



# REQUIREMENTS FOR SMALL PUBLIC WATER SYSTEMS

OHIO EPA

DIVISION OF DRINKING AND GROUND WATERS

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A “public” water system or “private” water system is one which has its own source of water (such as a well) treatment system and/or distribution piping.

A residence connected to the city water supply is simply a “service connection”. The water supplier usually owns the meter and everything up to the curb stop, the property owner is responsible for the lateral service line and all other piping.

**Is my winery a “public” or “private” water system?**

## DEFINITION OF A PUBLIC WATER SYSTEM

"Public water system" or "PWS" means a system which provides water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections *or* regularly serves an average of at least twenty-five individuals daily at least sixty days out of the year.

# DEFINITIONS - "HUMAN CONSUMPTION"

"Human consumption" means the ingestion or absorption of water or water vapor as the result of drinking, cooking, dishwashing, hand washing, bathing, showering, or oral hygiene.



General supervision of the operation and maintenance of public water systems is a function of the Ohio EPA as set forth in Chapter 6109 of the Ohio Revised Code.



Private water systems are under the regulatory authority of the local health department. A health department may be involved with a private or public water system under other regulatory oversight such as food service or food establishment licensing.



# TYPES OF PUBLIC WATER SYSTEMS

- **COMMUNITY** Residential population such as a city, village, mobile home park, nursing Home.
- **NON-TRANSIENT, NON-COMMUNITY (NTNC)** Place of business (>25 employees) or school or day care facility (>25 enrollees).
- ✓ **TRANSIENT NON-COMMUNITY WATER SYSTEM (TNC)**. Majority of the 25 or more water users are visitors such as a restaurant, campground, park, rest area or winery.

# PUBLIC WATER SYSTEM IDENTIFICATION NUMBER (PWS ID)

**OH7845712**

- A PWS ID is a unique ID number for each public water system.
- Make sure PWS ID is on all lab slips
- Your unique PWS ID placed on the completed lab slip ensures your laboratory can report your sample result directly to the Ohio EPA electronically.



**ALL PUBLIC WATER SYSTEMS MUST OBTAIN A “LICENSE TO OPERATE” (LTO). MUST BE DISPLAYED.**

# SAMPLING REQUIREMENTS (FOR TNCs)

**Total Coliform Bacteria** - Must be conducted each calendar quarter of operation.

## Calendar Quarters

January – March

April – June

July – September

October – December

**Nitrate and/or Nitrite** - Annual Nitrate / Nitrite sampling must be conducted according to monitoring schedule

# Total Coliform Bacteria

- Use a commercial “Ohio EPA Certified” Lab.
- General “indicator” of bacterial contamination.
- Lab results expressed as “positive” or “negative”. Also sometimes expressed as “absent or present”.
- A positive result does not necessarily indicate a health threat. The sample will be immediately further analyzed by the laboratory to determine whether “e-coli” or “fecal coliform” are present.
- The presents of e-coli or fecal coli do warrant a health concern (and thus a water use advisory must be issued).

## TYPES OF SAMPLES

ROUTINE  
REPEAT  
SPECIAL PURPOSE

## SAMPLE LOCATIONS

DISTRIBUTION SYSTEM  
“ENTRY POINT”  
RAW WATER TAP



## Nitrate / Nitrite

- Found in fertilizer, septic waste, manure. Sometimes occurs naturally but not usually.
- Readily leaches through the water table (water soluble).
- Nitrates are harmful to infants under 6 months of age (binds with hemoglobin in the blood to cause “methemoglobinemia” or “blue baby” syndrome).
- All public water systems are required to test for nitrate at least once per year and nitrite at least once every nine years.

**OH7839812 MECCA CONES AND CONEYS**

System Type: Transient Noncommunity

Operating Period: 4/1 to 9/30

Groundwater Rule Minimal Treatment System

**THIS SCHEDULE MAY NOT INCLUDE ALL MONITORING REQUIREMENTS FOR YOUR SYSTEM.**

Contact your district office to review additional monitoring for operating parameters, and/or other monitoring requirements not included on this schedule. For water emergencies that occur after hours, please call 800-282-9378.

**DISTRIBUTION MONITORING SCHEDULE**

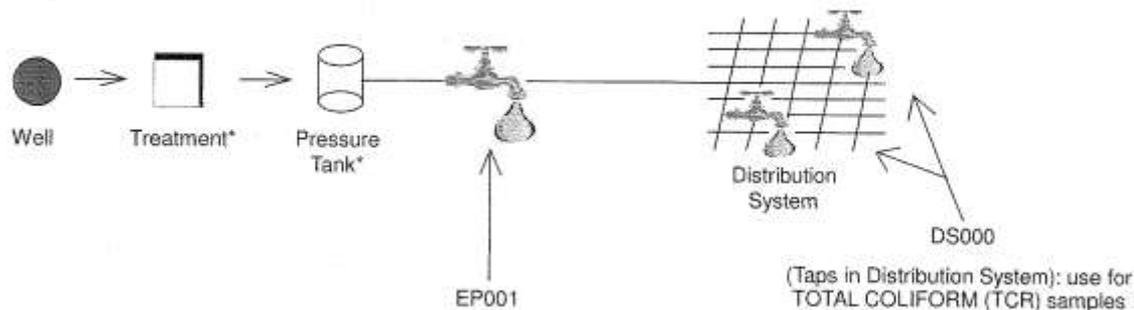
<b>Sampling Facility ID:</b> DS1	<b>Facility Name:</b> MECCA CONES & CONEYS DISTRIBUTION
<b>Location SMP ID:</b> DS000	<b>Facility Source:</b> Ground Water

Chemicals	Monitoring Requirements
TOTAL COLIFORM (TCR) - 3100	1 Sample(s) Required between 4/1/2013 and 6/30/2013 1 Sample(s) Required between 7/1/2013 and 9/30/2013

**ENTRY POINT MONITORING SCHEDULE**

<b>Sampling Facility ID:</b> 7859195	<b>Facility Name:</b> MECCA CONES & CONEYS
<b>Location SMP ID:</b> EP001	<b>Facility Source:</b> Ground Water

Chemicals	Monitoring Requirements
NITRITE - 1041	1 Sample(s) Required between 6/1/2013 and 10/31/2013
NITRATE - 1040	1 Sample(s) Required between 6/1/2013 and 10/31/2013

**Where to Collect Samples For a Small Public Water System**

(First available tap after treatment\*): use for NITRATE and NITRITE samples

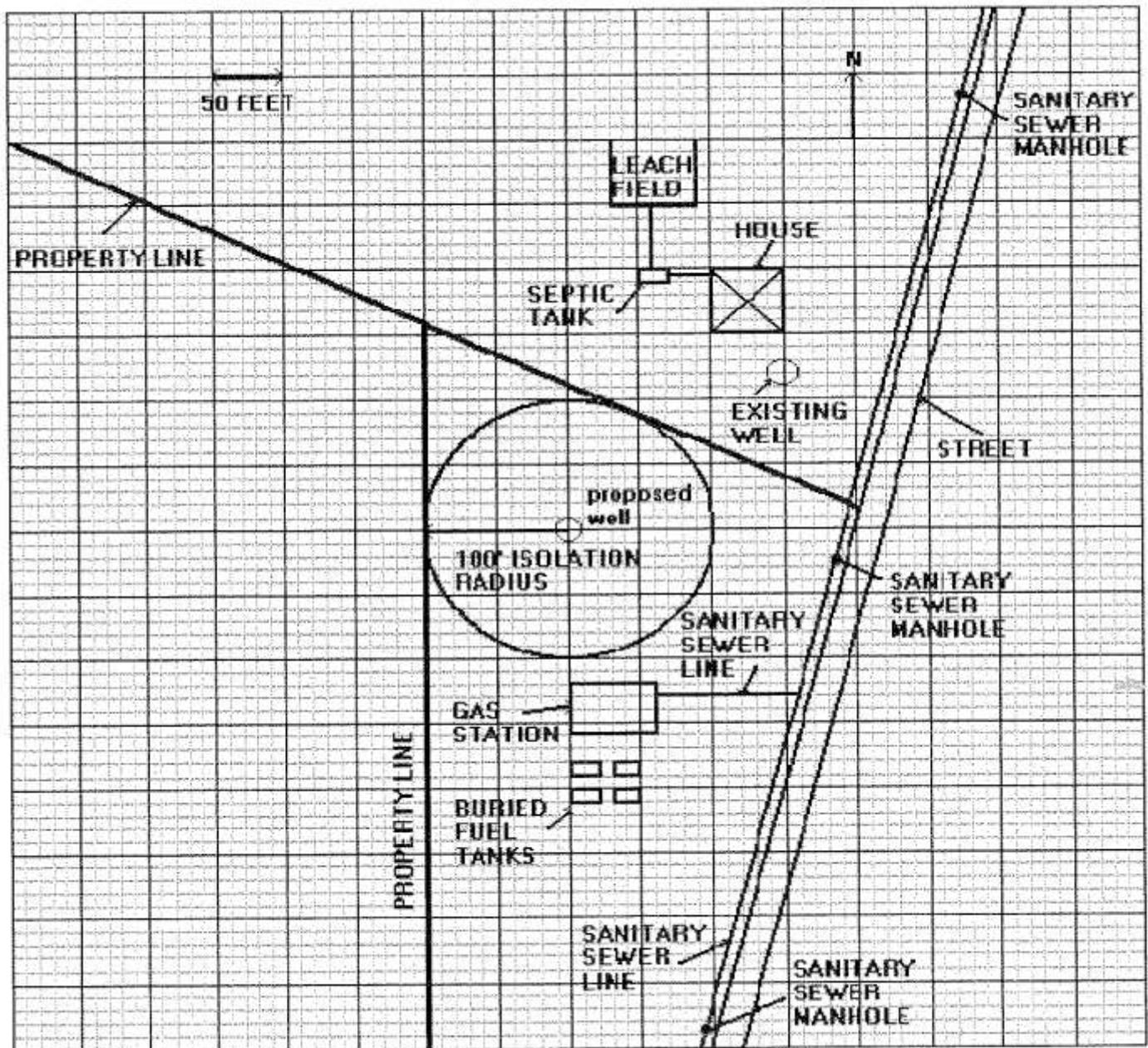
\* If system does not have treatment, EP001 is the first tap after the well.

## NEW FACILITIES

**Complete a “Well Site Application”** to use a well for a public water system. Enclose a map with the well site location. Show the sanitary isolation radius surrounding the well.

**The well must meet sanitary isolation requirements.** This means that potential sanitary influences such as septic systems, buried tanks, chemical fertilizer storage, lagoons, manholes etc.. shall not be located within the sanitary isolation radius.

**Public water wells must meet construction requirements,** including a minimum of 25 feet of impervious well casing below the ground surface. Shallow wells may be subject to surface water infiltration and thus bacterial contamination.



A proposed well must be depicted on a map along with the sanitary isolation radius. The map should accompany the “New Well Application” (available on Ohio EPA web site).

A “well site acceptance letter” must be issued by Ohio EPA before the well driller may drill the well.

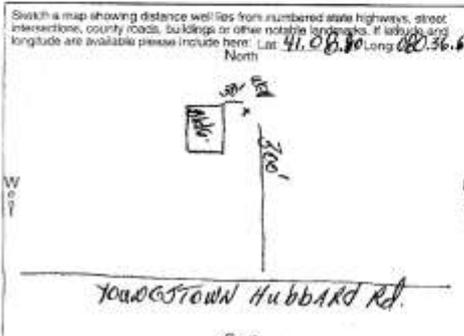
Immediately after the well is drilled, a “pump test” is performed to determine the yield of the well.

- The well driller will file a “well log” with the Ohio Department of Natural Resources (ODNR).
- You may do an “on-line” search of the ODNR web site to find your well log.
- <http://www.dnr.state.oh.us/water/maptechs/wellogs/appNEW/>
- If you are using an existing well try to find a well log or obtain information regarding the construction of your well.

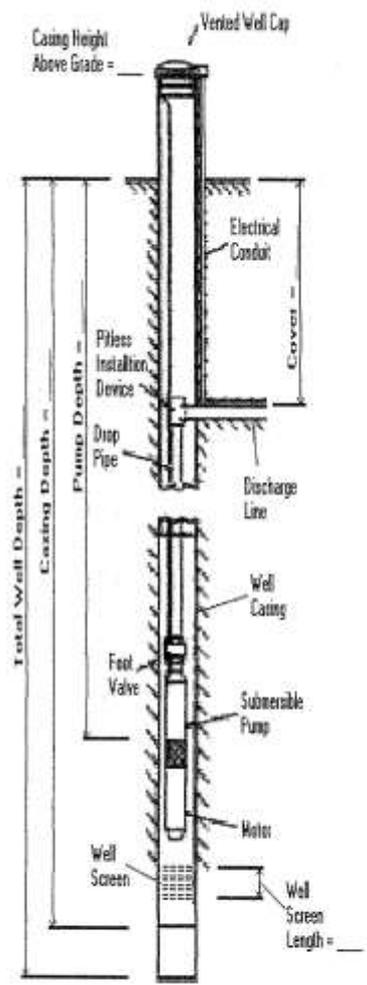
# WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources  
Division of Water, 2045 Morse Road  
Columbus, Ohio 43229-6605 Voice (614) 265-6740 Fax (614) 265-6767

1014347

WELL LOCATION	CONSTRUCTION DETAILS																					
County <b>Trumbull</b> Township <b>Hubbard</b> Operator/Builder <b>Bill Pilorusso</b> Address of Well Location <b>5801 Yungstown Hubbard Rd</b> City <b>Hubbard</b> Zip Code <b>44425</b> Permit No. <b>Sta # 7862488</b> Section/Local No. <b>01756112</b> Location of Well in State Plane coordinates, if available: N <b>41.08</b> Use of Well <b>80</b> W <b>080.36</b> Elevation of Well <b>1127</b> Datum Plan: <input type="checkbox"/> NAD27 <input type="checkbox"/> NAD83 Elevation Source <b>GPS</b> Source of Coordinates: <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Survey <input type="checkbox"/> Other	<input type="checkbox"/> Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Augered <input type="checkbox"/> Driven <input type="checkbox"/> Other <b>BOREHOLE/CASING</b> (measured from ground surface) 1) Borehole Diameter <b>10"</b> inches Depth <b>25'</b> ft. Casing Diameter _____ in. Length _____ ft. Thickness _____ in. 2) Borehole Diameter <b>6 1/2"</b> inches Depth <b>73'</b> ft. Casing Diameter <b>6 1/2"</b> in. Length <b>28'6"</b> ft. Thickness <b>188</b> in. Casing Height Above Ground <b>2'</b> Type: <input type="checkbox"/> Steel <input type="checkbox"/> Galv. <input type="checkbox"/> PVC <input type="checkbox"/> Other _____ Joints: <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Soldered <input type="checkbox"/> Other _____ <b>SCREEN</b> Diameter <b>NA</b> Slot Size _____ Screen Length _____ ft. Type _____ Material _____ Set Between _____ ft. and _____ ft. <b>GRAVEL PACK</b> (Per Pass) Material/Size _____ Volume/Weight Used _____ Method of Installation <b>NA</b> Depth: Placed FROM _____ ft. TO _____ ft. <b>GROUT</b> Material <b>BENTONITE</b> Volume/Weight Used <b>1000 lbs.</b> Method of Installation <b>GRAVITY</b> Depth: Placed FROM <b>28'6"</b> ft. TO <b>GROUND LEVEL</b> ft.																					
Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks, if address and longitude are available please include here: Lat. <b>41.08.10</b> Long. <b>080.36.60</b> 	<b>DRILLING LOG*</b> INDICATE DEPTHS AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc. <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>SAND, GRAVEL, Boulders</td> <td>0</td> <td>22</td> </tr> <tr> <td>GRAY SANDSTONE</td> <td>22</td> <td>26</td> </tr> <tr> <td>HAB GRAY SHALE</td> <td>26</td> <td>40</td> </tr> <tr> <td>BLACK SHALE</td> <td>40</td> <td>45</td> </tr> <tr> <td>GRAY SANDSTONE</td> <td>45</td> <td>72</td> </tr> <tr> <td>WHITE SANDSTONE</td> <td>72</td> <td>98</td> </tr> </tbody> </table>		From	To	SAND, GRAVEL, Boulders	0	22	GRAY SANDSTONE	22	26	HAB GRAY SHALE	26	40	BLACK SHALE	40	45	GRAY SANDSTONE	45	72	WHITE SANDSTONE	72	98
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<b>WELL TEST*</b> Pre-Pumping Static Level <b>40</b> ft. Date <b>12-1-10</b> Measured from: <input type="checkbox"/> Top of Casing <input checked="" type="checkbox"/> Ground Level <input type="checkbox"/> Other _____ <input type="checkbox"/> Air <input checked="" type="checkbox"/> Sinking <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Other _____ Test Rate <b>&gt; 20</b> gpm Duration of Test <b>12</b> hrs. Feet of Drawdown <b>2'8"</b> ft. Sustainable Yield <b>&gt; 20</b> gpm *Attach a copy of the pumping test record, per section 1521.05, CRC Is Copy Attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Flowing Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Quality <b>CRAR</b>	1. H2O AT 60' 2. H2O AT 90'																					
<b>PUMP/PITLESS</b> Type of pump <b>SUBMERSIBLE</b> Capacity <b>15</b> gpm Pump set at <b>80'</b> Pile type <b>DICKERS</b> Pump installed by <b>E.R. EPPINGER WELL DRILLING</b> *I hereby certify the information given is accurate and correct to the best of my knowledge. Drilling Firm: <b>E.R. EPPINGER WELL DRILLING</b> Address: <b>P.O. Box 363</b> City, State, Zip: <b>New Bedford, PA 16140</b> Signed: <b>E.R. Eppinger</b> Date <b>12-22-10</b> ODH Registration Number: <b>000734</b>	*If more space is needed to complete drilling log, use next consecutively numbered form. Date of Well Completion: <b>12-1-10</b> Total Depth of Well: <b>98'</b> ft.																					

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.  
**ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 2045 MORSE ROAD, COLS., OHIO 43229-6605**  
 Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy



**CASING MANUFACTURING SPECIFICATION**  
(CHECK APPROPRIATE ONE)

**STEEL**  
 \_\_\_\_\_ ASTM A 53 / A53M-01  
 \_\_\_\_\_ ASTM A589-96  
 \_\_\_\_\_ ASTM A106-99a1  
 \_\_\_\_\_ API 5L

**PLASTIC**  
 \_\_\_\_\_ ASTM F480-00

**CASING**  
 DIAMETER: \_\_\_\_\_ INCHES  
 GROUND ELEVATION: \_\_\_\_\_  
 100-YEAR FLOOD ELEVATION: \_\_\_\_\_

**PITLESS INSTALLATION DEVICE**  
 MAKE: \_\_\_\_\_  
 MODEL: \_\_\_\_\_  
 APPROVAL TYPE: NSF \_\_\_\_\_ WSC \_\_\_\_\_  
 (CHECK ONE)

**DISCHARGE LINE**  
 MATERIAL: \_\_\_\_\_  
 DIAMETER: \_\_\_\_\_ INCHES  
 APPROVAL TYPE: NSF \_\_\_\_\_ AWWA \_\_\_\_\_

**PUMPING TEST (ATTACH ACTUAL PUMP TEST FORM)**  
 DURATION OF TEST: \_\_\_\_\_  
 STATIC LEVEL: \_\_\_\_\_  
 PUMPING RATE: \_\_\_\_\_ GPM  
 MAXIMUM DRAWDOWN: \_\_\_\_\_ FEET

**PUMP (ATTACH PUMP CURVE)**  
 MAKE: \_\_\_\_\_  
 MODEL: \_\_\_\_\_  
 CAPACITY: \_\_\_\_\_ GPM AT \_\_\_\_\_ TDH  
 HORSEPOWER: \_\_\_\_\_

**WELL DRILLER**  
 COMPANY NAME: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_

**ADDITIONAL EQUIPMENT:**

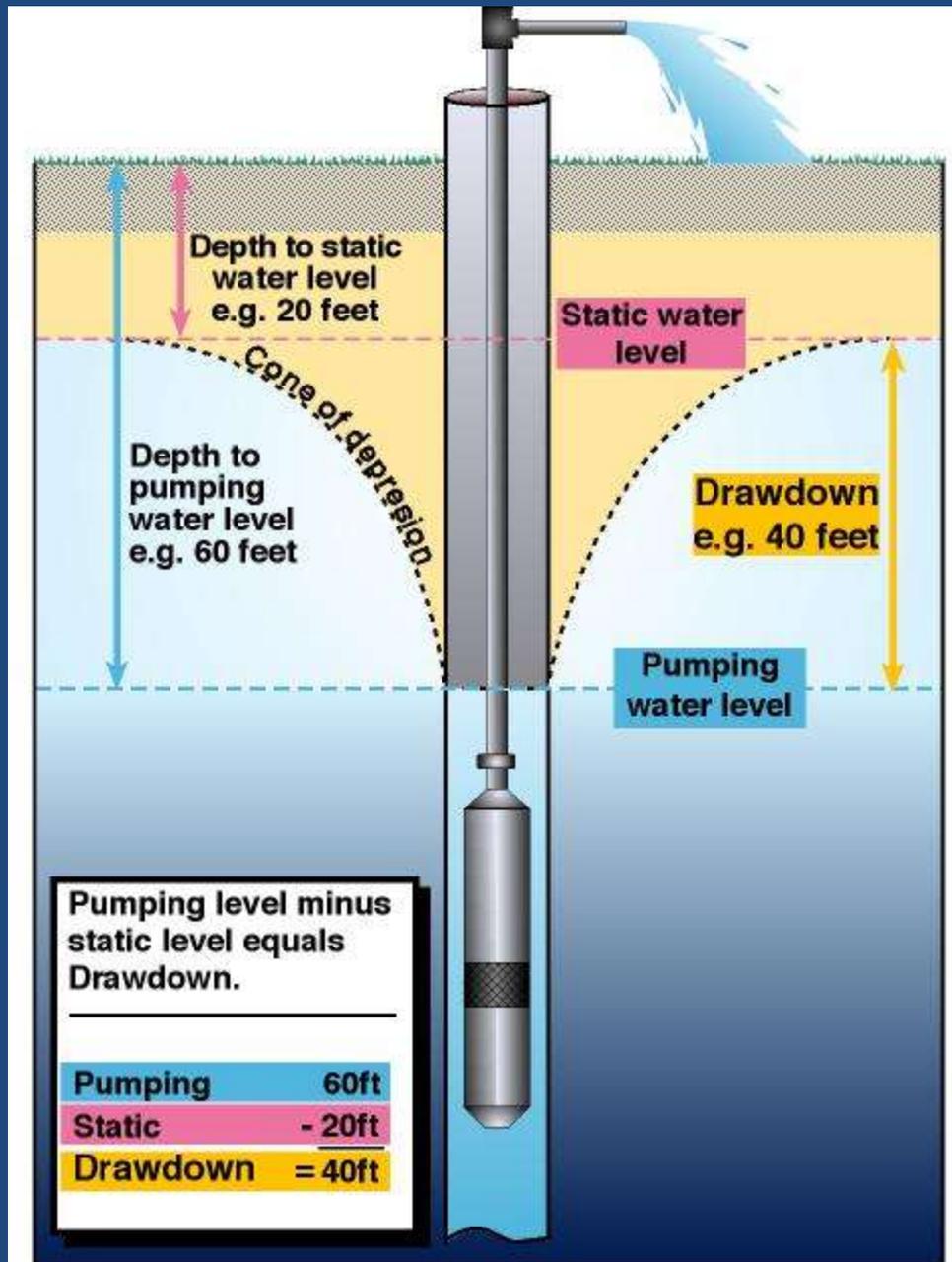
DESCRIBE BELOW ANY ADDITIONAL ITEMS THAT THE WELL WILL BE EQUIPPED WITH (I.E. GRAVEL REFILL TUBES, VENT EXTENSION):

\_\_\_\_\_

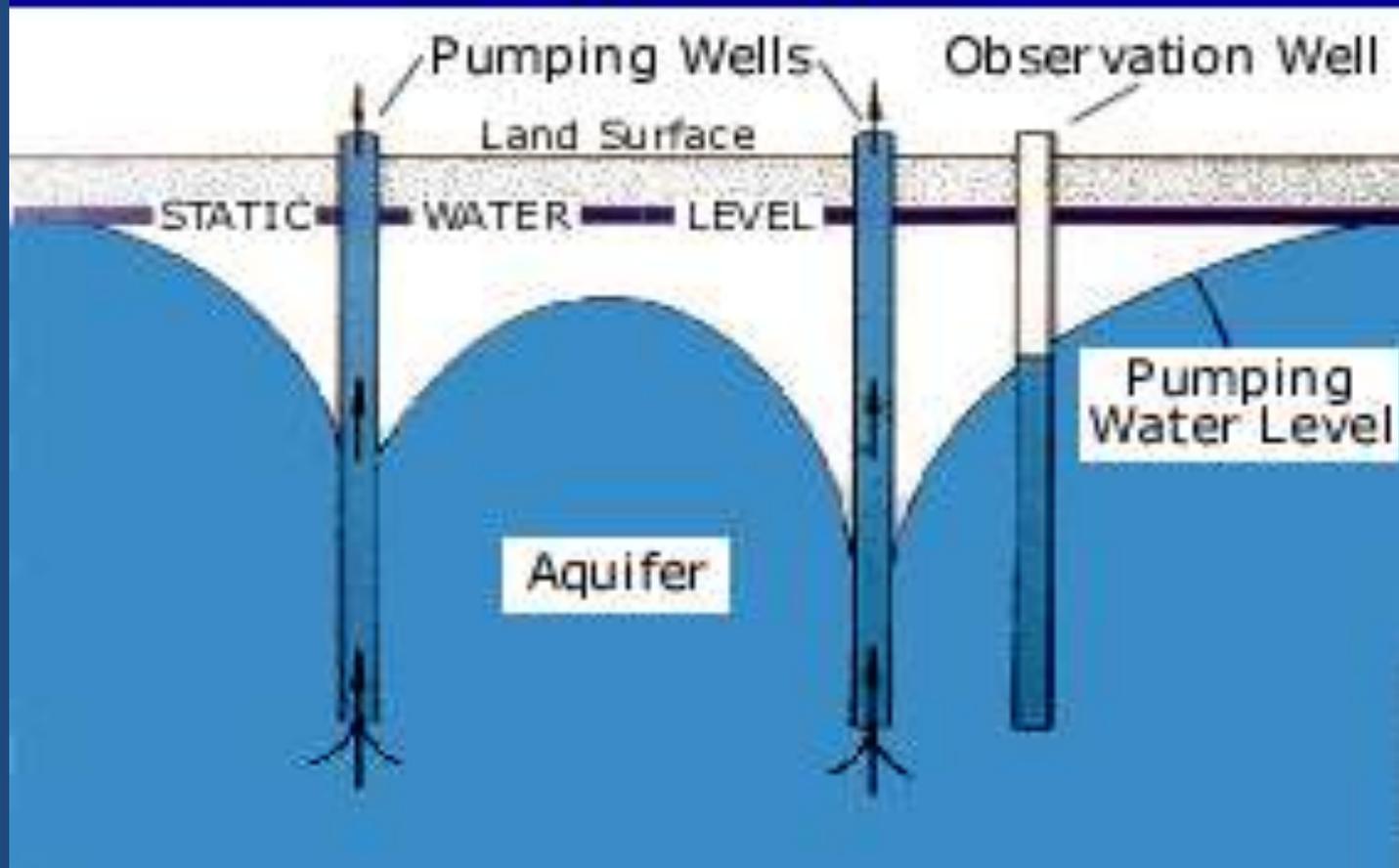
\_\_\_\_\_

\_\_\_\_\_

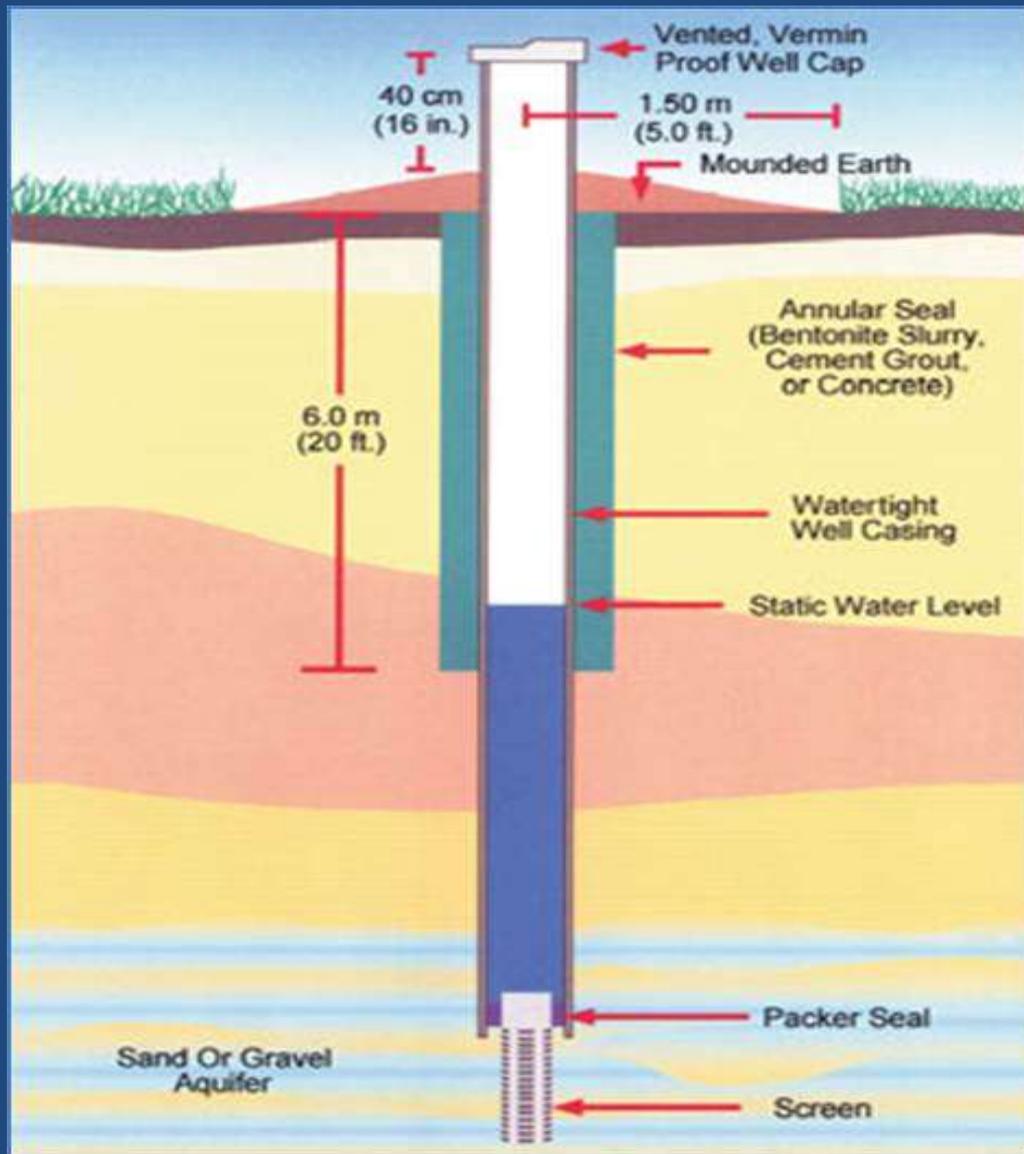
**NOTE:** WHEN COMPLETING THIS FORM BE SURE TO FILL IN THE BLANKS THAT ARE PROVIDED ON THE ILLUSTRATION, I.E., TOTAL WELL DEPTH = \_\_\_\_\_, ETC.



# Well Field Drawdown



**ZONE OF INFLUENCE**



(Ontario Ministry of Health and Long-term Care, 2009)

## Maass™ WT Aluminum Well Caps WTCC SERIES



### Features:

- WT caps Water Systems Council listed
- PAS-97 (04) listed
- Neoprene gasket to prevent foreign intrusion
- When cap top removed - wire completely exposed for easy service
- Cast aluminum - will not warp or crack
- Stainless steel nuts and bolts
- Downward facing screened vent
- Furnished with rubber grommet to prevent wires from fraying
- Tapped conduit fitting
- 10WTA and 12WTA have 2 - 1" screened vents as standard

## **“COMPLETE” WELL ANALYSIS**

- One time “screening” of well water quality (may cost around \$1,200 to \$1,400) and includes several parameters including inorganic contaminants, radiological, VOCs, SOCs, total dissolved solids etc.
- Well is sampled after the pump test (usually driller takes samples).
- Ohio EPA reviews the analysis, looks at “**primary**” and “**secondary**” contaminants to see if they are above the “**maximum contaminant level**” or “**MCL**”.
- Ohio EPA sends letter with treatment *recommendations* or *requirements* for the proposed well.

## **DETAIL PLANS REQUIRED**

### **Ohio Administrative Code 3745-81-91:**

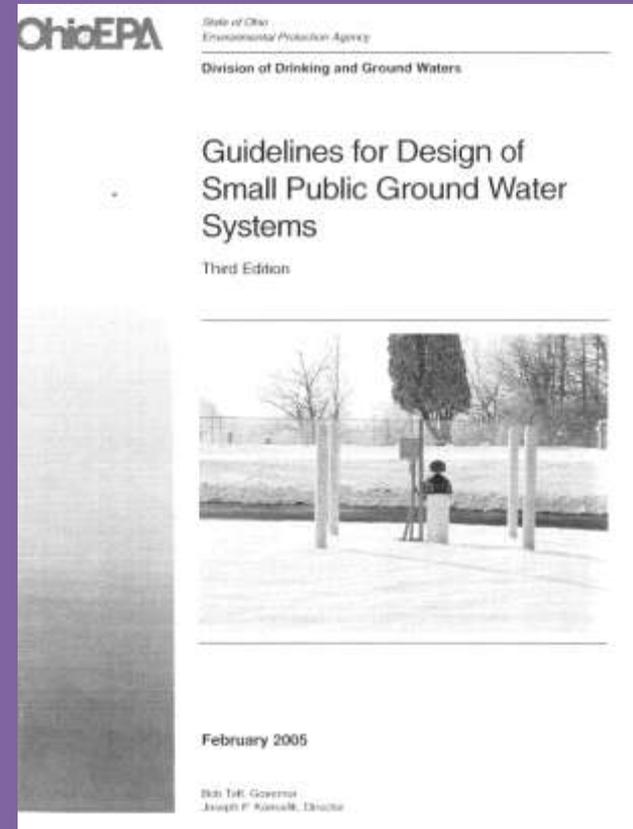
- **The PWS must submit engineering design plans of the proposed water system to Ohio EPA prior to constructing the water system. In some cases, plans may be submitted “as built”.**
- **No person shall begin construction or installation of a public water system, or make a substantial change in a public water system, until plans therefor have been approved by the director of environmental protection.**

# DETAIL PLANS – DESIGN REFERENCE

## “Guidelines for Design of Small Public Ground Water Systems”

This publication can be found on the Ohio EPA Drinking Water Web Site

[www.epa.ohio.gov/ddagw](http://www.epa.ohio.gov/ddagw)



## DETAIL PLANS REQUIRED

Cont...

Water system components must be approved by the “National Sanitation Foundation” (NSF).

The “NSF” logo should be embossed on the equipment or chemical (bleach) or bag of salt.

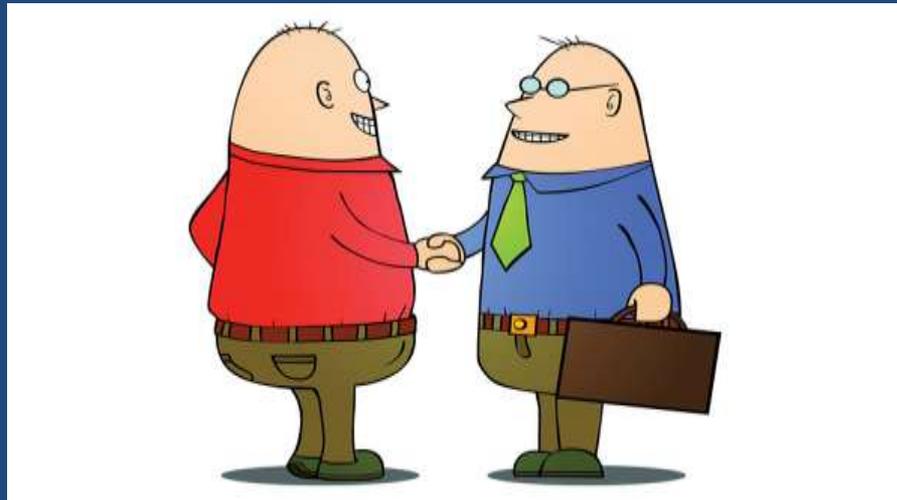
Other third party approval is acceptable for certain appurtenances such as ANSI or WSC or “UL” (Underwriter Laboratories).



# SANTIARY SURVEYS AND SITE VISITS

“Routine” sanitary survey for a transient water system (TNC) conducted once every five (5) years.

“Limited Scope” site visits (LSSV) conducted by Ohio EPA to focus on problem, complaint or provide technical assistance. May be in response to:



## LSSV

- E-coli bacteria investigation (e-coli is an immediate health threat to consumers)
- MCL for total coliform bacteria (indicates bacteria present in water – investigation focuses in finding the source of bacteria and eliminating it).
- Provide technical assistance to correct a problem (including bacteria, or other issues).
- Conduct investigative sampling – sampling conducted by Ohio EPA (no charge for samples).
- Ownership changes
- Operational issues
- Complaint

## OTHER SITE VISITS

### ENFORCEMENT MEETINGS:

- Non-compliance issues which are unresolved with the goal of getting back into compliance without enforcement.
- Formal Enforcement Related meetings (should all else fail).

### SWAP:

- Source Water Assessment and Protection

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