Gray, Jane K - DNR

From: OJ Ojinaga <oj.ojinaga@ghd.com>
Sent: Saturday, January 25, 2025 10:54 AM
To: Holt, Michael (he/him/his); Gray, Jane K - DNR
Subject: CW3 Shutdown Proposal
Attachments: 003978Bianchin-40-CW3 Proposal (lf).pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Michael and Jane,

I have attached the original shutdown proposal for CW-3. There should be some email correspondence between Chuck Ahrens (GHD) and Sheri Bianchin (EPA) and Matt Thompson (WDRN). However, I don't have those emails, but other internal emails make mention of said emails.

Based on reading through internal emails, this proposal was reviewed and was close to approval. Maybe you can find some email records regarding the review of where this was left off.

Thanks,
OJ

Daniel (OJ) Ojinaga
Project Manager/Engineer

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January 2, 2020 Reference No. 003978

Sheri Bianchin
Remedial Project Manager
EPA Region 5
77 West Jackson Blvd.
Chicago, IL 60604-3590

Matt Thompson
Hydrogeologist
Wisconsin Department of Natural Resources
1300 W. Clairemont Avenue
Eau Claire, Wisconsin 54701

Dear Ms. Bianchin and Mr. Thompson:

Re: City of Wausau New Drinking Water Treatment Facility and Changes to the Treatment of City Well CW-3 Wausau Water Supply NPL Site Wausau, Wisconsin

As presented to you during the Site inspection on October 29, 2019, the City of Wausau (City) is building a new Drinking Water Treatment Facility (DWTF) on the west side of the Wisconsin River. City water supply well CW-3 is the only City well on the east side of the river and it will no longer be practical to operate it for water supply. Since CW-3 is a component of the remedy for the Wausau Water Supply National Priorities List (NPL) Site, the City is requesting guidance and assistance from the United States Environmental Protection Agency (EPA) and Wisconsin Department of Natural Resources (DNR) to get approval for a modification of the Record of Decision (ROD). The City is proposing to continue remedial operation of CW-3 and discharge to the Wisconsin River via the storm sewer. Given the very low concentrations of Site contaminants in the CW-3 influent, continued treatment, via air stripping, is not needed.

Additional background information, current CW-3 data, proposed future operation of CW-3, and the City's schedule for completion of the new DWTF are presented below.

1. Background

In 2017 the DNR issued a mandate requiring the City to address several deficiencies at their DWTF by December 31, 2022. Most notably the City must relocate the clearwell, the tank that holds treated water, above the water table.

The costs for addressing the mandated deficiencies are substantial. Thus, the City completed a planning process to consider what other improvements should be made and to explore potential alternatives. Given the age of the current DWTF, it became apparent that the costs to rehabilitate the entire facility would be very large, prompting the City to seriously consider the alternative of relocating the DWTF. Relocation of the DWTF has the additional benefits of moving the water treatment facility away from the riverbank (the plant is currently located in the Wisconsin River 500-year floodplain) and nearby riverbank recreational improvements (River Front Development).

In early 2019 the City Council voted to relocate the DWTF to a parcel of property approximately 1 mile north of the existing DWTF and on the west side of the river. The new facility will be located very close to most of the West Bank Wellfield water supply wells. Design is underway and construction of the new

facility is scheduled to start in 2020. Figure 1 presents the locations of the City supply wells, existing DWTF, and the new DWTF.

Well CW-3 will be isolated from the rest of the well field and the new DWTF. CW-3 is approximately 58 years old, with most equipment original to the installation, and is among the most difficult to maintain. Thus, in order to remain a viable drinking water supply well, it would require very extensive renovations and modifications. The City does not need CW-3 to meet its water supply capacity requirements and the raw water supplied is among the most challenging to treat due to naturally occurring iron, manganese, and organic carbon.

The recommended pumping rate for CW3 was established in an August 4, 1995 letter from EPA. In accordance with the letter, pumping of CW3 was to be maintained between 65 hours per week at 1,200 gallons per minute (gpm) to 100 hours per week at 1,100 gpm. This equates to a minimum of 4,680,000 gallons per week.

2. CW-3 Data Evaluation

CW-3 is approximately 1,000 feet northeast of the principal contaminant source area on the East Bank (former Wausau Chemical Corporation at 2001 N. River Drive). The contaminants of concern on the East Bank portion of the NPL Site are chlorinated volatile organic compounds (VOCs), specifically, tetrachloroethene (PCE) and its degradation products – trichloroethene (TCE), cis-1,2-dichloroethene (c12DCE), and vinyl chloride (VC). The Site cleanup criteria for these VOCs are the EPA and DNR drinking water criteria listed below:

- Tetrachloroethene 5 µg/L
- Trichloroethene 5 µg/L
- cis-1,2-Dichloroethene 70 µg/L
- Vinyl chloride 0.2 µg/L

When operating, CW-3 pumps at a rate of approximately 1,250 gpm, creating a large zone of capture in the alluvial aquifer on the east side of the river that captures and removes the East Bank contaminant plume. CW-3 influent samples for VOC analysis have been collected at least annually as part of the Site's long-term monitoring program since 1993. Figure 2 shows the VOC concentrations at CW-3 since 1998. As indicated by the chart, VOC concentrations have decreased to very low levels and vinyl chloride has not been detected since 2010. In the most recent, 2019, sampling event, no individual VOC exceeded 1.0 µg/L. TCE has not exceeded its cleanup criteria since 1999, and neither PCE nor c12DCE exceeded their respective cleanup criteria over the last 20 years.

In 2009, source area groundwater concentrations at monitoring well WC-3B spiked temporarily to over 1,000 µg/L of PCE due to construction and increased infiltration of precipitation at the property. However, this did not significantly affect the influent concentrations at CW-3, as there was only a minor increase in PCE concentrations at CW-3 over the following two to three years (increased from 2.0 µg/L in 2009 to

2.5 µg/L in 2012— see Figure 2).[1] Thus, although small "hot spots" may remain in the source area, the remaining contaminant mass is small and potential future source area spikes would not cause significant increases in the CW-3 influent.

3. Proposed Future Operation of CW-3

Given the fact that the CW-3 influent VOC concentrations do not exceed drinking water standards, continued treatment of the water is not necessary. After the new DWTF becomes operational in 2022, the current DWTF will no longer be available to treat the water from CW-3 and the City will discontinue the use of CW-3 for water supply purposes. Thus, in order to continue using CW-3 as a remediation well, the City is proposing to discharge the pumped water to the storm sewer, which would subsequently discharge to the Wisconsin River. The pumping rate will be maintained to meet the EPA-recommended volume of 4,680,000 gallons per week. The enclosed figure, provided by the City, shows the force main from CW-3 to the proposed sewer tie-in and river discharge points. It is anticipated that the discharge to the river will have to meet the substantive requirements of a Wisconsin Pollution Discharge Elimination System (WPDES) general permit.

This proposed change remains protective of human health and the environment and continues to meet Applicable or Relevant and Appropriate Requirements (ARARs). As required by the ROD, CW-3 would continue to operate as a component of the approved remedy. Since this is not a fundamental change to the remedy, it is our opinion that this modification to the ROD can be administered through an Explanation of Significant Differences (ESD).

4. Schedule

In order to provide some flexibility in the construction schedule, the City is hoping that an approved ESD can be completed as soon as possible, or by the end of 2020 at the latest. Thus, the City intends to initiate the ESD approval process immediately, with guidance and assistance from the EPA and DNR. We will be contacting you to schedule a conference call to answer any initial questions and begin the approval process.

We appreciate your prompt attention to this matter and look forward to working with you to complete this project.

If you have any questions, please contact me at (651) 639-0913.

Sincerely,

Charles Ahrens
CA/sb/40
Encl.

[1] The groundwater travel time from the source area to CW-3 is estimated to be 1.5 to 2 years.

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- CITY PRODUCTION WELL
- INDUSTRIAL WELL

NEW DRINKING WATER TREATMENT FACILITY

CW11
GM4D
CW9OBS R
CW10
CW9
CW7
GM2S
MW4B
MW4A
W57
MW7
CW6
MW3A
W56
W55
W55A
MW1A
R2D
R2S
R1D
W50
R3S
R3D
W52A
W52
MARATHON ELECTRIC MFG.
C2S
R4D
EW1
C7S
W54
W53A
W53
WSWS
WSWD
C3S
IWD
C6S
C4S
C4D
OLD LANDFILL LIMITS
E21
WILSON HURD TEST WELL
WW4
CW3
GM6D
WW6
FORMER WAUSAU CHEMICAL CORPORATION
E26A
E26
E22A
E22
E37A
FVD5
E28A
WC5
WC5A
WC4
WC4A
WC3B
WC3
E24AR
MW10A
MW10B
WC7A
CURRENT DRINKING WATER TREATMENT FACILITY

WISCONSIN RIVER

E CAMPUS DR
STONE ST
PLUM DR
MORTENSON DR
TIERNEY RD
BUGBEE AV
W BOS CREEK DR
E BOS CREEK DR
GEMINI PL
MARTEN ST
BECHER DR
MCCARTHY BLVD
BRISBANE CT
W CROCKER ST
LUCILLE ST
N 1ST AV
CHERRY ST
LENARD ST
E BOS CREEK DR
BURNS ST
BURER AV
PEARSON ST
GEMINI PL
BECHER DR
CLAYTON ST
EAST CHERRY ST
BOS CREEK
BROKEN ARROW RD
E RANDOLPH ST
ELDRED ST
STROWBRIDGE ST
N 2ND AV
N 1ST AV
CHERRY ST
KNOX ST
UNION AV
WAUSAU AV
NORTON ST
QUAW ST
N 3RD AV
BRIDGE ST
RIVER DR
N 2ND ST
N 3RD ST
N 5TH ST
N 6TH ST
DEVOE ST
E UNION AV
E WAUSAU AV
E BRIDGE ST
ORCHARD ST
PARCHER ST
GILBERT ST
BROWN ST
WINTON ST
NINA AV
TURNER ST
AUGUSTA AV
HUMBOLDT AV
LINCOLN AV
PARK AV
MOBILE AV
CHICAGO AV
CENTER ST
JOZIK ST
BIRCH ST
N 11TH ST
N 7TH ST
N 5TH ST
N 6TH ST

Source: Marathon County

0 500 ft

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

003978-00
Dec 20, 2019

SITE PLAN

FIGURE 1

GIS File: I:\GIS\Projects\6-chars\00----\0039--\003978\003978-CORR\003978-00(BIAN040)\003978-00(BIANO040)GIS-SP001.mxd

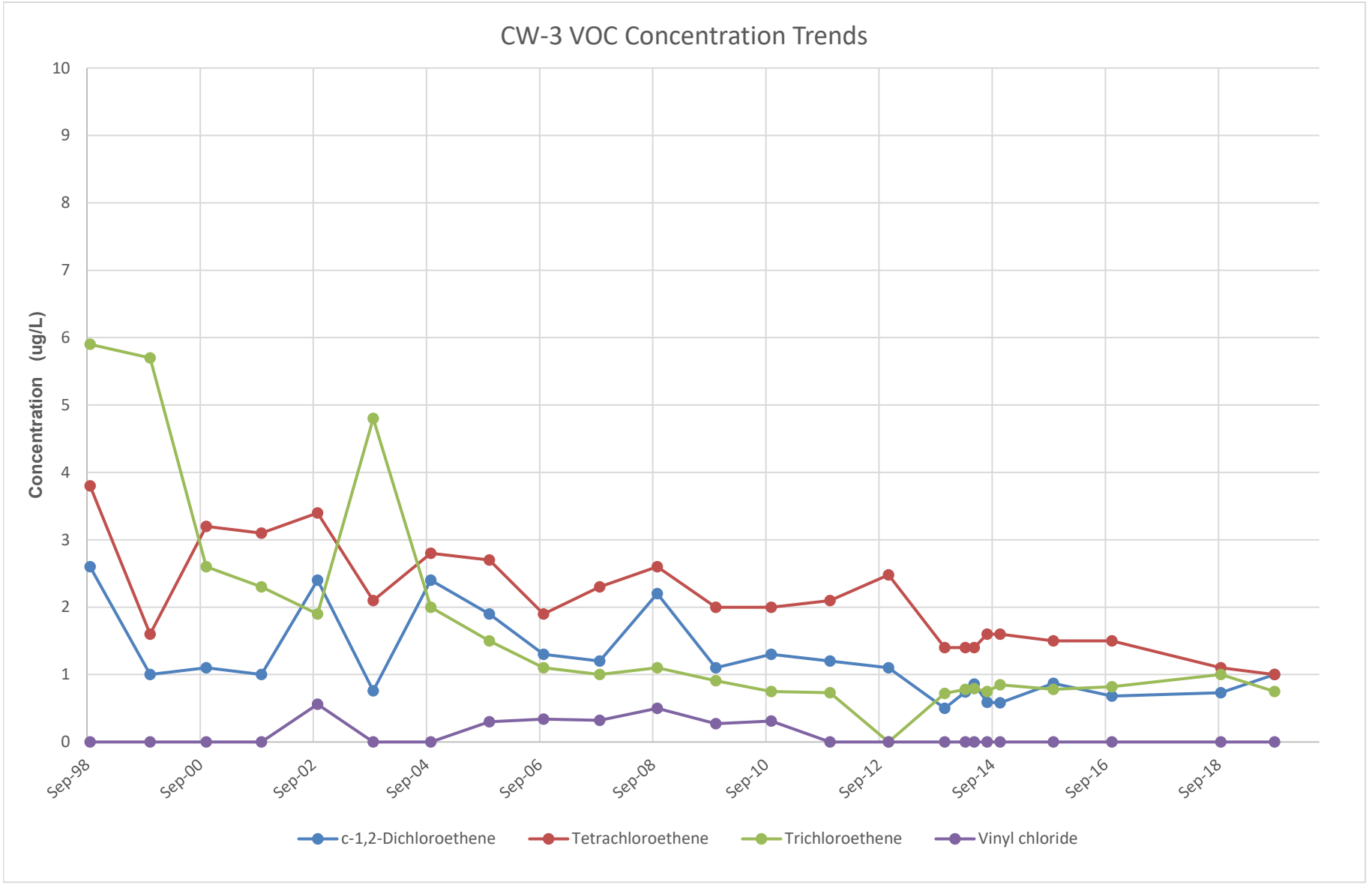

FIGURE 2

CITY WATER SUPPLY WELL CW-3 VOC CONCENTRATION TREND

WAUSAU WATER SUPPLY NPL SITE
WAUSAU, WISCONSIN

N

SCALE IN FEET
0 15 30 60

NOTE: 2016 AERIAL PHOTO SHOWN

WELL #3

PROP. 16"X10" REDUCER

PROP. 10" – 45° BEND

PROP. 42' – 10" D.I. WATERMAIN

PROP. 10" – 45° BEND

PROP. 20' – 10" D.I. WATERMAIN

CONNECT TO EXISTING 10.5' X 7' BLOCK STORM SEWER STRUCTURE
RIM ELEV = 1196.68
INV ELEV = 1189.33–48"E
INV ELEV = 1189.33–60"W
INV ELEV = ±1193.30–12"NE
INV ELEV = ±1191.30–12"SW

16" RW MAIN

12in SS

call out a cap/plug on the south leg of the 16" main

WISCONSIN RIVER

APPROX. 25FT HEAVY RIPRAP AND CONCRETE

INV ELEV = 1188.23

EX. 310' – 60" STORM SEWER @ 0.35%

60in SS

48in SS

42in SS

E. WAUSAU AVE.

N. 2ND STREET

EXISTING 16" WATERMAIN TO BE SLURRY FILLED ONCE ABANDONED. WATERMAIN TO BE CUT AND CAPPED AT THE TREATMENT PLANT.

CITY OF WAUSAU
Engineering Department
407 GRANT STREET WAUSAU, WI. 54403-4783
(715) 261-6740 FAX (715) 261-6759

SURVEYED BY: ENG. DEPT.
FIELD BOOK NO. PG.
DESIGNED BY: T.J.NIKSICH
DRAWN BY: J.D.VANBOXEL
APPROVED BY: ERIC LINDMAN
POINT FILE:

DATE	REVISIONS
12/20/2019	J.D.VANBOXEL

ISSUED FOR
☐ PRELIMINARY REVIEW/APPROVAL
☐ BIDDING/CONST.
☐ REC. REF. DWG.
☐ OFFICE USE

E. WAUSAU AVENUE

N. 2ND ST RR TRACKS TO WISCONSIN RIVER

WELL NO.3 STORMWATER CONNECTION PLAN

SHEET NO. 1 OF 1 SHEETS

FILE NUMBER
19–12–20