersands		HPEN		TLB
HRM Service Requirements							
	Water Service Only						
	Wastewater Service Only						
	Water and Wastewater Service						
		Provincial Tertiary Watersheds					
							

BASEMAP





	Power Pole / Transmission Tower		Building
	Municipal Boundary		Road
	Railroad		Parking Area / Driveway / Sidewalk
	Rivers / Stream		Property Boundary
	Streets and Highways (1:100 - 1:8,000)		Lake
	Streets and Highways (1:16,000 - 1:64,000)		Parks / Recreational Areas
	Streets and Highways (1:128,000 - 1:256,000)		Land Owned by University
	Major Highway		Coastline
	Minor Highway		
	Primary Street		
	Street		

WATER SCHEMATIC





	Water - Schematic System
	Water - Schematic Hydrant
	Water - Schematic System (Private)
	Water - Schematic Hydrant (Private)
	Water - Schematic Cleaning and Lining
	Water - Schematic Cleaned Pipe

ZONES AND REGIONS





















Distribution System Regions










































-  Unknown
-  East
-  Central
-  West

Collection System Regions

-  Unknown
-  East
-  Central
-  West

Pressure Zones

-  Unknown Pressure Zone
-  24 East High
-  Atholea Low
-  Beaver Bank Boosted
-  Beaver Bank Intermediate
-  Bedford Intermediate
-  Bedford Low
-  Bedford South Intermediate
-  Berry Hills Boosted
-  Bluewater Intermediate
-  Broadholme Intermediate
-  Brunello Boosted
-  Burnside Boosted
-  Burnside High
-  Burnside Low
-  Caldwell Road Boosted
-  Charles Road Boosted
-  Churchill Intermediate
-  Cowie High
-  Dartmouth Intermediate East
-  Dartmouth Intermediate West
-  Dartmouth Low
-  Eaglewood Boosted
-  Eastern Passage/Woodside Low
-  Fairview Clayton High
-  Fall River Intermediate
-  Farnhamgate Intermediate
-  Flamingo Intermediate
-  Geizer 123 High
-  Geizer 158 High
-  Geizer Boosted
-  Glenforest Intermediate

-  Hemlock High
-  Hemlock Intermediate
-  Hemlock Super High
-  Herring Cove Low
-  Kearney Lake Intermediate
-  Kingswood High
-  Lake Major High
-  Lakeside Intermediate
-  Leiblin Boosted
-  Lively Boosted
-  Lucasville High
-  Miller Lake High
-  Miller Lake Low
-  Monarch/Rivendale High
-  Montague High
-  Mount Edward Boosted
-  Mowatt Intermediate
-  No. 7 Highway Boosted
-  North Preston
-  Orchard High
-  Peninsula High
-  Peninsula Intermediate
-  Peninsula Low
-  Pockwock Boosted
-  Pockwock High
-  Princess Margaret Low
-  Ritcey Low
-  Robie Reservoir
-  Rockingham Low
-  Rockmanor Intermediate
-  Ross Road Low
-  Sackville High
-  Sackville Intermediate
-  Silverside Boosted
-  Spryfield Intermediate
-  Titus Evans Low
-  Upper Hammonds Plains High
-  Waverley Intermediate
-  Waverley Low
-  West Bedford Intermediate
-  Williams Lake Low

Meter Zones

-  Unknown Meter Zone
-  #7 Highway Boosted
-  24 East High
-  Atholea Low
-  Beaver Bank Boosted
-  Beaver Bank Intermediate
-  Bedford Intermediate
-  Bedford Low
-  Bedford South Intermediate
-  Berry Hills Boosted
-  Birch Cove
-  Bluewater Intermediate
-  Broadholme Intermediate
-  Brunello Boosted
-  Burnside Boosted
-  Burnside High
-  Burnside Low
-  Caldwell Rd Boosted
-  Caledonia High
-  Central Dartmouth
-  Charles Rd Boosted
-  Churchill Intermediate
-  Cobequid High
-  Cowie High
-  Dartmouth Low
-  Eastern Passage Low
-  Fairview Clayton Park
-  Fall River Intermediate
-  Farnhamgate Intermediate
-  Flamingo Intermediate
-  Geizer123 High
-  Geizer158 High
-  Geizer Boosted
-  Glenforest Intermediate
-  Hammond Kearney
-  Hemlock High
-  Hemlock Intermediate
-  Hemlock Super High
-  Herring Cove Low
-  Herring Cove Road Intermediate
-  Kearney Lake Intermediate
-  Kingswood High
-  Lake Major High
-  Lakeside High
-  Lakeside Intermediate
-  Leiblin Boosted
-  Lively Boosted
-  Lucasville High
-  Miller Lake High
-  Miller Lake Low
-  Monarch/Rivendale High
-  Montague High
-  Mount Edward Boosted
-  Mowatt Intermediate
-  North Preston
-  Orchard High
-  Penhorn Intermed
-  Peninsula High
-  Peninsula Intermediate Central
-  Peninsula Intermediate North
-  Peninsula Intermediate South
-  Peninsula Low North
-  Peninsula Low South
-  Pockwock Boosted
-  Pockwock High
-  Princess Margaret Low
-  Ritcey Low
-  Robie Reservoir
-  Rockmanor Intermediate
-  Ross Rd
-  Sackville High
-  Sackville Intermediate
-  Silverside Boosted
-  Spryfield Intermediate
-  Titus Evans Low
-  Upper Hammonds Plains High
-  Waverley Intermediate
-  Waverley Low
-  West Bedford Intermediate
-  Williams Lake Low
-  Woodlawn Inter
-  Woodside Low