



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
GRAND RAPIDS DISTRICT OFFICE



Michael McClellan
DIRECTOR

August 24, 2017

Ms. Becky Schlienz, Treasurer
City of Belding
120 South Pleasant Street
Belding, MI 49809

WSSN: 00560

Dear Ms. Schlienz:

SUBJECT: City of Belding (Belding) - Water System Level 2 Assessment

This letter confirms Department of Environmental Quality (DEQ) staff, Wood Chooi and Jeremy Klein, water system visit with City of Belding DPW Director Mr. Ernie Thomas on August 7, 2017, and summarizes the subsequent review and discussion of the water supply facilities serving the City of Belding. The purpose of this meeting was to evaluate the water system following an event where more than the allowed amount of total coliform and E. Coli positive samples occurred, and with respect to the requirements of the Michigan Safe Drinking Water Act, 1976 PA 399, as amended (Act 399). The enclosed Level 2 Assessment form was completed to gather information on the Belding water supply system.

The following table summarizes our findings from our assessment of the water system:

Assessment Area	Findings
Sample Site Selection and Sample Collection	No Deficiencies/Recommendations
Source—Wells	No Deficiencies/Recommendations
Well House or High/Low service Pump House	Recommendations
Treatment	Recommendations
Storage	No Deficiencies/Recommendations
Distribution System	No Deficiencies/Recommendations
Operations and Maintenance	No Deficiencies/Recommendations
Other	None

This assessment was conducted as a result of the Revised Total Coliform Rule, which took effect April 1, 2016. A Level 1 Assessment occurs when a water supply collects two or more total coliform positive samples in a month (for systems collecting fewer than forty samples per month, like Belding) or more than five percent of the system's samples are total coliform positive (for a larger system collecting more than forty samples per month). A Level 2 Assessment occurs when a water supply has an E. coli maximum contaminant level violation or when a water supply incurs a second Level 1 Assessment trigger in a 12-month period.

On August 4, 2017, Belding triggered a Level 2 Assessment. Belding routine monthly sampling consists of untreated raw well water samples from each of the four wells that serves the water system and four routine sampling locations in the water distribution system. Two wells tested positive for total coliform bacteria and the other two wells tested positive for E. Coli. Two of the four distribution system sampling locations tested positive for total coliform bacteria and the other two sampling locations were negative for total coliform bacteria.

Prior to the Level 2 Assessment trigger, DEQ staff conducted a routine water system visit on July 28, 2017. During the visit we discussed water system operation and maintenance, and inspected the water system facilities. The water system operation and maintenance appears to be satisfactory.

There were two findings during our inspection of the water system facilities on July 28, 2017:

1. The four wells had their 55-gallon phosphate drum cap removed to provide a 2-inch diameter opening for insertion of a chemical suction tube inside the drum to the phosphate solution. The opening with the chemical suction tube was not covered to prevent insects or dirt to get to the phosphate solution. Of the four wells serving the water system, Well 4 phosphate tank needed the most attention as some amount of dark substance had settled at the bottom of the phosphate solution thus requiring it to be replaced with new phosphate solution.
2. The well pump house's doors were rusted and some of the wood was rotted, mainly at the door bottom. Some of the rotted wood created small holes where rodents could get inside the well pump house and if a chlorine gas leak occurs, it could get outside the well pump house.

The Level 2 Assessment trigger has required DEQ to conduct another water system visit on August 7, 2017. Our review and inspection of the water system facilities is indicated in the enclosed Level 2 Assessment check list and we find that the water system operation and maintenance was satisfactory. The finding on August 7, 2017, was that the Well 4 casing vent discharge pipe outlet did not have adequate separation distance from the floor drain.

Also, two rounds of water sampling conducted on August 4 and August 5, 2017, consisting of well and distribution samples, were non-detect for total coliform bacteria and E. Coli. The issue with the phosphate day tank as indicated above; the opening with the chemical injection tubing was properly sealed. All the phosphate solution day tank for all the wells were clean and there was no chlorine feed pump failure to provide continuous chlorine treatment.

The following are three recommendations that the City of Belding needs to pursue even though these three items, we believe, are not the cause of the total coliform bacteria and E. Coli detects:

- Well 4 casing vent discharge pipe outlet has a very small air gap separating it from the floor drain. The air gap shall be at least two times the pipe diameter but not be less than one inch and needs not to be more than 12 inches. An adequate air gap is needed to ensure that the discharge pipe outlet does not get submerged under unpotable water, thus creating a cross connection. An adequate air gap for the Well 4 casing vent pipe is to be constructed by **September 30, 2017**.

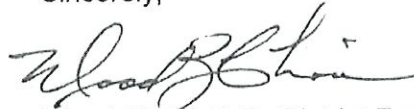
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- The well pump house has rusted doors that have rotted wood at the door bottom. These need to be repaired or replaced by **October 31, 2017**.
- Always keep the phosphate solution clean by having no openings in the phosphate day tank that will allow insects or dirt to get to the phosphate solution.

In conclusion, we find no specific items that caused the water samples collected on August 2, 2017, to test positive for total coliform and E. Coli.

If you have any questions about the Revised Total Coliform Rule, or this assessment, please contact me at the phone number below, or by e-mail at chooiw@michigan.gov.

Sincerely,



Wood Chooi, P.E., District Engineer
Grand Rapids District Office
Drinking Water and Municipal Assistance Division
616-356-0228

WC:kw

Enclosure

cc/enc: Mr. Ernie Thomas, City of Belding
cc: District Health Department Ionia County



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE

LEVEL 2 ASSESSMENT FORM FOR COMMUNITY WATER SUPPLIES

Issued under authority of the Safe Drinking Water Act, 1976 PA 399, as amended,
MCL 325.1001 et seq., and its Administrative Rules (Act 399).

This form must be completed as soon as possible, but no later than 30 days after the supply triggered the assessment. It must be completed by DEQ - Office of Drinking Water & Municipal Assistance staff.

1. General Information	
CWS Name: City of Belding	WSSN: 00560
DEQ Staff Completing Assessment: Wood Chooi, Jeremy Klein	
Name & Title of Person Representing the CWS During Assessment: Ernie Thomas, DPW Supervisor	
Level 2 Trigger: <i>E. coli</i> MCL <input checked="" type="checkbox"/> or 2 nd Level 1 Assessment in 12 months <input type="checkbox"/>	
Date Assessment Triggered: 08/04/2017	Date Assessment Completed: 08/10/17

2. Bacteriological Sample Summary (Include all results associated with monitoring period, add additional pages if necessary)					
Date & Time	Location	Purpose (Routine, Repeat, Triggered, Special Purpose)	Result (ND, TC+, EC+, invalid, interference)	Collected By	Laboratory
8/2/17	105 W State	Routine	ND	G Regan	0020
8/2/17	317 E Ellis	Routine	TC +	G Regan	0020
8/2/17	1510 W State	Routine	TC +	G Regan	0020
8/2/17	120 S Pleasant	Routine	EC +	G Regan	0020
8/2/17	Well 2	Triggered	TC +	G Regan	0020
8/2/17	Well 4	Triggered	EC +	G Regan	0020
8/2/17	Well 5	Triggered	TC +	G Regan	0020
8/2/17	Well 1	Triggered	EC +	G Regan	0020
8/2/17	S Tower	Routine	ND	G Regan	0020
8/4/17	324 E Ellis	Repeat	ND	G Regan	3950
8/4/17	317 E Ellis	Repeat	ND	G Regan	3950
8/4/17	304 E Ellis	Repeat	ND	G Regan	3950
8/4/17	1437 W State	Repeat	ND	G Regan	3950
8/4/17	1510 W State	Repeat	ND	G Regan	3950
8/4/17	1527 W State	Repeat	ND	G Regan	3950
8/4/17	130 S Bridge	Repeat	ND	G Regan	3950
8/4/17	120 S Pleasant	Repeat	ND	G Regan	3950
8/4/17	203 Pleasant	Repeat	ND	G Regan	3950
8/4/17	Well 2	Follow-up	ND	G Regan	3950
8/4/17	Well 4	Follow-up	ND	G Regan	3950
8/4/17	Well 5	Follow-up	ND	G Regan	3950
8/4/17	Well 1	Follow-up	ND	G Regan	3950
8/5/17	324 E Ellis	Repeat	ND	G Regan	3950
8/5/17	317 E Ellis	Repeat	ND	G Regan	3950
8/5/17	304 E Ellis	Repeat	ND	G Regan	3950
8/5/17	1437 W State	Repeat	ND	G Regan	3950
8/5/17	1510 W State	Repeat	ND	G Regan	3950
8/5/17	1527 W State	Repeat	ND	G Regan	3950
8/5/17	130 S Bridge	Repeat	ND	G Regan	3950
8/5/17	120 S Pleasant	Repeat	ND	G Regan	3950
8/5/17	203 Pleasant	Repeat	ND	G Regan	3950
8/5/17	Well 2	Follow-up	ND	G Regan	3950
8/5/17	Well 4	Follow-up	ND	G Regan	3950
8/5/17	Well 5	Follow-up	ND	G Regan	3950
8/5/17	Well 1	Follow-up	ND	G Regan	3950

3. Assessment Questions: Answer each question in Subsections A - H either Yes, No or Not Applicable (NA). Review and evaluate each question for potential causes of contamination. If the answer to any of these questions is unknown, leave blank and indicate on a separate sheet what actions will be taken to determine the necessary information, including any supplemental information that needs to be provided by the water supply.

A. Sample Site Selection and Sample Collection	Answer		
	Yes	No	NA
Were the samples collected in accordance with the Sample Site Plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For positive samples, were the taps used in appropriate condition for collection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For positive samples, were the taps used on a regular basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did someone other than a regular sample collector collect the samples?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were proper sample collection procedures followed? (tap flushed, aerator removed, cap properly handled, clean and sealed sample bottles used, bottles not rinsed, etc.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were the samples kept cool and delivered to the lab within 30 hours of collection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have there been any recent plumbing changes or construction at the site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any identified cross connections near the sample tap or premise plumbing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there any Point of Entry (POE) treatment units after the service line connection or in the premise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there any Point of Use (POU) treatment units at the sample tap(s) location?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

B. Source – Wells (if wells are not used check here <input type="checkbox"/> and go to subsection C)	Answer		
	Yes	No	NA
Do the wells have approved and secured well caps or sanitary seals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the well caps or sanitary seals vented and screened?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the top of the well head at least 12-inches above grade?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the electrical conduit damaged or not sealed to the well cap?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the ground graded to prevent water flow towards the wells?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there standing water or other unsanitary conditions near the wells?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have any wells/pumps undergone any recent repairs or maintenance activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Do the wells have adequate isolation distances from sources of contamination?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the raw water quality data indicate changes to the source water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has the pumping capacity of the well(s) changed recently?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any sewer or chemicals spills, or other disturbances near the wells?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have any backup or emergency wells been placed into service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

C. Source – Surface Water (if surface water is not used check here <input checked="" type="checkbox"/> and go to subsection D)	Answer		
	Yes	No	NA
Is the intake screened and in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any signs of vandalism or unauthorized access to source facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the raw water quality data indicate changes to the source water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are there any obvious sources of contamination in the source?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have there been any sewer or chemicals spills, or other disturbances in the area of the source?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any signs of Algal blooms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was there any heavy precipitation, rapid snowmelt or flooding recently?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any signs of drought or low water levels in the source?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has source water turnover occurred?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. Well House or other Low or High Service Pump House (if there are no well/pump houses, check here <input type="checkbox"/> and go to subsection E)	Answer		
	Yes	No	NA
Are there unsanitary conditions?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any openings where animals may enter?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there signs of animal activity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Are air/vacuum relief valves properly screened and air gapped?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are any vents/reliefs associated with control valves air gapped and not subject to flooding?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any cross-connections (piping in drains, chemical feed, irrigation, fire suppression)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the pump-to-waste piping capped and air gapped?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the well/pump house subject to flooding?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the well/pump house used for any other purposes such as storage or maintenance activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there evidence of unauthorized entry?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

E. Treatment (if no treatment check here <input type="checkbox"/> and go to subsection F)	Answer		
	Yes	No	NA
Have there been additions or modifications to any treatment process?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been interruptions in any chemical feed, treatment unit or process?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any recent maintenance or repair of treatment equipment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are all treatment devices and processes operational and properly maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any signs of vandalism or unauthorized access to treatment equipment or facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any signs that the chemicals being fed have been contaminated (discoloration, unusual odors, suspended particles, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If chlorine is used, was there a detectable residual at the sample sites where the positive samples occurred?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If chlorine is used, is a residual currently being detected at the plant tap and within the distribution system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were there any instances where C*T was not properly maintained?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does water quality data indicate inadequate or inappropriate treatment of water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If sand/gravel or other mixed media filtration is used, are the media depths near the original design depths and are the underdrains in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Did the plant flow exceed the state rated treatment capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
For surface water plants, did a review of the turbidity data reveal any anomalies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For membrane plants, is daily integrity testing being performed every 24 hours of operation and do the results indicate that the membranes are in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

F. Storage (if no water storage tank check here <input type="checkbox"/> and go to subsection G)	Answer		
	Yes	No	NA
Are there any holes, leaks, cracks or other structural problems that could be a source of contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are access hatches and manhole openings tightly covered, and secured?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the access hatches/openings have a tightly fitted, rim overlapped cover and non-deteriorated gasket?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are all vents and overflow pipes properly screened?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the vents turned downward with an adequate air gap at the termination point?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do the overflow pipes have at least a 12-inch air gap at the outlet?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do overflow pipes and downspouts drain water away from the structure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
For hydropneumatic storage, is the tank maintaining adequate minimum pressure?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For hydropneumatic storage, is the tank waterlogged?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are the storage facilities secured to prevent unauthorized access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any signs of vandalism or unauthorized access visible?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is there evidence of bird activity on the storage tank roof (nests, droppings, feathers, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is any portion of the storage facilities buried or installed below grade?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has there been any tank maintenance or recent work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any recent inspections indicating sanitary deficiencies or recommended repairs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If the tank has been inspected or removed from service recently, was it properly disinfected and sampled?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If chlorine is used, is there a detectable residual in or leaving the tank(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

G. Distribution System	Answer		
	Yes	No	NA

Is there any evidence the system experienced low (< 20 psi) or negative pressure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any water main breaks, repairs, or new main installations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any firefighting, system flushing or other high demand events recently?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any distribution system booster pump issues, repairs or new installations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have there been other construction activities like hydrant or valve replacement that could have introduced contamination into the system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there hydrants or blow-offs with unplugged weep/drain holes located in areas of high water table or poorly draining soils?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any dead-ends that are not flushed on a regular basis?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any air relief valves located in vaults where the vent terminates below grade or are not properly air gapped above grade?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the supply actively performing cross connection control inspections, including regular testing of all testable backflow preventers including those at residential accounts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is there any evidence of intentional contamination in the distribution system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are there any control or altitude valves subject to flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

H. Operation and Maintenance (O & M)	Answer		
	Yes	No	NA
Any changes in procedures or staff effecting O & M activities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is maintenance of all facilities and equipment being performed per appropriate schedule?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any recent interruptions to electrical power?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any automation/control system interruptions recently?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any complaints from customers related to water quality or low pressure?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Have there been any illnesses reported or suspected of being waterborne?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Any other issues that could have contributed to bacteriological contamination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4. Issue Description: For any answer in Part 3 that is in a shaded box, use this space to describe the event and provide additional information on potential causes of contamination identified during the assessment. Include corresponding dates with your findings. Attach additional pages if needed. Include dates of sample collection, water main breaks, maintenance activities, etc. with your findings.

On July 28, 2017 DEQ staff Wood Chooi conducted a water system visit at the City of Belding. One of the items found was that the phosphate day tank at the well houses has cap removed to provide an opening for the phosphate injection tubing. The opening could allow insects or dirt/dust to get inside the phosphate day tank and contaminate the phosphate solution. Of the four wells serving the water system, Well 4 phosphate tank is the one of concern and it has black substance settled at the tank bottom. Water operator was requested to replace Well 4 phosphate tank with new phosphate solution. It was our understanding that Well 4 phosphate solution was replaced before the incident happened.

It is our understanding that there are no interruptions in chlorine treatment when the incident occurred. If the phosphate solution is compromised the chlorine treatment will provide the disinfection of the phosphate solution added to the water system. We do not think that the phosphate solution is the cause of the positive bacteriological test results.

Our inspection on August 7, 2017, all the phosphate day tanks were adequately sealed with no openings for potential contaminants to get inside the tank.

Also, the August 7, 2017 inspection we find that the Well 4 screened casing vent discharge pipe outlet was very close to floor drain. Appropriate air gap must be provided between the discharge pipe outlet and the floor drain. The lack of adequate air gap may cause a potential cross connection if the discharge pipe outlet is submerged in unpotable water. During our inspection, the discharge pipe outlet was not submerged and cross connection was not an issue.

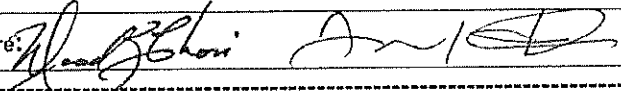
Another item found was the rusted condition of the well pump houses doors specifically at the door bottom and some of the wood were rotted. Some of the rotted wood created small holes where rodent could get inside the well pump house and if chlorine gas leak occurs it could get outside the well pump house. We do not think the rusted doors contribute to bacteriological samples tested positive.

5. Corrective Actions Taken or to be Taken for any Issues Identified in Part 3: Use this space to describe corrective actions already taken and date completed, and/or a proposed timetable for corrective actions not yet completed. Attach additional pages if needed.

1. The City must maintain the phosphate day tank routinely to ensure that the phosphate solution is clean.
2. Provide adequate air gap for Well 4 casing vent discharge pipe outlet over the floor drain by **September 30, 2017**.
3. The well pump rusted doors that has rotted wood at the door bottom need to be repaired or replaced by **October 31, 2017**.

6. Certification: I hereby certify that the information contained herein is true, accurate and complete to the best of my knowledge and information. Must be DEQ - ODWMA staff.

Assessor's Name (printed): Wood Chooi and Jeremy Klein

Assessor's Signature:  Date: 8-24-17

7. DEQ District Supervisor Review: This section is to be completed by DEQ District Supervisor.

Supervisors Name: Luke Dehtiar	Date Reviewed: 8/24/17
Date Received: 8/22/17	Within 30 days of trigger: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Assessment Complete: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Likely Reason for Positive Samples Identified: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Corrective Actions Completed: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/>	Proposed Schedule Acceptable: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
Assessment Level Reset: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Comments:	